

NOAA National Geodetic Survey

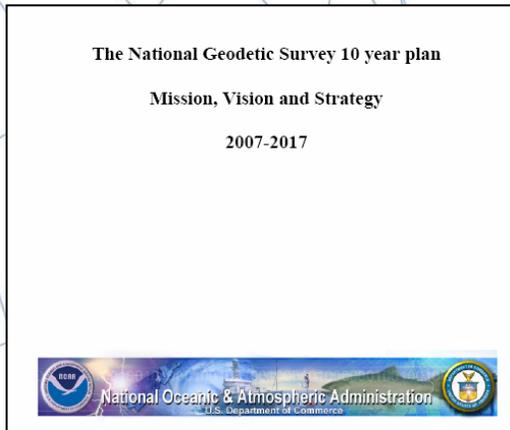
Dave Zilkoski – Director NGS

**FGDC Standards Working Group Meeting
February 20th, 2007**



NGS Mission 10 Year Plan

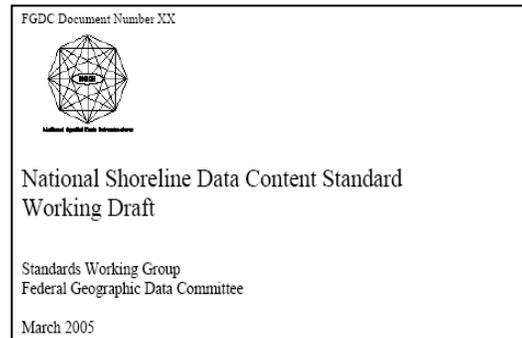
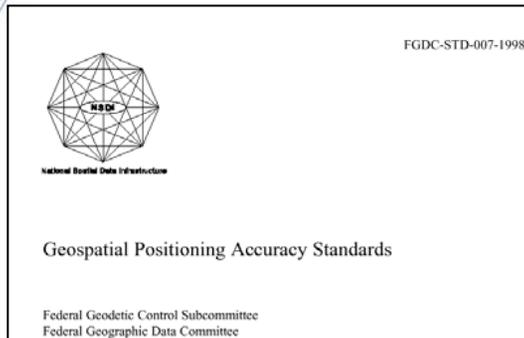
1) To define, maintain and provide access to the **National Spatial Reference System** to meet our nation's economic, social, and environmental needs,



and

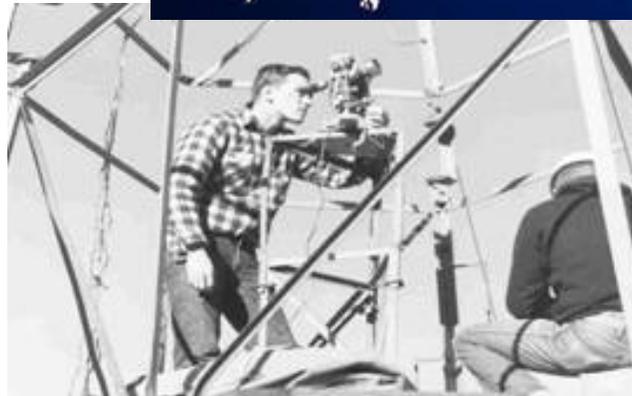


2) To be a world leader in geospatial activities, including the development and promotion of **standards, specifications, and guidelines**.



National Spatial Reference System (NSRS)

The NSRS is a consistent coordinate system that defines latitude, longitude, height, scale, gravity, and orientation throughout the United States.



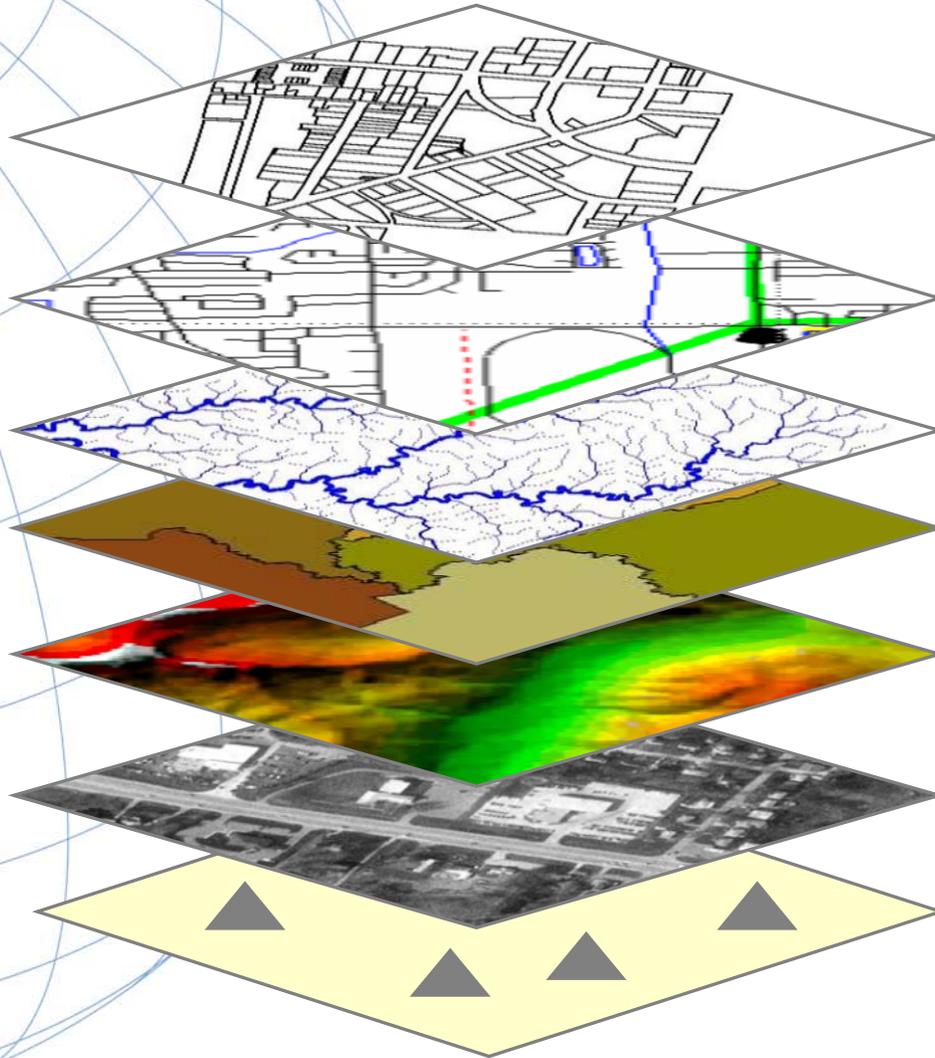


*We don't make maps ...
but we make accurate,
consistent maps possible.*

*We don't build bridges ...
but we help you safely
reach the opposite shore.*



Geographic Information Systems (GIS)



Land Ownership

Transportation

Surface Waters

Boundaries

Elevation

Aerial Imagery

Geodetic Control

NGS Priorities

INFRASTRUCTURE

INFRASTRUCTURE

MODELS
AND
TOOLS

NSRS
Adjustment



CORS
Enhancement



Coastal
Mapping



FAA
QA/QC



Height Modernization
Leveling



Specifications
Guidelines & Tools



MODELS
AND
TOOLS

OUTSIDE
CAPACITY
BUILDING

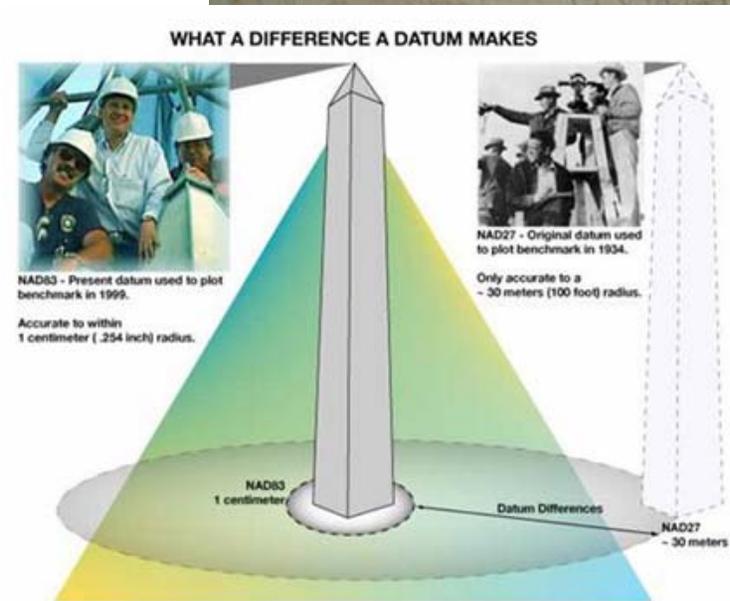
OUTSIDE
CAPACITY
BUILDING

National Geodetic Survey



National Readjustment

- Completed February 9, 2007
- Free adjustment, 1st iteration: 43 of 52 Helmert Blocks analyzed.
- Complete Helmert blocking solution involves:
 - ❑ total of 68,336 unique stations
 - ❑ 302,171 vectors.
- Accuracies will be included on the data sheet.
- New Datum Tag – NAD83 (NSRS2007)
- Based on the final adjusted results from the original published positions and ellipsoid heights
 - ❑ Average horizontal shift: 2.5 cm.
 - ❑ Average ellipsoid height shift: 2.7 cm.



Readjustment Website

<http://www.ngs.noaa.gov/NationalReadjustment/>

NGS develops Standards and Specifications

FGDC-STD-007-1998



National Spatial Data Infrastructure

Geospatial Positioning Accuracy Standards

Federal Geodetic Control Subcommittee
Federal Geographic Data Committee



**Input Formats and
Specifications of the
National Geodetic Survey
Data Base**

Volume I. Horizontal Control Data

Charles W. Challstrom, NOAA
Chairperson, Federal Geodetic Control Subcommittee
Federal Geodetic Data Committee

Silver Spring, MD
March, 2003

FGDC Document Number XX



National Shoreline Data Content Standard
Working Draft

Standards Working Group
Federal Geographic Data Committee

March 2005

*and plays an integral role in the development of
FGDC standards*

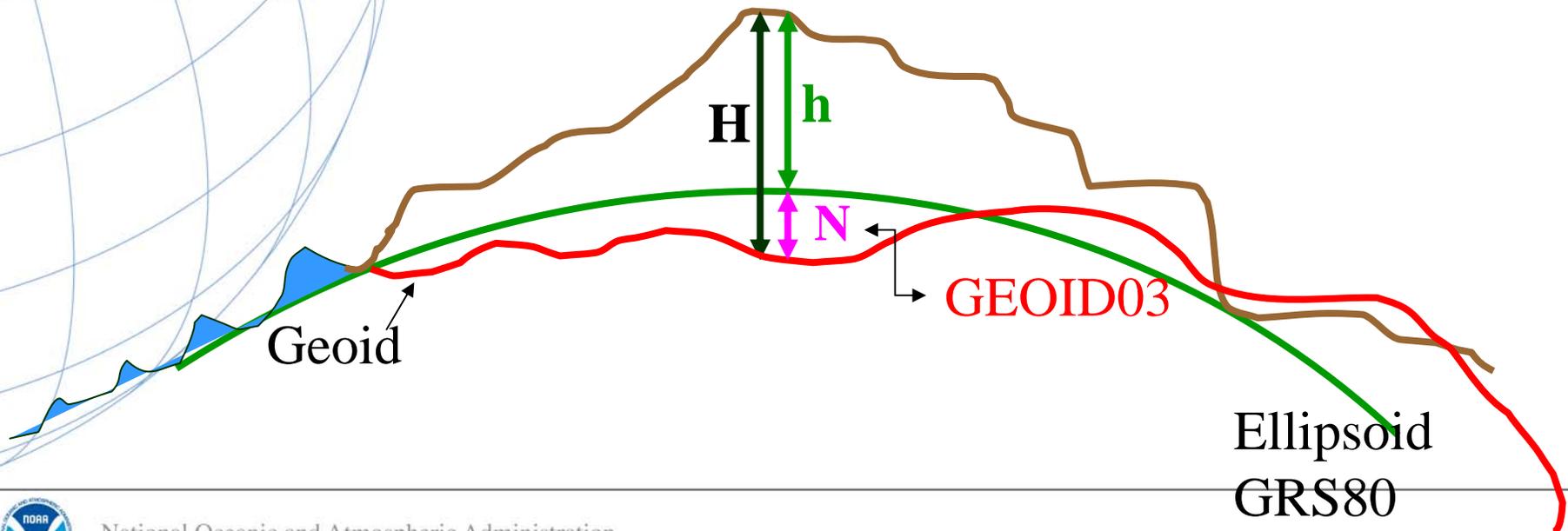
ELLIPSOID - GEOID RELATIONSHIP

H = Orthometric Height (NAVD 88)

h = Ellipsoidal Height (NAD 83)

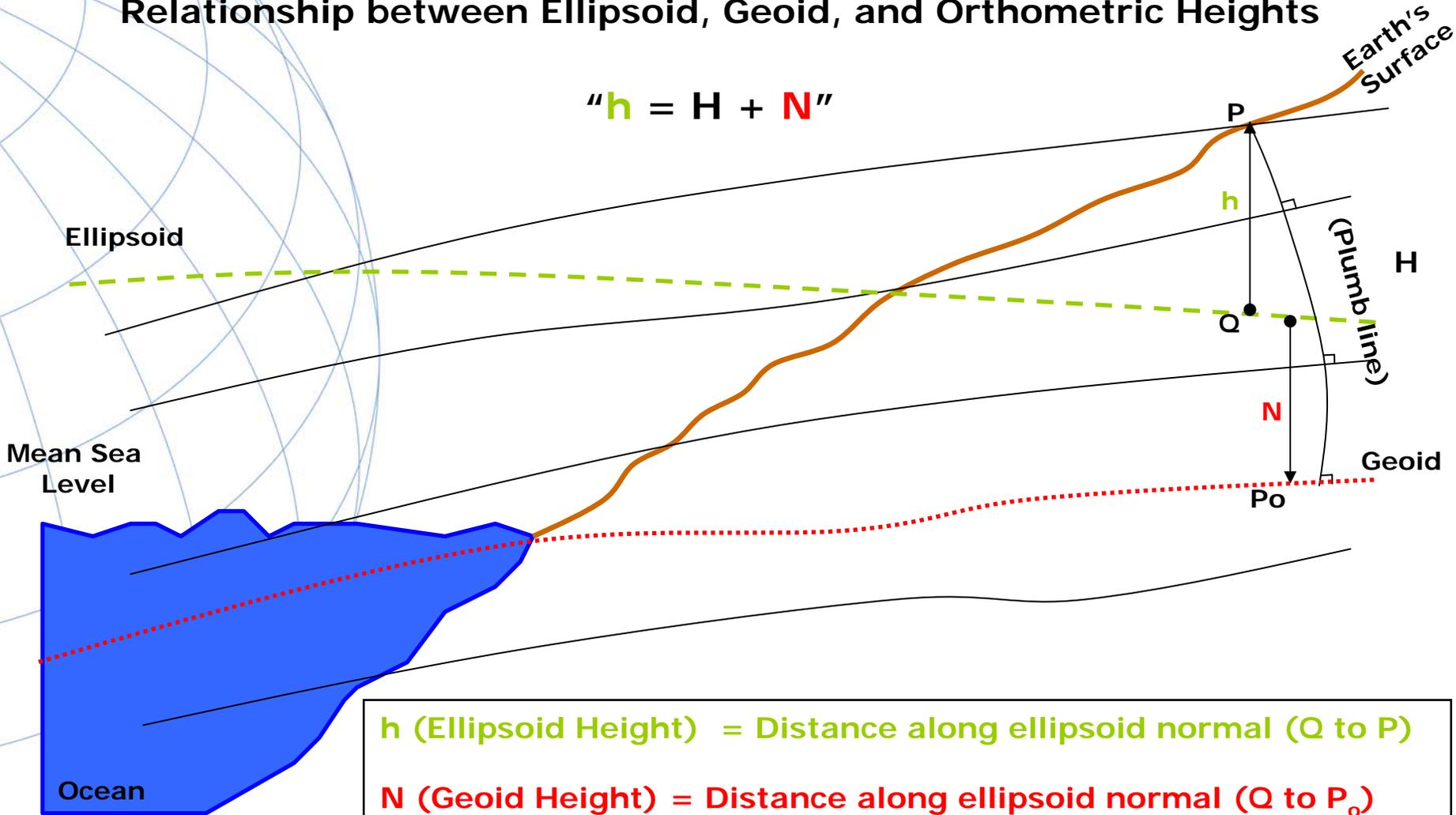
N = Geoid Height (GEOID 03)

$$H = h - N$$



Relationship between Ellipsoid, Geoid, and Orthometric Heights

$$h = H + N$$



h (Ellipsoid Height) = Distance along ellipsoid normal (Q to P)
N (Geoid Height) = Distance along ellipsoid normal (Q to P₀)
H (Orthometric Height) = Distance along plumb line (P₀ to P)

Daylight Savings Time

- No Impact at this time to the GPS.
- User requires more attention to this change.

Year	Spring Forward	Fall Back
2004	2 a.m. April 4	2 a.m. Oct. 31
2005	2 a.m. April 3	2 a.m. Oct. 30
2006	2 a.m. April 2	2 a.m. Oct. 29
2007	2.a.m. March 11	2 a.m. Nov. 4
2008	2 a.m. March 9	2 a.m. Nov. 2
2009	2 a.m. March 8	2 a.m. Nov. 1
2010	2 a.m. March 14	2 a.m. Nov 7
2011	2 a.m. March 13	2 a.m. Nov. 6



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GPS data Find a Survey Mark

Thursday, February 15, 2007

• [Upcoming Events](#)

Check these out...

COMPLETED! [The National Readjustment](#)

For more information on the [Re-Adjustment Distribution Format \(RDF\)](#) click [here](#)



NOAA is celebrating 200 years of science, service, and stewardship. Visit the [NOAA 200th Celebration Web Site](#) to see how the National Geodetic Survey has contributed to this 200-year legacy.

UPDATE! [Just Released! OPUS - rapid static](#)

OPUS-RS (rapid static), a new variation of the Online Positioning User Service (OPUS), is now operational. OPUS-RS enables users to submit as little as 15 minutes worth of GPS data to NGS via the Web, whereupon NGS will process these data with data from the CORS network to provide the user with accurate positional coordinates for the location associated with the submitted data. ... [more](#)

UPDATE! [New Version of the Horizontal Time Dependent Positioning Tool](#)

NOAA's National Geodetic Survey recently released version 2.9 of the HTDP software for transforming positional coordinates and/or geodetic observations across time and between spatial reference frames.... [more](#)

[Post-storm imagery](#)

NOAA's National Geodetic Survey

For further information visit the
National Geodetic Survey online at:

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

