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# Oliktok Arctic Research Center

The Sandia National Laboratories-managed Oliktok Arctic Research Center (OARC) on the North Slope of Alaska offers equipment, shelters and support for researchers and stakeholders engaged in High Arctic operations. The site provides unique opportunities to collect data across various ecosystems — terrestrial, marine, and cryosphere — using a wide range of platforms and measurement capabilities.

## QUICK FACTS

**Access:** Approximately 1 km from the Arctic Ocean, with road access to the lower 48 states via the Dalton Highway, the northern-most road in the U.S.

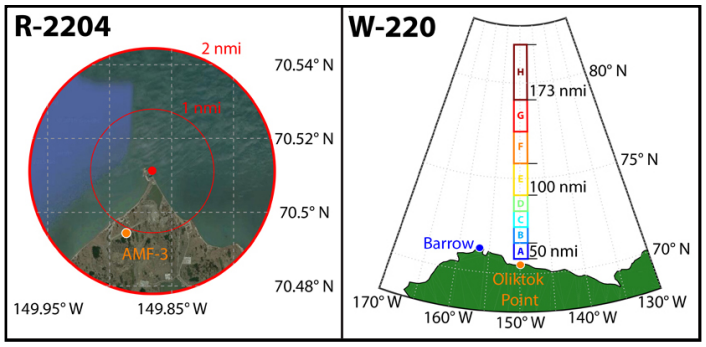
**Controlled airspace:** Can be activated to provide a controlled transect stretching over 800 miles north across the Arctic Ocean for aerial operations, including unmanned aerial vehicles (UAVs) and tethered balloons

**Research support:** Lab space, logistical and operational support, unmanned aerial systems (UAS) facilities, and test equipment

## UNIQUE CAPABILITIES

- Distributed Fiber Optic Sensing (DFOS)
- Microgrid, PV, & Wind Turbine Installation
- Meteorological Tower/ Snow Tower (2m)
- Seismometer
- Live Camera Stream
- Satellite Communications
- Restricted Airspace
- Arctic Ocean Access


*The Oliktok Arctic Research Center offers capabilities to undertake measurements across six spheres of the environment.*




*Maps illustrating the extent of (left) the restricted airspace and (right) warning area available at the OARC (de Boer et al., 2016).*

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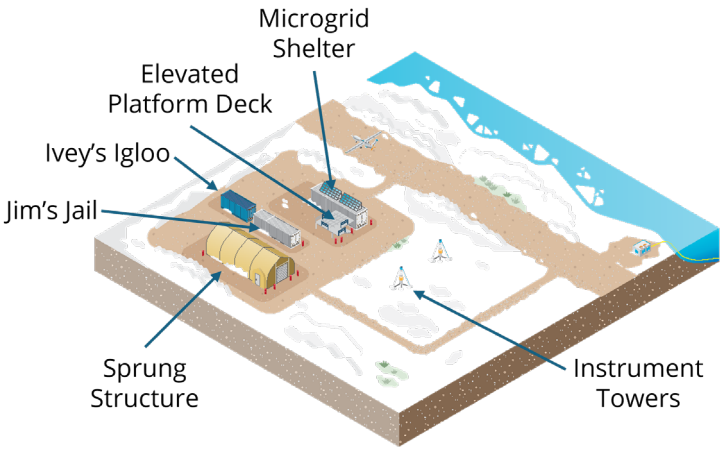
## OARC FACILITIES & EQUIPMENT

- Sprung Structure for hangar space
- "Jim's Jail" – operations shelters
- "Ivey Igloo" – operations and lab space
- Elevated Platform Deck for instrumentation
- Standard meteorological tower with baseline measurements
- Microgrid Shelter featuring renewable energy installations, including bifacial solar photovoltaic (PV) panels and a wind turbine
- Diesel generator and portable heater
- Heavy equipment for snow removal
- Runway (1 km/3400 ft)
- Submarine Distributed Fiber Optic Sensing (DFOS) capabilities




*OARC offers a variety of facilities to support High Arctic research and operations.*

## PARTNERSHIP OPPORTUNITIES

***Leverage Sandia's expertise and facilities to solve technical challenges***

**Use the Facility:** A Strategic Partnership Projects (SPP) agreement facilitates the use of Sandia's unique resources by private industry, governments, academia, foreign companies, and more to validate or improve technologies.

**Collaborate on R&D:** Through a Cooperative Research & Development Agreement (CRADA), Sandia and one or more partners outside of the United States federal government can collaborate and share the results of a jointly conducted research and development project.

## FOR MORE INFORMATION

Contact Andy Glen, aglen@sandia.gov. Visit energy.sandia.gov/arctic to learn more about Sandia's Arctic Energy, Science, and Security work.

*Located on the coast of the Arctic Ocean, OARC is extremely isolated yet still accessible by road (top). The Microgrid Shelter (bottom) demonstrates the use of solar PV and wind turbine installations in the snowy High Arctic.*

U.S. DEPARTMENT of ENERGY NNSA National Nuclear Security Administration

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