Civil Applications Committee and National Civil Applications Center

Overview Briefing to NSTC's Subcommittee on Disaster Response

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USGS
science for a changing world

CIVIL APPLICATIONS COMMITTEE
CAC

Civil Applications

The **Civil Applications Committee (CAC)** facilitates the appropriate civil uses of overhead remote technology and data collected by classified military and intelligence systems and commercial sources.

The **USGS National Civil Applications Center (NCAC)** provides classified and commercial remote sensing data and analysis to the USGS and the Federal civil community, serves as the CAC Executive Secretariat, and is part of the USGS Land Remote Sensing Program.

CAC History

1960 – Launch of Corona, Nation's first photo reconnaissance satellite

1969 – USGS opens classified facility

1975 – President directed Interior Secretary to establish CAC

1976 – First CAC meeting held

2000 – Original charter revised

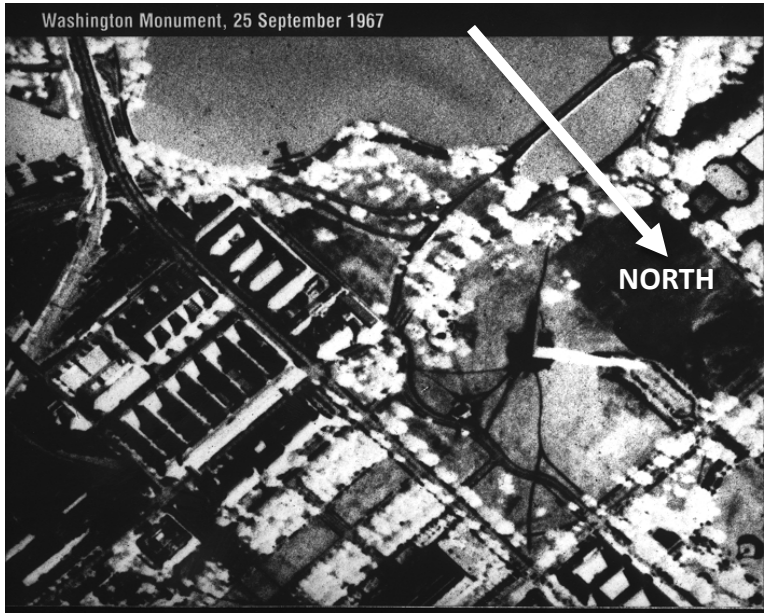
2001 – CAC Executive Steering Group (ESG) established

2010 – Oversight expanded to include commercial imagery

2014 – ESG affirmed CAC role to support all member missions, including law enforcement and regulatory

2015 – CAC Charter updated and submitted for signatures from Interior Secretary and National Intelligence Director

2016 – CAC Charter signed by Interior Secretary, awaiting signature from National Intelligence Director



Authority

The President's National Space Policy, dated June 28, 2010, states the **Secretary of the Interior**, through the **Director of the United States Geological Survey (USGS)**, shall:

> *"be responsible, in coordination with the Secretary of Defense, the Secretary of Homeland Security, and the Director of National Intelligence,* ***for providing remote sensing information related to the environment and disasters that is acquired from national security space systems to other civil government agencies****."*

Civil Applications Committee Members

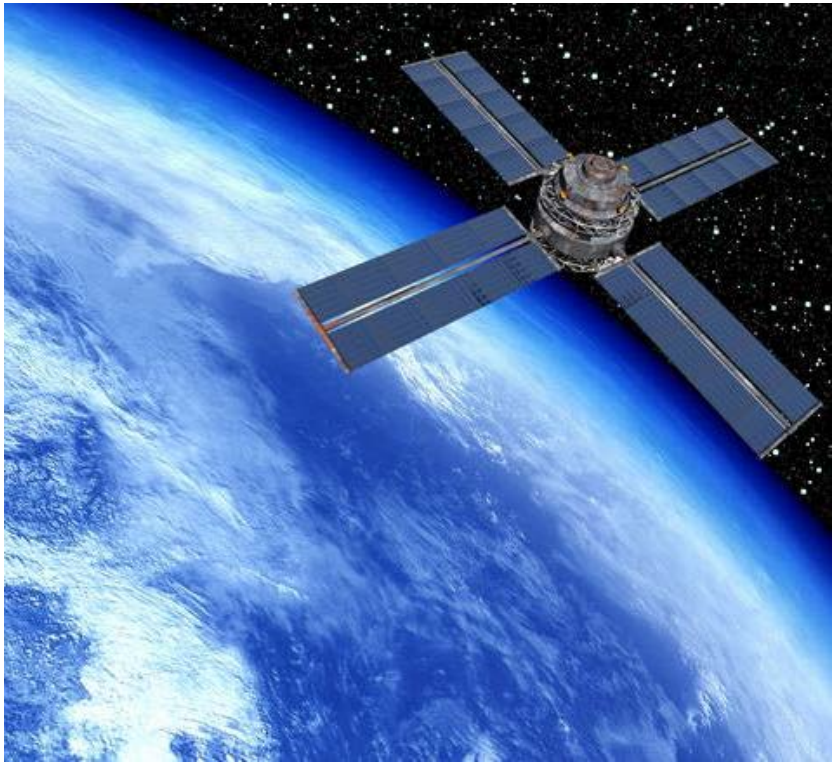
Principal

Ex Officio

Associate

Restrictions on Use of Data

- Must be Federal civil agency
- Domestic requirements must have Proper Use Memorandum
- Must be within agency's statutory mission
- Cannot target "U.S. Persons"
- Data not admissible in court



Federal Civil Applications

Natural Hazards / Disasters

Detection, Assessment, Response, Mitigation

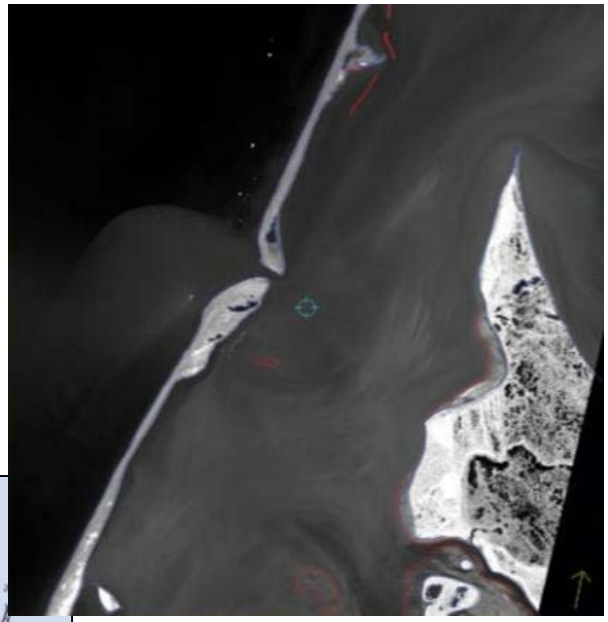
Volcanoes	Earthquakes
Wildfires	Landslides
Floods	Hurricanes

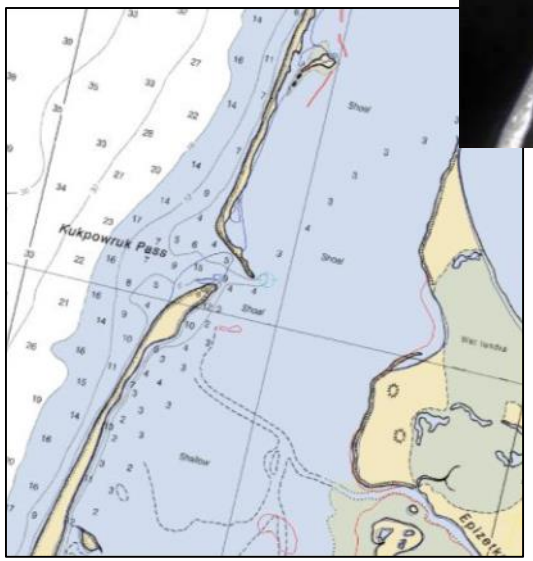
Scientific Research

Land and Resource Management, Environmental Monitoring, Climate Change

CAC Accomplishments

- Revised CAC Charter (includes environmental monitoring)
- Participated in National Academy of Sciences meeting to establish successor to the Measurement of Earth Data for Environmental Analysis (MEDEA) program
- Participated in OSTP Climate Change and Historic Imagery Availability Working Groups
- Ongoing efforts
  - USGS glacier/permafrost research in Alaska
  - NOAA mapping changes in shoreline in Alaska
  - Global Fiducials Library (long term image record of environmentally significant sites)





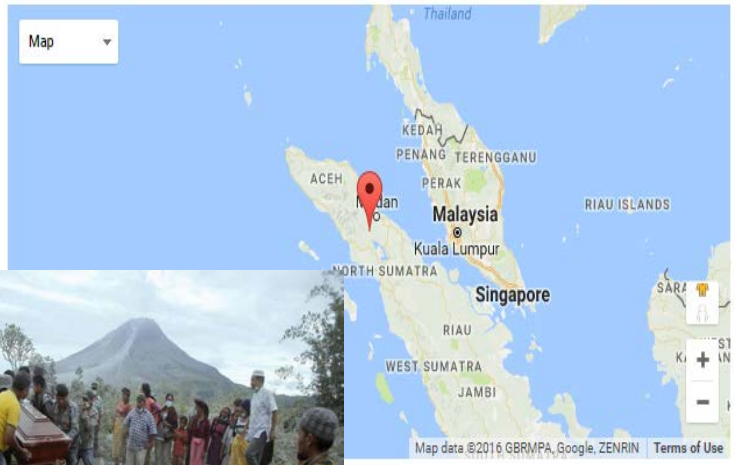
NOAA Coastal Mapping Program
Kasagulak Lagoon North Slope, AK

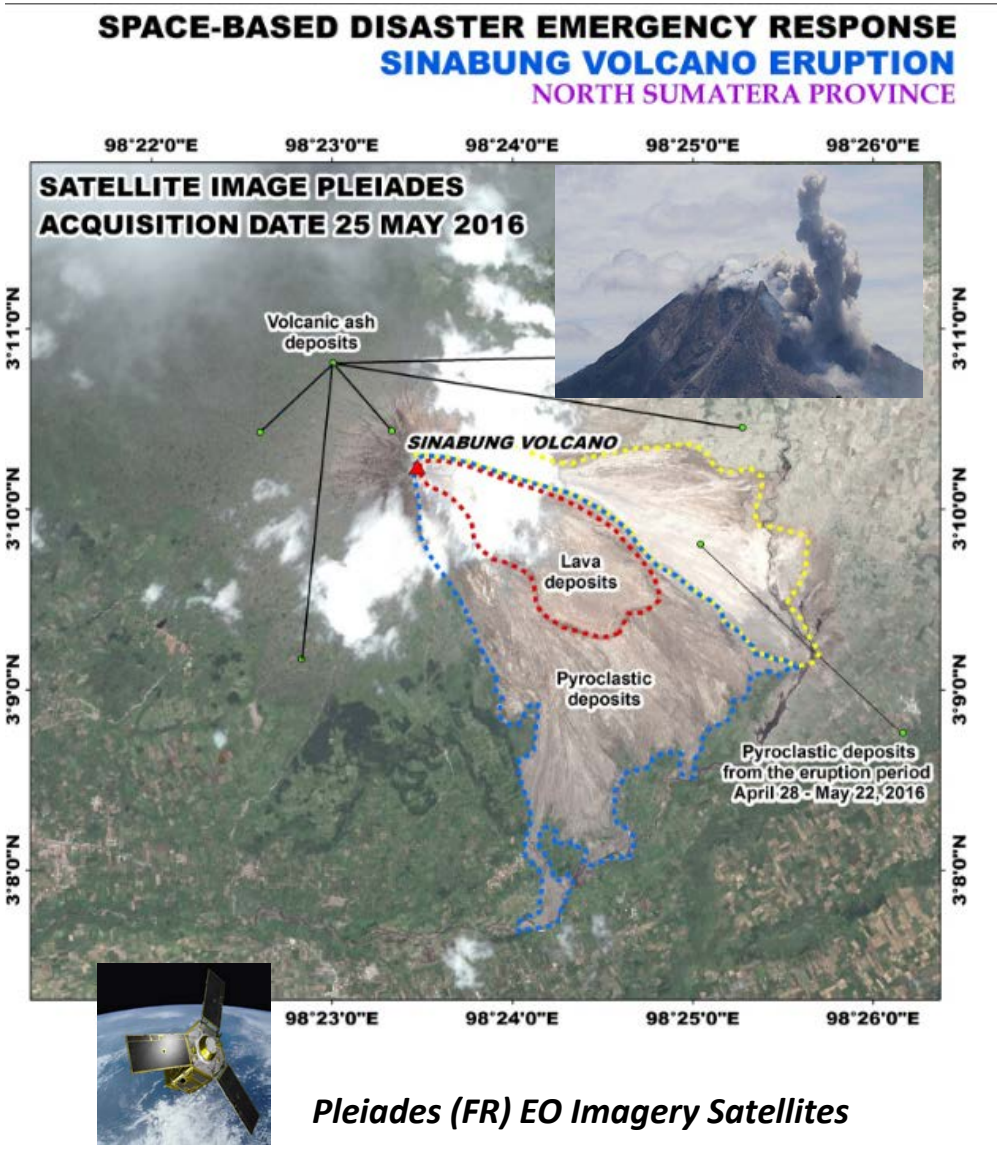
CAC Accomplishments

- Acquired thousands of images for CAC members to support:
  - Response efforts for Louisiana Floods in August (one of 36 International Charter requests in 2016); Hurricane Matthew
  - Damage assessment and identification of surface ruptures after Magnitude 7.8 EQ in Ecuador in April that killed over 650
  - Monitoring ~ 130 volcanoes (e.g. Kilauea, HI and Sinabung, Indonesia)
- NGA / Fish and Wildlife Service (FWS) Counter Wildlife Trafficking Summit (Jun, Jul 2016)
  - Hosting FWS permanent presence at the NCAC-Reston
  - Expected move-in early 2017

International Charter Support/Assessments

- Sinabung Volcano, Sumatra, Indonesia
  - 3.171N, 98.392E, 7800 feet, 3-mile radius
  - USGS Volcanologist assessment: This volcano has already killed people (7 dead, 2 critically injured) from the ongoing effusion of a summit lava dome that collapses many times each week producing hot pyroclastic flows reaching up to 5km east of the volcano.

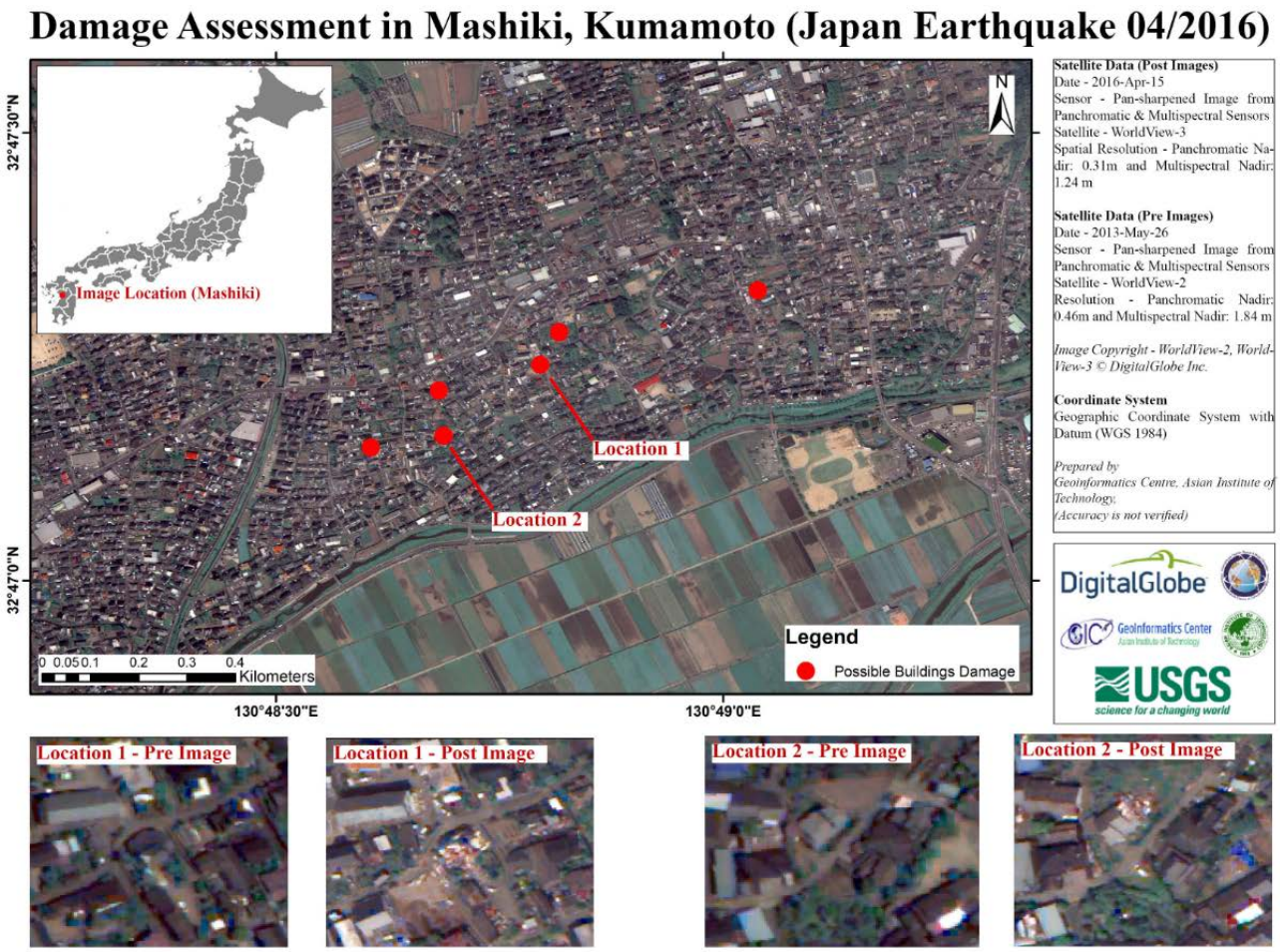




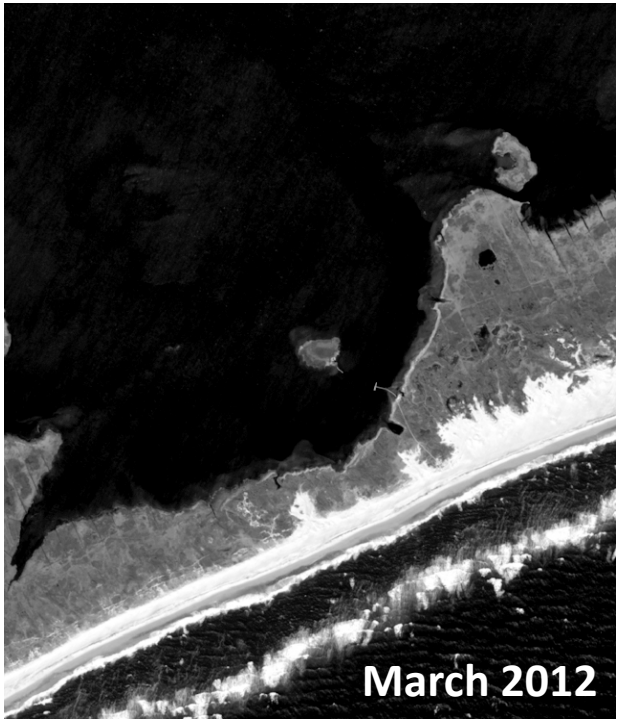
Pleiades (FR) EO Imagery Satellites

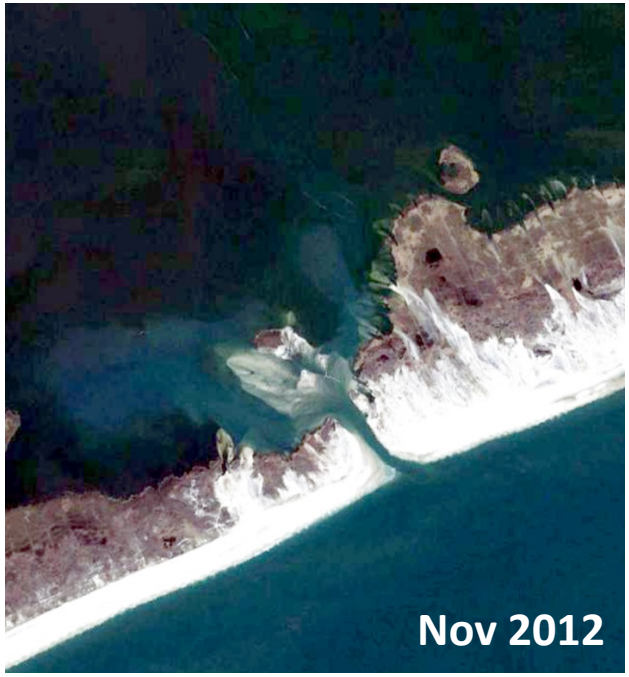
Earthquake Support

- Mashiki, Kumamoto Earthquakes



- International Charter Activation: EROS requested commercial imagery in response to an earthquake that struck southern Japan, east of Kumamoto, on April 14 with a 6.2 magnitude.
- April 14 and 16 Kumamoto Earthquakes ultimately resulted in 50 dead and over a 1,000 injured.
- DigitalGlobe Tasked through NCAC Acquisition





Four Global Fiducial Library time series images showing changes that have occurred at Fire Island National Seashore, New York during the 17+ year period from March 1999 to May 2016. The GFP uses imagery from multiple sources to document dynamic Earth processes and change.

Fire Island National Seashore is located on a nearly 40-km-long barrier island, south of the south shore of Long Island.

- **Top left images, derived from National Imagery Systems, show little changes over a decade other than sand deposited by storm surges.**
- **A month prior to the November 2012 NOAA image, Hurricane Sandy breached the barrier island forming a new inlet that connected the Atlantic Ocean with Bellport Bay.**
- **May 2016 Digital Globe image shows, in the ensuing 3½ years, the maximum inlet width increased to more than 500 m and a large flood tidal delta developed in Bellport Bay.**

USGS National Civil Applications Center

The USGS National Civil Applications Center (NCAC):

- Data Acquisitions – classified and commercial imagery
- Data Analysis – support USGS mission science and CAC members; science advisors
- CAC Secretariat - coordination and administrative support for the Civil Applications Committee
    - Virtual collaboration sites on R-space (JWICS), Structured Analytic Gateway for Expertise (WWW)
- Building Ops, Security, IT
- Reston and Denver locations
- Staff of 30
- Funded by USGS Land Remote Sensing Program

USGS

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