

FOR OFFICIAL USE ONLY



Civil Applications Committee

2009

Activity Report

FOR OFFICIAL USE ONLY



Civil Applications Committee Annual Report - 2009

Background

Overview

The Civil Applications Committee (CAC) is an interagency committee that coordinates and oversees the Federal civil use of classified collections. The CAC was officially chartered in 1975 by the Office of the President to provide Federal civil agencies access to National Systems data in support of mission responsibilities. The CAC is operated and staffed by the U.S. Geological Survey on behalf of the Department of the Interior (DOI). In recent years, CAC activities have expanded beyond traditional mapping applications to a broad range of environmental, climate, natural disaster, and remote sensing applications central to Federal agency missions. Examples include monitoring volcanoes; [REDACTED]; coordinating emergency response to and determining impacts of natural disasters, such as hurricanes, earthquakes, and floods; monitoring ecosystems; and mapping wetlands.

Membership

In addition to the DOI, the CAC is made up of voting representatives from the Departments of Agriculture (USDA), Commerce (DOC), Health and Human Services (HHS), Homeland Security (DHS), and Transportation (DOT), as well as the Environmental Protection Agency (EPA), Federal Emergency Management Agency (FEMA), National Aeronautics and Space Administration (NASA), National Science Foundation (NSF), U.S. Coast Guard (USCG), and U.S. Army Corps of Engineers (USACE). Additional non-voting associate members of the CAC include representatives from the Departments of Energy (DOE) and State (DOS), Office of the Director of National Intelligence (ODNI), Defense Intelligence Agency (DIA), National Geospatial-Intelligence Agency (NGA), and National Reconnaissance Office (NRO).

Responsibilities and Functions

Primary CAC responsibilities include:

- Providing oversight for all civil source collection and management of National Systems data;
- Ensuring that National Systems data collected to satisfy CAC Member Agency mission requirements are not used in any way that threatens civil rights, civil liberties, or personal privacy;
- Promoting and overseeing the use of imagery and imagery derived products (IDPs);
- Overseeing the Global Fiducials Program;
- Facilitating the relationships between the Civil Community, the Department of Defense (DOD), and the Intelligence Community (IC);
- Presenting Civil Community requirements to the IC and DOD;
- Supporting national disaster response;
- Representing and advocating civil requirements and interests in various DOD and IC forums;
- Ensuring that the Civil Community has a voice in defining future space architectures;
- Providing an inter-community forum for technology and information exchange; and

FOR OFFICIAL USE ONLY

- Coordinating Civil Community training.

Functionally, the CAC is composed of a technical and coordinating committee. Each Member Agency and Associate Member Agency identifies a representative and an alternate to the CAC. The committee is chaired by the Director of the USGS. The CAC Secretariat, led by the Executive Director, provides day-to-day oversight of CAC activities. The CAC typically meets monthly.

Oversight is provided to the CAC by the Executive Steering Group (ESG), chaired by the Deputy Secretary of the Interior. The ESG meets on an ad hoc basis and normally not more than once annually. As necessary, the CAC sponsors working groups to address specific issues. The Global Fiducials Working Group (GFWG) is a standing interagency working group that provides guidance to the operations of the Global Fiducials Program, which monitors climate-induced and other physical changes within environmentally sensitive areas on the Earth's surface. Like the ESG, the Emergency Response Working Group (ERWG), Imagery Derived Products Working Group (IDPWG), Requirements Working Group (RWG), Security Working Group (SWG), and Thermal Event Sensing Working Group (TESWG) also meet on an ad hoc basis. In 2009, the GFWG and TESWG each met at least once.

The CAC provides a forum through which Federal civil agencies can coordinate data requirements, develop tasking strategies, certify proper use of data, and track and plan for the progress and evolution of National Systems. By working hand-in-hand with civil programs such as the USGS National Civil Applications Program (NCAP), the CAC can assist member agencies with data exploitation and derived product generation. The USGS NCAP maintains two facilities dedicated to serving the needs of the civil community: the Advanced Systems Center (ASC) located in Reston, Virginia, and the Special Applications Facility located in Denver, Colorado. Through the CAC, arrangements can also be made for technical support from DOD and IC organizations.

Data Acquisition and Management

Prior to being submitted, CAC Secretariat reviews of member agency data requests are performed to ensure that the intended use in no way threatens civil rights, civil liberties, or personal privacy. The CAC review and approval process ensures: 1) that requests are only from member agencies and within the scope of member agency statutory missions; 2) that National Systems are being requested as a source of last resort; 3) that tasking is not intended to support law or regulatory enforcement purposes; 4) that "U.S. persons" are not being targeted; and 5) that in no way will the requested use of National Systems be used for "intelligence purposes." When this analysis is completed, requests are presented to NCAP staff members to begin the acquisition process.

In concert with the CAC Secretariat, the NCAP staff at the ASC assists CAC member agencies in the tasking, collection, processing, exploitation, and dissemination of National Systems data in support of a wide variety of scientific investigations and mapping projects with unique requirements. The CAC Secretariat and NCAP personnel work together with CAC member agencies to analyze requirements, plan and coordinate support for submitting data requests, and

FOR OFFICIAL USE ONLY

acquire approval from appropriate authorities. In addition to initiating new data collections to meet project needs, archive searches can also be performed to locate existing data sources. Upon receipt of new or archived data, ASC staff members perform a quality assessment to ensure that the data received satisfy the customer's requirements. Only then are data delivered to the customer and properly archived.

NCAP employs a collection manager at the ASC who also serves as a Departmental Requirements Officer for the Civil Community. The presence of the CAC Secretariat and NCAP staff at meetings in which imagery acquisitions are adjudicated provides opportunities to further explain and defend CAC agency collection needs. Regular participation in the Domestic Requirements Working Group is particularly important because most CAC requirements fall within the U.S. and its territories. Coordination with other members of the imagery community results in higher success rates for competing and obtaining imagery on a non-interference basis with other agency requirements.

The Global Fiducials Program and the Global Fiducials Library

For more than a decade, the CAC and NCAP have worked together to oversee the Global Fiducials Program in an effort to improve our understanding of the changes taking place throughout the Earth. The goal of the Global Fiducials Program is to collect and analyze images with defined characteristics and specified repeat intervals for sites located across the globe. Studying these sites is intended to enhance our ability to understand environmental processes, determine long-term trends and impacts, and define environmentally critical areas.

The NCAP has established an archive of imagery for each Global Fiducials site. This archive, known as the Global Fiducials Library (GFL), is maintained by NCAP staff members. GFL imagery and associated imagery derived products (IDPs) are used to support current agency programs while also being stored for future use by the scientific community.

2009 CAC Highlights

CAC Executive Steering Group

No CAC Executive Steering Group (ESG) meetings were held.

CAC Participation in External Forums

The CAC participated in the following external forums to represent civil community interests and advocate for civil community requirements:

- NSG Senior Management Council (NSMC)
- GEOCOM
- Future Needs Working Group (FNWG)

Imagery Derived Products



- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

CAC Member Agency Activities

Forest Service

Forest Mapping

The Forest Service is responsible for mapping all National Forest lands, and, as part of the National Digital Orthophoto Program, for creating and maintaining digital orthophoto quadrangles over those lands. One of the critical steps in the process is to obtain ground control point coordinates in order to accurately reference the products to a world coordinate system. Typically, Global Positioning System (GPS) technology is used to collect control by physically visiting field sites; however, the process of control extension, in combination with National Systems data, can be used to generate control locations based on a minimal number of field-surveyed control points. In 2009, this technique was used to advantage where control was needed in remote wilderness areas and in the glacier-covered mountains of Alaska, while surveyors obtained control for the accessible portions of the project by traditional methods. Control extension work covering about 1.2 million acres was completed during the year, saving field personnel approximately \$112,000 in surveying costs, while increasing safety by reducing field work in remote areas. This completes a network of 470 control points for the Tongass National Forest, which encompasses about 16.8 million acres in southeast Alaska.



National Oceanic and Atmospheric Administration

National Ocean Service

In 2009, NOAA's Coastal Mapping Program accomplished the mapping of several areas in Alaska, Bering Strait (Diomed Islands), Kotzebue Harbor, Kusokwin River, Nushagak Bay, and Port Clarence. In addition, Controller Bay, Alaska (2008 request) had additional National Systems data requests and uses in 2009.

FOR OFFICIAL USE ONLY

In 2009, National Systems data was also included in Louisiana projects LA0701, which includes the Mississippi River delta wetlands area in the vicinity of Lake Borne and approaches, and LA0703, the Barataria Bay area.

Lastly, in 2009, National Systems data requests supported NOAA's requirements from the Federal Aviation Administration (FAA) Aeronautical Survey Program, in particular the Sawyer County Airport and Wisconsin and St. Paul, Minnesota.

U.S. Army Corps of Engineers

The Army Geospatial Center (AGC), representing the US Army Corps of Engineers, produced 33 (Urban Terrain) Imagery Derived Products (IDPs) in CY2009, [REDACTED], and [REDACTED]. The AGC maintained a representative in the Global Fiducials Library Program during 2009.

FOR OFFICIAL USE ONLY

CAC Monthly Meetings

Jan	SAR-Based Land Cover Classification
	Monitoring the Dynamics of a Climate Change Produced Landslide
	Optical Bar Camera (OBC) Replacement Exercise
Feb	The Greenland Ice Sheet: Why Worry?
	OPIR
	Pine Island Glacier
	National Security Presidential Directive and Homeland Security Presidential Directive (Arctic Policy)
Mar	Tactical Imagery Visualization & Exploitation Toolset (TIVET)
	AGI Toolkit
	Data Downgrade Status Briefing
	Systems Briefing – Part I
	Systems Briefing – Part II
Apr	Summaries of the Civil Community and NGA Support to the [REDACTED]
	[REDACTED]
	[REDACTED]
	[REDACTED]
	Legal and Policy Brief
May	Special off-site meeting held at selected sites in Denver and Colorado Springs, Colorado
Jun	Agriculture, Climate Change and Food Security: Using NASA Earth Science Models and Observations
	National Security Impacts of Climate Change
	Climate Change and the Arctic/Alaskan Cryosphere
Jul	No Meeting
Aug	EO Way Ahead
	The Basics for [REDACTED] Remote Sensing
	Unmanned Aircraft Systems in the National Airspace System
Sep	African Diamonds
	[REDACTED]
	[REDACTED]

FOR OFFICIAL USE ONLY

Oct	A Tool for Re-evaluating the Natural Resource Sector in Afghanistan
	Interagency Remote Sensing Coordination Cell (IRSCC)
	National GEOINT Coordination Working Group Findings National GEOINT Coordination Working Group Findings
	MEDEA
Nov	NSG 2020 Storage Study
	PUM / PPUM Discussion
	GFL Discussion
Dec	Process For Domestic Imagery Requests
	GIMS
	Domestic Future Needs Review
	ODNI Centers of Academic Excellence
	MEDEA Update

FOR OFFICIAL USE ONLY

Partial List of Data Requested by CAC Member Agencies in Response to Specific Mapping and non-Disaster Science Events:

Date	Name & Location	Event
Jan	Source materials for Grand County, CO, USGS RMGSC	[REDACTED]
Feb	Search archives of ASC, NGA, and NES for Lake Chapeau, LA, historical source for NOAA NMFS	Wetlands change analyses
	Source for Tongas National Forest, AK, USDA FS	Mapping
Mar	Historical source for Tanana Area, AK, USDA FS	Forest cover studies
Apr	Source for Arctic Ocean Areas, MEDEA	Sea Ice Studies
	Source for GFP areas, USGS BRD NWRC	BRD GFP Analysis
May	Source for Antarctic GFL Sites, MEDEA	GFL Analyses
June	Source for Louisiana coastline and Valdez, AK, for NOAA, coastal map and charting activity	Mapping
	Source for several Louisiana Wetland Sites NOAA NMFS	Pre-Hurricane Assessment
July	Source for Mississippi Delta, LA, NOAA	Mapping
	San Andreas Fault rupture regions; identified locations from the Shake Out exercise, USGS	Earthquake Situational Awareness
Aug	Source for Kayak Island, AK, for NOAA	Mapping
	Source for Bering Glacier, AK, USGS	Environmental Studies
Sep	Source for Arctic Ocean floating buoys, MEDEA	Sea Ice Studies
Oct	Source for Sawyer Airport, WI, NOAA	Terrain / tree cover review
Dec	Searched Archive for Dry Valleys, Antarctica	Antarctic Studies

FOR OFFICIAL USE ONLY

Data Was Requested by CAC Members to Monitor the Following Volcanoes:

Volcano Name & Location	Outcome
[REDACTED]	Erupted
[REDACTED]	Erupted
[REDACTED]	Did Not Erupt
[REDACTED]	Erupted
Chiginagak, Alaska	Did Not Erupt
Cleveland, Alaska	Erupted
[REDACTED]	Did Not Erupt
[REDACTED]	Did Not Erupt
[REDACTED]	Did Not Erupt
[REDACTED]	Did Not Erupt
[REDACTED]	Erupted
[REDACTED]	Did Not Erupt
[REDACTED]	Did Not Erupt
[REDACTED]	Erupted
[REDACTED]	Erupted
[REDACTED]	Did Not Erupt
[REDACTED]	Erupted
[REDACTED]	Erupted
Kasatochi, Alaska	Did Not Erupt
Kilauea, Hawaii	Erupted
Korovin, Alaska	Did Not Erupt
[REDACTED]	Erupted
[REDACTED]	Did Not Erupt
Mauna Loa, Hawaii	Did Not Erupt
[REDACTED]	Did Not Erupt
[REDACTED]	Erupted
[REDACTED]	Did Not Erupt
Mount Rainier, Washington	Did Not Erupt
Mount Spurr, Alaska	Did Not Erupt
Mount St. Helens, Washington	Did Not Erupt
[REDACTED]	Erupted

FOR OFFICIAL USE ONLY

[REDACTED]	Erupted
[REDACTED]	Erupted
Okmok, Alaska	Erupted
[REDACTED]	Erupted
[REDACTED]	Did Not Erupt
[REDACTED]	Did Not Erupt
[REDACTED]	Erupted
[REDACTED]	Erupted
Redoubt, Alaska	Erupted
[REDACTED]	Erupted
Shishaldin, Alaska	Did Not Erupt
[REDACTED]	Erupted
[REDACTED]	Erupted
[REDACTED]	Did Not Erupt
[REDACTED]	Did Not Erupt
[REDACTED]	Did Not Erupt
Trident / Novarupta, Alaska	Did Not Erupt
[REDACTED]	Erupted
[REDACTED]	Did Not Erupt
Veniaminof, Alaska	Erupted

FOR OFFICIAL USE ONLY

Partial List of Data Requested for Ongoing CAC Member Agency Projects:

CAC Member	Request Type	Project Description	Approval Date
DOC National Oceanic and Atmospheric Administration	Renewal	Louisiana wetlands restoration monitoring	September 2009
DOC National Oceanic and Atmospheric Administration	Renewal	Global Fiducials – 48 monitoring sites	September 2009
DOC National Oceanic and Atmospheric Administration	Renewal	Coastal and harbor mapping	September 2009
DOC National Oceanic and Atmospheric Administration	Renewal	Hawaiian Island Marine Monument monitoring	March 2009
DOC National Oceanic and Atmospheric Administration	New	Arctic marginal seas boat inventory	June 2009
DOI Bureau of Land Management	Renewal	National Petroleum Reserve, AK	September 2009
DOI Bureau of Land Management	Renewal	Global Fiducials – 8 monitoring sites	September 2009
DOI Bureau of Land Management	Renewal	████████████████████	January 2009
DOI Fish and Wildlife Service	Renewal	Alaska marine mammal (Walrus) monitoring – seasonal off-shore and coastal 'haul-out' study	September 2009

FOR OFFICIAL USE ONLY

DOI National Park Service	Renewal	Global Fiducials – 58 monitoring sites	September 2009
DOI U.S. Geological Survey	Renewal	Use of data for testing	March 2009
DOI U.S. Geological Survey	Renewal	Volcano monitoring	March 2009
DOI U.S. Geological Survey	Renewal	Landslide studies – post landslide analysis	October 2009
DOI U.S. Geological Survey	Renewal	Global Fiducials – 82 monitoring sites	March 2009
DOI U.S. Geological Survey	Renewal	Natural disaster assessment and monitoring	October 2009
DOI U.S. Geological Survey	Renewal	Vegetative mapping - NPS vegetation mapping and monitoring program at Great Sand Dunes National Park	October 2009
DOI U.S. Geological Survey	Renewal	Louisiana coastal shoreline mapping	October 2009
DOI U.S. Geological Survey	Renewal	Glacial monitoring – 37 domestic glaciers	October 2009
DOI U.S. Geological Survey	Renewal	Louisiana Brown Marsh	January 2009
DOI U.S. Geological Survey	Renewal	Tornadoes	May 2009

FOR OFFICIAL USE ONLY

DOI U.S. Geological Survey	Renewal	Flood inundation mapping and analysis	October 2009
DOI U.S. Geological Survey	Renewal	Earthquake monitoring	March 2009
Environmental Protection Agency	Renewal	Global Fiducials – 34 monitoring sites	January 2009
Environmental Protection Agency	Renewal	Hazardous materials [REDACTED] response	September 2009
National Science Foundation	Renewal	Global Fiducials – 50 monitoring sites	September 2009
National Science Foundation	Renewal	Long-term monitoring of sea ice characteristics	October 2009
National Science Foundation	Renewal	Antarctic studies	October 2009
USDA Forest Service	Renewal	Natural disaster impacts on forests	January 2009
USDA Forest Service	New	Control point collection, forest inventory and analysis program	May 2009
USACE Army Corps of Engineers	Renewal	Global Fiducials – 8 monitoring sites	September 2009
USACE Army Corps of Engineers	Renewal	Natural disaster damage assessment	March 2009

FOR OFFICIAL USE ONLY



FOR OFFICIAL USE ONLY