

CGMS-XXIX USA-WP-20
Prepared by USA
Agenda Item: H.2
To be discussed in Plenary

UPDATES TO THE CEOS/WMO CONSOLIDATED DATABASE

This working paper provides an up-to-date-record of the US satellite missions, instruments and frequencies. The information presented in the document is accurate for the period ending July 01, 2001.

UPDATES TO THE CEOS/WMO CONSOLIDATED DATABASE

1 INTRODUCTION

The US continues to provide updated information for the CEOS Database. The WMO requested revisions to the database manual tables, describing the geophysical parameters, in order to include them with the next version of the database in August 2001. NOAA realized that several items, included in the WordPerfect file, were noticeably out of date. These revisions are included in this report.

2. Update to the CEOS/WMO Database

Agency and Its Missions

GOES 10	Launch date: 4/25/1997	
GOES-11	Status: currently being flown	Launch date: 5/3/2000
GOES-M	Launch Date: 7/12/2001	
GOES-N	Launch date: Late 2002	
GOES-O	Launch date: Early 2005	
GOES-P	Launch date: Early 2007	
GOES-Q	Launch date: Late 2008	

NOAA-L is now NOAA-16. Status: currently being flown Launch date: 9/21/2000
 NOAA-M Launch date: September 2001 (Tentative)
 NOAA-N Launch date: June 2004
 NOAA-N= Launch date: March 2008

DMSP S20 (will be F16 after launch) Launch date: August 2001

National Polar-orbiting Operational Environmental Satellite System (NPOESS)

NPOESS-1	Launch date: 2010	0930 Equatorial Crossing Time
NPOESS-2	Launch date: 2011	1330 Equatorial Crossing Time
NPOESS-3	Launch date: 2013	0530 Equatorial Crossing Time
NPOESS-4	Launch date: 2015	0930 Equatorial Crossing Time
NPOESS-5	Launch date: 2017	1330 Equatorial Crossing Time
NPOESS-6	Launch date: 2018	0530 Equatorial Crossing Time

Mission and Associated Instruments

Add NPOESS-5 and NPOESS-6, with launch dates and Equatorial Crossing Times as listed above.

NPOESS-1 through -4

Delete the following instruments: AMSU-A, AVHRR/3, HIRS/3, MHS, SBUV/3, SEM (POES)

Change ARGOS instrument to A-DCS

Add the following sets of instruments for the NPOESS spacecraft in the specific orbits:

NPOESS-1 and NPOESS-4 in the 0930 orbit: VIIRS, CMIS, and ALT

NPOESS-2 and NPOESS-5 in the 1330 orbit: VIIRS, CMIS, CrIS, ATMS, OMPS, GPSOS, SESS, CERES, DCS, SARSAT

NPOESS-3 and NPOESS-6 in the 0530 orbit: VIIRS, CMIS, GPSOS, SESS, TSIS, DCS, SARSAT

NPOESS Instrument acronym list:

VIIRS - Visible/Infrared Imager Radiometer Suite
CMIS – Conical-scanning Microwave Imager/Sounder
CrIS – Cross-track Infrared Sounder
ATMS – Advanced Technology Microwave Sounder
OMPS – Ozone Mapping and Profiler Suite
GPSOS - Global Positioning System Occultation Sensor
SESS - Space Environment Sensor Suite
CERES – Cloud and Earth’s Radiant Energy System
TSIS - Total Solar Irradiance Sensor
ALT – Altimeter
DCS – Data Collection System
SARSAT – Search and Rescue Satellite Aided Tracking

NPOESS Instrument Data

VIIRS

Environmental parameters allocated to VIIRS:

Visible and infrared imagery
Sea surface temperature
Soil moisture
Aerosol optical thickness
Aerosol partical size
Albedo (surface)
Cloud base height
Cloud cover/layers
Cloud effective particle size

Cloud optical depth/transmittance
Cloud top height
Cloud top pressure
Cloud top temperature
Ocean currents
Fresh water ice
Ice surface temperature
Land surface temperature
Littoral sediment transport
Turbidity/mass loading

Net heat flux
 Ocean color/chlorophyll
 Sea ice edge and ice edge motion
 Snow cover/depth
 Surface type
 Fires
 Suspended matter (ocean)
 Vegetation index

Delete the following parameters: ozone profile and specific humidity profiles
 Add the following parameters: soil moisture, cloud optical thickness, cloud base height, sea-ice surface temperature, sea-ice type, ocean chlorophyll, ocean currents

CrIS/ATMS

Environmental parameters allocated to CrIS:

Atmospheric vertical temperature profile
 Atmospheric vertical moisture profile
 Atmospheric vertical pressure profile/surface

Delete the following parameters: cloud top height and ozone profile
 Add the following parameters: air pressure over land surface and air pressure over sea surface

CMIS

Environmental parameters allocated to CMIS:

Atmospheric vertical temperature profile	higher stratosphere and mesosphere
Atmospheric vertical temperature profile	higher troposphere (HT)
Atmospheric vertical temperature profile	lower stratosphere (LS)
Atmospheric vertical temperature profile	lower troposphere (LT)
Atmospheric vertical moisture profile	higher troposphere (HT)
Atmospheric vertical moisture profile	lower troposphere (LT)
Atmospheric vertical moisture profile	total column

All weather (microwave) imagery
 Sea surface temperature
 Sea surface winds (speed and direction – horizontal)
 Soil moisture
 Cloud base height
 Cloud water profile (<100 :m) total column
 Cloud ice profile total column
 Cloud imagery
 Precipitation rate at the ground (liquid)
 Fresh water ice
 Sea-ice surface temperature
 Land surface temperature
 Sea ice edge and ice edge motion

Snow cover/depth
Surface type
Sea surface wind stress

OMPS

Environmental parameters allocated to OMPS:

Ozone profile	higher stratosphere and mesosphere
Ozone profile	lower stratosphere (LS)
Ozone profile	total column

SESSError! Bookmark not defined.

In addition, the SESS instrument produces parameters that are not listed within the CEOS database.
These are as follows:

Environmental parameters allocated to SESS:

Auroral boundary
Auroral imagery
Electric fields
Electron density profiles
Energetic ions
Geomagnetic field
In-situ plasma fluctuations
In-situ plasma temperature
Ionospheric scintillation
Medium energy charged particles
Neutral density profile
Neutral winds
Supra-thermal-auroral particles

Total auroral energy deposition

GPSOS

Environmental parameters allocated to GPSOS:

Electron density profile
Ionospheric scintillation
Atmospheric temperature profile
Atmospheric moisture profile

CERES

Environmental parameters allocated to CERES:

Downward longwave radiance

Insolation
Net heat flux
Net short wave radiation
Total longwave radiance

TSIS

Environmental parameters allocated to TSIS:

Solar irradiance

ALT

Environmental parameters allocated to ALT:

Sea surface height/topography
Ocean wave characteristics (wave height)
Sea surface wind stress (magnitude)
Ocean currents