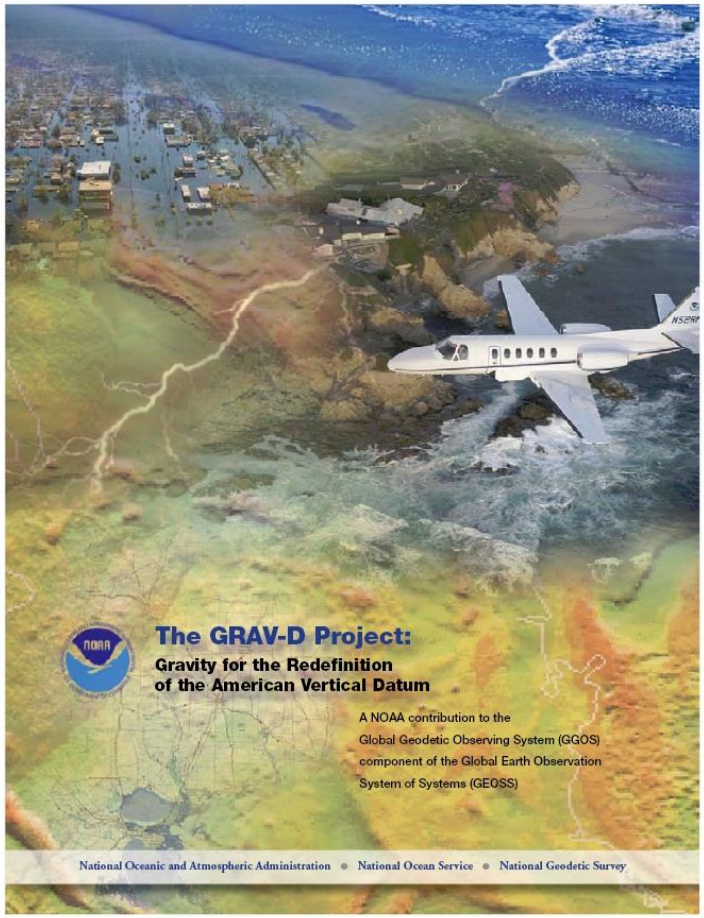
Workshop on Long Term Monitoring of Geoid Change

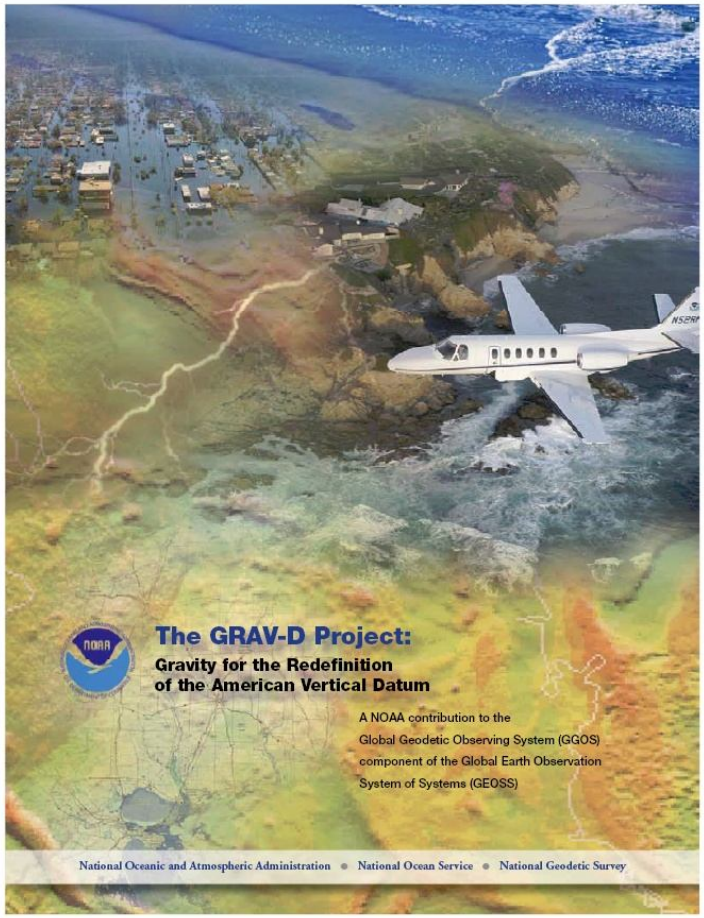
Steering Committee Meeting

GRAV-D Objectives



- Define a high-accuracy gravimetric geoid model over the United States and its territories (at least)
- Redefine the official vertical datum as the geoid
- Realize the datum through the use of GNSS technology, and
- Target: 2 cm accuracy orthometric heights derived from GNSS and a geoid model

The GRAV-D Project



- Three Thrusts of GRAV-D:
  - Gravity field "snapshot": get initial baseline through airborne campaign
  - "Slow-motion movie": Long-term monitoring of geoid change
  - Regional partnership surveys
- If fully funded, GRAV-D would produce a new vertical datum in 10 years

Long-Term Geoid Monitoring

- Address the time-varying component to keep geoid accurate as time passes
- Upgrade of the Table Mountain Geophysical Observatory (TMGO)
- Creation of a long-term measurement plan

TMGO

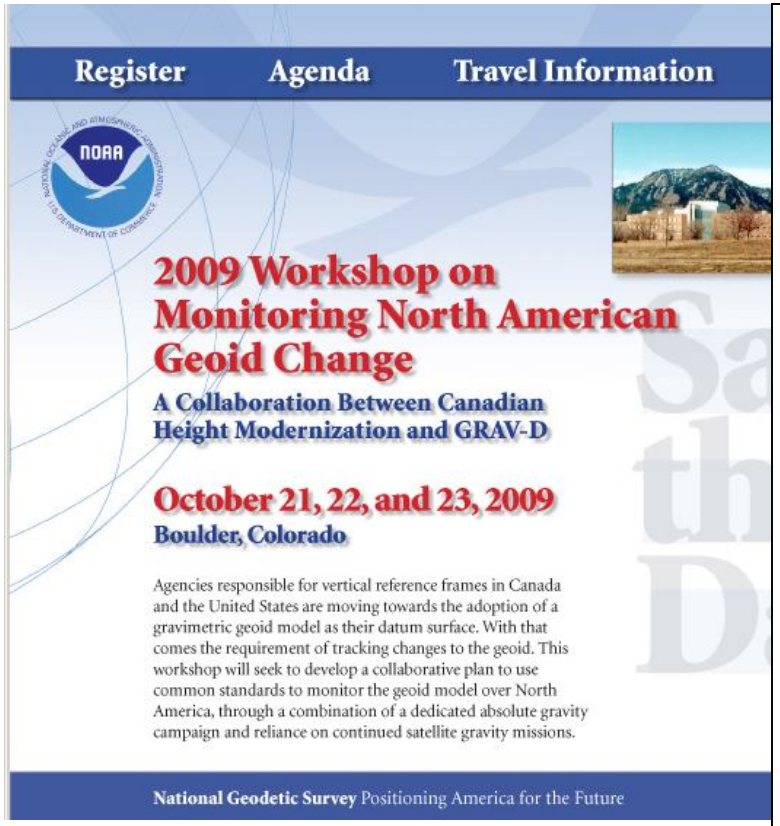
Before

After

New and Upgraded Instruments

- New A-10 Absolute Gravimeter
- Upgrading relative meters
- Repairing SG

Long-Term Geoid Monitoring and GRAV-D



- A primary mission goal is to model the *dynamic geoid* for North America
- IAG-sponsored workshop was held in Boulder to address how to monitor geoid change
- Included representatives from the absolute/relative gravity communities, GRACE, and CORS
- Formed a steering committee of interested parties to help craft plan to monitor geoid change
- Group will re-convene at CMOS-CGU meeting in Ottawa in May/June

Workshop Objectives

- How do we predict geoid change in order to construct our sampling plan?
- Once measurements are made and change is detected, how is the geoid updated to reflect those changes?
- What sampling strategy (given our resources and existing measurement programs) will best capture geoid change? Partnerships?
- Develop a draft plan of a measurement campaign