SAN DIEGO REGION GIS COORDINATORS' GROUP
MINUTES
October 20, 1999

1.   WELCOME AND INTRODUCTIONS

Tim Craig from SANDAG welcomed the group to the final meeting of 1999. Representatives present at this meeting included staff from the cities of Chula Vista, Encinitas, Escondido, Lemon Grove, San Diego, San Marcos, and Santee and the County of San Diego. Other agencies in attendance were Caltrans, San Diego County Water Authority, Port of San Diego, Sweetwater Authority, SanGIS and SANDAG. We were happy to see a few new faces at the meeting. We hope that they will continue to come and participate in our future meetings.

2.   GEONEWS

CGIA NEWS
Fred Wong (San Diego County Water Authority) had a number of handouts and reminders for the group. He gave us an update on SB 1065 that was vetoed last week and AB 1099 - both of these bills have wording about requiring public agencies to provide public records in a digital format.

He also reminded us about the CGIA metadata catalog that can be accessed on the Internet at: http://ceres.ca.gov/catalog/. Here you will find links to GIS data and metadata, and either links to download areas, or people to contact for the data. SANDAG and the City of Chula Vista mentioned that they have posted data in the catalog. Tom McDowell (City of Chula Vista) said that just last week he got a call from the catalog that resulted in a data sale.

Another handout dealt with the Digital Mapping Framework from the CGIA Information Coordinating Council – Framework Committee. This framework deals with minimum data requirements for CEQA / NEPA and follows FGDC guidelines.

Fred also handed out the committee structure for CGIA in the year 2000, and he reminded us that volunteers are always welcome.

SLUC UPDATE
Steve Kunkel (SANDAG) gave a brief update on the Standard Land Use Code (SLUC) sub-committee. Work on reviewing comments to the draft code still needs to be completed. SANDAG and City of San Diego staff has been reviewing the Land Based Classification System (LBCS) that the American Planning Association has been developing. The SLUC sub-committee is planning on doing one or two pilot studies to compare the SLUC and LBCS coding systems. The sub-committee is also looking for more volunteers, to insure that more of the region is represented. Use of a common land use

coding system that is widely used will benefit all agencies participating. Bob Canepa (County of San Diego) and Gabriela Coverdale (City of San Diego) both said they would look for a staff person to be on the subcommittee.

MrSID UPDATE
Matt Brown (City of Encinitas) and Sue Carnevale (SANDAG) gave a brief history of the MrSID image products and applications to interface with the MrSID images that have been developed over the last few years as part of the digital orhtophoto partnerships; as well as opening discussion about problems plotting MrSID imagery within ArcView.

MrSID Interface Issues:
Early applications to interface MrSID images with both ArcInfo and ArcView were custom applications designed when the MrSID technologies were still very new. Since that time standards have been set and ESRI has developed its own MrSID viewing extension for ArcView 3.1. The 1994/95 regional B&W MrSID imagery, and the 1996/97 CIR MrSID image products are all compatible with the ArcView 3.1 extension (as well as with the current ArcInfo interface developed as part of the CIR partnership).

The MrSID imagery on the 3 CD ROM set is not in the standard MrSID format, and is therefore not viewable with the ArcView 3.1 MrSID extension. However, the custom application developed for ArcView to interface with the imagery on the 3 CDs should also be able to be used with ArcView 3.1. Both this application and the new ArcView 3.1 extension should be able to be used for the appropriate imagery. The old ArcView application appears to work well on NT platforms. It may or may not work on Windows machines. Another option is to convert the 3 MrSID images on the CDs to conform to the current industry standard (renaming the image files (image1, image2 and image3 to image1.sid, image2.sid, and image3.sid & creating appropriate header files (image1.sdw, image2.sdw, image3.sdw) with the appropriate geocoding information for each image). See Attachment 1 for more information on how to do this. Converting the MrSID imagery to the new format will allow the imagery to be used in ArcView 3.1 with the ESRI MrSID extension provided. The re-formatted imagery will not be readable by the old ArcView application.

Also, the current ArcInfo interface developed to work with the regional B&W and CIR MrSID images does not seem to work on NT machines (except in the case of the developer). Matt and Fred both mentioned having this problem. Sue mentioned that the developers of the extension code have tested it on a number of machines at SDDPC and have not been able to replicate any errors that have been reported. SANDAG will be working with SDDPC to solve the problems. No problems have been reported with the UNIX version of this application.

ArcView Plotting issues:
A number of ArcView users have been having trouble when plotting orthophoto and MrSID images at E size – most users are unable to plot any maps over C size. The group had a lot to say about this issue and many shared possible work-arounds. Matt Brown has had trouble with large file sizes. Pat Landrum (Caltrans) recommends using the temporary images that the ArcView extension creates. Load these files into your View in

place of the MrSID image. These temporary images can be found in your TEMP directory. Tom McDowell has had luck with exporting the layout to an EPS New file and sending that to the plotter. This tends to work best with the B&W DOQs. Other people said that they have not had the same positive results that Tom has had when using the same technique.

Many people also report that when they are able to get a large map to plot, that the resolution of the data is not as fine as it should be. Eric Culp (ESRI) mentioned that the ESRI extension is a viewer, so it is designed to extract the correct image resolution for the View. Eric said that he would meet with the ArcView team at ESRI and discuss this problem and see if they have any ideas for a work-around as a short-term fix. And he will work with them to see if this issue can be resolved in future ArcView MrSID extensions.

Below are some suggestions from the group and ESRI for ways to change your computer system to better work with the image data. Results will vary depending on your system setup.
- move your TEMP directory to your largest local drive
- push your Virtual Memory up as high as possible – more is better
- get ArcPress or another rasterizing package
- up your plotter memory as much as possible
- set the scale in both the View & the Layout

George Silva (Sweetwater Authority) volunteered to work with ESRI & the group to resolve plotting MrSID imagery in ArcView.

IMAGERY CONSORTIUM
Sue Carnevale discussed the proposal for an on-going imagery consortium for the San Diego region. The idea behind the consortium is that with more agencies putting money into the pot, the cost of purchasing more frequent imagery will be much less. Many users have a need for imagery more often than we are able to get from the USGS. The consortium would come up with the needs and requirements of the digital imagery. This imagery would be rectified every few years, with un-rectified imagery in the interim years. SANDAG is getting ready to put out an RFP for year 2000 imagery to coincide with the Census to see what type of digital image products are available to suit their needs.

SANDAG is looking for agency staff to actively participate in the development of goals and needs for the consortium products. There will be an imagery workshop in the near future that will discuss how digital imagery products are developed, as well as developing the specifics of the consortium.

Jeff Tayman (SANDAG) briefly discussed some of the benefits of working with a consortium and the added efficiency that results. He also covered some details about the upcoming workshop to be help at SANDAG - education about imagery and development of the RFP specs and consortium. Sue Carnevale is the staff contact for the workshop - sca@sandag.cog.ca.us.

Bob and Pat voiced their agency's interest in the consortium idea. Luis Melendez (Caltrans) and Fred wondered about getting an Imperial County contact to come to the workshop. CWA and Caltrans are interested in imagery for Imperial County as well as San Diego. Sue mentioned that Imperial County might not fit the consortium idea well at this time simply because of funding issues, but said that this could be explored by the consortium. Jeff said that it might also be a good idea to invite a SCAG staff person to the workshop to gauge their interest. And George pointed out that Imperial County water and irrigation districts should also be invited.

Sue and others discussed the data available from local aerial photography vendors and said that many of them are moving towards offering rectified digital imagery. Some are evaluating different compression technologies that will require special viewers that are not compatible with ESRI products. Steve mentioned that there is still interest in getting the imagery in a MrSID format so that it easily integrates with ESRI GIS products (both ArcView and ArcInfo). Sue asked Eric to check with ESRI on possible future support for other image compression formats (like ER Mappers Enhanced Compressed Wavelet).

Discussing potential sources for digital imagery, Sue brought up the IKONOS 1-meter resolution satellite that just started sending imagery back to earth. She said that imagery for the entire region would cost about $400,000 - and may not be high enough resolution for many consortium members.

Bob reminded the group that we should be on the lookout for potential grant monies that could be used to help fund the imagery purchasing. BLM, USGS and other federal grants might be available if the imagery is used for habitat tracking or other specific purposes. Luis mentioned that bi-national grants might be available if the data covered the border and Tijuana were part of the consortium. Sue said that these ideas as well as special skills (like grant proposal writing) are things that consortium members would bring to the group.

DATA INTERCHANGE
Steve Kunkel discussed SANDAG's efforts to improve data interchange with member agencies. This has been a long-term goal, but new efforts are underway to strengthen this commitment. SANDAG will be meeting with each of the 19 local jurisdictions to discuss ways to improve the flow of data between agencies. Types of data that SANDAG is interested in are building permits, changes in housing stock, land use changes, etc.

A goal of this effort is to develop a systematic approach to sharing data. Since the local jurisdictions are the experts in their areas, SANDAG would like to use their data as inputs to improve SANDAG databases. This in turn will make the long range forecasting and GIS data development efforts more accurate, which will also benefit the local jurisdictions. For more information contact Steve Kunkel at 619-595-5318 or via email at sku@sandag.cog.ca.us.

3.   NOMINATIONS FOR THE YEAR 2000 CHAIR AND VICE-CHAIR

Matt announced that nominations are open for the chair and vice-chair for the group for the year 2000. Matt nominated George for chair. There were no nominations for vice-chair. If you would like to volunteer, or have a nomination in mind, please contact Matt Brown at 760-633-2665 or mbrown@ci.encinitas.ca.us. Elections will be held at the next meeting.

4.   GIS DAY

GIS Day is November 19th. Matt discussed some of the planning happening around the county. Matt is acting as the regional contact for the event, contact him for more information. There is a regional newsletter being developed that will cover the events happening locally.

Eric said that most events he has heard about are happening at the local level, not the regional.

Lisa Stapleton (SanGIS) informed the group that SanGIS would be going out into schools to give presentations. She reminded the group to keep things simple if working with children. Target your audience, young kids would be interested in simple map making, while 11th and 12th graders might like to know more about careers in GIS.

Lisa said that a simple letter directly to a school principal worked great for her. She was called and asked to do a number of presentations throughout the day, all at the same school. She also reminded the group that there is a lot of data available on the CD that comes with the *GIS for Everyone* book from ESRI that was included in the conference bag this year - and it's local data.

Matt closed this topic with a reminder that event info on the GIS Day web site (http://www.gisday.com) should be updated and kept current. The GIS Day web site can also be accessed from the group web site at: http://www.sandag.cog.ca.us/localgis/.

5.   ArcInfo 8 - General Implementation Issues

We welcomed Eric Culp from ESRI who was on hand to answer questions about the release of ArcInfo 8. We were running out of time and would like to apologize to Eric for cutting him off.

Sue asked about support for polygon topology. Eric said that polygon topology is already supported in ArcInfo 8.0.1. ArcMap will map and edit polygons from Geodatabases, coverages and shapefiles. However, most users will probably continue to use ArcInfo 8.0.1 workstation version (ARCEDIT) for polygon coverage editing. ArcMap's ability to edit shapefiles is quite good and, of course, its support for Geodatabases is outstanding. What is coming out in ArcInfo 8.1 will be 2-D (polygon) data models for sophisticated polygon functionality. See

http://www.esri.com/software/arcinfo/product_overview.html for more detailed information.

Eric talked a bit about the object oriented data model - that there is behavior related to an object. The "smarts" behind objects no longer need to be built via AML programming, they are inherent in the data model. What agencies will need to figure out is what, if any, data models are needed for their work.

We were also reminded that there are 2 versions of ArcInfo 8.0.1 (Workstation and Desktop). Some pieces run on UNIX and NT and some on NT only. ArcInfo 8.0.1 Workstation is an upgrade to ArcInfo 7.2.1 in the same architecture. It will run under UNIX or NT as it has done for several years. It is the existing technology you know (ARC, ARCPLOT, ARCEDIT, etc.) with enhancements. ArcInfo 8.0.1 Desktop represents the three new NT-only applications (ArcMap, ArcCatalog, ArcToolbox). The new version also takes advantage of the COM architecture allowing any COM-compliant programming language to be used for customizing the work environment (NT). All ArcInfo users current on maintenance will receive ArcInfo 8.0.1 Workstation for their current OS as well as ArcInfo Desktop. There is no extra cost.

Matt asked about time needed for training to be able to get up and running and wondered if Encinitas needs to run ArcSDE. Eric responded that the personal geodatabase will be sufficient for the datasets of an agency the size of Encinitas. However, ArcSDE may be needed for very large datasets (regional parcel layers for example) or where there is a requirment for simultaneous multi-user editing of Geodatabases. As far as education, most of the learning curve is going to be in learning the new terms and getting used to the new interface.

Lisa mentioned that SanGIS is waiting on ArcInfo 8.1 to start using the new version. This is mainly due to their needs for road data models that ESRI is developing that SanGIS has a need for. They are working closely with ESRI to help develop these data models and be sure the needed functionality is included.

Lisa Lubeley (City of Escondido) asked if data models would ship with the software. Eric said that some will, but that there will be specialized data models that will be sold as separate extensions (COGO, ArcFM). Unified Modeling Language (UML) will allow users to develop their own data models as well. Also look for the private sector to begin building lots of custom extensions for specific tasks.

Sue wondered about support for GRID. Eric said that in ArcInfo 8 all images and GRIDs are viewed as raster data. GRID processing is not currently available, but will be soon. He said that the support is in the software, but that the tools have not yet been completed.

Eric Culp can be reached via email at eculp@esri.com if there are further questions.

The MrSID world file (header file) format is as follows:

Line 1: Pixel dimension, in map units, in the X direction
Line 2: Rotation term (ignored)
Line 3: Rotation term (ignored)
Line 4: Pixel dimension, in map units, in the Y direction (a negative number)
Line 5: The X coordinate of the center of the upper-left pixel
Line 6: The Y coordinate of the center of the upper-left pixel

The MrSID world file gives the X,Y coordinates of the CENTER of the upper left pixel. So if the upper left extent of the image is 6140911.000000, 2151641.000000, and the pixel resolution is 3 meters, then the center of the upper left pixel would be 6140912.500000, 2151639.500000. This because from the edge of the pixel to the center is one-half of the pixel dimension, or 1.5 feet, and you would add 1.5 feet to the X coordinate and subtract 1.5 feet from the Y coordinate. You would have to save these world files with a .sdw extension with the same file name as the corresponding .sid images. They should then be available as georeferenced images in viewable with the MrSID extension in ArcView 3.1.

Image1.sdw	Image2.sdw	Image3.sdw
3.000000	3.000000	3.000000
0.000000	0.000000	0.000000
0.000000	0.000000	0.000000
-3.000000	-3.000000	-3.000000
6140912.500000	6215972.500000	6425856.500000
2151639.500000	1991795.125000	2104006.000000

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