Montana Land Information Advisory Council

Issue Action Form
For Council Resolution Date 06/01/2006
(Date of next MLIAC meeting)

1. What action is requested of the council?

Motion to request Curtis Smith, National Geodetic Survey State Geodetic Advisor for Montana, to appear at MLIAC on 9/7/2006 to advise Montana on participating in the National Geodetic Survey Height Modernization Program.

2. Please attach a brief (One-page or less) narrative describing the issue. This form and the narrative must be provided to MLIAC staff so that it can be provided to Council members no less than one week in advance of the scheduled meeting.

3. The following organizations endorse this action:

- ☐ MAGIP
- ☐ MARLS
- ☐ County Agency
- ☐ State Agency
- ☐ Federal Agency
- ☐ Tribal
- ☐ University
- ☐ Private
- ☐ Other

Specify:

Consistent with the purpose of the Montana Land Information Act (MCA 90-1-402) to develop a standardized, sustainable method to collect, maintain, and disseminate geographic information in digital formats.

4. What are the benefits of supporting this issue?

Other states are participating in the Height Modernization Program to reduce the cost of establishing control for projects. Montana would also benefit by establishing a means to improve the geodetic control database for correcting the state cadastre and boundaries coincident with the cadastre.

5. What are the costs or resource requirements to support this issue?

As advisor for Montana, it is likely that Curtis (Curt) Smith will cover his cost to attend the MLIAC meeting in September. National Geodetic Survey has funding available (approximately $100,000 per year) to fund coordination of this effort within Montana.

6. Signature of Submitter	7. Signature of Council Member if different than 6	8. Date
		05/07/2006

This portion to be completed by the MLIAC Chair and forwarded for action.

This Issue has been presented, discussed, and voted upon by The Montana Land Information Advisory Council and has been: ☐ accepted for council action. ☐ denied for council action

The following action will be taken and reported on at the next council meeting:

This action is assigned to:_____. Date:_____.

Motion to request Curtis Smith, National Geodetic Survey State Geodetic Advisor for Montana, to appear at MLIAC on 9/7/2006 to advise Montana on participating in the National Geodetic Survey Height Modernization Program

Height Modernization is the establishment of accurate, reliable heights using GPS technology in conjunction with traditional leveling, gravity, and modern remote sensing information. The Height Modernization Program is the foundation of the National Spatial Reference System, which provides a consistent coordinate system that defines latitude, longitude, height, scale, gravity, and orientation throughout the United States and how these values change with time. The National Spatial Reference System is comprised of a network of CORS (Continuously Operating Reference Stations), a network of ground monuments, and a set of accurate models that describe processes affecting spatial measurements. This establishes the geodetic control network necessary to control the correct location of spatial data and eliminates or minimizes the need for benchmarks.

[Following extracted from paper co-authored by Curtis Smith]
"Since 1983, NGS has performed control survey projects in the United States using GPS surveying techniques. Analysis of that survey data has shown that GPS can be used to establish precise relative positions in three-dimensions. When the use of GPS technology began, results from projects clearly showed that GPS survey methods could replace classical horizontal control terrestrial survey methods. With the completion of the general adjustment of the North American Vertical Datum of 1988 (NAVD 88), computation of an accurate national high-resolution geoid Model and publication of NGS' Guidelines for Establishing GPS-Derived Ellipsoid Heights, the answer is yes! GPS-derived orthometric heights can provide a viable alternative to classical geodetic leveling techniques for many applications."

Benefit: Other states are participating in the Height Modernization Program to reduce the cost of establishing control for projects. Montana would also benefit by establishing a means to improve the geodetic control database for correcting the state cadastre and boundaries coincident with the cadastre, as well as improved location for other geographic data collections. Cost\benefit studies in Wisconsin have demonstrated from a 6:1 (local government photo control project) to 9:1 (Wisconsin Department of Transportation highway realignment project) reduction in personnel costs on a given project.

Cost: As advisor for Montana, it is likely that Curtis (Curt) Smith will cover his cost to attend the MLIAC meeting in September. National Geodetic Survey has funding available (approximately $100,000 per year) to fund coordination of this effort within Montana. Montana would need to identify a host agency. Grants of between $500,000 and $3,000,000 have been awarded by NGS to other states for implementation.