2012 NAIP Post-Mortem

The 2012 NAIP Post-mortem meeting was held at Salt Lake City, UT on December 4, 2012. Attached is the list of attendees.

MEETING MINUTES

Kent Williams (APFO) started the meeting with an overall welcome and quick introduction.

John Mootz (APFO) gave a synopsis of the new 5 year IDIQ contract and a general assessment of the 2012 season. The new contract was awarded on April 30, 2012 to three prime contractors: Northwest, Premier Geospatial, and Surdex. Under this IDIQ contract, two task orders were issued. The first task award was for 18 states (all 11 of the priority one states and 8 priority two states). An additional task award was issued on June 14, 2012 for 3 states when approximately $1.6M of additional funding was released from FSA. With the exception of 4 QQs and 55 partial QQs in Texas due to Mexican authorities refusing to grant airspace clearance into Mexico, all imagery was collected (nine states required minor season extension). All imagery was delivered to APFO ahead of schedule.

John Welter (Northwest) gave a summary of their acquisition, processing, and delivery for the 7 states they were awarded. There was a short discussion on the Mexican airspace issue that prevented the acquisition along some of the international border around the Bend Big area in West Texas. They started a new automated process to predict final product accuracy before the image is created to help identify areas with possible DEM issues. Northwest announce an updated ADS-80 camera coming on the market and maybe available for future NAIP collections. One recommendation for getting the imagery to the end users faster would be to change the 30 day delivery requirement from by state to by county.

- Question: Tony Kimmet (NRCS) asked if it would be possible to fill in the missing Texas imagery from an alternate source (such as from satellite data). APFO took an action item to investigate.
- Question: David Davis asked if the new ADS-100 has been released. The sensor is not fielded yet but is scheduled to released next year, maybe Q1 or Q2.

Peter Briere (Premier Geospatial) gave an overview of their approach to NAIP acquisition, processing, and delivery. Premier Geospatial had 8 states with nearly all of the acquisition was between July1 and August 31. One lesson learned was the efficiency of clustering the smaller New England states into one acquisition cycle/season. An interesting observation was the lack of correlation between an early spring in Michigan and actual crop season.

Question: Tony Kimmet (NRCS) asked if the DEM that was created during the imagery production was a DSM or DTM. Peter said it was a little of both; it has been filtered but not to the level of bare earth.

Question: Kent Williams (APFO) asked if their approach was to recreate a DEM every year, even if they recently produced NAIP in a previous year. Premier Geospatial is planning on recreating a new DEM every year.

Craig Molander (Surdex) briefed their acquisition, processing, and delivery method for the 7 states they were awarded. Surdex gave a short discussion on how they changed their process to aerotriangulate the imagery before it is color corrected; basically creating a parallel process to reduce production schedule.

Question: Tony Kimmet (NRCS) asked what state they acquired at 1/2-meter. Craig stated it was MN but was leaf-off.

Question: Margaret Nakagiri (APFO) asked if they use the seamline shapefile for finding missing imagery. No, they have a process that looks for missing imagery on both the front-end and back-end process.

Question: Margaret Nakagiri (APFO) asked if it would be possible to correlate missing imagery with pixels that contain DN values of 0,0,0. Tim Bohn (Surdex) stated that some clipping of the blacks is allowed under the contract and checking for 0,0,0 may get false positives.

John Mootz gave the last briefing of the meeting on NAIP 2013 planning. No significant changes to requirements are foreseen next year but FSA is looking at a possible early access web service. The web service would be hosted by the prime contractors provideing a preliminary natural color and false color infrared image service. 19 states are anticipated in being awarded in 2013.

The remainder of the morning was set aside for open discussions:

Question: Margaret Nakagiri (APFO) asked why the contractors used only a few ground control points. Mark O'Neal (Premier Geospatial) stated that they only need a few points for QC; production relies on the IMU data.

Question: Glenn Bethel (FAS) asked if dropping the CCM deliverable would allow for a better quality product (such as improved color). Tim Bohn (Surdex) stated that they use the CCM internally to support production and removing it would not have an impact on DOQQ quality.

Discussion: Tony Kimmet (NRCS) asked if Surdex color balanced the natural color and CIR separately. Surdex has provided separate products in the past, with each optimized radiometriclly, but infrared processing is getting considerably better than it has in the past. John Mootz (APFO) asked the NAIP QA folks how the 2012 CIR looked and whether a specification similar to the natural color metrics needs to be developed. David Wheeler (APFO) stated that although the 2012 CIR did look much better that the past, there is a different between prime contractors. He recommended a best practice be developed instead of hard specifications.

APFO will work with NAIP contractors and end users to develop a draft best practice document.

Discussion: Craig Molander (Surdex) raised the point that delaying the delivery of "multi season" DOQQs until the end of last season would allow more time to color balance the tiles and provide a better quality product. Having the early access web service to the earlier seasons could potentially eliminate any schedule impacts. Mark O'Neal (Premier Geospatial) added that having an early access web service would also allow changing to a "state level" checkerboard color balancing instead of the current county level because the contractors could hold onto the tiles until the state is completed before balancing. The downside of this approach would eliminate the possibility of incremental deliveries of the DOQQs.

Question: Kent Williams (APFO) asked if the early access web service would be an 8-bit, color corrected service. Peter Briere (Premier Geospatial) answered that there would mostly likely be two separate services: natural color and CIR. The imagery would be 8-bit but only initial color balancing.

Question: Kent Williams (APFO) asked if the program can use electronic delivery for NAIP imagery from prime contractors to APFO. Lori Ulhorn (APFO) stated that there were several IT security concerns and would require the imagery be delivered to external storage outside the FSA network. In addition, the contractors stated that delivery on hard drives was actually quick and cheap and probably the best solution.

Question: David Davis (APFO) asked if acquiring 25cm imagery was notably different than 50cm. There was a quick discussion on significant the change would be due to increase DEM accuracy requirements, lower attitude airspace concerns, and additional clear air weather days needed.

ACTION ITEMS

1) Investigate the possibility of adding imagery to fill in the missing Texas imagery. Assigned to: John Mootz (APFO)
2) Send the 2012 NAIP acquisition seasons to Bart Matthews. Assigned to: John Mootz (APFO)
3) Submit sample CIR imagery to users for feedback on the image quality. This feedback will be provided to the NAIP contractors. Assigned to: John Mootz (APFO)
4) Based on the item #3 feedback, the NAIP contractors will draft recommended best practice for CIR processing. Assigned to: Northwest, Premier Geospatial, and Surdex.
5) Ask users for input on sample areas that the contractors could provide sample NDVI or other products (such as separating balanced CIR). Assigned to: John Mootz (APFO)