Fairbanks Command and Data Acquisition Station

The images of swirling white clouds and storms moving across your TV screen during the local news weather forecast come from data received at the National Oceanic and Atmospheric Administration (NOAA) Fairbanks Command and Data Acquisition Station (Fairbanks Station) in Fairbanks, Alaska, or the NOAA Wallops Command and Data Acquisition Station (Wallops Station) located on Wallops Island, Virginia. These stations operate 24/7 through all weather and conditions to download data from NOAA, US, and international satellites and deliver these data in near real time to Alaska users (through the GINA and direct broadcast), users in the lower 48 and worldwide.

The Fairbanks Station workforce consists of a mix of Federal employees and employees currently under contract with an Alaska Native Corporation, ASRC Federal NetCentric Technology. NOAA owns the Fairbanks Station and is responsible for general management, total funding, and administering the services contracts.

Nestled in Alaska's Gilmore Valley, the Fairbanks Station is farther north than any other satellite communications facility in North America. As a result, the Fairbanks Station receives more environmental satellite data than any other station, and is a vital link to satellites operated by NOAA and other agencies.

The Fairbanks Station acquires satellite data from:

- Geostationary Operational Environmental Satellite (GOES), a NOAA operational system;
- Polar-orbiting Operational Environmental Satellite (POES), a NOAA operational system;
- Defense Meteorological Satellite Program (DMSP), a Department of Defense (DoD) operational system
- Suomi NPP, NOAA-20 (JPSS-1), and NOAA-21 (JPSS-2);
- Deep Space Climate Observer (DSCOVR);
- Meteorological Operational satellite programme (MetOp), an European Organisation for the Ex-

Fairbanks Station Facts

Owner: NOAA's Satellite and Information Service (NESDIS)

Location: Gilmore Creek, Fairbanks, Alaska

Size: 7,200 acre Federal withdrawal (PLO 7710 extended through 2029)

Workforce: Seven full-time government and 45 contracted employees of an Alaska Native Corporation Netcentric Technology, LLC (an Arctic Slope Regional Corporation subsidiary)

Contract Value: $44,156,917

Hours of Operation: 24/7, 365 days per year

Annual Operating Budget: $9 million operations and maintenance contract

Value of Assets on Station: Over $1 Billion (antennas and electronics)

Satellite Contacts (2022): 40,100 lasting between 5 to 15 minutes at each contact

Users: Alaska, Lower 48, and Worldwide

Percent Data Captured on Station: 99.99 percent of the data from the satellites it tracks

ploitation of Meteorological Satellites (EUMETSAT) operational system;
- Ocean Surface Topography Mission/Jason-3 and Sentinel-6A, a joint NOAA, NASA, EUMETSAT, French Centre National D'Etudes Spatiales (CNES) operational system;
- Landsat-8 & 9, U.S. Geological Survey (USGS) land remote sensing satellites;
- Korea Aerospace Research Institute (KARI) KSat-5 mission;
- Spain's Hisdesat Servicios Estratégicos S.A. PAZ mission; and
- India Space Research Organisation (ISRO) mission, Oceansat-3.

The Fairbanks Station consists of:
- An operations building, which is the main control center containing administrative support activities and the computer support equipment for telecommunications.
- A 26-meter antenna that was constructed at the opening of the satellite tracking station in 1961, which was upgraded in 2003–2004, and generally used for receiving data transmitted from GOES and DSCOVR.
- Three 13-meter parabolic dish antennas that were installed in 1998 to track, command, and receive data from POES and DMSP satellites, which are also used to support EOS and Landsat missions.
- A 21-meter antenna that was installed in 2003 to support GOES-9 operations for the Japan Meteorological Agency, which today provides Deep Space Climate Observer (DSCOVR) support as well as legacy GOES back-up services for NOAA.
- Two 5-meter antennas that were transferred from NASA and installed to provide primary commanding and downlink operations of the KSAT and PAZ.
- Two 2.4-meter SARSAT antennas that were commissioned in late 2020 and used to detect distress alerts from polar-orbiting and medium-earth orbiting satellites.

On behalf of the University of Alaska Fairbanks, the Fairbanks station hosts its Geographic Information Network of Alaska antenna that relays data collected from satellites to users around Alaska.

In Utqiagvik, Alaska, NOAA's Office of Atmospheric Research Global Monitoring Division hosts the satellite infrastructure at the Utqiagvik Observatory.

In collaboration with the U.S. Army Corps of Engineers, Alaska Division, an $11.7 million construction project completed in 2009 created a new Fairbanks Station Operations Building using NOAA funds from the American Recovery and Reinvestment Act (ARRA) of 2009 and the Omnibus Appropriations Act, 2009.

Reference Links

NOAA Satellites and Products: www.nesdis.noaa.gov

Fairbanks Station: www.ospo.noaa.gov/FCDAS/index.html

Geographic Information Network of Alaska: www.gina.alaska.edu

National Weather Service Alaska Region: www.weather.gov/arh/

NOAA Arctic Report Card: www.arctic.noaa.gov/Report-Card

Billion Dollar Disasters: www.ncei.noaa.gov/access/billions/

Western Regional Climate Center Alaska Climatology Dashboard: www.wrcc.dri.edu/Climate/akdash.php

NOAA CoastWatch PolarWatch Node: www.polarwatch.noaa.gov/

US Drought Monitor: www.droughtmonitor.unl.edu/

NESDIS Hazard Mapping System Fire and Smoke Product: www.ospo.noaa.gov/Products/land/hms.html

National Ice Center (NIC): www.usicecenter.gov

National Snow and Ice Data Center (NSIDC): www.nsidc.org/noaa

NOAA Satellite data and products: www.nesdis.noaa.gov/real-time-imagery/videos-animations-media

NOAA Satellite Programs: www.nesdis.noaa.gov/current-satellite-missions/currently-flying

National Centers for Environmental Information (NCEI): www.ncei.noaa.gov

Geostationary Satellite Images: www.goes.noaa.gov

Polar-Orbiting Satellite Images: www.ospo.noaa.gov/Products/index.html

Visualizations of Significant Weather Events: www.nesdis.noaa.gov

Hurricane Imagery: www.star.nesdis.noaa.gov/GOES/index.php

Search and Rescue/Beacon Registration: www.sarsat.noaa.gov