AI background
CGMS-53 PLENARY WEEK
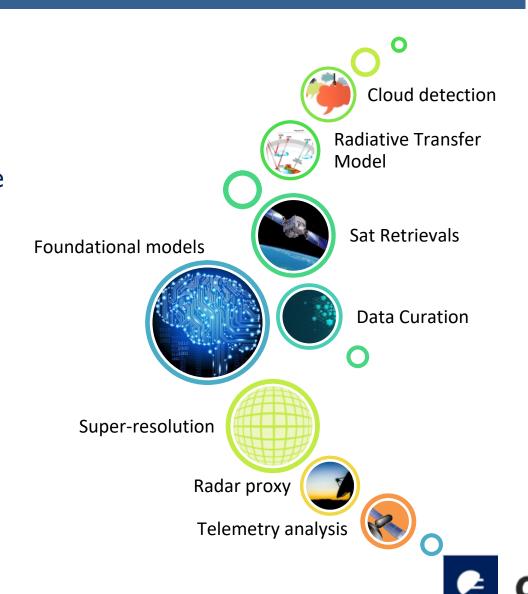
hosted by EUMETSAT
2-6 June 2025

Coordination Group for
Meteorological Satellites

CGMS

AI landscape

This cascade of use cases that the next few presentations will highlight.

Other key areas feature MLops and in the near future agentic AI for data access, extraction, and tailored delivery. Those are not considered so far in the use cases will be presented

Cloud detection

Radiative Transfer Model

Foundational models

Sat Retrievals

Data Curation

Super-resolution

Radar proxy

Telemetry analysis

Coordination Group for Meteorological Satellites

CGMS

CRITICAL CONSIDERATIONS FOR THE DISCUSSION

Reshaping the boundary between data producers and users: Over the past three years, machine learning (ML) has accelerated across the weather enterprise at an unprecedented pace. Traditional value chains are collapsing as "end-to-end" AI stacks that can ingest raw data and output operational tailored information directly.

Impact on data processing and user ecosystems: The rise of foundational models and Direct Observational Prediction could transform the entire data production chain—from algorithms to delivery—while simultaneously broadening and diversifying the user landscape.

What the critical role of CGMS: keeping track of the developments at the Agency level and across the international working groups. Periodically, assess standards in different parts of the ML value chain (i.e. data curation, formats, chunks, error characterisation). Foster international coordination and cooperation across international working groups on ML applications. Specific collaborative projects under CGMS.

Coordination Group for Meteorological Satellites

CGMS