Data Science for RDA Climate Change Data Challenge

Story

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Slides

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Climate Change Data Challenge Dataset Catalogue

Data Science for RDA Climate Change Data Challenge

Dataset Catalog

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Spotfire Web Player: Goal 1 Digital Catalog

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National Transportation Atlas Databases 2014

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NEXT

6th Plenary Experimentation Day

Showcase your data solutions to a global audience, Paris - 24 Sept 2015

How to apply

Evaluation Process & Criteria

What is provided?

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6th Plenary Climate Change Data Challenge

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How to Get Involved

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Sign-up for the Climate Change Data Challenge

The Research Data Alliance: Building community and infrastructure for data sharing world-wide

Introduction

Abstract

About The Speaker

Instructions to join our meeting remotely using WebEx

http://semanticommunity.info/Data_Science/Data_Science_for_RDA_Climate_Change_Data_Challenge

Updated: Sat, 19 Sep 2015 08:36:40 GMT

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Climate Change Data Challenge Dataset Catalogue

Cover Page

6th Plenary Climate Change Data Challenge

Code: RDA_ClimateChallenge_sndt_01
Code: RDA_ClimateChallenge_ecoweb_02
Code: RDA_ClimateChallenge_cnrc_03
Code: RDA_ClimateChallenge_epaus_04
Code: RDA_ClimateChallenge_cna_05
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National Transportation Atlas Databases 2014

Liner Notes

Description

National Transportation Atlas Databases 2014

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Ocean
Public Safety
Science & Research

Impact
Local Government
Impact
Finance
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Education

Applications

http://semanticommunity.info/Data_Science/Data_Science_for_RDA_Climate_Change_Data_Challenge
Updated: Sat, 19 Sep 2015 08:36:40 GMT
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Step 1: Identify the problem

- Facing climate problems and finding climate opportunities
- Work with your community to define the problem
  
- Selected Tools, Templates, and Examples for Encouraging Effective Community Engagement
- Consider non-climate stressors
- Determine causes and effects for stressors
- Agree upon boundaries for your problem
- Consider the steps to resilience within the context of a specific topic:

Step 2: Determine Vulnerabilities
Focus first on known issues
Definitions and Examples
Identify vulnerabilities and risks
Dealing with uncertainty

Step 3: Investigate Options
What options are acceptable?
Identify options that could reduce vulnerability

Step 4: Evaluate Risks & Costs
Come up with a consistent method for comparing options
Examine solutions and select the best one
Consider a phased approach
Envision and plan your project

Step 5: Take Action
Measure the effectiveness of each step
Iterate
Share your story

Taking Action

Tools
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Ecosystem Vulnerability
Energy Supply and Use
Food Resilience
Human Health
Transportation and Supply Chain
Tribal Nations
Water Resources

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Illinois
Iowa
Kansas
Kentucky
Louisiana
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South Dakota
Tennessee
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Video Production Team
Training Courses
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webLyzard Search System
Coastal Flood Risk Subject Expertise
Ecosystem Vulnerability Subject Expertise
Energy Supply and Use
Food Resilience Subject Expertise
Human Health Subject Expertise
Transportation and Supply Chain
Water Resources Subject Expertise

Contact

Funding Opportunities

NOAA 2015 Regional Coastal Resilience Grant Program
Building Blocks for Sustainable Communities
Partnership for Sustainable Communities
FEMA (Federal Emergency Management Agency) Preparedness (Non-Disaster) Grants
FEMA Hazard Mitigation Assistance
FEMA Disaster Survivor Assistance
Drought Recovery Information
USDA Natural Resources Conservation Service
Massachusetts? Storm-Smart Coasts Initiative
100 Resilient Cities Challenge
Kresge Environment Program
Wildlife Conservation Society's Climate Adaptation Fund
Open Space Institute Resilient Landscape Initiative
United Nations Framework Convention on Climate Change
The World Bank Climate Finance Options
The World Bank?Financing and Risk Management Site
Accessing Resources Under the Special Climate Change Fund
The Adaptation Fund
Terra Viva Grants Directory
Rockefeller Foundation Climate Change Resilience Grants and Grantees
Financing for Climate
Climate Finance Tracking

FAQ

What is the U.S. Climate Resilience Toolkit? Why was it built?
Who owns and manages this site?
How can I submit questions, comments, or suggestions about this site? When can I expect a reply?
How can I contribute content to this site?
Who decides what content, tools, or functionality is added to this site?
What is the recommended citation for this resource?
May I have permission to use images, videos, text, or other site information? Are your images copyrighted?
How do I report a broken link or if something on the site isn’t working?
Which web browser should I use to explore this site?
How does this site relate to climate.data.gov?
Why do climate.data.gov and the U.S. Climate Resilience Toolkit live in different locations?
How do climate.data.gov and the U.S. Climate Resilience Toolkit differ in scope and purpose?

Story

Data Science for RDA Climate Change Data Challenge and Meetup

The announcement said:

The 6th Plenary RDA hosted in Paris from 23-25 September 2015, features a special focus on research data for climate change, leveraging on the UN Climate Change Conference (COP21) to be held in Paris in December 2015.

As a part of this special focus Cap Digital & RDA have created a special Data Challenge designed to connect Climate Change related Data Sets with startups, SMEs and larger organizations with practical application for these data.

We have received a wealth of datasets from different global organisations have been made available to enterprises for the creation of novel and innovative solutions in areas covering Air quality, energy and urban activity. We are now entering the second phase of the challenge - the Call for Enterprise Engagement.

By organizing the 6th RDA Plenary Assembly (P6) in Paris, Cap Digital seeks to promote RDA and the work undertaken within Working and Interest Groups, to a significant number of European players, especially among startups and major companies concerned by the challenges of Big Data.

Another announcement said:

Please join the NITRD FASTER Community of Practice for an informative presentation and discussion with Dr. Francine Berman, Chair, RDA/US and Edward P. Hamilton Distinguished Professor of Computer Science, Rensselaer Polytechnic Institute. Dr. Berman will describe the Research Data Alliance (RDA) and its community, and give a look ahead at future directions for the RDA.
In 2013, the Research Data Alliance (RDA) was formed to build and adopt infrastructure that accelerates data sharing world-wide. Two years later, the organization has attracted nearly 3000 members from over 100 countries and all sectors. The precipitous growth and enthusiasm for the RDA emphasizes the global need for data infrastructure and coordination, and indicates the community?s high expectations that RDA has the potential to meet those needs. In this talk, Fran Berman -- U.S. Chair of the Research Data Alliance and co-Chair of its leadership Council ? describes the organization and its community, and gives a look ahead at future directions for the Research Data Alliance.

So I decided to enter the RDA Special Data Challenge and report on the results at a Federal Big Data Working Group Meetup in connection with the NITRD FASTER Community of Practice Meeting at NSF on July 15th. I will ask if two years later with nearly 3000 members in over 100 countries with almost 6 plenaries, is this the focus of the RDA now? I will also ask: Are there any special instructions for this competition?

The reason being that the "RDA special Data Challenge is designed to connect Climate Change related Data Sets with startups, SMEs and larger organizations with practical application for these data" which is the reason for the Federal Big Data Working Group Meetup!

I downloaded the Climate Change Dataset Catalog and repurposed the PDF into MindTouch here.

As a data scientist / data journalist, I always have questions about competitions and their data sets as follows:

• What distinguishes this competition from many others?
• Are these the best data sets?
• Is the data set information accurate?
• Should one pick a few data sets or try to work with them all?
• Why are there 83 links to data.gov?
• Etc.

I entered the competition and my answers to the questions were:

• Describe the possible application or solution you are developing and how does it constitute a challenge goal  
  ◦ Data Science for RDA Climate Change Data Challenge
• How will your solution involve the proposed datasets?  
  ◦ Try to use as many as possible
• Which are the datasets integrated in your solution demonstration? Select from the dropdown list.  
  ◦ Try to use as many as possible
• What is the expected impact?  
  ◦ Try to integrate all of the data sets
  ◦ Show whether or not this is a worthwhile activity

In order to answer the above questions and integrate the data sets in a data ecosystem, I need to repurpose the catalog into a dataset that can be filtered.

In essence there are three basic steps in the data science process:
A data scientist is a role in high demand now and in the future. President Obama just hired a chief data scientist at the White House, Dr. DJ Patil. Academia cannot meet the demand for data scientists so Data Science Meetups and Massive Online Courses (MOOCs) are filling that workforce manpower gap. One such Meetup that provides MOOCs is the Federal Big Data Working Group Meetup which trains data scientists, especially in the use of government big data, using an industry leading data science tool called Spotfire.

The FBDWG Meetup provides tutorials and presentations on Data Preparation, Data Ecosystems, and Data Stories, that answer four essential questions:

• How was the data collected?
• Where is the data stored?
• What are the data results? and
• Why should we believe the data results?

The results are documented in three tools: this Wiki (called MindTouch), Excel spreadsheets, and TIBCO Spotfire, so others can study and repurpose/reuse them.

My Goals for 2015-2016 are:

• Goal 1: Digital Catalog
• Goal 2: Data Audit
• Goal 3: Individual Data Sets in Spotfire
• Goal 4: Integration/Applications
• Goal 5: Meetups/Data Science Publication/MOOCs

The Data Audit Results so far are:

1. I could not readily find the actual data sets for 18 of the 64 data sets.
2. The URL for the very important DOE Buildings Data Book does not work (I think this is being revised or removed permanently).
3. 11 of the remaining USCDINASA 40 data sets come from the National Transportation Atlas Database. Why not use all 36 as a more authoritative and consistent data set?
4. Why was a contractor brought in to manage the White House Climate Data Initiative and is now a private consultant on climate data (Climate Data Solutions LLC), listed as the contact person
5. The obvious other data that can be used is the 557 data sets at Data.gov/Climate and the data sets in the President’s National Climate Assessment, which many others and our Meetup have already worked with.
6. I could not find the 3 data sets from Cap Digital (numbers 22-24), the sponsoring organization, and their web site Cannot Be Translated into English.

MORE TO FOLLOW

• Knowledge Base Index into Spreadsheet
• Spreadsheets Imported into Spotfire
• Data Dictionaries for the Data Ecosystem (Looking For Them)
• Data Ecosystem Integrated in Spotfire
- Data Analytics and Visualizations in Spotfire

My entry could be the following possibilities:
- A detailed catalog of all the data sets to see what can be reused and integrated: Done That
- All of my data stories about Climate Change data sets: Need to Inventory
- My Data Science Data Publication for the 40 Data Sets in the Presidents Climate Change Initiative

This builds on my previous Data Science for RDA and is a work in progress.

I added the Climate Data.gov Catalog and Audit results to the spreadsheet: See Tabs: Data.gov Climate, Data.gov Climate CSV and EPA CWA 303 (d) Dictionary.

I was able to download 18 CVS files from the 38 data sets found at:

11 of the 38 are FTP sites with many files to sort through and 8 were DNF (Did Not Find) or DNW (Did Not Work).

Now on to importing those 18 CSV files into Spotfire to see the data and visualizations and do integrations and applications. Interestingly there a 8 data sets on disease (NNDSS) and that may prove to be the most interesting climate change application. I just finished the ESRI GIS Tutorial for Health from the Health Datapalooza 2015:

My initial conclusions are that the Data.gov Climate CSV and NTRD are the best and easiest to have people work with so they are not frustrated in trying to find data like I was with the PDF Catalog.

One of the U.S. Climate Resilience Toolkit FAQs Asks: Why do climate.data.gov and the U.S. Climate Resilience Toolkit live in different locations?, and Answers: ?In the long run, our aim is to integrate them into one ?seamless? system.? My answer is: We can and are doing do that in a Data Science Data Publication! This will solve the all to common problem of: So many web pages, articles, etc. about data, but not with data.

The Data Science for RDA Climate Change Data Challenge and Meetup will include an additional goal, namely to integrate the climate.data.gov and the U.S. Climate Resilience Toolkit into one ?seamless? system, which we will call "a Data Science Data Publication". This will be my challenge submission and experimentation day demo!

I also think we will do a meetup (or series of meetups like this: see below) to support the NSF Data Science / Big Data Community and use the RDA Climate Change Data Challenge, climate.data.gov, and the U.S. Climate Resilience Toolkit data sets, I am preparing, to jump start our meetup members and other data science meetup participants.

NSF Graduate Data Science Workshop & Community Building, Aug. 5-7, Seattle
The NSF-sponsored Graduate Data Science Workshop will bring together 100 graduate students from diverse domain sciences and engineering with Data Scientists from industry and academia to discuss and collaborate on Big Data / Data Science challenges.

I just found what I was looking for in the Climate Resilience Toolkit to help others: There are 63 data sets used in 80 Case Studies. Using Climate Data, Satellite Imagery, and Local Knowledge to Prevent Famine uses 6 data sets (the maximum for any case study), so this would be the best one for integrating multiple data sets.
I also just found from my earlier Data Science for Climate Change (US National Climate Assessment), that the original number of datasets (23) has become 2,377 data sets, in addition to the 36 data tables I extracted from the report itself into a spreadsheet (135 MB). I extracted the 2377 data sets into the RDA Climate Challenge spreadsheet.

MORE TO FOLLOW BELOW

My Note: I have just had a very insightful and fruitful exchange with Drs. Fran Berman, Mark Parsons, and Romain Melet, about this work and we are now collaborating on it.

New Announcement: Participants will be asked to present their solution during RDA's 6th Plenary in Paris, France on September 23, 2015. Three finalists will be selected, who will be invited to present their solutions during the COP21 Sustainable Innovation Forum conference, also in Paris, on December 7, 2015. Learn more at https://rd-alliance.org/plenary-6-cl...challenge.html

Slides

Slide 1 Data Science for RDA Climate Change Data Challenge and Meetup

Semantic Community

Data Science

Data Science for RDA Climate Change Data Challenge

Slide 2 NSF Graduate Data Science Workshop & Community Building, August 5-7, Seattle

http://depts.washington.edu/dswkshp/
Slide 3 Purpose

Spreadsheet

Purpose

• I think we will do a meetup (or series of meetups like this) to support the NSF Data Science / Big Data Community and use the RDA Climate Change Data Challenge, climat. data.gov, and the U.S. Climate Resilience Toolkit. The data sets, I am preparing, to jump start our meetup members and other data science meetup participants.

• Data Sets:
  - RDA Climate Data Challenge: Only 17 of 64 could be used so far.
  - NTRD: 36 Shape (problem reading largest file).
  - Climate Data.gov: 56 of 38 used so far.
  - U.S. Climate Resilience Toolkit: 63 data sets used in 80 Case Studies. Using Climate Data, Satellite Imagery, and Local Knowledge to Prevent Famine uses 6 data sets (the maximum for any case study), so this would be the best one for integrating multiple data sets.
  - National Climate Assessment: 2377 data sets, in addition to the 36 data tables I extracted from the report itself.

See Spreadsheet

Slide 4 Data Science for RDA Climate Change Data Challenge and Meetup

Slide 5 NSF Big Data Hubs and Data Science Meetups

https://bdhub.info/
http://data-science.meetup.com/
NSF Big Data Hubs and Data Science Meetups

- **Initial Schedule:**
  - Data Science Café: June 23, 2015
  - Data Science Café: June 30, 2015
  - Data Science Café: September 2, 2015
- **Big Data Regional Innovation Hubs (Accelerating the Big Data Innovation Ecosystem):**
  - Midwest
  - Northeast
  - South
  - West
- **Initial Ideas:**
  - Data Science YouTube channel for Podcast
  - Angels’ List for Data/Science
  - For various organizations, the first big data competition in Earth Science challenges


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**Slide 6 Data-Science.Meetup.com**


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**Slide 7 Data Mining Data.gov and U.S. Climate Resilience Toolkit**


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**Data Mining Data.gov and U.S. Climate Resilience Toolkit**

- Themes
- Data
- Resources
- Challenges
- FAQ
- Contact Climate
- Other?


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**Slide 8 Data.gov/Climate**

Slide 9 Spreadsheet: Data.gov/Climate Statistics

Spreadsheet

My Note: Requested and received spreadsheet of 547 data sets and all 106,000+ data sets so I can integrate the catalog and the actual data sets.

Slide 10 Spreadsheet: Data.gov/Climate CSV

Spreadsheet

My Note: See imported and filtered in Spotfire in next slide.
Slide 11 Climate Change Toolkit-Data.gov-Spotfire: Climate.Data.gov

Slide 12 U.S. Climate Resilience Toolkit: Home Page

http://toolkit.climate.gov/

Slide 13 U.S. Climate Resilience Toolkit: State Climatologists

http://toolkit.climate.gov/help/partners
Slide 14 MindTouch Knowledge Base: Expertise

Slide 15 Spreadsheet: State Climatologists

Slide 16 U.S. Climate Resilience Toolkit: Training Courses

http://toolkit.climate.gov/training-courses
Slide 17 Spreadsheet: Training Courses

Spreadsheet

Slide 18 Climate Change Toolkit-Data.gov-Spotfire: Expertise

Slide 19 Climate Explorer?Visualizing Climate Data in Maps and Graphs

Climate Explorer

Climate Explorer—Visualizing Climate Data in Maps and Graphs

- Climate Explorer is a research application built to support the U.S. Climate Resilience Toolkit. The tool offers interactive visualizations for exploring maps and data related to the toolkit’s Taking Action case studies.
- Map layers in the tool represent geographic information available through climate data.gov. Each layer’s source and metadata can be accessed through its information icon. Climate Explorer graphs display 1981-2010 U.S. Climate Normals for temperature and precipitation, overlain with daily observations from the Global Historical Climatology Network-Daily (GHCN-D) database. Please note that GHCN-D data have been checked for obvious inaccuracies, but they have not been adjusted to account for the influences of historical changes in instrumentation and observing practices. GHCN-D data are useful for comparing weather and climate, but for long-term climate change analyses, we recommend the National Climatic Data Center’s Climate at a Glance.
Slide 20 Climate Explorer

http://toolkit.climate.gov/climate-explorer/

Slide 21 U.S. Climate Resilience Toolkit: Search

http://toolkit.climate.gov/crt-search

Slide 22 U.S. Climate Resilience Toolkit: Datasets

http://toolkit.climate.gov/crt-search?query=*&resource=18
Slide 24 Conclusions and Recommendations

Conclusions and Recommendations

- In support of the NSF Data Science / Big Data Community and the Research Data Alliance (RDA), Semantic Community has prepared four multiple data set data sets from the RDA Climate Change Data Challenge, U.S. National Transportation Atlas Database (NTRD), Climate.data.gov, and the U.S. Climate Resilience Toolkit, to jump start the Federal Big Data Working Group Meetup, and other data science meetup participants, for our September 28th Meetup of Data Science Meetups, to prepare for the NSF Meetup of Data Science Meetups, November 6-7, 2015.
- All of the information is a Data FAIRPort (Free, Accessible, Interoperable, and Reusable) in a Data Science Commons or Hub as a community service. Suggestions and feedback are welcomed.

YouTube Video and Script

http://semanticommunity.info/Data_Science/Data_Science_for_RDA_Climate_Change_Data_Challenge

Updated: Sat, 19 Sep 2015 08:36:40 GMT
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Script

Hello, this is Dr. Brand Niemann, Director and Senior Data Scientist with Semantic Community and Founder and Organizer of the Federal Big Data Working Group Meetup, here to tell you about the Data Science for RDA Climate Change Challenge and Meetup.

The Research Data Alliance has announced the Climate Data Challenge as part of their upcoming meetings. Dr. Fran Berman, Chair of RDA/US, gave a presentation on the RDA recently. See slides and booklet.

The RDA background information for the Climate Change Challenge and the Data Set Catalog are provided in Slides 3 and 4.

Our Data Science for the RDA Climate Change Data Challenge begins in slide 5 and the details continue in slides 6-14.

We have 5 Goals in doing this work for 2015-2016:

- **Goal 1:** Make the RDA PDF Catalog Digital
- **Goal 2:** Perform a Data Audit
- **Goal 3:** Work with Individual Data Sets in Spotfire
- **Goal 4:** Do Integration/Applications
- **Goal 5:** Organize and Produce Meetups/Data Science Publication/MOOCs (Massive Open Online Courses)

The digital catalog in an Excel spreadsheet is shown in slide 6.

The digital catalog in Spotfire, a leading business intelligence analytics and visualization tool is shown on slide 7.

My data audit results are shown in the Excel spreadsheet in slide 8 and my data audit conclusions are listed in slide 9 superimposed on the Spotfire view of the data audit.

The conclusions are:

1. I could not readily find the actual data sets for 18 of the 64 data sets.
2. The URL for the very important DOE Buildings Data Book does not work (I think this is being revised or removed permanently).
3. 11 of the remaining USCDINASA 40 data sets come from the National Transportation Atlas Database. Why not use all 36 as a more authoritative and consistent data set?
4. Why was a contractor brought in to manage the White House Climate Data Initiative and is now a private consultant on climate data (Climate Data Solutions LLC), listed as the contact person
5. The obvious other data that can be used is the 557 data sets at Data.gov/Climate and the data sets in the President’s National Climate Assessment, which many others and our Meetup have already worked with.
6. I could not find the 3 data sets from Cap Digital (numbers 22-24), the sponsoring organization, and their web site Cannot Be Translated into English.

Slide 10 shows an example of working with an individual data set in Spotfire. This was Goal 3 Individual Data Sets in Spotfire and Example Data Set 64: USGS Small-scale Dataset - Railroad and Bus Passenger Stations of the United States 201207 Shapefile.
Since I found that many of the data sets were available in the US National Transportation Atlas Database (see slide 11), i included those 36 excellent quality data sets in slides in the spreadsheet (see slide 12) and 7 of them in another Spotfire file (see slides 13 and 14).

Slide 15 shows the Data Science Meetup of Meetups web site for the early November event in Washington, DC.

Slide 16 shows that Dr. Renata Rawlings-Goss, Big Data AAAS Fellows at NSF, is organizing this event, and includes my suggestions:

- Involve the NSF Data Science / Big Data Community in the NSF EarthCube Community. Data Communities need to collaborate with Data Scientists (e.g., our EarthCube Data Science Publications).
- Have the largest Data Science meetups mine our Meetup content for government data sources (our GitHub and Data Hub), government data problems to work on, and partner with government agencies to co-host Meetups (e.g., our USDA Data Science MOOC).
- Participate in our new collaboration with RDA on Data Science for RDA Climate Change Data Challenge and our Federal Big Data Working Group Meetups!

These suggestions are being implemented and will be described in subsequent slide recordings. Thank you for you attention and I hope that you will participate.

Slides

Slide 1 Data Science for RDA Climate Change Data Challenge and Meetup

Semantic Community

Data Science

Data Science for RDA Climate Change Data Challenge

Data Science for RDA Climate Change Data Challenge and Meetup

Dr. Brand Niemann
Director and Senior Data Scientist/Data Journalist
Semantic Community

Data Science

Data Science for RDA Climate Change Data Challenge

July 15, 2015
**Slide 2 Announcements**

**Announcements**

- The 6th Plenary RDA hosted in Paris from 23-25 September 2015, features a special focus on research data for climate change, leveraging on the UN Climate Change Conference (COP21) to be held in Paris in December 2015.
- As a part of this special focus Cop Digital & RDA have created a special Data Challenge designed to connect Climate Change related Data sets with startups, SMEs and larger organizations with practical applications for these data.
- Please join the NITRD FASTE Community of Practice on July 15, 2015, for an informative presentation and discussion with Dr. Francine Berman, Chair, RDA/US and Edward P. Hamilton Distinguished Professor of Computer Science, Rensselaer Polytechnic Institute. Dr. Fran Berman will describe the Research Data Alliance (RDA) and its community, and give a look ahead at future directions for the RDA.
- In 2013, the Research Data Alliance (RDA) was formed to build and adopt infrastructure that accelerates data sharing world-wide. Two years later, the organization has attracted nearly 3000 members from over 100 countries and all sectors. The precipitous growth and enthusiasm for the RDA exemplifies the global need for data infrastructure and coordination, and reflects the community’s high expectations that RDA has the potential to meet those needs.

See [link](https://rd-alliance.org/plenary-6-climate-change-data-challenge.html) and [blog](http://semanticommunity.info/Data_Science/Data_Science_for_RDA_Climate_Change_Data_Challenge) ups.

**Slide 3 6th Plenary Climate Change Data Challenge**


**Slide 4 Climate Change Data Challenge Dataset Catalogue**

[Link](https://rd-alliance.org/sites/default/files/attachment/RDA_6thPlenary_ClimateDataChallenge_DataSetCatalogue_v22062015_final.pdf)
Slide 5 Data Science for RDA Climate Change Data Challenge

Slide 6 Spreadsheet: Digital Catalog

Slide 7 Spotfire Web Player: Goal 1 Digital Catalog
Slide 8 Spreadsheet: Data Audit

Spreadsheet: Data Audit

Slide 9 Spotfire Web Player: Goal 2 Data Audit

Web Player: Goal 2 Data Audit

Slide 10 Spotfire Web Player: Goal 3 Individual Data Sets in Spotfire-Number 64

Web Player: Goal 3 Individual Data Sets in Spotfire

Example Data Set 64: USGS Small-scale Dataset - Railroad and Bus Passenger Stations of the United States 201207 Shapefile
Slide 11 Bureau of Transportation Statistics: NTAD Liner Notes


Slide 12 Spreadsheet: National Transportation Atlas Database

Spreadsheet: National Transportation Atlas Database

Slide 13 Spotfire Web Player: Goal 3 Individual Data Sets in Spotfire-NTAD Inventory

Web Player: Goal 3 Individual Data Sets in Spotfire-NTAD Inventory
Slide 14 Spotfire Web Player: Goal 3 Individual Data Sets in Spotfire-NTAD Number 3

Web Player: Goal 3 Individual Data Sets in Spotfire-NTDA-Amtrak Stations

Slide 15 DHUBS-Data Science Meetups

https://trello.com/b/girhrpwU/bdhubs...cience-meetups

Slide 16 Conclusions and Recommendations

http://www.nsf.gov/od/oia/activities...lings-goss.jsp
Conclusions and Recommendations

• Dr. Renata Rawlings-Goss, Big Data AAAS Fellows at NSF:
  • I am working with NSF to coordinate a grassroots data science Meetup organizers meeting this fall (November 6-7, 2015).
  • We have currently coordinated conferences calls with large data science meetups (1000-10,000 members) around the country.
  • I am particularly faithful to have future discussion with you about the role of federal Big Data Working Group. Your work sounds very connected to what we are thinking of for meetups.

• My Suggestions:
  • Involve the NSF Data Science / Big Data Community in the NSF EarthCube Community. Data
    Communities need to collaborate with Data Scientists (e.g. our EarthCube Data Science
    Community)
  • Have the largest Data Science meetups mine our Meetup content for government data
    resources (e.g. Khalil and Data Hub), government data problems to work on, and partner with
government agencies to co-host Meetups (e.g. our DataScience MOOC)
  • Participate in our new collaboration with RDA on Data Science for RDA Climate Change Data
    Challenge and our Federal Big Data Working Group Meetups

Spotfire Dashboard

RDA Climate Change-Spotfire

For Internet Explorer Users and Those Wanting Full Screen Display Use: Web Player Get Spotfire for iPad App

NTAD10-Spotfire

For Internet Explorer Users and Those Wanting Full Screen Display Use: Web Player Get Spotfire for iPad App

ClimateChangeToolkit-Data.gov-Spotfire

For Internet Explorer Users and Those Wanting Full Screen Display Use: Web Player Get Spotfire for iPad App
Research Notes

National Transportation Atlas Databases 2014

http://www.rita.dot.gov/bts/sites/ri...ase/2014/liner

Transportation networks are polyline databases. Transportation facilities are point databases. The geographic reference databases may exist as any of the three feature types: point, polyline, or polygon.

All data included here are in shapefile format. Each shapefile dataset within NTAD2014, in general, is composed of eight different files:

dBASE file (.dbf) ? attribute information for the features,
projection file (.prj) ? projection and datum information for the dataset,
spatial index file (.sbn) ? spatial index for read-write of shapefiles,
spatial index file (.sbx) ? spatial index for read-write of shapefiles,
main file (.shp) ? feature geometry,
index file (.shx) ? indices of the feature geometry,
metadata file (.txt) ? text version of shapefile's metadata ? FGDC format, and
The shapefile format is a simple, nontopological format for storing the geographic location and attribute information of spatial features. For further information concerning the definition of SHAPE, consult ESRI documentation.

Climate.Data.gov Catalog as CSV

Climate.data.gov07092015.csv

I am trying to understand these columns and their statistics. Is there a data dictionary? See example below when I filtered by agency: NASA

It gives: Available in Standard Formats: No; Broken Links: A few; Compatible with DCS: No; Machine Accessible: No; Schema Version: 1.1
6th Plenary Experimentation Day

Source: https://rd-alliance.org/plenary-meet...ation-day.html
Showcase your data solutions to a global audience, Paris - 24 Sept 2015

The experimentation day, to be held during Research Data Alliance Plenary 6 on 24 September 2015, is dedicated to foster connection/interaction between RDA members and startups, SMEs and large companies to promote enterprise engagement in RDA. With around 70% of RDA members coming from academic organizations, attracting more enterprise involvement in the data ecosystem is key for future development of the Alliance.

The idea of the Experimentation Day is to encourage startups and SMEs, selecting some (20 - 30) of them to showcase their solutions, products or services based on data in a dedicated area during the meeting. Solutions or products with a focus on climate change, given the theme of the plenary event, will be favorably viewed. Ultimately the goal is to foster exchange between RDA members and data related company representative, sharing views, challenges and dreams about data sharing. Encouraging members from enterprise will support the growth of the alliance and should bring in new perspectives.

To promote open sharing of data across technologies, disciplines, and countries to address the grand challenges of society it is common sense that each part of the society making intensive use of data, needs to get involved. In this regard private companies, being Startups, SMEs or large companies, need to participate in the process of defining solutions. This involvement is essential to facilitate both adoption and dissemination of all the highly valuable outputs produced by RDA Working Groups since private entities will have a major role to play in these adoption and dissemination process. Furthermore, to not actively work to bring companies into RDA, having them involved in the process of defining standards will most probably results in enterprises to develop and spread out their own solutions resulting in a counterproductive competitions with RDA Working Groups outputs.

With a dedicated area in the conference venue on 24th Sept, enterprises and other initiatives are invited to submit an application to demonstrate how they make use of data to produce great solutions, services or products, having a positive impact on climate change issue and not only.

RDA plenary participants will be offered the opportunity to discuss and create new links with enterprise stakeholders engaged with the data community.

http://semanticommunity.info/Data_Science/Data_Science_for_RDA_Climate Change_Data_Challenge
Updated: Sat, 19 Sep 2015 08:36:40 GMT
Powered by MindTouch™
How to apply

Interested parties are invited to submit their application online by 15th July 2015, midnight CEST. Applicants will be notified by 31 July 2015.

EXPERIMENTATION SUBMISSION FORM

My Note: I submitted my application and received an email confirmation

Evaluation Process & Criteria

Applications will be evaluated by RDA Plenary 6 Programme Committee members from 16th ? 31st July 2015 based on the following criteria & weighting:

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Note</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contribution to RDA</td>
<td>The data solution proposed clearly adds value to RDA</td>
<td>25%</td>
</tr>
<tr>
<td>End user added value</td>
<td>The data solution offers benefits and opportunities for multiple end users</td>
<td>25%</td>
</tr>
<tr>
<td>Societal Challenges</td>
<td>The data solution demonstrated contributes to tackling societal challenges (climate change, employment opportunities, etc.)</td>
<td>25%</td>
</tr>
<tr>
<td>Geographical Balance</td>
<td>RDA is a global initiative and experimentation day will seek to have global representation and balance</td>
<td>25%</td>
</tr>
</tbody>
</table>

Applicants will be notified of the outcome on 1st August 2015.

What is provided?

RDA Plenary organisers will provide a table, 2 chairs, wifi internet access, branded poster and online catalogue description (as per text provided during application). Successful applicants will be offered free access for 24th September 2015 only.

Complete logistic details will be included in the Experimentation Day Guidelines that will be sent to successful applicants.

Experimentation Day Timing

- Call for Applications Launch ? 10th June 2015
- Deadline for Applications ? 15th July 2015
6th Plenary Climate Change Data Challenge

The 6th Plenary RDA hosted in Paris from 23-25 September 2015, features a special focus on research data for climate change, leveraging on the UN Climate Change Conference (COP21) to be held in Paris in December 2015.

As a part of this special focus Cap Digital & RDA have created a special Data Challenge designed to connect Climate Change related Data Sets with startups, SMEs and larger organizations with practical application for these data.

We have received a wealth of datasets from different global organisations have been made available to enterprises for the creation of novel and innovative solutions in areas covering Air quality, energy and urban activity. We are now entering the second phase of the challenge - the Call for Enterprise Engagement.

Climate Data Challenge for Enterprise

The vision of the Research Data Alliance is for researchers and innovators to openly share data across technologies, disciplines, and countries to address the grand challenges of society. One of these grand challenges is understanding and responding appropriately to rapid climate change. This is a challenge that will require the use of big data from climate models and satellite remote sensing as well as more bespoke data on specific climatic and social phenomena. It will require these data to be integrated in new ways that allow for the understanding and prediction of complex systems, but it will also require a deeper understanding of individual and societal responses to both expected and unanticipated change.

Private enterprise from many sectors has a critical interest and an especially important role to play in addressing this challenge. For example, insurance companies will need to develop better and more responsive risk models. Agriculturalists will need to modify predictions of crop yields and will need to develop new varieties better adapted to more extreme climate. Water managers and hydro companies will need to respond to radically different and variable precipitation patterns. Engineering firms will need to develop new, adaptive approaches to coastal flooding. And the list goes on.
The Research Data Alliance wants to accelerate these adaptations and challenges data scientists and enterprise to address these problems. We issue a challenge to demonstrate novel ways to integrate diverse data for new understanding using technologies, systems, or practices developed by RDA. We challenge private sector partners to use open data made available by a wide range of global RDA members and other organisations to address real and developing problems emerging from rapid climate change. Participants will be judged on the novelty of their approach, the range and diversity of data used (from both natural and social sciences), and the use of RDA technologies and practices. The 3 finalists of the challenge will be invited to present their solutions during the COP21 conference in Paris, December 2015.

How to Get Involved

Download the Climate Change Dataset Catalogue and choose your datasets
Register for the Climate Change Data Challenge and complete the preliminary information
Start working on your winning solution
Update your application & submit final solution by 31st August 2015

Download the Climate Change Dataset Catalogue

My Note: See Files Below

Sign-up for the Climate Change Data Challenge

The Research Data Alliance 6th Plenary Meeting will be held in Paris, France - 22 - 25 September 2015.

File Attachment:

<table>
<thead>
<tr>
<th>Attachment</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDF</td>
<td>1 MB</td>
</tr>
</tbody>
</table>

The Research Data Alliance: Building community and infrastructure for data sharing world-wide

Source: Word
Dear Colleagues,

Please join the NITRD FASTER Community of Practice for an informative presentation and discussion with Dr. Francine Berman, Chair, RDA/US and Edward P. Hamilton Distinguished Professor of Computer Science, Rensselaer Polytechnic Institute. Dr. Berman will describe the Research Data Alliance (RDA) and its community, and give a look ahead at future directions for the RDA.

Please join us on **Wednesday, July 15, 2015 from 1:00 to 2:30pm (EST); in NSF Room I-1235.**

Please distribute this announcement and post to your agency bulletin boards.

**The Research Data Alliance: Building community and infrastructure for data sharing world-wide**

**Date:** Wednesday, July 15, 2015

**Time:** 1:00 to 2:30 pm (EST)

**Location:** National Science Foundation

4201 Wilson Boulevard, Arlington, Virginia 22230

Room I-1235

(Directions to NSF are at: [http://www.nsf.gov/about/visit/](http://www.nsf.gov/about/visit/).

If you plan to attend in person, please RSVP to meetings@nitrd.gov to facilitate NSF visitors' badging process. An NSF visitor's badge is required for this presentation.

**Before proceeding to the meeting space in Stafford I, Rm. 1235, you must first obtain a visitor's badge at NSF Information and Conference Center Desk. It is located on the first floor of Stafford Place I at the N. Stuart and 9th Streets entrance. Once you have obtained your visitor's badge, please proceed to the meeting location on the 12th floor? Rm. 1235/NSF Boardroom.**

Remote participation is available. Instructions to join our meeting remotely using WebEx are at the end of this message.

**Abstract**

In 2013, the Research Data Alliance (RDA) was formed to build and adopt infrastructure that accelerates data sharing world-wide. Two years later, the organization has attracted nearly 3000 members from over 100 countries and all sectors. The precipitous growth and enthusiasm for the RDA emphasizes the global need for data infrastructure and coordination, and indicates the community's high expectations that RDA has the potential to meet those needs. In this talk, Fran Berman -- U.S. Chair of the Research Data Alliance and co-Chair of its leadership Council -- describes the organization and its community, and gives a look ahead at future directions for the Research Data Alliance.
About The Speaker

Dr. Francine Berman

Chair, RDA/US and Edward P. Hamilton Distinguished Professor of Computer Science Rensselaer Polytechnic Institute

Dr. Francine Berman is the Edward P. Hamilton Distinguished Professor in Computer Science at Rensselaer Polytechnic Institute. She is a Fellow of the ACM, IEEE, and AAAS. In 2009, Dr. Berman was the inaugural recipient of the ACM/IEEE-CS Ken Kennedy Award for "influential leadership in the design, development, and deployment of national-scale cyberinfrastructure." Dr. Berman is Chair of RDA/US (all U.S. members of the Research Data Alliance) and Co-Chair of RDA's international leadership Council. Dr. Berman served as Vice President for Research at Rensselaer from 2009-2012 and Director of the San Diego Supercomputer Center from 2001-2009.

Dr. Berman currently serves as Chair of the Anita Borg Institute Board of Trustees, as co-Chair of the NSF CISE Advisory Committee, as a member of the Board of Trustees of the Alfred P. Sloan Foundation, and as a member of the Board of Directors of the Monterey Bay Aquarium Research Institute (MBARI). She previously served as co-Chair of the NRC Board on Research Data and Information (BRDI), as co-Chair of the Blue Ribbon Task Force for Sustainable Digital Preservation and Access, and as Chair of the Information, Computing and Communication Section (Section T) of the AAAS. For her accomplishments, leadership, and vision, Dr. Berman was recognized by the Library of Congress as a "Digital Preservation Pioneer", as one of the top women in technology by BusinessWeek and Newsweek, and as one of the top technologists by IEEE Spectrum.

Instructions to join our meeting remotely using WebEx
To join the online meeting

1. Go to the following link:

   https://nitrd.webex.com/mw0401lsp13/mywebex/default.do?service=1&siteurl=nitrd&nomenu=true&main_url=%2Fmc0901lsp13%2Fe.do%3Fsiteurl%3Dnitrd%26AT%3DMI%26EventID%3D3039...nVe8jOE9BVHenwtg3sv0z7SorsUCH_UWfmZea5JOEdxewyZRsPou69jJnxzq1yr0%26FrameSet%3D2%26MTID%3Dm41ac6308458b12abdd56ae8973b5d32e

2. If requested, enter your name and email address.

3. If a password is required, enter the meeting password: 12345

4. Click "Join".

   If you are joining from a mobile device using the WebEx app:

   Meeting number: 573 982 931
   Meeting password: 12345

To join the audio conference

Dial-in: 1-866-829-0754
password: 1285886

You will be joined to the audio bridge in listen-only mode until Q&A is announced.

*Participants joining from international locations will need to obtain a global access dial-in number by calling the NCO/NITRD, (703) 292-4873 in advance of the meeting.

Climate Change Data Challenge Dataset Catalogue


See Spreadsheet

Cover Page

Research Data Alliance 6th Plenary

Conservatoire national des arts et métiers (Cnam), Paris 23-25 September 2015

Climate Change Data Challenge
Dataset Catalogue

v 22 June 2015

Web: https://rd-alliance.org/plenary-6-cl...challenge.html

Research Data Alliance 6th Plenary - Paris, France, 23-25 September 2015 Climate Change Data Challenge Dataset Catalogue

6th Plenary Climate Change Data Challenge

The 6th Plenary RDA hosted in Paris from 23-25 September 2015, features a special focus on research data for climate change, leveraging on the UN Climate Change Conference (COP21) to be held in Paris in December 2015.

As a part of this special focus Cap Digital & RDA have created a special Data Challenge designed to connect Climate Change related Data Sets with startups, SMEs and larger organizations with practical application for these data.

We have received a wealth of datasets from different global organisations have been made available to enterprises for the creation of novel and innovative solutions in areas covering Air quality, energy and urban activity. We are now entering the second phase of the challenge - the Call for Enterprise Engagement.

Climate Data Challenge for Enterprise application form: https://rd-alliance.org/plenary-6-cl...nterprise.html

The vision of the Research Data Alliance is for researchers and innovators to openly share data across technologies, disciplines, and countries to address the grand challenges of society. One of these grand challenges is understanding and responding appropriately to rapid climate change. This is a challenge that will require the use of big data from climate models and satellite remote sensing as well as more bespoke data on specific climatic and social phenomena. It will require these data to be integrated in new ways that allow for the understanding and prediction of complex systems, but it will also require a deeper understanding of individual and societal responses to both expected and unanticipated change.

Private enterprise from many sectors has a critical interest and an especially important role to play in addressing this challenge. For example, insurance companies will need to develop better and more responsive risk models. Agriculturalists will need to modify predictions of crop yields and will need to develop new varieties better adapted to more extreme climate. Water managers and hydro companies will need to respond to radically different and variable precipitation patterns. Engineering firms will need to develop new, adaptive approaches to coastal flooding. And the list goes on.

The Research Data Alliance wants to accelerate these adaptations and challenges data scientists and enterprise to address these problems. We issue a challenge to demonstrate novel ways to integrate diverse data for new understanding using technologies, systems, or practices developed by RDA. We challenge private sector partners to use open data made available by a wide range of global RDA members and other organisations to address real and developing problems emerging from rapid climate change. Participants will be judged on the novelty of their approach, the range and diversity of data used (from both natural and social sciences), and the use of RDA technologies and
practices. The 3 finalists of the challenge will be invited to present their solutions during the COP21 conference in Paris, December 2015.

Publication of the Climate Change Dataset Catalogue and launch of the enterprise engagement phase will take place on Monday 22 June 2015.

**Code: RDA_ClimateChallenge_sndt_01**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Trends in urbanization

2. Possible applications that might constitute a challenge goal

Data can be used in analyzing sustainable development goals.

3. Practical details regarding your data (optional)

Submitted by

Name and surname: Santosh Kumar Mishra

Contact Email: drskmishrain@yahoo.com

Contact telephone: +91-022-22066892 (O) +917022228090363 (R) +09224380445 (M)

Role: Helping Population Education Resource Centre (PERC) in research studies

Organisation: Population Education Resource Centre, S. N. D. T. Women's University, Mumbai, India (http://sndt.ac.in/)

Country: India

Web address: http://sndt.ac.in/

**Code: RDA_ClimateChallenge_ecoweb_02**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Well known that Animal production is considered as a significant source of greenhouse gas emissions and taking into account ongoing climate change and global warming which is great approaches and scope of emissions covered, estimates by various sources place livestock contribution to global anthropogenic GHG emissions at between 7 and 18 percent in Georgia. The current analysis provided by the Association for Farmers Rights Defense, AFRD which was conducted to evaluate the potential of nutritional, manure and animal husbandry practices for mitigating methane and nitrous oxide ? i.e. non-carbon dioxide (non-CO2) GHG emissions from livestock production in two regions of Georgia.
These regions (Kvemo Kartli and Samtskhe Javakheti) were livestock farming are categorized as most developed and we identified some emission by manure management and animal husbandry mitigation practices.

2. Possible applications that might constitute a challenge goal

Manure storage in anaerobic conditions produces methane emissions. In this case the decomposition of the manure is the relevant mechanism, and thus here it is accounted for independently from enteric fermentation. Higher emissions are found when animals are kept in large numbers in confined conditions, such as dairy farms, cattle feedlots and intensive pig farms, where manure is usually handled in liquid systems. The decomposition of manure in liquid form can produce a significant amount of methane.

3. Practical details regarding your data (optional)

Submitted by

Name and surname: Dr. Kakha Nadiradze
Contact Email: foodsafetyge@gmail.com
Contact telephone: +99532277775
Role: President
Organisation: Association for Farmers Rights Defense, AFRD
Country: Georgia

Code: RDA_ClimateChallenge_cnrc_03

I control some heritage astronomical data. They are not relevant here, but the challenge (below) affects ALL holders of ALL data, and should therefore be part of this screening process.

2. Possible applications that might constitute a challenge goal

Monitoring quantities that are revealed by currently-held data can only reveal changes as far back as the data go. Changes are both natural and anthropogenically-induced, and it is essential (can't stress that enough) to separate the two components in order to predict trends and to understand how unwanted trends may be curtailed. Unfortunately, nothing created since data were born-digital is going to help - they just are not old enough. Every enquiry needs to access its heritage (pre-digital) data too. Where are they? In what [analogue] formats? Who holds them? Who can access, or even find, them? How can digitizing them be managed correctly? In fact, how can research be meaningful WITHOUT them? This is perhaps the greatest challenge of all.

3. Practical details regarding your data (optional)
The stated element of the Challenge is general, and is not science specific or domain specific. Practical details may be common to some, but not to all, rescue challenges. The topic needs to be woven into the discussions, and initially described in one of the introductory talks.

Submitted by

Name and surname: R. Elizabeth Griffin

Contact Email: elizabeth.griffin@nrc-cnrc.gc.ca

Contact telephone: +1 250 363 0031

Role: Volunteer visitor

Organisation: Dominion Astrophysical Observatory

Country: Canada

Web address: Don't have one

**Code: RDA_ClimateChallenge_epaus_04**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

U.S. EPA Ambient Air Quality data. This is data represents measurements from thousands of monitoring stations around the US over many decades. It includes gaseous, particulate / aerosol (including speciated), volatile organic, and meteorological samples. Currently we collect about 500 parameters and most data are available hourly. Some data is only sampled as a daily average, especially as you go back in time (earlier data is available on request; the data series began in 1957 but gets more sparse the earlier in time). The web address points to static files, but the same site hosts a REST API for accessing data interactively.

The data is published by the US EPA and is free for anyone to use. The formats is compressed CSV (comma separate variables). The names and sizes of the files vary by parameter and year.

2. Possible applications that might constitute a challenge goal

Most likely retrospective comparisons of the impact of climate on air quality (or air quality on climate). This data would be a good long term, high resolution source of air quality for comparison to other data sets or model outputs.

3. Practical details regarding your data (optional)

The data can be complex to understand. Any questions submitted to me or the "contact us" link on the the web address listed will be promptly answered.

Submitted by
Name and surname: Nick Mangus

Contact Email: mangus.nick@epa.gov

Contact telephone: 919-541-5549 (USA)

Role: Data Provider

Organisation: United States Environmental Protection Agency

Country: United States

Web address: http://aqsdr1.epa.gov/aqsweb/aqstmp/...oad_files.html

Code: RDA_ClimatChallenge_cna_05

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

The National Climate Assessment Indicators (http://www.globalchange.gov/explore/indicators) is an effort to assess the impacts of climate change on the US. I am contributing on two technical teams which support the overall NCA indicators effort. The NCA is supported by the US Global Change Research Program.

2. Possible applications that might constitute a challenge goal

For the National Climate Assessment Indicators effort, an array of technical teams (14 in total) were tasked with the goal of compiling datasets for the indicators effort across a number of topics, ranging from human health to the water cycle to grasslands and forests. The indicators effort is rolling out in three phases: first, a pilot phase, where "off the shelf" datasets are visualized and those visualizations are published online. This is what is currently available on the website linked to above. The second stage is to gather existing records/high priority datasets where the current product is not "off the shelf" but could be with relatively minimal effort. The goal of this next step is to develop the visualization of high priority indicators, where the incorporation of heterogeneous data is a challenge but the data already exist. This is where we are now. A third step for the future is to prioritize indicators and identify what we aren't measuring but should so that we can understand future climate changes.

3. Practical details regarding your data (optional)

The NCA Indicators effort is a synthesis of many different datasets. It represents a formidable challenge goal to assemble the heterogeneous datasets that exist to visualize and understand the impacts of climate on our natural and social systems. This challenge incorporates many different domains and could be a great use of RDA's expertise.

Submitted by

Name and surname: Kevin Rose

Contact Email: kev.c.rose@gmail.com
Contact telephone: +1 973-919-4278

Role: PhD

Organisation: University of Wisconsin, Madison

Country: United States

Web address: http://landscape.zoology.wisc.edu/People/Rose.html

**Code: RDA_Clim ateChallenge_hitgr_06**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

The data handled by the Hellenic Institute of Transport (HIT) at real-time that will be utilized for the Climate Change Data Challenge consist of the following sets:

1. Title: Point-to-point (Blue Tooth) detected data on vehicle travel time and vehicle flow data - Creator and Contributors: HIT, Region of Central Macedonia, Municipality of Thessaloniki - Publisher and Location: HIT, Thessaloniki Greece, Type and Format: JSON - Size/Volume: 150mb for every set (updated every 15 minutes)

2. Title: Floating Car Data (FCD) on vehicle position and vehicle speed of 1200 taxis - Creator and Contributor: TaxiWay, HIT - Publisher and Location: HIT, Thessaloniki Greece - Type and Format: zipped CSV, Size/Volume: 200mb for 2.000.000 entries per day (data updated every 2 minutes)

3. Title: Conventional traffic flow and vehicle speed measurements with Cameras, Radars and Inductive Loops - Creator and Contributor: HIT, Region of Central Macedonia, MIZAR, Municipality of Thessaloniki - Publisher and Location: HIT Mizar, Thessaloniki Greece, Type and Format: XLM - Size/Volume: 15mb for 323509 entries per day (data updated every 5 minutes)

4. Title: Social Media extracted tweets and check-ins - Creator and Contributor: HIT - Publisher and Location: HIT, Thessaloniki Greece, Type and Format: SQL database - Size/Volume: 1gb for every set (updated every 2 months)

2. Possible applications that might constitute a challenge goal

Step 1 for dealing with any issue is to explicitly understand it, be able to describe and ideally predict its future behavior. As climate change induced hazards and disasters already significantly impact transportation assets (extending from transport mode networks, passenger and freight flows to infrastructures), it is the goal of the Hellenic Institute of Transport to utilize the data sets at its disposal to a) gain a clear understanding on their impacts b) propose optimal measures to deal with them c) assist stakeholders on their real-time operational management. In detail:

Data set 1, 2 and 3 will be analyzed and tools (in the form of interactive dashboards) will be developed for quantifying and visualizing the impact of adverse events related to climate change on transportation. Through the facilitation of the understanding on their impacts on transportation systems, optimal ways for dealing with disasters will be identified.
Impacts will refer to travel time delays, speed drop, re-routing of passenger and freight vehicles, vehicle flows reduction and infrastructural damages.

Data set 4 will be utilized as an alternative for hazards propagation models; tweets will be semantically exploited and spatially analyzed given their geolocalized characteristics so as to identify the real-time propagation of a disaster occurring e.g. on the outskirts of the city. At the same notion, check-ins will be utilized for pilot evacuation studies; large-scale disasters will be simulated, evacuation optimal routes will be dynamically defined (based on Data sets 1, 2 and 3) and number of people safely evacuated will check-in at designated evacuation safe spots and shelters.

3. Practical details regarding your data (optional)

Submitted by

Name and surname: Evangelos Mitsakis

Contact Email: emit@certh.gr

Contact telephone: +2310498459

Role: Associate Researcher

Organisation: Centre for Research and Technology Hellas - Hellenic Institute of Transport

Country: Greece

Web address: http://www.imet.gr

**Code: RDA_ClimateChallenge_daymet_07**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Title: Daymet ? Daily Surface Weather and Climatological Summaries

Creators: Thornton, P.E., M.M. Thornton, B.W. Mayer, N. Wilhelmi, Y. Wei, R. Devarakonda, R.B. Cook, and ORNL DAAC.


Format: NetCDF/CSV

Size/Volume: 296263.0 MBytes in 245 Files

DOI: [http://dx.doi.org/10.3334/ORNLDAAC/1219](http://dx.doi.org/10.3334/ORNLDAAC/1219)

from Oak Ridge National Laboratory Distributed Active Archive Center, Oak Ridge, Tennessee, USA. Date accessed: YYYY/MM/DD. Temporal range: YYYY/MM/DD-YYYY/MM/DD. Spatial range: N=DD.DD, S=DD.DD, E=DDD.DD, W=DDD.DD.

Description:
Archived and distributed through the NASA ORNL DAAC http://daymet.ornl.gov, the Daymet data set provides gridded estimates of daily weather parameters for North America, including daily continuous surfaces of minimum and maximum temperature, precipitation occurrence and amount, humidity, shortwave radiation, snow water equivalent, and day length. The daily time step, 1 km x 1 km spatial resolution, and North American spatial extent of the data set makes it a unique data set that has already proven very valuable to scientific, research, and educational communities. Access to the Daymet data set is available through various tools and formats allowing a rich resource of daily surface meteorology. Daymet data are available for 1980 through the latest full calendar year and includes the United States, Mexico, and Canada (south of 52 degrees North) as station density allows.

Several options are available for data download:
?Text file of daily data for all Daymet variables for a single 1-km x 1-km pixel
?Gridded tiles of daily data for each Daymet variable
?Daily mosaics for each Daymet variable

Data Access Direct

Tools

2. Possible applications that might constitute a challenge goal
Daymet data set has been used in nearly 300 peer-reviewed publications. The use of daymet in scientific research ranges from understanding biophysical characteristics to studying the impact of climate change on wine production. With the release of several new web service tools that provide subsets, visualization, and script based access to daymet data; there has been an uptick in the unique and unconventional use of daymet data in scientific research. We hope that including daymet in this challenge will bring about other innovative uses of the data.

Daymet data specifically can be used to understand air quality and also for building our understanding on human energy consumption. As we know, there is a direct link between energy consumption and weather. Mapping this relationship combined with socio-economic factors can provide a unique and new perspective on our energy needs and usage scenarios. Daymet can be combined with wind and other information to get a high-resolution understanding of air quality. New visualizations can be created that taps into the daymet tools and services. Daily weather information provided by daymet can be combined with social media information such as tweets and facebook posts to understand and derive ?costs? of a weather event. Other characteristics such as vegetation and bird phenology can be derived too. These phenologies can be indicators of air quality.
3. Practical details regarding your data (optional) Data is free and open to public.

Submitted by

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Role: Data Center Manager

Organisation: Oak Ridge National Laboratory

Country: United States

Web address: http://daymet.ornl.gov

**Code: RDA_ClimateChallenge_ukdale_08**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

   title: The UK Domestic Appliance-Level Electricity (UK-DALE) dataset

   description: Appliance-by-appliance and whole-home power demand for 5 UK homes recorded approximately once every 6s. Includes over 2 years of data for House 1. For 3 of the homes, whole-home data was also recorded at 1s intervals and at 16kHz. Data is stored in individual directories for each house. Each appliance has a separate time series file channel_nn.dat and most have a channel_nn_button_press.dat file indicating switching events.

   creator: Jack Kelly

   data publisher: The UK Energy Research Council Energy Data Centre

   location (for 1-second and 6-second data): http://dx.doi.org/10.5286/UKERC.EDC.000001 location (for 16 kHz data): http://dx.doi.org/10.5286/UKERC.EDC.000002

   format: CSV

   size (for 1-second and 6-second data, compressed CSV files): 2 GBytes size (for 16 kHz data): 4 TBytes

   identifier (for 1-second and 6-second data): DOI:10.5286/UKERC.EDC.000001 identifier (for 16 kHz data): DOI:10.5286/UKERC.EDC.000002

2. Possible applications that might constitute a challenge goal

   1. One challenge would be to try to design and train an energy disaggregation algorithm. The aim of energy disaggregation is to estimate the energy consumed by individual appliances from a single meter which measures the
whole-home energy demand. There is good evidence that energy users are better able to reduce their energy demand if given an itemised energy bill (which is what disaggregation should provide). Disaggregation could be very useful given that many countries are currently rolling out smart electricity meters (which measure whole-home energy demand). The challenge would be to come up with a disaggregation algorithm which performs better than the benchmark algorithms in the open-source energy disaggregation tool NILMTK: http://nilmtk.github.io

2. A second challenge might be to come up with a simplified version of the NILM Metadata schema that we currently use for describing energy data: https://github.com/nilmtk/nilm_metadata the NILM Metadata schema is capable of describing pretty much any electricity data collection scenario but maybe 90% of the datasets out there only need about 20% of the capabilities of NILM Metadata and could benefit from a schema which is simpler to write and simpler to read.

3. A third challenge would be to explore data visualisations and ways to engage users in their appliance-by-appliance energy data (as recorded in the UK-DALE dataset).

4. A fourth (general) challenge would be to contribute code or documentation to the open-source energy disaggregation tool NILMTK: http://nilmtk.github.io

3. Practical details regarding your data (optional) Full details of the data can be found in our paper:

Jack Kelly and William Knottenbelt. The UK-DALE dataset, domestic appliance-level electricity demand and whole-house demand from five UK homes. Scientific Data 2, Article number:150007, 2015. DOI:10.1038/sdata.2015.7

Available as open-access HTML or PDF here: http://www.nature.com/articles/sdata20157

We also have a support website for the dataset here: http://www.doc.ic.ac.uk/~dk3810/data/

And this open-source energy disaggregation research tool has a converter for our UK-DALE dataset: http://nilmtk.github.io

Submitted by

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Role: Final year PhD student (and I collected the data!)

Organisation: Imperial College London

Country: United Kingdom

Web address: http://jack-kelly.com
1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Title: iAWE (Indian data set for ambient, water and energy sensing) Website: http://iawe.github.io

Creators: Nipun Batra, Manoj Gulati and Amarjeet Singh

Publication: It's different: Insights into home energy consumption in India. Published as a full paper in Buildsys 2013.

Type: CSV, HDF5

Details: Contains data from a single home for 73 days in New Delhi, where multiple sensing modalities such as occupancy, temperature, energy consumption, water consumption were recorded.

2. Possible applications that might constitute a challenge goal

1. Non-intrusive load monitoring
2. Demand prediction
3. Electricity outage prediction
4. Effect of external temperature on energy consumption
5. Inter-relationship between occupancy, other ambient conditions and energy consumption

3. Practical details regarding your data (optional)

Submitted by

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Contact telephone: +919953733848

Role: PhD Student

Organisation: Indraprastha Institute of Information Technology

Country: India

Web address: http://nipunbatra.github.io

Code: RDA_ClimateChallenge_cedauk_10

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)
Observations of atmospheric composition by the NCAS (National Centre for Atmospheric Science) community at various locations and observatories. The data consist of measurements of a range of atmospheric chemical species over a range of timescales (1 to >10 years) at 3 main sites: London, Weybourne Atmospheric Observatory UK and Cape Verde. The data, mainly timeseries, are created by various members of NCAS and archived at the Centre for Environmental Data Archival (CEDA). Data are in NASA-Ames format - an ASCII text format used by this community.

2. Possible applications that might constitute a challenge goal

Production of interactive tool to plot, average and compare data, providing the end user with ease of access and reusability

3. Practical details regarding your data (optional)

Submitted by

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Role: Senior Data Scientist

Organisation: Centre for Environmental Data Archival (CEDA)

Country: United Kingdom

Web address: http://www.ceda.ac.uk/

Code: RDA_ClimateChallenge_quanturb_11

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Data Descriptor:


Data Repository: http://dx.doi.org/10.5061/dryad.pc8m3

2. Possible applications that might constitute a challenge goal

Estimate the various costs, not only monetary but in terms of time and of CO2 produced, of travelling with different transportation means.

Can better infrastructures be justified and financed by CO2 offsets?
Can a better synchronisation between the different modes of transport favour the reduction of CO2 emissions?

3. Practical details regarding your data (optional)

Submitted by

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Role: Postdoc

Organisation: CEA-Saclay

Country: France

Web address: http://www.quanturb.com

**Code: RDA_ClimateChallenge_sgairscapes_12**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Title: Fine-grained Air Quality & Meteorological Data from a Distributed Network of Moving Environmental Sensors.

Creators and Contributors: Marguerite Nyhan - Massachusetts Institute of Technology & Singapore-MIT Alliance for Research & Technology. Dinko Oletic - University of Zagreb.

This data-set is the output from a project entitled Singapore Airscapes. As part of this project, geographically- and time-referenced air quality and meteorological data was collected using a distributed network of environmental sensors each day from the 2nd to the 10th April 2015. Daily trials were 2 hours in duration. Up to 11 sensors were carried by a group of researchers during each trial. The testing site was the Jurong Lake District Singapore Smart Nation Site which is approximately 1.5 km2. Individuals equipped with sensors, smart-phones and maps were instructed to walk to different locations within the site so that even spatial coverage was achieved with the full network of sensors. The sensor devices were connected via bluetooth to smart-phones carried by each person. The data collected was therefore transferred from the sensor to the smart-phone, over the internet to a server and then to a web application where the data was displayed/mapped in real-time. As data was logged every 20 seconds, the web application also updated every 20 seconds. When trials concluded each day, the web application displayed the most recent data collected by the network of sensors until the next trial commenced. The data was effectively crowd sourced and made available for viewing in real-time to all people involved in the project, and with the public.

Publisher and Location: The data is located on a server in Singapore - but would be accessible through a public API.

Type & format: It is intended that the data would be available in CSV format. Size/Volume: The data-set is approximately 30 MB.
Identifiers: The data-set includes the date, time, temperature, pressure, battery status, CO, humidity, NO2 and the Latitude and Longitude corresponding to each parameter measured. These have been collected at 20 sec intervals. The data from each sensor device looks like the following:

07.04.2015 16:50:21#temperature 29#103.74215858#1.33441495#07.04.2015 16:50:21#pressure 1005#103.74215858#1.33441495#07.04.2015 16:50:22#batterys 79#103.74215858#1.33441495
#07.04.2015 16:50:23#co 1153#103.74215523#1.33441444#07.04.2015 16:50:24#humidity 65#103.74215466#1.33441359#07.04.2015 16:50:25#no2 80#103.74215364#1.33441319

2. Possible applications that might constitute a challenge goal

The commercial applications of the data-set (or similar scaled data-sets) are as follows:

i. Fine-grained air quality and meteorological data could be sold to environmental consulting firms or municipalities, especially those conducting street canyon air quality modelling.

ii. The deployment, maintenance and calibration of measurements from distributed networks of sensors is now of interest to municipalities and environmental consulting firms. As this type of work is tedious and time-consuming, these entities could contract out this type of work to companies specialising in this.

iii. The web applications where live environmental (air quality) and meteorological data is available could be made available publicly, and advertising space on the website could be sold. Adverts for specific countries and cities could be targeted by location, etc.

iv. It is envisioned that fine-grained air quality information could impact on commercial house prices and rental markets. Therefore real estate agents may find this data of value.

v. As air pollution is linked to a number of adverse health effects, insurance firms could also use geo-referenced air quality information to evaluate health risk profiles for populations or sub-populations residential and working within certain cities.

For any of the above commercial applications, a visualisation or data-extraction tool could be developed so that companies could make informed decisions in timely manner.

There are many other research orientated applications for the data-set also. This includes looking at the data in the context of meteorological data and urban mobility patterns, e.g. examining the impact of precipitation and temperature on urban mobility patterns and seeing how this impacts on exposure to air pollution. Therefore, this would investigate how climate change may impact on exposure to air pollution.

3. Practical details regarding your data (optional)

The data has been visualised in the following web application - see here for details: [http://137.132.22.82:15059/](http://137.132.22.82:15059/)

In this web application, the data was displayed live while trials were taking place (as described above).

Submitted by
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Role: Post-Doc Associate

Organisation: Massachusetts Institute of Technology (SENSEable City Lab)

Country: United States

Web address: http://senseable.mit.edu

**Code: RDA_ClimateChallenge_ozfluxau_13**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Title: OzFlux data collection

Publisher: TERN OzFlux

Data location: NCRIS Server Australia

Data format: NetCDF (conforming with CF Metadata Convention)

Data access: through a shopping cart system on the OzFlux Data Portal (ODP) or an OPeNDAP/THREDDS server (http://dap.ozflux.org.au/thredds/catalog.html). The NetCDF files in an OPeNDAP/THREDDS server can be accessed by DAP-aware applications (eg Panoply from NASA GISS) over the Internet, which allows users of OzFlux data to access the latest version of the OzFlux data sets without having to download individual files from the ODP.

Data information: The data on this portal are measurements of ecosystem exchange of heat, water vapour and carbon dioxide and supporting meteorological data for sites in Australia and New Zealand. The data are at half-hourly or hourly interval and stored in NetCDF files that conform to the CF Metadata Convention.

The data licence terms and conditions are explained here: http://data.ozflux.org.au/portal/l...enceinfo.jspx

The data in the NetCDF files is as follows:

Meteorological data such as air temperature, humidity, wind speed and direction and precipitation. Radiation data such as incoming and outgoing shortwave and long-wave, net radiation, photo synthetically active radiation (PAR, optional) and direct and diffuse shortwave (optional). Soil data such as soil heat flux, soil temperature and soil moisture. Flux data such as friction velocity and the fluxes of momentum, sensible heat, latent heat and carbon dioxide.

For more specific information on variables and variable names see http://eddy.googlecode.com/files/Var...efinitions.pdf
Data are gap-filled and available at half-hourly interval, the data is available on this portal at one of four processing levels:

Level 1: these files contain the characters L1 in the name of the file. The data has not been subjected to any quality control or post-processing.

Level 2: these files contain the characters L2 in the name of the file. Data at this level have been subject to basic quality control checks but not to any post-processing.

Level 3: these files contain the characters L3 in the name of the file. Data at this level has been subject to quality control and post-processing, however the data will contain gaps due to the quality control process.

Level 4: these files contain the characters L4 in the name of the file. Data at this level has been subject to quality control, post-processing and gap-filling of the meteorology.

Data will soon be available at L5 and L6 levels which means that the fluxes are gap-filled (L5) and partitioning (L6) of carbon exchange (NEE) into assimilation (carbon uptake by vegetation- GPP) and respiration (carbon loss by vegetation) has been carried out.

2. Possible applications that might constitute a challenge goal

1) Derivation of maps with
   a. Surface energy budget
   b. Carbon uptake
   c. water use by terrestrial vegetation

2) Visualisation of
   a. Changes in the ratio of sensible heat (the heat we feel) and the latent heat (used to evaporate water) under hot / cold / dry extremes
   b. Changes in carbon uptake and water use under hot / cold / dry extremes

3) Combining flux and remote sensing data with Earth System models

   -> Under a changing climate, where we experience more climate extremes, it is important to have ground-based measurements to verify land surface models, used in Global Climate Models, that operate increasingly out of the range they were parameterised for.

3. Practical details regarding your data (optional)

Submitted by

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1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Title: Digital Collaboratory for Cultural Dendrochronology (DCCD)

Content: The content of the DCCD-archive consists of >100,000 series of tree-ring measurements (ca. 350,000 annual observations), average tree-ring chronologies and descriptive and interpretative metadata (e.g., object and timber type, wood species, absolute calendar dates of the growth rings, provenance of the wood, et cetera).

Creators: different creators

Project leader: Esther Jansma, Cultural Heritage Agency of The Netherlands. See for Acknowledgements:

http://dendro.dans.knaw.nl/acknowledgements

Location: http://dendro.dans.knaw.nl/

2. Possible applications that might constitute a challenge goal

(a) Combining the tree-ring data, which range from ca. 6300 BC to present, with other climate data, like glacier, ice-core and speleotherm data, to reconstruct former climate and environmental change; (b) combining these data with historical data to reconstruct environmental causes of e.g. epidemics (e.g. the plague of 1350) and failed harvests.

3. Practical details regarding your data (optional)

More information: http://vkc.library.uu.nl/vkc/dendroc...s/Default.aspx. Detailed user information is available at: http://vkc.library.uu.nl/vkc/dendroc...ry%20FAQs.aspx You have to register for the repository. For part of the data you need permission of the creator for usage. The creator can change permission levels on line. Collaboration with a dendrochronologist is advised to interpret the data correctly.

Submitted by

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Contact telephone+31 6 232 97 258

Role: Contact person of curator

Organisation: Data Archiving and Networked Services (DANS)

Country: Netherlands
Code: RDA_ClimateChallenge_surgewatch_15

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Coastal flooding is driven by high sea levels, and is a major global hazard. The UK has a long history of coastal flooding, and currently 2.5 million properties and £150 billion of assets are exposed. In the UK, there is an excellent sea level monitoring network, which includes the UK Coastal Monitoring and Forecasting Service (UKCMF) which generates daily forecasts of storm surges, and continuously monitors water levels throughout the UK using the National Tide Gauge Network. So while there is a good record of high sea levels and storm surges, there is no system in place which assesses which of these surges results in coastal flooding, where, and other impacts.

This led a team (led by Dr Ivan Haigh) of scientists from the University of Southampton, National Oceanography Centre, and the British Oceanographic Data Centre, to create a 100-year database of coastal flooding in the UK called SurgeWatch. SurgeWatch includes an online tool with user-friendly graphical interfaces to access information on 96 large storm events that occurred during the last 100 years. For each event, SurgeWatch contains information on: (1) the storm that generated that event; (2) the high water levels recorded around the UK during the event; and (3) the occurrence and severity of coastal flooding as a consequence of the event.

The database is described in the article "A user-friendly database of coastal flooding in the United Kingdom from 1915-2014? published recently in the journal Scientific Data (http://www.nature.com/articles/sdata201521) and is free and easy to access via the ?SurgeWatch? website (http://www.surgewatch.org).

2. Possible applications that might constitute a challenge goal:

To effectively plan for the future, better information is required on the occurrence, causes, and consequences of coastal flooding. The UK Coastal Monitoring and Forecasting Service (UKCMF) generates daily forecasts of storm surges, and continuously monitors water levels throughout the UK using the National Tide Gauge Network. However, there was no nationwide system in place to assess which high waters caused coastal flooding; and to document information on the occurrence and extents of coastal floods and consequences.

This hinders understanding of coastal flooding risks, and also restricts accurate numerical modelling of coastal flood inundation due to a lack of data to validate the plausibility of model results. The challenge is how can we extend the database and how can it be used practically to provide crucial information to help prevent future flooding.

3. Practical details regarding your data (optional)

All the data is freely and easily accessible on our website (http://www.surgewatch.org). Using a simple interface, users can browse events by time or location. Selecting ?by time? brings up a bar chart showing the dates and relative magnitudes of each of the 96 events, along with a table listing the dates and highest return periods for each event. The columns of the tables can be ordered by date, return period, number of affected sites or site with highest return period. Users can also select a smaller time period on the bar chart (e.g., they might just be interested in the last decade) and the table will update accordingly. Clicking on a row in the table will link through to an event. Each event page contains the referenced event commentary, along with Google Maps showing the return period and skew surge at the sites
affected, figures of the storm progression and track, and a table listing the data available for that event. Selecting "by location?", brings up a map of the UK showing the 40 tide gauge sites. Users can click on a site, or search for a location and the map will zoom in and show the nearby available tide gauges. Selecting a site will open a new page that gives details of that particular tide gauge record along with a table listing only the events that have impacted that site. Like before, clicking on a row in the table will link through to an event page. There are options on the website to download all the data. Alternatively, users can just download the data for a single event or all of the events that have generated high water levels at a particular site.

Submitted by

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Role: Lecturer in Coastal Oceanography

Organisation: University of Southampton

Country: United Kingdom

Web address: http://www.southampton.ac.uk/oes/abo...f/idh1g11.page

Code: RDA_Climat...Climate_Challenge_gidmaps_16

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Here we present data sets available from the Global Integrated Drought Monitoring and Prediction System (GIDMaPS), which provides drought information based on multiple drought indicators. The system provides meteorological and agricultural drought information based on multiple satellite-, and model-based precipitation and soil moisture data sets. GIDMaPS includes a near real-time monitoring component and a seasonal probabilistic prediction module. The data sets include historical drought severity data from the monitoring component, and probabilistic seasonal forecasts from the prediction module. The probabilistic forecasts provide essential information for early warning, taking preventive measures, and planning mitigation strategies. GIDMaPS data sets are a significant extension to current capabilities and data sets for global drought assessment and early warning. The presented data sets would be instrumental in reducing drought impacts especially in developing countries. Our results indicate that GIDMaPS data sets reliably captured several major droughts from across the globe.

A detailed data descriptor including format and type is available here:

http://www.nature.com/articles/sdata20141

2. Possible applications that might constitute a challenge goal:

http://semanticommunity.info/Data_Science/Data_Science_for_RDA_Climat...Climate_Change_Data_Challenge

Updated: Sat, 19 Sep 2015 08:36:40 GMT

Powered by mindtouch
Drought data records are fundamental to study regional/global changes to trends and patterns of droughts. GIDMaPS's data sets can be used for a wide variety of applications/studies. For example, GIDMaPS climate data records can be used to assess the fraction of global land areas under drought. A region's drought climatology can also be investigated using GIDMaPS data sets. One can obtain the fraction of a region/country under drought and assess trends in temporal patterns of areas in drought. Furthermore, GIDMaPS data can be used to study drought impacts on air quality, energy production, water resources etc.

3. Practical details regarding your data (optional)

Submitted by

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Role: Assistant Professor

Organisation: University of California, Irvine

Country: United States

Web address: http://drought.eng.uci.edu/

**Code: RDA_ClimaChallenge_cliwoc_17**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Climatological Database for the World's Oceans 1750-1850 (release 2.1) (CLIWOC)

Location: [http://www.persistent-identifier.nl/...:ui:13-frd-euc](http://www.persistent-identifier.nl/...:ui:13-frd-euc)

The principal objective of the CLIWOC project was to realise the scientific potential of logbook climatic data and to produce a database of daily weather observations for the world's oceans between 1750 and 1850. Another objective was to provide a comprehensive understanding of the nature of climatic change over the oceans for the century after 1750 when logbooks became abundant and to link with existing databases such as the I-COADS dataset (International Comprehensive Ocean-Atmosphere Data Set). The study period is also significant because it marks a period when climatic change cannot be seen as a consequence of world-wide industrialization and the release of greenhouse gases into the atmosphere. One of the project's main achievements was the preparation of a database drawing on British, Dutch, French and Spanish naval logbook records for the immediate pre-instrumental period (1750-1853).

Source:

Hundreds of naval logs from ancient Dutch sailing ships; Nationaal Archief, Den Haag; KNMI, De Bilt; The Maritime Museum Rotterdam; Library NIWI-KNAW, Amsterdam; Netherlands Maritime Museum Amsterdam; Gemeente Archief
Contributors:
Dr. Günther Können (KNMI; NL)
Dr. Clive Wilkinson (Univ. East Anglia; GB) Dr. Dennis Wheeler (Univ. of Sunderland; GB)
Dr. Ricardo Garcia-Herrera (Univ. Computense Madrid; ES)
Dr. Maria Rosario Prieto (Inst. de Argentino de Galciología y Nivología; AR) Publisher: DANS / KNMI

Content: Besides the Access database (CLIWOC21_97.mdb), the dataset contains the following three (3) files:
- CLIWOC 2_1.htm: description in ASCII of the full database (more than 287,000 records) and various versions of the database. Also describes length and format of the records;
- imma_format.pdf: documentation of the IMMA format (International Maritime Meteorological Archive), as updated on 14 March 2007;

2. Possible applications that might constitute a challenge goal
Combination of these historic climate data with more recent climate data of other sources.

3. Practical details regarding your data (optional)
Open access for registered users - Unrestricted access for all registered EASY users

Submitted by
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Contact telephone+31 6 232 97 258
Role: Contact person of curator
Organisation: Data Archiving and Networked Services (DANS)
Country: Netherlands
Web address: http://www.dans.knaw.nl http://dendro.dans.knaw.nl/

Code: RDA_ClimateChallenge_nlwindegy_18
1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)
Attitudes towards and meanings about wind energy, on turbine locations and elsewhere 1985-1989

Location: http://www.persistent-identifier.nl/...:ui:13-1h6-505

Interest in wind energy/ (problems with) electricity supply/plans for wind turbines in vicinity/knowledge about wind energy and wind turbines/percentage of energy generated by wind. Opinion on nuclear energy/government interference with household energy consumption/should research for new sources of energy be initiated by the government.

Background variables: basic characteristics/residence/housing situation/household characteristics/occupation/employment/income/capital assets/education/politics/religion/readership, mass media, and 'cultural' exposure

Creator: M. Wolsink, University of Amsterdam Contributors:

Dr. M. Wolsink, UVA, Vakgroep Milieukunde UvA (depositor)
Ministerie van volkshuisvesting, ruimtelijke ordening en milieubeheer * Leidschendam (research initiator)
NIPO * Amsterdam, the Netherlands Interview bv * Amsterdam IVAM, UvA;: Wolsink, M. * Amsterdam (data collector)
Publisher: DANS
Content: SPSS portable file and documentation

2. Possible applications that might constitute a challenge goal

Combination of these opinion data with more recent opinion data or climate data of other sources.

3. Practical details regarding your data (optional)

Open access for registered users - Unrestricted access for all registered EASY users

Submitted by

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Role: Contact person of curator

Organisation: Data Archiving and Networked Services (DANS)

Country: Netherlands

Web address: http://www.dans.knaw.nl http://dendro.dans.knaw.nl/

Code: RDA_ClimateChallenge_nlfuturegy_19

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)
General social debate on future energy policy 1983

Polling the opinions of the Dutch population on the nations future energy policy, the use of nuclear power in particular. 
Non-professional activities / political interest, efficacy, competence / knowledge of general social debate on energy and opinion on usefulness / is r informed about activities in GSD framework? / estimated influence of GSD / energy problems and technical solutions / quality of information on these problems from: mass-media, government, action groups /
evaluation of energy supply options: coal, natural gas, mineral oil, nuclear power, wind energy, energy saving /
evaluation of questionnaire procedure and information supplied in questionnaire / relative importance of economic, health, social factors in decision-making / the four files differ in type of questionnaire and used different samples.
Background variables: basic characteristics/ residence/ household characteristics/ occupation/employment/ income/
capital assets/ education/ politics/ readership, mass media, and 'cultural' exposure

Creator: P. Neijens, W.E. Saris, J.A. de Ridder , VU University Amsterdam, Contributors:

Stuurgroep maatschappelijke discussie energiebeleid * Den Haag (research initiator) NIPO * Amsterdam, the Netherlands (data collector)

Publisher: DANS

Content: SPSS portable files and documentation

2. Possible applications that might constitute a challenge goal

Combination of these opinion data with more recent opinion data or climate data of other sources.

3. Practical details regarding your data (optional)

Open access for registered users - Unrestricted access for all registered EASY users

Submitted by

Name and surname: Marion Wittenberg

Contact Email: marion.wittenberg@dans.knaw.nl

Contact telephone+31 6 232 97 258

Role: Contact person of curator

Organisation: Data Archiving and Networked Services (DANS)

Country: Netherlands

Web address: http://www.dans.knaw.nl http://dendro.dans.knaw.nl/
Code: RDA_ClimatChallenge_aubstats_20

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Population


Victorian Road Traffic Volumes

This dataset is provided by VicRoads and contains road traffic volumes for freeways (excluding toll roads) and arterial roads in Victoria derived from surveys and estimates. They cover the period of the last four (4) years, and ten (10) years. The Average Annual Daily Traffic (AADT) volumes are provided, including the number of commercial vehicles in the traffic stream. The data is based on the segment of road that is of interest and the publication provides the Homogenous Flow (HF) number associated with that segment of roadway. Further information relating to the VicRoads dataset is available from here:

https://www.data.vic.gov.au/data/dat...raffic-volumes

Energy

Energex have provided data on the consumption of energy by postcode: https://www.energex.com.au/about-us/.../data-to-share

The ABS also have Energy data at a Macro level: http://www.abs.gov.au/ausstats/abs@....pand&Num=2.2.3

Speed Zone Speed Zone Data

Data contains speed sign value, speed zone, definition of whether or not a zone is default, variable calender zone - references the speed sign table, Seasonal zones, start and end of seasonal dates, currency of speed zone in DD/MM/YYYY

2. Possible applications that might constitute a challenge goal

1. The big transport scenario ? mapping out the busiest streets of Australia. The heat map of all traffic flows through all areas over a given day/week etc.
2. The most (car) polluted regions of Victoria
3. An analysis of the relationship between energy use and residential population in Sydney based on Energex data.

3. Practical details regarding your data (optional)

Some data has been aggregated into administrative units such as postcodes, one of the challenges would be to use data such as the small area population counts provided at the Mesh Block level geography to apportion the local use of energy based on the population.

Submitted by
Name and surname: Serryn Eagleson

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Contact telephone: (03) 90357504

Role: Data Hubs Leader

Organisation: Australian Urban Research Infrastructure Network

Country: Australia

Web address: http://aurin.org.au/

**Code: RDA_ClimateChallenge_frorange_21**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Orange France data for climate : Two 12-month datasets from 01.05.2014 to 30.04.2015 For each cell tower (geographical position provided) in Metropolitan France :

- Count of unique SIMs (nb of connected phones by hour)
- Volume of communication (global sum of calls & SMS, in & out by hour)

2. Possible applications that might constitute a challenge goal

Useful for combining with other data sets (transport, energy, ...)

3. Practical details regarding your data (optional)

Those data sets are proposed for non-commercial use only.

Specific Terms & Condition (to be published soon) need to be signed and validate by Orange in order to access those sets.

Submitted by

Name and surname: Zbigniew Smoreda

Contact Email: zbigniew.smoreda@orange.com

Contact telephone: +33 1 45 29 64 95

Role: -

Organisation: Orange
**Code: RDA_ClimateChallenge_eeacorine_22**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

This dataset is provided by the European Environment Agency: CORINE Land COVER 2006 seamless vector data: European Land Cover inventory based on satellite imagery for the year 2006 for the following countries: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Liechtenstein, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, United Kingdom as well as the Western Balkan countries.

Altogether 38 countries were involved, covering 5.8 Mkm2.
- Minimum mapping unit (MMU): 25 hectares;
- Minimum width of linear elements: 100 metres;

Data set is available following this link: [http://www.eea.europa.eu/data-and-ma...data-version-3](http://www.eea.europa.eu/data-and-ma...data-version-3)

2. Possible applications that might constitute a challenge goal

Useful to combine with other data set

3. Practical details regarding your data (optional)

Submitted by

Name and Surname: Romain Melet

Contact Email: [romain.melet@capdigital.com](mailto:romain.melet@capdigital.com)

Contact telephone: +33 1 40 41 11 86

Role: Project Manager Organisation: Cap Digital

Country: France

Web address: [http://www.capdigital.com](http://www.capdigital.com)

**Code: RDA_ClimateChallenge_fregystats_23**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

This data set is provided by the Frencology Ministry. Statistics regarding oil, electricity, gaz and other energy related indicators in France starting from 1970.

http://semanticommunity.info/Data_Science/Data_Science_for_RDA_Climate_Change_Data_Challenge

Updated: Sat, 19 Sep 2015 08:36:40 GMT

Powered by [mindtouch](https://mindtouch.com)
Data available following this link: https://www.data.gouv.fr/fr/datasets...nergie-pegase/

2. Possible applications that might constitute a challenge goal

Useful for understanding the evolution of energy consumption and to combine with other relevant data sets.

3. Practical details regarding your data (optional)

Documentation for this data set is in French language only. I can provided assistance if needed.

Submitted by

Name and Surname: Romain Melet

Contact Email: romain.melet@capdigital.com

Contact telephone: +33 1 40 41 11 86

Role: Project Manager

Organisation: Cap Digital

Country: France

Web address: http://www.capdigital.com

**Code: RDA_ClimateChallenge_eugreengas_24**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Data provided by Eurostat

Greenhouse gas emissions from agriculture starting from 1985

Data sets can be accessed following this link https://open-data.europa.eu/en/data/...tAoaoA1a9skCcg

2. Possible applications that might constitute a challenge goal

Useful for combining with other data sets

3. Practical details regarding your data (optional)

Submitted by

Name and Surname: Romain Melet

Contact Email: romain.melet@capdigital.com
Contact telephone: +33 1 40 41 11 86

Role: Project Manager

Organisation: Cap Digital

Country: France
Web address: http://www.capdigital.com

**Code: RDA_ClimateChallenge_uscdinasa_25**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

The Buildings Energy Program Data Book includes statistics on residential and commercial building energy consumption. Data tables contain statistics related to construction, building technologies, energy consumption, and building characteristics.

http://buildingsdatabook.eren.doe.gov/


Energy Infrastructure/Energy Demand

U.S. Department of Energy

Carla Frisch Carla.Frisch@ee.doe.gov

2. Possible applications that might constitute a challenge goal
- Understand how sea-level-rise will impact transportation and energy infrastructure
- Explore optimization techniques for site selection of solar energy generation stations
- Assess vulnerability of the current energy grid
- Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by

Name and surname: Ana Pinheiro Privette

Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager
1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President’s Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

Coal Data and Statistics
Data and statistics on coal production, consumption, prices, reserves, stocks, imports, exports, distribution, and transportation rates.

http://catalog.data.gov/dataset/coal...and-statistics

Energy Infrastructure Energy Resources, Energy Supply, Energy Demand, Coal

U.S. Department of Energy

Mark Elbert data@eia.gov

2. Possible applications that might constitute a challenge goal
- Understand how sea-level-rise will impact transportation and energy infrastructure
- Explore optimization techniques for site selection of solar energy generation stations
- Assess vulnerability of the current energy grid
- Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by

Name and surname: Ana Pinheiro Privette

Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States
1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

Distribution and Production of Oil and Gas Wells by State

Contains annual data on the number and production volumes of oil and natural gas wells by state

http://www.eia.gov/pub/oil_gas/petroleum/etrosysog.html


Energy Infrastructure Energy Resources, Oil and Gas

Mark Elbert data@eia.gov

2. Possible applications that might constitute a challenge goal

- Understand how sea-level-rise will impact transportation and energy infrastructure
- Explore optimization techniques for site selection of solar energy generation stations
- Assess vulnerability of the current energy grid
- Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by

Name and surname: Ana Pinheiro Privette

Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate
1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

Electricity Data and Statistics Application Programming Interface

Find statistics on electric power plants, capacity, generation, fuel consumption, sales, prices and customers.

http://www.eia.gov/electricity/data.cfm
http://catalog.data.gov/dataset/energy-infrastructure

Energy Infrastructure Energy Resources, Energy Demand, Infrastructure, Energy Supply, Electricity

Mark Elbert data@eia.gov

2. Possible applications that might constitute a challenge goal
   - Understand how sea-level-rise will impact transportation and energy infrastructure
   - Explore optimization techniques for site selection of solar energy generation stations
   - Assess vulnerability of the current energy grid
   - Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by

Name and surname: Ana Pinheiro Privette

Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_29

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)
Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

Energy Analysis & Projections

Monthly and yearly forecasts of energy production, consumption, and price at the national level and by energy type. Monthly forecasts extend 18 months and yearly forecasts extend to 2040. International yearly projections by region extend to 2040.

http://www.eia.gov/analysis/

http://catalog.data.gov/dataset/energy-analysis-and-projections

Energy Infrastructure  Energy Resources, Energy Supply, Energy Demand, Energy Conversion

Mark Elbert  data@eia.gov

2. Possible applications that might constitute a challenge goal
   - Understand how sea-level-rise will impact transportation and energy infrastructure
   - Explore optimization techniques for site selection of solar energy generation stations
   - Assess vulnerability of the current energy grid
   - Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by

Name and surname: Ana Pinheiro Privette

Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_30

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:
Military Installations, Ranges, and Training Areas

This dataset, released by DoD, contains geographic information for major installations, ranges, and training areas in the United States and its territories. This release integrates site information about DoD installations, training ranges, and land assets

http://www.acq.osd.mil/ie/bei/opengo...ons_ranges.zip

http://catalog.data.gov/dataset/mili...training-areas

Energy Infrastructure  Military Installations  U.S. Department of Defense

DISDI Program - Program Manager

Acquisition Technology and Logistics, Department of Defense

DISDI.Helpdesk@osd.mil

2. Possible applications that might constitute a challenge goal
   - Understand how sea-level-rise will impact transportation and energy infrastructure
   - Explore optimization techniques for site selection of solar energy generation stations
   - Assess vulnerability of the current energy grid
   - Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by

Name and surname: Ana Pinheiro Privette

Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

**Code: RDA_ClimateChallenge_uscdinasa_31**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)
Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

Monthly Hydropower Generation by Facility

The Bureau of Reclamation provides monthly net hydropower generation data on a per facility basis for the past 10 years.

http://catalog.data.gov/dataset/mont...of-reclamation


U.S. Department of the Interior  U.S. Bureau of Reclamation

Department of the Interior  bcoowaterops@usbr.gov

2. Possible applications that might constitute a challenge goal
- Understand how sea-level-rise will impact transportation and energy infrastructure
- Explore optimization techniques for site selection of solar energy generation stations
- Assess vulnerability of the current energy grid
- Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by

Name and surname: Ana Pinheiro Privette

Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_32

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:
National Solar Radiation Database

In the effort to make such data easily accessible, NCDC, the Department of Energy’s National Renewable Energy Laboratory (NREL), the National Aeronautics and Space Administration, the Northeast Regional Climate Center, and several universities and companies.

http://www.ncdc.noaa.gov/data-access...olar-radiation

http://catalog.data.gov/dataset/nati...r-1989-to-2009


National Oceanic and Atmospheric Administration, U.S. Department of Commerce

National Renewable Energy Laboratory

National Oceanic and Atmospheric Administration ncdc.orders@noaa.gov

2. Possible applications that might constitute a challenge goal
   - Understand how sea-level-rise will impact transportation and energy infrastructure
   - Explore optimization techniques for site selection of solar energy generation stations
   - Assess vulnerability of the current energy grid
   - Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by

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Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_33

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)
Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

Natural Gas Data and Statistics

Data and statistics on natural gas prices, exploration and reserves, production, imports and exports, storage, and consumption.

http://catalog.data.gov/dataset/natu...and-statistics

Energy Infrastructure Energy Resources, Energy Supply, Energy Demand, Infrastructure, Natural Gas

U.S. Department of Energy

Mark Elbert data@eia.gov

2. Possible applications that might constitute a challenge goal
   - Understand how sea-level-rise will impact transportation and energy infrastructure
   - Explore optimization techniques for site selection of solar energy generation stations
   - Assess vulnerability of the current energy grid
   - Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by

Name and surname: Ana Pinheiro Privette

Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_34

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:
Nuclear and Uranium Data and Statistics

Nuclear & Uranium Data and statistics on uranium fuel, nuclear power plants and reactors, and nuclear power generation

http://catalog.data.gov/dataset/nucl...and-statistics


U.S. Department of Energy

Mark Elbert data@eia.gov

2. Possible applications that might constitute a challenge goal
   - Understand how sea-level-rise will impact transportation and energy infrastructure
   - Explore optimization techniques for site selection of solar energy generation stations
   - Assess vulnerability of the current energy grid
   - Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by

Name and surname: Ana Pinheiro Privette

Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

**Code: RDA_ClimateChallenge_uscdinasa_35**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

Residential Energy Consumption Survey
This 2009 version represents the 13th iteration of the RECS program. First conducted in 1978, the Residential Energy Consumption Survey is a national sample survey that collects energy-related data for housing units occupied as a primary residence and the


Energy Infrastructure Energy Demand, Renewable Energy

U.S. Department of Energy

Mark Elbert data@eia.gov

2. Possible applications that might constitute a challenge goal
- Understand how sea-level-rise will impact transportation and energy infrastructure
- Explore optimization techniques for site selection of solar energy generation stations
- Assess vulnerability of the current energy grid
- Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by

Name and surname: Ana Pinheiro Privette

Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_36

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

State Energy Data System (SEDS) Application Programming Interface (API)
State level data on all energy sources. Data include production, consumption, reserves, stocks, prices, imports, and exports. Data are collated from state-specific data reported elsewhere on the EIA website and are the most recent values available.

http://www.eia.gov/beta/api/qb.cfm?category=40203

http://catalog.data.gov/dataset/stat...-interface-api

Energy Infrastructure Energy Resources, Energy Supply, Energy Demand, Energy Conversion

U.S. Department of Energy

Mark Elbert data@eia.gov

2. Possible applications that might constitute a challenge goal
   - Understand how sea-level-rise will impact transportation and energy infrastructure
   - Explore optimization techniques for site selection of solar energy generation stations
   - Assess vulnerability of the current energy grid
   - Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by

Name and surname: Ana Pinheiro Privette

Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_37

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

Surface Meteorology and Solar Energy
Surface Meteorology and Solar Energy data - over 200 satellite-derived meteorology and solar energy parameters, monthly averaged from 22 years of data, global solar data for 1195 ground sites


National Aeronautics and Space Administration

Paul W. Stackhouse paul.w.stackhouse@nasa.gov

2. Possible applications that might constitute a challenge goal
- Understand how sea-level-rise will impact transportation and energy infrastructure
- Explore optimization techniques for site selection of solar energy generation stations
- Assess vulnerability of the current energy grid
- Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by

Name and surname: Ana Pinheiro Privette

Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_38

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

Total Energy Data and Statistics

Comprehensive monthly and annual time series on all energy sources. Data include production, consumption, reserves, stocks, prices, imports, and exports. Monthly time series extend back to 1973 and annual time series back to 1949.
Energy Infrastructure Energy Resources, Energy Supply, Energy Demand, Infrastructure

U.S. Department of Energy

Mark Elbert data@eia.gov

2. Possible applications that might constitute a challenge goal
   - Understand how sea-level-rise will impact transportation and energy infrastructure
   - Explore optimization techniques for site selection of solar energy generation stations
   - Assess vulnerability of the current energy grid
   - Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by

Name and surname: Ana Pinheiro Privette
Contact Email: ana.c.privette@nasa.gov
Contact telephone: 828-450-0282
Role: US Climate Data Initiative Project Manager
Organisation: NASA GSFC
Country: United States
Web address: http://data.gov/climate

Code: RDA_ClimatChallenge_uscdnasa_39

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

U.S. Commercial Nuclear Power Reactors

Demographic data on U.S. Commercial Nuclear Power Reactors, including: licensee data, location, web address, capacity (MW).

http://www.nrc.gov/reactors/operatin...tor-units.html
http://catalog.data.gov/dataset/us-c...power-reactors
Energy Infrastructure Energy Supply

Nuclear Regulatory Commission str@nrc.gov

2. Possible applications that might constitute a challenge goal
   - Understand how sea-level-rise will impact transportation and energy infrastructure
   - Explore optimization techniques for site selection of solar energy generation stations
   - Assess vulnerability of the current energy grid
   - Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by

Name and surname: Ana Pinheiro Privette
Contact Email: ana.c.privette@nasa.gov
Contact telephone: 828-450-0282
Role: US Climate Data Initiative Project Manager
Organisation: NASA GSFC
Country: United States
Web address: http://data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_40

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

U.S. Crude Oil, Natural Gas, and Natural Gas Liquids Reserves 2012

Contains annual data on proved reserves of crude oil, natural gas, and natural gas liquids in the U.S.

http://www.eia.gov/naturalgas/crudeoilreserves/

http://catalog.data.gov/dataset/u-s-...-reserves-2011

Energy Infrastructure Energy Resources, Oil and Gas

U.S. Department of Energy
2. Possible applications that might constitute a challenge goal
   - Understand how sea-level-rise will impact transportation and energy infrastructure
   - Explore optimization techniques for site selection of solar energy generation stations
   - Assess vulnerability of the current energy grid
   - Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by

Name and surname: Ana Pinheiro Privette

Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_41

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

USGS National Structures Dataset (NSD) Downloadable Data Collection

The USGS structures downloadable data from The National Map consists of data to include the name, function, location, and other core information and characteristics of selected manmade facilities.

https://catalog.data.gov/dataset/usg...atial-data-ass

https://catalog.data.gov/dataset/usg...atial-data-ass

Energy Infrastructure Buildings U.S. Geologic Survey

2. Possible applications that might constitute a challenge goal
   - Understand how sea-level-rise will impact transportation and energy infrastructure
   - Explore optimization techniques for site selection of solar energy generation stations
   - Assess vulnerability of the current energy grid
   - Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by

Name and surname: Ana Pinheiro Privette

Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_42

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

Wind Energy Resource Data

NREL's Geographic Information System (GIS) team offers both a national wind resource assessment of the United States and high-resolution wind data. The national wind resource assessment was created for the U.S. Department of Energy in 1986 by the Pacific

http://www.nrel.gov/gis/data_wind.html

http://catalog.data.gov/dataset/wind...rce-data-ad844


U.S. Department of Energy

National Renewable Energy Laboratory webmaster@nrel.gov
2. Possible applications that might constitute a challenge goal
   - Understand how sea-level-rise will impact transportation and energy infrastructure
   - Explore optimization techniques for site selection of solar energy generation stations
   - Assess vulnerability of the current energy grid
   - Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by

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Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

**Code: RDA_Clima... Challenge_uscdinasa_43**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

Access to Jobs and Workers via Transit

A collection of performance indicators and regional benchmarks for consistently comparing neighborhoods (census block groups) across the US in regards to their accessibility to jobs or workers via public transit service. Accessibility was modeled by calculating total travel time between block group centroids inclusive of walking to/from transit stops, wait times, and transfers. Block groups that can be accessed in 45 minutes or less from the origin block group are considered accessible. Indicators reflect public transit service in December 2012 and employment/worker counts in 2010. Coverage is limited to census block groups within metropolitan regions served by transit agencies who share their service data in a standardized format called GTFS.

http://catalog.data.gov/dataset/acce...ansit-download

http://catalog.data.gov/dataset/acce...ansit-download Transportation Network ???

Ted Cochin cochin.ted@epa.gov
2. Possible applications that might constitute a challenge goal
- Understand how sea-level-rise will impact transportation and energy infrastructure
- Explore optimization techniques for site selection of solar energy generation stations
- Assess vulnerability of the current energy grid
- Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by

Name and surname: Ana Pinheiro Privette

Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

**Code: RDA_ClimateChallenge_uscdinasa_44**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

**Amtrak Rail Lines (National)**

The Rail Network (NTAD 2014) is a comprehensive database of the nation's railway system at 1:24,000 to 1:100,000 scale. The data set covers all 50 States plus the District of Columbia

[http://catalog.data.gov/dataset/amtr...lines-national](http://catalog.data.gov/dataset/amtr...lines-national)

**Transportation Nodes** U.S. Department of Transportation

Office of the Assistant Secretary for Research and Technology/Bureau of Transportation Statistics (Point of Contact)

Federal Railroad Administration (FRA) (Point of Contact) answers@BTS.gov
2. Possible applications that might constitute a challenge goal
   - Understand how sea-level-rise will impact transportation and energy infrastructure
   - Explore optimization techniques for site selection of solar energy generation stations
   - Assess vulnerability of the current energy grid
   - Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by

Name and surname: Ana Pinheiro Privette

Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

**Code: RDA_ClimatChallenge_uscdinasa_45**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

**Amtrak Rail Stations (National)**

Updated database of the Federal Railroad Administration's (FRA) Amtrak Station database (NTAD 2014). This database is a geographic data set containing Amtrak intercity railroad passenger terminals in the United States and Canada. Attribute data include services and passenger amenities provided at the station.

http://catalog.data.gov/dataset/amtr...tions-national

**Transportation Nodes U.S. Department of Transportation**

2. Possible applications that might constitute a challenge goal
   - Understand how sea-level-rise will impact transportation and energy infrastructure
   - Explore optimization techniques for site selection of solar energy generation stations
- Assess vulnerability of the current energy grid
- Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by

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Contact telephone: 828-450-0282
Role: US Climate Data Initiative Project Manager
Organisation: NASA GSFC
Country: United States
Web address: http://data.gov/climate

**Code: RDA_ClimateChallenge_uscdinasa_46**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

Border Crossings (National)

Border Crossing Ports (NTAD 2014) are points of entry for land modes along the U.S. - Canadian and U.S.- Mxcian borders. The ports of entry are located in 15 states along the U.S. borders. The nominal scale of the data set is 1:1000,000 with a maximal positional error of +/- 10 meters.

http://catalog.data.gov/dataset/bord...s-national

Transportation Nodes

U.S. Department of Transportation

Steven Beningo  steven.beningo@dot.gov

MacroSys LLC (Point of Contact); Office of the Assistant Secretary for Research and Technology/Bureau of Transportation Statistics (BTS) (Point of Contact)

2. Possible applications that might constitute a challenge goal

- Understand how sea-level-rise will impact transportation and energy infrastructure
- Explore optimization techniques for site selection of solar energy generation stations
- Assess vulnerability of the current energy grid
- Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by

Name and surname: Ana Pinheiro Privette

Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

**Code: RDA_ClimateChallenge_uscdinasa_47**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

**Dams (National)**

This map layer portrays major dams of the United States, including Puerto Rico and the U.S. Virgin Islands (NTAD 2014). The map layer was created by extracting dams 50 feet or more in height, or with a normal storage capacity of 5,000 acre-feet or more, or with a maximum storage capacity of 25,000 acre-feet or more, from the 79,777 dams in the U.S. Army Corps of Engineers National Inventory of Dams. This is a replacement for the April 1994 map layer.


**Transportation Nodes** U.S. Department of Transportation

Office of the Assistant Secretary for Research and Technology/Bureau of Transportation Statistics (Point of Contact)
National Atlas of the United States (Point of Contact)

[answers@BTS.gov](mailto:answers@BTS.gov)

2. Possible applications that might constitute a challenge goal

- Understand how sea-level-rise will impact transportation and energy infrastructure
3. Practical details regarding your data (optional)

Submitted by

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Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

**Code: RDA_ClimateChallenge_uscdinasa_48**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

**EPA Facility Registry Service (FRS): Facility Interests Dataset**

This web feature service consists of location and facility identification information from EPA's Facility Registry Service (FRS) for all sites that are available in the FRS individual feature layers. The layers comprise the FRS major program databases, including: Assessment Cleanup and Redevelopment Exchange System (ACRES) : brownfields sites; Air Facility System (AFS) : stationary sources of air pollution; Air Quality System (AQS) : ambient air pollution data from monitoring stations; Bureau of Indian Affairs (BIA) : schools data on Indian land; Base Realignment and Closure (BRAC) facilities; Clean Air Markets Division Business System (CAMDBS) : market-based air pollution control programs; Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) : hazardous waste sites; Integrated Compliance Information System (ICIS) : integrated enforcement and compliance information; National Compliance Database (NCDB) : Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Toxic Substances Control Act (TSCA); National Pollutant Discharge Elimination System (NPDES) module of ICIS : NPDES surface water permits; Radiation Information Database (RADINFO) : radiation and radioactivity facilities; RACT/BACT/LAER Clearinghouse (RBLC) : best available air pollution technology requirements; Resource Conservation and Recovery Act Information System (RCRAInfo) : tracks generators, transporters, treaters, storers, and disposers of hazardous waste; Safe Drinking Water Information System (SDWIS) : public water systems and water system facilities;
Toxic Release Inventory (TRI) : certain industries that use, manufacture, treat, or transport more than 650 toxic chemicals; Emission Inventory System (EIS) : inventory of large stationary sources and voluntarily-reported smaller sources of air point pollution emitters; Oil database : spill prevention, control, and countermeasure (SPCC) and facility response plan (FRP) subject facilities; Electronic Greenhouse Gas Reporting Tool (E-GGRT) : large greenhouse gas emitters; Emissions & Generation Resource Integrated Database (EGRID) : power plants. The Facility Registry Service (FRS) identifies and geospatially locates facilities, sites or places subject to environmental regulations or of environmental interest. Using vigorous verification and data management procedures, FRS integrates facility data from EPA’s national program systems, other federal agencies, and State and tribal master facility records and provides EPA with a centrally managed, single source of comprehensive and authoritative information on facilities. This data set contains the FRS facilities that link to the programs listed above once the program data has been integrated into the FRS database.

Additional information on FRS is available at the EPA website http://www.epa.gov/enviro/html/fii/index.html

http://catalog.data.gov/dataset/epa--...erests-dataset

Transportation Nodes U.S. Environmental Protection Agency

U.S. Environmental Protection Agency, Office of Environmental Information, Office of Information Collection (Point of Contact)
smith.davidg@epa.gov

2. Possible applications that might constitute a challenge goal
- Understand how sea-level-rise will impact transportation and energy infrastructure
- Explore optimization techniques for site selection of solar energy generation stations
- Assess vulnerability of the current energy grid
- Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by

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Role: US Climate Data Initiative Project Manager
Organisation: NASA GSFC
Country: United States
Web address: http://data.gov/climate
Code: RDA_ClimateChallenge_uscdinasa_49

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

FEMA HAZUS Critical Facilities for Coastal Geographies

The critical facilities data came from FEMA’s HAZUS database and represent available information circa 2011. A critical facility is defined as a structure that, if flooded, would present an immediate threat to life, public health, and safety. The data may not be exhaustive, more thorough data exist both nationally and at the local level. HAZUS breaks critical facilities into two (2) groups: essential facilities and high potential loss (HPL) facilities. Essential facilities include hospitals, medical clinics, schools, fire stations, police stations and emergency operations facilities. High potential loss facilities include dams, levees, military installations, nuclear power plants and hazardous material sites. Within HAZUS, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude refined oil, electric power and communications.

For a full listing of the geographies available, see:

http://coast.noaa.gov/htdata/SocioEc...escription.pdf.

http://catalog.data.gov/dataset/fema...al-geographies

Transportation Nodes FEMA

NOAA Office for Coastal Management (Point of Contact) coastal.info@noaa.gov

2. Possible applications that might constitute a challenge goal

- Understand how sea-level-rise will impact transportation and energy infrastructure
- Explore optimization techniques for site selection of solar energy generation stations
- Assess vulnerability of the current energy grid
- Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by
Name and surname: Ana Pinheiro Privette

Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager
Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

**Code: RDA_ClimateChallenge_uscdinasa_50**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

Freight Analysis Framework Network (National)

The spatial component of the FAF network (NTAD 2014) is derived from National Highway System Version 2009.11 and contains state primary and secondary roads, National Highway System (NHS), National Network (NN) and several intermodal connectors as appropriate for the freight network modeling. The network consists of over 447,808 miles of equivalent road mileage. The data set covers the 48 contiguous States plus the District of Columbia, Alaska, and Hawaii. The nominal scale of the data set is 1:100,000 with a maximal positional error of Â±80 meters.


Transportation Flow U.S. Department of Transportation

Ed Strocko ed.strocko@dot.gov

Office of the Assistant Secretary for Research and Technology/Bureau of Transportation Statistics (BTS) (Point of Contact)Federal Highway Administration (Point of Contact); FHWA (Point of Contact)

2. Possible applications that might constitute a challenge goal

- Understand how sea-level-rise will impact transportation and energy infrastructure
- Explore optimization techniques for site selection of solar energy generation stations
- Assess vulnerability of the current energy grid
- Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by

Name and surname: Ana Pinheiro Privette

Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282

http://semanticommunity.info/Data_Science/Data_Science_for_RDA_Climate_Change_Data_Challenge

Updated: Sat, 19 Sep 2015 08:36:40 GMT

Powered by mindtouch
Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

**Code: RDA_ClimateChallenge_uscdinasa_51**

1. **Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)**

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

**Hazmat Routes (National)**

The Federal Motor Carrier Safety Administration (FMCSA) Hazardous Material Routes (NTAD 2014) were developed using the 2004 First Edition TIGER/Line files. The routes are described in the National Hazardous Material Route Registry (NMHRR). The on-line NMHRR linkage is http://hazmat.fmcsa.dot.gov/nhmrr/index.asp. With the exception of 13 features that were not identified with the Tiger/Lines, Hazmat routes were created by extracting the TIGER/Line segments that corresponded to each individual route. Hazmat routes in the NTAD, are organized into 3 database files, hazmat.shp, hmroutes.dbf, and hmstcnty.dbf. Each record in each database represents a unique Tiger/Line segment. These Tiger/Line segments are grouped into routes identified as character strings in the ROUTE_ID field in the hmroutes.dbf table. The route name appearing in the ROUTE_ID is assigned by FMCSA and is unique for each State.

[This sentence could be deleted - it doesn't add a lot to it.] The hmstcnty.dbf table allows the user to select routes by State and County. A single shapefile, called hazmat.shp, represents geometry for all routes in the United States.

http://catalog.data.gov/dataset/hazmat-routes-national

**Transportation Nodes - U.S. Department of Transportation**

David Miller david.miller@dot.gov

2. **Possible applications that might constitute a challenge goal**

- Understand how sea-level-rise will impact transportation and energy infrastructure
- Explore optimization techniques for site selection of solar energy generation stations
- Assess vulnerability of the current energy grid
- Evaluate optimal information to support disaster emergency planning for urban areas

3. **Practical details regarding your data (optional)**

Submitted by

Name and surname: Ana Pinheiro Privette

Contact Email: ana.c.privette@nasa.gov

http://semanticommunity.info/Data_Science/Data_Science_for_RDA_Climate_Change_Data_Challenge

Updated: Sat, 19 Sep 2015 08:36:40 GMT

Powered by mindtouch™
Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

**Code: RDA_ClimateChallenge_uscdnasa_52**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

   Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

   **Highway Performance Monitoring System (HPMS) (National)**

   The Federal Highway Administration (FHWA) has the responsibility to assure that adequate highway transportation information is available to support its functions and responsibilities, including those of the Administration and the Congress. The primary purpose of the Highway Performance Monitoring System (HPMS) is to serve these data and information needs (NTAD 2014). The HPMS provides data that reflects the extent, condition, performance, use, and operating characteristics of the nation's highways. The HPMS by itself is not geospatial data. It is linked to another FHWA dataset, the National Highway Planning Network (NHPN), through linear referencing. The NHPN provides the geospatial component of this dataset. The hpms data on the 2014 NTAD represents 2012 hpms. 2012 is the latest complete compilation of hpms data.


   Transportation Network U.S. Department of Transportation

   Thomas Roff Thomas.Roff@dot.gov

   Office of the Assistant Secretary for Research and Technology/Bureau of Transportation Statistics (Point of Contact);

   Federal Highway Administration (FHWA) (Point of Contact)

2. Possible applications that might constitute a challenge goal
   - Understand how sea-level-rise will impact transportation and energy infrastructure
   - Explore optimization techniques for site selection of solar energy generation stations
   - Assess vulnerability of the current energy grid
   - Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

   [http://semanticommunity.info/Data_Science/Data_Science_for_RDA_Climate_Change_Data_Challenge](http://semanticommunity.info/Data_Science/Data_Science_for_RDA_Climate_Change_Data_Challenge)

   Updated: Sat, 19 Sep 2015 08:36:40 GMT

   Powered by Mindtouch™
Submitted by

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Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

**Code: RDA_ClimateChallenge_uscdinasa_53**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

National Census of Ferry Operators: Data Query Tool

On a biennial basis, the Research and Innovative Technology Administration's (RITA's) Bureau of Transportation Statistics (BTS) conducts a census of all ferry operators operating in the United States and its territories. The information collected from the census is maintained in a national ferry database containing information regarding ferry systems including routes, vessels, passengers and vehicles carried, funding sources and other information. The numerous detailed data elements are provided in a relational database allowing access and analysis at various levels - operator, route segment, terminal, or vessel. The NCFO was first conducted in 2000 by the Volpe Center, another office within RITA. By legislative mandate (SAFETEA-LU), BTS assumed the role in 2006 and has subsequently conducted the NCFO in 2006, 2008 and 2010.

http://catalog.data.gov/dataset/nati...ata-query-tool

U.S. Department of Transportation

Kenneth Steve Kenneth.Steve@dot.gov

2. Possible applications that might constitute a challenge goal

- Understand how sea-level-rise will impact transportation and energy infrastructure
- Explore optimization techniques for site selection of solar energy generation stations
- Assess vulnerability of the current energy grid
- Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)
Submitted by

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Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_54

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

National Highway Planning Network (NHPN)

The National Highway Planning Network (NTAD 2014) is a comprehensive network database of the nation's major highway system. It consists of the nation's highways comprised of Rural Arterials, Urban Principal Arterials and all National Highway System routes. The data set covers the 48 contiguous States plus the District of Columbia, Alaska, Hawaii, and Puerto Rico. The nominal scale of the data set is 1:100,000 with a maximal positional error of ±80 meters.

http://catalog.data.gov/dataset/nati...g-network-nhpn

U.S. Department of Transportation

Office of Interstate & Border Planning, HEPI-1, US Department of Transportation, Federal Highway Administration (Point of Contact);
Office of the Assistant Secretary for Research and Technology/Bureau of Transportation Statistics (Point of Contact);

Federal Highway Administration (FHWA) (Point of Contact) answers@BTS.gov

2. Possible applications that might constitute a challenge goal
   - Understand how sea-level-rise will impact transportation and energy infrastructure
   - Explore optimization techniques for site selection of solar energy generation stations
   - Assess vulnerability of the current energy grid
   - Evaluate optimal information to support disaster emergency planning for urban areas
3. Practical details regarding your data (optional)

Submitted by

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Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_55

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

National Pipeline Mapping System: Map Tool

The NPMS Public Map Viewer allows the general public to view maps of transmission pipelines, LNG plants, and breakout tanks in one selected county. Distribution and Gathering systems are not included in NPMS. Users are permitted to print maps of the data, but the data is not downloadable.

http://catalog.data.gov/dataset/national-pipeline-mapping-system-viewer-map-tool

U.S. Department of Transportation

Garby Pirjo pirjo.garby@dot.gov

Pipeline and Hazardous Materials Safety Administration

2. Possible applications that might constitute a challenge goal

- Understand how sea-level-rise will impact transportation and energy infrastructure
- Explore optimization techniques for site selection of solar energy generation stations
- Assess vulnerability of the current energy grid
- Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)
Submitted by

Name and surname: Ana Pinheiro Privette Contact Email: ana.c.privette@nasa.gov Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

**Code: RDA_ClimateChallenge_uscdinasa_56**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

Railroad Crossings (National)

FRA Grade Crossings is a spatial file that originates from the National Highway-Rail Crossing, Inventory Program (NTAD 2014). The program is to provide information to Federal, State, and local governments, as well as the railroad industry for the improvements of safety at highway-rail crossing.

[http://catalog.data.gov/dataset/rail...ings-national](http://catalog.data.gov/dataset/rail...ings-national)

U.S. Department of Transportation

Office of the Assistant Secretary for Research and Technology/Bureau of Transportation Statistics (Point of Contact); USDOT FRA (Point of Contact)

answers@BTS.gov

2. Possible applications that might constitute a challenge goal

- Understand how sea-level-rise will impact transportation and energy infrastructure
- Explore optimization techniques for site selection of solar energy generation stations
- Assess vulnerability of the current energy grid
- Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by

Name and surname: Ana Pinheiro Privette

Contact Email: ana.c.privette@nasa.gov
Code: RDA_ClimateChallenge_uscdinasa_57

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

TIGERweb 2010

Geographic area information, and associated attributes from the U.S. Census Bureau Topologically Integrated Geographic Encoding and Referencing System (TIGER) geodatabase. The TIGERweb is intended to meet the needs of users inside and outside the Census Bureau for access to geospatial data contained within the TIGER geodatabase without requiring the use of a GIS. The TIGERweb map layers are grouped by the following geographies: Transportation (Roads and Railroads), Tribal Census Tracts and Block Groups, Census Tracts and Blocks, Military Installations, School Districts, Places and County Subdivisions, American Indian, Alaska Native, and Native Hawaiian Areas, Legislative Areas, Census Regions and Divisions, Urban Areas - Census 2000, Metropolitan and Micropolitan Statistical Areas and Related Statistical Areas, Hydrography, States and Counties. Labels are included for the map layers.

http://catalog.data.gov/dataset/tigerweb-2010

US Census Bureau, Department of Commerce geo.geography@census.gov

2. Possible applications that might constitute a challenge goal
   - Understand how sea-level-rise will impact transportation and energy infrastructure
   - Explore optimization techniques for site selection of solar energy generation stations
   - Assess vulnerability of the current energy grid
   - Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by

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Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

**Code: RDA_Clim ateChallenge_uscdinasa_58**

1. **Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)**

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

**Travel Monitoring Analysis System (National)**

The data included in the GIS Traffic Stations Version database have been collected by the FHWA from the State DOTs (NTAD 2014). Location referencing information was derived from State offices of Transportation The attributes on the point elements of the database are used by FHWA for its Travel Monitoring and Analysis System and by State DOTs. The attributes for these databases have been intentionally limited to location referencing attributes since the core station description attribute data are contained within the Station Description Tables (SDT). Here is a separate Station Description Table (SDT) for each of the station types. The attributes in the Station Description Table correspond with the Station Description Record found in Chapter 6 of the latest Traffic Monitoring Guide. The SDT contains the most recent stations available for each state and station type. This table was derived from files provided UTCTR by FHWA. The Station Description Table can be linked to the station shapefile via the STNNKEY field. Some station where not located in the US, and were beyond available geographic extents causing display problems. These were moved to Lat and Long 0.0. This is in recognition that the locations of these stations where in error, but were moved to a less obtusive area.


**U.S. Department of Transportation**
Steven Jessberger  steven.jessberger@dot.gov

Office of the Assistant Secretary for Research and Technology/Bureau of Transportation Statistics (Point of Contact); FHWA (Point of Contact)

2. **Possible applications that might constitute a challenge goal**
   - Understand how sea-level-rise will impact transportation and energy infrastructure
   - Explore optimization techniques for site selection of solar energy generation stations
   - Assess vulnerability of the current energy grid
   - Evaluate optimal information to support disaster emergency planning for urban areas
3. Practical details regarding your data (optional) Submitted by

Name and surname: Ana Pinheiro Privette

Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

**Code: RDA_ClimateChallenge_uscdinasa_59**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

National Bridge Inventory - National Geospatial Data Asset (NGDA) Bridges

The NBI (NTAD 2014) is a collection of information (database) describing the more than 600,000 of the Nation's bridges located on public roads, including Interstate Highways, U.S. highways, State and county roads, as well as publicly-accessible bridges on

http://www.fhwa.dot.gov/bridge/nbi.cfm

http://catalog.data.gov/dataset/nati...t-ngda-bridges

Energy Infrastructure Transportation Infrastructure, Bridges

Office of the Assistant Secretary for Research and Technology/Bureau of Transportation Statistics

answers@bts.gov

2. Possible applications that might constitute a challenge goal

- Understand how sea-level-rise will impact transportation and energy infrastructure
- Explore optimization techniques for site selection of solar energy generation stations
- Assess vulnerability of the current energy grid
- Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)
Submitted by

Name and surname: Ana Pinheiro Privette

Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

**Code: RDA_ClimateChallenge_uscdinasa_60**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President’s Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

National Highway Planning Network (NHPN)

The National Highway Planning Network (NTAD 2014) is a comprehensive network database of the nation's major highway system. It consists of the nation's highways comprised of Rural Arterials, Urban Principal Arterials and all National Highway System routes

http://www.fhwa.dot.gov/planning/nhpn/

http://catalog.data.gov/dataset/nati...g-network-nhpn

Energy Infrastructure Transportation Infrastructure, Roads

U.S. Department of Transportation

Office of Interstate & Border Planning, HEPI-1, US Department of Transportation, Federal Highway Administration

answers@BTS.gov

2. Possible applications that might constitute a challenge goal
   - Understand how sea-level-rise will impact transportation and energy infrastructure
   - Explore optimization techniques for site selection of solar energy generation stations
   - Assess vulnerability of the current energy grid
   - Evaluate optimal information to support disaster emergency planning for urban areas
3. Practical details regarding your data (optional)

Submitted by

Name and surname: Ana Pinheiro Privette

Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_61

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

USGS National Transportation Dataset (NTD) Downloadable Data Collection

The USGS Transportation downloadable data from The National Map (TNM) is based on TIGER/Line data provided through U.S. Census Bureau and supplemented with HERE road data to create tile cache base maps. Some of the TIGER/Line data includes limited correct

https://catalog.data.gov/dataset/usg...ollectionde7d2

Energy Infrastructure Transportation Infrastructure, Roads, Railroads, Airports


2. Possible applications that might constitute a challenge goal

- Understand how sea-level-rise will impact transportation and energy infrastructure
- Explore optimization techniques for site selection of solar energy generation stations
- Assess vulnerability of the current energy grid
- Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by
Name and surname: Ana Pinheiro Privette

Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

**Code: RDA_ClimateChallenge_uscdinasa_62**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

USGS Small-scale Dataset - 1:1,000,000-Scale Railroads of the United States 201403 Shapefile

This map layer includes railroads in the conterminous United States and Alaska. This is a revised version of the July 2012 map layer.

https://www.sciencebase.gov/catalog/...b078dca33ae7ca

http://catalog.data.gov/dataset/usgs...1403-shapefile

Transportation Infrastructure, Railroads

U.S. Geologic Survey  atlasmall@usgs.gov

2. Possible applications that might constitute a challenge goal

- Understand how sea-level-rise will impact transportation and energy infrastructure
- Explore optimization techniques for site selection of solar energy generation stations
- Assess vulnerability of the current energy grid
- Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by

Name and surname: Ana Pinheiro Privette

Contact Email: ana.c.privette@nasa.gov
Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: http://data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_63

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President’s Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

USGS Small-scale Dataset - Major Roads of the United States 199911 Shapefile

This data set portrays the major roads in the United States, Puerto Rico, and the U.S. Virgin Islands. The file was produced by joining the individual State roads layers from the 1:2,000,000-scale Digital Line Graph (DLG) data produced by the USGS.

https://www.sciencebase.gov/catalog/...b078dca33ae7e2

http://catalog.data.gov/dataset/usgs...9911-shapefile

U.S. Geologic Survey

Steve Kamby  skambly@usgs.gov

2. Possible applications that might constitute a challenge goal
   - Understand how sea-level-rise will impact transportation and energy infrastructure
   - Explore optimization techniques for site selection of solar energy generation stations
   - Assess vulnerability of the current energy grid
   - Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by

Name and surname: Ana Pinheiro Privette

Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282
Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: [http://data.gov/climate](http://data.gov/climate)

**Code: RDA_ClimateChallenge_uscdinasa_64**

1. Description of the data sets you want to submit for the challenge (including title, creators & contributors, publisher & location, type & format, size/volume, identifiers if any)

Part of the 40 datasets currently included in the US President's Climate Data Initiative for the themes of Energy Infrastructure and Transportation. Details below:

USGS Small-scale Dataset - Railroad and Bus Passenger Stations of the United States 201207 Shapefile

This map layer shows Amtrak intercity railroad and bus passenger terminals in the United States. There are no Amtrak stations in Alaska or Hawaii.

[https://www.sciencebase.gov/catalog/...b078dca33ae6b2](https://www.sciencebase.gov/catalog/...b078dca33ae6b2)

[http://catalog.data.gov/dataset/usgs...s-201207-shape](http://catalog.data.gov/dataset/usgs...s-201207-shape)

Transportation Infrastructure, Railroad, Bus, Passenger Terminals

U.S. Geologic Survey  atlasmail@usgs.gov

2. Possible applications that might constitute a challenge goal

- Understand how sea-level-rise will impact transportation and energy infrastructure
- Explore optimization techniques for site selection of solar energy generation stations
- Assess vulnerability of the current energy grid
- Evaluate optimal information to support disaster emergency planning for urban areas

3. Practical details regarding your data (optional)

Submitted by

Name and surname: Ana Pinheiro Privette

Contact Email: ana.c.privette@nasa.gov

Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC
National Transportation Atlas Databases 2014

Source: http://www.rita.dot.gov/bts/sites/ri...014/index.html

Liner Notes

Description

The National Transportation Atlas Databases 2014 (NTAD2014) is a set of nationwide geographic datasets of transportation facilities, transportation networks, associated infrastructure, and other political and administrative entities. These datasets include spatial information for transportation modal networks and intermodal terminals, as well as the related attribute information for these features. Metadata documentation, as prescribed by the International Organization of Standards, is also provided for each database. The data on this DVD support research, analysis, and decision-making across all transportation modes. They are most useful at the national level, but have major applications at regional, State, and local scales throughout the transportation community.

NTAD2014 contains only data. To take full advantage of this product requires a Geographic Information System (GIS). Each dataset is presented in shapefile format—a data structure compatible with most GIS software packages. The data used to compile NTAD2014 was provided by our partners within the U.S. Department of Transportation and by other agencies throughout the Federal Government. These contributors are the actual data stewards and are ultimately responsible for the maintenance and accuracy of their data.

National Transportation Atlas Databases 2014

A Product of the Bureau of Transportation Statistics

DESCRIPTION

The National Transportation Atlas Databases 2014 (NTAD2014) is a set of nationwide geographic databases of transportation facilities, transportation networks, and associated infrastructure. These datasets include spatial information for transportation modal networks and intermodal terminals, as well as the related attribute information for these features. Metadata documentation, as prescribed by the International Organization of Standards, is also provided...
for each database. The data on this DVD support research, analysis, and decision-making across all modes of transportation. They are most useful at the national level, but have major applications at regional, State, and local scales throughout the transportation community.

**Format:** This product is distributed in shapefile format. The shapefile is an open format created by the Environmental Systems Research Institute (ESRI). You can find additional information about the format at: http://www.esri.com/library/whitepaper.../shapefile.pdf

**Design:** The NTAD2014 databases are designed for use within a geographic information system (GIS); however, the attribute data for each dataset can be accessed in any database, spreadsheet, or other software package. This information is stored in dBASE format. Because of spreadsheet limitations, many of the larger dBASE files will not open correctly with spreadsheet software. It is important to note that users who manipulate attribute data outside of their GIS may alter the shapefiles' linkage between the attribute and spatial data.

**Compilation:** The data used to compile NTAD2014 was provided by our partners within the U.S. Department of Transportation (USDOT) and by other Federal Government agencies. These contributors are the data stewards and are ultimately responsible for the maintenance and accuracy of the data. The Bureau of Transportation Statistics (BTS) performs structured quality evaluations on these data before they are included in the NTAD. Further details pertaining to the NTAD2014 compilation process may be found in the metadata file associated with each dataset.

**Contents**

NTAD2014 is organized into directories, one for each feature type (point, polyline, and polygon) and one for each dataset. At the top level of the DVD there is also a doc's directory containing the back cover notes, these liner notes, and DVD cover image. There is also a pdf version of the BTS 2014 map of Major Transportation Facilities of the United States. This map showcases many of the data contained in NTAD2014.

Transportation networks are polyline databases. Transportation facilities are point databases. The geographic reference databases may exist as any of the three feature types: point, polyline, or polygon.

All data included here are in shapefile format. Each shapefile dataset within NTAD2014, in general, is composed of eight different files:

1. dBASE file (.dbf) ? attribute information for the features,
2. projection file (.prj) ? projection and datum information for the dataset,
3. spatial index file (.sbn) ? spatial index for read-write of shapefiles,
4. spatial index file (.sbx) ? spatial index for read-write of shapefiles,
5. main file (.shp) ? feature geometry,
6. index file (.shx) ? indices of the feature geometry,
7. metadata file (.txt) ? text version of shapefile's metadata ? FGDC format, and

The shapefile format is a simple, nontopological format for storing the geographic location and attribute information of spatial features. For further information concerning the definition of SHAPE, consult ESRI documentation.
A listing of the NTAD2014 dataset subdirectories, with a brief description of each, follows. Please refer to the metadata for more detailed descriptions of each dataset.

**Point**


**altfuels updated** Alternative Fuels?This spatial dataset, from the Department of Energy (DOE), replaces a similar data updated created by BTS in 2008. This is a geographic point dataset of fueling facilities that offer fuels other than gasoline in the United States. Data compiled by DOE, 2013.

**amtrak_sta updated** Amtrak Stations?Data provided and maintained by the Federal Railroad Administration (last updated 2010).

**border_x updated** Border Crossing Ports are points of entry for land modes along the U.S.-Canadian and U.S.-Mexican updated borders. Data created and maintained by U.S. Customs and Border Protection and spatially enhanced by the Bureau of Transportation Statistics, 2014.

**dams** Data of dams 50 feet or more in height, or with a normal storage capacity of 5,000 acre-feet or more, or with a maximum storage capacity of 25,000 acre-feet or more, from the U.S. Army Corps of Engineers National Inventory of Dams. Data compiled by USACE, 2006.

**facility_freight** Intermodal Terminal Facilities?Data on locations where freight can be transferred between modes of transportation. Data compiled by the Bureau of Transportation Statistics (last updated 2003).

**facility_passenger** Intermodal Passenger Connectivity Database is a national dataset of over 6,700 facilities for passenger public transportation facilities. This dataset links the intermodal nature of passenger travel in transportation, particularly in urban areas. Data provided by the Bureau of Transportation Statistics, compiled in 2014.

**fars new** This dataset contains information on over 30,000 crash characteristics and environmental conditions at the new time of the crash. Data provided by the National Highway Traffic Safety Administration, compiled in 2013.

**locks_water updated** National inventory of navigable inland waterway locks. Database contains select attribute information for each of updated the 229 locks inventoried. Data provided by the U.S. Army Corps of Engineers, compiled in 2013.

**nbi updated** National Bridge Inventory?A database containing information on the more than 600,000 bridges located updated on public roads, including Interstate highways, U.S. highways, State and county roads, as well as publicly accessible bridges on Federal lands. Data provided by the individual State DOTs to the Federal Highway Administration, 2014.

**place updated** National Populated Places?Place locations from the 2010 Census Master Area Reference File?with updated additional attribute information from the Geographic Names Information System (last update 2013).

**ports updated** U.S. Army Corps of Engineers Ports?Data provided and maintained by the USACE, 2014.

rr_crossings updated Railroad Grade Crossings?Data on use and physical characteristics of highway-rail crossings. Updated Data provided and maintained by the Federal Railroad Administration, 2014.

tmas Travel Monitoring Analysis System stations from the Federal Highway Administration, replaces the atr and wim data. Data set contains information on over 15,000 stations. Data provided and maintained by State DOTs, compiled by FHWA, 2012.

Polygon

boc_uza updated Bureau of the Census Urbanized Area Boundaries?Data provided and maintained by the U.S. Census updated Bureau, 2014.

cbsa updated Core based statistical area representing Metropolitan & Micropolitan Statistical Areas as defined by the updated Federal Office of Management and Budget and maintained by the U.S. Census Bureau, 2014.

cd113 updated The 113th Congressional Districts Boundaries?Data provided and maintained by the U.S. Census updated Bureau, 2013.

county U.S. County Boundaries?Data provided and maintained by the U.S. Census Bureau, 2010. Data was derived by clipping the county_pol shapefile (using the 2010 state shapefile) to cut in the shorelines.

county_pol U.S. County Boundaries representing the U.S. political boundaries?Data provided and maintained by the U.S. Census Bureau, 2010. This dataset is contained in the county directory.

faf_regions Freight Analysis Framework, version 3.4, domestic region level datasets and products provide information for states, state portions of large metropolitan areas, and remainders of states. This data supports the FAF network. Data compiled by the Federal Highway Administration, 2012.

hydro Hydrographic Features?Data provided and maintained by the U.S. Census Bureau, 2006. (Note: A linear shapefile called "hydrolin" is also provided.)


mpo updated Metropolitan Planning Organization?Database of MPO planning area boundaries collected by the updated Bureau of Transportation Statistics and Federal Highway Administration, 2014.

naa updated Non-Attainment Areas?Environmental Protection Agency-defined areas of the country where "air pollution updated levels persistently exceed the new national ambient air quality standards," 2013. Data replaces, and enhances non-attainment areas posted by EPA last year.

parks updated National Park System Boundary Dataset?Data provided and maintained by the National Park Service, 2014. updated
**state** U.S. State Boundaries? Data provided and maintained by the U.S. Census Bureau, 2010. Data derived by clipping the state_pol shapefile (using the 2010 state shapefile) to cut in the shorelines.

**state_pol** U.S. State Boundaries representing the U.S. political boundaries? Data provided and maintained by the U.S. Census Bureau, 2010. Data derived by partially extracting (dissolving) the county_pol shapefile. Dataset is contained in the state directory.

**Polyline**

**faf_network** Freight Analysis Framework, version 3.4 ? Integrates data from a variety of sources to estimate commodity flows and related freight transportation activity among states, regions, and major international gateways. The FAF is maintained by the Federal Highway Administration.

**hazmat** Hazardous Material Routes? Data on highway routes for hazardous materials. Data provided and maintained by the Federal Motor Carrier Safety Administration (last updated 2006).

**hpms updated** Highway Performance Monitoring System? Data provided and maintained by State DOTs and submitted to updated the Federal Highway Administration, 2014. Attributes represent calendar year 2012. Because of the of attribute file size, HPMS data is in ZIP format. Be aware that the unzipped HPMS data is more than 300 MB.

**nhpn updated** National Highway Planning Network? Spatial network of principal roadways within the United States. Data updated provided and maintained by the Federal Highway Administration, 2013. (Note: A nodal shapefile called "nhpnnd" is also provided.)

**rail updated** Railway Network? Spatial network of rail lines within the United States. Data provided and maintained updated by the Federal Railroad Administration, 2014. (Note: A nodal shapefile called "rail_nodes" and AMTRAK lines are also provided.)

**runway updated** Airport Runways? Spatial data on airport runways within the United States. Data provided and maintained updated by the Federal Aviation Administration, 2014.

**transit** Fixed-Guideway Transit Facilities? Transit database including fixed guideway links and stations (last updated 2004).

**waterway updated** U.S. Army Corps of Engineers Navigable Waterway Network? Data provided and maintained by the updated USACE, 2014. (Note: A nodal shapefile called "waterwaynd" is also provided.)

**Technical Support**

For technical assistance in using the data on this DVD, contact the Office of the Assistant Secretary for Research and Technology, Bureau of Transportation Statistics at 800-853-1351 and refer to the NTAD2014. Users may also contact us via e-mail at answers@dot.gov or visit our website: http://www.bts.gov/programs/geographic_information_services/

U.S. Department of Transportation

Bureau of Transportation Statistics
For assistance with importing the data into a GIS software package, please contact technical support for the specific GIS software vendor.

User comments are critical to improving future editions of NTAD. Your feedback and corrections will be incorporated into the subsequent releases of these datasets. Please check our website (http://www.bts.gov/programs/geographic_information_services/) for any corrections or addendums to NTAD2014.

Acknowledgments

NTAD2014 is the result of cooperation throughout the U.S. Department of Transportation, the U.S. Army Corps of Engineers, U.S. Census Bureau, Environmental Protection Agency, Defense Installation Spatial Data Infrastructure, and the National Park Service.

Most of the geographic reference datasets are products derived from the TIGER database, the TIGER/Line files, or other products created and maintained by the U.S. Census Bureau. We greatly appreciate these contributions.

Special thanks are given to the following individuals and organizations that contributed the data that made NTAD2014 possible: David LaBranche, of the Defense Installation Spatial Data Infrastructure; Raquel Hunt of the Federal Railroad Administration; and the Federal Aviation Administration's Aeronautical Information Services Office. We would also like to recognize the contributions of the following individuals within the Office of the Assistant Secretary for Research and Technology's Bureau of Transportation Statistics, who were responsible for compiling NTAD2014: Stephen Lewis, Derald Dudley, Dominic Menegus, Yaguang Xu, and Mark Bradford.

Points
See Spreadsheet

Polygon
See Spreadsheet

Polyline
See Spreadsheet

Data.gov
http://www.data.gov/
The home of the U.S. Government’s open data
Here you will find data, tools, and resources to conduct research, develop web and mobile applications, design data visualizations, and more.

My Note: There is no Site Map.

My Note: There are other links to explore that are not in the Top Banner, but are at the bottom of their Home Page.

- About
- Open Government
- FAQ
- Media
- Glossary
- Federal Agency Participation
- Accessibility
- Data Policy
- Privacy Policy
- Performance.gov
- USA.gov
- Log In

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Data

http://catalog.data.gov/dataset

141,551 datasets found by 8 categories

My Note: Where is the download Catalog as spreadsheet I requested?

Catalog Help

http://www.data.gov/catalog-help/

The catalog on Data.gov provides the ability to search and browse datasets, data series, tools, and products.

Finding Data

Data.gov federates data from hundreds of sources, including federal government, cities, counties, states, and universities. All contributing organizations are listed under Organizations in the top right.

To find datasets, you can:

- Enter key words in the search box on any page

---
• Browse on the left side through types, tags, formats, organizations, and publishers. Clicking on multiple items narrows your search. When your results appear, you can click on the ?x? to the side of any single item to remove it from the search, or ?clear all? to remove all selected items in a category.
• Search by a geospatial area, draw a boundary box on the map at the top left and click ?Apply? to find all datasets that are tagged for that geographic area.

NOTE: when going to a specific dataset, you may be redirected to an organization?s web site, rather than getting a direct download.

Collaborating

There are many ways to provide feedback and contribute to the discussions on Data.gov and this catalog.

• Suggest a new dataset and see what others have suggested
• Contribute code or suggest a change on Github
• Ask a general question at the Open Data Stack Exchange and tag it with ?data.gov?
• Send an email

Technology

This catalog is built on an open source data management system (CKAN) and a content management system (WordPress). All the source code on Data.gov is open source and available for download or contributions.

Counting Datasets

The total number of datasets reflects datasets plus data series and resources. A data series may contain a large number of additional products or files of the same type. Data resources are files that may be needed for context, formatting, or visualization of the dataset. (Note: The previous Data.gov catalog counted the individual datasets and not just the series and therefore displayed a higher total number of datasets.)

Topics

My Note: No URL

My Note: For Example Topic Agriculture has Subtopics: Updates Data Apps Developer Contact Agriculture

My Note: Explore the Topics and Subtopics Later; Focus on Climate Now

Agriculture

http://www.data.gov/food/

Business

http://www.data.gov/business
Climate
http://www.data.gov/climate/

Consumer
http://www.data.gov/consumer/

Ecosystems
http://www.data.gov/ecosystems/

Education
http://www.data.gov/education/

Energy
http://www.data.gov/energy/

Finance
http://www.data.gov/finance/

Health
http://www.data.gov/health/

Local Government
http://www.data.gov/local

Manufacturing
http://www.data.gov/manufacturing/

Ocean
http://www.data.gov/ocean/

Public Safety
http://www.data.gov/safety/

Science & Research
http://www.data.gov/research/
Impact

http://www.data.gov/impact/

Open government data is important because the more accessible, discoverable, and usable data is the more impact it can have. These impacts include, but are not limited to: cost savings, efficiency, fuel for business, improved civic services, informed policy, performance planning, research and scientific discoveries, transparency and accountability, and increased public participation in the democratic dialogue. Below are just a few examples of people leveraging open data. While we don’t endorse any particular use, we’re always interested in new examples: Submit impact suggestions here.

Local Government

http://www.data.gov/impact/#local

Impact

http://www.data.gov/impact/#impact

Finance

http://www.data.gov/impact/#finance

Consumer

http://www.data.gov/impact/#consumer

Business

http://www.data.gov/impact/#business

Climate

http://www.data.gov/impact/#climate

AccuWeather provides minute-by-minute precipitation forecasts. Includes precipitation type, intensity and start and end times. Severe weather alerts. Gives weather animations illustrating forecasts. Predicts weather for next 15 days. Available in US, Canada, UK, Ireland, Japan, France, Germany, Belgium, Switzerland and Netherlands.

Data Sources
Department of Commerce - NOAA - Internet Weather Source: http://catalog.data.gov/dataset/inte...weather-source

Department of Commerce - NOAA -24-Hour Forecast of Air Temperatures:

https://catalog.data.gov/dataset/24-...digital-foreca

Department of Commerce - NOAA - National Weather Center:
AccuWeather: http://www.accuweather.com/
Location: State College, PA
Jobs: 1324

Health
http://www.data.gov/impact/#health

Energy
http://www.data.gov/impact/#energy

Agriculture
http://www.data.gov/impact/#food

Education
http://www.data.gov/impact/#education

Applications
http://www.data.gov/applications

Open government data powers software applications that help people make informed decisions — from choosing financial aid options for college to finding the safest consumer products and vehicles. Below are just a few examples of government, community, and business tools that: use open government data from the United States; are accessible, vetted, and available; and are, for the majority, free and do not require registration to use. While we don’t endorse any particular app, we’re always interested in new examples: Submit application suggestions here.

For more examples of applications made with open government data see Civic Commons and USA.gov’s Federal Mobile Apps Directory.
http://wiki.civiccommons.org/App_catalogs
http://www.usa.gov/mobileapps.shtml

My Note: Need to Index the 8 pages of about 80 Apps Listed

Developers
http://www.data.gov/developers/

Data.gov is a rich resource for civic hackers, tech entrepreneurs, data scientists, and developers of all stripes. Here you’ll find information about APIs, open source projects, and relevant developer resources across government. You’ll also find updates on the data.gov infrastructure itself, an open source project managed on GitHub.
HIGHLIGHTS

Financial Services Consumer Complaint Database View this Dataset
The Consumer Complaint Database contains data from the complaints received by the Consumer Financial Protection Bureau (CFPB) on financial products and services, including bank accounts, credit cards, credit reporting, debt collection, money transfers, mortgages, student loans, and other types of consumer credit. The database contains over 100,000 anonymized complaints and is refreshed daily. Data available about each complaint includes the name of the provider, type of complaint, date, zip code, and other information. The CFPB does not verify the accuracy of all facts alleged in the complaints, but takes steps to confirm a commercial relationship between the consumer and the identified company exists.

Data in Action: Combatting Fraud

One company uses big-data analytics to find grey charges on users' credit cards and debit cards by drawing upon billing dispute data from the web, banks, and the CFPB's open consumer complaint database.

http://catalog.data.gov/dataset/cons...ers_navigation

My Note: See Data Science for Financial Services Consumer Complaint Database and Upcoming Meetup

Contact

http://www.data.gov/contact

Do you have questions or feedback for Data.gov? Please let us know how to serve you best.

ASK A QUESTION
MAKE A REQUEST
REPORT A PROBLEM

Climate

http://www.data.gov/climate/

Here you can find data related to climate change that can help inform and prepare America's communities, businesses, and citizens. You can currently find data and resources related to coastal flooding, food resilience, water, ecosystem vulnerability, human health, energy infrastructure and transportation. Over time, you will be able to find additional data and tools relevant to other important climate-related impacts. Please share your feedback.

http://semanticommunity.info/Data_Science/Data_Science_for_RDA_Climat...e_Change_Data_Challenge

Updated: Sat, 19 Sep 2015 08:36:40 GMT
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Visit the Climate Resilience Toolkit to access resources and a framework for understanding and addressing the climate issues that impact people and their communities.

My Note: Add Lots of Highlights and Updates: http://www.data.gov/climate/highlights

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**Themes**

No URL

**Coastal flooding**

http://www.data.gov/coastalflooding/

**Food resilience**

http://www.data.gov/foodresilience/

**Water**

http://www.data.gov/water/

**Ecosystem vulnerability**

http://www.data.gov/ecosystemvulnerability/

**Human health**

https://www.data.gov/climate/humanhealth/

**Energy infrastructure**

https://www.data.gov/climate/energy-infrastructure/

**Transportation**

https://www.data.gov/climate/transportation/

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**Data**

http://catalog.data.gov/dataset?grou...ate_navigation

547 datasets found with 8 Topics

My Note: See Spreadsheet
Resources

http://www.data.gov/climate/portals/

Climate Model Projections

Target User Community: As with the other resources provided through climate.data.gov, this page is primarily intended for audiences, such as data innovators, who want to use government data to develop tools to help others learn about the impacts of climate change or make decisions in which climate change plays a role. There are a number of important use considerations for the data provided here. Please click here for guidance notes to read before making use of these data.

What types of data are available? The links below provide access to a growing body of data, generated by climate models, relevant to understanding potential future climate change. This includes raw climate model output, as well as model output that has been processed by bias correction? (removal of some known errors) and/or downscaling? (addition of finer spatial detail). We refer to these types of information collectively as climate simulation results. These data have been produced using the leading climate research models, whose outputs have informed important scientific assessments of climate change and its impacts, such as the most recent Intergovernmental Panel on Climate Change (IPCC) assessment reports and the National Climate Assessment. They have been collected into several archives and portals for increased ease of access to outputs from multiple models and types of simulations.

- Program for Climate Model Diagnosis and Intercomparison (PCMDI) CMIP5 Archive: A primary source of global climate model output.
- Downscaled CMIP3 and CMIP5 Climate and Hydrology Projections: Downscaled? (finer-resolution) versions of monthly and daily temperature and precipitation from most of the GCM simulations in the PCMDI CMIP3 and CMIP5 archives, for CONUS, using two downscaling methods. In addition, derived simulations of surface hydrology are provided.
- NASA NEX DCP30 National Climate Change Viewer (NCCV): Ultra-fine resolution downscaled versions of CMIP5 GCM results, with derived result for surface hydrology, for CONUS.
- CMIP5 Global Climate Change Viewer (GCCV): Tool to visualize CMIP5 GCM results.
- Regional Climate Change Viewer (RCCV): Tool to visualize dynamically downscaled GCM results
- MACA CMIP5 Archive: Empirically-downscaled results from CMIP5 GCMs.
- North American Regional Climate Change Assessment Program (NARCCAP): Dynamically downscaled results from CMIP3 GCMs, for North America.

Scenarios

In addition, scenarios.globalchange.gov provides scenarios: quantitative and narrative descriptions of plausible future conditions that provide assumptions for analyses of potential impacts and responses to climate change. Scenarios are ways to help understand what future conditions might be, with each scenario an example of what might happen under different assumptions. Scenarios generally blend both model output and other information, such as observed trends. They are not predictions or forecasts, and no probabilities are associated with them. Instead, they provide a range of future conditions to bound uncertainty. The scenarios accessed through scenarios.globalchange.gov include climate change, sea level change, and land use and population change. They are based on peer-reviewed, published sources and were used in the development of the National Climate Assessment, which provides scientific findings about climate change and its impacts on U.S. regions and key socioeconomic sectors.
Challenges

http://www.data.gov/climate/climate-challenges

Data and innovation challenges issued by public, private, nonprofit, and other organizations can help catalyze new, data-driven solutions that help communities understand and build resilience to climate change. Is your organization hosting an innovation challenge for entrepreneurs and developers to help increase awareness of and preparedness for climate change impacts? Let us know.

Open Challenges

My Note: Add Here

Completed Challenges

My Note: Add here

FAQ

http://www.data.gov/climate/faq/

Q: Where can I learn more about Data.gov?

A: Please see the Data.gov Frequently Asked Questions.

Q: Where do I go if I have general questions about climate change?

A: The focus of Climate.Data.gov is on providing data related to climate change that can help inform and prepare America’s communities, businesses, and citizens. You will find more general information about climate change and its impacts on America in the National Climate Assessment, and more information about administration plans for addressing them at the White House. You can also read an annotated description of Executive Order 13653: Preparing the United States for the Impacts of Climate Change.

Q: How do I get my dataset included on Climate.Data.gov?

A: Data.gov currently includes datasets from Federal agencies and from other public sector organizations. If you come from the public sector and would like to have a dataset considered, please respond to Feedback describing the dataset, who maintains it (including a link), and the reason why you think it would be helpful to users of Climate.Data.gov. On a selective basis, we may also expand the site to include datasets from nonprofits and private sector organizations that are critical to understanding climate change risks and impacts. If your dataset belongs in the latter category, please send details to our Feedback page. Our leads for each theme area of the Climate Data Initiative will be in touch.

Contact Climate

http://www.data.gov/climate/contact/
You can use this form to contact the Climate Topic leads. To protect your privacy, please do not include personal information (such as a social security number), other than your email address.

Climate Resilience Toolkit

http://toolkit.climate.gov/

Get Started

http://toolkit.climate.gov/get-started/overview

My Note: The sidebars for each of these need to be in the spreadsheet.

Overview

http://toolkit.climate.gov/get-started/overview

Last modified: 6 April 2015 - 6:30pm

My Note: Same Glossary Table at bottom as Step 5: Take Action

Individuals, businesses, and communities can respond to the challenges of our changing climate. This framework can guide you through the process of planning and implementing resilience-building projects.

Every community and business faces some risk of climate-related disruptions to their operations. For some, it’s not a question of “if” but “when” disruptions will occur. Anticipating potential problems and preparing to prevent or respond to them can make it easier to bounce back from disruptions.

<table>
<thead>
<tr>
<th>Risk</th>
<th>The potential for consequences when something of value may be partly or completely damaged or lost. Risk is often evaluated by the probability of a hazardous event’s occurrence multiplied by the impacts that would result if it did happen.</th>
</tr>
</thead>
</table>
| Resilience    | The capacity of a community, business, or natural environment to prevent, withstand, respond to, and recover from a disruption.                                                                 |}

There’s no single approach to building climate resilience. The five-step process presented here outlines a workflow that was developed through research and refined through practice. Communities and businesses across the nation are already using these steps to confront their climate vulnerabilities and build resilience, and you can too.

Visit the Taking Action section to learn how other Americans are using this process to address climate-related problems. You can also explore tools for displaying and analyzing climate data, and consider a range of funding opportunities that could help you build resilience, or recover from a climate-related event.
References

The Steps to Resilience were inspired by and/or adapted from the following sources:

- Preparing for Climate Impacts: Lessons from the Front Lines (Kresge Foundation)
- The Collaboratory for Adaptation to Climate Change (University of Notre Dame and National Science Foundation)
- United Kingdom Climate Impacts Programme (University of Oxford)
- Value Chain Climate Resilience: A Guide to Managing Climate Impacts in Companies and Communities (Oxfam America and Acclimatise)
- California Adaptation Planning Guide: Planning for Adaptive Communities (FEMA and California Agencies)
- Preparing for Climate Change: A Guidebook for Local, Regional, and State Governments (ICLEI)
- Climate Change & Extreme Weather Vulnerability Assessment Framework (USDOT Federal Highway Administration)
- The Economics of Climate Change Adaptation in EU Coastal Areas (European Commission)
- The National Preparedness Community (FEMA)
- Climate Change 2014: Impacts, Adaptation, and Vulnerability (IPCC)
- Adaptation to Climate Change (NCA3)
- Climate Adaptation Knowledge Exchange (CAKE/Ecoadapt)
- Building Resilience: Ideas for local government to strengthen community resilience to climate change (VLGA?Australia)
- What Climate Change Means for Regions across America: State Reports (White House)

Glossary of relevant terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adaptive capacity</td>
<td>The ability of a person or system to adjust to a stressor, take advantage of new opportunities, or cope with change.</td>
<td>Increasing the capacity of stormwater runoff channels enhances the adaptive capacity of places that face flooding from increasingly heavy rainfalls.</td>
</tr>
<tr>
<td>Climate Stressor</td>
<td>Events and trends related to weather, climate, and climate change that have an important, generally negative, effect on exposed systems.</td>
<td>Increasing frequency and intensity of drought conditions can be a climate stressor for forests and crops.</td>
</tr>
<tr>
<td>Ecosystem services</td>
<td>Benefits that humans receive from natural systems.</td>
<td>Humans draw food, fiber, and fish from ecosystems. Ecosystems also filter water, sequester carbon, and serve as a source of inspiration.</td>
</tr>
<tr>
<td>Exposure</td>
<td>The presence of people, assets, and ecosystems in places where they could be adversely affected by hazards.</td>
<td>Homes and businesses along low-lying coasts are exposed to coastal flooding from storms.</td>
</tr>
<tr>
<td><strong>Hazard</strong></td>
<td>The potential occurrence of an event that may cause injury, illness, or death to humans, damage to assets or infrastructure, or adverse effects on ecosystems.</td>
<td>Extended periods of excessive heat are likely to be an increasingly common hazard in the coming decades.</td>
</tr>
<tr>
<td><strong>Impacts</strong></td>
<td>Effects on natural and human systems due to extreme weather, climate events, and climate change. Impacts are also referred to as consequences or outcomes.</td>
<td>Wildfires in the West are starting earlier in the spring and lasting later into the fall. This is an impact of hotter and drier weather and earlier snowmelt.</td>
</tr>
<tr>
<td><strong>Non-climate stressor</strong></td>
<td>Events and trends outside of the climate system that affect human and/or natural systems. Non-climate stressors can increase vulnerability to climate-related risk.</td>
<td>Increasing population increases demand for water and food and puts additional stress on the infrastructure required to deliver them.</td>
</tr>
<tr>
<td><strong>Projection</strong></td>
<td>Potential future climate conditions calculated by computer-based models of the Earth system. Unlike predictions, projections are based on sets of assumptions about the future (scenarios) that may or may not be realized.</td>
<td>Climate projections indicate that if human emissions of heat-trapping gases continue increasing through 2100 (a scenario, or possible future), most locations will see substantial increases in the number of days in which temperature exceeds 100°F (potential future conditions).</td>
</tr>
<tr>
<td><strong>Resilience</strong></td>
<td>The capacity of a community, business, or natural environment to prevent, withstand, respond to, and recover from a disruption.</td>
<td>Installation of backflow preventers in the stormwater systems of a coastal city increased their resilience to flooding from extreme high tides.</td>
</tr>
<tr>
<td><strong>Risk</strong></td>
<td>The potential for consequences when something of value may be partly or completely damaged or lost. Risk is often evaluated by the probability of a hazardous event’s occurrence multiplied by the impacts that would result if it did happen.</td>
<td>Warehouses sited on a floodplain represent a higher risk for flooding when they are filled with products than when they are empty.</td>
</tr>
<tr>
<td><strong>Sensitivity</strong></td>
<td>The degree to which a system, population, or resource is affected by climate impacts (including extreme weather) or changing climate conditions.</td>
<td>The yield of crops with a high sensitivity may be reduced in response to a change in the mean, range, or variability of temperature.</td>
</tr>
<tr>
<td><strong>Uncertainty</strong></td>
<td>A state of incomplete knowledge indicating the degree to which future climate is unknown. Uncertainty about future climate arises from the complexity of the climate system and the ability of models to represent it, as well as the inability to predict the decisions that society will make.</td>
<td>Though climate model projections are uncertain about how much precipitation will change in the future, they generally agree that wet places are likely to get wetter, and dry places are likely to get drier.</td>
</tr>
<tr>
<td><strong>Vulnerability</strong></td>
<td>The propensity or predisposition of human and other systems to be adversely affected by climate change. Vulnerability encompasses</td>
<td>Despite the thick walls of the old lighthouse, its location on a barrier island made it vulnerable to shoreline erosion.</td>
</tr>
</tbody>
</table>
Step 1: Identify the problem

http://toolkit.climate.gov/get-start...entify-problem

Focus on climate stressors that threaten people, buildings, natural resources, or the economy in your area.

My Note: Same Glossary Table at bottom as Overview

Facing climate problems and finding climate opportunities

In addition to the everyday concerns and challenges of running a business or community, every enterprise also faces some risk of being disrupted by the impacts of climate variability and change. In some locations, occasional events such as high-tide coastal flooding make it clear that rising seas are likely to become a problem. In other places, the threat of extended drought or flooding from intense rains may not be obvious, yet these problems can still occur. As our planet warms, new issues or increased chances for past impacts threaten everyone.

If you need information about our changing climate and its impact on your region of the United States, see the Third National Climate Assessment. This report can help you recognize climate-related issues and impacts that threaten normal operations in your community or business.

To identify the climate stressors that could impact you, your business, or your community, think about weather- and climate-related events that occurred in the past or happened elsewhere in your region. In many cases, climate change will make such events more frequent or intense. Think broadly about the types of events that might close businesses, disrupt communications, or cause water, energy, or transportation infrastructure to fail. From a range of possible issues, identify the most important or immediate problems you are likely to face. Focusing on a specific climate-related problem is the first step in building resilience to its impacts.

Identifying a specific problem can also reveal opportunities. Working toward a solution, you may become aware of technologies, products, or services that could help build resilience. Taking action to implement a solution can lead to new jobs, upgraded infrastructure, and restored ecosystems. Recognizing potential co-benefits of addressing climate issues can inspire innovative collaborations and encourage broad support for building resilience.

Work with your community to define the problem

There’s a saying: If you want to go fast, go alone. If you want to go far, go with others. In almost every case, projects that build climate resilience require going far. To develop the broad support necessary to implement a resilience-building project, successful projects recruit stakeholders with diverse perspectives early in their process, and actively engage
them throughout the process. When initiating a project, leaders focus first on stakeholders’ common values and shared understandings, and build on those to set new goals. Experience shows that community-based projects have an increased chance of success when all stakeholders feel that they can contribute to the solution and benefit from the results.

Selected Tools, Templates, and Examples for Encouraging Effective Community Engagement

- Coastal Resilience Index: A Community Self-Assessment
- Being Prepared for Climate Change: A Workbook for Developing Risk-Based Adaptation Plans
- Preparing for Climate Change: A Guidebook for Local, Regional, and State Governments
- Adaptation Planning: What U.S. States and Localities are Doing
- Value Chain Climate Resilience: A Guide to Managing Climate Impacts in Companies and Communities
- California Adaptation Planning Guide: Planning for Adaptive Communities
- The Federal Highway Administration’s Climate Change & Extreme Weather Vulnerability Assessment Framework

Consider non-climate stressors

Communities and businesses are not impacted solely by climate. They also face non-climate stressors such as economic changes, land use issues, and the desire to preserve traditions. Such factors sometimes combine or interact with climate stressors to cause multi-stressor situations. Think broadly about non-climate stressors you have faced or may face in the future. Imagine some worst-case scenarios in these realms, and then think about how climate issues could exacerbate them.

Determine causes and effects for stressors

For the range of stressors that could impact your business or community, try to trace the impacts back to their causes. For example, starting from an impact such as flood in your community, focus on the event’s details to identify causes and effects. A statement such as, “when three inches of rain fell across the upper reaches of our watershed, runoff overwhelmed the capacity of our storm drains, resulting in flooding just upstream of the highway bridge” can help you zero in on specific natural processes, thresholds, and physical features involved with your problem or opportunity.

Agree upon boundaries for your problem

To increase your chances of success, focus on a problem that is similar in scope to your collective ability to address it. For instance, you may not be able to stop the sea from rising, but could you raise community awareness of the benefits of repositioning important infrastructure along the coast out of harm’s way? To avoid overwhelming potential contributors to your project, identify a finite problem that stakeholders have some power to address.

Consider the steps to resilience within the context of a specific topic:

- Coastal Flood Risk
- Ecosystem Vulnerability
Step 2: Determine Vulnerabilities

http://toolkit.climate.gov/get-started-vulnerabilities

Last modified: 11 March 2015 - 4:46pm

My Note: Same Glossary Table at bottom as Overview

Identify specific populations, locations, and infrastructure that may be impacted by the climate problem you identified.

Focus first on known issues

Start your list of vulnerabilities with places, people, and resources that have been impacted by climate-related events in the past. As our climate continues changing, impacts are likely to increase, so damages from past events can be considered as a baseline when considering what's vulnerable.

Definitions and Examples

<table>
<thead>
<tr>
<th>Definition</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vulnerability</td>
<td>A hospital on low-lying land near the beach is more vulnerable to coastal flooding than a similar hospital at a higher elevation.</td>
</tr>
<tr>
<td>Risk</td>
<td>A golf course and a hospital at the same elevation on a floodplain are equally vulnerable to flooding, but the risk for flooding is much higher for the hospital.</td>
</tr>
<tr>
<td>Adaptive Capacity</td>
<td>Communities where vulnerable populations can get to air-conditioned facilities during excessive heat events have a higher adaptive capacity than those that do not.</td>
</tr>
</tbody>
</table>

Identify vulnerabilities and risks

Examine data and visualizations to help you determine other populations, assets, or natural systems that may be vulnerable to your climate problem in the future. Freely available tools show past, current, and projected climate data for a variety of parameters and conditions. For instance, sea level rise viewers show areas likely to be inundated by various amounts of sea level rise; the viewers can be used to determine which coastal areas are vulnerable to storm surge. Populations and assets within or near areas likely to be inundated may be vulnerable to coastal flooding.
When considering vulnerability, account for the adaptive capacity of each population or resource. Robust infrastructure and strong social networks are two factors that can reduce vulnerability. You can also access tools that indicate varying levels of social vulnerability among urban neighborhoods.

Sharing the list of vulnerabilities you develop across the community may raise awareness among people who did not perceive themselves or their property as vulnerable. Prepare a response ahead of time that explains the criteria you used to generate your list. Consider how you can encourage vulnerable populations to work with you to build resilience.

**Dealing with uncertainty**

Some level of uncertainty is inherent in any consideration of climate and weather. However, most of the uncertainty regarding climate lies in the magnitude of future change, not in the question of if locations will experience climate-related stressors or impacts. Though no one can perfectly predict the future, it's possible to identify a range of the most likely climate-related outcomes and build resilience in the face of uncertainty.

**Step 3: Investigate Options**

http://toolkit.climate.gov/get-start...igate-options

Last modified: 11 March 2015 - 4:56pm

**My Note: Same Glossary Table at bottom as Overview**

Compile a list of potential solutions, drawing on the experiences of others who have addressed similar problems.

**What options are acceptable?**

Based on your vulnerabilities, what can you do to build resilience? Before you list potential solutions, consider important objectives that should be achieved or avoided by your project. For instance, the group may agree ahead of time to ?do no harm? or ?operate within budget constraints.?

**Identify options that could reduce vulnerability**

With some ground rules in place, brainstorm, research, invent, and innovate to come up with a comprehensive list of options that could reduce vulnerability or increase resilience to your climate issue.

Recognize that many ideas will require multiple steps and that you can?t do everything at once. Try to come up with options that will enable you to take one step at a time, moving forward with an iterative approach to reduce risk. In addition to your own ideas, consider what others have done when they faced the same climate problem. It may take several months to gather broad community input so you have a good list of options.

Suggestions for eliciting additional options:

- Analyze past climate events that led to disaster: working backwards from a negative impact, at what points in the process could an intervention have improved the outcome?
• Could you repurpose existing or outdated technologies or resources in ways that would reduce vulnerability or enhance resilience?
• What newly available technologies have potential to improve resilience?
• If money were no object, what would you do?
• If funding for a capital-scale project isn’t available, what lower-cost strategies might prevent or alleviate suffering?

Step 4: Evaluate Risks & Costs

http://toolkit.climate.gov/get-start...te-risks-costs

Last modified: 11 March 2015 - 4:57pm

My Note: Same Glossary Table at bottom as Overview

Consider risks and values to analyze the costs and benefits of favored options. Select the best solution for your situation and make a plan.

Come up with a consistent method for comparing options

To select the best option for your situation, make a fair comparison of the costs and benefits (financial and otherwise) of each potential solution. Prioritize based on the magnitude of risk to things you value most, and the probability that they will be impacted. To quantify this, you may want to develop a list of criteria you want the project to meet and assign a weighting factor to indicate each criterion’s relative importance, and use this list to evaluate each option.

Deciding what’s most important can be a difficult task. The community must weigh the trade-offs of uncertainty and differing levels of tolerance for risk. This step often requires very open discussions: emphasizing the group’s common goals can facilitate progress. Strive to reach group consensus on a consistent method to evaluate your options.

Examine solutions and select the best one

Evaluate each of your options from Step 3. Be sure to include the option of taking no action at all; this will help you decide if the potential benefits of taking action minus the costs to implement it would be greater than or equal to the outcome of inaction. Based on your evaluation, tentatively identify a preferred solution.

A good way to assess if you’re headed in the right direction at this point is to review your previous decisions. Check your ideas against reality by asking the following questions:

• What is the climate-related problem or opportunity you are confronting?
• What are you trying to achieve by taking your preferred action?
• How will your actions enhance resilience?
• Are the positive benefits of taking action equal to or greater than the costs?
• If you still have a single preferred solution, engage the full range of your project’s stakeholders to build consensus and commitment for planning the project and taking action.
Consider a phased approach

Think about the possibilities for implementing your preferred option in distinct phases. This approach lets you learn lessons during initial phases that may save time, money, or resources in later phases. Gathering feedback after each phase and incorporating it into your evolving plan may also help you improve efficiency or effectiveness. Additionally, a phased approach allows flexibility in case priorities change over time.

Similarly, you might consider running a small pilot program before you attempt a larger implementation. Working through your process with a small group of members of your target audience can inform you of issues you may encounter at a larger scale.

Envision and plan your project

To develop your project plan, spend time building and exploring a shared vision of the future in which you implement the project and live with its outcomes. Ask hard questions and work together to come up with realistic answers. Who will do the necessary work? Will the solution really deliver the benefits you desire through the range of conditions you’re likely to experience? Spending time and mental energy to make each step of the project as real as possible in the planning phase can pay large dividends in the implementation phase.

Capture the sequence of milestones necessary to complete your project, and then assign roles, responsibilities, and sufficient resources (time, money, expertise, etc.) to complete them. Ensure that those who have responsibility also have the authority to make and implement decisions. Decide what measures will serve as evidence of your success (or lack thereof) and include time to gather feedback and make necessary course corrections in your plan. Consider the plan from multiple perspectives, and make contingency plans for junctures in the process that may require them.

Step 5: Take Action

http://toolkit.climate.gov/get-start...-5-take-action

My Note: Same Glossary Table at bottom as Overview

Implement your plan and monitor your progress. As necessary, adjust your plan to move toward your desired outcomes. Be prepared to iterate, if needed.

Measure the effectiveness of each step

Actively seek input and feedback to check if the actions you take are yielding the benefits you envisioned. Pay attention to factors beyond your control, such as an economic downturn that could impact your outcomes. Measure the effectiveness of each step and make any adjustments necessary before moving to the next phase.

Iterate

If your actions aren’t producing the desired outcome, consider modifying your approach or making course corrections to your plan. As necessary, revisit your deliberations in each of the four previous steps. With hindsight, you may be able to
spot an oversight or miscalculation. If so, review your options, re-evaluate your risks and costs, and then decide whether additional and/or new actions are needed. Continue to iterate as needed until you produce the desired outcome.

**Share your story**

Sharing your story can inspire other communities and businesses and help guide them in their efforts to build resilience. Faced with the challenges of our changing climate, the cumulative effect of building resilience can lead to a healthier American population, a stronger economy, a more robust and nimble workforce, and robust human and natural systems that can withstand or recover quickly from extreme events.

**Taking Action**

http://toolkit.climate.gov/taking-action

Communities and businesses are taking action to reduce their vulnerability to climate-related impacts and to build resilience to extreme events. The stories below illustrate the application of the process and tools featured in this Toolkit. Browse the stories, or filter by topic, step to resilience, and/or region in the boxes above. To expand your results, click the Clear Filters link.

**My Note:** Table that can be filtered by topic, resilience, and region. About 27 that need to be in a spreadsheet.

**Tools**

http://toolkit.climate.gov/tools

**Browse Tools**

http://toolkit.climate.gov/tools

**My Note:** I put these 180 tool examples in a spreadsheet. It looks like the data is embedded in these applications. Ugh!

**Climate Explorer**

http://toolkit.climate.gov/tools/climate-explorer

Climate Explorer? Visualizing Climate Data in Maps and Graphs

Learn about this interactive tool and the data it displays. Follow tutorials to learn about the tool's map features and how to manipulate and interpret its graphs.

About the Tool and Data

Climate Explorer is a research application built to support the U.S. Climate Resilience Toolkit. The tool offers interactive visualizations for exploring maps and data related to the toolkit's Taking Action case studies.
Map layers in the tool represent geographic information available through climate.data.gov. Each layer's source and metadata can be accessed through its information icon. Climate Explorer graphs display 1981-2010 U.S. Climate Normals for temperature and precipitation, overlain with daily observations from the Global Historical Climatology Network-Daily (GHCN-D) database. Please note that GHCN-D data have been checked for obvious inaccuracies, but they have not been adjusted to account for the influences of historical changes in instrumentation and observing practices. GHCN-D data are useful for comparing weather and climate, but for long-term climate change analyses, we recommend the National Climatic Data Center's Climate at a Glance.

My Note: This is like Spotfire with the NTRD I just did! I can reproduce these in Spotfire.

Find Data on Data.gov

http://www.data.gov/climate/

My Note: See Data.gov/climate above!

Topics

http://toolkit.climate.gov/topics

Select a topic of interest below to learn about climate-related risks and opportunities.

My Note: Could make bullets Header 4s. See spreadsheet

Coastal Flood Risk

• Sea Level Rise
• Coastal Erosion
• Storm Surge
• Tsunami
• Inland Flooding
• Shallow Coastal Flooding (Nuisance Flooding)
• Building Resilience in Coastal Communities

Ecosystem Vulnerability

• Fire Regimes
• Water Resources
• Carbon Balance
• Invasive Species
• Biodiversity Conservation
• Protecting and Enhancing the Resilience of Ecosystems
Energy Supply and Use

- Energy Consumption
- Energy Production
- Energy Facilities
- Building Resilience in Energy Supply and Use

Food Resilience

- Food Production
- Food Distribution
- Food Safety and Nutrition
- International Food Security
- Building Food Resilience

Human Health

- Extreme Heat
- Extreme Events
- Increased Levels of Air Pollutants
- Food- and Water-Related Threats
- Changing Ecosystems and Infectious Diseases
- Building Health Care Sector Resilience

Transportation and Supply Chain

- Land-Based Transportation
- Waterborne Transportation
- Aviation
- Supply Chain Security

Tribal Nations

- Assessment and Planning
- Adaptation
- Mitigation
- Disaster Risk Reduction
- Relocation
- Capacity Building

Water Resources

- Municipal Water Supply
- Flooding
• Drought
• Ecosystems

Expertise

http://toolkit.climate.gov/training-courses

Training Courses

http://toolkit.climate.gov/training-courses

My Note: Table that is Filtered by Category, Training, and Difficulty. It could be scrapped by trying to copy the whole thing (did not work) or hand extraction (big Job). See spreadsheet

The training courses here can help you acquire the tools, skills, and knowledge you need to manage your climate-related risks and opportunities. All courses are free of charge, and are offered in at least one of three formats: online audio-visual presentations ("Online, Self-Guided" and "Tool Tutorial"), training webinars ("Online, Scheduled Lecture Series"), and residence training courses ("Onsite, Instructor-Led"). Each training module is accompanied with a test to help you evaluate your knowledge. These courses feature scientific information adapted from authoritative sources, prepared by recognized subject matter experts. The courses have been pilot tested with users and other subject matter experts and may be updated periodically, as needed.

Find Experts

http://toolkit.climate.gov/help/partners

Regional and locally-focused ???centers across the nation are available to help you build resilience to climate-related changes and impacts? in your community?.? Browse the maps below, then click on an orange marker to see that office’s location, the services it provides, and other information

My Note: This map could be scrapped. See example below. See spreadsheet

State Climatologists

Alabama
Dr. John Christy
Huntsville, AL | View Website

Provides weather and climate information to the public and private interests to improve decision-making activities that affect environmental quality and the economic efficiency of the State of Alabama. Activities include providing specific weather data for the state and for the world, developing plans to mitigate the economic impacts of weather and climate variability, and providing consultation on the use, interpretation, and availability of weather and climate information.
Alaska
Dr. Gerd Wendler
Fairbanks, AK | View Website

Responds to inquiries concerning the meteorology and climatology of Alaska from public, private, and government agencies, and from researchers around the world. Also conducts research on a number of high latitude meteorological and climatological topics and provides useful links for related data.

Arizona
Dr. Nancy Selover
Tempe, AZ | View Website

Disseminates climate information about the State of Arizona, monitors the climate of Arizona and the region, collaborates with state agencies in need of climate data and advisement, and conducts research on Arizona's climate.

Arkansas
Michael Borengasser
Little Rock, AR | View Website

Services and research to help describe and explain climate and its impacts on natural systems and human activities. Foci include agriculture, climate change, energy, the environment, human health, risk management, transportation, and water resources.

California
Michael Anderson
Sacramento, CA | View Website

The California State Climate Office collects and interprets climate data for California, and disseminates climate data and information.

Colorado
Nolan Doesken
Fort Collins, CO | View Website

Monitors Colorado's diverse and variable climate, conducts research, and provides climate data, information, and expertise to the citizens of Colorado. Foci include climate monitoring, snow measurement, and citizen science.

Connecticut
Xiusheng (Harrison) Yang
Storrs, CT | View Website
Helps collect, disseminate, and use climate data to monitor and assess climatic conditions and impacts in Connecticut and the northeastern United States. Also works to further the economic efficiency and general welfare of public and private institutions and individuals in the state and region.-

**Delaware**

Dr. Daniel Leathers  
Newark, DE | [View Website](#)

Collects, archives, and disseminates weather and climate data in Delaware and the mid-Atlantic Region, and to K-16 education across the state. Foci include emergency management, natural resource monitoring, and transportation.

**Florida**

David Zierden  
Tallahassee, FL | [View Website](#)

Provides climate data, information, and services for Florida residents, communities, and businesses. Foci include historical weather observations, long-term climatologies, extreme events, and special analysis on climate variability.

**Georgia**

Bill Murphey  
Atlanta, GA | [View Website](#)

Functions to collect, disseminate, and interpret climatological and meteorological data, responding to public and private entities on issues related to Georgia's climate, as well as offering correspondence with educational institutions relating to atmospheric science. Stays apprised of current meteorological patterns and atmospheric conditions, including droughts, the ENSO (El Nino-Southern Oscillation) forecast, and short, middle, and long-term seasonal outlooks. Also internally produces composite maps containing climatological information, such as precipitation and temperature.

**Hawaii**

Pao-Shin Chu  
Honolulu, HI | [View Website](#)

Provides information on Hawaii's climate, such as rainfall, temperature, etc. Other foci include mapping tropical cyclone tracks over the central North Pacific, climate monitoring for Hawaii's National Park Service and other major Pacific islands, investigating climate change in the Kona coffee-growing regions, and long-term precipitation trends and its relationship with the ENSO cycle.

**Idaho**

Russel Qualls  
Moscow, ID | [View Website](#)
Disseminates climate data and information to Idaho residents and stakeholders, and fosters use of this information in decision making. Conducts applied research related to climate issues and improves the coordination of climate-related activities at state, regional, and national scales.

**Indiana**

Dr. Dev Niyogi  
West Lafayette, IN | View Website

Archives official daily and hourly weather observations recorded throughout Indiana and provides climate observations and summaries for interested stakeholders, including farmers, attorneys, construction workers, environmental monitors, forensics, government, insurance, news media, research, education, and utilities.

**Illinois**

Dr. Jim Angel  
Champaign, IL | View Website

Promotes the use of climate information in areas crucial for the economic and environmental benefit of Illinois by disseminating climate information, monitoring climate events, conducting applied research, and making presentations to community organizations and the media.

**Iowa**

Harry Hillaker  
Des Moines, IA | View Website

Archives daily weather and climate data, and answers public inquiries about weather and climate in Iowa. Serves on the Iowa Drought Task Force and provides regular updates of temperature and precipitation data to the USDA Farm Service Agency for use in evaluating counties' eligibility for disaster relief programs.

**Kansas**

Mary Knapp  
Manhattan, KS | View Website

Conducts applied climate studies, develops improved climate information products, and provides climate services to Kansans and others in the High Plains region.

**Kentucky**

Stuart Foster  
Bowling Green, KY | View Website

Delivers climate services to business and industry, government, education, organizations, and individuals throughout Kentucky. Conducts research and disseminates information on climatic variability and change, influences of the natural environment upon human activity, and impacts of human activity upon the natural environment. Promotes understanding
and appreciation of the natural environment and its importance to society. Works with the public and private sectors to promote sustainable development.

**Louisiana**

Barry Keim  
Baton Rouge, LA | [View Website]

Provides weather and climate data and information to stakeholders and residents in Louisiana.

**Maine**

Dr. George Jacobson  
Orono, ME | [View Website]

Provides weather and climate data and information to stakeholders and residents in Maine. Research has focused on biological aspects of long-term changes in climate, ecosystems, and landscapes since the last Ice Age.

**Maryland**

Kenneth Pickering  
College Park, MD | [View Website]

Provides climatological, hydrological, and meteorological data and information to Maryland state businesses, agencies, students, researchers, and citizens. Researches the climate of Maryland, and climate change in the state.

**Massachusetts**

David Taylor  
Lunenburg, MA | [View Website]

**Michigan**

Jeffrey Andresen  
East Lansing, MI | [View Website]

Monitors and assesses climatic conditions and their impacts in Michigan and the Midwest. Disseminates high-quality climate data, data summaries, and climate information. Prepares specialized historical climate data sets, and coordinates and conduct applied research on climate-related issues and problems.

**Minnesota**

Greg Spoden and Pete Boulay  
St. Paul, MN | [View Website]
Collects, manages, analyzes, and disseminates weather and climate data for Minnesota. Products include weekly precipitation maps, weekly snow depth maps, long-term summaries of temperature and precipitation, and miscellaneous summaries of weather and climate events.

**Mississippi**
Charles Wax
Mississippi State, MS | View Website

Provides climate information to the public and conducts research into the influences of climate on environmental processes and human activities in Mississippi and the Southeast region.

**Missouri**
Dr. Patrick Guinan
Columbia, MO | View Website

Provides needed information for effective planning and management of Missouri agriculture, industry, and natural resources. Develops advanced databases of atmospheric conditions, climate variations, and ecosystem changes in Missouri. Produces value-added products from available weather data and disseminates the products to users. Applies atmospheric research tools to assess and predict climate change and its effects on the atmosphere and regional environment, and ecosystem responses.

**Montana**
Donald Potts
Missoula, MT | View Website

Provides high-quality, timely, relevant, and scientifically based climate information and services to Montanans. Provides information for specific sectors of interest by either geography or industry, and assists stakeholders in adapting climate products to their needs.

**Nebraska**
Allen Dutcher
Lincoln, NE | View Website

Conducts applied climate studies, develops improved climate information products, and provides climate services to residents of Nebraska and the High Plains region.

**Nevada**
Dr. Douglas Boyle
Reno, NV | View Website
Collects and interprets Nevada's climate data and shares this analysis with interested stakeholders and the general public. Foci include watershed hydrology and the development, implementation, and evaluation of complex computer-based models of surface and groundwater hydrologic systems in arid and semi-arid environments.

**New Hampshire**

Dr. Mary Stampone  
Durham, NH | [View Website](#)

Serves the citizens of New Hampshire by providing access to climatological data and information, conducting climate-related research that is relevant to the needs of the state and its residents, and serving as a focal point for climate education and outreach.

**New Jersey**

Dr. David Robinson  
Piscataway, NJ | [View Website](#)

Collects and archives climate data, maintaining an active research program pertaining to New Jersey climate and, through various outreach programs, provides climate education and information to the citizens of New Jersey. Research foci include urban climates, insect pest management, climate change, drought, emergency management, and homeland security.

**New Mexico**

Dr. David DuBois  
Las Cruces, NM | [View Website](#)

Provides climate information and education to New Mexicans through speaking engagements, school demonstrations, and tours. Conducts research on air quality, dust, ozone, and other pollutants.

**New York**

Mark Wysocki  
Ithaca, NY | [View Website](#)

Collects, disseminates, and uses climate data to monitor and assess climatic conditions and impacts in New York and the northeastern United States. Also works to further the economic efficiency and general welfare of public and private institutions and individuals in the state and region.

**North Carolina**

Ryan Boyles  
Raleigh, NC | [View Website](#)

Studies North Carolina's climate and its interaction with the environment. Investigates the effects of climatic variations on agriculture, air pollution, and natural resources and develops forecasts that assist in resource management.

http://semanticommunity.info/Data_Science/Data_Science_for_RDA_Climate_Change_Data_Challenge  
Updated: Sat, 19 Sep 2015 08:36:40 GMT  
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climate information to the citizens of North Carolina and assists North Carolina state agencies in climate-environment interaction issues and related applications.

North Dakota
Dr. Adnan Akyuz
Fargo, ND | View Website

Provides the public with a multitude of resources on weather data, weather data summaries, climate summaries, and climate reports. Also, provides the public with application models for a variety of agricultural crops.

Ohio
Jeffrey Rogers
Columbus, OH | View Website

Collects, archives, disseminates, and interprets climate data for government, public, and private users in the state and regionally. Research foci include reconstruction of the long-term history of Ohio and eastern U.S. climate, impacts of climate variability and change on water resources, the role of the ocean and atmospheric circulation changes on Ohio climate, and the causes and impacts of drought in Ohio.

Oklahoma
Dr. Renee McPherson
Norman, OK | View Website

Acquires, processes, and disseminates climate and weather data and information for use by Oklahoma citizens. Provides climate services and conducts research on the impacts of climate on human activities.

Oregon
Phil Mote
Corvallis, OR | View Website

Collects, manages, and maintains Oregon weather and climate data. Provides weather and climate information to citizens within and outside the state of Oregon. Educates the people of Oregon on current and emerging climate issues and conducts research on weather and climate issues.

Pennsylvania
Paul Knight
University Park, PA | View Website

Provides a variety of climate services to all residents and businesses in Pennsylvania. Reconstruction of weather events, seasonal weather summaries, professional analysis of natural disasters, and archived temperature and
precipitation are some of the services provided, which are often used by stakeholders in insurance, agriculture, litigation, construction, public media, energy, water management, and the public.

**Rhode Island**
N/A | View Website

**South Carolina**
Hope Mizzell
Columbia, SC | View Website

Provides climate services to the people of South Carolina. Represents the state in all climatological and meteorological matters within and outside South Carolina. Assists state and federal agencies in data acquisition and forecast interpretation before, during, and after severe weather. Conducts research related to weather and climate issues.

**South Dakota**
Dr. Dennis Todey
Brookings, SD | View Website

Provides climate and weather data for South Dakota, as well as current and historic weather and climate information for agriculture, industry, education, and the public good.

**Tennessee**
N/A | View Website

**Texas**
Dr. John Nielsen-Gammon
College Station, TX | View Website

Provides the state of Texas with accurate climate information and expertise in the field of climatology. Also promotes education and understanding of the climate, its elements, and its impacts on Texas.

**Utah**
Robert Gillies
Logan, UT | View Website

Provides climate data and services for Utah's citizens, businesses, schools, and public institutions. Research foci include precipitation in Utah, megadroughts of the past millennium, teleconnections to the western Pacific, trends in snowpack, and drought projection.
Vermont
Dr. Lesley-Ann Dupigny-Giroux
Burlington, VT | View Website

Provides weather, climate, and water resource information for Vermont. Foci include studies of atmospheric processes and ways of reducing Vermonters' vulnerabilities to climate hazards and extreme weather events in an ever-changing climate system.

Virginia
Charlottesville, VA | View Website

Washington
Nick Bond
Seattle, WA | View Website

Collects, disseminates, and interprets climate climate and weather information for state and local decision makers and agencies working on drought, flooding, climate change, and other related issues. Research foci include the weather and climate of the Pacific Northwest, and the linkages between the climate and marine ecosystems of the North Pacific.

West Virginia
Dr. Kevin Law
Huntington, WV | View Website

Provides climatic data and information while serving West Virginia in performing climate research and education.

Wisconsin
John Young
Madison, WI | View Website

Manages data for climate monitoring, provides climate information to Wisconsin residents and government agencies, develops value-added products and impact applications for stakeholders, and conducts applied climate research.

Wyoming
Tony Bergantino
Laramie, WY | View Website

Provides a variety of climate services, ranging from the development of enhanced drought-monitoring products to the online dissemination of water and climate data. Also supports a variety of stakeholder groups by assisting in the development of the State Water Plan and helping to coordinate long-term climate and hydrologic monitoring efforts throughout the region.
NOAA RISA

Consortium on Climate Risk in the Urban Northeast (CCRUN)
New York, NY | View Website

CCRUN assesses risks from climate variability and change in urban settings, and provides science-based adaption-related decision resources. Foci include water, coasts, human health, and green infrastructure.

Area(s) served: Connecticut, Massachusetts, New Jersey, New York, Pennsylvania, Rhode Island

NOAA Regional Climate Centers

Southeast Regional Climate Center
Chapel Hill, NC | View Website

The center's mission is to increase the use and availability of climate data, tools, and information in the southeastern U.S. to help private and public sector constituents reduce risk and improve resilience to the impacts of climate variability and change.

Area(s) served: Alabama, Florida, Georgia, North Carolina, South Carolina, Virginia, Puerto Rico, the U.S. Virgin Islands

NOAA NCDC Regional Climate Services Dir.

National Climatic Data Center
Asheville, NC | View Website

Preserves, monitors, assesses, and provides public access to the United States' (and much of the world's) historical weather and climate data and information.

Area(s) served: All U.S. states and territories

NOAA National Weather Service

Eastern Region
Bohemia, NY | View Website

Provides observations and information on a wide range of climate-related issues facing the Eastern U.S., including droughts, water supply, coastal environments, agriculture, freezes, heat waves, severe storms, and diverse impacts from the El Niño-Southern Oscillation (ENSO).
**Area(s) served:** Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, North Carolina, Ohio, Pennsylvania, Rhode Island, South Carolina, Vermont, Virginia, West Virginia

**NOAA River Forecast Centers**

Middle Atlantic
State College, PA | [View Website](#)

Saves lives and decreases property damage by issuing flood warnings and river stage forecasts. Provides basic hydrologic forecast information for the nation's economic and environmental well-being. Provides extended forecast information for water resources management. Specializes in flood and water resource forecasting, river modeling, and hydrologic system development. Works with water management agencies to provide the best possible operations of reservoir systems.

**Area(s) served:** Delaware, Maryland, New Jersey, New York, Pennsylvania, Virginia, West Virginia

**NOAA Sea Grant**

Virginia Sea Grant
Gloucester Point, VA | [View Website](#)

Advances the resilience and sustainability of Virginia's coastal and marine ecosystems and the communities that depend upon them. Works with resource managers, businesses, communities, and other stakeholders to provide and apply the best science available. Foci include safe and sustainable seafood, healthy coastal and marine ecosystems, sustainable and resilient coastal communities, and coastal and ocean literacy.

**Area(s) served:** Virginia

**NOAA National Estuarine Research (NEER)**

Chesapeake Bay Virginia Reserve
Gloucester Point, VA | [View Website](#)

NERRS is a network of 28 areas representing different biogeographic estuaries in the United States that are protected for long-term research, water-quality monitoring, education, and coastal stewardship. Foci include natural resource management issues, such as non-point source pollution, habitat restoration, invasive species, and water quality monitoring.

**Area(s) served:** Virginia
USDA Regional Climate Hubs

Southeast Hub
Raleigh, NC | View Website

While the southeastern U.S. has only two percent of the world's forest cover, these states produce 25 percent of the world's pulpwod and 18 percent of the world's industrial timber; over 55 percent by volume of the U.S. timber harvest comes from the Southeast. The region is also a leading producer of food crops-Georgia leads the nation in peanut production, harvesting over two billion pounds annually, while Florida produces 70 percent of the nation's citrus crop. The Southeast is also the leading producer of U.S. cotton, tobacco, rice, fruits, vegetables, and broiler chickens. Farmers, ranchers, and foresters in the Southeast are already feeling the pressures of a changing climate and weather variability, leading to changes in day-to-day management decisions.

Area(s) served: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Virginia

DoI Climate Service Centers

Southeast Climate Science Center
Raleigh, NC | View Website

The Center provides scientific information, tools, and techniques that managers and others interested in land, water, wildlife, and cultural resources can use to anticipate, monitor, and adapt to climate change. Foci include climate science, ecology, impacts assessment, modeling, urban environments, and advanced information technology.

Area(s) served: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, Missouri, North Carolina, South Carolina, Tennessee, U.S. Virgin Islands, Puerto Rico

DoI Landscape Conservation Corps

South Atlantic LCC
View Website

The mission of the SALCC is to create a shared blueprint among federal, state, and private organizations for landscape conservation actions that sustain natural and cultural resources.

Area(s) served: Georgia, Florida, North Carolina, South Carolina, Virginia

About

http://toolkit.climate.gov/content/a...lience-toolkit
Meeting the challenges of a changing climate

The U.S. Climate Resilience Toolkit provides scientific tools, information, and expertise to help people manage their climate-related risks and opportunities, and improve their resilience to extreme events. The site is designed to serve interested citizens, communities, businesses, resource managers, planners, and policy leaders at all levels of government.

A climate-smart approach to taking action

In response to the President’s Climate Action Plan and Executive Order to help the nation prepare for climate-related changes and impacts, U.S. federal government agencies, led by the Office of Science and Technology Policy and the Council on Environmental Quality, gathered resources that can help people take action to build their climate resilience. The impacts of climate change—including higher temperatures, heavier downpours, more frequent and intense droughts, wildfires, and floods, and sea level rise—are affecting communities, businesses, and natural resources across the nation.

Now is the time to act. For some, taking a business-as-usual approach has become more risky than taking steps to build their climate resilience. People who recognize they are vulnerable to climate variability and change can work to reduce their vulnerabilities, and find win-win opportunities that simultaneously boost local economies, create new jobs, and improve the health of ecosystems. This is a climate-smart approach—investing in activities that build resilience and capacity while reducing risk.

What’s in the Toolkit? How can it help?

Using plain language, the U.S. Climate Resilience Toolkit helps people face climate problems and find climate opportunities. The site offers:

- **Steps to Resilience**: a five-step process you can follow to initiate, plan, and implement projects to become more resilient to climate-related hazards.
- **Taking Action stories**: real-world case studies describing climate-related risks and opportunities that communities and businesses face, steps they’re taking to plan and respond, and tools and techniques they’re using to improve resilience.
- A catalog of freely available **Tools** for accessing and analyzing climate data, generating visualizations, exploring climate projections, estimating hazards, and engaging stakeholders in resilience-building efforts.
- **Climate Explorer**: a visualization tool that offers maps of climate stressors and impacts as well as interactive graphs showing daily observations and long-term averages from thousands of weather stations.
- **Topic narratives** that explain how climate variability and change can impact particular regions of the country and sectors of society.
- Pointers to free, federally developed **training courses** that can build skills for using climate tools and data.
- **Maps** highlighting the locations of centers where federal and state agencies can provide regional climate information.
• The ability to Search the entire federal government’s climate science domain and filter results according to your interests.

About the Toolkit’s development

Version 1.0 of the U.S. Climate Resilience Toolkit was developed over a six-month period in 2014 by a partnership of federal agencies and organizations led by NOAA. The main goal for the initial release was to lay a firm foundation and inclusive framework that would allow the Toolkit to expand and grow over time, primarily in response to user needs and feedback.

The Toolkit’s initial focus is on helping the nation address challenges in the areas of Coastal Flood Risk and Food Resilience. Over the coming year, the site will expand to more fully address other topics, including Human Health, Ecosystem Vulnerability, Water Resources, Energy Supply and Infrastructure, Transportation and Supply Chain, and others.

Initial emphasis is on providing U.S. federal government information and decision support resources. Over the coming year, the site will also expand to include information and decision support resources from state and local governments, businesses, and academia and other non-governmental organizations.

In short, this is only the beginning, and there’s much more to come! Let us know what you think.

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Last modified: 25 October 2014 - 10:31am

If you have any comments, questions, or suggestions about the U.S. Climate Resilience Toolkit, please send them to noaa.toolkit@noaa.gov.

Funding Opportunities

http://toolkit.climate.gov/content/funding-opportunities

Last modified: 19 May 2015 - 3:00pm

Many of the strategies for increasing climate resilience come with a price tag. In the United States, a range of government entities and private foundations offer financial and technical resources to advance local adaptation and mitigation efforts. At the global scale, The World Bank and other organizations support financial strategies to build resilience. For your convenience, we have gathered information and links describing funding opportunities that may be relevant for building climate resilience. Please follow the external links to learn about any program.

NOAA 2015 Regional Coastal Resilience Grant Program

The Regional Coastal Resilience Grant program will support regional approaches to undertake activities that build resilience of coastal regions, communities, and economic sectors to the negative impacts from extreme weather events, climate hazards, and changing ocean conditions. Eligible applicants include nonprofit organizations, institutions of higher
education, regional organizations, private (for profit) entities, and local, state, and tribal governments. Up to $5 million will be available; award amounts will range from $500,000 to $1 million. Proposals are due by July 24, 2015.

**Building Blocks for Sustainable Communities**

The EPA's Building Blocks for Sustainable Communities provides quick, targeted technical assistance to selected communities using a variety of tools that have demonstrated results and widespread application.

**Partnership for Sustainable Communities**

The U.S. Department of Housing and Urban Development (HUD), U.S. Department of Transportation (DOT), and the U.S. Environmental Protection Agency (EPA) work together to help communities nationwide improve access to affordable housing, increase transportation options, and lower transportation costs while protecting the environment. The site's [map of grants](#) shows information on awards already made through Partnership programs.

**FEMA (Federal Emergency Management Agency) Preparedness (Non-Disaster) Grants**

FEMA provides state and local governments with preparedness program funding to enhance the capacity of their emergency responders to prevent, respond to, and recover from a range of hazards.

**FEMA Hazard Mitigation Assistance**

FEMA's Hazard Mitigation Assistance grant programs provide funding to protect life and property from future natural disasters.

- [Hazard Mitigation Grant Program (HMGP)](#) assists in implementing long-term hazard mitigation measures following a major disaster.
- [Pre-Disaster Mitigation (PDM)](#) provides funds for hazard mitigation planning and projects on an annual basis.
- [Flood Mitigation Assistance (FMA)](#) provides funds for projects to reduce or eliminate risk of flood damage to buildings that are insured under the National Flood Insurance Program (NFIP) on an annual basis.

**FEMA Disaster Survivor Assistance**

Disaster survivors can find step-by-step instructions for preparing to apply for assistance, completing an application for assistance, and following up after receiving disaster assistance.

**Drought Recovery Information**

This page describes support that may be available through federal agencies for both short- and long-term impacts of drought. Links lead to information regarding financial and technical assistance, disaster assistance programs, economic injury loans, and assistance in implementing conservation practices.

**USDA Natural Resources Conservation Service**

NRCS offers voluntary programs to eligible landowners and agricultural producers to provide financial and technical assistance to help manage natural resources in a sustainable manner. Programs include:
• The Agricultural Management Assistance Program helps agricultural producers use conservation to manage risk and address natural resource issues through natural resources conservation.

• Conservation Innovation Grants offer funding opportunities at the state level to stimulate the development and adoption of innovative conservation approaches and technologies that leverage federal investment in environmental enhancement and protection.

• The Conservation Stewardship Program helps agricultural producers maintain and improve their existing conservation systems and adopt additional conservation activities to address priority resources concerns. Participants earn CSP payments for conservation performance—the higher the performance, the higher the payment.

• The Environmental Quality Incentives Program provides financial and technical assistance to agricultural producers in order to address natural resource concerns and deliver environmental benefits, such as improved water and air quality, conserved ground and surface water, reduced soil erosion and sedimentation, or improved or created wildlife habitat.

Massachusetts? Storm-Smart Coasts Initiative

This Massachusetts-only grant program provides financial and technical resources to advance innovative local efforts to increase awareness of climate impacts, identify vulnerabilities and risks, and implement measures to increase community resilience.

100 Resilient Cities Challenge

Funded by the Rockefeller Foundation, 100 Resilient Cities offers periodic competitions in which cities apply to receive resources for building resilience.

Kresge Environment Program

The Kresge Foundation Environment Program seeks to help communities build resilience in the face of climate change. They invest in climate resilience through two primary strategies:

Accelerating place-based innovation through support to efforts that are anchored in cities and have a strong potential to serve as models.

Building the climate-resilience field by supporting activities to disseminate and bring to scale promising climate-resilience approaches.

Wildlife Conservation Society's Climate Adaptation Fund

This fund supports projects that demonstrate effective interventions for wildlife adaptation to climate change.

Open Space Institute Resilient Landscape Initiative

The Resilient Landscapes Initiative, supported by the Doris Duke Charitable Foundation, offers two types of grants for specified locations in the eastern United States. The group’s Capital Grants help land trusts and public agencies increase the conservation of resilient landscapes in areas that represent critical climate priorities. The group’s Catalyst Grants help land trusts and public agencies build the knowledge base of key audiences and advance the practical application of climate science.
United Nations Framework Convention on Climate Change

The UNFCCC’s adaptation funding interface provides summaries of funding options including a description of the funding mechanism, example projects, contact information, and relevant weblinks for further information.

The World Bank Climate Finance Options

This site offers links to sources of funding for climate adaptation projects as well as for mitigation projects that reduce impacts of climate change. Users can search for available funds by Financing Mechanism, Sector, Funding Source, or Focus Area.

The World Bank?Financing and Risk Management Site

The International Bank for Reconstruction and Development (IBRD) aims to reduce poverty in middle-income countries and creditworthy poorer countries by promoting sustainable development through loans, guarantees, risk management products, and analytical and advisory services. This page provides information on loan charges, cases studies that show how financial solutions help member countries address development challenges, and training programs to create tailored financing and risk management packages.

Accessing Resources Under the Special Climate Change Fund

The Special Climate Change Fund supports implementation of the United Nations Framework Convention on Climate Change. The fund also contributes to the achievement of the World Summit on Sustainable Development and the Millennium Development Goals, and contributes to the integration of climate change considerations into development activities.

The Adaptation Fund

The Adaptation Fund finances projects and programs to help developing countries adapt to the negative effects of climate change.

Terra Viva Grants Directory

- Information
- Grants Directory

This free information service is a compilation of international grant funding sources for agriculture, energy, environment, and natural resources in the developing world. The service describes grants that are available to individuals and organizations through international organizations, national government organizations, foundations, and NGOs.

Rockefeller Foundation Climate Change Resilience Grants and Grantees

The Foundation works to achieve its goal of creating meaningful and measurable impact for poor and vulnerable communities through smart globalization. Funded projects commit to nurturing innovation, pioneering new fields, expanding access to and distribution of resources, and, ultimately, generating sustainable impact on individuals, institutions, and communities within the context of the foundation’s active initiatives.
Financing for Climate

The World Bank Group promotes financial strategies that can help reduce the impacts and causes of climate change. This page offers information on the Context, Strategies, and Results of climate financing and summaries of recent projects and programs.

Climate Finance Tracking

Multilateral Development Banks (MDBs) which play a key role in mobilizing and leveraging resources for climate action are in the process of harmonizing their climate finance tracking systems. Their goal is to track and report financial flows that support climate change mitigation and adaptation as a way to build trust and accountability with regard to climate finance commitments. This page describes funding trends and provides links to efforts to track climate funds.

FAQ

http://toolkit.climate.gov/about/faq

No Last Updated Given

What is the U.S. Climate Resilience Toolkit? Why was it built?

The U.S. Climate Resilience Toolkit is a website designed to help people find and use tools, information, and subject matter expertise to build climate resilience. The Toolkit offers information from all across the U.S. federal government in one easy-to-use location. The goal is to improve people’s ability to understand and manage their climate-related risks and opportunities, and to help them make their communities and businesses more resilient to extreme events.

The site was built in response to the President’s Climate Action Plan and Executive Order 13653 (Preparing the United States for the Impacts of Climate Change), which calls for the federal government to “…develop and provide authoritative, easily accessible, usable, and timely data, information, and decision-support tools on climate preparedness and resilience? to support federal, regional, state, local, tribal, private-sector, and nonprofit-sector efforts to prepare for the impacts of climate change.

Who owns and manages this site?

The Executive Office of the President asked the National Oceanic and Atmospheric Administration (NOAA) to lead development of the U.S. Climate Resilience Toolkit, in partnership with the National Aeronautics and Space Administration (NASA) and other departments and agencies in the U.S. Global Change Research Program. Currently, the site is managed by NOAA’s Climate Program Office and hosted by NOAA’s National Centers for Environmental Information.

How can I submit questions, comments, or suggestions about this site? When can I expect a reply?

We’d love to hear from you. Please send any questions, comments, or suggestions about the U.S. Climate Resilience Toolkit to noaa.toolkit@noaa.gov. Expect a reply within one week.
How can I contribute content to this site?

In its initial phase, the site is focused on providing information and tools provided by U.S. federal science agencies. Seven interagency teams were formed to help set the Toolkit’s scope and provide content in these topic areas: Coastal Flood Risk, Food Resilience, Human Health, Ecosystem Vulnerability, Water Resources Risks, Energy Supply and Infrastructure, and Supply Chain Risks. If you work for a federal science agency and would like to contribute content in one or more of these areas, then please let us know.

In our first year of operation, we plan to widen our scope to also include information, tools, maps, and case studies from state, local, and tribal governments. If you work at one or more of these levels of government and would like to contribute content, then please let us know.

Who decides what content, tools, or functionality is added to this site?

Everything published on the U.S. Climate Resilience Toolkit is reviewed and approved prior to publication by relevant subject matter experts from U.S. federal science agencies. We primarily pull content from, or paraphrase, authoritative sources of climate science information that have already been reviewed, approved, and published by authoritative sources (such as the Third National Climate Assessment).

What is the recommended citation for this resource?

Citation requirements vary depending on the style guide, but usually require the author, publication date, and title of the work cited. Some guides require a URL if an online resource is cited, and some may also require the date information was accessed. This website was initially published in 2014; however, the publication date for individual pages varies as content is added and modified. If you are citing an individual page, the date of that page’s most recent modification can be found at the bottom of the page, and should replace the 2014 publication date. In general, the following is the recommended citation for this U.S. Climate Resilience Toolkit. This information can be adapted to conform to the style guide you are following.


May I have permission to use images, videos, text, or other site information? Are your images copyrighted?

Unless otherwise noted (copyrighted material, for example), information presented on this website is considered public information and may be distributed freely. If you elect to use materials from the U.S. Climate Resilience Toolkit, please cite the U.S. Federal Government as the source (see the above FAQ for citation information).

Note that selected copyrighted images have been contributed to this site. Source information and licensing status for large images found at the top of the Taking Action stories and Tool pages can be found at the bottom of those individual pages. Clicking on the smaller images found on a page reveals their source information and licensing status in a new window. If you would like to reproduce these copyrighted images (those not bearing a public domain or Creative Commons license notation), you must contact the contributing source for approval.
How do I report a broken link or if something on the site isn’t working?

Please send any comments or concerns about the Climate Resilience Toolkit to noaa.toolkit@noaa.gov. In the subject field, please indicate ?broken link? or something similar to help us notice and respond to your concern as soon as possible.

Which web browser should I use to explore this site?

The site is designed to be widely accessible and compatible with most popular, current web browsers and computing platforms, including Google Chrome, Mozilla Firefox, Microsoft Internet Explorer 11, and Safari.

Currently, the Climate Explorer tool is best viewed on a desktop or laptop web browser (Windows, OS X, Linux). The Climate Explorer is not yet optimized for viewing on mobile devices.

How does this site relate to climate.data.gov?

The climate.data.gov website is being driven by the President’s interagency Climate Data Initiative—an effort to leverage open federal data to spur innovation and private-sector entrepreneurship in order to advance awareness of and preparedness for the impacts of climate change. Both climate.data.gov and this U.S. Climate Resilience Toolkit are being developed in tandem with the formation and development of inter-agency teams of subject matter experts who focus on the intersections of climate and a given sector or subject domain, including (but not limited to): Coastal Flood Risk, Food Resilience, Human Health, Ecosystem Vulnerability, Water Resources, Energy Supply and Infrastructure, and Transportation and Supply Chain. These seven ?Theme Teams? help guide and inform development of both sites, and help ensure the scientific accuracy and utility of their contents.

The sites housing climate.data.gov and the U.S. Climate Resilience Toolkit are cross-linked, and the teams developing both sites work closely together to ensure they are complementary and not duplicative.

Why do climate.data.gov and the U.S. Climate Resilience Toolkit live in different locations?

In the interest of allowing both sites to develop rapidly and ?nimbly,? based on user inputs and feedback, climate.data.gov and this U.S. Climate Resilience Toolkit have different system requirements and are hosted in different locations. In the long run, our aim is to integrate them into one ?seamless? system. In the interim, we will use a ?no wrong door? approach that allows different users to access data and tools via climate.data.gov and toolkit.climate.gov, and that offers multiple pathways for users to access integrated climate resilience information.

How do climate.data.gov and the U.S. Climate Resilience Toolkit differ in scope and purpose?

Climate.data.gov is basically a ?technological bridge? designed to make it easier for people to find and use climate-related data. Toolkit.climate.gov is basically a ?cognitive bridge? to help people understand and manage climate-related risks and opportunities, and improve their resilience to extreme events.