September 15, 2015

The Honorable Thad Cochran The Honorable Barbara A. Mikulski Chairman Vice Chairwoman Committee on Appropriations Committee on Appropriations United States Senate United States Senate Washington, DC 20510 Washington, DC 20510 The Honorable Hal Rogers The Honorable Nita Lowey Chairman **Ranking Member** Committee on Appropriations **Committee on Appropriations** House of Representatives House of Representatives Washington, D.C. 20515 Washington, D.C. 20515

Dear Chairman Cochran, Vice Chairwoman Mikulski, Chairman Rogers, and Ranking Member Lowey:

As former military and national security leaders, we urge you to protect funding for NASA Earth science and NSF Geoscience programs. These programs are essential parts of a broader whole of government and whole of society effort to provide essential data about and better scientific understanding of global, regional and local Earth processes. That essential data and better understanding of the underlying science are critical to many strategic planning, strategy, and investment decisions in both the private and public sectors, very much including national security.

From better understanding weather, wind patterns and intensity, changing global land cover, snow, ice and glacier melting, and seismic activity, to capturing new insights about ocean-atmosphere dynamics and changing ocean circulation, these NASA and NSF programs represent one of the pillars of our nation's environmental information supply chain. This critical but fragile chain begins with science and data and evolves into decision support products and tools that inform and protect our citizens, property, businesses, and interests around the world. NASA and NSF Earth science directly link to food, water, energy, and economic security, all of which are inherently tied to our national security.

Through science, observations and research such as that provided and supported by NASA and NSF, our nation develops and refines the predictive capabilities necessary to anticipate and respond to significant geophysical events such as the severe weather and flooding that has ravaged Texas and Oklahoma or the devastating earthquake that recently struck Nepal. As with any matter affecting national security, information and intelligence are at the core of preparation, risk management, and response.

NASA's Earth science and NSF's Geoscience research benefits our society and economy. The results from these agencies' efforts are the foundation for subsequent DoD and National Oceanic and Atmospheric Administration (NOAA) programs that directly protect the American people and strengthen our national security. We urge you to continue to fund fully both NASA Earth science and NSF Geoscience research.

Sincerely,

Vice Admiral David Architzel, USN (Ret.) Admiral Frank "Skip" Bowman, USN (Ret.) Vice Admiral Paul G. Gaffney II, USN (Ret.) Brigadier General Gerald E. Galloway, USA (Ret.) Vice Admiral Conrad Lautenbacher, USN (Ret.) Vice Admiral Lee F. Gunn, USN (Ret.) General Ron Keys, USAF (Ret.) Colonel Mark Mykleby, USMC (Ret.)

Vice Admiral Robert C. Parker, USCG (Ret.) Rear Admiral Ann C. Phillips, USN (Ret.) Rear Admiral Craig Quigley, USN (Ret.) Lieutenant General John F. Regni, USAF (Ret.) Vice Admiral William D. Sullivan, USN (Ret.) Rear Admiral David Titley, USN (Ret.) General Charles F. "Chuck" Wald, USAF (Ret.)

The Honorable Roy Blunt, Chairman, Subcommittee on Labor, Health, Human Services, Education and Related Agencies, Senate Committee on Appropriations The Honorable Patty Murray, Ranking Member, Subcommittee on Labor, Health, Human Services, Education and Related Agencies, Senate Committee on Appropriations

The Honorable Richard C. Shelby, Chairman, Commerce, Justice, Science Subcommittee, Senate Committee on Appropriates

The Honorable John Thune, Chairman, Senate Committee on Commerce, Science, and Transportation

The Honorable Bill Nelson, Ranking Member, Senate Committee on Commerce, Science, and Transportation

The Honorable Ted Cruz, Chairman, Subcommittee on Space, Science, and Competiveness, Senate Committee on Commerce, Science, and Transportation

The Honorable Gary C. Peters, Ranking Member, Subcommittee on Space, Science, and Competitiveness, Senate Committee on Commerce, Science, and Transportation The Honorable Tim Kaine, Member, Senate Armed Services Committee

The Honorable John Culberson, Chairman, Commerce Subcommittee, Committee on Appropriations, U.S. House of Representatives

The Honorable Chaka Fattah, Ranking Member, Commerce Subcommittee, Committee on Appropriations, U.S. House of Representatives The Honorable Lamar Smith, Chair, House Science, Space, and Technology Committee

The Honorable Eddie Bernice Johnson, Ranking Member, House Science, Space, and Technology Committee