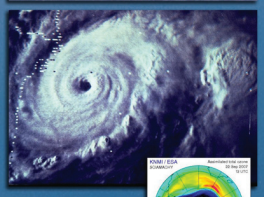
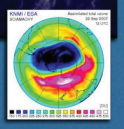
National Aeronautics and Space Administration

Launch Services Program presents...

NOAA-N Prime





National Oceanic And Atmospheric Administration (NOAA-N) Prime mission will be the last in this series of Television Infrared Observation Satellites (TIROS). The mission is scheduled to launch in early 2009.

The NOAA-N satellite will become part of a polar-orbiting observation system consisting of morning and afternoon satellites. The pair of satellites ensure every part of the Earth is observed twice every 12 hours.

The satellites will provide global coverage of numerous atmospheric and surface parameters, furnishing measurements for inputs to global atmospheric and surface forecast models. The spacecraft will provide a platform to:

- *Collect global data on cloud cover; surface condition (ice, snow, vegetation); and atmospheric temperatures (moisture, aerosol, and ozone distributions).*
- *Collect measurement of proton and electron flux at orbit altitude.*
- *Collect relay information from fixed and moving data platforms.*

Data from these satellites will continue to help scientists more accurately and consistently predict potentially catastrophic environmental events, allowing emergency managers to activate plans to save life and property.

Launch Vehicle: Delta II 7320-10
Launch Location: Vandenberg Air Force Station, CA
Launch Date: 2009

www.nasa.gov

NOAA-N Prime Image: Lockheed-Martin

NOAA-N Prime

The NOAA-N Prime spacecraft will be launched from the Western Range (WR) at Vandenberg Air Force Base, California by a two-stage Delta II 7320-10 launch vehicle (LV). The spacecraft is enclosed in a 3-meter (10 feet)-diameter composite fairing to protect the spacecraft during its flight to space. At approximately 3940.0 seconds (66 minutes) after liftoff from the launch pad to spacecraft separation from Stage 2 rocket. The spacecraft will cross the Equator at about 2 p.m. northbound and 2 a.m. southbound local solar time.

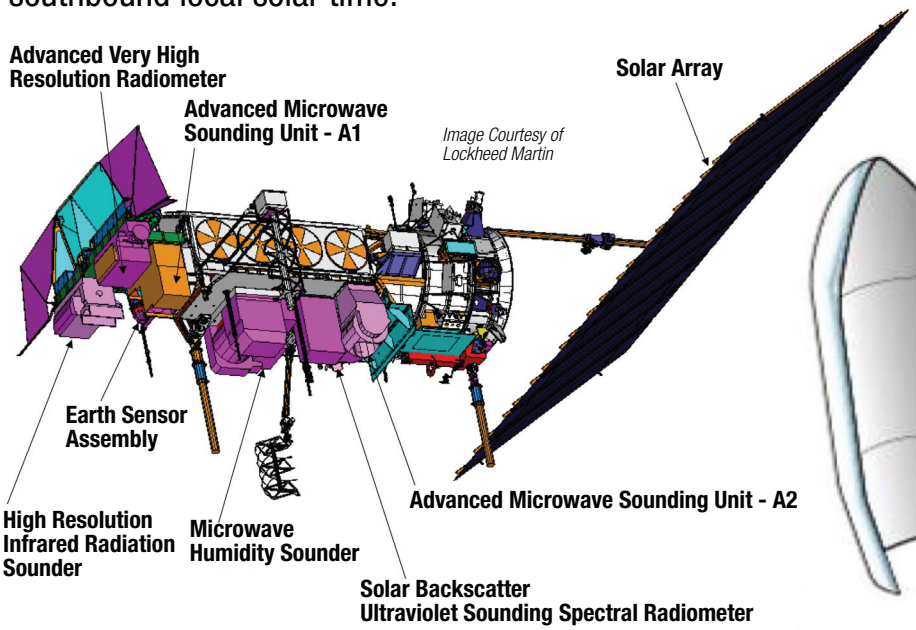


Image Courtesy of Lockheed Martin

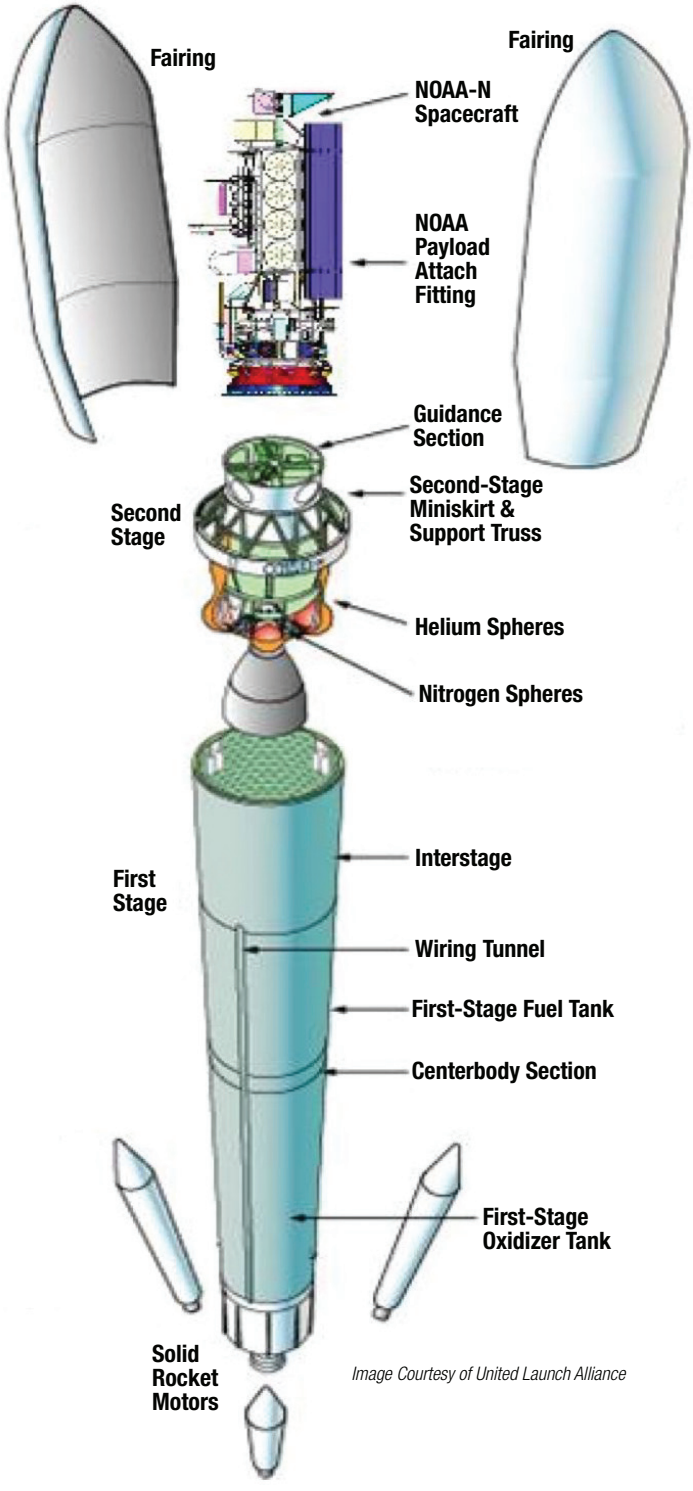


Image Courtesy of United Launch Alliance

Earth Sensor Assembly - is used to sense where the earth is and to keep the spacecraft pointing properly at the earth.

Microwave Humidity Sounder - is a five-channel microwave instrument intended primarily to measure profiles of atmospheric humidity.

Solar Backscatter Ultraviolet Spectral Radiometer - measures solar irradiance and Earth radiance (backscattered solar energy) in the near ultraviolet spectrum that is primarily used for ozone concentrations monitoring.

Advanced Microwave Sounding Unit - A1 & A2 - measures scene radiance and atmospheric temperatures at various levels in the microwave spectrum. Module A-1 has 13 channels and Module A-2 has 2 channels.

High Resolution Infrared Radiation Sounder - The 19 channels of infrared data are used to determine ocean surface temperatures, total atmospheric ozone levels, water, cloud height and coverage, and surface radiance. The visible channel is used to detect clouds.

Advanced Very High Resolution Radiometer - is a six-channel imaging radiometer that detects energy in the visible and IR portions of the electromagnetic spectrum. It measures reflected solar (visible and near-IR) energy and radiated thermal energy from land, sea, clouds, and the intervening atmosphere. AVHRR is useful for sea surface temperatures, volcanic ash cloud monitoring, forest fire detection, cloud location, and vegetation index crop monitoring.

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