9 July 2019

Governor Michael J. Dunleavy
Office of the Governor
P.O. Box 110001
Juneau, AK 99811-0001

Dear Governor Dunleavy:

I am writing on behalf of the American Geosciences Institute, a federation of over 50 geoscience societies representing 250,000 geoscientists from all 50 states, to strongly request that you reconsider the budgetary cuts that you proposed to the University of Alaska. This is critical as the University of Alaska provides critical educational and research programs that both the Anchorage and Fairbanks campuses provide to Alaska residents and out of state students. In particular, the geoscience programs on these campuses are integral to the U.S. geoscience enterprise, representing two of the most productive programs in the country for educating the next generation of geoscientists. And given the centrality of natural resources and hazards to the economics of the State of Alaska, these centers of excellence produce the critical workforce to develop the energy and minerals within the Alaska and are key to protecting the citizenry and infrastructure from natural hazards.

Additionally, the geoscience programs represent unique training grounds for professionals to be appropriately educated and equipped to work in the unique environments within Alaska, something which cannot be effectively taught elsewhere. Likewise, the mining and geological engineering program consistently demonstrates its importance through its nearly perfect job placement rate, and that it is one of just a dozen U.S. mining engineering programs, filling a critical economic space.

Any major cuts to the University of Alaska, especially following the previous rounds of budgetary trimming, will force the next generation of students to seek their education outside of Alaska, and not be effectively equipped to work within the State later. Likewise, the cutting-edge research done within the University relative to Alaska’s unique environments, such as permafrost, would be lost, not only to Alaska, but become an expertise at risk of permanent decimation. I have seen this decimation occur at other universities when programs are cut and the expertise never returns and is not shifted to other universities.

These budget cuts will not only hurt the students but will negatively impact the future economic health of the State of Alaska, potentially forcing even more austerity for the State. I have attached a fact sheet that we produce that looks at how geoscience is a vital part of your state, but you can also view it online here:
https://s3images.americangeosciences.org/agi/statefactsheets/AK_GeoscienceInYourState_AGI.pdf
If you would like to discuss this situation further, please feel free to contact me at: (703) 379-2480 x 202 or aandersonbook@americangeoosciences.org

Respectfully,

[Signature]

Allyson Anderson Book
Executive Director
WHAT IS GEOSCIENCE?

Geoscience is the study of the Earth and the complex geologic, marine, atmospheric, and hydrologic processes that sustain life and the economy. Understanding the Earth's surface and subsurface, its resources, history, and hazards allows us to develop solutions to critical economic, environmental, health, and safety challenges.

By the numbers: ALASKA

- 3,736 geoscience employees (excludes self-employed)¹
- 315 million gallons/day: total groundwater withdrawal³
- $3.53 billion: value of nonfuel mineral production in 2017⁴
- 54 total disaster declarations, including 17 severe storm, 4 fire, and 13 flood disasters (1953-2017)⁶
- $33.6 million: NSF GEO grants awarded in 2017¹⁴

ENERGY AND MINERALS IN ALASKA

- $3.53 billion: value of nonfuel mineral production in 2017⁴
- Zinc, gold, lead: top three nonfuel minerals in order of value produced in 2017⁴
- 932,000 short tons: coal produced in 2016⁵
- 344 billion cubic feet: natural gas produced in 2017⁵
- 181 million barrels: crude oil produced in 2017⁵
- 1.78 million megawatt hours: hydroelectricity produced in 2017⁵
- 164,000 megawatt hours: wind produced in 2017⁵

WORKFORCE IN ALASKA

- 3,736 geoscience employees (excludes self-employed) in 2017¹
- $101,739: average median geoscience employee salary¹
- 4 academic geoscience departments²

WATER USE IN ALASKA

- 315 million gallons/day: total groundwater withdrawal³
- 450 million gallons/day: total surface water withdrawal³
- 99 million gallons/day: public supply water withdrawal³
- 2 million gallons/day: water withdrawal for irrigation³
- 8 million gallons/day: self-supplied industrial fresh water withdrawal³
- 74% of the population is served by public water supplies³

NATURAL HAZARDS IN ALASKA

- 54 total disaster declarations, including 17 severe storm, 14 fire, and 13 flood disasters (1953-2017)⁶
- $9 million: individual assistance grants (2005-2017)⁶
- $123 million: preparedness grants (2005-2017)⁶
- $146 million: public assistance grants (2005-2017)⁶
- 6 weather and/or climate events, each with costs exceeding $1 billion (inflation adjusted) (1980-2017)⁷

⁴ U.S. Geological Survey, Mineral Commodity Summaries 2018
⁵ U.S. Energy Information Administration
⁶ FEMA Data/Visualization: Summary of Disaster Declarations and Grants (accessed May 2, 2018)
Geoscience, Alaska, and Federal Agencies

U.S. GEOLOGICAL SURVEY (USGS)
- $1.15 billion: total USGS budget in FY 2018 (5.8% increase from FY 2017)\(^8\)
- The National Cooperative Geologic Mapping Program funds geologic mapping projects with federal (FEDMAP), state (STATEMAP), and university (EDMAP) partners
- $4.24 million: Alaska STATEMAP funding (1993-2016)\(^9\)
- University of Alaska Fairbanks has participated in EDMAP\(^8\)
- USGS streamgages collect real-time or recent streamflow, groundwater, and water-quality data throughout Alaska

NATIONAL SCIENCE FOUNDATION (NSF)
- $7.8 billion: total NSF budget in FY 2018 (4% increase from FY 2017)\(^13\)
- $1.4 billion: total NSF Geosciences Directorate (GEO) awards in FY 2017 (7.2% increase from FY 2016)\(^14\)
- 78 NSF GEO awards in Alaska totaling $33.6 million in 2017\(^14\)
- $28.6 million: NSF GEO grants awarded to University of Alaska Fairbanks in 2017\(^14\)

U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)
- $8.1 billion: total EPA budget in FY 2018 (0% change from FY 2017)\(^15\)
- 6 active Superfund sites in Alaska in 2018\(^16\)
- $8.24 million: Drinking Water State Revolving Fund (DWSRF) grants in Alaska in 2017\(^17\)

FEDERAL FACILITIES IN ALASKA
- USGS Volcano Science Center, Anchorage
- USGS Alaska Climate Science Center, Anchorage
- NOAA OAR Barrow Observatory, Barrow
- DOE National Energy Technology Laboratory, Fairbanks
- NSF Earthscope, Fairbanks

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)
- $20.7 billion: total NASA budget in FY 2018 (5.5% increase from FY 2017)\(^10\)
- $1.9 billion: total FY 2018 NASA Earth Science budget (0% change from FY 2017)\(^10\)
- Gravity Recovery and Climate Experiment (GRACE) satellites measure groundwater changes in Alaska
- Soil Moisture Active Passive (SMAP) satellite measures soil moisture in Alaska

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)
- $5.9 billion: total NOAA budget in FY 2018 (4.1% increase from FY 2017)\(^11\)
- Next-generation geostationary (GOES) and polar orbiting (JPSS) satellites provide weather forecasting over Alaska
- Deep Space Climate Observatory (DISCOVR) satellite monitors radiation and air quality over Alaska
- 48 National Weather Service Automated Surface Observing Systems (ASOS) stations in Alaska\(^12\)
- 168 National Weather Service Cooperative Observer Program (COOP) sites in Alaska\(^12\)

YOUR STATE SOURCE FOR GEOSCIENCE INFORMATION
Alaska Department of Natural Resources
Division of Geological & Geophysical Surveys
3354 College Road
Fairbanks, AK 99709
http://www.dggs.alaska.gov/
907-451-5000

\(^8\) U.S. Department of the Interior, FY 2019 Budget in Brief
\(^9\) U.S. Geological Survey, National Cooperative Geologic Mapping Program
\(^10\) National Aeronautics and Space Administration, FY 2019 Budget Estimates
\(^11\) National Oceanic and Atmospheric Administration, FY 2019 Bluebook
\(^12\) NOAA in Your State and Territory

AGI's Geoscientific Policy and Critical Issues programs support well-informed public policy and decision making by providing information and facilitating dialogue between the geoscientific community and decision makers at all levels.
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