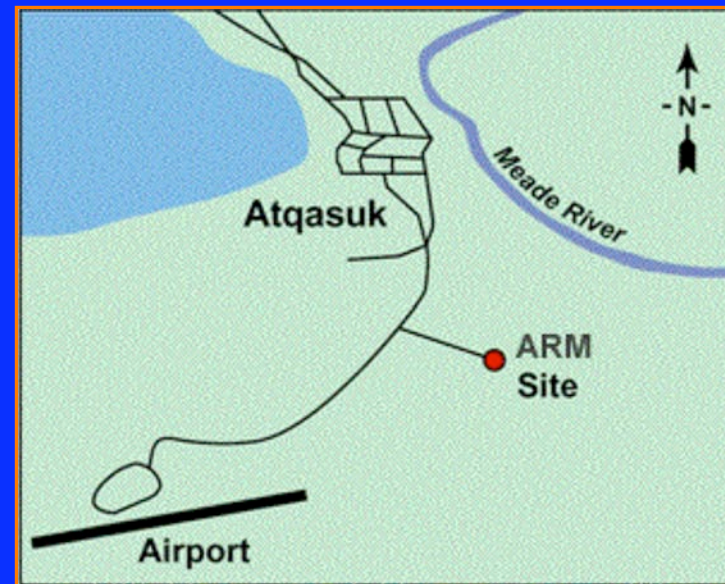




# The USDOE North Slope of Alaska ARM Climate Research Facility: It's Part of a National User Facility Now



Sandia is a multiprogram laboratory operated by Sandia Corporation, a Lockheed Martin Company, for the United States Department of Energy's National Nuclear Security Administration under contract DE-AC04-94AL85000.





## What's a User Facility?

- Three sites designated a National User Facility
  - *NSA*, TWP, and SGP
- Purpose:
  - *Provide this asset* for the study of global change to the broader national and international research community
  - **For NSA**, this would be related to Arctic processes





## Past Example: *Arctic Winter Water Vapor IOP*

March 9 - April 9, 2004

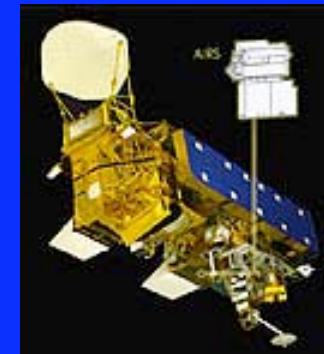
- Major goal
  - demonstrate millimeter wavelength radiometers can substantially improve water vapor observations during the Arctic winter (very dry time)
- Instruments:
  - *NOAA-ETL* Ground-Based Scanning Radiometer (GSR),
  - the *ARM* MWR, the MWRP, and
  - the *MSU* Infrared Cloud Imager (ICI)





## Example: ongoing

- **Atmospheric Infrared Sounder (AIRS) instrument**
  - NASA-sponsored validation activity
  - atmospheric temperature profiles/ accuracy of 1 K for every 1 km layer in the troposphere and an accuracy of 1 K for every 4 km layer in the stratosphere up to an altitude of 40 km
  - will obtain humidity profiles to an accuracy of 10% in 2 km layers from the surface to the tropopause.
- **Verification by ACRF sites (actually all 3)**
  - 180 sonde launches, 2 sondes per satellite pass
  - high in atmosphere and one low during the pass
  - for validation of temperature and relative humidity
  - Now in round 3

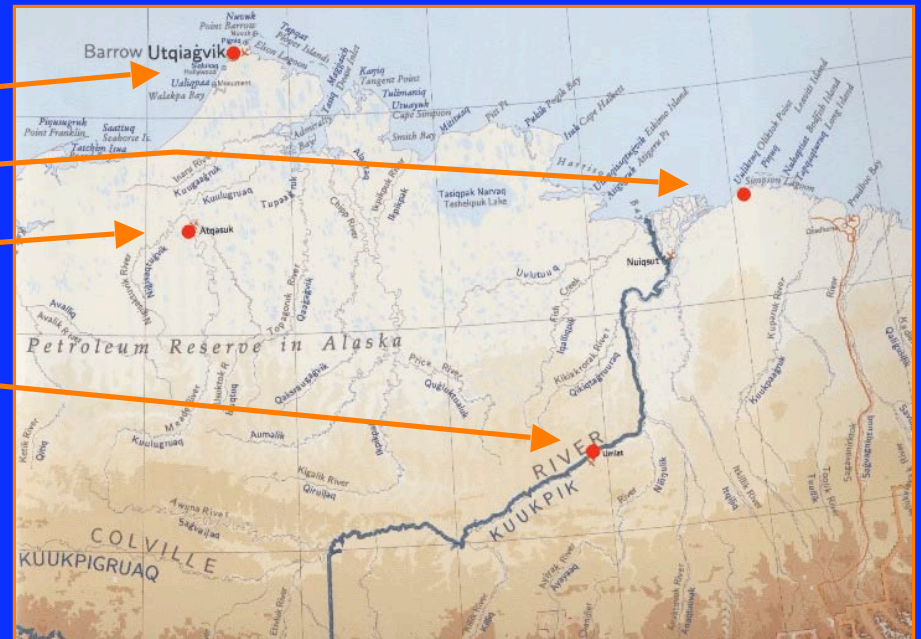




# Planned: *Mixed-Phase Arctic Cloud Experiment*

September 27 - October 24, 2004

- Key concept
  - collect a focused set of observations
  - advance our understanding of the dynamic processes in mixed-phase arctic clouds
- 4 surface based sites
  - Barrow
  - Oliktok
  - Atkasuk
  - Toolik Lake
- ACRF role
  - Sonde launches, 4x/day all sites
  - GPS sondes for wind finding





## Contacts/ URLs

- ACRF

<http://www.arm.gov/acrf/>

- NSA

<http://www.arm.gov/sites/nsa/contacts.stm>

