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November 26, 2019

Senator Patrick Leahy  
199 Main Street, 4th Floor  
Burlington, VT 05401

Dear Senator Leahy,

I am your neighbor from New Hampshire and I write to you concerned about a matter of great importance to our national security. Unless the Senate Appropriations Committee resolves a seemingly small \$760,000 difference between the House and the Senate funding proposals for the USGS Geomagnetism Program, we risk three key observatories in Mississippi, California, and Alaska being shut down.

USGS observatory data are used for many purposes. Critically, these data are used by advisers to electric power-grid industry to supply regional data which are not currently available otherwise and are needed to protect critical infrastructure in both coastal and inland locations.

I know you are keenly aware of the importance of protecting our critical infrastructures- particularly the electric grid, on which all other critical infrastructures depend. To keep these key facilities running, I ask that the Committee appropriate \$4.2 million for USGS Geomagnetism Program because of its importance to our national security and civilian economy.

I am attaching a fact sheet with further information on this issue and I appreciate your attention to this important matter.

Sincerely,



Michael Mabee

## FUNDS FOR USGS GEOMAGNETISM PROGRAM (20 Nov. 2019)

by David Jonas Bardin

You can **ask Congress to appropriate \$4.2 million** for USGS Geomagnetism Program because of its importance to our national security and civilian economy. Too often taken for granted, this Program supports critical infrastructures, networks, and operations, including forecasts and planning against GMD (space weather) and electromagnetic pulse (EMP) events.

- The House of Representatives voted **to appropriate \$4.2 million** for Fiscal Year 2020 (which began Oct. 1, 2019). The Senate approved \$3.4 million.
- **Congress must resolve** \$760,000 difference — seemingly small but potentially consequential.
- In the meantime, Congress provides only \$1.9 million of standby funding.

There are **two differences** for House and Senate to resolve:

**First:** The House added **\$500,000** to FY 2019's appropriation (but the Senate did not) in order to avoid mothballing three geomagnetic observatories in Mississippi, California, and Alaska. — BSL, FRN, SHU on attached map, next page. **These observatories are important:**

A. USGS observatories provide base-line, historic (“permanent”) records, meeting highest governmental standards as part of an international network, to commercial, academic, and governmental sectors (both domestic and international). For example, observatory data are:  
— used by the National Geospatial Agency to calculate the World Magnetic Model (WMM), on which all forms of navigation rely;  
— used by NOAA Space Weather Prediction Center for real-time monitoring of GMD;  
— used by Air Force to calculate atmospheric expansion, for tracking low-orbiting satellites;  
— used by the oil and gas industry for directional drilling; and  
— used to calibrate accuracy of less permanent facilities.

B. USGS observatory data are used by advisers to electric power-grid industry (for example) to supply regional data which are not currently available otherwise and are needed to protect critical infrastructure in both coastal and inland locations.

E— Thus BSL-Stennis, on the Mississippi-Louisiana border (established 1986), is in the heart of Gulf Coast population and industrial centers.

— FRN-Fresno (established 1980) is in the heart of California.

— SHU-Shumagin (established 2003) adds southern Alaska / Aleutian Islands data.

### C. **Source of this \$500,000 Senate and House difference:**

— The House favored a direct appropriation of \$500,000 to substitute for an annual Air Force discretionary stipend to USGS (drawn from Department of Defense funds) which has supported 25% of USGS geomagnetic observatories network costs.

— That Air Force stipend has not been matched by civilian agencies (such as NOAA) which also use USGS observatories data. Air Force came to question, Why?

— House proposes stable resolution of inter-agency discrepancy once and for all.

**Second:** House added annual increment of \$1.76 million toward completing a magnetotelluric survey (MT Array) of the conterminous USA (CONUS or “lower-48”), consistent with 4-year completion deadline set in March 2019 by EMP Executive Order (EO 13865). Senate added **\$260,000** less than House — \$1.5 million — not likely enough to meet this 4-year goal.

— You can alert members of Senate and House Interior et al. Appropriations Subcommittees of your interest in USGS Geomagnetism Program which fits into their Bill. (Names, links below.)

— You can ask other Senators and Representatives to contact subcommittee members too.

— You can ask Senate to accept House version as to entire \$500,000 for USGS geomagnetic observatories and as much as possible of \$260,000 for MT Array (and House to stand firm).

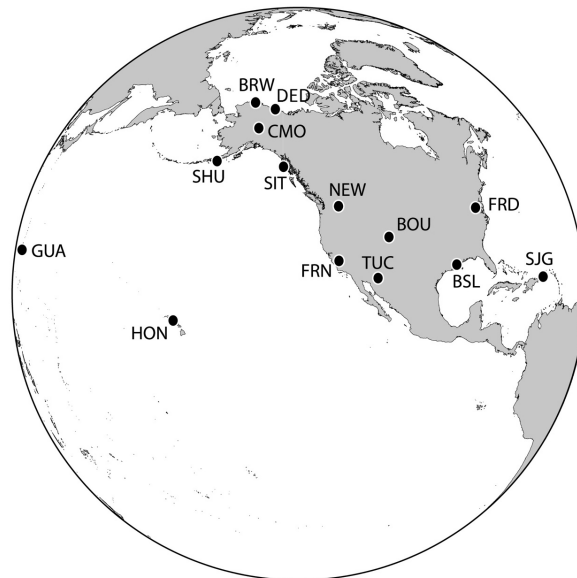
Lisa Murkowski (R-AK), Chairs Senate Subcommittee; Tom Udall (D-NM), Ranking Member. Betty McCollum (D-MN), Chairs House Subcommittee; David Joyce (R-OH), Ranking Member.

Full Committee leaders in House are Nita M. Lowey (D-NY), Chairwoman, and Kay Granger (R-TX), Ranking Member; in Senate Richard Shelby (R-AL), Chairman, and Patrick Leahy (D-VT), Vice-Chairman (and also a Subcommittee member).

**Senate subcommittee** see: <https://www.appropriations.senate.gov/subcommittees/interior-environment-and-related-agencies>. **House subcommittee** see: <https://appropriations.house.gov/subcommittees/interior-environment-and-related-agencies-116th-congress>.

— House and Senate leaders are negotiating allocation of total budget among 12 bills (including Interior et al. Bill). There may not be a formal Conference Committee.

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See [https://www.usgs.gov/natural-hazards/geomagnetism/science/observatories?qt-science\\_center\\_objects=0#qt-science\\_center\\_objects](https://www.usgs.gov/natural-hazards/geomagnetism/science/observatories?qt-science_center_objects=0#qt-science_center_objects).

“Understanding the risks is key to preparedness ... USGS science provides part of the foundation for emergency preparedness whenever and wherever disaster strikes.” —USGS.gov