A NOTE FROM THE EDITOR

Last October I attended the GEOINT conference in Orlando, Florida. The USGIF YPG (United States Geospatial Intelligence Foundation Young Professionals Group) holds an annual contest, during which they select a couple-dozen young professionals and grant them all-access “Golden Ticket” passes to the conference. (By the way, one must learn to speak “acronym” in order to fully appreciate all things GEOINT.)

I attended the week-long conference and had an enjoyable time meeting associates and I learned about the many applications of geospatial technology in the military and reconnaissance. Having an “in” through YPG helped enormously, as the conference had 10,000 attendees. YPG did an outstanding job getting Golden Ticket winners in front of high-level decision makers. I was given the opportunity to meet National Geospatial-Intelligence Agency Director Leticia Long (see picture below) and ask her about creating a program that sponsors small businesses for security clearance; which is a must-have in order to do any work with the military or an associated office. I’m sharing the details of this experience to: 1) tell you about a great opportunity for young professionals in the Bay Area who may be interested in geospatial/military work, and 2) share one of the overarching themes during the conference, which was big data.

Most readers have heard of or had first-hand experience with big data. Perhaps we’ve encountered the issue either personally or professionally. The military may have different big data problems than a business or municipality but all are trying to store, organize and sort through increasingly large amounts of digital information. The articles in this issue of the BAAMA Journal address big data in the B2C and B2B markets. Meograph’s built a tool that helps amateur and professional artists, educators, and journalists collect some big data from the web and turn it into a four-dimensional story. Space-Time Insight addresses big data from utilities including: sensors and other assets; “weather forecasts, satellite images or fire reports; GPS location data; social data; and data from traditional enterprise and CRM systems.” Read both articles to wrap your mind around what can seem like an awesome problem; one that is addressed using two unique and creative solutions. Both Bay Area companies embody the richness of thought that make our collective group of geospatial professionals extraordinary.

The other wonderful feature of the Spring 2013 BAAMA Journal is our beautiful Map Gallery. We had a terrific response to our “Call for Maps.” I am pleased to share with you 10 outstanding maps featuring a breath of subject matter by a range of cartographers. Wonderful stuff!

Thank you for your readership and continued support of The BAAMA Journal. Keep sending your awesome work to editor@BAAMA.org.

Sincerely,
Catherine Burton
Editor, The BAAMA Journal
Vice President, BAAMA

UPCOMING EVENTS 2013

All exact dates, times and locations TBD. For more information, visit BAAMA.org/meetings.

MAY 2013
Educational Session, Oakland MTC, lunch

JULY 2013
Summer Social BBQ, evening

SEPTEMBER 2013
Education Session, morning

NOVEMBER 2013
GIS/GEO DAY, all day

JANUARY 2014
New Year Kickoff, evening

BAAMA.org is a great source for local and regional geo-related events. Let editor@BAAMA.org, or any Barod memeber know if you have an event you’d like posted.
FOUR-DIMENSIONAL STORYTELLING WITH MEOGRAPH  
BY MISHA LEYBOVICH, CEO; FRANCIS ESCUADRO, CTO; AND RACHEL CHIBIDAKIS, INTERN; MEOGRAPH

Storytelling is fundamental to communication. Stories are how we express ourselves, learn about the world, and engage with each other. To be effective storytellers for today’s digitally-oriented audiences, multiple “dimensions” of digital storytelling may be employed.

Beyond just a story’s content, visual context can be critical to truly understanding and retaining meaning. Locational context is particularly important to inform our deeply rooted sense of geographically where we are. Further, static storytelling (no multimedia or interactivity) is becoming less effective at holding audiences’ attention. As we begin to increasingly consume information through connected devices, interaction through clicking on different parts of the story may be the next important dimension. Finally, to create a rich experience in one narrative, curating disparate content together may be an integral dimension of modern storytelling.

Meograph (meograph.com) is a new “four-dimensional” storytelling tool that creates fluid, rich media and geo-and time-based stories by seamlessly combining the four dimensions of digital storytelling: content, context, “click ability,” and “curation.” Producing stories that combine all four dimensions can be challenging with most online tools.

Content — the meat of a story — drives audience connection and emotional movement. In a Meograph, content is organized into a collection of sequential “moments.” With a narration function, storytellers can voiceover each moment. In addition to narration and text, she can upload images, videos and links relevant to that particular moment.

Figure 1. A Meograph story of the Arab Spring, which combines video, audio, pictures, text, maps, timelines, and links into one comprehensive package.
Context — the bones of a story — gives structure and visual shape to the content. The creator has the option of placing the moments in geographic context on a background map and assigning each moment a date and time to order the story into a visually proportional timeline. When both geo and date/time are combined, Meograph will play moments dynamically in a unique way unmatched by any other storytelling software.

Clickability — the joints of a story — allows the audience to nimbly move around the story. At present, a viewer can easily skip through moments at his leisure, and click on a moment’s links to dive deeper into a backstory.

Curation — the skin of a story — holds content, context and clickability together. With links scattered throughout the web, a creator is able to pick the most salient elements of her story and easily combine them in one place, a Meograph.

When one can integrate all four “dimensions” to tell a story, a truly engaging digital narrative is enabled. Meograph is the first online storytelling application to offer authors to combine content, context, clickability, and curation into one new form of media. Beyond the tool’s capabilities, applying guiding structure to storytelling is easy while the results remain engaging and compelling.

Figure 1. shows a Meograph story of the Arab Spring, which combines video, audio, pictures, text, maps, timelines, and links into one comprehensive package. The story unfolds as it plays out through space and time (another definition of “four-dimensional”), with content and links bringing each moment to life. Moments and links can be clicked through to give the audience a choice between a few minutes or as much time as desired of playback to dive into the depth behind each moment. Meograph is less than a year old and evolving rapidly. By using all the dimensions available to tell multimedia stories, we can engage today’s sophisticated and demanding audiences with stories they intuitively understand.

Meograph is less than a year old and evolving rapidly. By using all the dimensions available to tell multimedia stories, we can engage today’s sophisticated and demanding audiences with stories they intuitively understand.

Meograph is a San Francisco-based company, founded in 2012. The company is growing fast, with use by dozens of major news organizations, in hundreds of schools, and by tens of thousands of storytellers worldwide. The company is very responsive to its users and receptive to their feedback. Check out meograph.com and create your own. We look forward to seeing your stories!

The winner of the Fall 2010 Where in the Bay Area? Contest is Brian B. Quinn, Ph. D GIS/GIS ANALYST (II), County of Marin, Community Development Agency, Geographic Information Systems Division. Brian’s answer: “I believe that this month’s shot is easier than most. It’s the massive PG&E substation south of San Jose at Highway 101 and Metcalf Road.”

BAAMA received ten responses, all of which were correct. The winner was chosen by random drawing.
GEOSPATIAL TECHNOLOGY + SITUATIONAL INTELLIGENCE: EMPOWERING COMPANIES TO “SEE” MORE VALUE IN BIG DATA

BY STEVE EHRLICH, SENIOR VICE PRESIDENT, MARKETING AND PRODUCT MANAGEMENT, SPACE-TIME INSIGHT

It is no secret that the explosion of big data is challenging all types of organizations today. Volume is certainly one part of the equation, but the diversity of sources, and the pace at which data is generated add a level of complexity to information analysis that’s simply unprecedented. This is especially true in the power industry, where utilities, energy producers, independent system operators and other players need to balance modern customer demands and newer, “smart” technologies against aging infrastructure, environmental hazards, and a shift to greener (but more variable) sources of electricity. In these environments, an ability to digest multiple streams of incoming information as fast as possible can be critical. Accurate insight can mean the difference between handling a crisis (such as a severe storm or unexpected power shortage) with confidence or being caught unprepared, placing lives and property at risk. Geospatial technologies, in combination with a “situational” approach to analysis, present a compelling way for asset-intensive organizations to extract greater value from available data, by helping decision makers see important connections that may otherwise remain hidden (Figure 1).

IN COMPLEX ENVIRONMENTS “CONNECTING THE DOTS” IS CHALLENGING
The data that power industry stakeholders have access to is enormous in volume and continually evolving, spanning information from meter feeds, field sensors, weather forecasts, operational systems,
customer service records and even social media chatter. Organizations want to be able to use this information to ask questions like:

- How much power will be available from solar and wind generators in the next hour?
- Where is the closest repair crew that can deal with a downed power line and which customers are impacted?
- What equipment will need service and repairs in the coming quarter?

Answers to questions such as these do not often come from a single source. Relevant information may be hidden in siloed databases and systems, saved in different formats or managed by different organizational departments; this makes it difficult to connect the dots that when analyzed together point to important insights. Additionally, many traditional approaches to data analysis (like running historical reports or comparing different sources of information manually) are slow and prone to error. In a fast-moving situation, stakeholders simply do not have time for the tedious review of piles of spreadsheets and documents, or to wait days or weeks to produce a report.

SITUATIONAL INTELLIGENCE USES VISUALIZATION TO SIMPLIFY AND STRENGTHEN ANALYSIS

The dimensions of space and time are unique in that they are common to all physical phenomena. They are also a natural way for humans to view and take-in multi-faceted situations and events; we like to see where things are happening, how they are happening, and in what time frame. The desire to see where, how and when things are happening is the underlying principle behind situational intelligence (Figure 2).

Melding computer science, statistics, graphics, analytics and storytelling, software for situational intelligence combines multi-dimensional geospatial maps and analytical representations to build visualizations of structured and unstructured data from different underlying domains. Key to making this work is an ability to correlate and analyze both real-time and historical data from diverse sources so that decision makers can get an accurate picture of past, present and future use-case scenarios. Relevant types of information may include: operational data generated by equipment, sensors and other assets; environmental data such as weather forecasts, satellite images or fire reports; GPS location data; social data; and data from traditional enterprise and CRM systems. When all this data can be viewed holistically and in real-time, information consumers are less likely to miss key details that can be overlooked when analysis is performed in a piecemeal fashion.

To draw attention to potential problems, opportunities or anomalies, situational intelligence uses a number of visualization techniques including: color-coding, 3-D representations of data, or animation. For example, a geospatial display showing the placement of transmission lines on map might be color-coded to indicate points of stress or failure during a storm. In a multi-dimensional view, users can zoom-in or out on a particular area to get a more detailed look at which specific assets are affected. Trends over time may also be shown, helping operators identify how a problem occurred; for instance, weather patterns over a given hour might reveal that lightning was the cause of a power outage rather than a system failure. This presentation of data allows decision makers to take in a situation in seconds, which is a savings in time and efficiency when compared with the process of reviewing multiple spreadsheets and text documents or logging in and out of multiple systems and applications.

The last important aspect of situational intelligence includes an ability to set actions in motion. This can be done with automatic alerts or notifications.

Figure 2. Situational Intelligence empowers decision-makers to visually assess the real-time performance of grid operations.
that are triggered by specific situations and conditions. For example, nearby repair crews are automatically notified when a power outage occurs.

SEEING IS BELIEVING FOR THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR

The California Independent System Operator Corporation (ISO) is using situational intelligence and geospatial technologies to combat big data overload, and drive better, faster, and more accurate decision-making. The organization manages electricity flow across 80 percent of California’s power grid, delivering 286 billion kilowatt-hours annually over 25,000 circuit-miles of power lines. With so much geographic territory under management and numerous data inputs to consider, California ISO operators need instant access to issues on the grid such that they can quickly understand the nuances of an unfolding situation (Figure 3).

Supported by situational intelligence software from Space-Time Insight, the California ISO is able to combine massive volumes of data from multiple sources—including weather feeds, sensors, metering equipment and more—into visual displays. The California ISO operators use the displays to make decisions about how to optimize the use of renewable energy, balance power supply-and-demand across the grid, and quickly respond to potential crises. For example, fire and wind trajectory data can be overlaid on a map of the transmission system to spot lines at risk during a wildfire, or visualizations can combine weather feeds and cloud-cover data with infrared solar imagery to show the impact of clouds and weather patterns on solar generators. This new means by which to visually interpret and analyze data is valuable for the California ISO, as users are able to react in real-time. Integration of renewable energy sources into the grid is a major objective for the California ISO. The organization’s renewables display shows a rolling, 24-hour, color-coded view of the energy produced by wind, solar, hydro, and other sources. The technology helps improve forecasting accuracy by tracking trends and patterns which empower the organization’s operators to make better predictions about the renewable and conventional energy sources available within the coming hours and days. The California ISO incorporated the situational intelligence technology into an 80 ft. x 6.5 ft. video wall at its state-of-the-art control center. The video displays contain layers of information and delivers a complete view of the entire power grid.

For more information and to see a video of this innovative solution in action, visit: spacetimeinsight.com/video/overview.php

ABOUT STEVE EHRLICH

Steve Ehrlich is Senior Vice President, Marketing and Product Management for Space-Time Insight (SpacetimeInsight.com), a provider of next-generation situational intelligence solutions.
BAAMA
CONNECTING PEOPLE WHO NEED GIS WITH THOSE WHO KNOW GIS

BAAMA is the vital organization of GIS professionals in the San Francisco Bay Region that promotes partnerships and teamwork with users of GIS technology to improve our environment and community. BAAMA is a proud chapter of the Urban and Regional Information Systems Association (URISA).

The mission of BAAMA is to be the primary forum of the San Francisco Bay Region geospatial community that provides education for professional development, networking opportunities, leadership, coordination, and representation — and have fun doing it!

BAAMA JOURNAL EDITORIAL BOARD
CATHERINE BURTON

KEEP US INFORMED
Please send us your comments, ideas, and news. If you want to write an article about your recent project, let us know! We are interested in pieces that educate and inform the Bay Area GIS audience of innovative projects using geospatial technologies. Content Editor — Editor@BAAMA.org

BAAMA BOARD OF DIRECTORS
MÔNO SIMEONE, PRESIDENT
CATHERINE BURTON, VICE PRESIDENT
JOHN HJEIT, TREASURER
JEFF MUNOWITCH, SECRETARY
CRISTI DELGADO
BRIAN FULFROST
DENNIS KLEIN
KEVIN KOY
MEL JONAS
PHIL BEILIN

BAAMA welcomes members to take volunteer roles in the organization’s activities! If you would like to get involved, please contact a board member!

Bay Area Automated Mapping Association
P.O. Box 71073, Oakland, CA 94612

BECOME A BAAMA MEMBER OR VOLUNTEER TODAY

NEW! SILVER CORPORATE MEMBERSHIP
$299.00 ANNUAL FEE

- Post half-page, color advertisement in each issue of bi-annual The BAAMA Journal at no additional cost
- Have the name of your organization listed in each educational meeting audio recording
- Up to 10 individuals from the organization receive all corporate membership benefits listed in “Corporate Membership” level

CORPORATE MEMBERSHIP
$175.00 ANNUAL FEE

- Once/year opportunity to send an informational or advertising announcement to all BAAMA members
- Opportunities to conduct Technical Tours
- Listed as sponsor on BAAMA website
- Link to organization web site from BAAMA website
- Listed as sponsor on all BAAMA newsletters
- Up to 10 individuals from the organization receive all individual membership benefits listed in “Individual Membership” level

EDUCATIONAL INSTITUTION MEMBERSHIP
$99.00 ANNUAL FEE

- Unlimited number of individuals from a school receive all individual membership benefits listed in “Individual Membership” level
- All students must be on the membership email list of the respective school (managed by school)
- Student must show current student ID

INDIVIDUAL MEMBERSHIP
$35.00 ANNUAL FEE

- Free admission to bi-monthly educational meetings
- Free admission to Technical Tours
- BAAMA journal access which can be downloaded from the BAAMA website
- E-mail announcements & reminders for Bay Area GIS activities

INTERESTED IN VOLUNTEERING?
Are you already a BAAMA member who’d like to get a little more involved? BAAMA welcomes members to take volunteer roles in the organization’s activities!

There are many reasons to be a BAAMA volunteer. Volunteering will increase your professional toolbox and enhance your resume. And, you will get to better know your fellow BAAMA members and board members.

Contact any Board member for more information, or download an application form from BAAMA.org/application.pdf.
TITLE: “A Hand-Drawn Map of California,” excerpt featuring the Bay Area and lower Sacramento and San Joaquin Valleys. (Original: 55” x 13.5”/excerpt: 8.5” x 11”, pencil and ink on paper)

SOFTWARE USED: Adobe Photoshop, Illustrator, and InDesign.

CREATED BY: Jake Coolidge, Freelance Cartographer and GIS Consultant; JakeCoolidgeCartography.com.
Visualizing the Occupy Movement through Twitter Geotags

These maps show the hot spots in the United States for Occupy-related tweets. For each tweet, Twitter records the timestamp, username, user’s language code, and whether the tweet was a reply to another tweet (and if it was, the ID for the original tweet). Twitter also records the following geographical information: the geographical information includes: region information, country, place name, place type, a bounding box that is a polygon of latitude/longitude coordinates, and optionally a specific latitude/longitude location for the tweet.

Because Twitter does not make historical tweet data publicly accessible at this time, a “scraper site” was used to obtain the data for Occupy-related tweets. A scraper site is a site that uses the Twitter Search API to search through all tweets daily and record the tweets using the word “occupy.” The scraper site makes these records publicly available for download.

The large map, “Occupy Tweet Hotspots Across the US,” shows the cities in the US where the highest Occupy tweet density occurred between October 26th, 2011 and May 9th, 2012. The highest density occurred in New York City, the San Francisco Bay Area, and Washington, D.C.

The smaller maps show the changes in tweet density between October 26th, 2011 and April 24th, 2012, and the maps break this into four separate categories. A number of changes in density occur throughout these time periods, and there is an overall increase in dense tweet locations throughout the entire time period.

The scatter chart shows that the number of tweets that occurred daily between October 26th, 2011 and May 9th, 2011. This chart shows that the overall trend during this time period is an increase in daily Occupy-related tweets.

Meghan Hade | URBP 278 : Intro to GIS Applications | May 21, 2012

Sources:
United States Shapefile: M. Price [SDSM&T] (2012)
Twitter data: https://scraperwiki.com/scrapers/tweet_search_saving_all_meta_data
Hydraulic Fracturing of Shale Gas Wells
County Water Use Projections for 2030

Hydraulic fracturing is a key technique used in shale gas development. With the production of shale gas projected to more than double in 2030, water resource constraints are important factors to evaluate when planning for future development of shale gas plays.

1. How many wells will be fracked in 2030? Based on gas production estimates from individual wells in the major shale plays (HPDI, www.hpdi.com), and by fitting a production function over time, 9,500 are projected for 2030.

2. How much water does an average well use for fracking? It varies by shale play, typically 3-8 million gallons. We used a multi-region average of 3.3 million gallons (Logan et al., 2012).

3. What is the estimated number of wells in each county? We distribute wells proportionally to the current EIA reserve estimate (2011) within counties currently containing an active shale gas well (HPDI). Excluded from well distribution areas are water bodies and rivers with a 50 meter buffer, federal lands, and census blocks with population density (US Census, 2010) greater than 5000 people per square mile.

CONCLUSIONS

- For the scenario presented here, almost 80 million gallons of water per day (MGD) may be required for hydraulic fracturing.

- Assuming a typical per capita demand of 100 gallons per day, 80 MGD corresponds to the daily water needs of 800,000 persons.

- Much of this water is consumptively used, and focused in a small number of counties.

- For four counties hydraulic fracturing may account for more than 25% of the total freshwater used by the county based on total water use in 2005 (Kenny et al., 2009).
Oenocarpus bataua
The original Amazonian superfood

This palm tree produces fat-rich fruits with high-quality protein and a delicious nutty flavor. Its fruit oil is comparable to olive oil. Vigorously mixing bataua fruit pulp with water yields a beverage similar in nutritional value to human milk.

Cartography by Sarah Lewis; Research by Tarek Milleron & Paul V.A. Fine

Fruits from this common palm could be more widely utilized to improve people’s nutrition across Amazonia. One adult palm reliably produces about 25 kg of fruit annually.

Existing inventory plots
O. bataua tree density per hectare

- > 50
- 26 – 50
- 10 – 25
- < 10
- None found

Archaeological sites (Dates ± 25-55 yrs)
Remains of O. bataua at these sites indicate that people have been enjoying its fruit for thousands of years and have likely been managing its high densities.

The known range of this species falls below 1,000 meters in elevation.

Nutritious O. bataua milk is rich and smooth, likened to “hazelnuts and cream” by Richard Spruce, 19th century botanist and Amazonian explorer. In Iquitos and other cities, bataua pulp is also used as a key ingredient of ice cream.
TITLE: “Napa River Rutherford Restoration Project Reaches 3 and 4 Constructed Restoration Elements.” (Dimensions 9” x 17,” jpg.)
SOFTWARE USED: ESRI ArcGIS 10.0
SPONSORED BY: Napa County and State Water Resources Control Board.
CREATED BY: Jeremy Sarrow, Flood Control and Watershed Resources Specialist, Napa County Flood Control and Water Conservation District
Housing Development Near Transit Facilities
An Analysis of Single-Family and Multi-Family Housing Density
San Jose, California

Buffer Tool vs Advanced Tools

Buffer Tool
- Buffer Footprints
- Multi-Family Housing
- Single Family Housing
- Five Minute Walking Distance
- VTA Light Rail Line
- Water Feature
- Light Rail Station
- Five Minute Walking Distance

Network Analyst
- Buffer Footprints
- Multi-Family Housing
- Single Family Housing
- Five Minute Walking Distance
- VTA Light Rail Line
- Water Feature
- Light Rail Station
- Five Minute Walking Distance

3D Analyst
- Buffer Footprints
- Multi-Family Housing
- Single Family Housing
- Five Minute Walking Distance
- VTA Light Rail Line
- Water Feature
- Light Rail Station
- Five Minute Walking Distance

Project Description
The map represents single-family and multifamily housing developments within five minutes walking distance of two light rail stations in San Jose. The results are shown using two different methods in ArcGIS. First, the results are obtained using the "buffer" tool which is generally used in ArcGIS to find area within a specific distance of a facility. Then the results were obtained and presented using advanced GIS tools “Network Analyst” and “3D Analyst”. Network analyst is used to define the service area that falls within a five minute walking distance of two VTA light rail stations. The maps show significant differences between the results obtained using two different methods.

Density Calculations

<table>
<thead>
<tr>
<th></th>
<th>Single-Family Housing (People per Acre)</th>
<th>Multi-Family Housing (People per Acre)</th>
<th>Percentage Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light Rail Station</td>
<td>12.02</td>
<td>12.02</td>
<td>0%</td>
</tr>
<tr>
<td>Total</td>
<td>12.02</td>
<td>12.02</td>
<td>0%</td>
</tr>
</tbody>
</table>

Source: https://www.transportationimpact.com/workspaces/transportationimpact/downloads/15

Author: Farah Saud
Date: December 2013
Source: Field survey by author, City of San Jose, Valley Transportation Authority.
SWALLOWED BY THE SEA
Sea Level Rise Projections for Mission Bay - San Francisco, California

This map aims to help visualize sea level rise projections in Mission Bay in 25 year increments. The different map colors represent areas of inundation for specific years. This will aid in understanding possible implications that sea level rise may have on this area of San Francisco.

Sea Level Rise Projections

Year:
- 2025
- 2050
- 2075
- 2100
- 2125
- 2150


Map created by Jacqueline Vance, December 2012

Produced for Advanced GIS course
Urban Planning 279
San Jose State University
WHERE IN THE BAY AREA?

As the Fall 2012’s Where in the Bay Area photo may have been obvious to South Bay folks and utilities-minded professionals, we’ve decided try something a bit more challenging. Water or land managers may guess it off the bat, but others perhaps not so much….

Identify the name and location of the feature in this image and send your answer to editor@BAAMA.org. One lucky winner will be randomly selected from all correct entries received by October 1, 2013. The winner will be announced in the next issue due out GIS Day 2013.

BAAMA EXTENDS SPECIAL APPRECIATION TO ITS 2013 CORPORATE SPONSORS

- earthmine, inc.
- Ellis Geospatial
- Endpoint Environmental LLC
- ESRI
- Farallon Geographics, Inc.
- Geografika Consulting
- GeoSyntec Consultants
- i-TEN Associates, Inc.
- Lohnes & Wright
- Michael Baker Jr., Inc.
- Open Spatial Corporation
- Photo Science, Inc.
- PSOMAS
- San Francisco International Airport
- Towill, Inc.
- URS

EDUCATION/RESEARCH INSTITUTIONS
- Diablo Valley College
- Stanford University

GOVERNMENT
- AC Transit
- Caltrans
- City and County of San Francisco GIS
- City of Berkeley
- City of Fremont
- City of Livermore
- City of Pleasanton
- City of San Jose
- City of Stockton
- City of Walnut Creek
- County of Alameda, Public Works Agency
- County of Marin, Community Development Dept
- County of Santa Clara, ISD
- San Francisco Department of City Planning
- San Francisco Department of Public Health
- San Francisco Department of Public Works
- San Francisco Municipal Transportation Agency
- Vallejo Sanitation & Flood Control

NON-PROFIT ORGANIZATIONS
- GreenInfo Network
- San Francisco Estuary Institute

UTILITIES
- California Water Service Co.
- Central Contra Costa Sanitary District
- Marin Municipal Water District
- Pacific Gas & Electric (PG&E)
- San Jose Water Company
- Santa Clara Valley Water District