Research Data Alliance 6th Plenary

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

Climate Change Data Challenge

Dataset Catalogue

v 13 July 2015

Web: https://rd-alliance.org/plenary-6-climate-change-data-challenge.html

RDA 6th Climate Change Challenge Dataset Catalogue

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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.

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 have now launched the second phase of the challenge - the Call for Enterprise & Academic 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 and academic organisations 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

1. Download the Climate Change Dataset Catalogue and choose your datasets. Please note that you must use at least one of the provided datasets but are free to combine it with other datasets you might have that are relevant for the challenge.
   https://rd-alliance.org/sites/default/files/attachment/RDA_6thPlenary_ClimateDataChallenge_DataSetCatalogue_final.pdf
2. Register[1] for the Climate Change Data Challenge and complete the preliminary information
   https://rd-alliance.org/plenary-6-climate-change-data-challenge-enterprise.html
3. Start working on your winning solution
4. Update your application & submit final solution by 1st September 2015, 17:00 CEST.

Timing

- ✓ 22 June 2015: Enterprise engagement challenge launched & online application open
- ✓ 1 September 2015 @ 17:00 CET: Deadline for solution submission
- ✓ 11 September 2015: Selection of 3 finalists & notification
- ✓ 24 September 2015: Finalists solutions showcased during RDA Plenary 6 meeting, Paris
- ✓ December 2015 during COP 21: 3 Finalists solutions showcased during & announcement of the overall winner

Evaluation Criteria

- ✓ Innovative & novel solution contributing to climate change challenges
- ✓ Range and diversity of datasets used (from both natural and social sciences)
- ✓ Use of RDA technologies and practices (see Outputs)
- ✓ Geographical Balance
- ✓ End user benefits

Further information

For any queries please contact p6-challenge@rd-alliance.org

[1] View the Annex 1 for a copy of the registration form

Code: RDA_ClimateChallenge_epaus_04

Link to the dataset: http://aqsdr1.epa.gov/aqsweb/aqstmp/airdata/download_files.html

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, partiuclate / aerosol (including speciated), volatile organic, and meteorlogical 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 avaible on request; the data series began in 1957 but gets more sparse the earlier in time). The web addres 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/airdata/download_files.html

Code: RDA_ClimateChallenge_cna_05

Link to the dataset: http://landscape.zoology.wisc.edu/Data.html

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_ClimateChallenge_daymet_07

Link to the dataset: http://daymet.ornl.gov/

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.
Publisher: ORNL DAAC http://daac.ornl.gov
Location: http://daymet.ornl.gov
Format: NetCDF/CSV
Size/Volume: 296263.0 MBytes in 245 Files
DOI: http://dx.doi.org/10.3334/ORNLDAAC/1219
Citation:
Thornton, P.E., M.M. Thornton, B.W. Mayer, N. Wilhelmi, Y. Wei, R. Devarakonda, and R.B. Cook. 2014. Daymet: Daily Surface Weather Data on a 1-km Grid for North America, Version 2. Data set. Available on-line [http://daac.ornl.gov] 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
•FTP (ORNL DAAC) - Mosaics = http://daymet.ornl.gov/mosaics.html
•THREDDS Server - Mosaics = http://daymet.ornl.gov/thredds_mosaics.html
•THREDDS Server - Tiles = http://daymet.ornl.gov/thredds_tiles.html

Tools

•Single Pixel Extraction = http://daymet.ornl.gov/singlepixel.html
•Daymet Tile Selection = http://daymet.ornl.gov/gridded.html

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

Name and surname: Suresh Kumar Santhana Vannan

Contact Email: santhanavans@ornl.gov

Contact telephone: 8658095016

Role: Data Center Manager

Organisation: Oak Ridge National Laboratory

Country: United States

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

Code: RDA_ClimateChallenge_ukdale_08

Link to the dataset:
http://data.ukedc.rl.ac.uk/simplebrowse/edc/efficiency/residential/EnergyConsumption/Domestic/UK-DALE-2015

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

Name and surname: Jack Kelly

Contact Email: jack.kelly@imperial.ac.uk

Contact telephone: +44 (0) 77 1385 1815

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

Organisation: Imperial College London

Country: United Kingdom

Web address: http://jack-kelly.com

Code: RDA_ClimateChallenge_inawe_09

Link to the dataset: http://iawe.github.io/

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

Name and surname: Nipun Batra

Contact Email: nipunb@iiitd.ac.in

Contact telephone: +919953733848

Role: PhD Student

Organisation: Indraprastha Institute of Information Technology

Country: India

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

Code: RDA_ClimateChallenge_quanturb_11

Link to the dataset: http://dx.doi.org/10.5061/dryad.pc8m3

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:
Gallotti, R. and Barthelemy, M. The multilayer temporal network of public transport in Great Britain. Sci. Data 2:140056 doi: 10.1038/sdata.2014.56 (2015).

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

Name and surname: Riccardo Gallotti

Contact Email: rgallotti@gmail.com

Contact telephone: 0033661515124

Role: Postdoc

Organisation: CEA-Saclay

Country: France

Web address: www.quanturb.com

Code: RDA_ClimateChallenge_dccd_14

Link to the dataset: http://dendro.dans.knaw.nl/ **- An account must be created to access this dataset**

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/dendrochronology/Pages/Default.aspx.
Detailed user information is available at:
http://vkc.library.uu.nl/vkc/dendrochronology/research/ProjectsWiki/DCCD%20Repository%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

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_ClimateChallenge_surgewatch_15

Links to the dataset:

http://www.surgewatch.org/export - Name, email and type use are required to access datasets

http://dx.doi.org/10/zcm

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 asses 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

Name and surname: Ivan Haigh

Contact Email: I.D.Haigh@soton.ac.uk

Contact telephone: +44(0) 2380 59 6501

Role: Lecturer in Coastal Oceanography

Organisation: University of Southampton

Country: United Kingdom

Web address: http://www.southampton.ac.uk/oes/about/staff/idh1g11.page

Code: RDA_ClimateChallenge_gidmaps_16

Link to the dataset: http://amir.eng.uci.edu/data.php - A request by email is needed to access the datasets

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:

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

Name and surname: Amir Agha Kouchak

Contact Email: amir.a@uci.edu

Contact telephone +9498248824

Role: Assistant Professor

Organisation: University of California, Irvine

Country: United States

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

Code: RDA_ClimateChallenge_cliwoc_17

Link to the dataset: http://www.knmi.nl/cliwoc/cliwocdata.htm

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/?identifier=urn:nbn: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 Amsterdam; Gemeente Archief Schiedam; Gemeente Archief Dordrecht; Noordelijk Scheepvaartmuseum Groningen; Museum Naturalis, Leiden; Utrechts Archief; Zeeuws Archief, Middelburg, British Maritime Museum; Museo Naval Madrid.
Creator: F.B. Koek, Royal Netherlands Meteorological Institute
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 Galciologia y Nivologia; 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;
- CLIWOC21.zip: contains 'CLIWOC21.txt' file, the core version of the CLIWOC database.
CLIWOC homepage available at: http://www.knmi.nl/cliwoc/

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

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_ClimateChallenge_nlwindegy_18

Link to the dataset: http://www.persistent-identifier.nl/?identifier=urn:nbn:nl:ui:13-1h6-505 - **An account must be created to access this dataset**

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/?identifier=urn:nbn: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

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_ClimateChallenge_nlfuturegy_19

Link to the dataset: http://www.persistent-identifier.nl/?identifier=urn:nbn:nl:ui:13-bt5-021 - **An account must be created to access this dataset**

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
Location: http://www.persistent-identifier.nl/?identifier=urn:nbn:nl:ui:13-bt5-021

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_ClimateChallenge_aubstats_20

Link to the dataset:

VicRoads dataset: https://www.data.vic.gov.au/data/dataset/arterial-road-traffic-volumes

Energex datasets: https://www.energex.com.au/about-us/corporate-responsibility/connecting-with-you/data-to-share

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
Australian Bureau of Statistics
http://www.abs.gov.au/websitedbs/D3310114.nsf/home/Home?opendocument

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/dataset/arterial-road-traffic-volumes

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

The ABS also have Energy data at a Macro level:
http://www.abs.gov.au/ausstats/abs@.nsf/ViewContent?readform&view=productsbytopic&Action=Expand&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

Contact Email: serrynle@unimelb.edu.au

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

Link to the dataset: Specific Terms & Conditions (to be published shortly) need to be signed in order to access this dataset – Contact p6-challenge@rd-alliance.org for more info

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

Country: France

Web address: -

Code: RDA_ClimateChallenge_eeacorine_22

Link to the dataset: http://www.eea.europa.eu/data-and-maps/data/clc-2006-vector-data-version-3

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 avilable following this link :http://www.eea.europa.eu/data-and-maps/data/clc-2006-vector-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

Contact telephone: +33 1 40 41 11 86

Role: Project Manager

Organisation: Cap Digital

Country: France

Web address: www.capdigital.com

Code: RDA_ClimateChallenge_eugreengas_24

Link to the dataset: https://open-data.europa.eu/en/data/dataset/OobhYSBitAoaoA1a9skCcg

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 from1985

Data sets can be accessed following this link https://open-data.europa.eu/en/data/dataset/OobhYSBitAoaoA1a9skCcg

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: www.capdigital.com

Code: RDA_ClimateChallenge_uscdinasa_26

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

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-data-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

Web address: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_27

Link to the dataset: http://catalog.data.gov/dataset/distribution-and-production-of-oil-and-gas-wells-by-state

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/petrosystem/petrosysog.html

http://catalog.data.gov/dataset/distribution-and-production-of-oil-and-gas-wells-by-state

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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_28

Link to the dataset: http://catalog.data.gov/dataset/electricity-data-and-statistics-application-programming-interface

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/electricity-data-and-statistics-application-programming-interface

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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_29

Link to the dataset: http://catalog.data.gov/dataset/energy-analysis-projections

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-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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_30

Link to the dataset: http://catalog.data.gov/dataset/military-installations-ranges-and-training-areas

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/opengov/installations_ranges.zip

http://catalog.data.gov/dataset/military-installations-ranges-and-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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_31

Link to the dataset: http://catalog.data.gov/dataset/monthly-hydropower-generation-data-by-facility-us-bureau-of-reclamation

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/monthly-hydropower-generation-data-by-facility-us-bureau-of-reclamation

Energy Resources, Energy Supply, Energy Conversion, Infrastructure, Renewable Energy, Hydropower

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

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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_32

Link to the dataset: http://catalog.data.gov/dataset/national-solar-radiation-database-nsrdb-solaranywhere-10-km-model-output-for-1989-to-2009

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'ôs 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/land-based-station-data/land-based-datasets/solar-radiation

http://catalog.data.gov/dataset/national-solar-radiation-database-nsrdb-solaranywhere-10-km-model-output-for-1989-to-2009

Energy Infrastructure Energy Resources, Energy Supply, Renewable Energy, Solar Energy

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

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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_33

Link to the dataset: http://catalog.data.gov/dataset/natural-gas-data-and-statistics

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/natural-gas-data-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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_34

Link to the dataset: http://catalog.data.gov/dataset/nuclear-uranium-data-and-statistics

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 Statisitics

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

http://catalog.data.gov/dataset/nuclear-uranium-data-and-statistics

Energy Infrastructure Energy Resources, Energy Supply, Energy Demand, Energy Conversion, Infrastructure, Nuclear 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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_35

Link to the dataset: http://catalog.data.gov/dataset/residential-energy-consumption-survey-recs-files-energy-consumption-2009

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 http://catalog.data.gov/dataset/residential-energy-consumption-survey-recs-files-energy-consumption-2009

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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_36

Link to the dataset: http://catalog.data.gov/dataset/state-energy-data-system-seds-application-programming-interface-api – **Data available through an API only**

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/state-energy-data-system-seds-application-programming-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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_37

Link to the dataset: http://catalog.data.gov/dataset/surface-meteorology-and-solar-energy

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

http://catalog.data.gov/dataset/surface-meteorology-and-solar-energy

Energy Infrastructure Energy Resources, Energy Supply, Renewable Energy, Solar Energy

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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_38

Link to the dataset: http://catalog.data.gov/dataset/total-energy-data-and-statistics

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.

http://catalog.data.gov/dataset/total-energy-data-and-statistics

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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_39

Link to the dataset: http://catalog.data.gov/dataset/us-commercial-nuclear-power-reactors

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/operating/list-power-reactor-units.html

http://catalog.data.gov/dataset/us-commercial-nuclear-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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_40

Link to the dataset: http://catalog.data.gov/dataset/u-s-crude-oil-natural-gas-and-natural-gas-liquids-reserves-2011

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-crude-oil-natural-gas-and-natural-gas-liquids-reserves-2011

Energy Infrastructure Energy Resources, Oil and 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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_41

Link to the dataset: http://catalog.data.gov/dataset/usgs-national-structures-dataset-nsd-downloadable-data-collection-national-geospatial-data-ass

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/usgs-national-structures-dataset-nsd-downloadable-data-collection-national-geospatial-data-ass

http://catalog.data.gov/dataset/usgs-national-structures-dataset-nsd-downloadable-data-collection-national-geospatial-data-ass

Energy Infrastructure Buildings U.S. Geologic Survey

U.S. Geological Survey, National Geospatial Technical Operations Center http://www.usgs.gov/ask/

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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_42

Link to the dataset: http://catalog.data.gov/dataset/wind-energy-resource-data-ad844

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-energy-resource-data-ad844

Energy Infrastructure Energy Resources, Energy Supply, Renewable Energy, Wind Energy

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
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- 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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_43

Link to the dataset: http://catalog.data.gov/dataset/access-to-jobs-and-workers-via-transit-download

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/access-to-jobs-and-workers-via-transit-download
http://catalog.data.gov/dataset/access-to-jobs-and-workers-via-transit-download
Transportation Network
Ted Cochin cochin.ted@epa.gov
U.S. Environmental Protection Agency, Office of Sustainable Communities (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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_44

Link to the dataset: http://catalog.data.gov/dataset/amtrak-rail-lines-national

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/amtrak-rail-lines-national

http://catalog.data.gov/dataset/amtrak-rail-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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_45

Link to the dataset: http://catalog.data.gov/dataset/amtrak-rail-stations-national

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/amtrak-rail-stations-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

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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_46

Link to the dataset: http://catalog.data.gov/dataset/border-crossings-national

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.- Mexcian 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/border-crossings-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
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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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_47

Link to the dataset: http://catalog.data.gov/dataset/dams-national

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.
http://catalog.data.gov/dataset/dams-national
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

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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_49

Link to the dataset: http://catalog.data.gov/dataset/fema-hazus-critical-facilities-for-coastal-geographies

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/SocioEconomic/CriticalFacilities/CriticalFacilities_DataDescription.pdf.
http://catalog.data.gov/dataset/fema-hazus-critical-facilities-for-coastal-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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_50

Link to the dataset: http://catalog.data.gov/dataset/freight-analysis-framework-network-national

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.

http://catalog.data.gov/dataset/freight-analysis-framework-network-national

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

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_51

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

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

Country: United States

Web address: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_52

Link to the dataset: http://catalog.data.gov/dataset/highway-performance-monitoring-system-hpms-national

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.

http://catalog.data.gov/dataset/highway-performance-monitoring-system-hpms-national

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
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- 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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_53

Link to the dataset: http://catalog.data.gov/dataset/national-census-of-ferry-operators-data-query-tool

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/national-census-of-ferry-operators-data-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
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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_54

Link to the dataset: http://catalog.data.gov/dataset/national-highway-planning-network-nhpn

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 Â±80 meters.

http://catalog.data.gov/dataset/national-highway-planning-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
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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_55

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

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-public-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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_56

Link to the dataset: http://catalog.data.gov/dataset/railroad-crossings-national

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/railroad-crossings-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
Contact telephone: 828-450-0282

Role: US Climate Data Initiative Project Manager

Organisation: NASA GSFC

Country: United States

Web address: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_57

Link to the dataset: http://catalog.data.gov/dataset/tigerweb-2010

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
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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_58

Link to the dataset: http://catalog.data.gov/dataset/travel-monitoring-analysis-system-national

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.
http://catalog.data.gov/dataset/travel-monitoring-analysis-system-national
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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_59

Link to the dataset: http://catalog.data.gov/dataset/national-bridge-inventory-national-geospatial-data-asset-ngda-bridges

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/national-bridge-inventory-national-geospatial-data-asset-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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_60

Link to the dataset: http://catalog.data.gov/dataset/national-highway-planning-network-nhpn

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/national-highway-planning-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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_61

Link to the dataset: http://catalog.data.gov/dataset/usgs-national-transportation-dataset-ntd-downloadable-data-collectionde7d2

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/usgs-national-transportation-dataset-ntd-downloadable-data-collectionde7d2 http://catalog.data.gov/dataset/usgs-national-transportation-dataset-ntd-downloadable-data-collectionde7d2

Energy Infrastructure Transportation Infrastructure, Roads, Railroads, Airports

U.S. Geological Survey, National Geospatial Technical Operations Center
http://www.usgs.gov/ask/

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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_62

Link to the dataset: http://catalog.data.gov/dataset/usgs-small-scale-dataset-1-1000000-scale-railroads-of-the-united-states-201403-shapefile

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/item/535fe577e4b078dca33ae7ca

http://catalog.data.gov/dataset/usgs-small-scale-dataset-1-1000000-scale-railroads-of-the-united-states-201403-shapefile

Transportation Infrastructure, Railroads
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

Country: United States

Web address: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_63

Link to the dataset: http://catalog.data.gov/dataset/usgs-small-scale-dataset-major-roads-of-the-united-states-199911-shapefile

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/item/get/535fe578e4b078dca33ae7e2

http://catalog.data.gov/dataset/usgs-small-scale-dataset-major-roads-of-the-united-states-199911-shapefile

U.S. Geologic Survey

Steve Kambly 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: data.gov/climate

Code: RDA_ClimateChallenge_uscdinasa_64

Link to the dataset: http://catalog.data.gov/dataset/usgs-small-scale-dataset-railroad-and-bus-passenger-stations-of-the-united-states-201207-fileg

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/item/535fe574e4b078dca33ae6b2

http://catalog.data.gov/dataset/usgs-small-scale-dataset-railroad-and-bus-passenger-stations-of-the-united-states-201207-fileg

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

Country: United States

Web address: data.gov/climate

ANNEX 1

Plenary 6 Climate Change Data Challenge - Call for Enterprise Engagement – registration form

Name *

Surname *

Contact Email *

Contact telephone *

Role *

Organisation *

Country * Italy

Web address *

Describe the possible application or solution you are developing and how does it constitute a challenge goal *

How will your solution involve the proposed datasets? *

Which are the datasets integrated in your solution demonstration? Select from the dropdown list. * - Select -

Please download the **Climate Change Challenge Dataset Catalogue** for the dataset descriptions and reference codes. Press CTRL on your keyboard for a multiple selection.

What is the expected impact? *

Submit and Continue