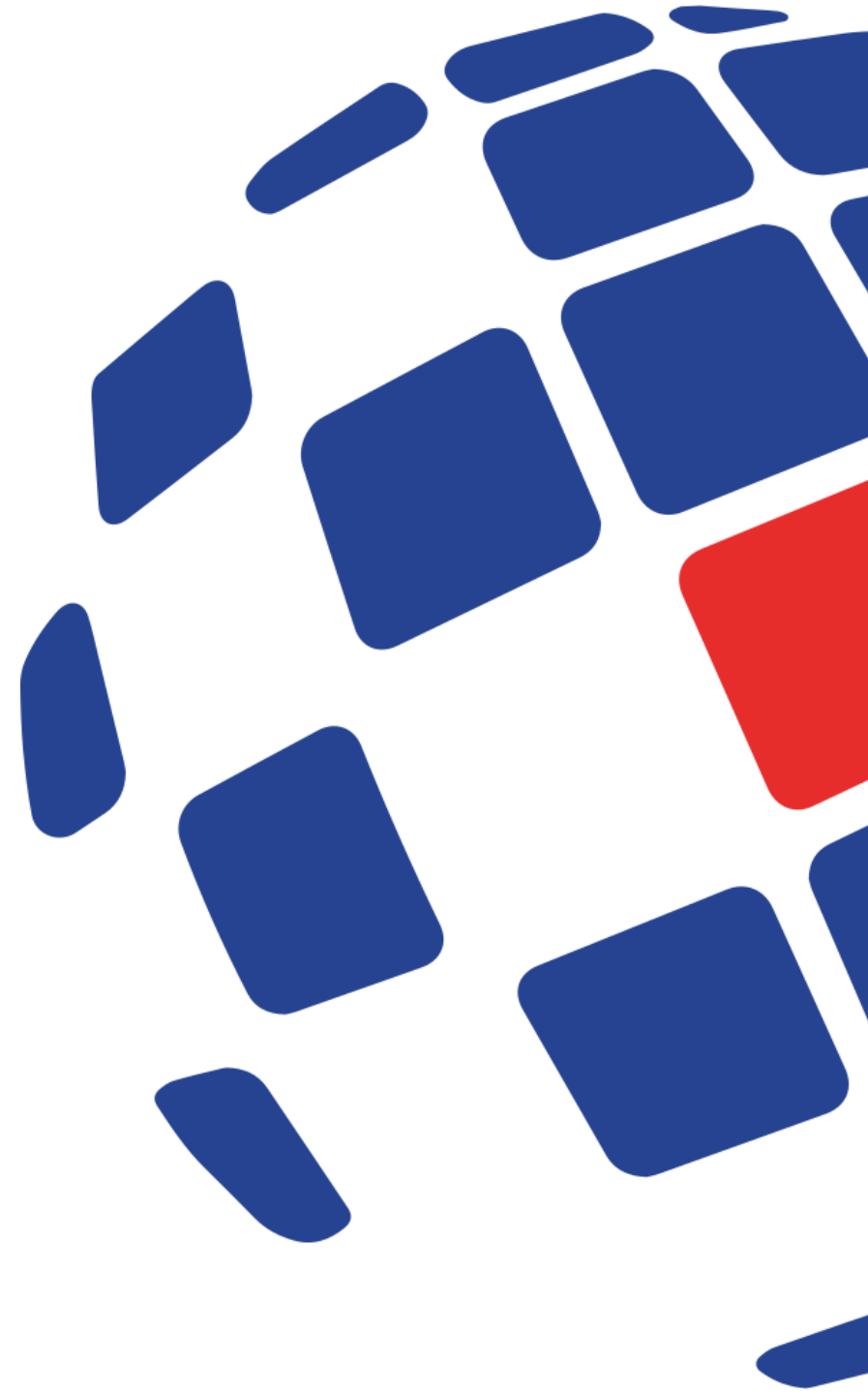




October 2023 - Saint Kitts and Nevis

Where does data come from?



Introduction

- GIS data can be expensive
- Increasingly free and open source data available
- Some sources might be closer than you think
- Some source are included just for your future reference
- What data can you use at work?
- We will look at example of both Vector and Raster data



Data

Primary Data

- Data collected directly in digital format for GIS use
- E.g. GPS, survey data, remote sensing images
- Factual and original

Secondary Data

- Data either digital or analog, originally captured in another format
- Conversion is required from the original format to a GIS format, e.g. scanning, digitizing
- Analysis and interpretation of primary data

Humanitarian Data Exchange

- HDX – data.humdata.org
- 18,000 data sets over 1,400 sources
- UN's Centre for Humanitarian Data

The screenshot shows the HDX website interface for the dataset 'Saint Kitts and Nevis - Subnational Administrative Boundaries'. The page features a map of the islands, a 'Downloads' chart, and a 'Data and Resources' section with a download button for 'kna_admgz_2020.xlsx'. A 'FIND DATA' overlay is visible in the bottom left corner of the screenshot, showing search statistics: 18,253 DATASETS, 253 LOCATIONS, and 1,420 SOURCES.



OpenStreetMap (OSM)

- Collaborative project for free editable map of the world
- Settlements and populated areas
- Transport and road networks
- download.geofabrik.de

GEOFABRIK  *downloads*

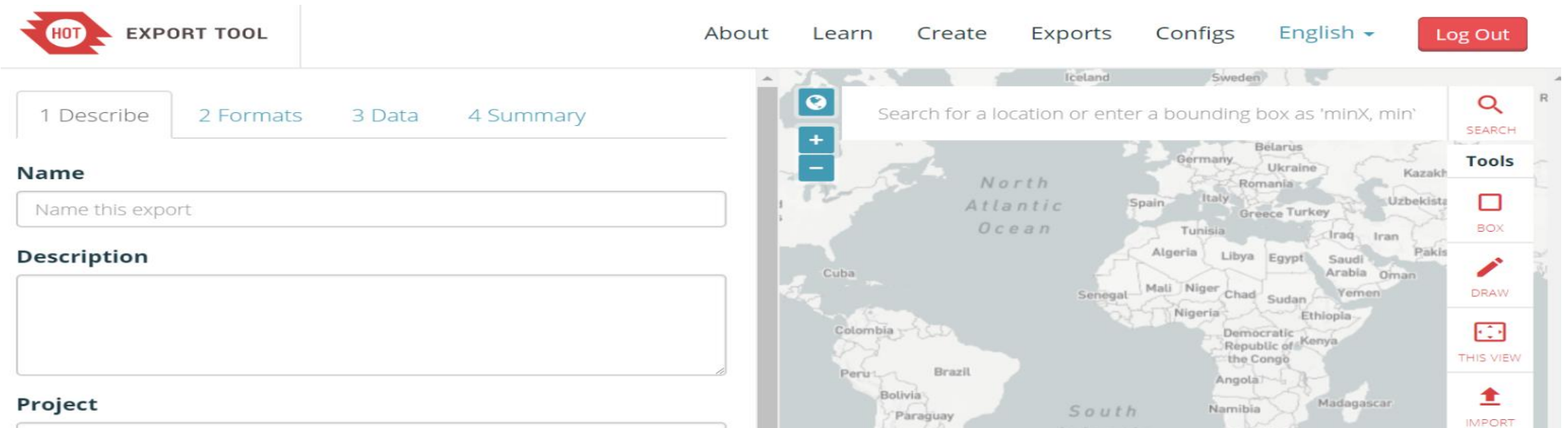
OpenStreetMap Data Extracts

Welcome to Geofabrik's free download server. This server has data extracts from the [OpenStreetMap project](#) which are normally updated every day. Select your continent and then your country of interest from the list below. (If you have been directed to this page from elsewhere and are not familiar with OpenStreetMap, we highly recommend that you read up on OSM before you use the data.) This download service is offered for free by Geofabrik GmbH.



HOT - Humanitarian OSM Team

- OSM Humanitarian team - export.hotosm.org
- Specialized areas and topics
- Requires registration



The screenshot shows the HOT Export Tool interface. At the top left is the HOT logo and 'EXPORT TOOL' text. Navigation links include 'About', 'Learn', 'Create', 'Exports', 'Configs', 'English' (with a dropdown arrow), and a red 'Log Out' button. Below the navigation is a progress bar with four steps: '1 Describe', '2 Formats', '3 Data', and '4 Summary'. The 'Describe' step is active. The form includes a 'Name' field with the placeholder 'Name this export', a 'Description' text area, and a 'Project' field. On the right, a map of the world is displayed with a search bar at the top that says 'Search for a location or enter a bounding box as 'minX, minY''. A 'Tools' sidebar on the right contains icons for 'SEARCH', 'BOX', 'DRAW', 'THIS VIEW', and 'IMPORT'.

GADM

- GADM - Global Administrative Boundaries
- Preferable to use borders from HDX, if available
- gadm.org

GADM Maps Data About

Download GADM data (version 4.1)

Country

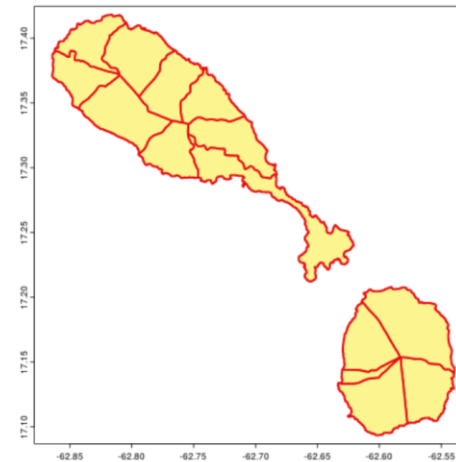
Saint Kitts and Nevis

Geopackage

Shapefile

GeoJSON: [level-0](#), [level1](#)

KMZ: [level-0](#), [level1](#)



Natural Earth

- Contains both vector and raster mapping data
- Most useful scale is 1:10M
- naturalearthdata.com



Large scale data, 1:10m



[Cultural](#) [Physical](#) [Raster](#)

Downloads

Data themes are available in three levels of detail. For each scale, themes are listed on Cultural, Physical, and Raster category pages.

Stay up to date! Know when a new version of Natural Earth is released by subscribing to our [announcement list](#).

Overwhelmed? The [Natural Earth quick start kit](#) (165 mb) provides a small sample of Natural Earth themes styled in an ArcMap .MXD document and in a QGIS document. Download all vector themes as [SHP](#) (279 mb) or as [SQLite](#) (222 mb).

Natural Earth is the creation of many [volunteers](#) and is supported by [NACIS](#). It is free for use in any type of project. [Full Terms of Use](#) »

Large scale data, 1:10m



Medium scale data, 1:50m



Small scale data, 1:110m



WorldPop

- Geospatial analysis to produce estimates of population
- Gridded raster population density layer
- <https://youtu.be/A1AvguSj41Q?t=1217>



The image shows the top portion of the WorldPop website. At the top left is the 'world pop' logo with three colored icons (green, purple, orange) representing different regions. To the right are navigation links: 'ABOUT OUR WORK', 'NEWS', 'DATA', and 'CONTACT'. A search bar with a 'Search' button and a globe icon is on the right. Below the navigation is a large banner with a world map background showing population density. The text on the banner reads: 'WorldPop: High resolution age-structured population distribution maps'.

SRTM

- Shuttle Radar Topography Mission (NASA)
- 30 meters resolution - <https://dwtkns.com/srtm30m/>
- 90m – <https://cgiarcsi.community/data/srtm-90m-digital-elevation-database-v4-1/>



ABOUT ▾ BLOG DATA ▾ SHOWCASE EVENT ▾ SHAREPOINT



SRTM 90m Digital Elevation

30-Meter SRTM Tile Downloader

This interface attempts to ease the pain of downloading 30-meter resolution elevation data from the Shuttle Radar Topography Mission.

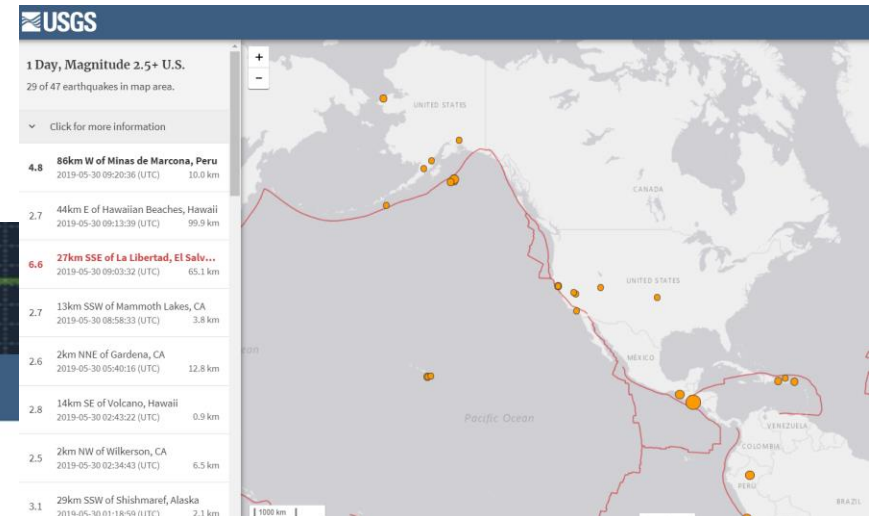
Click on **yellow tiles** to download their corresponding data.

Tiles come as zipped SRTMHGT files at 1-arcsecond resolution (3601x3601 pixels) in a latitude/longitude projection (EPSG:4326), downloaded from [NASA servers](#).

For the older and coarser 90-meter data, try [this downloader](#). For manual bulk downloads, a GeoJSON indexing DEM file names [lives here](#), use this base URL.

By Derek Watkins. Built with Mapbox GLJS. Tiles from CartoDB. Questions or comments to [dwtkns at gmail](mailto:dwtkns@gmail.com).

- Earthquakes: United States Geological Survey - usgs.gov
- earthquake.usgs.gov/earthquakes/
- earthquake.usgs.gov/earthquakes/search/



← Earthquakes

Search Earthquake Catalog

Latest Earthquakes

Earthquake Lists, Maps & Statistics

Search Earthquake Catalog

Real-time Feeds & Notifications

Search results are limited to 20,000 events. To get URL for a search, click the search button, then copy the URL from the browser address bar.

- [Help](#)
- [ANSS Comprehensive Earthquake Catalog \(ComCat\) Documentation](#)
- [Developer's Corner - bulk access to catalog, tools for obtaining specific products](#)
- [Significant Earthquakes Archive](#)


HydroSHEDS

- Rivers - HydroSheds: United States Geological Survey
- hydrosheds.org

USGS
science for a changing world

HydroSHEDS

Data Produced by:

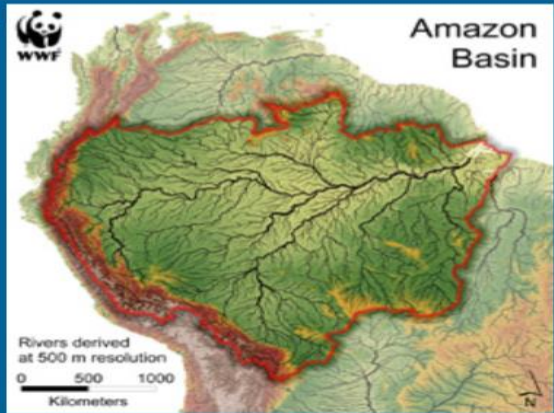


Home
Overview
Data Sources
Data Set Development
Quality Assessment
Data Availability
Data Formats

HydroSHEDS

(**Hydro**logical data and maps based on **SH**uttle **E**levation **D**erivatives at multiple **S**cales)

HydroSHEDS is a mapping product that provides hydrographic information for regional and global-scale applications in a consistent format. It offers a suite of geo-referenced data sets (vector and raster) at various scales, including river networks, watershed boundaries, drainage directions, and flow accumulations. HydroSHEDS is based on high-resolution elevation data obtained during a Space Shuttle flight for NASA's Shuttle Radar Topography Mission (SRTM).

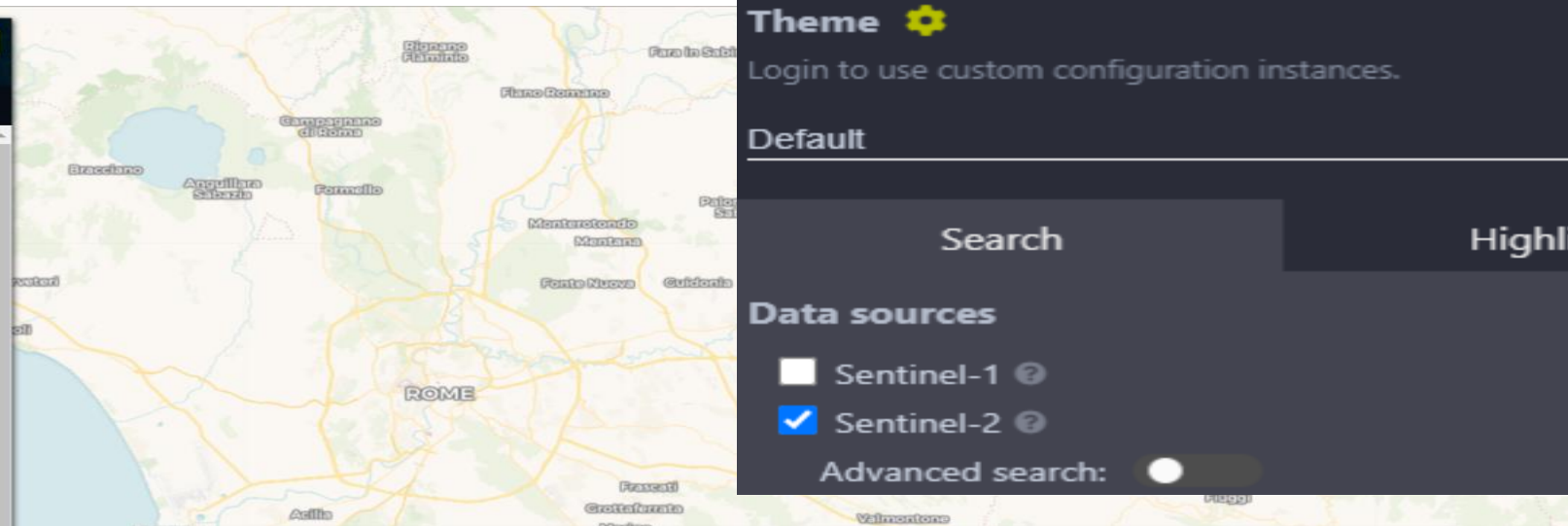
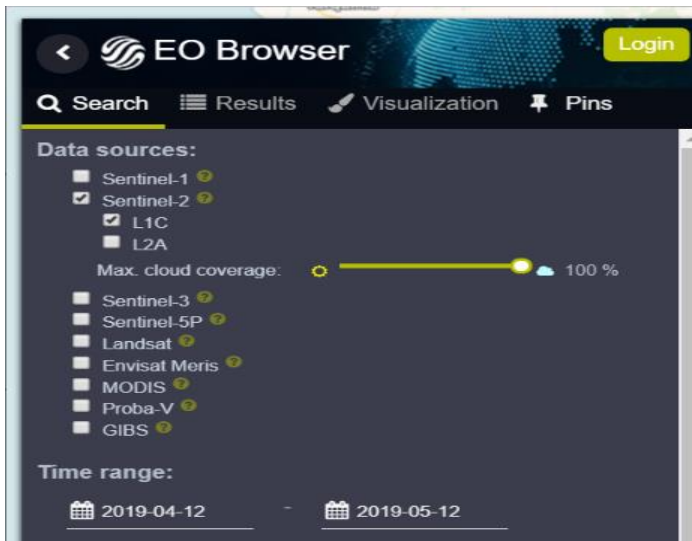
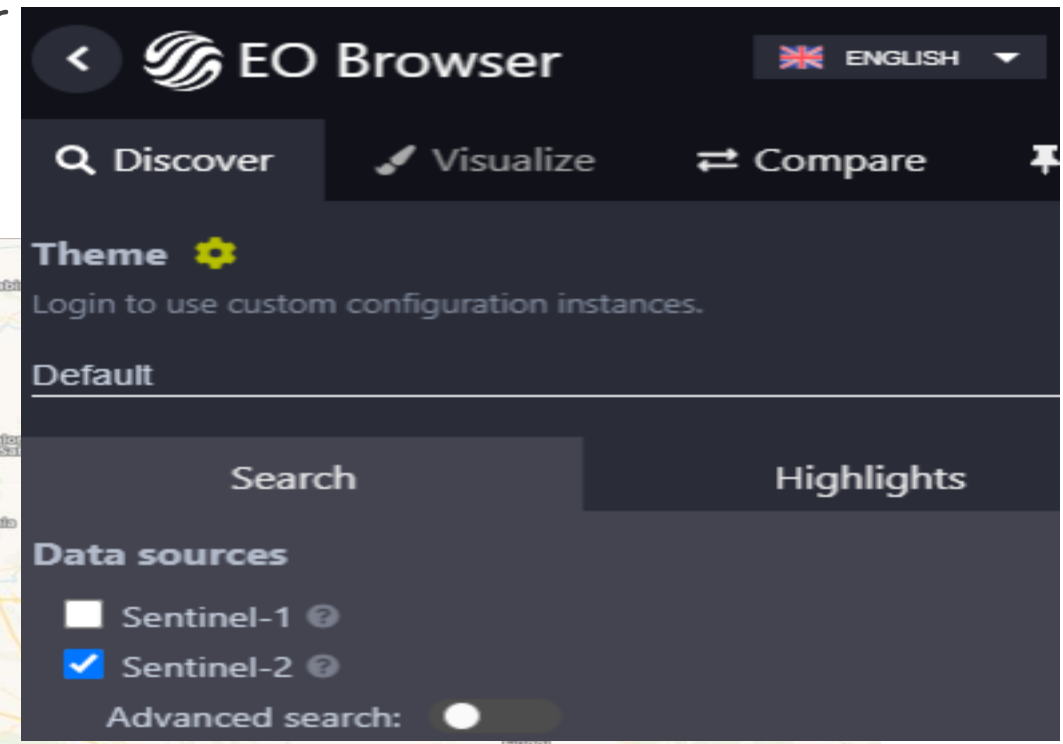


Amazon Basin

Rivers derived at 500 m resolution
0 500 1000
Kilometers

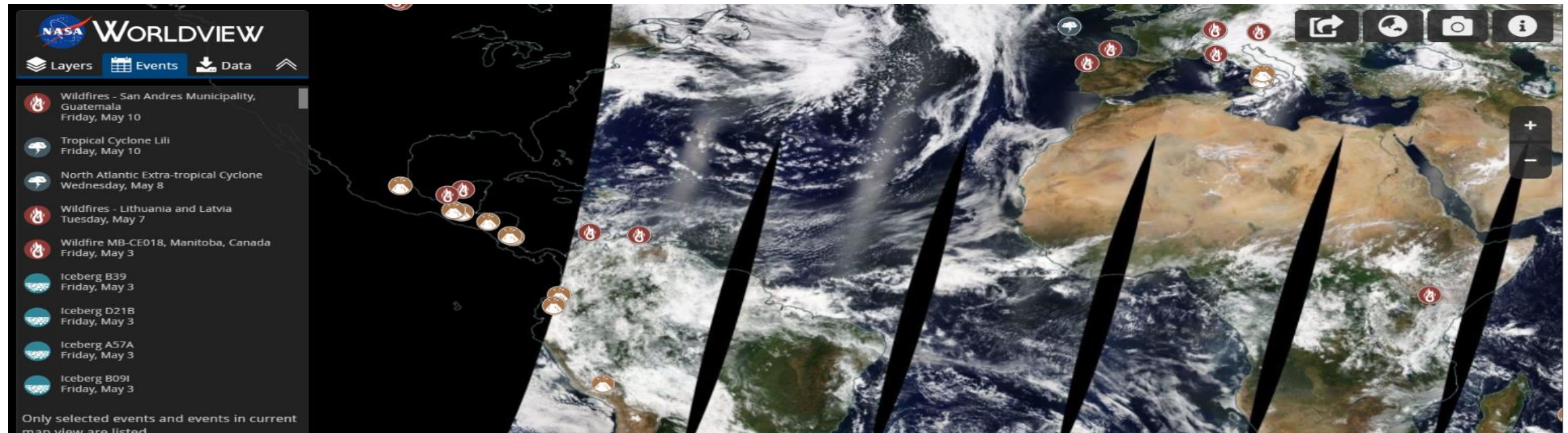
EO Browser

- Sentinel and other satellite imagery
- Sentinel useful source of flood extent data
- <https://apps.sentinel-hub.com/eo-browser>



EOSDIS Worldview

- NASA's Earth Observing System Data and Information System
- <https://worldview.earthdata.nasa.gov>
- <https://earthdata.nasa.gov/worldview>



USGS EarthExplorer

- EarthExplorer: United States Geological Survey (USGS)
- <https://earthexplorer.usgs.gov>

The screenshot shows the USGS EarthExplorer website. At the top left is the USGS logo with the tagline "science for a changing world". Below it is the text "EarthExplorer - Home" and a "Page Expires In 1:59:39" timer. A navigation bar includes "Home", "Login", "Register", "RSS", and "Feedback". The main content area is divided into "Search Criteria" and "Search Criteria Summary (Show)". The "Search Criteria" section has four tabs: "Address/Place", "Path/Row", "Feature", and "Circle". Under "Address/Place", there is a text input field and "Show" and "Clear" buttons. Below that are tabs for "Coordinates", "Predefined Area", "Shapefile", and "KML". Under "Coordinates", there are "Degree/Minute/Second" and "Decimal" options, a message "No coordinates selected.", and "Use Map", "Add Coordinate", and "Clear Coordinates" buttons. At the bottom of the search criteria are "Date Range" and "Result Options" tabs, with "Search from:" and "to:" date pickers and a "Search months:" dropdown menu. The "Search Criteria Summary" section shows a map of North America with "Map" and "Satellite" view options, and "Clear Criteria" button. The map also has "coordinates", "Options", and "Overlays" buttons.

- National Hurricane Centre
- <https://www.nhc.noaa.gov/>

NATIONAL HURRICANE CENTER and CENTRAL PACIFIC HURRICANE CENTER
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

ANALYSES & FORECASTS ▾ DATA & TOOLS ▾ EDUCATIONAL RESOURCES ▾ ARCHIVES ▾ ABOUT ▾ SEARCH ▾

news Last update Thu, 5 Oct 2023 15:29:18 UTC

[News for the Atlantic on TS Philippe](#)
[News for the Eastern Pacific on TS Lidia](#)
[Key effect for the Atlantic, Caribbean/SW Atlantic and Eastern Pacific](#)
[Tropical Storm Philippe \(en Español: Mensajes Claves\)](#)

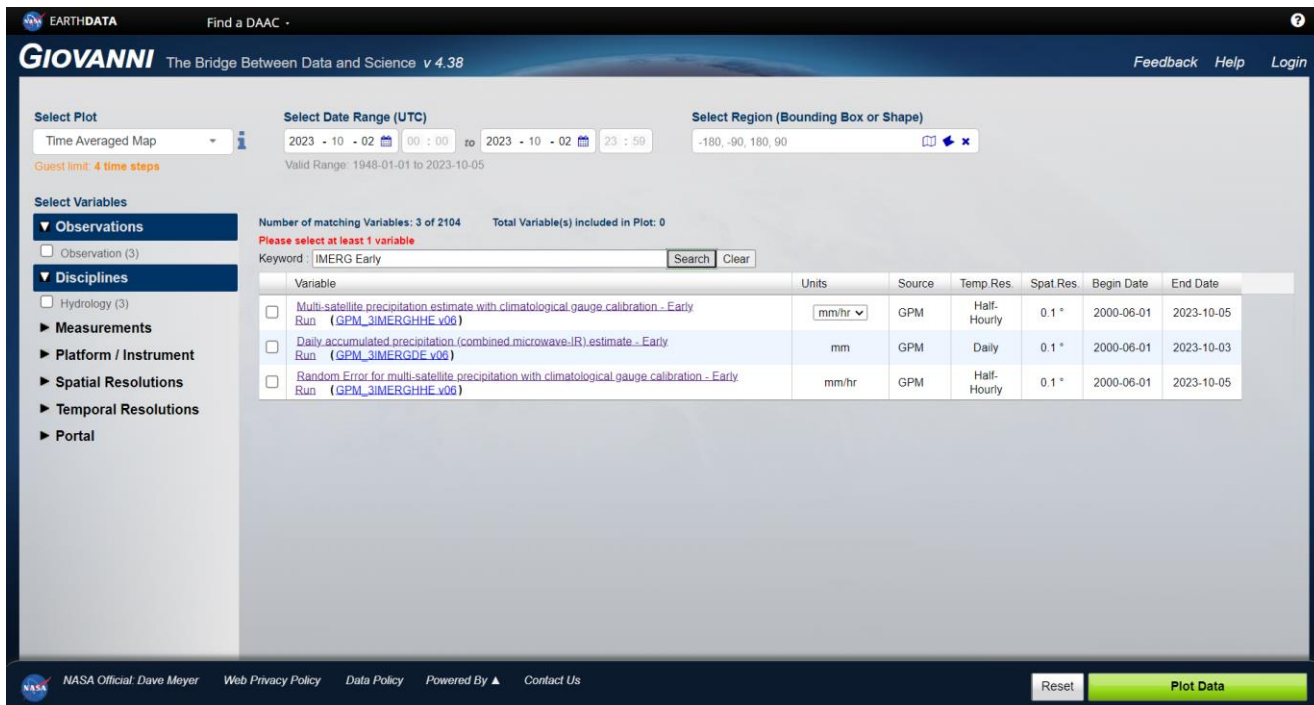
[Atlantic](#) | [Eastern Pacific](#) | [Atlantic](#)

PHILIPPE

As of Thu, 05 Oct 2023 15:29:18 UTC				
	Atlantic	Eastern Pacific	Central Pacific	Archive
Advisory Forecast Track, Cone of Uncertainty, and Watches/Warnings[‡] <i>Sample Shapefiles: Ima Example Sample KMZ: Cone Track Warnings</i>	TS Philippe: [shp] KMZ: [Cone] [Track] [Warnings]	TS Lidia: [shp] KMZ: [Cone] [Track] [Warnings]	No current data	<input type="text" value="Year"/>
Advisory Wind Field and Forecast Wind Radii[‡] <i>Sample Shapefiles: Ima Example Sample KMZ: Initial Radii Forecast Radii</i>	TS Philippe: [shp] KMZ: [Initial Radii] [Forecast Radii]	TS Lidia: [shp] KMZ: [Initial Radii] [Forecast Radii]	No current data	<input type="text" value="Year"/>
Preliminary Best Track[‡] <i>Note: Final Best Tracks available here Sample Shapefiles: Ima Example Sample KMZ: Past Track</i>	TS Philippe: [shp] [kmz]	TS Lidia: [shp] [kmz]	No current data	<input type="text" value="Year"/>
Arrival Time of Tropical Storm Force Winds <i>Sample KMZ: Earliest Reasonable Most Likely</i>	TS Philippe: KMZ: [Earliest Reasonable] [Most Likely] TS Lidia: KMZ: [Earliest Reasonable] [Most Likely]			<input type="text" value="Year"/>
Graphical Tropical Weather Outlook[†] <i>Sample Shapefile</i>	Outlook areas (if any): [shp] KMZ: [Atlantic] [East Pacific] [Central Pacific]		Atlantic, E Pacific, C Pacific	
Wind Speed Probabilities^{‡+} <i>Sample Shapefiles: Polygons Points Sample KMZ: 34 kt 50 kt 64 kt</i>	Points: [shp] Polygons: [shp] - kmz [34kt] [50kt] [64kt] GRIB1 and GRIB2 data: via HTTPS via FTP			<input type="text" value="Year"/>
Probabilistic Storm Surge^{‡+} <i>metadata sample</i>	No current data GRIB2: via FTP	N/A	N/A	<input type="text" value="Year"/>
Potential Storm Surge Flooding (Inundation) <i>metadata sample download instructions interactive example with sample downloads</i>	No current data	N/A	N/A	<input type="text" value="Year"/>
Storm Surge Watch/Warning <i>Sample KML</i>	No current data	N/A	N/A	<input type="text" value="Year"/>
Peak Storm Surge <i>Sample KML</i>	No current data	N/A	N/A	<input type="text" value="Year"/>
Breakpoints[‡] <i>metadata sample (updated for 2019)</i>	2023 update: [shp] [kmz] Interactive Map			View
Storm Surge Communication Points[‡] <i>metadata sample (updated for 2019)</i>	2023 update: [shp] [kmz] Interactive Map			View
GIS Data RSS Feed <i>description</i>	Atlantic GIS	Eastern Pacific GIS	Central Pacific GIS	N/A
Active KML Feed (Google Earth) <i>description</i>	All Tropical Cyclones: [kmz] [kml]			

Giovanni

- World Precipitation data
- <https://www.nhc.noaa.gov/>



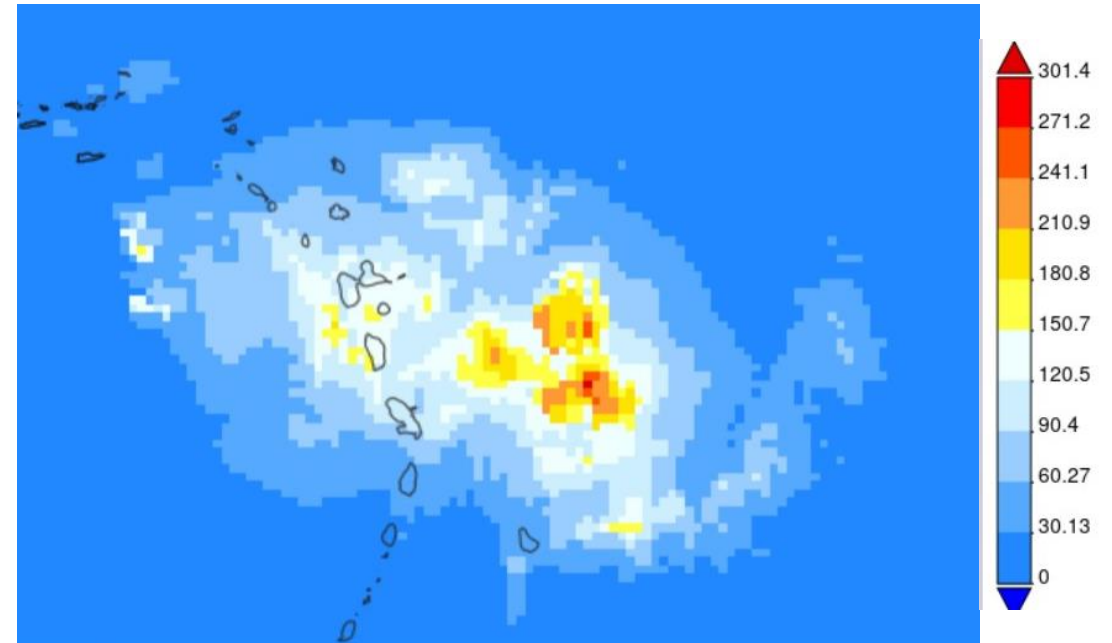
EARTHDATA Find a DAAC - **GIOVANNI** The Bridge Between Data and Science v 4.38 [Feedback](#) [Help](#) [Login](#)

Select Plot: Time Averaged Map
Select Date Range (UTC): 2023 - 10 - 02 00 : 00 to 2023 - 10 - 02 23 : 59
Valid Range: 1948-01-01 to 2023-10-05
Select Region (Bounding Box or Shape): -180, -90, 180, 90

Select Variables: Number of matching Variables: 3 of 2104 Total Variable(s) included in Plot: 0
Please select at least 1 variable
Keyword: IMERG Early

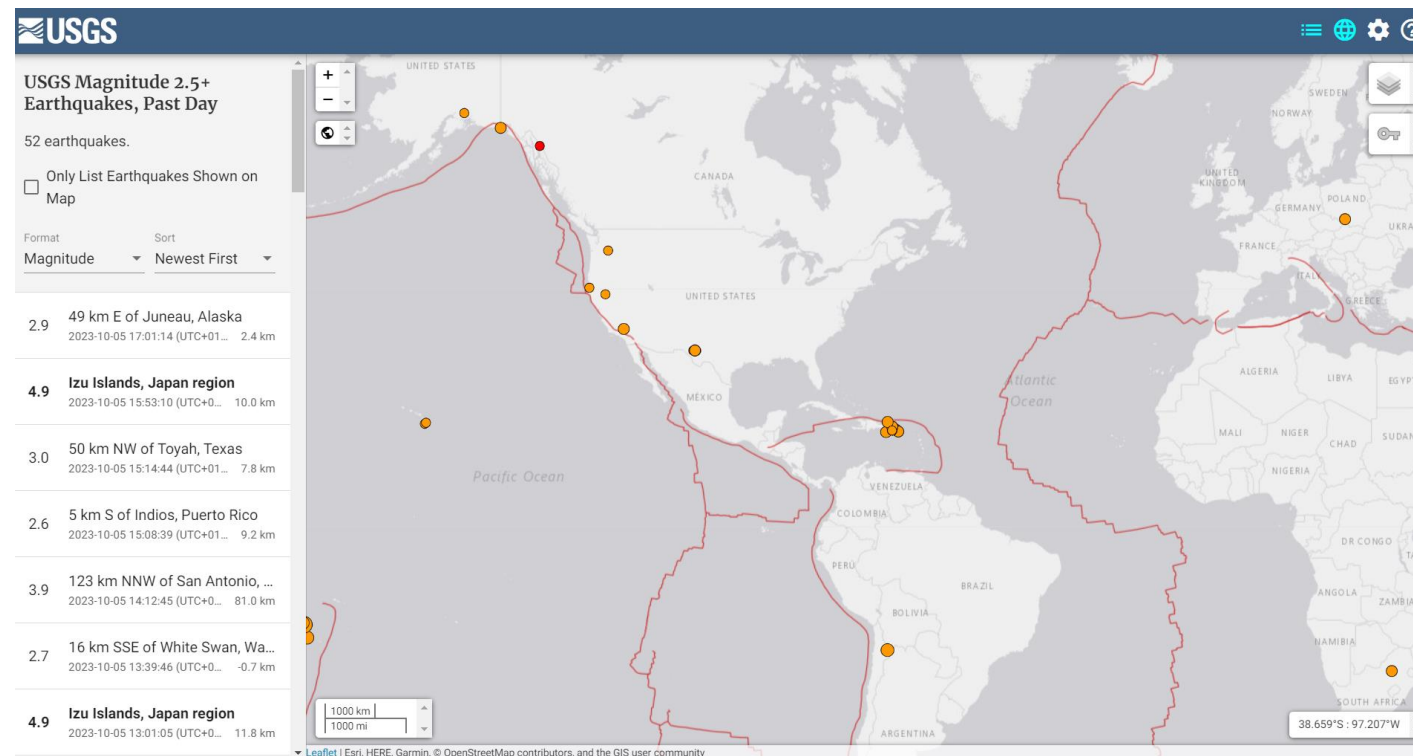
Variable	Units	Source	Temp Res	Spat Res	Begin Date	End Date
<input type="checkbox"/> Multi-satellite precipitation estimate with climatological gauge calibration - Early Run (GPM_3IMERGHHE.v06)	mm/hr	GPM	Half-Hourly	0.1°	2000-06-01	2023-10-05
<input type="checkbox"/> Daily accumulated precipitation (combined microwave-IR) estimate - Early Run (GPM_3IMERGDE.v06)	mm	GPM	Daily	0.1°	2000-06-01	2023-10-03
<input type="checkbox"/> Random Error for multi-satellite precipitation with climatological gauge calibration - Early Run (GPM_3IMERGHHE.v06)	mm/hr	GPM	Half-Hourly	0.1°	2000-06-01	2023-10-05

Reset Plot Data



Earthquake USGS

- USGS Earthquake data (worldwide cover)
- <https://earthquake.usgs.gov/earthquake/map>



GEOCRIS

CDEMA

<https://geocris2.cdema.org/features/collections.html>

[kna.kna_bnd_adm0_polygon](#) [JSON](#) [View](#)

Data for table *kna.kna_bnd_adm0_polygon*

[kna.kna_bnd_adm1_polygon](#) [JSON](#) [View](#)

Data for table *kna.kna_bnd_adm1_polygon*

[kna.kna_hlt_clinics_point](#) [JSON](#) [View](#)

Data for table *kna.kna_hlt_clinics_point*

[kna.kna_hlt_hospitals_point](#) [JSON](#) [View](#)

Data for table *kna.kna_hlt_hospitals_point*

[kna.kna_loc_fire_stations_point](#) [JSON](#) [View](#)

Data for table *kna.kna_loc_fire_stations_point*

[kna.kna_loc_police_stations_point](#) [JSON](#) [View](#)

Data for table *kna.kna_loc_police_stations_point*

[kna.kna_soc_education_facilities_point](#) [JSON](#) [View](#)

Data for table *kna.kna_soc_education_facilities_point*

[kna.kna_str_social_housing_point](#) [JSON](#) [View](#)

Data for table *kna.kna_str_social_housing_point*

[kna.kna_trn_transportation_airports_point](#) [JSON](#) [View](#)

Data for table *kna.kna_trn_transportation_airports_point*

[kna.kna_trn_transportation_roads_line](#) [JSON](#) [View](#)

Data for table *kna.kna_trn_transportation_roads_line*

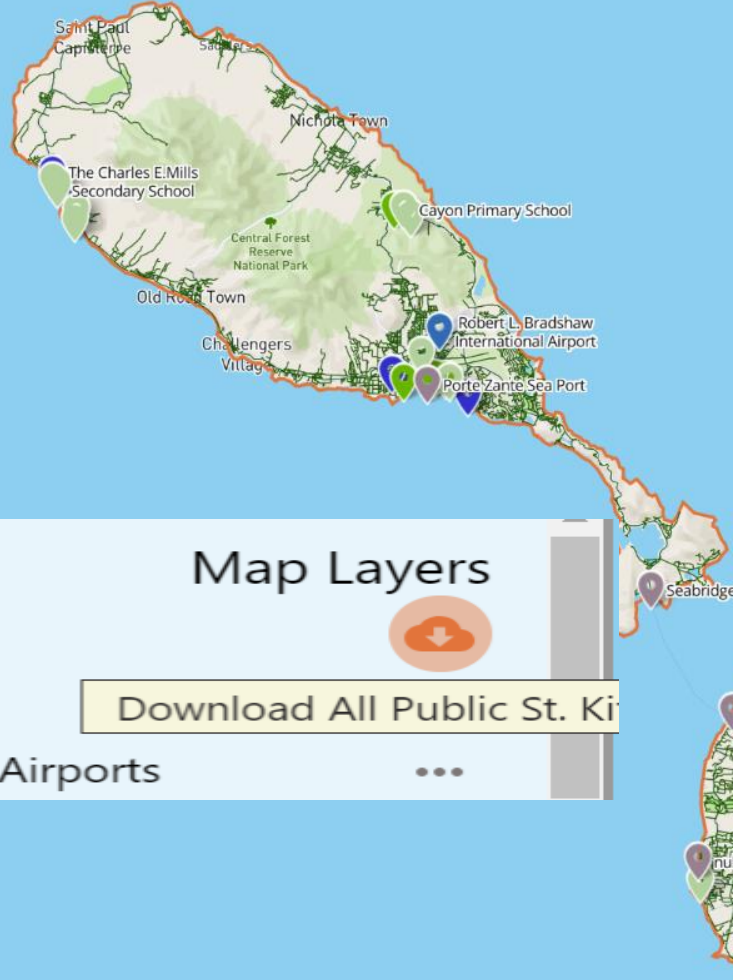
[kna.kna_trn_transportation_seaports_point](#) [JSON](#) [View](#)

Data for table *kna.kna_trn_transportation_seaports_point*

St. Kitts & Nevis

select multiple countries

- Location
 - St.Kitts And Nevis Fire Station
 - St.Kitts And Nevis Police Stations
- Society
 - St.Kitts And Nevis Education Facilities
- Structure
- Transportation
 - St.Kitts And Nevis Airports
 - St.Kitts And Nevis Seaports
 - St.Kitts And Nevis Transportation Network



Map Layers



Download All Public St. Ki

Selected

St.Kitts And Nevis Airports

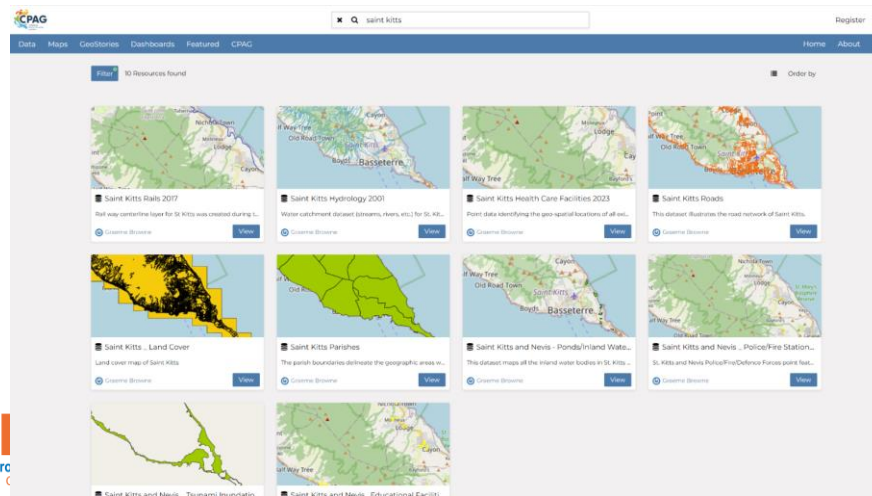
mapbox

5 km © Mapbox © OpenStreetMap Improve this map



OTHER REGIONAL RESOURCES

- GEONODES
- World Bank - some countries have a country specific portal for disaster risk reduction.
- Caribbean Protected Areas - some useful baseline info
- <https://geonode.thecpag.org>
- Caribbean Geoportal - caribbeangeoportal.com



LOCAL DATA

- Who are data providers in your country? What can they give you?
- Survey Department
- Planning Department
- Bureau of Statistics
- Public Works Department
- Environment/Fisheries Departments
- Health ministry
- Public Health
- Education Department
- Telecoms Companies
- Utilities
- Community Mapper or groups

Conclusion

- Key data sources
- Vector data - HDX, GADM and OSM
- Raster data - SRTM satellite and WorldPop
- Lots of data available online!
- Data might be sitting on a colleague's computer!



This programme is
gratefully supported
by



USAID
FROM THE AMERICAN PEOPLE





MAP ACTION

mapaction.org