

Imagery TWG Meeting Notes
Idaho Water Center
March 4, 2009

Attendees:

Margie Wilkins, IDWR	Chris Clay, IDL	Mike McGuire, Ascent GIS*
Keith Weber, ISU	Gail Ewart, DoA/IGO	Todd Quast, Cassia Co.*
Eric Rafn, IDWR	Bill Kramber, IDWR	Paul Schneider, Bingham Co. *
Jerry Korol, NRCS	Sean Harris, City of Chubbuck	
Toni Williams, FSA	Jeff Cook, IDPR	

*via telephone

Review of LizardTech's 2004 Idaho NAIP Demo:

- at least 10 people participated
- comments were positive
- Comments below:
 - Chris Clay (IDL) compared the following - Lizardtech Express Server, ArcIMS image service, ArcGIS map service
 - The Lizardtech image service is noticeably faster on zoom/pan/refresh than both of the services coming from Inside Idaho. It is only just noticeable when compared to the ArcIMS service but is more noticeable when compared to the ArcGIS map service.
 - The Lizardtech image service appears to be serving highly compressed imagery, this might account for the difference in display speeds since the Inside Idaho services are serving much sharper and less compressed imagery.
 - Given the tradeoff between map service speed of display and image sharpness, I'd take the ArcIMS image service from Inside Idaho. From an end-users perspective it only has a slight display speed penalty but a much higher quality image.
 - Margie Wilkins (IDWR)
 - I've compared the LizardTech imagery with the 2004 NAIP imagery I have loaded locally on my pc (100K tile .sids, compressed at 50:1). I am editing a vector file (also loaded locally) and I notice no difference in the refresh/zoom/pan using one or the other.
 - I'm pretty happy with the results so far. Although yesterday, right after I invited a few colleagues to join in on our test, LizardTech's server went down.... Talk about bad timing. It was back up in a couple of hours, but it does emphasize the need for having 2 or more places to go for the data.
 - Jerry Korol (NRCS)
 - I thought the refresh/zoom/pan were acceptable; just a 5 second delay. I had some DRGs open as well, but it didn't seem to slow things.
 - He attached two pictures of some data artifacts (?).
 - Keith Weber (ISU)
 - Things worked well on our end here at ISU...I had some of my people testing it for me while I taught a workshop. When zoomed all the way out I think the express server had very nice color balance across the entire state.
 - You cannot extract against Express server...meaning you cannot zoom into an AOI and then right-click the layer and export just that data to your hard drive. I should point out that I cannot do this with the statewide image basemap (image server) either. So it's the same I guess. I should note that some services from InsideIdaho do support such extraction, maybe Bruce can tell us the difference in these.
 - My feeling is that as long as we have a reliable web service I will not have any need to store the data locally.

- I would agree that the image server is a bit clearer when zoomed in very close... about 1:1000.
- I wonder if some of these details could be remedied when we set it up and serve it... compression level (ensure lossless compression) etc.
- Bob Smith (CIO)
 - I thought the Express server performed very well, refresh rates ranged from 2 to 5 seconds.
 - I changed projections twice and had no performance degradation.
 - Overall it was a very impressive demonstration.

Idaho NAIP 2009 Ground Control Point Status (Margie Wilkins, IDWR):

- Zach Adkins with APFO emailed an updated map of submitted ground control points that have been deemed “usable” for the NAIP QA process. See the updated (02-11-2009) map on the Framework website (<http://gis.idaho.gov/framework.htm>)
- Needs are in the following counties: Fremont, Teton, Madison, Lewis, Minidoka, Boundary, and Franklin.

Updates from FSA (Toni Williams, FSA):

- Toni Williams reported that RFIs are out
- APFO expects to award the contract by April 15th
- Thus far, there is no solution to the blurriness issue of the 4band CCMs, but APFO is actively pursuing a solution.
- If a solution for 4band JPEG2000 cannot be found by the time CCMs are to be delivered, then the CCMs will be delivered as 3band true color using MrSID compression.
- QQ tiles will be 4band geotiffs, as the blurring only occurs in compressed (JPEG2000) format

Testing with Minnesota (MN) Data (Keith Weber, ISU):

- Keith provided 2 prints of 1meter NAIP data displayed at 1:1000 in ArcGIS in order to compare:
 - MN data - compressed at 1:15, JPEG2000, 4band data with green, red, and color infrared bands displayed. MN data was definitely more pixelly than ID data (below).
 - ID data - compressed at 1:50, MrSID, 3band data with all three bands displayed. ID data provided better quality than MN data, even though it has a higher compression ratio.
- Keith tried compressing 32 bit data using MrSID, however output was still just 3 bands
- One option may be to offer 2 CCM products: 3band true color and 3band false color (using bands 4,3,2)
- JPEG2000 is proprietary, MrSID is not proprietary
- lossless is not an option because CCM files are too large
- There was discussion about the sensors/cameras used. I have added web links for reference.
- Still don't know if the problem lies with compression software (having 4 bands) or with the collection method of the 4th band (camera based?)
- Mike offered to acquire data from states that had NAIP flown in 2008. He will forward to Keith for further testing.

High Resolution (Gail Ewart, IGO):

- Gail had a teleconference with APFO, ARS (?), and some Federal partners regarding an attempt to collect high resolution (0.5 meter)
- The basic NAIP product (statewide, 1meter, with color infrared band) is a nice tidy package and requires no extra effort/resources.
- High resolution (depending on how it were collected) would require extra flight lines thereby increasing the risk of not meeting the scheduled flight window (due to fire, weather, etc.), and would require more resources (labor, storage, etc.) for which APFO/FSA cannot accept responsibility.

- US Forest Service has also requested stereo pairs which APFO will support.
- Partners would be responsible for high resolution QA/QC and storage requirements.
- Additional work effort for high resolution data collection must be approved by APFO in order to meet contract deadlines.
- The 2009 NAIP is a product improvement over 2004 NAIP with the additional infrared band. Taking on two improvements (upgrade to high resolution) at this stage may be too much to handle.
- NAIP will be flown again in 2012.
- There was a “round-the-table” show of support for the core product – unanimous support by all 13 attending the meeting.
- Gail will contact partners who have shown an interest in high resolution via email with this information.

QA/QC Responsibilities (Eric Rafn, IDWR):

- In an effort to spread out QA/QC responsibilities statewide among the partners, Eric created a map showing the number of partners interested in each county as their AOI (area of interest). Those partners having a statewide AOI, were not included in the map, as they would be understood to provide coverage for the holes. See the Framework website for graphic (<http://gis.idaho.gov/framework.htm>)
- Prefer to have at least 2 entities QA/QC each county.
- Attendees offered to QA/QC the following:
 - Todd Quast – Cassia, Minidoka, and Twin Falls Counties
 - Jeff Cook – Lewis and Gooding Counties
 - Chris Clay – Adams, Owyhee, Gooding, Twin Falls, Minidoka, Jerome, Ada, Nez Perce, Lewis, and Lincoln Counties
 - Gail Ewart – Canyon County
 - IDWR – most counties

Budgeting and Status Report (Gail Ewart, IGO):

- Agencies are still working through the Federal stimulus reports
- The hope is to move big-dollar projects through the stimulus to free up additional spending authority monies for the NAIP project
- ITRMC fully supports the value of NAIP – realizes it can save millions of dollars by reducing field work and improving agency efficiencies. ITRMC hopes to take the information Gail provided back to JFAC for their support.

Wrap-up:

- Due to the 2009 Intermountain GIS Conference being held April 6-10 and the 2009 NAIP contracts being awarded April 15th, we will **move next month’s Imagery TWG meeting to APRIL 15th**

INTERNET REFERENCES (not part of the meeting, but valuable information!)

Image Data Collection -Digital Mapping Cameras and Airborne Digital Sensors:

http://www10.gisafe.com/nbc/articles/view_weekly.php?section=Magazine&articleid=208781

APFO Home > Status Maps: <http://www.fsa.usda.gov/FSA/apfoapp?area=home&subject=maps&topic=landing>

APFO Home > Support Documents > Presentations:

<http://www.fsa.usda.gov/FSA/apfoapp?area=home&subject=docs&topic=pre>

- The USDA FSA National Agriculture Imagery Program :
http://www.fsa.usda.gov/Internet/FSA_File/2008_swug_final1.pdf

APFO Home > Meetings > USDA Planning Meeting:

<http://www.fsa.usda.gov/FSA/apfoapp?area=home&subject=meet&topic=usd>

- 2008 Contracting Report: http://www.fsa.usda.gov/Internet/FSA_File/4gabbott08ctreport.pdf
- Medium Format Digital Cameras - Transition to Digital Acquisition:
http://www.fsa.usda.gov/Internet/FSA_File/1usdapanmeet12_08.pdf
- Leica - Leica ADS80 - Digital Airborne Imaging Solution:
http://www.fsa.usda.gov/Internet/FSA_File/3_ads80naippres.pdf

APFO Home > Meetings > NAIP Planning Meeting:

<http://www.fsa.usda.gov/FSA/apfoapp?area=home&subject=meet&topic=nai>

- NAIP Background & 2008 Contract Review:
http://www.fsa.usda.gov/Internet/FSA_File/contract_review_mootz.pdf
- Presentations by all 6 primary contract vendors (not listed here)

NEXT MEETING: APRIL 15TH (10-12 MT)