



National geospatial agency perspective

Providing data for sustainable development

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- USGS, established in 1879, provides reliable scientific information to describe and understand the Earth; minimize loss of life and property from natural disasters; manage water, biological, energy, and mineral resources; and enhance and protect our quality of life.
- Evolving from an organization that was created to inventory the Nation's public lands and natural resources, the mission of the 21st century USGS is most simply expressed in its maxim "Science for a Changing World."

Like the economy, geospatial data and tools are rapidly transforming the work and the products of national geospatial agencies around the world.

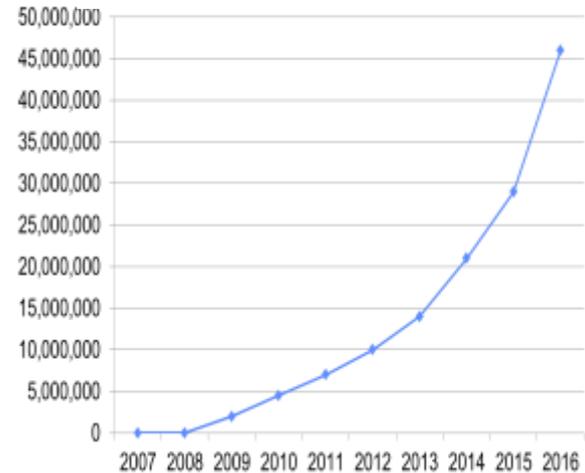
Trends among national geospatial agencies:

1. Maintaining core datasets while generating new ones as technology enables and society demands, instantaneous delivery and use
2. Growing emphasis on Public-Private Partnerships and citizen science
3. Advancing from data acquisition and distribution to analytics, integration, and decision support – to science “impact” and “actionable products”
4. Leveraging the power of baselines, documenting trends and understanding drivers of change, modeling and predicting future conditions
5. Collaborating with other nations to share EO and to complement one another’s efforts.

How we help insure EO data gets to grassroots users:

1. Free and open data policy

Landsat Scenes Downloaded from USGS EROS Center (Cumulative)

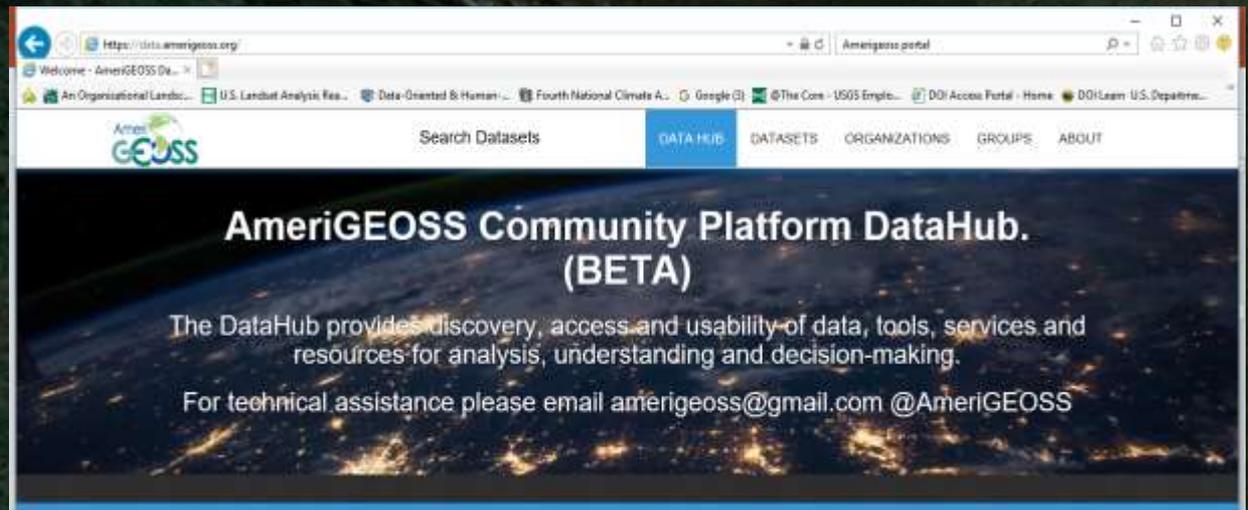


**Includes only downloads from the USGS EROS.
(Google Earth delivers approximately 1 billion
Landsat scenes to users per month.)**

How we help insure EO data gets to grassroots users:

1. Free and open data policy
2. On-line data portals and processing

AmeriGEOSS Community Platform



How we help insure EO data gets to grassroots users:

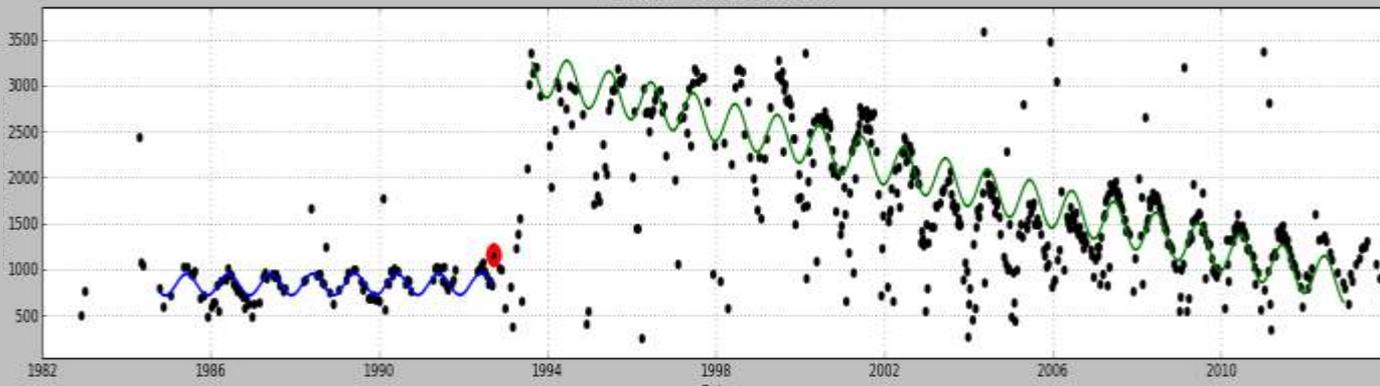
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Example 2: Landsat Analysis Ready Data (ARD)

Allows pixel tracking in geospatially calibrated tiles and dense temporal stacks, “datacubes”

Landsat Mid-infrared Band

Time series - row: 1161 col: 5419



L4-L8 Tier 1 data processed to surface reflectance and brightness temperature measurements, (Level-2 products).

Makes the archive more accessible, easier to analyze and reduces amount of time users spend on analysis of landscape change.

How we help insure EO data gets to grassroots users:

1. Free and open data policy
2. On-line portals and applications
3. Capacity building efforts

Americas

Costa Rica
El Salvador
Guatemala
Honduras
Panama
Dominican Republic
Colombia
Ecuador
Peru

Africa

Cameroon
DR of Congo
R of Congo
Gabon

Asia

Bangladesh
Cambodia
Indonesia
Lao PDR
Nepal
Philippines
Thailand
Vietnam



GFOI (a GEO Flagship) assists countries in developing their national forest monitoring systems and associated emissions measurement, reporting and verification.

Currently led by the Governments of Australia, Norway and the USA as well as the UN Food and Agriculture Organization (FAO) and the Committee on Earth Observation Satellites (CEOS)

How we help insure EO data gets to grassroots users:

1. Free and open data policy
2. On-line portals and applications
3. Capacity building efforts
4. Directed acquisition

Rota Flight Plans

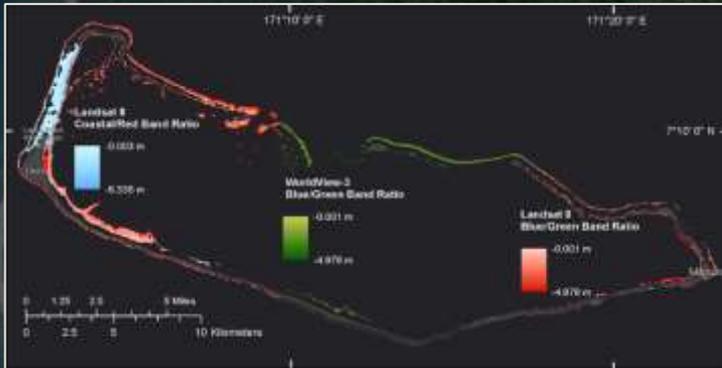


Spatial data infrastructure for the Commonwealth of the Northern Mariana Islands

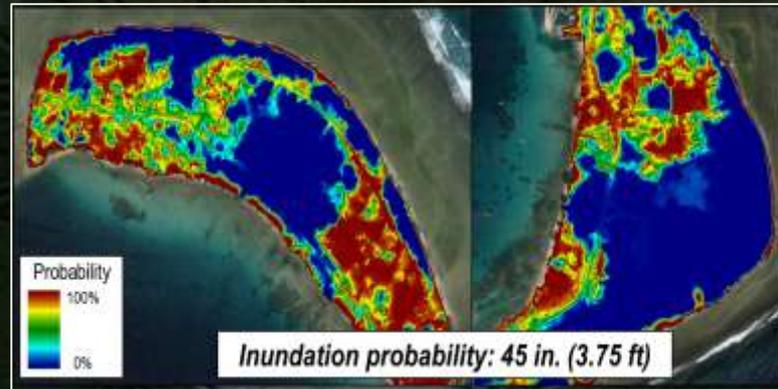
3DEP – Pacific Island Topobathy

- New QL1 lidar for six islands (Saipan, Tinian, Rota, Pagan, Aguijan, and Farallon de Medinilla) - 8 pts/m², vertical error (RMSEz) not to exceed 10cm
- Bathymetric data to 50m (QL2b)
- Commercial data collection window through May 2019

High Accuracy Elevation Data for Climate Change Impact Applications in the Marshall Islands



Multiple remote sensing and 3D mapping tools:
UAV imagery, satellite derived bathymetry (using Landsat and commercial imagery), sonar, ground survey, bathymetric lidar



Application: inundation exposure assessment

How we help insure EO data gets to grassroots users:

1. Free and open data policy
2. On-line portals and applications
3. Capacity building efforts
4. Directed acquisition
5. Investments in GEO, CEOS, ... and other EO community partnerships



GEO Ministerial Summit participants, 2015, Mexico City



GEO currently serves over 400 million open data and information resources, feeding innovation across economies.



The image features a large aerial photograph of a dam and its reservoir. A circular inset in the lower right quadrant shows a topographic map of the same area, with the reservoir and surrounding terrain highlighted in white and blue. The background is a lush green landscape with a river winding through it.

Thank you!

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