

Regional Data Services - EARS

The Regional Data Services are provided by the EUMETSAT Advanced Retransmission Service (EARS), a network of Advanced High Resolution Picture Transmission (AHRPT) reception stations.



EARS overview

The aim of the EARS services is to provide polar satellite data from satellites operated by EUMETSAT, the US National Oceanic and Atmospheric Administration (NOAA), and the China Meteorological Administration (CMA) with a timeliness suited to the needs of European operational short-range regional numerical weather prediction models.

This is achieved through a network of direct broadcast stations that receive and process data and redistribute products to users in near-real time.

The geographical coverage of EARS is primarily over data-sparse marine areas around Europe.

EARS datasets are distributed to European and other users via EUMETCast and the Global Telecommunications System/Regional Meteorological Data Communication Network.

The target timeliness for delivery of data is in the range of 10 to 30 minutes from instrument sensing.

EARS services

EARS services are comprised of the following individual polar satellite instrument data services:

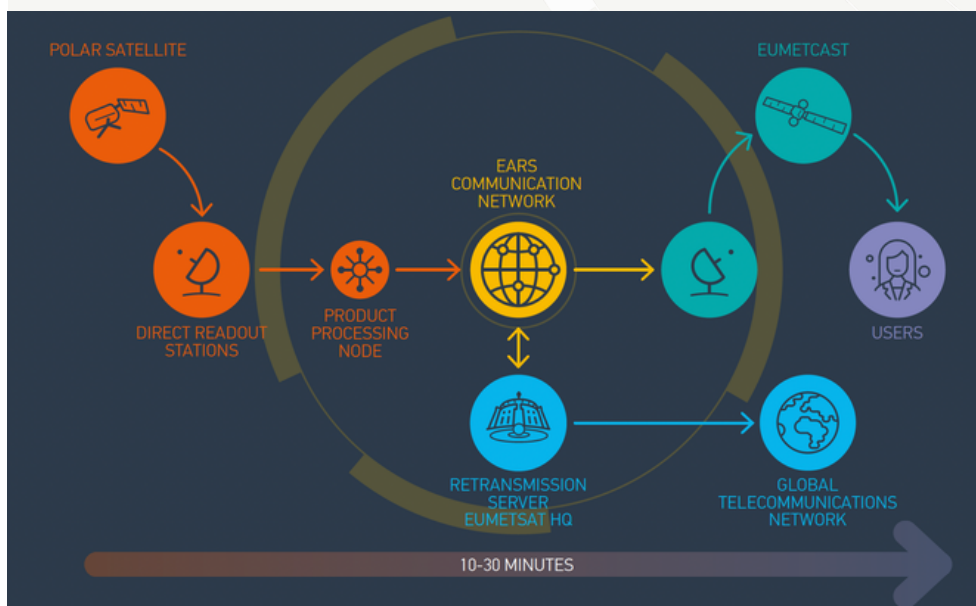
- EARS-ATOVS
- EARS-AVHRR
- EARS-ASCAT
- EARS-IASI
- EARS-NWC
- EARS-ATMS
- EARS-CrIS
- EARS-VIIRS
- EARS-VASS
- EARS-MERSI
- EARS-MWRI

For 20 years the EARS service has been providing real-time satellite data from areas where traditional observational data are sparse.

EARS comprises 11 separate data services that aim to provide users with timely regional data from polar-orbiting meteorological satellites, in support of numerical weather prediction (NWP) and nowcasting (NWC) applications.

The full list of all EARS products available on EUMETCast satellite, EUMETCast terrestrial and the Global Telecommunications System can be found via EUMETSAT's Product Navigator:

<https://navigator.eumetsat.int>.





EARS product availability

The primary delivery mechanism for EARS is EUMETCast, the EUMETSAT broadcast distribution system for environmental data. EUMETCast utilises the satellite services of a satellite operator and telecommunications service provider to distribute data files using digital video broadcast (DVB-S2).

In addition to EUMETCast, EARS-ATOVS, EARS-ASCAT, EARS-IASI, EARS-ATMS, EARS-CrIS and EARS-VASS data are also available via the Global Telecommunications System encoded in FM-94 BUFR.

A general description of the EARS system with more specific information on its services, data and products can be found at <https://user.eumetsat.int/resources/user-guides/eumetsatadvanced-retransmission-service-ears>

EARS stations

EARS services are provided by the following stations:

- Athens (Greece)
- Kangerlussuaq (Greenland, Denmark)
- Lannion (France)
- Maspalomas (Gran Canaria, Spain)
- Svalbard (Norway)

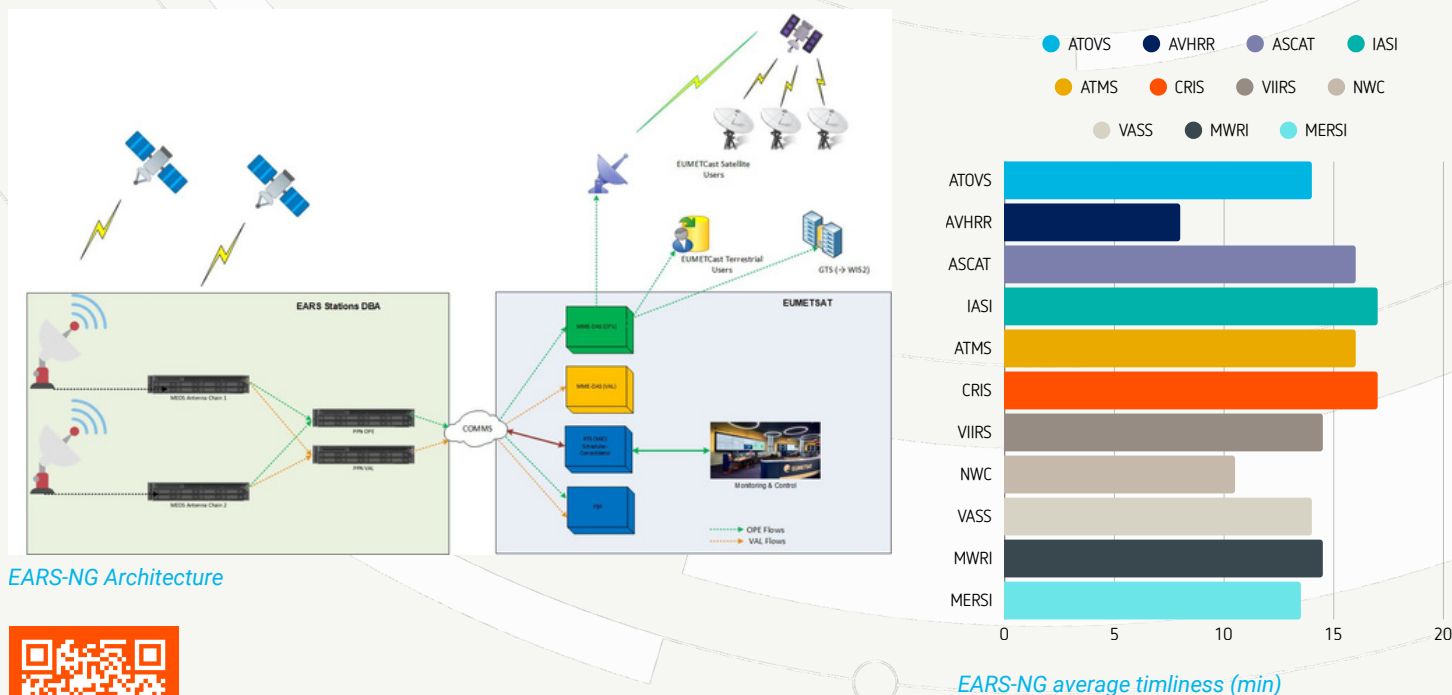
Service/ DB station	EARS ATOVS	EARS AVHRR	EARS ASCAT	EARS IASI/L2	EARS NWC/ AVHRR	EARS NWC/ VIIRS	EARS ATMS	EARS CrIS	EARS VIIRS	EARS VASS	EARS MERISI	EARS MWRI
Athens												
Kangerlussuaq	Metop-B	Metop-B	Metop-B	Metop-B	Metop-B	NOAA-20	SNPP	NOAA-20	SNPP	FY-3D		
Lannion	Metop-C	Metop-C	Metop-C	Metop-C	Metop-C	NOAA-21	NOAA-20	NOAA-21	NOAA-20	FY-3E		
Maspalomas	NOAA-18	NOAA-19					NOAA-21					
Svalbard	NOAA-19											

EARS Next Generation (EARS-NG)

EARS-NG was activated on 3 June 2025, improving the timeliness of EUMETSAT's regional services to under 20 minutes. This improvement represents a significant milestone in the delivery of regional near-real-time polar-orbiting satellite data to the meteorological community, improving the timeliness achieved by the previous system by 10 minutes thanks to hardware and software upgrades.

EARS-NG introduced new regional services from the NOAA 21 M-Band channels of the VIIRS onboard instrument (Visible Infrared Imager Radiometer Suite) which provide multi-purpose imagery, including ocean colour.

EARS-NG also provides three new nowcasting products based on the NOAA20 & NOAA21 VIIRS instrument (cloud mask, cloud top temperature & height and cloud type).



Find out more