National Geodetic Survey Seminar

March 18, 2013

Colorado Room (Lobby, Building 67)

9:00 am - 2:30pm

1. Introduction
   1. Pamela Fromhertz background (bio)
   2. The National Geodetic Survey Advisor Program
   3. Brief history of the Coast and Geodetic Survey and NGS
2. Definitions and Examples of Various Terms
   1. Ellipsoids
   2. Datums
   3. National Spatial Reference System
   4. Projections
   5. Realizations/Epochs
3. CORS/OPUS
4. Heights
   1. Vertical Datums
   2. Ellipsoid height, geoid height, orthometric height
   3. Geoid models
   4. Vertical velocities issues
5. New Datums
   1. GRAV-D
6. Live Demos
   1. DS-World
   2. DataSheets
   3. Mark Recovery
   4. OPUS (db)
   5. CORS
   6. HTDP
7. Real Time Reference Networks
8. Next steps/Integration into BOR Processes

Outcomes/Goals

* Understand the differences between the horizontal (NAD 83) and vertical datums (NAVD 88)
* Understand datums (and ellipsoids, i.e. GRS80)
* Understand the differences between the various horizontal datums (NAD 83 (1986, 1992, 2007, 2011) and WGS 84 and ITRF.
* Understand the magnitude of differences between the various horizontal and vertical datums and which ones you should be using.
* Understand the difference between an orthometric height and a GPS height and which one you should use and why.
* Understand the need to use appropriate geoid models with appropriate adjustments
* Learn how NGS tools like DS-World, HTDP and OPUS can assist BOR in their mission. (live demos)
* Understand the different versions of OPUS and how to use OPUS-DB to publish a point.
* Understand what you should know about CORS in using OPUS. (live demo)
* Discuss the importance of metadata and procedures for what to capture and how
* Learn about NGS plans for new datums around 2022 and the significant impact it will have on the mapping efforts of anyone collecting data in the U.S.

Reference Links

NGS Website geodesy.noaa.gov, <http://www.ngs.noaa.gov/>

Advisors http://www.ngs.noaa.gov/ADVISORS/AdvisorsIndex.shtml

Presentation Link http://www.ngs.noaa.gov/web/science\_edu/presentations\_library/

Geodetic Glossary http://www.ngs.noaa.gov/CORS-Proxy/Glossary/xml/NGS\_Glossary.xml

Conference/Training http://www.ngs.noaa.gov/web/science\_edu/training/

Webinar Resources <http://www.ngs.noaa.gov/corbin/online_learning.shtml>

CORS Webpage: <http://www.ngs.noaa.gov/CORS/> (*CORS newsletter*)

OPUS Webpage: <http://www.ngs.noaa.gov/OPUS/>

Find Your Advisor: [www.ngs.noaa.gov/ADVISORS/AdvisorsIndex.shtml](http://www.ngs.noaa.gov/ADVISORS/AdvisorsIndex.shtml)