Geographic Information Framework Data Content Standard Part 4 : Geodetic Control

National Geodetic Survey

2 MAR 2015

Geodetic Control

Geodetic control provides a common reference system for establishing the coordinate positions of all geographic data.

History

2008 first released

2009

2010 [no known use of the standard]

2011

2012 identified as one of the documents we would update as evidence for the GAO

2013

2014 Julie asked NGS on February 28, 2014, to reaffirm, revise, or withdraw the standard.

2015

Design Principles

Keep it simple

Use single data types.

Expect data providers to convert data to those data types

Require accuracy values to make data more meaningful

Example

designation – permanentIdentifier = DU0546

designation – namespace = NGS

designation – URI = http://www.ngs.noaa.gov/cgi-bin/ds_mark.prl?PidBox=DU0546

coordinates – horizontal – latitude = 33.0551990305

coordinates – horizontal – longitude = -111.4089207500

coordinates – horizontal – accuracy – network = 0.33 cm

coordinates – horizontal – accuracy – local = 0.56 cm

coordinates – horizontal – geodeticDatum – datum = NAD 83

coordinates – horizontal – geodeticDatum – datumTag = 2011

coordinates – horizontal – geodeticDatum – epochDate = 2010.00

coordinates – vertical – ellipsoidHeight = 503.783 m

coordinates – vertical – ellipsoidHeight – accuracy – network = 0.0082

coordinates – vertical – ellipsoidHeight – accuracy – local = 0.0133

coordinates – vertical – ellipsoidHeight – geodeticDatum – baseDatum = NAD 83

coordinates – vertical – ellipsoidHeight – geodeticDatum – datumTag = 2011

coordinates – vertical – ellipsoidHeight – geodeticDatum – epochDate = 2010.00

Future Work

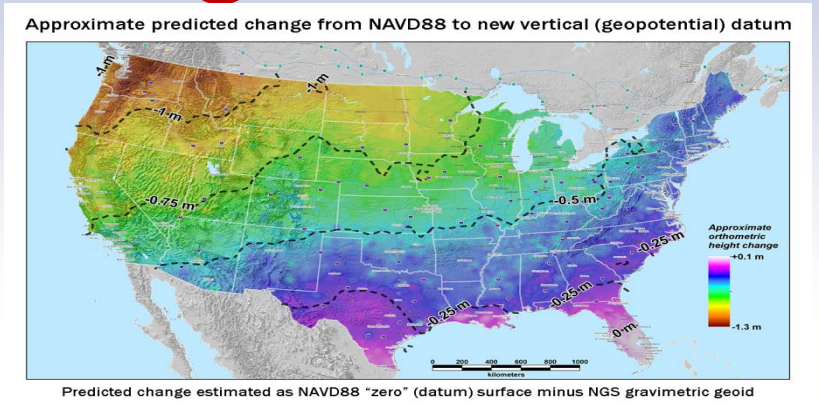
if practical for users, add:

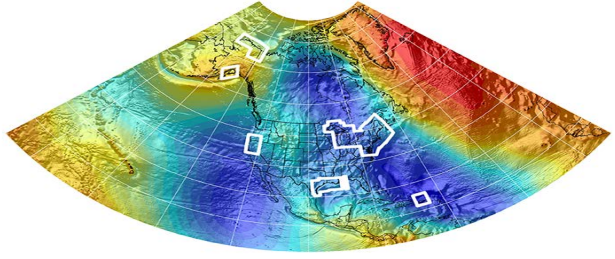
coordinates - horizontal - velocity (mm/year)
coordinates - vertical - velocity (mm/year)

New Datums Are Coming in 2022!

- **NOAA's National Geodetic Survey** will release new **geometric** (horizontal) and **geopotential** (vertical) datums in **2022**
- The realization of the new datums will be through **GPS/GNSS receivers** and will replace the **current datums:**

  NAD 83(geometric) and NAVD 88 (geopotential)
- **Target:** 2-centimeter accuracy relative to sea level (orthometric heights) using GPS/GNSS and a geoid (gravity) model from NGS' GRAV-D project.
- **NGS will provide the tools** to easily transform between the new and old datums.





MORE INFO:

April 13-14 DC Area Geospatial Summit:
http://www.geodesy.noaa.gov/2015GeospatialSummit/

New Datums Webpage and Videos:
http://www.geodesy.noaa.gov/datums/newdatums/NewDatums.shtml