



# NOAA'S HEIGHT MODERNIZATION PROGRAM

## Background

NOAA's National Geodetic Survey (NGS) has been implementing the use of new technology to improve elevation data in the United States since FY 1998. California's surveying community was the first to focus attention on the height infrastructure deficiency that exists in many parts of the nation. California surveyors brought their concerns to both NOAA and Congress, which resulted in Congress directing NOAA to conduct a study on the likelihood of using new technology with current leveling techniques to improve height determination. The study's findings have supported earmarks for 11 states (AL, AZ, CA, KY, LA, MS, NC, SC, TX, WA, and WI), managed through NGS' National Height Modernization Program (NHMP) from FY2001-FY2006. These 11 states represent the current "Height Modernization Partners."

## Significance

Accurate heights are critical for a wide variety of applications that effectively support modern social requirements, including improved transportation systems, subsidence monitoring, sea level rise analysis, flood plain mapping, urban planning, storm surge modeling, habitat restoration, emergency preparedness, coastal resource management, precision agriculture, construction, mineral extraction, and seismic and crustal monitoring, among others.

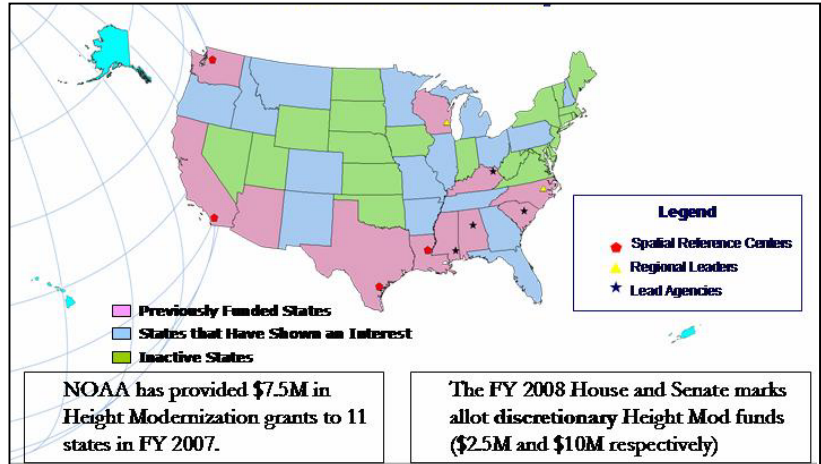
## Competitive Grants Process

In FY 2007, Congress appropriated discretionary funding for NOAA's Height Modernization Regional Expansion as a single line item, rather than the Congressionally Directed earmarks used in previous years. Awards were advertised through a Broad Agency Announcement and funded through a competitive grant process. After a pre-screening within NGS to validate the qualifications of the grants, the proposals were sent to reviewers outside NOAA, three reviewers for each proposal, and evaluated for importance/relevance to NOAA mission goals, scientific/technical merit, qualifications of applicant, and planned activities for outreach and education. Scores were averaged, recipients selected, and in some cases the amount of the award was negotiated from the requested funding level.

NOAA provided \$7.5M in Height Modernization grants to 11 states in FY 2007. It is anticipated that the FY 2008 funding will also be made available through a competitive process and NGS expects to receive more grant proposals than in the past. The President's Budget for FY 2008 included Height Modernization funding lines for NC, SC, CA consolidated into a single \$2.5M discretionary Height Mod funding line. The FY 2008 House and Senate marks also allot discretionary Height Mod funds (\$2.5M and \$10M respectively).

## Funding History

Not all states received funding every year. The financial support of earmarked state governments and universities has facilitated the development of best-practices that NGS has been able to proliferate to other non-funded states through various workshops and technical guidance. However, earmarks were replaced with a competitive grants process in FY2007.



| Fiscal Year | Total Program Funding (\$M) | States Receiving Height Mod Funding |
|-------------|-----------------------------|-------------------------------------|
| 2001        | 2.25                        | CA, NC                              |
| 2002        | 3.75                        | CA, NC, LA, WI                      |
| 2003        | 3.75                        | CA, NC, LA, WI, MS                  |
| 2004        | 9.0                         | CA, NC, LA, WI, MS, AL, WA, SC      |
| 2005        | 9.6                         | CA, NC, LA, WI, MS, AL, WA, TX, KY  |
| 2006        | 9.9                         | CA, NC, WI, MS, AL, SC, TX, KY, AZ  |
| 2007        | 9.0                         | Competitive Process                 |

## Height Mod Grants Details

| State              | 2005 (\$M) | 2006 (\$M) | 2007 (\$M) |
|--------------------|------------|------------|------------|
| Alabama            | 1.8        | 1.7        | 1.2        |
| Arizona            | 0          | 0.4        | 0.3        |
| California         | 0.5        | 0.9        | 1.0        |
| Kentucky           | 0.4        | 0.4        | 0.4        |
| Louisiana          | 0.4        | 0          | 0.9        |
| Mississippi        | 0.5        | 0.5        | 0.4        |
| North Carolina     | 0.8        | 0.7        | 0.8        |
| North Carolina A&T | 0.1        | 0.1        | 0.1        |
| South Carolina     | 0          | 0.4        | 0.5        |
| Texas              | 0.7        | 0.7        | 0.5        |
| Washington State   | 0.4        | 0          | 0.3        |
| Wisconsin          | 2.7        | 2.6        | 1.2        |
| <b>Total</b>       | <b>8.3</b> | <b>8.5</b> | <b>7.5</b> |

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