EUMETSAT

EUMETSAT

Marie Doutriaux-Boucher
Meteorological Product Expert

19 November 2025

An intergovernmental organisation with 30 member states

www.eumetsat.int

EUMETSAT – **European Organisation for the Exploitation of Meteorological Satellites** – Darmstadt, Germany

AUSTRIA
BELGIUM
BULGARIA
CROATIA
CZECHIA
DENMARK
ESTONIA
FINLAND
FRANCE
GERMANY
GREECE
HUNGARY
ICELAND*
IRELAND
ITALY
LATVIA
LITHUANIA
LUXEMBOURG
THE NETHERLANDS
NORWAY*
POLAND
PORTUGAL
ROMANIA
SLOVAK REPUBLIC
SLOVENIA
SPAIN
SWEDEN
SWITZERLAND*
TURKEY*
UNITED KINGDOM*

EUMETSAT mission

Primary objective:

Establish, maintain and exploit European systems of meteorological satellites.

Further objective:

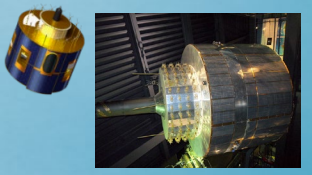
Contribute to the operational monitoring of the climate and the detection of global climatic changes.

→ Our purpose is to deliver operational data, meaning 24/7/365.

EUMETSAT mission data– 10 active operational satellites

YEAR... 1977 ... 2016

METEOSAT FIRST GENERATION



YEAR... 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

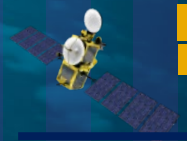
METEOSAT SECOND GENERATION
METEOSAT-8
METEOSAT-9
METEOSAT-10
METEOSAT-11

METEOSAT THIRD GENERATION
MTG-I-1 : IMAGERY
MTG-S-1: SOUNDING
MTG-I-2: IMAGERY
MTG-I-3: IMAGERY
MTG-S-2: SOUNDING
MTG-I-4: IMAGERY

EUMETSAT POLAR SYSTEM (EPS)
METOP-A
METOP-B
METOP-C

EUMETSAT POLAR SYSTEM SECOND GENERATION (EPS-SG)
METOP-SG A: SOUNDING AND IMAGERY
METOP-SG B: MICROWAVE IMAGERY

Mandatory Programmes



JASON (HIGH PRECISION OCEAN ALTIMETRY)
JASON-2
JASON-3
SENTINEL-6 (JASON-CS)

Optional Programmes

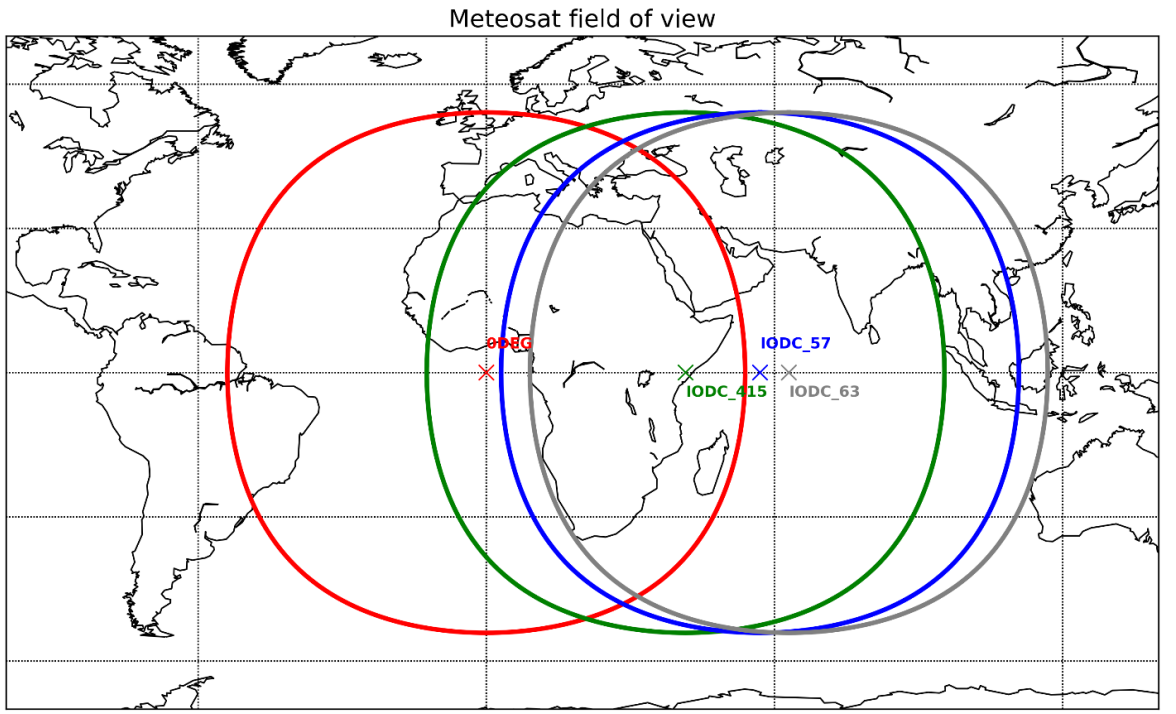
COPERNICUS
SENTINEL-3 A/B/C/D
SENTINEL-4 ON MTG-S
SENTINEL-5 ON METOP-SG A

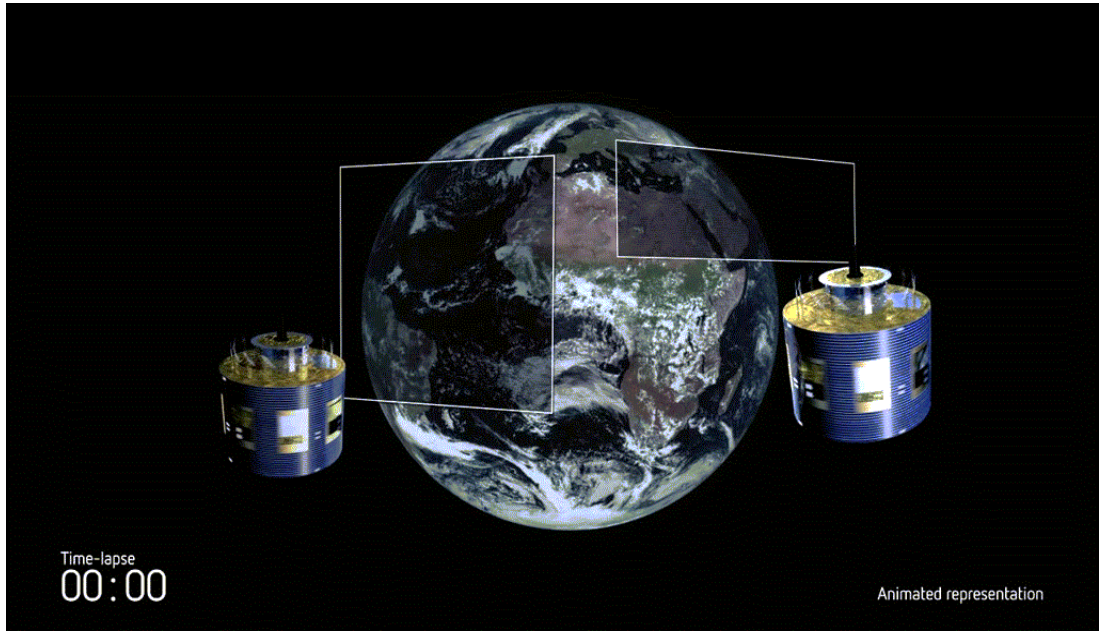
Third Party Programmes

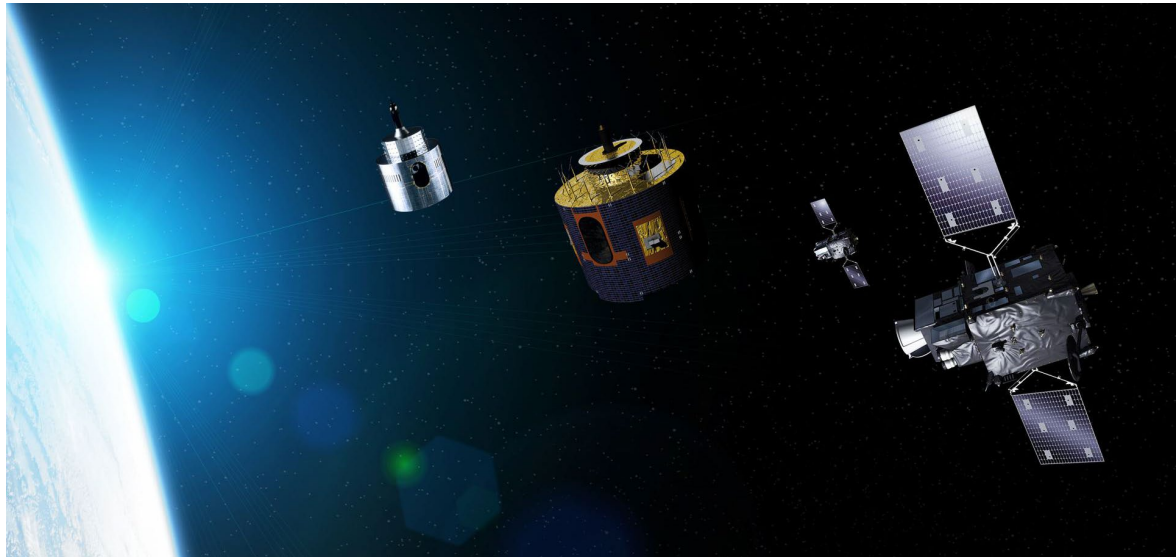
YEAR... 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40

GEOstationary Orbit

- Geostationary satellites are (almost) always located above the same point on Earth
- Altitude: approx. 36,000 km
- Earth and satellite rotate at the same speed
- Coverage: +-65° – *partial coverage* –
- One image every
  30 (MFG), 15 (MSG), 10 (MTG) minutes

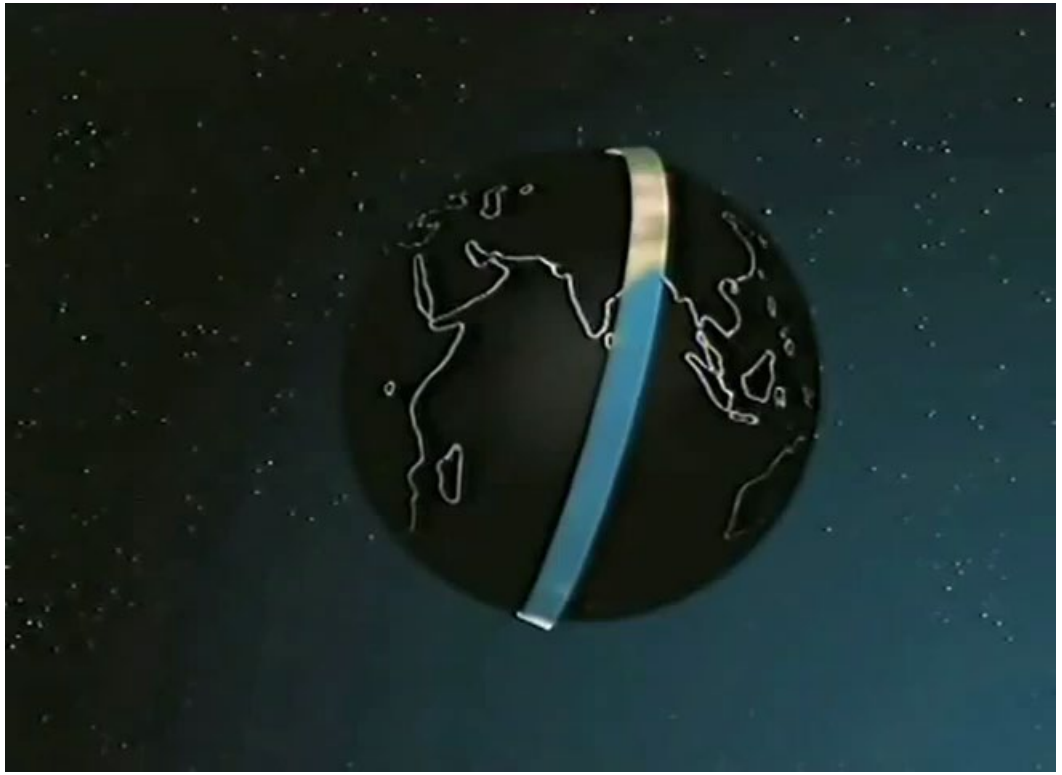


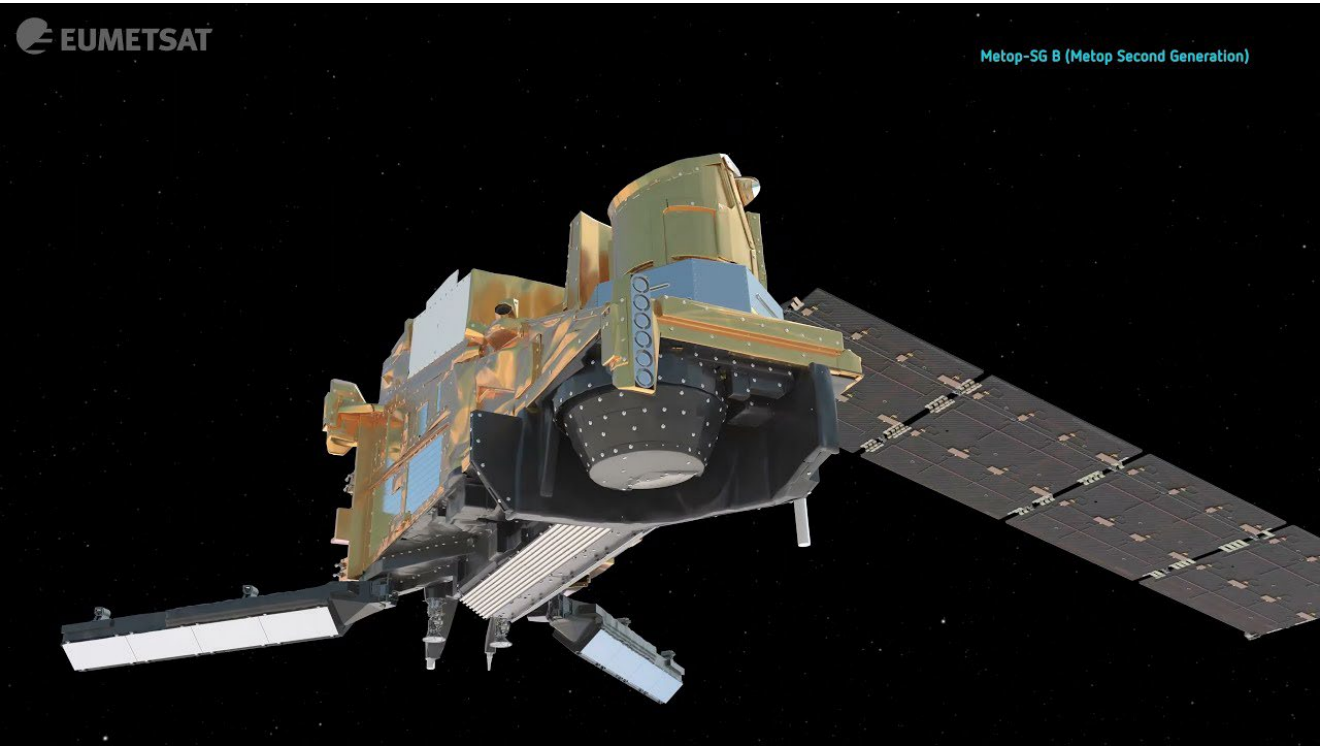




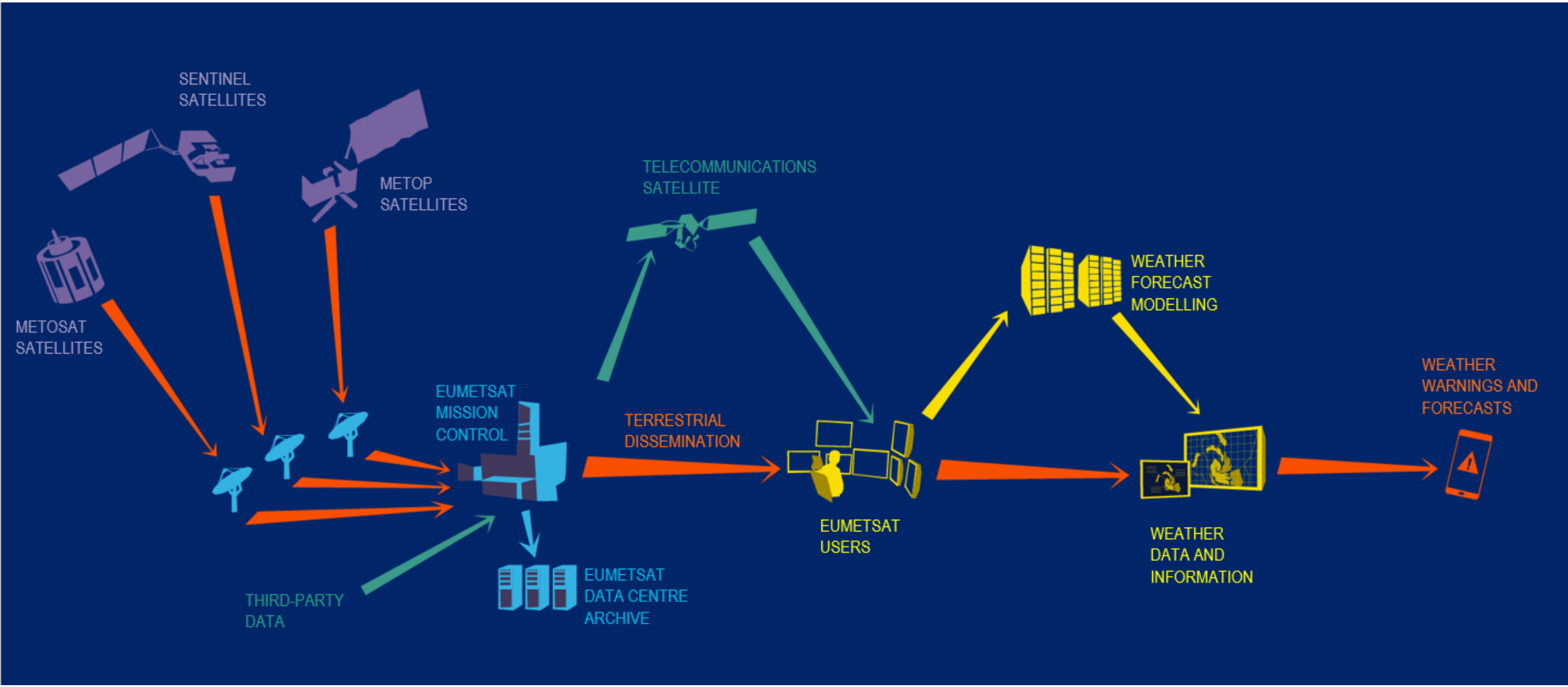
Low Earth Orbit (LEO)

- Height: approx. 800km
- Orbit duration: 100 Minutes
- The Earth turns under the satellite
- Global coverage (twice per day)
- Sun-synchroneous





EUMETSAT deliver critical data in near real-time to users



Data archive at EUMETSAT

Data catalogue

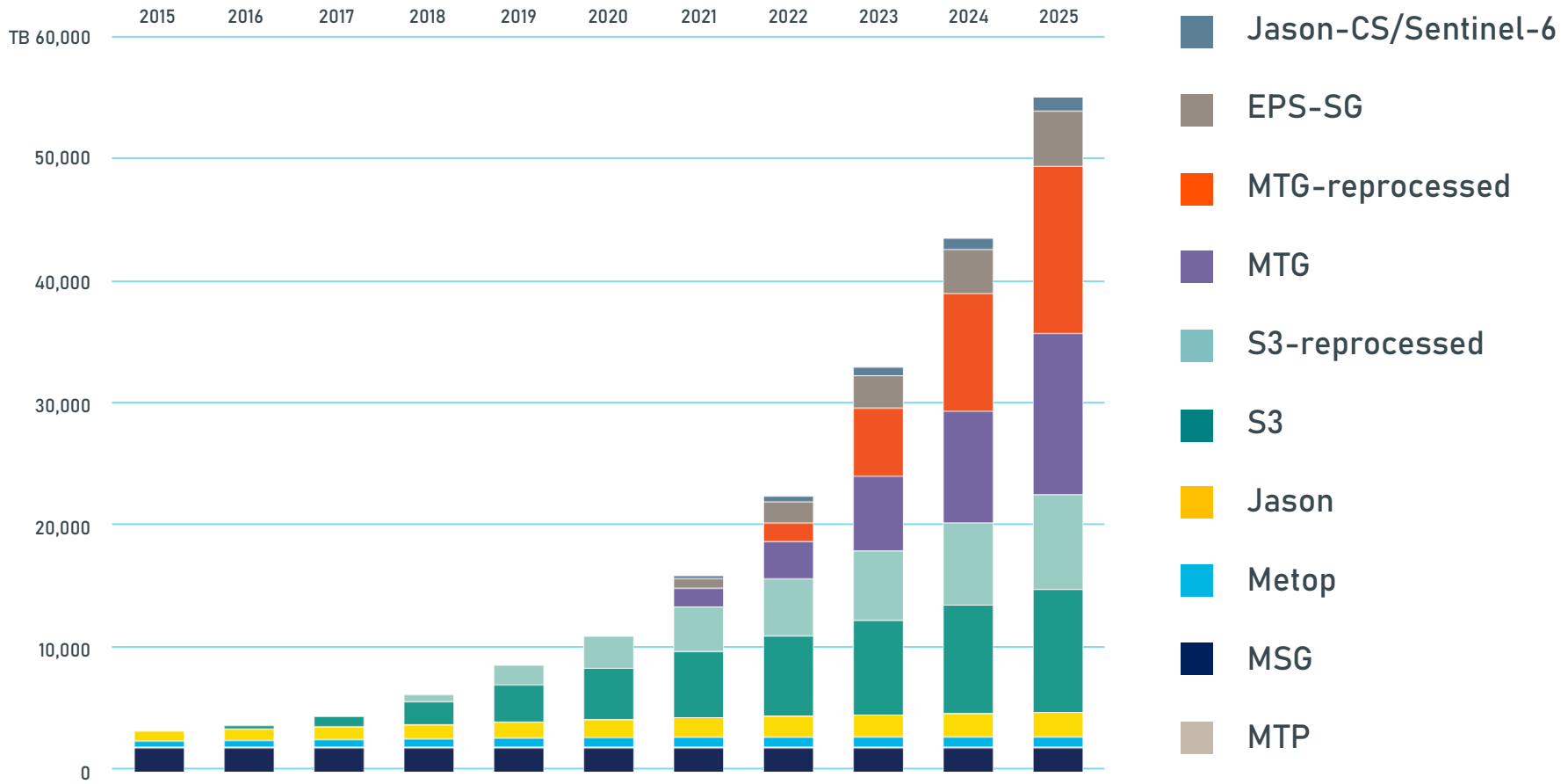
Size **100PByte** tapes!
= 6.6 millions times a classical Google account (15GB)

Storage increased x10 in 10 years

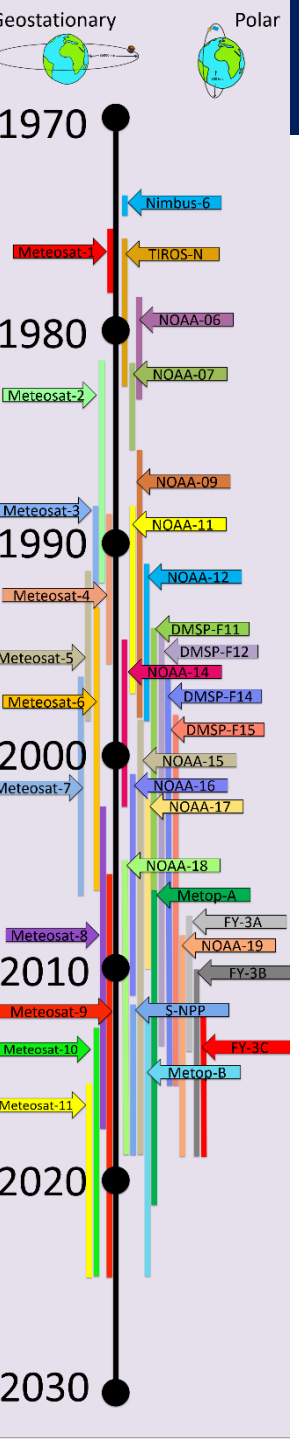
It has increased with the arrival of new sentinels and new generations

+ we now reprocess and create Climate Data Records

Data Centre growth (prognosis) related to missions



Main usage of satellite data



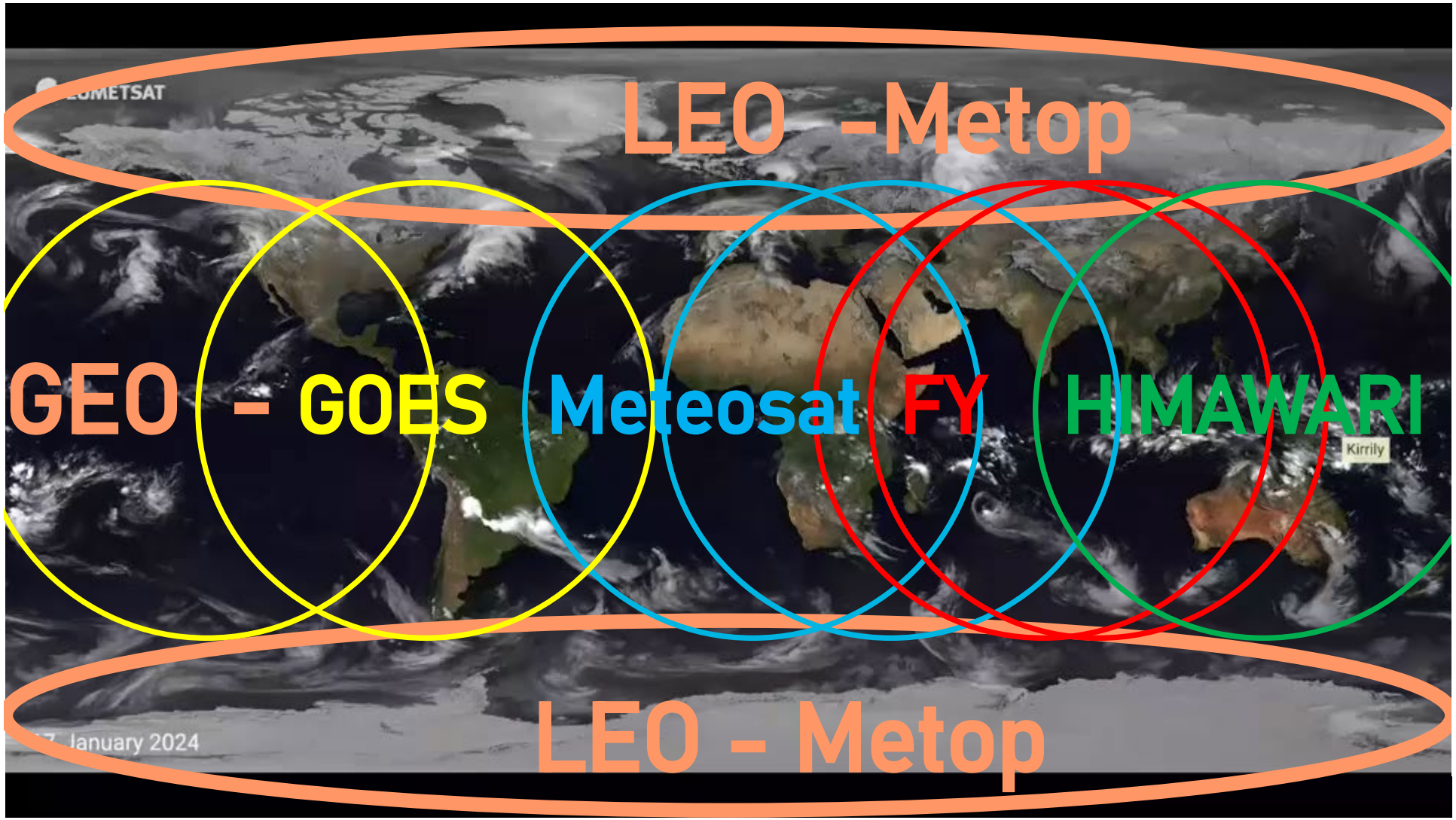
1. Near real time forecast

2. Climate reanalysis

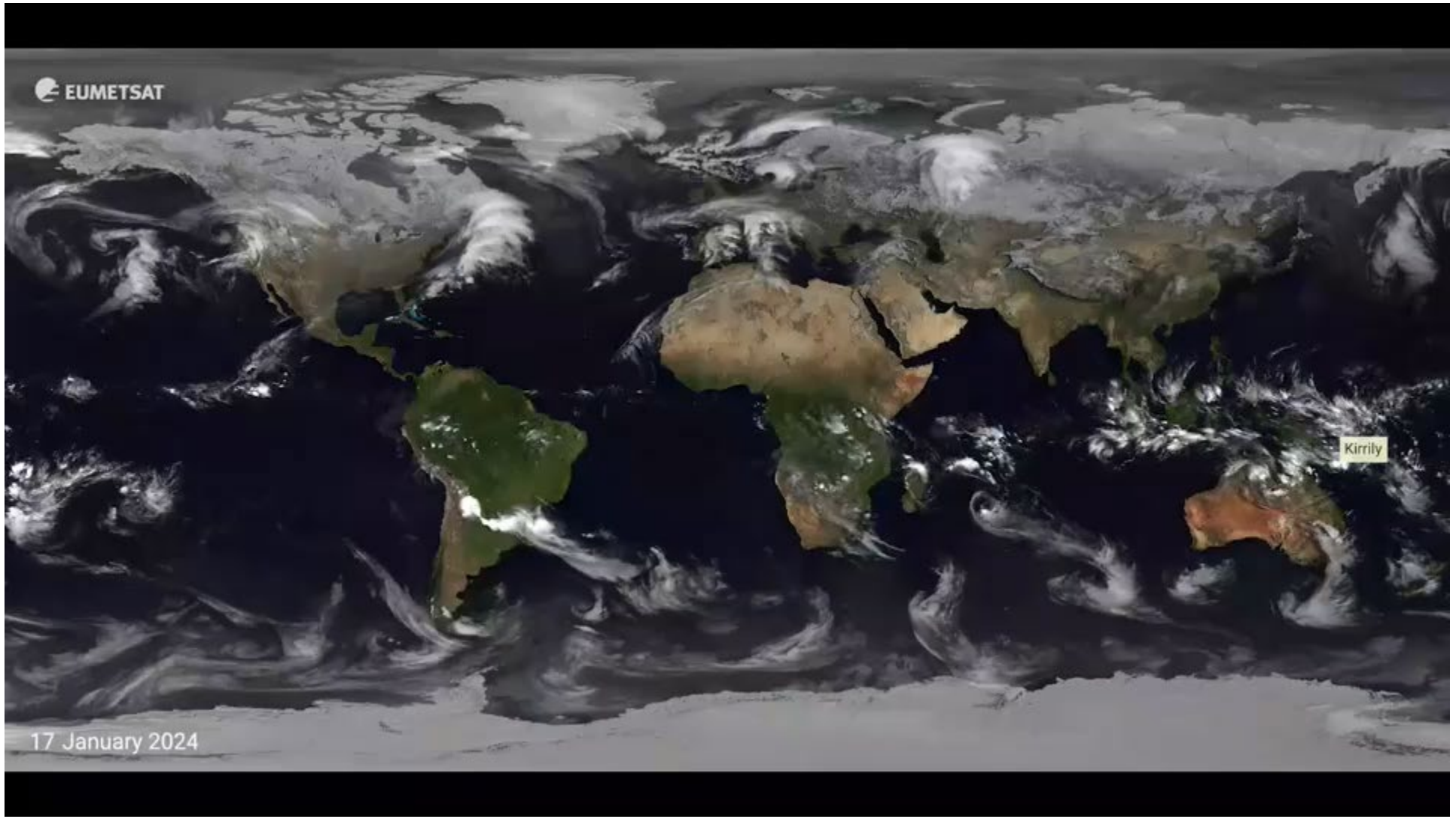
A year of weather – 2024 –

Satellite images are used in meteorology to observe cloud patterns, storm development, temperature changes, and atmospheric moisture in real time.

By analysing these images, meteorologists can track weather systems, predict storms, and improve short- and long-term forecasts.



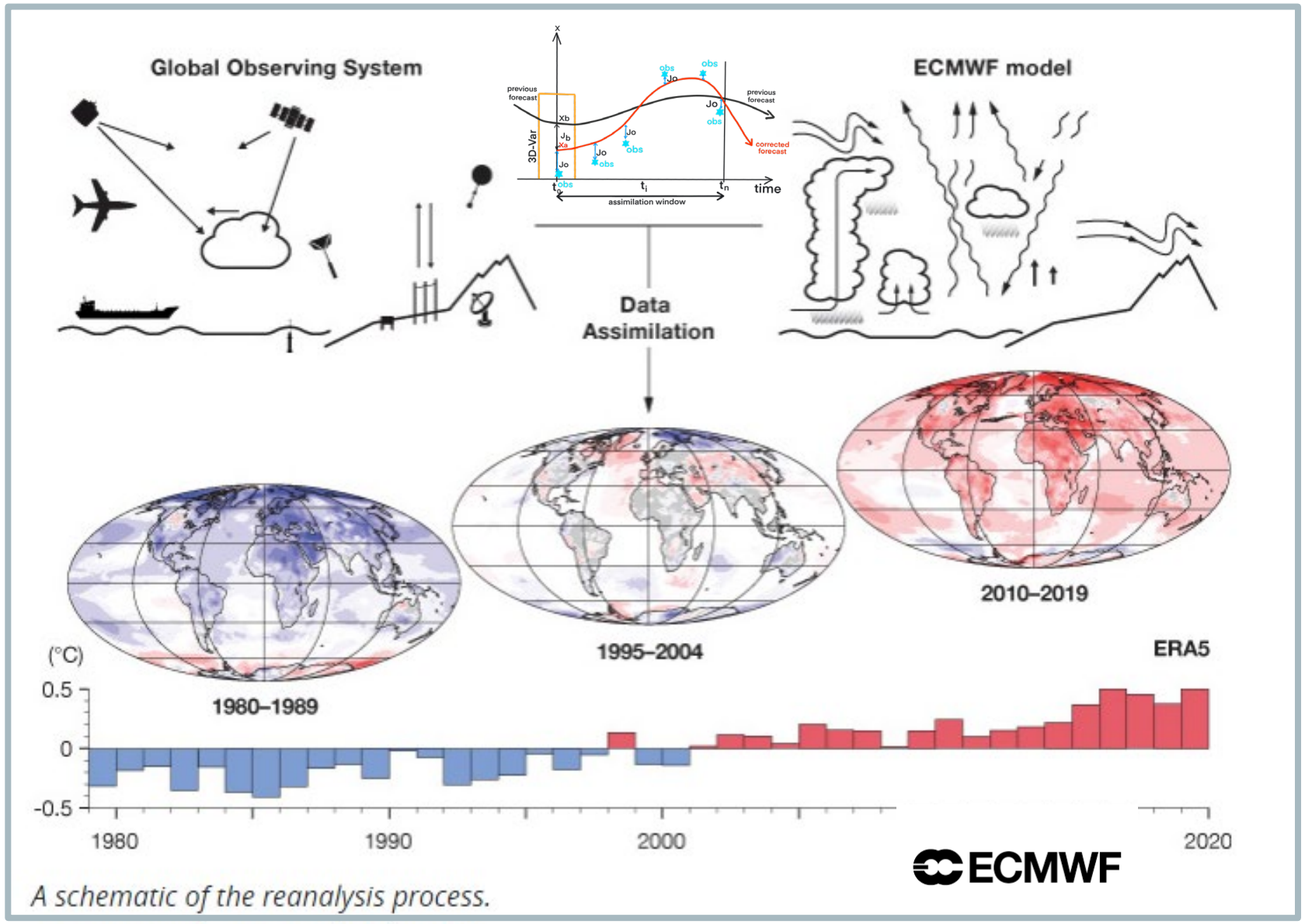
A year of weather – 2024 –



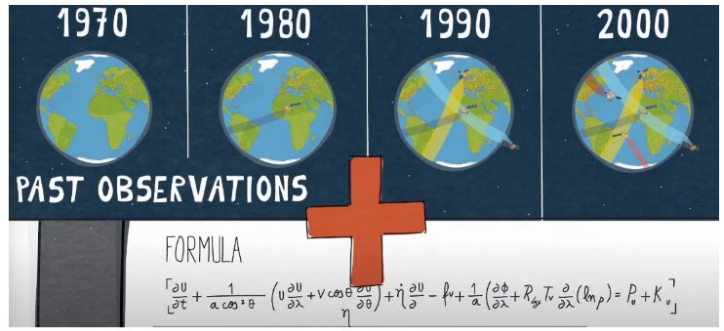
Look at the full-length video here:

Usage in reanalyses ‘maps without gaps’

The main usage of the satellite reprocessed data is to be assimilated in the next generation of reanalyses. **Reanalysis is an effective way of providing estimates of climate variables which are difficult to measure using in situ or satellite-based methods.**



A schematic of the reanalysis process.



Weather Reanalysis: Combination Observations and weather models (Source: Copernicus)

https://climate.copernicus.eu/climate-reanalysis

VACANCIES

Staff

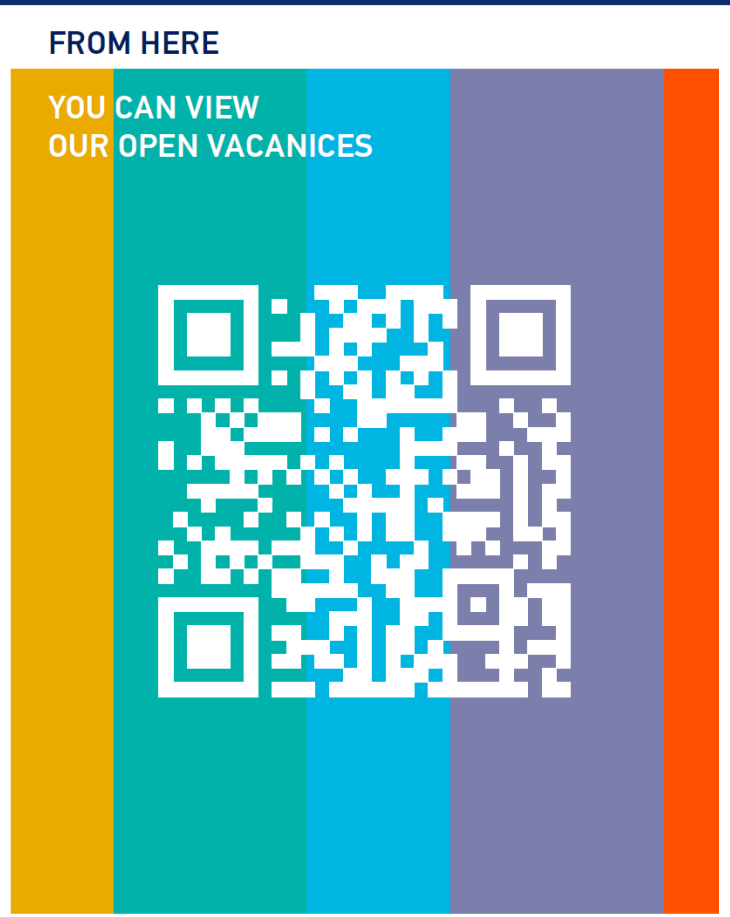
- EUMETSAT has about 700 staffs across all disciplines.

Contracting:

- EUMETSAT has over 500 contractors working across all disciplines.
- 40% of staff vacancies are filled with current or past contractors.
- Opportunity to develop the specific skills required for space programmes.

Temping:

- More appropriate for individuals with Administration, Finance, HR, Project Control, Quality Control ambitions.
- Opportunity to get to know the organisation and get yourself known.



Check our website

www.eumetsat.int/website/home/AboutUs/Jobs/EarlyCareerOpportunities/EarlyCareerProgramme/index.html

recruitment@eumetsat.int

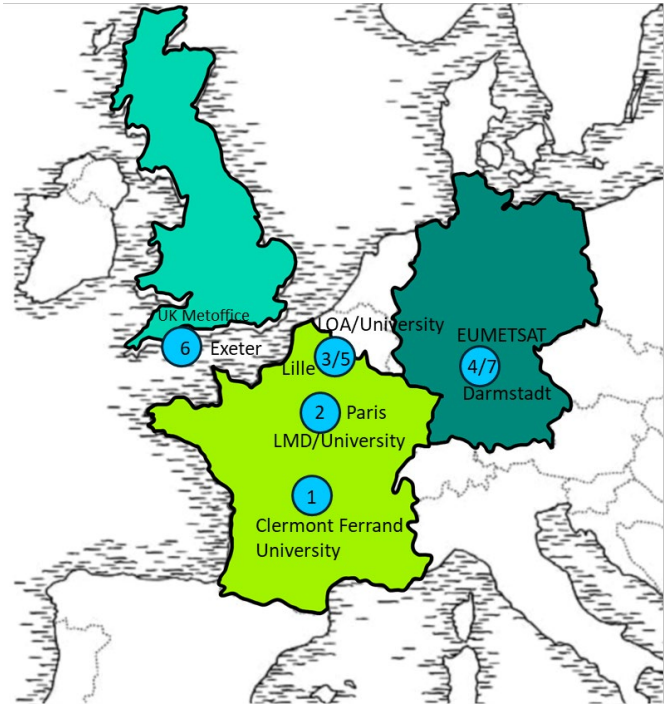
FOLLOW US

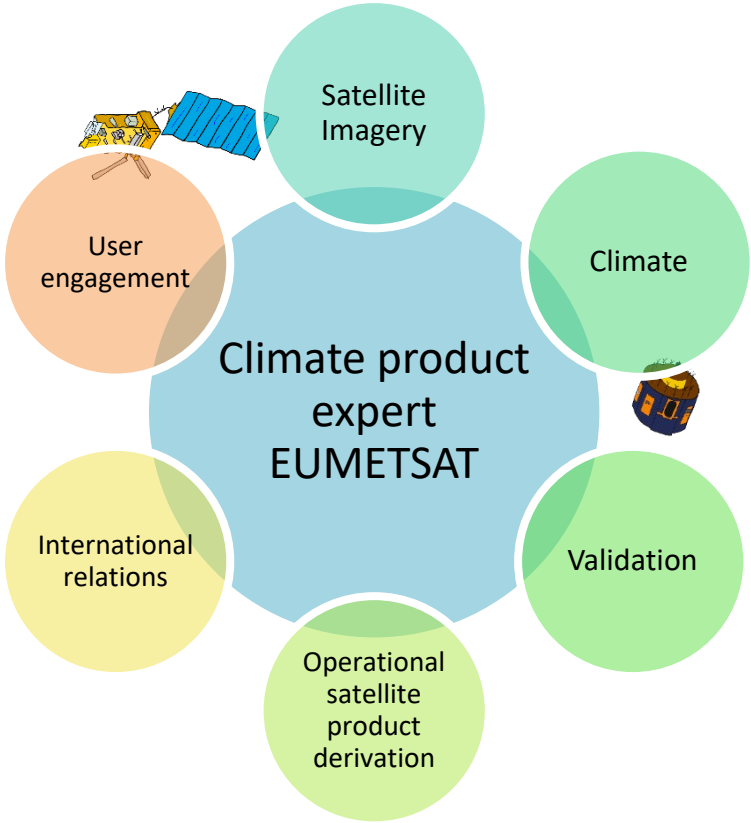
EUMETSAT

Dr. Marie Doutriaux-Boucher
marie.doutriauxboucher@eumetsat.int

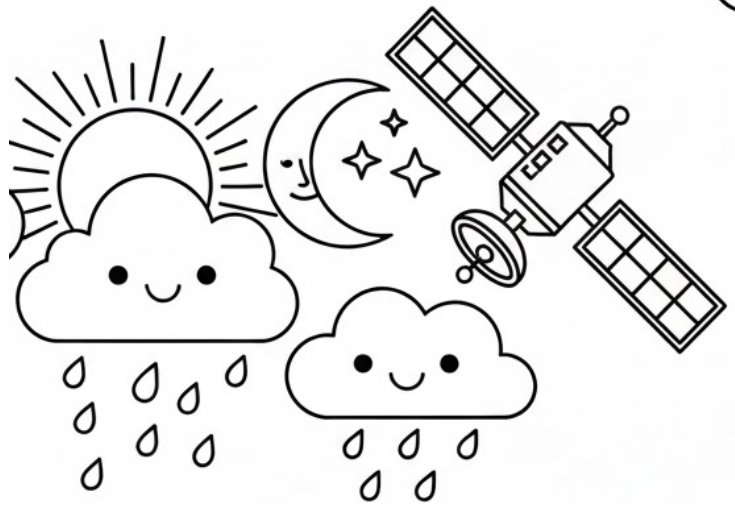
Master degree in Physics + Atmospheric physics → PhD model validation with observations 1997

1998 PostDoc CNES → 1998- 2000 Operational Product expert EUMETSAT → 2000 - 2006 Assistant Professor Univ Lille → 2007 - 2011 Scientist UK Met Office → 2011 - now Climate product expert EUMETSAT





Do what you enjoy while being flexible! and the most important: **think carefully before making any decision then never regret ☺**



THANK YOU !