

ARCTIC RESEARCH HIGHLIGHTS



Oil and Gas

Working for the Alaska Gasline Development Corporation, Petroleum Engineering students are developing a user-friendly database to provide evidence validating the potential of North Slope undiscovered natural gas.

Health and Safety

Nutrition is a key component of disease prevention. UA researchers are evaluating a new suite of technologies to measure the amount of sugar-sweetened beverages, meat, and fish in Alaskans' diet. Expansion of this research area is supported by new funding from the Murdock Charitable Trust to acquire additional state-of-the-art equipment.



Permafrost

Permafrost underlying Point Lay was characterized using advanced technologies combined with traditional drilling techniques. From these data, recommendations for better housing and safer water were made to the community.

INTERIOR RESEARCH HIGHLIGHTS

Mining

UA researchers assisted the Alaska Division of Geological and Geophysical Surveys and Royal Gold-Contango Ore-Tetlin Native Corporation with understanding the mineralization system on Tetlin Native land, and neighboring state land, through advanced technologies and university expertise. The current recoverable resource on Tetlin Native Corporation is estimated at 1.1 million ounces of gold and 1.1 million ounces of silver.



Workforce Development

UA research contributes to our workforce:

- Safety training for remote Alaska villages to promote local workforce for construction
- Medical training for Alaskan students in collaboration with medical facilities and clinics throughout Alaska
- Veterinary training for Alaskan students in collaboration with Colorado State University



Tourism

UA research performed a federal lands use survey for Alaska. In addition to highlighting transportation-related conditions that need attention, results will serve as the basis for performance metrics in the Alaska Federal Lands Long-Range Transportation Plan.



Food Security

UA's One Health approach brings all aspects of health together. This approach considers the health of animals, what they can tell us about the health of the environment, and the health of humans who share these

SOUTHCENTRAL RESEARCH HIGHLIGHTS

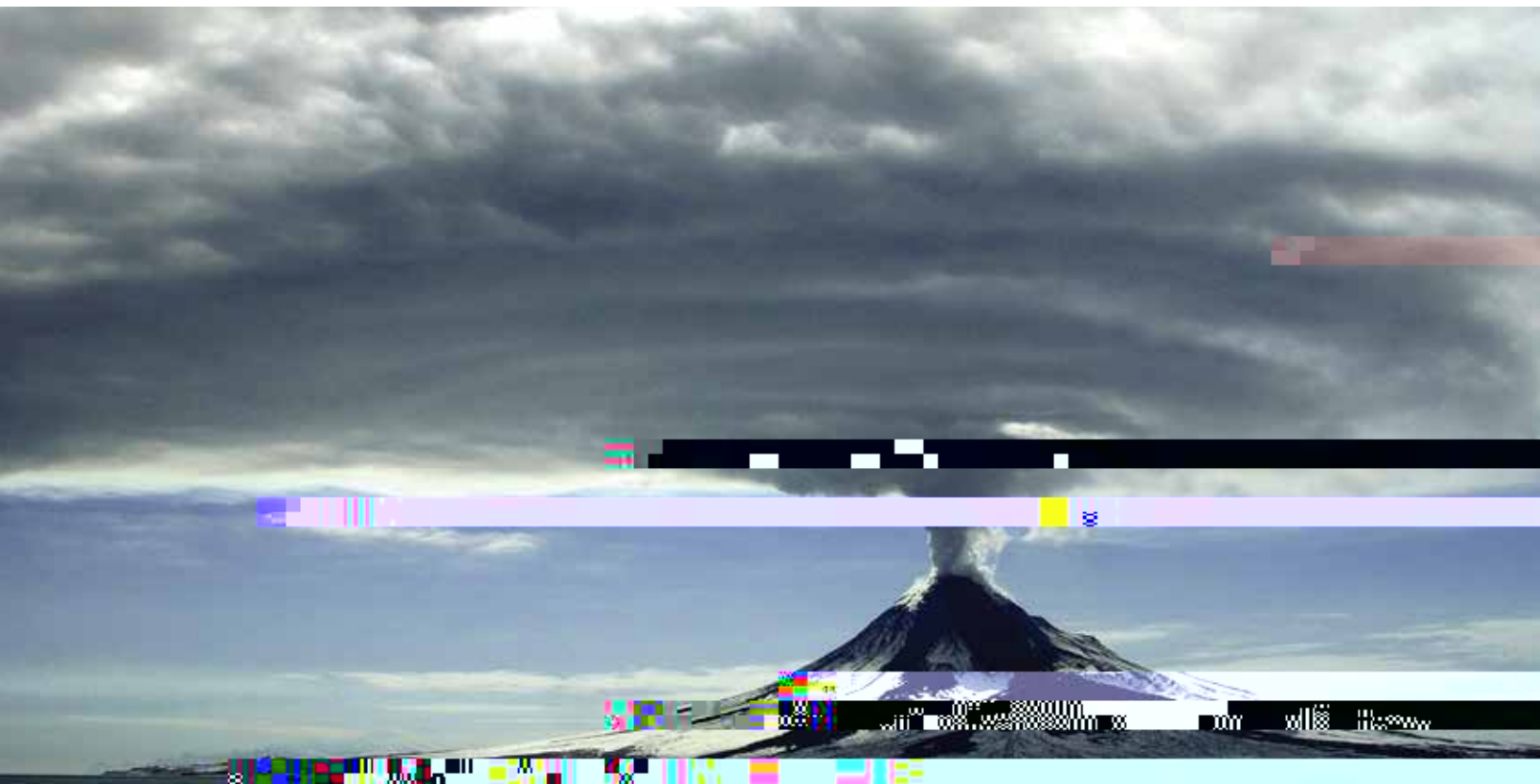
Transportation

Many UA research projects invest in transportation:

- Mapping snow avalanche hazards in transportation corridors to increase public safety
- Evaluating visibility conditions at airports to better inform aviation forecasts and aircraft operations
- Using real-time data for winter operations in Kenai, Anchorage, MatSu and the Arctic

Agriculture

Driven by Alaskans' food security and food safety concerns, UA is developing a wheat to be grown in Alaska's short spring season. Preliminary results are promising. If successful, Alaska could supply locally-grown food to Alaskans and perhaps become a major wheat producer for the U.S.



SOUTHEAST

Seafood

UA researchers are partnering with the North Pacific Research Board, Alaska Ocean Observing System, NOAA, and other universities to investigate the natural variability and long-term trend of chemical conditions in Alaska's oceans. Ocean acidification threatens marine resources and we need more data for a better understanding. For Alaska's fishing industry, a better understanding will help us prepare for a sustainable future.

Assisting Communities

A new National Science Foundation grant has funded a collaboration between UA and the University of Calgary to model food, energy, and water resources in rural Alaska. Case study communities include Tanana, Kongiganak, Cordova and Igiugig. This project examines the impact of renewable energy generation on food and water systems, including optimization to increase overall community wellness.

Energy

Hydropower energy projects need to be engineered to account for precipitation patterns and low water flows over the full lifespan of the structure. In Southeast Alaska this information is scarce and dramatic shifts to precipitation and temperature mean that even when historic data are present they may not represent future conditions. Alaska Climate Adaptation Science Center is generating freshwater discharge models to help infrastructure planning, including hydropower design.

