

NOAA, National Geodetic Survey
HEIGHT MODERNIZATION COORDINATION MEETING
DRAFT NOTES

Date: Thursday, September 13, 2012
Time: **2:00-3:30 pm East Coast time**

Attendees:

Call-ins from: AK (Tom Heinrichs, Jacques Cloutier), AL (Wes Philips, Chuck Jones), CA (John Canas), IL (Amy Eller), KY (Danielle Kelly, Wolfgang Ziegler), LA (Ricardo Johnson, Cliff Mugnier, Josh Kent), MI (Shawn Roy), NC (Gary Thompson, Dave Zilkoski), NGS (Vicki Veilleux, Dan Callahan), SC (Dick Woods, Matt Wellslager), TN (Tyler Collier, Jim Waters), TX (Greg Hauger), WI (David Moyer), NPS (Karl Brown), USGS (Jim Langtry)

Silver Spring: NGS (Renee Shields, Gilbert Mitchell, Ross Mackay, Christine Gallagher, Neil Weston, Steve Vogel, Dave Doyle, Courtney Lindo, Michael Dennis); CO-OPS (Mike Michalski);

Advisors/Coordinators: Monroe Rivers (KS), Dave Rigney (MI), Denis Riordan (MS), Jim Richardson (NE), Scott Lokken (NC), Mark Armstrong (OR), Cliff Middleton (TX)

This meeting drew the largest audience we have had to date with 65 people signed in to the webinar. Thank you to everyone for your participation. It is NGS' habit to only capture names of attendees who speak up at the initial roll call or during the meeting. We respect those who may wish to attend anonymously. If you want your name captured in the recorded notes email Renee or Christine, or ngs.htmod@noaa.gov. We continue to have noise from callers who have failed to mute phones so future teleconferences will be arranged with the capability to mute callers until speakers have completed their presentation.

1. Monthly presentation – GEOID12A

Dan Roman, National Geodetic Survey

NGS has recently released updated models for transforming ellipsoidal coordinates and orthometric (e.g. NAVD 88) heights. After detecting significant defects in the control data used to create GEOID12, GEOID12A was developed as a replacement. This presentation will discuss the development of changes in the most recent geoid models.

Daniel R. Roman, Ph.D. (dan.roman@noaa.gov), has been a Research Geodesist with NGS since 1999. He is the team lead for Geoid Modeling and Research as well as the Principal Investigator for the Gravity for Redefinition of the American Vertical Datum (GRAV-D) Project. He has participated in development of GEOID99, GEOID03, GEOID06, GEOID09 and associated models. He also leads the scientific effort towards a cm-level geoid height model that will replace NAVD 88 and serve as a future vertical datum. He has a B.S. from the University of Southern California in Geology (1985), a M.S. from the Ohio State University in Physical Geodesy (1993), and a Ph.D. from the Ohio State University in

Potential Fields Geophysics (1999). He is a member of the International Association of Geodesy, American Geophysical Union, Canadian Geophysical Union, Society for Exploration Geophysicists, International Federation of Surveyors (FIG), American Congress on Surveying and Mapping, and American Association of Geodetic Surveyors.

Presentation Summary

- GEOID12 is complete for all regions
- It converts between NAD 83 (**11) and the local vertical datum (NAVD 88 in CONUS)
- Modeling is much the same as before (MMLSC)
- Incorporation of data in Mexico and OPUSDBm12 is new and has had an impact
- Error maps will be available to provide estimated errors along with geoid heights

Questions and Answers

Q (Wes Philips): When will more OPUSDB classes be available?

A (Shields): OPUSDB is not the same as OPUS Projects. OPUSDB is easy to use. See info online or email the OPUS team. For OPUS Projects, NGS has decided we need to more thoroughly test projects against results obtained from ADJUST and traditional bluebooking procedures. Watch the Corbin Calendar for announcements for classes.

Q (Chuck Jones): Can we get access to the VTDP program for use in our Network adjustment to NAD83(2011)?

A (Shields): The public will not have access to VTDP any time soon. The model is not yet rigorous enough to be used easily. NGS still needs more data for the model to be refined. Also the model is applied to leveling observations, not directly to heights. The origin is the study that resulted in Technical Report 50, available online:

[<http://www.ngs.noaa.gov/heightmod/NOAANOSNGSTR50.pdf>] .

The only additional data after the study is from 2004 and 2006 data and 2009 MSDOT leveling data. Unlike GPS where you have continuous data, leveling data captures a single moment in time, not a smooth velocity.

Q (Middleton): Is any of the GRAV-D data incorporated into the gravimetric geoid?

A (Roman): No. This was considered, and the data is fine to be used (although the data continues to be processed to further minimize systematic effects). The concern is where the aerogravity stops and what kind of edge effects will occur as a result. The result should be okay, but I am not comfortable using it yet, and it would not benefit GEOID12A.

Point of clarification (Zilkoski): Changes in LA and TX are due to modeled data from VTDP, but changes in MS, AL, and FL was changes due to updated leveling (MSDOT 2009).

Q (Zilkoski): You used NAVD 88 heights in Canada from Canadian database, so when you compared US and Canada, did you see the same long wavelength trends from the east coast to the west coast?

A (Roman): Yes.

Q (Mugnier): The profile done from Corpus Christi to Austin, TX with GPS, leveling, and zenith camera (i.e. GSVS2011) – was any data used for this geoid model?

A (Roman): No, it was not used. The data will be added to database eventually, but the intent was to look at the data minimally constrained to look at the observations themselves. It would not add enough information in the context of enhancing spatial coverage. 40 km spacing of good data would help more than a single line of data. It could help the hybrid model a bit, but that's all.

2. Other Business

Important Links: Previous months' meeting notes and a list of future meeting presentations can be found at: <http://www.ngs.noaa.gov/heightmod/MeetingNotes.shtml>

Next meeting: October 11, 2012

Guest Speaker: Michael Dennis on the National Adjustment of 2011

Recent Past Events

August 17, 2012, Mobile, AL - Adjustments to the National Spatial Reference System

August 20, 2012, Batesville, MS - Adjustments to the National Spatial Reference System

August 22, 2012 Hattiesburg, MS - Adjustments to the National Spatial Reference System

Upcoming Events

Sept 17-18, 2012, Nashville, TN – Civil GPS Service Interface Committee (CGSIC)

Sept 17-21, 2012, Nashville, TN – Institute of Navigation (ION) GNSS 2012

Sept 30 – Oct 4, 2012 Portland, OR – GIS-Pro 2012; URISA 50th Annual Conference

October 16-17, 2012, Naperville, IL - Illinois GIS Association Fall Conference

October 9-12, 2012, Venice, Italy – International Association of Geodesy (IAG), International Symposium on Gravity, Geoid and Height Systems (GGHS) 2012

Dec 3-7, 2012, San Francisco, CA – American Geophysical Union Fall Meeting