CA GIS Council Minutes

October 6, 2010

Sacramento, CA

**Member organizations in attendance**

CA Health and Human Services

CA Natural Resources

CA Business, Transportation, and Housing

CalEMA

CalEPA

OCIO

NOAA NGS and CSC

USGS

DHS FEMA

US FWS

BOR

BLM

DOC Census

Far North

North Central Valley

Central Coast Joint Data Committee

SF Bay Area

Sacramento

San Joaquin

San Diego

San Luis Obispo

Academic

1. **Welcome & Intro**

CA GIS Council Chair Coco Briseno opened the meeting at 9 AM. A quorum was reached and minutes were approved from the 2 previous meetings (Nov 2009 and April 2010) pending some needed editorial corrections.

1. **Council round table**

* Caltrans—challenges
* CalEMA—making some distinct progress on staffing and enterprise GIS, working on gaining higher level support for GIS, wants to hear what others need to take it up to management, CalEMA working on developing proposals for sustainable data and services. Trying to plug GIS into the big 5 emergency response agencies (Cal Fire, CHP, Resources Agency, CalEMA) and how CalEMA can support these efforts.
* OCIO—name change, this has been a work in progress, it will be a full-on agency, growing pains, working through this over the past year)
* Census—1) data release for 2010 census, check out the pamphlet, see when the data will be released; to be released on a flow basis, redistricting data, will be released Feb through April; this will reflect 2010 census geography. 2) American community survey—short form only, it will provide more timely data source, this December will be the first release of this, then new data every year for each category. 3) urbanized area criteria published in Federal register—please review and make any comments you like. See <http://www.census.gov/geo/www/ua/2010urbanruralclass.html> for more information. Contact the Seattle office for questions. No actual count for CA population yet.
* Bruce Joffe—quick update on Orange County lawsuit. Sierra Club suing Orange to get the base map. SC lost the initial case through some convoluted reasoning, an appeal was filed, we do not know if it will be heard. Orange sells their parcel data for 350k. SC will ask people to sign an amicus brief, watch for this.
* USGS—reduced budgets for the NGP for the foreseeable future, increasing workloads.
* SACOG—preparing next generation 911, point level address maintenance, looking for county level funds to support this
* Marti—NOAA spread thin, choosing to devote resources to Deepwater Horizon event.
* Paul Hardwick—SD having challenges building partnerships for data acquisition, would be helpful to have more contracts at the state level that could be used at the local level for data acquisition. OCIO response: GSA does not want to continue with the MSA because it has not been used all that much. For some agencies, procedures have changed—need to now get 3 bids.
* Marin County (Brian Quinn)—data dropping in, making terrain models and updating hydrography, ESRI community map provides an inexpensive way to build a fabulous base map.
* BLM—nationwide coverage of PLSS, new standard, updated diagonal state line, one month for new data.
* CCJDC—Gale Foss, Lidar collection on schedule
* OCIO—Gary Darling says thanks to federal partners, activities are progressing
* SLO—Andy Richardson, past successful imagery project, SLO has good roads project, good opportunity to partner
* Dennis Wuthrich, Farallon—C/C of SF finishing a web-based maintenance tool for address, based on open-source technology that is available to all. SF sees benefit in sharing and leveraging improvements. For information contact Blair Adams at C/C of SF.

1. **Strategic Planning**—the topic was introduced by reminding everyone that good work has been done over the years, how do we benchmark and determine where to do next? The participants were asked if there was a need to relook at the current Strategic Plan and if there was a desire to document Council accomplishments and future initiatives, in the context of the Strategic Plan.

Discussion/questions:

* Very good idea, timely, good group of people, a lot of experience in developing strategic plans, engage with those who have plans, how to align,
* Very good time to highlight accomplishments will need to educate the incoming new administration on what the community has done. Administration recognizes this work.
* Greatest power of strategic planning is that GIS was included in the CADPH greater strategic plan. It can be powerful.
* Possible to team with CGIA, as was done in the past.
* Last plans were at a high level, can we focus down to look at more specific objectives. Document what is going on with the state, and what needs attention when next GIO comes in.
* Don’t want to bite off too much.
* Reinforce need for a short accomplishments and what we have done as a state, and regionally.
* Start small, document needs assessment
* What might the interest of CGIA be to participate

Call for volunteers? Gary Darling, David Harris, Gil Harrington, Carol Ostergren, Anne Millington, Dennis Wuthrich, Craig Gooch, Ralph Davis, Christy Cox,

1. **Governance**—down at CalGIS in Huntington Beach we heard from some County GIOs.

A little history—chartered, unchartered, recharted, now allows for seats for regional level, we missed some things, some things have changed; now we perhaps belong under the CA technology Office. We missed the 7 departments, creates some awkwardness (for example, BOE does not have a seat). Would like to form a governance working group, to advise the new administration, and define a clear line of authority, clarify roles and responsibilities and relationships.

Discussion/questions:

* Caution: too many things to do
* Communication issue to cities and counties
* From an incident command perspective, need to know where data and people reside
* Please consider the academic community
* Vital area, everything starts locally as we have heard

Call for volunteers, or who can we contact who could help outline the topic. Conference calls once or twice a month, start work in early November, working document by Jan-Feb timeframe

* Diane Vaughn (she is positioning CalEMA to be a more coordinating organization, need to bring in the city, county, regional players to leverage the best, extends CalEMA resources)
* Ralph Davis
* Brian Quinn
* Karen Beardsley
* Roger Ewers
* Mark Greninger
* DMV

## **Digital Land Record Information**—Gary Darling, OCIO gary.darling@state.ca.gov

## Why is parcel data important? Gary described the 4 areas for which parcels are important:

# Land Use Planning

## Open space protection

## AB 32

## Broadband Mapping—CPUD needs to be able to show bb availability

## Transportation Planning

## Environmental Management

## Land Use Change

## Sustainable communities

# Revenue and Taxation

## Distribution of property tax revenues

## Assure uniformity in property tax assessment

## Project property tax growth

## Analyze the impact of Prop 13 on schools/special revenue districts

## Fraud investigation

## Allocation of the sales tax

# Emergency Management

## Dispatch

## Evacuation planning

## Contact information

## Loss analysis

## Event statistics

## Emergency planning

## Ownership delineation (public/private)

## Surveying

# Progress in gathering parcels:

## The good news –

## We have 99.6% of California 14 million parcels in hand

## Only rural San Luis Obispo county remains

# The bad news…

## 6 counties will not allow us to distribute parcel data

## 52 counties will allow us to distribute data on a government-to-government basis

# Geocoding

## Because we have a very complete parcel coverage expect a high quality geocoding service

## 1 million dollars available from a Federal homeland security grant via CalEMA for geocoding

# Geocoding Policy

## Policy requiring new state database systems to geocode the address information they contain is in the vetting process now. Any responses or comments to the policy are due at 3 pm Oct. 7.

## http://community.portal.ca.gov/forum/categories.aspx?catid=59&entercat=y

# Proposed direction

## 1 million dollars of prop 84 funds allocated from strategic growth council to parcel improvement

### parcel collection

### data hosting

### needs assessment

### protocols to improve sharing

### collaboration and education

Discussion/questions:

Is the data ready to share now? Can share in about 2 weeks, for those counties that have agreed to share.

1. **Imagery**—Gary Darling, with a little from Carol Ostergren

# Image Infrastructure

## Cal-Atlas

## San Diego Supercomputer Center—all 2009 and urban area imagery delivered

## NASA

## Local Government

# Incident Imagery

## Disaster Charter—see new fact sheet

## Digital Globe

## UAV

## Aerial Imagery

# Best Available Imagery

## Local government imagery

## USGS urban imagery—USGS will do new collects for all 11 urban areas in 2011

## NAIP—2010 will be delivered soon, first the compressed county mosaics, then the full res tiffs; contact Carol Ostergren or Drew Decker at USGS

# **Elevation update—**Carol Ostergren

## USACE—some coming available

## ARRA—all collected, available 3-4 months (Channel islands, SF, Marin, Santa Cruz, Monterey counties, SF bay areasouth half)

## NOAA—collected north half of SF bay

## OPC/NOAA—on hold

## Central Valley—in evaluation/processing

# National Enhanced Elevation Study, this will be a national look to build a business case for a national strategy for high-resolution elevation. This will be much like earlier studies to define requirements for topographic maps and look at user concerns for new products.

# Multiple studies already completed or in progress

## Mapping the Zone (NRC 2009)

## Elevation Data for Floodplain Mapping (NRC, 2007)

## Alaska Statewide Digital Mapping Initiative (Produced for Alaska Department of Natural Resources, 2009)

## NRCS Elevation Initiative (Under contract)

## USGS Enhanced Elevation Study (Expected 2010)

## FEMA National Digital Elevation Acquisition and Utilization Plan for Floodplain Map Updates (Released Aug, 9, 2010)

## The North Carolina Floodplain Mapping Program (Cost benefit 2008)

## FEMA cost benefit studies (1997, updated 2000)

## FEMA Inventory Report (released May, 2010)

# Enhanced Elevation Data…What’s different about it?

## Business requirements are changing….fast

## New data collection technologies are dramatically changing how we think about the surface of our planet.

## The concept of elevation is changing from a bare earth surface characterization to a three dimensional model of multiple surface objects including bare earth, vegetation, buildings and other features.

## Geospatial information systems must evolve (quickly) to meet these business requirements.

# How Many Business Uses?

## Mapping confined urban channels vs natural streams

## In the creation of seamless topo/bathy products

## Integration into the National Elevation Dataset

## Derivation of stream channel characteristics

## Mapping and monitoring coastal hazards

## Identify small hydrologic features (ditches, tile drain)

## Mapping fish habitat

## Characterizing wildlife habitat

## Identification of canopy gaps

## Flood inundation modeling

## Derivative hydrologic profiling

## Disaster response

## Fire science

## High-resolution floodplain mapping

## Characterization of canopy structure

## Defining drainage basins

## Jokulhaup monitoring

## Fault-rupture mapping

## Monitoring sea level rise

## Natural Hazards

## Identifying landslide-prone areas

## Creating topographic maps

## Glacier changes

## Carbon sequestration assessments

## Homeland security scenarios

## Delineation of canopy surface and forest metrics

## Determination of watershed characteristics

## Delineation of building structures

## Characterization of urban settings

## Monitoring long-term shoreline change

## Mapping land cover and land use

## Measuring earthquake deformation

## Delineation of volcanic structure

## Monitoring volcano hazards

## Urban mapping

## Powerline mapping

## Hydrologic Modeling

## Bare earth products

## Monitoring debris flows

## Wave height surveys

## Sedimentation into rivers

## Monitoring geomorphic processes

## Identification of ponding areas

## Mapping wetland drainage

## Creation of synthetic drainage networks

## Identifying culverts

## Transportation mapping

## 3-D visualization of buildings

## Volume visualization

## Identifying bird habitats

# Is everything connected?

## The White Paper

## Enhanced Elevation Requirements Study

## FY12 Budget Request

## FEMA report to congress

## NOAA and FEMA lidar data inventories

## NRCS requirements study

## Alaska requirements study

## Numerous other state studies – NC, Iowa, …

# 2010-11 National Enhanced Elevation Study

## Develop and refine requirements for a national program

## Identify program implementation alternatives and associated benefits and costs to meet priority Federal, State and other national business needs

## Quantify answers to key questions:

### Is it more cost effective for the Government to manage these activities within the context of a national program?

### Are there additional national or agency benefits derived from such a strategy?

### What does the optimized program look like?

# Stakeholders

## USGS, FEMA, USDA

## NOAA, USACE, NASA, NGA and others

## States, local and tribal governments

## Organizations:

### Association of American State Geologists

### National States Geographic Information Council

### National Association of Counties

### AmericaView

### Coastal States Organization

### ASPRS, AAG, URISA, etc.

### MAPPS

### Science consortiums

### Others…

# Enhanced National Elevation Program – the “going in” position

## Authoritative enhanced elevation\* data for Federal and State applications, along with derived products, integrated into agency business uses and operations:

### Built on partnerships to meet multiple agency needs

### Using standards to maximize interoperability

### Conducted in concert with Federal and State programs

### Balancing requirements, benefits and costs

### Offering on-demand data coupled with data services

### Using best available technologies

### Spawning new applications and user communities

# Plans for FY 2010-11

## Advance coordinated lidar program planning through NDEP steering committee

## Enhance data consistency across agencies through best practices and standards

## Expand collection activities – numerous projects funded by ARRA and participating agencies

## Request “bridge” funding for FY12

## Complete the elevation data requirements study

# Enhanced Elevation Data Requirements Study

## Design a system for collecting Federal and State business uses.

## Design a system to inventory significant existing Federal and State elevation data holdings and plans (coordinated with current NOAA and FEMA efforts).

## Complete the collection of business uses and inventory elevation data holdings from Federal agencies and states. Need both the decision makers (policy drivers for data) and the power users.

# Possible scenarios

## A highly distributed program where each agency independently plans, collects, manages, and distributes their data – a status quo solution. This solution anticipates that agencies would coordinate their activities with others to the extent that they do so today.

## A national program where acquisition, management, and distribution responsibilities are shared and well coordinated by Federal, State, and other partners.

* + A national program where the Federal Government administers the data acquisition and distribution on behalf of all users through a lead Federal Agency.

NHD—Business case study has been completed; DWR to launch a pilot for NHD stewardship

# **California SDI: Transportation**

## Data Steward: Caltrans

## Project Lead: Harold Feinberg

# Background: California SDI Transportation Layer is synonymous with the term “Statewide Roads Layer” (SRN). SRN is an integration project.

# Purpose: A single, current, authoritative, transportation layer.

### Intended to develop cooperative data sharing and integration of GIS-based roadway data within California.

# Project Extent:

## The State Highway System

### Lane-Miles = 50,542

### Centerline Miles = 15,204

## Non-State (City; County; Fed; Other)

### Centerline Miles = 157,307

# The Business Case:

## Caltrans:

### Federal Highway Administration Mandated Reporting

#### HPMS

#### Functional Classification

## Statewide:

### Transportation Identified as a Core Framework Layer

### Sharable dataset for government to government exchange

### Public Safety (SRN + Networking)

# The SRN Approach

# Status

### Continuous improvement to the State Highway routes and Interstate system

### Linear Referencing System (On-system)

### Continued participation in the WA-Trans Pooled Fund Study

### OCIO / GIO completed an assessment of potential data providers for SRN.

#### Assessment

#### Piloted the WA-Trans process w/ Caltrans and Amador County data

# Next Steps

### Phase II of the Stakeholder Assessment

### Extend our current LRS (single-level) to a Multi-Level LRS

### Procure Desktop and Server Spatial ETL Tools

### Take delivery of FME scripts

### Establish Data Sharing Portal

### Build Data Sharing Partnerships

# Questions / Comments?

# **Geodetic Control**--Marti Ikehara, California State Geodetic Advisor, NOAA’s National Geodetic Survey Marti.ikehara@noaa.gov

# Components of Geodetic Control; Accuracy Issues

## Horizontal (NAD83) and Vertical (NAVD88)

## Active—CGPS and Passive—in the ground

## Issue: Earth (setting) is not truly stable; thus, coordinates/heights become inaccurate

## How do we maintain accuracy in light of constant and event (EQ) plate tectonics (mostly horizontal) and vertical changes?

# Continuous GPS (CGPS) as backbone

## >800 high-quality (stable) CGPS have been installed in CA for geophysical monitoring

## CA Spatial Reference Center, based with SOPAC at Scripps, UCSD, has supported geodesy

## CSRC selected a subset of about 160 as backbone stations, at about 75 km spacing; details of plan in document on Carol’s ftp and CSRC websites

## Desire to establish real-time communication to enable continuous monitoring and TRANSMISSION of position and ellipsoid/orthometric heights, always accurate

## Break-out session Discussions: Meet in Sutter Buttes room after lunch

## 1) Appropriate steward of geodetic control framework layer: CSRC, Caltrans, GIO/CIO, CA Geodetic Survey?

## 2) Appropriate/reliable source of funding?

## 3) Mix of active/passive networks? How/who to maintain passive?

## 4) Access of active CGPS available to single-frequency equipment?

Bruce Joffe is on the CSRS board, they have built this network, it benefits us all, all of our layers need to be aligned, really need to find funding for this. Move to form a work group, seconded, and passed.

1. **Govt units**—this discussion was deferred and may roll into the broader Census activity
2. **Other framework theme updates:**

* CalEMA—Michele and Phil--critical infrastructure, data housed on federal servers, much of the data is tabular, data are protected
* Vegetation mapping—High quality vegetation data has been listed as a framework-plus data layer that is important for all manner of environmental and land management work.  Rare species habitat identification, invasive species spread modeling, wildland fire risk prediction, land use planning, climate change studies, and environmental impact avoidance and mitigation are a few notable uses.   In 2007, DFG was directed by the Legislature to establish a state standard for natural vegetation classification and mapping.  In consultation with an interagency group of state, federal and NGO partners the standard was established.  It uses the Manual of California Vegetation, 2nd ed., as the classification of types of which there are several hundred in the state.  Mapping standards for map data sets are 1-2 acres MMU, across all types, across all ownerships and must have an 80% or better accuracy for all types.  See [www.dfg.ca.gov/biogeodata/vegcamp](http://www.dfg.ca.gov/biogeodata/vegcamp) for more details.

DFG performs mapping projects on a prioritized, funding-available basis, but also trains and consults with other organizations/private companies interested in mapping to the standard.  Mapping is complete for approximately 1/3 of state and new work is underway in San Diego county, the Sacramento Valley, the Sierra Nevada foothills and the Mojave desert.  <http://www.dfg.ca.gov/biogeodata/vegcamp/pdfs/NVCSCurrentAndInProcessandInitialSurveyFeb2010.pdf>  The long term goal is to develop coverage for the entire state.

1. **Workgroup reports:**

# **Homeland Security Committee**—Terrence Newsome, DHS Update on pushing out HSIP Gold 2010 to state and local security partners via a federal server.

## Expanded use of NAVTEQ data in HSIP Gold.

In support of:

State Emergency Operation Centers

State Emergency Management Coordination

State Fusion Centers

State National Guard Joint Operation Centers

State GIS Coordinators

# San Bruno Explosion—sequence of events:

## Thursday, September 9th

## 1815-Explosion in City of San Bruno (in San Mateo County, San Francisco Region, FEMA Region IX)

## 1845-Saw pictures of blast on TV.

## 1900-Accessd DHS Earth, added IAL and Energy layers.

## 1930-Provided screenshot of DHS earth to PSA’s, HTTR, and DHS GIS leads (via email and called PSA).

## 2237-Communicated with FEMA IMAT and SF Fusion Center Commander (via email and voice).

## Friday, September 10th

## 0053-Checked HSIN GIS & EM portals for products.

## 0103-Fusion Center Commander left scene.

## 0309-Discussion on imagery with FEMA (via email request).

## 0654-Info passed to NICC from DHS GIS.

## 0821-ESRI began search for base layers (via email).

## 0830-Communication outage until 1130

## 1045-Provided status updates (via email and voice)

## 1253-Base layers received from Lynx (San Bruno contractor)

## 1302-Interest level minimal at DHS (via email and voice)

## 1330-Met with PSA’s for lunch

## 1527-Will provide product to fusion center by mid-week (via email request and voice)

## 1518-Request for imagery from San Mateo County via USGS (email to group)

## 1658-CalEMA maps shared with group

## 2135-Summary email with available imagery (early DigitalGlobe), data layer contacts, and fusion center request.

## 2346-Received DigitalGlobe PDF via Las Vegas contacts

## Saturday, September 11th

## 0743-Summary information used at DHS NOC.

## 1134-San Mateo County offers GIS data

# San Bruno Observations:

## Notification of Event

## Communication (email/internet/TV)

## Dissemination on Information

## Storage of Imagery and Map products

## Availability of Key Personnel

## We need to continue to educate Emergency Managers and Homeland Security professionals on the value of GIS.

## GIS capabilities (if they exist in a city/county/state) should be more integrated into the Incident Command System (ICS).

## All GIS requests for maps, data layers, and imagery should go through the appropriate ICS structure via the primary command center.

## A repository to share maps, data, links, comments, etc. would be helpful

## City, County, and State agencies should utilize the free mapping capabilities on Yahoo, Google, Bing, etc.

# Federal Geospatial Products and Programs

## To access resources and obtain membership in the **Homeland Infrastructure Foundation Level Data Working Group (HIFLD-WG**), go tohttp://www.hifldwg.org. Once a member, federal partners can request **HSIP Gold.** Input regarding HSIP Gold & Freedom can also be submitted using the HSIP feedback mechanism.

## To obtain a **Homeland** **Security Information Network (HSIN) GIS Portal** credential, **send a request to** hsin.helpdesk@dhs.gov or call (866) 430-0162. The HSIN GIS portal is located at **https://government.hsin.gov/sites/gis** and also contains a link to download **HSIP Freedom**.

## \*Note: You may also request access to the Critical Sectors, Public Health, and Emergency Management HSIN Communities of Interest (COI’s).

## 3. Your HSIN GIS credential can also be used to view HSIP Gold data in **iCAV** and **DHS Earth**. The main iCAV website is located at https://icav.dhs.gov/ where you can access iCAV Next Generation, download the DHS Earth kml file for use in Google Earth, and view training.

## You may also want to take the **Protected Critical Infrastructure Information (PCII)** training. More info is here: http://www.dhs.gov/files/programs/editorial\_0404.shtm and training can be accessed here: https://pciims.dhs.gov/pciims/Index.aspx

# Future Discussions:

## Data Exchange Partnership

## Virtual USA

## State Water Project (Nat. Resources), Minimum Essential Data Sets (MEDS) & SABER (CalEMA)

## Upcoming Events

## HIFLD- Rescheduled to Nov 1 & 2 at FCC (Communications Sector)

## Southern California Fire Service Training Nov 30 to Dec 1 (website here)

**Coastal** **Working group**—Christina Cairns, NOAA CSCS, and Pam Rittlemeyer, OPC

The coastal working groups has nearly finalized their charter, they meet monthly. OPC will fund a scoping process, assess user needs, primarily state agencies, looking at technical requirements, tools needed,

Prop 84 timeline, bonds have been sold, requires treasury release of funds.

**Calatlas**—David Harris, CERES

Digital geospatial library, usage grows, 24tb in collection, substantial infrastructure underway, tier 3 data center, might use a federated strategy for storage, point to partners storage, mirror at the SDSC as part of CSDI, exploring authentication schemes for usage surges, catalog morph to data.gov type of structure.

The date and location for the next CA GIS Council meeting was not established