

## Letter from the Director

It is an exciting time to be involved in geospatial technology! Advancements in access to data, applications to analyze new data sources, and the ability to share information with larger audiences have rapidly brought our field into the daily lives of both decision makers and the general public.

It is our mission at the GIF to keep our users on the cutting-edge of mapping technology, while maintaining an adherence to core geographic principals. More can be done to bring together traditional “paleo” geographers and new spatial programmers (or “neo” geographers). Both of these groups have much to learn from one another, and our hope is to provide a conducive environment for this discussion to take place.

This newsletter highlights a few of the ways that we can help people understand the opportunities that exist within the applications we use and the communities that promote their use.

- Cal-Adapt.org showcases our latest efforts in using online tools to share complex data and engage diverse audiences.
- Object Based Image Analysis (OBIA), and eCognition software, provide new ways to derive meaningful information from high-resolution imagery.
- Both BAAMA and ASPRS provide excellent networking opportunities for people exploring geospatial innovations throughout the area.

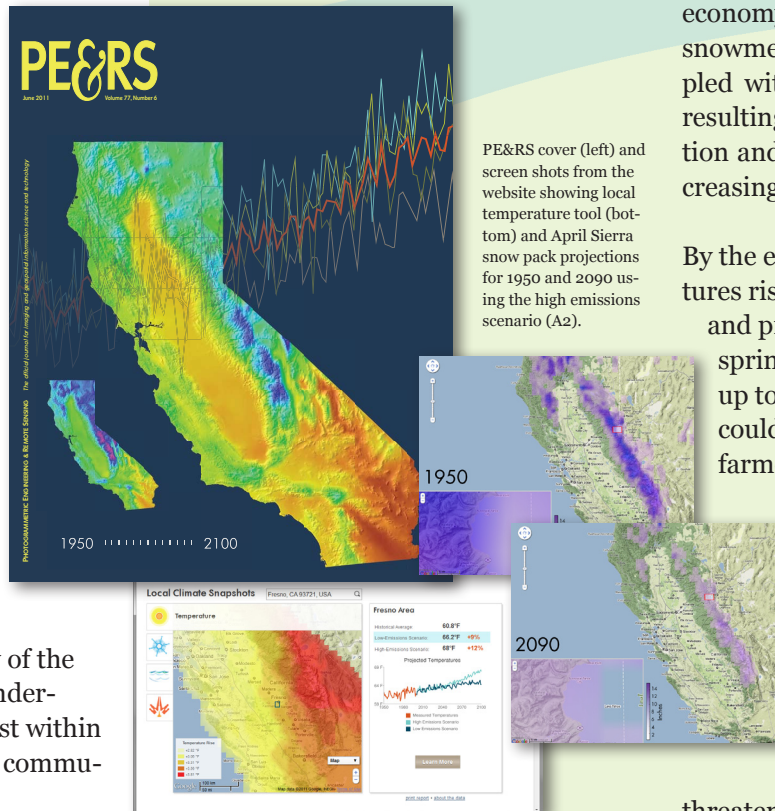
We look forward to another great year!

- Kevin Koy

## Cal-Adapt

### Cal-Adapt.org goes live!

Extensive climate change research being conducted at California universities and research centers is now openly available through a public website developed by the GIF for PIER, the California Energy Commission’s



PE&RS cover (left) and screen shots from the website showing local temperature tool (bottom) and April Sierra snow pack projections for 1950 and 2090 using the high emissions scenario (A2).

## Climate Change Highlight

### Projecting snow pack and future water supply

Article adapted from *Cal-Adapt.org*

Continued global warming is expected to increase pressure on California’s water resources, which are already over-stretched by the demands of a growing economy and population. Decreasing snowmelt and spring stream flows coupled with increasing demand for water resulting from both a growing population and hotter climate could lead to increasing water shortages.

By the end of the century, if temperatures rise to the medium warming range and precipitation decreases, late spring stream flow could decline by up to 30 percent. Agricultural areas could be hard hit, with California farmers losing as much as 25 percent of the water supply they need.

Water supplies are also at risk from rising sea levels. An influx of saltwater would degrade California’s estuaries, wetlands, and groundwater aquifers. In particular, saltwater intrusion would

threaten the quality and reliability of the major state fresh water supply that is pumped from the Sacramento/San Joaquin River Delta.

Coping with the most severe consequences of global warming would require major changes in water management and allocation systems. As more winter precipitation falls as rain instead of snow, water managers will have to balance the need to fill constructed reservoirs for water supply and the need to maintain reservoir space for winter flood control. Some additional storage could be developed; however, the economic and environmental costs would be high.

Public Interest Energy Research Program. The website, [Cal-Adapt.org](http://www.cal-adapt.org), went live in June and includes a variety of features tailored for different types of users, including members of the general public concerned about their neighborhood or region; decision-makers, such as city planners and resource managers; and experts interested in the raw data.

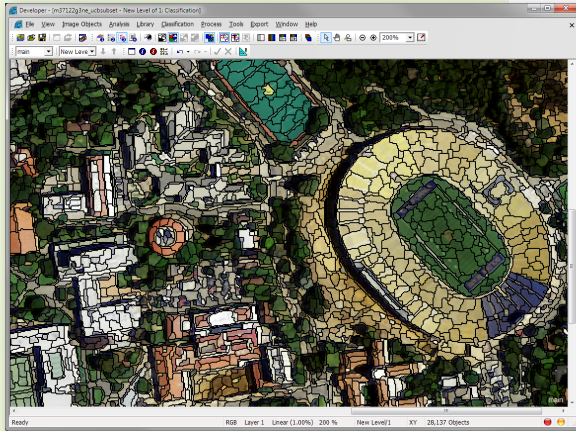
Learn more about the development of Cal-Adapt in a highlight article published in the June 2011 issue of PE&RS.

<http://www.asprs.org/PE-RS-Journal/2011-PE-RS-Journals.html>

## Object Based Image Analysis

### Working with eCognition software

We will be highlighting Object Based Image Analysis (OBIA) this Fall through a series of events and training opportunities. The GIF is an eCognition Center of Excellence, promoting innovative research, teaching, and learning practices, and serving as a hub for thought leaders in the geospatial sciences. We take pride in this role, and look forward to sharing our experience with new users.



Segmented image of Memorial Stadium, as obtained from 2009 NAIP imagery.

On Thursday, September 8 (1:10-2pm), we will host a GeoLunch presentation to introduce OBIA and eCognition, including several case studies from students and staff that have used eCognition in their research projects. Then, on October 18th, the GIF will host a workshop titled, "Advanced Remote Sensing: Object Based Image Analysis with eCognition." This workshop will cover the basic concepts and methods necessary to work with OBIA, as well as hands-on exercises with eCognition software. You can learn more about the workshop and registration at:

<http://gif.berkeley.edu/support/workshops.html>

Lastly, any UC student, faculty, or staff is welcome to visit the GIF to learn more about eCognition, and access free materials for self-paced training. eCognition software is installed on all GIF research lab workstations.

## Networking Opportunities

### BAAMA

The Bay Area Automated Mapping Association (BAAMA) is a great local network for geospatial professionals from a variety of different fields. The GIF has purchased an "Educational Membership" which gives us the ability to freely add an unlimited number of UC Berkeley students, faculty, and staff!

BAAMA membership gives you free access to attend their regularly held educational presentations (<http://www.baama.org/meetings>). In addition to events and meetings, BAAMA regularly publishes an informative journal and hosts an active job board for local geospatial job opportunities. They also provide opportunities to connect with professionals for mentorship.

If you would like to become a BAAMA member, send an email to Kevin ([kkoy@berkeley.edu](mailto:kkoy@berkeley.edu)) with the subject "BAAMA Membership" and include the name and email address that you would like associated with your membership.

### ASPRS

The American Society for Photogrammetry and Remote Sensing (ASPRS) is a national professional organization that aims to advance knowledge and improve understanding of mapping sciences and to promote the responsible applications of photogrammetry, remote sensing, geographic information systems (GIS), and supporting technologies. The GIF is an active member of the ASPRS NorCal region (<http://www.asprs.org/a/norcal/>).

This year's ASPRS national conference will be held in Sacramento (March 19-23, 2012), and we look forward to a great showing from UC Berkeley's geospatial experts! There are ample opportunities for students and volunteers to get involved. To find out more, visit: <http://www.asprs.org/Annual-Conferences/Participate/Students-Volunteers>

## Upcoming Events

### Workshops & Seminars

The fall 2011 workshop agenda is now available at: <http://gif.berkeley.edu>. Check out all of the different geospatial courses being offered:

- Intro to GIS
- Intro to GPS
- Intro to Remote Sensing
- Land cover change analysis
- Object Based Image Analysis
- Intro to Open-Source GIS
- Intro to LiDAR
- Intro to Species Distribution Modeling

### GeoLunch

#### Thursday's 1:10 - 2PM

We will be hosting another round of great speakers for this term's GeoLunch seminar series. Come join us in Mulford 103 on Thursday's 1:10-2pm. Presentation details are available at:

<http://gif.berkeley.edu/about/geolunch.html>

## GIF People



Kevin Koy  
Executive Director  
[kkoy@berkeley.edu](mailto:kkoy@berkeley.edu)  
Office Hours: Mon., 3-4pm



Mark O'Connor  
Geospatial IT Specialist  
[markoc@berkeley.edu](mailto:markoc@berkeley.edu)



Brian Galey  
Web Application Developer  
[bgaley@berkeley.edu](mailto:bgaley@berkeley.edu)  
Office Hours: Tues., 3-4pm



Matea Marsic  
Web Application Developer  
[mmarsic@berkeley.edu](mailto:mmarsic@berkeley.edu)



Sarah Lewis  
Graduate Student Researcher  
[slewis@berkeley.edu](mailto:slewis@berkeley.edu)



Maggi Kelly  
Faculty Director  
[maggi@berkeley.edu](mailto:maggi@berkeley.edu)