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JPSS

JOINT POLAR SATELLITE SYSTEM

NOAA SATELLITE AND INFORMATION SERVICE

The Joint Polar Satellite System (JPSS) is the Nation's advanced series of polar-orbiting environmental satellites. JPSS satellites provide sophisticated meteorological data and observations of atmosphere, ocean and land for short-term, seasonal and long-term monitoring and forecasting.

JPSS satellites increase the timeliness and accuracy of forecasts three to seven days in advance of a severe weather event. NOAA's National Weather Service uses JPSS data as critical input for numerical forecast models, providing the basis for these mid-range forecasts. These forecasts allow for early warnings and enable emergency managers to make timely decisions to protect American lives and property, including ordering effective evacuations.

JPSS satellites also provide support for zero- to three-day operational forecasting, which is particularly important in Polar Regions where other observational data are sparse. In Alaska, JPSS provides critical data for nearly all of the weather forecasting for aviation, as well as for the economically vital maritime, oil and gas industries.

As the Nation's polar-orbiting satellite fleet, JPSS also enables scientists and forecasters to monitor and predict weather patterns with greater accuracy and to study long-term climate trends by extending the more than 30-year satellite data record.

Information from JPSS supports every area of NOAA's mission, including ensuring a more "Weather-Ready Nation," healthy coasts, resilient coastal communities and adapting and mitigating climate change.

Satellites in the JPSS constellation gather global measurements of atmospheric, terrestrial and oceanic conditions—including atmospheric temperature, atmospheric moisture, hurricane intensity, clouds, rainfall, dense fog, volcanic ash, fire locations, smoke plumes, sea and land surface temperatures, vegetation, snow and ice cover and ozone.

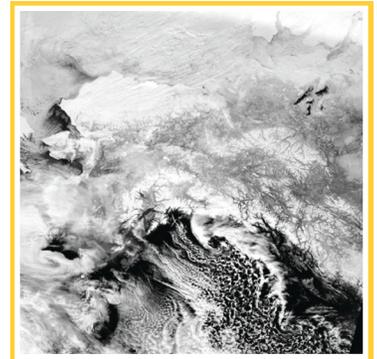
JPSS includes five polar-orbiting satellites with five instruments and a versatile ground system. The satellites are the Suomi National Polar-orbiting Partnership (Suomi NPP), JPSS-1, JPSS-2, JPSS-3 and JPSS-4. The ground segment system also supports satellite missions operated by partner organizations including the Department of Defense, the European Organization for the Exploitation of Meteorological Satellites and the Japan Aerospace Exploration Agency.

The state-of-the-art instruments currently flying on board the Suomi NPP satellite are the Advanced Technology Microwave Sounder (ATMS), Cross-track Infrared Sounder (CrIS), Visible Infrared Imaging Radiometer Suite (VIIRS), Ozone Mapping and Profiler Suite (OMPS) and Clouds and the Earth's Radiant Energy System (CERES). Building off Suomi NPP's success the JPSS-1 satellite mission, launching in 2017, will host similar instruments. JPSS-2 is planned for launch in 2021 and JPSS-3 and 4 missions have anticipated launch dates of 2026 and 2031 respectively. On each of these missions the CERES instrument will be replaced by NASA's Radiation Budget Instrument (RBI).

JPSS satellites circle the Earth from pole-to-pole and cross the equator 14 times daily in the afternoon orbit—providing full global coverage twice a day. Polar satellites are considered the backbone of the global observing system.

JPSS is a collaborative effort between NOAA and NASA, and represents significant technological and scientific advancements in observations used for severe weather prediction and environmental monitoring.

To learn more about JPSS, view exciting satellite imagery and experience the science behind the satellites please visit www.jpss.noaa.gov.



JPSS is a primary operational weather and environmental satellite observation provider for Alaska and the Polar Regions.



Polar-orbiting satellite data is the most important type of observations for accurately predicting weather 3 to 7 days in the future.



JPSS-1 will support real-time storm tracking to provide airline pilots with the most current and accurate weather information available to ensure their safety.