GOES-U Satellite

NOAA’s GOES-U satellite continuously monitors the Western Hemisphere’s weather and environment, images the sun, and measures the near-Earth space environment. The mission is accomplished through seven highly-sophisticated instruments.

- **Solar Array**: Converts energy from the sun into electricity to power the satellite, its instruments, computers, data processors, sensors and telecommunications equipment.
- **Goddard Magnetometer (GMAG)**: Measures the magnetic field in the upper portion of the magnetosphere.
- **Space Environment In-Situ Suite (SEISS)**: Monitors proton, electron and heavy ion fluxes in the magnetosphere.
- **Solar Ultraviolet Imager (SUVI)**: Observes and characterizes complex active regions of the sun, solar flares and eruptions of solar filaments.
- **Compact Coronagraph-1 (CCOR-1)**: Images the outer layer of the sun’s atmosphere to detect and characterize coronal mass ejections.
- **Extreme Ultraviolet and X-ray Irradiance Sensors (EXIS)**: Detects solar flares and monitors solar irradiance that impacts the upper atmosphere.
- **Geostationary Lightning Mapper (GLM)**: Measures total lightning (in-cloud, cloud-to-cloud and cloud-to-ground) activity continuously over the Americas and adjacent ocean regions.
- **Advanced Baseline Imager (ABI)**: Primary instrument for imaging the Western Hemisphere’s weather, ocean and environment.

**KEY FACTS**

- Three-axis stabilized attitude control, ensuring a steady observational platform for the mission sensors.
- 3 types of instruments:
  - Earth-pointing: ABI and GLM
  - Solar-pointing: CCOR, EXIS, and SUVI
  - In-situ (near-Earth space environment): GMAG and SEISS
- On-orbit life: 15 years (10 years of on-orbit operation preceded by up to 5 years of on-orbit storage)
- Dimensions: 20.0 ft x 18.4 ft x 12.8 ft
- Mass: 6,450 lb (11,023 lb fully fueled at launch)
- Incorporates a suite of transponder payloads providing communications relay services, including the Search and Rescue Satellite-Aided Tracking (SARSAT) system.