

# The Energy Resources Section

## Alaska Division of Geological & Geophysical Surveys



The Division of Geological & Geophysical Surveys' (DGGs) Energy Resources section acquires and publishes new, relevant, and unbiased information on the geologic framework of frontier sedimentary basins in Alaska that may host undiscovered oil, gas, and coal resources. This work promotes exploration and production success.

**The section's role is critically important as most oil companies have downsized their exploration departments and reduced or eliminated their applied geology research laboratories.**

Alaska hosts **enormous quantities of undiscovered hydrocarbon** resources and **nearly half of the nation's coal deposits**.

**Data produced by the Energy Resources section helps industry** find and produce these resources and assists policymakers in crafting effective land use decisions.



Geologists Gil Mull (left) and Paul Decker collecting samples on the eastern North Slope foothills.

Arctic Alaska

Southern Alaska  
(Cook Inlet)

Map of Alaska's sedimentary basins. The Energy Resources section has ongoing programs focused on the petroleum potential of the Arctic Alaska and Cook Inlet basins and in several prospective interior basins (shown in dark gray).

### Direct Benefit

**Energy Resources section staff lend their expertise to industry**



### Field Trips

Section geologists lead field trips for petroleum industry groups focusing on petroleum source and reservoir rocks.



### Core Workshops

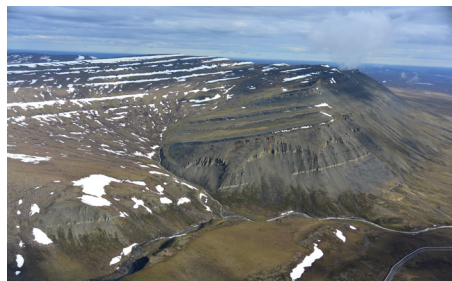
The section leads core workshops focusing on the petroleum potential of the North Slope.

View toward the south, along the west side of Cook Inlet basin near Iliamna Volcano. The dark rocks visible in the lower left of the photograph belong to the Red Glacier Formation, which is thought to be the source rock for oil produced from fields in upper Cook Inlet. Geologist for scale (white oval).



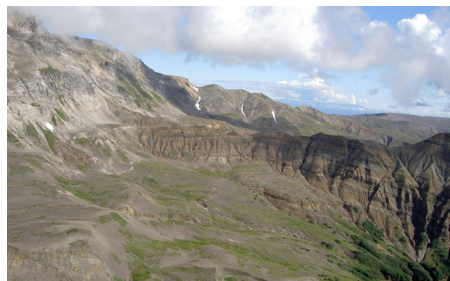
# Section Highlights

View to the west of the Nanushuk Formation at Slope Mountain. Outcrops like this one are valuable analogues for recent discoveries at Pikka and Willow.



## North Slope Field Work

Ongoing stratigraphic work and geologic mapping has **improved understanding of the petroleum potential of several Brookian Formations**, including the Nanushuk, which hosts several new giant oil accumulations.



## Upper Cook Inlet Field Work

Major new publication **advanced our understanding of the basin's hydrocarbon potential** and how petroleum trapping structures formed in upper Cook Inlet fields.

Read Professional Report 125:  
[doi.org/10.14509/30554](https://doi.org/10.14509/30554)



## Lower Cook Inlet Discovery

Recent work in lower Cook Inlet basin resulted in the **discovery of an exhumed oil field**, demonstrating conventional reservoir potential in Mesozoic age strata (160 million years old).



## Critical Minerals in Carbon Ores

To help address supply challenges, the Department of Energy is supporting **an effort to assess carbon ores in Alaska** as a potential source for critical minerals and rare-earth elements.



## Response to Energy Costs

In response to high energy costs in rural Alaska, the Energy Resources section **summarized existing information on locally available, geologically hosted sources of energy** across the state and published findings in Special Report 66.



## Publications

Energy Resources section reports are **helping explorationists unravel complex geological relations** on the North Slope and in Cook Inlet basin and are available for free from the DGGs website: [dgg.alaska.gov](https://dgg.alaska.gov)