

NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE

SATELLITE OPERATIONS CONTROL CENTER (SOCC)

The control center for satellite operations is located at Suitland, Maryland. SOCC is responsible for operational control of the entire ground system and the following areas:

CDA Stations - The primary command and data acquisition stations are located at Fairbanks, Alaska, and Wallops Island, Virginia. Through a cooperative agreement between NOAA/NESDIS and the Etablissement d'Etudes et de Recherches Meteorologiques in France, real-time TIP data can be relayed from the Lannion Centre de Meteorologie Spatiale (CMS) in France via a data link provided by NOAA to the United States.

The CDA stations transmit commands to the satellites and acquire and record environmental and engineering data from the satellites for re-transmission to the SOCC. All data and commands are transmitted between the SOCC and the CDAs via commercial communications links.

Ground Communications - The ground communications links for satellite operations are provided by the Satellite Communications Network (SATCOM) and NASA Integrated Services Network (NISN-formerly NASCOM). NISN provides launch-unique communications links for satellite launch. SATCOM provides all voice and data links between SOCC and the CDA stations after launch. NESDIS provides and operates SATCOM.



NESDIS CENTRAL ENVIRONMENTAL SATELLITE COMPUTER SYSTEM (CEMSCS)

CEMSCS acquires the data from the CDA stations via the SOCC and is responsible for data processing and the generation of meteorological products on a timely basis to meet the POES program requirements. NOAA provides all hardware and software for CEMSCS. NOAA will provide ephemeris data.

OTHER SUPPORT SYSTEMS

SAR GROUND SYSTEM (LUTS AND USMCCS)

The U.S. LUTs are located at Fairbanks, Alaska; Vandenberg AFB, California; Wahiawa, Hawaii; Johnson Space Center, Houston, Texas; NOAA, Suitland, Maryland; Anderson AFB, Guam; and Sabana Seca, Puerto Rico. The LUTs receive the SAR data from the satellite, determine the distress location, and forward the data to the U.S. MCC (USMCC) at Suitland, Maryland. The USMCC determines the proper Rescue Coordination Center and forwards the distress location data after removing redundant information. The U.S. LUTs and the USMCC are part of the International Cospas-Sarsat Program that consists of 33 countries of which 24 provide MCCs and LUTs. All MCCs cooperate in forwarding data to provide rapid global delivery of distress locations received through the satellites.

GODDARD SPACE FLIGHT CENTER FACILITY SUPPORT

The Office of Space Communications associated support is requested through the Mission Requirements Request and the Detailed Mission Requirements documents, with other support as described in Memoranda of Understanding. NASA/GSFC provides nominal prelaunch orbital and prediction information, special support for initial orbit estimation, and initial quality control checks of the North American Air Defense (NORAD) orbital data. All ground attitude determination is to be accomplished by the NOAA central data processing facility.

THE NORTH AMERICAN AIR DEFENSE COMMAND (NORAD)

NORAD has prime responsibility for orbit determination, which includes establishing the initial orbit solution and providing updated orbital parameters routinely throughout the life of the mission.

LAUNCH, EARLY ORBIT, AND CONTINGENCY DOWNLINK

An S-band downlink operating at 2247.5 MHz is used during satellite ascent to recover TIP boost telemetry through Western Range tracking sites. During on-orbit operations, orbit mode TIP will be available on this link to provide early-orbit and contingency support through the ground tracking network operated by the Air Force Satellite Control Network in Sunnyvale, California, and the Jet Propulsion Lab (JPL) Deep Space Network (DSN), which provides contingency command uplink capability. The McMurdo Tracking Facility in Antarctica also provides early orbit telemetry and command support. The Tracking and Data Relay Satellite System provides tracking and telemetry support.