



***Department of Earth, Atmospheric and Planetary Sciences***

*Geodesy and Geodynamics Laboratory*

*Massachusetts Institute of Technology, Room 54-820A*

*77 Massachusetts Avenue, Cambridge, MA 02139*

*Ph. 617-253-5941, Fax 617-258-7401*

*Web <http://geoweb.mit.edu>*

March 24, 2011

Drs. Glick and Johnson  
President's Office  
University of Nevada, Reno  
Reno, NV 89557-001

Dear Drs. Click and Johnson:

I write to express my grave concerns about the recent actions at the University of Nevada to greatly reduce the budget of the Nevada Bureau of Mines and Geology (NBMG). Most seriously, this action will mean the loss of critical staff and faculty, who will be difficult to replace in the future. These actions seem very shortsighted given the needs the country and Nevada will face in the near future as countries such as China and India start making greater demands for the world's resources. The US will need to maintain its capabilities in resource development and management if we are to maintain our standard of living.

I am particularly concerned about the fate of the Nevada Geodetic Laboratory. This group is one of the most qualified and productive ones in the world. This group works on critical problems for both Nevada and the scientific community in general. The algorithms and theories developed by this group are widely used throughout the world. Of specific importance to Nevada have been the studies of strain accumulation in the state due to tectonic motions and the potential for earthquakes in the region. As recently seen in Christ Church, New Zealand, earthquakes occurring in unexpected regions can cause serious damage and loss of life. These geodetic studies have also lead into insights into critical aquifer deformations around Los Vegas. The strain fields and shear zones identified in Southern Nevada also have implications for geothermal energy sources in the state.

The studies of the Nevada Geodetic Laboratory have also lead to new insights in the effects of large-scale loading effects on the Earth. The theoretical developments and confirmation of these theories through carefully data analysis shed new light on global deformation effects. Careful analyses of these processes are needed as concerns are raised about large ice-sheet changes in Greenland, Antarctica and glaciers around the world. Global geodetic data sets coupled with spaces based satellite missions such as

Gravity Recovery and Climate Experiment (GRACE) need the solid theoretical basis developed by the laboratory in order for these data to be correctly interpreted.

I strongly recommend that you carefully reconsider the implications and long-term consequences of the budget cuts that have been proposed.

Regards

A handwritten signature in cursive script that reads "Thomas A. Herring".

Thomas Herring  
Professor of Geophysics,  
MIT, Cambridge MA  
I have been a faculty member of MIT for 21 years.

cc: Jeff Thompson <[thompsonj@unr.edu](mailto:thompsonj@unr.edu)>

cc: Jon Price <[jprice@unr.edu](mailto:jprice@unr.edu)>

cc: Geoff Blewitt <[gblewitt@unr.edu](mailto:gblewitt@unr.edu)>