Imagery Subcommittee Meeting Minutes

November 17, 2006

Subcommittee Members in Attendance:

Sue Carnevale, SANDAG
Tom McDowell, City of Chula Vista
David Lindsay, County of San Diego
Pat Landrum, Caltrans
Wendy Barto, City of Encinitas
Dan Hildebrand, City of Escondido

Others:

Mark Livingston, GeoVista
Clint Daniels, Western Spatial Solutions

Meeting Minutes:

1. **Presentation by GeoVista**

   Tom McDowell was approached by GeoVista about attending the imagery subcommittee meeting to make a brief presentation on their company's capabilities and products and to learn more about what the imagery subcommittee is doing. Sue provided Mark and Clint with a brief summary of the research and accomplishments the imagery subcommittee has completed over the last six months or so.

   Mark provided the group with a brief description of GeoVista's capabilities and products. GeoVIsta prepares oblique imagery (similar to Pictometry and Multi-Vision), curb side photos, as well as vertical air photos all geocoded/linked to parcels or addresses and tied together in a system.

2. **Report from terrain subgroup**

   Due to the varying resolution/accuracy needs of regional and local agencies, research on terrain models was divided into two components: subregional terrain models that cover smaller portions of the region such as cities or water districts that have very high resolution and accuracy requirements (5-foot horizontal postings, 2-foot contours, and either 1:100 or 1:200 mapping scale accuracies), and regional terrain models that cover the entire region and have lower resolution and accuracy requirements (5-meter horizontal postings, 20-foot contours, and 1:12,000 scale accuracies).

   Subregional Terrain Models - Tom provided a summary of the research he has conducted about the possibility of creating a seamless subregional terrain model based on terrain data that has been acquired by local agencies in the region over the last five or six years. The reason for merging the subregional data into one terrain model was so that this data could then be provided to consultants/vendors to use to rectify future orthoimagery; thereby providing a cost savings in future imagery acquisition efforts by not having to acquire new terrain data. However, his research concluded that it is not necessary to merge all the subregional data together into one seamless database, but rather to simply compile and document what terrain models exist. All of the individual terrain data can then be provided to consultants/vendors for them to process as required for the next imagery acquisition efforts. It will be very important for each of the subregional terrain models to have complete metadata that includes information on format of the terrain model, data source, area of coverage, horizontal postings/resolution, vertical and horizontal accuracies, post-processing, etc.. Tom has volunteered to

take the lead in contacting local agencies to determine if they have a documented terrain model that can be included in this inventory.

<u>Regional Terrain Models</u> – David has taken the lead in researching alternatives and costs to obtain a new terrain model for the San Diego region. So far he has investigated the feasibility of conducting post processing on the NOAA IfSAR 3-meter DSM (Digital Surface Model containing above ground features such as buildings and trees) to obtain a bald earth DTM/DEM and acquiring the Intermap NextMap 5-meter DTM spec product.

In discussions with EarthData (the agency that generated the NOAA DSM), it is not recommended to post process this data to obtain a bald earth terrain model. EarthData felt that there would be too many unacceptable anomalies contained in the final product. In addition, the estimated cost to prepare the bald earth surface model was over $250,000.

While the NextMap terrain model could meet our needs, the cost of this product (estimated to be about $250,000) is prohibitive. Unfortunately, Intermap has changed their product licensing structure that does not cost effectively allow multiple agencies to purchase the NextMap products under a single price structure. At this time, Intermap indicates that each additional agency must pay an additional mark up fee of 50% of the initial license cost (pro-rated for the area to be purchased). David feels there may be some room for negotiations on costs/licensing and is going to discuss this further with Intermap. In addition, Sue will research costs to obtain a regional terrain model using the LIDAR technology to see if this option might be competitive and reasonable.

3. **Report from cost subgroup**

    Again, due to the varying resolution/accuracy needs of regional and local agencies, budgetary cost estimates are divided into two components: subregional and regional.

    <u>Subregional Budgetary Cost Estimates</u>: Tom has taken the lead in putting together cost estimates for subregional agencies based on costs per square mile. These estimates include cost for imagery alone (assuming an agency already has a terrain model), costs for imagery and patch updates to an existing terrain model, and costs for acquiring new imagery, a new terrain model, and new contours as well.

    <u>Regional Budgetary Cost Estimates</u>: David has taken the lead in developing some cost estimates to acquire digital imagery for the region. This work is not completed and more research needs to be done.

    Both the subregional and regional budgetary cost estimates will be presented at a subsequent San Diego Regional GIS Council meeting, the subcommittee anticipates this will be the January 2007 meeting.

4. **Discussion on whether local imagery should be made available to Google Earth/Microsoft**
Tom has been approached by Google Earth about obtaining the City's most recent imagery and Tom wanted to discuss what others felt about making this information available to commercial vendors and if we should have a local policy of how to handle these types of requests. The imagery subcommittee is recommending a policy that imagery acquired locally can be provided to Google Earth, Microsoft, and others by the same means that anyone else can get access to the imagery; i.e. through USGS. We are recommending a policy whereby some version of locally obtain imagery is provided to USGS for inclusion in the public domain; and that all requests for local imagery would be directed to USGS. This would be a viable recommendation, particularly if USGS contributes funds to local acquisition efforts. Tom will discuss our recommendation with Carol Ostergren with USGS to determine if we can support this policy.

5. **Presentation by Pinnacle Mapping at December 11th Imagery Subcommittee meeting**
Pinnacle Mapping will make a presentation to the Imagery Subcommittee at the December 11th meeting. Pinnacle mapping has a new and improved digital camera that supposedly can capture both panchromatic data and multi-spectral data (true color and/or color infrared) at the same resolutions (other digital cameras capture the multi-spectral data at lower resolutions and provide a merged pan-sharpened type of multi-spectral image).

Action Items:
- Contact local agencies and compile an inventory and metadata for existing subregional terrain models (**Tom**)
- Conduct further discussions with Intermap concerning costs and multi-agency licensing options for NextMap terrain model (**David**)
- Determine feasibility, costs, and multi-agency licensing options for a LIDAR generated terrain model for the region (**Sue**)
- Finalize regional imagery acquisition costs (**David**)
- Discuss with USGS and SDRGC about recommendation for local policy on providing local image data to Google Earth, MicroSoft and other commercial organizations (**Tom**)