EUMETSAT programmes: Developments since CGMS-45

Presented to CGMS-46 Plenary session, agenda item D.3
Impact on forecasting Irma

Forecast with satellites

Forecast without satellites

700hPa initial conditions with satellites

Red shading humidity > 95%

Thursday 31 August 2017 00 UTC ECMWF 500 hPa Vorticity (relative)
Thursday 31 August 2017 00 UTC ECMWF 500 hPa U component of wind/V component of wind
gt0v
Ten satellites in orbit

- **METOP A-B** (Low-Earth, Sun – Synchronous Orbit)
- **JASON-2/-3** (Low-Earth, 63° Incl. Non-Synchronous Orbit)
- **Copernicus Sentinel-3A/-3B** (Low-Earth, Sun – Synchronous Orbit)
- **EUMETSAT POLAR SYSTEM**
- **OCEAN SURFACE TOPOGRAPHY MISSION**

**EUMETSAT POLAR SYSTEM**

**INDIAN OCEAN DATA COVERAGE FROM 41°5 E**

**METEOSAT 8**
- **METEOSAT 9-10-11** (Geostationary Orbit)
  - **METEOSAT-11**: Full Disk Imagery Mission at 0° (15 MN)
  - **METEOSAT-10**: Rapid Scan Service over Europe at 9.5°E (5 MN)
  - **METEOSAT-9**: Hot Backup

**Coordination Group for Meteorological Satellites**

CGMS-46 EUMETSAT-WP-11, v0, 28 May 2018 (DMT #996451)
Coordination Group for Meteorological Satellites - CGMS

Full deployment of Copernicus Sentinel-3 marine mission after launch of Sentinel-3B

- Two-satellite system
- Sentinel-3A: routine operations since October 2017
- Sentinel-3B launched on 25 April
  - Tandem operations, 30-second separation during commissioning
  - 140° separation after commissioning
Launch of Metop-C planned in October 2018
After Metop-C launch, 3-Metop operations until 2022
Pathfinder Big Data services: User validation started
MTG: a two-satellite system

- Imagery mission: MTG-I satellites
  - Full disc imagery every 10 mn in 16 spectral bands
  - Lightning Imager (LI)

- Sounding mission: MTG-S satellites
  - IRS hyperspectral IR sounder
    - Temperature, water vapour, profiles every 30 mn (Europe)

- Atmospheric chemistry:
  - IRS synergy with Copernicus Sentinel-4 instrument

- Operational exploitation: 2021-2042
Development of MTG system

4 MTG ground stations/accepted (Lario, Fucino, Leuk, Cheia)

Integration of FCI STM

FCI Structural and Thermal Model (STM)
EPS Second Generation: a two-satellite system

- Continuation and enhancement of service from mid morning polar orbit in 2021 – 2040

- Twin satellite in-orbit configuration:
  - *Metop-SG A*: Optical imagery and sounding mission
    - Flies the Copernicus Sentinel-5 instrument
  - *Metop-SG B*: microwave imaging mission

- Three successive pairs of satellites: 21 years of operations: 2022-2043
Development of EPS-SG/Metop-SG satellites

Static load tests of main structure completed

Electrical Functional Model (EFM)
Jason-CS/Sentinel-6

- Space segment critical design completed in December by ESA
- Ground segment under development by EUMETSAT
  - Contract signed for Payload Data Acquisition and Processing chain
  - First version of mission control system delivered
  - First SSVT test with satellite test bench in November
- Launch of Jason-CSA planned in November 2020