



2010

California Cadastral Mapping Association Conference Notes

Grass Valley, Nevada County, CA

October 15-16, 2010

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|--------------------------------|------------------------------|
| PRESIDENT | Terry McFeely, Nevada |
| VICE-PRESIDENT | Duane Gower, Santa Barbara |
| PAST-PRESIDENT | Emilio Solano, Los Angeles |
| SECRETARY | Solana Foo, Santa Barbara |
| TREASURER | Bret Keesler, San Bernardino |
| INFORMATION OFFICER | Jim Isbell, Kern |

Notes taken by: Solana Foo, Santa Barbara County

2010 Conference Notes

Counties in attendance: Alpine, Calaveras, Contra Costa, El Dorado, Kern, Lake, Los Angeles, Madera, Mono, Napa, Nevada, Orange, Placer, Plumas, Riverside, Sacramento, San Benito, San Bernardino, San Mateo, Santa Barbara, Santa Cruz, Shasta, Siskiyou, Solano, Stanislaus, Sutter, Tehama, Yuba



DAY 1

Jim DalBon, Assessor Nevada County gives opening speech, introducing us to the famous Empire Mines in Nevada County, reminding us that “it all funnels through you” with regard to Assessor’s work, and teaching those of us who didn’t know and were embarrassed to say, what the meaning of the word CADASTRAL is.

“The word "cadastre" came into English through Late Latin *capitastrum*, a register of the [poll tax](#), and the Greek *κατὰ στίχον* *kata stikhon*—literally, "down the line," in the sense of "line by line" along the directions and distances between the corners mentioned and marked by monuments in the metes and bounds.” –Wikipedia

Ralph Davis, BOE gave us a brief history of the BOE. It was created in 1879 because of the disparity in assessment practices from county to county. This new agency would equalize the methods of appraisal throughout the State of California. Today they have 4200 employees, 160 that do property taxes, and 11 in Tax Area Services, which is where the mapping staff resides. This year the BOE collected \$45 billion for the State General Fund.

In 1960 AH 215 was created to standardize Assessor’s mapping in the State of California. The page size was set at 11x17 so each page would fit into a briefcase. In the Spring of this year (2010), the BOE updated some parts of AH 215 that had become outdated. This was done by BOE employee Michael McDade.

Michael’s next project will be to write AH 216, which is something a lot of us have been anticipating. Ralph said Michael will start working on it soon and they expect it to take about a year. AH 216 will take changing technology into consideration and amend AH 215 to include guidelines and recommendations for electronic cadastral mapping standards. Ralph mentioned that the FGDC has a cadastral mapping subcommittee, and that the BOE would probably be pulling standards from there.

AH 216 will not cover things like lineweight or font type, but it will overlap AH 215 in some areas, re-evaluating their relevance in a digital world. Here are some things that might be discussed in the new Assessor’s Handbook AH 216:

- what fields should be included in the datasets
- the naming convention for those fields, accuracy issues –what to do with overlapping lines from different surveys
- the order of importance when looking at legal descriptions that don’t line up and which one to hold to
- what information people need to have in their dataset
- whether or not we need hard-copy maps
- if the 11x17 page size is now outdated
- whether or not electronic kiosks can replace hard-copy Assessor’s maps
- the relevance of Assessor’s Parcel Numbers in a digital system
- making the conversion from pen and paper to CAD or GIS

- improving the spatial accuracy of the GIS parcel layer
- how to work with agencies and other departments that use and rely on your GIS parcel layer

Ralph then cited a slew of instances where the accuracy of the GIS linework in space and relative to the earth became very important. Such instances as the San Bruno gas line explosion, where emergency workers needed to locate property boundaries on the ground. He also talked about Fires, and how a GIS parcel layer can be used to locate properties with improvements to focus firefighting efforts. Other consumers of the data would be the County Planning Department. For this Ralph cited the use of GIS parcel layers for Smart Growth and Infill Development, and gave an example of how land use and value were important predictors of trends and how those things were used by the City of Detroit to detach large subdivisions where the population had swelled and declined with the economy. Detroit was giving the land back to the county, demolishing all of the buildings there and turning it back into farmland.

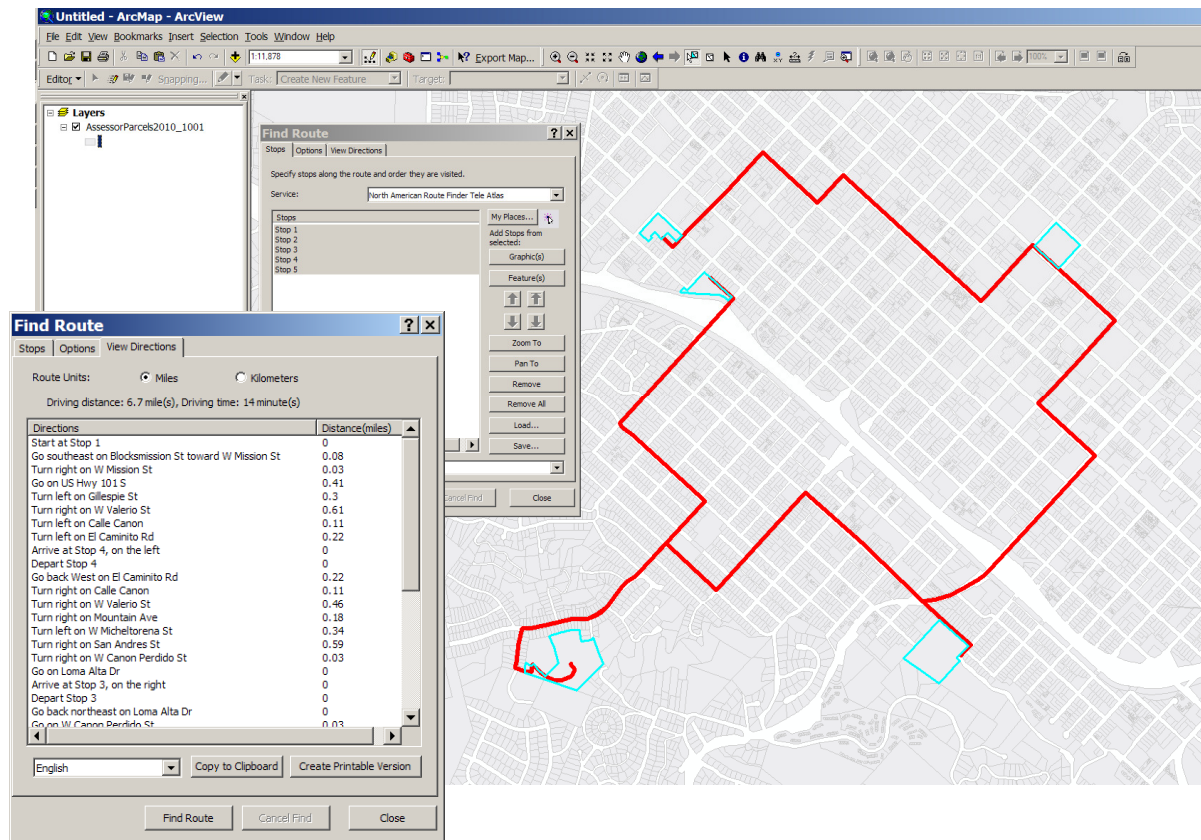
Aside from AH 216, Ralph also discussed the Digital Land Records Inventory, which is being maintained by Christie Cox. She has collected GIS parcel layers for 56 of the 58 California counties. DLRI was started in response to the San Mateo Fires.

The last item of discussion was about situs addresses. He said that there is now a working group at the State Department of Technology whose sole task is deal with address geolocation throughout the state. It is a \$2-3 million group project that will standardize addressing in the State of California.

Gary Powell, Placer County on ArcLogistics

Gary began with an introduction to Placer County's Assessor's Office. The office is now almost completely paperless. All the information, such as permits and other information, are tied electronically to an APN. Last year they processed 5-6,000 appeals (on a normal year they got 800). They purchased ArcLogistics for \$11,000 with TeleAtlas updates for \$2500. They use it in the business division to do individual workload management and for their CIP program. ArcLogistics creates more efficient routes for the appraisers, takes lunches and breaks into account, and uses situs addresses on street centerlines rather than APNs for navigation. A mobile app is now available with the software as well. It is estimated that Placer County has saved \$30,000 in staff time preparing routes and making routes more efficient. The methods used by the appraisers prior to ArcLogistics included a combination of Thomas Guides, Aerial Photography, Assessor's Maps, and group code maps.

For those interested in lower-tech alternatives, there is a free, built-in Find Route tool in ArcMap that references TeleAtlas routing through the Internet. The tool works by starting with a selection of parcels, then telling the software to find a route between all the selected features. You don't even need to add a streets layer to your map to use it:



Mark Silverston, Sonoma State Anthropology

Mark gave us an introduction to the research he has been doing locating historic artifacts in the Empire Mines. The mines were built in the 1850s during the Gold Rush. Mineral rights are still owned by the gold mines, but the surface rights belong to the State Historic Park. There are some Federal mineral claims as well.

Richard Ortiz, CalCad Solutions President

Richard discussed how we should look at the relationship between CAD and GIS. He discussed the concept of CAD & GIS versus CAD vs. GIS, and suggested we ask ourselves if it really had to be one or the other. He made a good point that at their cores, they serve different purposes. CAD is a computerization of the pen and ink process. GIS is for analysis, and displaying data visually in a real world coordinate system. He noted that several of his clients, like PacBell and Chevron, have both technologies and don't plan on getting rid of either. He also said that the transition from CAD to GIS costs an estimated \$1.5 million, so the benefits better be worth the cost. Richard reminded us not to get caught up in simply having the latest technology for technology's sake. Instead we should be coming from the perspective of trying to get useful and relevant information to the public and to the appraisers. The software should assist us in doing that, and not dictate what we think is important.

Richard then discussed some CAD-GIS interoperability tools, such as ArcCAD. (ArcCAD runs in CAD, but I believe it is software that is no longer promoted by ESRI. It worked with ArcInfo coverages and created data that could be used in GIS. I believe it has been replaced by [ArcGIS for AutoCAD](#). ArcGIS for AutoCAD allows you to view and edit feature classes from AutoCAD!!) He also discussed how ODBC, FDO, SDF and FME technology has helped with

interoperability between GIS and CAD. These types of interoperability tools eliminate duplication, and having to maintain a CAD dataset separate from a GIS dataset.

Lastly, Richard discussed the three main data formats that people can work in with geographic data.

1. Topology – ArcInfo Coverages, AutoCAD DWG
 - a. Pros are that there is only one line between polygons, unlike shapefiles.
 - b. Cons are that they are subdirectory intensive and topologies must be built and cleaned.
 - c. Used for creation of seamless basemap and Map Book Production.
2. Layered – DGN, AutoCAD DWG
 - a. Pros are that each feature class is on its own layer, and so it is easy to pull out all features of the same feature type by the layer they are on.
 - b. Cons are that it is hard to attach data to these files and the format is not readable by very many software suites.
 - c. Used for tax map production.
3. Object Model- shapefile, geodatabase feature class, Oracle Spatial database
 - a. Pros are it is easy to attach data because there is one record per feature/polygon. Each object is represented by one record in the database.
 - b. Cons are that there are multiple overlapping lines where polygons share a line. This makes accurate drawing more difficult and requires lots of time for clean-up.
 - c. Used for thematic mapping and displays, presentation and analysis.

In closing, Richard reminds us that “**this is software, not religion!**”

CCMA Classes

Then we had our first round of CCMA classes at the conference. Presentation notes and slides for each class can be found in the binder that was generously printed and distributed by Placer County. For this session attendees could choose between the following:

1. **Gavin Mayeda, Placer County, CAD Tips and Tricks**
2. **Emilio Solano, Los Angeles County, Property Location**

Emilio Solano, Impact of GIS on Economy

Emilio talked about the impact of GIS on Cadastral mapping in LA County. The use of GIS in cadastral mapping introduces new questions and new possibilities. You begin to ask yourself whether you are a cadastral mapper or GIS Analyst. You have to learn new applications. And new possibilities for data sharing arise.

Emilio started by reminding us that our primary directive is to assist the appraisers by assigning new parcels numbers and producing Assessor's maps. But the introduction of GIS into Assessor's mapping brings a whole new range of services to your appraisers. At LA County, they have begun producing Field Book Maps for the personal property section. They are able to map mobile homes with the aid of aerial photography, they can show contour lines over parcel boundaries. Emilio also mentioned that later versions on APEX software can export to shapefile and dbf. For their internal web maps, the GIS requires them to consolidate

the data they get from LARIAC, and other organizations into one place. GIS also requires them to work with the CIO, eGIS, and Elections departments. Their web server has 17 terrabytes of storage space. They also replicate the production server, which took 2 hours initially, but only 15 seconds every time after. In addition, LA County uses Pictometry and does Fire Mapping.

In conclusion, Emilio acknowledged that our field is getting ever more complex. Cadastral mappers now need to know about drafting, surveying, title investigating, real estate, law, GIS analysis, etc. You might consider a reclassification of your job title to include GIS as well.

LA County has 2 standard licenses for ArcGIS Server and 1 basic license. 1 for the Intranet applications, 1 for Data Editing/Storage, and 1 for the Internet applications. To create Assessor's maps, they have 25 ArcInfo Licenses, 7 ArcEditor Licenses, 9 ArcView Licenses, 8 extensions, and they also have Apex Medina software.

Open Discussion

Next, Terry led us through an open discussion, in which budgetary concerns were addressed. She was able to get around Nevada County's hiring freeze by going through the One Stop Business and Career Center in Grass Valley. They set her up with the Federal Subsidized Employment Program (SEP), which was part of the American Recovery Act. The program paid for a temporary trainee for the County, who would eventually take Terry's place when she retired. The position was funded completely by the Federal Government. Unfortunately, the program ended last September.

Los Angeles County talked about how they are getting Federal Funding to rectify their GIS data.

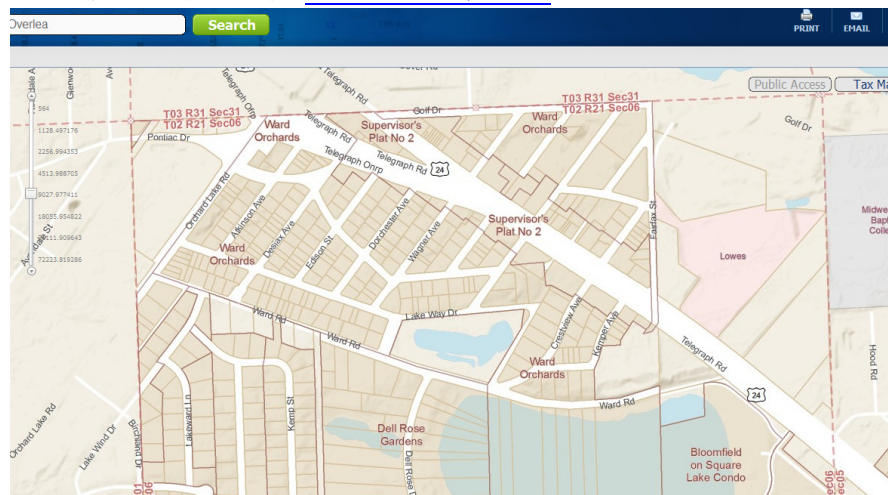
Placer County mentioned they have an MOU with the cities to exchange parcel lines.

The thought was thrown out that we should forget recruiting interns from the UCs and look to the Community Colleges for interns.

DAY 2

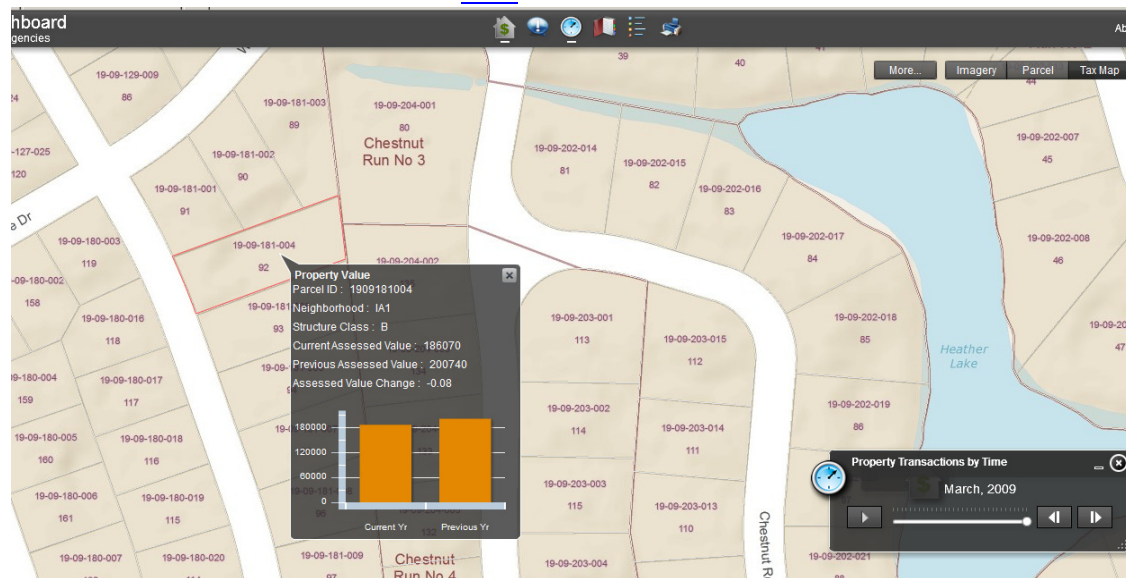
Chris Buscaglia, ESRI Land Records Team

Chris came back to the Conference with three different products. The first one he demonstrated was the [Tax Parcel Viewer](#).



This is developed in Javascript and the code for the webmap is available for free [here](#). The idea is that you would format your data so that the field names matched what was in the code. Or you would change the code to match your field names. Then you would publish your parcel layer as a Map Service using ArcGIS Server. Once you had a URL for the map service, you could point to that in the code. The config file, which is an xml file, is where you would change the map service URLs. Then, instead of seeing Bloomfield's parcels in the viewer, they would be your county's! The Tax Parcel Viewer's Public Access shows building footprints, parcel boundaries, and address number labels. The Tax Map view (see toggle buttons at top right) shows parcel boundaries, subdivision and township/range information (see above image).

The next viewer Chris showed us was the [Value Analysis Dashboard](#), developed with Flex. This code is also available for free [here](#).



This was developed more for internal use. It shows building footprints, Assessment appeals, Forclosures, Value Charts like the orange and black one seen in the image above. There is also a property transaction time-lapse mapping tool.


Lastly, he showed us a demo of their Tax Parcel Editing Map. This is a local mxd template that can be used to edit and maintain parcel information. In order to use this, you must preprocess your data and get it into the format that will work with the template. The Land Records Team can probably help you with that. Chris explained that the data structure was very similar to the old ArcInfo coverage.

This template includes feature-linked annotation, the ability to merge parcels and copy attributes, the ability to add bearing annotation to a line and choose which side it appears on, keep misclosure data, fit new parcels to the existing parcel fabric, and select a box around coincident points to snap them together.

Chris also did a demo of how to bring a subdivision map from CAD into the GIS parcel fabric. You can query the data and view old configurations of tax parcels and create map book series as well. I believe Chris said you need an ArcEditor License (one above ArcView). I think they said that Mono County is using this template to edit their GIS parcel base, but they are still using CAD for dimensioning reasons.


Grant Mulligan, ParcelQuest

Grant began by giving us a tour of the [Navigator](#) web map they developed for viewing parcels throughout the State of California. It has all of the counties' parcel lines for the State displayed over Bing Maps imagery. There is a new functionality that allows you to find out the date the imagery was taken, see oblique imagery of a property from Pictometry, access data such as ownership, values, sales (last 3 yrs), and property characteristics. Other functionality includes the ability to sketch a polygon and find the acreage of it, the ability to buffer a parcel by a certain distance, and search by section/township/range, and search by owner name in the entire State of California. You can even draw a boundary around a parcel and search for comps just within that area!



See Your Property

Navigator takes you to any spot in California. Use aerial photos with easy-to-read roads to pan across the landscape and zoom to your subject property. One click on the map identifies current APN#, Ownership, Property Values and more.



Easily Identify Property

Navigator automatically assigns an index number so you can quickly and easily identify property. Need to add or remove a property? No problem. Navigator adjusts the numbers instantly so you always have just what you need.

| Subject | Co / APN | Owner |
|---------|-------------------|---------------------------------------|
| 3 | SDX 212-142-07-00 | GONZALEZ ILSE/ANIEL GONZALEZ MARTHA E |
| 2 | SDX 212-142-08-00 | SERENE FAMILY TRUST 10-16-97 |
| 1 | SDX 212-142-09-00 | DOWELL GREGORY P & BONNIE L |
| 4 | SDX 212-142-12-00 | MILCH ROBERT M & SUSAN E |
| 5 | SDX 212-142-13-00 | KROOPKIN MICHAEL J TRUST 11-08-00 |

| | | | |
|--------------|-----------|----------------|---------|
| Total Value: | \$502,511 | Use Code: | A280004 |
| Land Value: | \$153,812 | Tax Rate Area: | 3-005 |
| Imp'r Value: | \$348,699 | Year Assd: | 2008 |
| Other Value: | | Property Tax: | |
| % Improved: | 69% | Delinquent Yr: | |
| Exempt Amt: | | Exempt Codes: | N |

Instant Access to Property Information

With Navigator you have instant access to property information like Ownership, Assessment, Sales History and Property Characteristics. Print reports, run labels, or export the data to finish your work in a flash.

You can click on a point on the map and get the lat/long and elevation values for that point. One of the most notable things about this statewide webmap is that ParcelQuest has taken the time to standardize the usecodes from all 58 counties, so that all properties in the State can be searched by their standardized codes.

Some other new tools include links to Tax Collector data, display of 100-500 year flood lines, generation of a soils report (slope, sq footage of each soil type by parcel), generation of Coastal Commission Report (telling you whether a parcel is in their jurisdiction), generation of a Full Natural Hazards Disclosure Report (\$100/report). They are working with Courthouse Direct, which has access to documents from First American Title. This is not free though. You can also import KML files into their interface, and they can help with data sharing between departments.

ParcelQuest has created the GIS parcel layer for a few counties in California, and it maintains the layer for several more. The ParcelQuest solution seems to work well for smaller counties who can't maintain a GIS shop.

I went online and found this map they put up of all of our GIS efforts! Interesting!

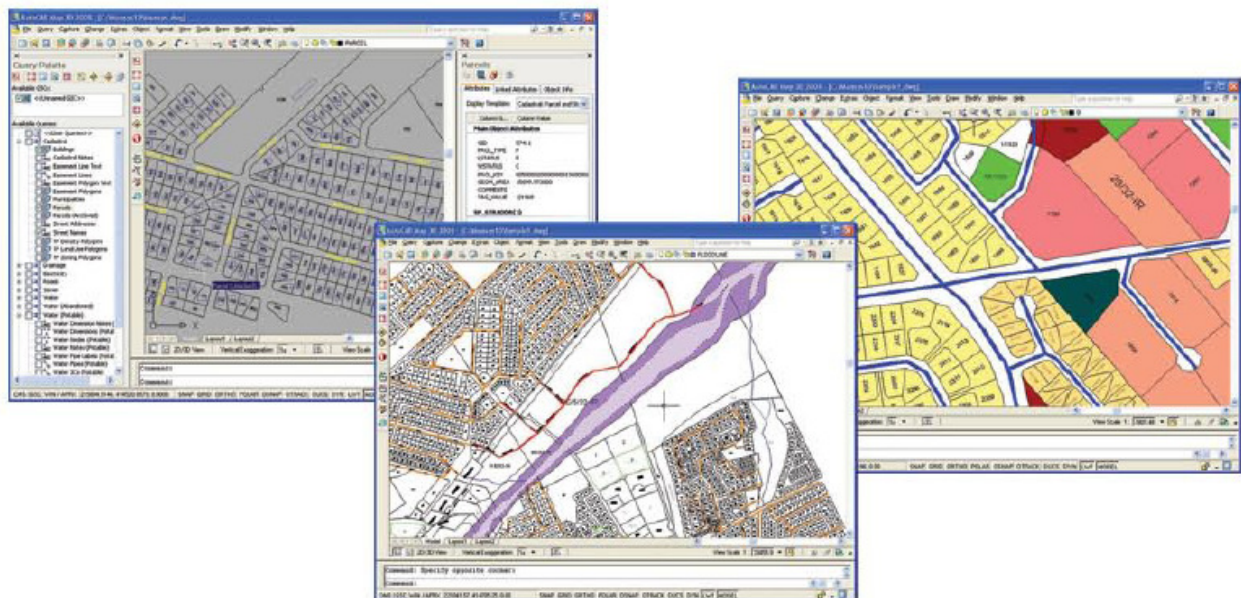
Bad legal letters were discussed-Do you send them to the owner or the lawyer/title company? Some counties sent the letter to the owner and CC'd the title company/lawyer. Terry McFeely asked if other counties could send her a template bad legal letter/form.

Madera County said they were on a development review committee. Perhaps the only Assessor's office to be on something like that. This allows them power to reject proposed plans ahead of their recording.

One county said that if the deeds for a Lot Line Adjustment were not recorded within 60 days of recordation of the LLA, then the LLA was considered invalid.

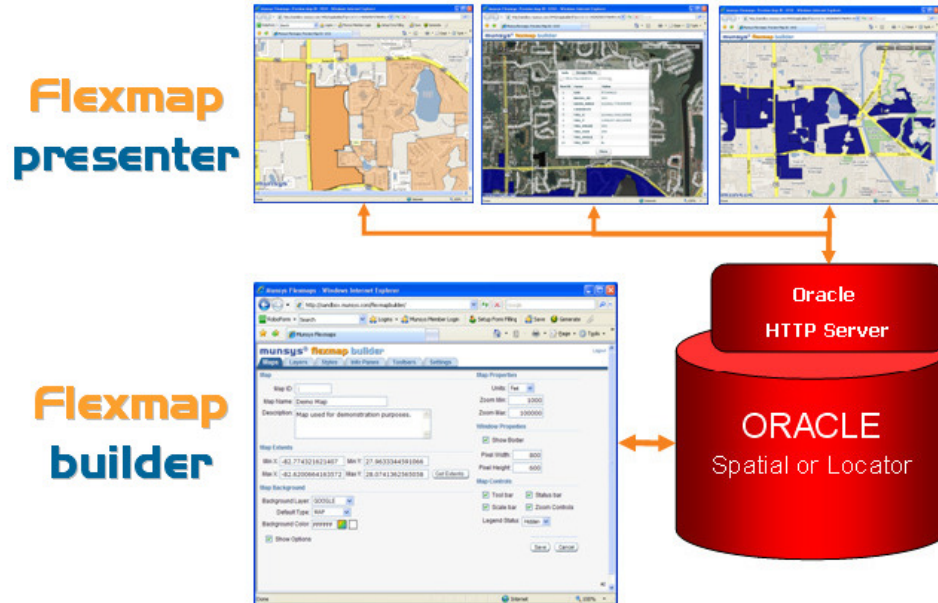
Colin Hobson, [Munsys](#)

The company has customers in Australia, South Africa, and throughout the United States. They offer software and services to organizations who have a lot of CAD data with some GIS needs. They have a family of products, ranging from cadastral mapping products to spatial data managers for GIS data, to Flex web maps.



They offer a one-time georeferencing transformation set-up to put all of your CAD data into real-world coordinate space. They can also create georeferenced map books for you. They have developed scripts to update the GIS layer with Assessor's linework automatically every two weeks to once a month. Since it all stays in CAD, you can preserve your true arcs.

Munsys offers flex web mapping capabilities and allows you to self-host a web map.



They have very speedy querying tools/capabilities. They also provide upgrade scripts for their software for every upgrade release of AutoCAD software.

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1. State Assessed Property, BOE
2. ESRI Tips and Tricks, Chris Buscaglia, ESRI

This discussion consisted of new functionality in ArcGIS 10 and data-driven pages. The ability to do on-the-fly data definitions to make map books. Check out this free ESRI workshop for similar information:

http://training.esri.com/acb2000/showdetl.cfm?DID=6&Product_ID=969