EUMETCast

Delivering environmental data to Users

Michael Williams
EUMETSAT

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Overview

- **Today: Description of existing operational satellite based dissemination system - EUMETCast**

- **The Future: An interoperable satellite based dissemination system with global coverage - GEONETCast**

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EUMETSAT Dissemination Services

- **Dissemination of Meteosat 1st and 2nd generation**
- **Dissemination of MetOp level 0 and 1 satellite global data**
- **Dissemination of other Satellite Data** (e.g. GOES, POES, MTSAT, FY-2)
- **In Situ and Forecast Data** (ECMWF, DWD, MetOffice, MDD, BMD, DCP)
- **Products from EUMETSAT**
- **Products from LSA and OSI SAFs**
- **Ozone and GRAS SAF products will be pre-operational soon**
- **Vegetation products from VITO**
- **NOAA/NESDIS products as part of the GEONETCast trial service**
- **CMA satellite data and products as part of the GEONETCast trial**

All these services make use of the EUMETCast framework

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- **Generic (open and flexible), multi-mission** dissemination system based on the standard DVB multicast technology and a **combination** of communication infrastructure
- **Independent** of local (network) infrastructure at the reception side
- **Simultaneous** product availability across the broadcast footprint
- **Closed-loop** product and performance **monitoring**
- **High SLA of 99.50%** with very rigid**, guaranteed** and **mission related timeliness** (e.g. 3m50sec MET8 image timeliness across EUMETCast footprint)
- **Scalable** by usage of commercial telecommunication satellites (using a set of broadcast forward channels)
- Allowing the usage of **off-the shelf,** commercial**, inexpensive equipment for reception**
- Secure delivery of files on a per User basis if necessary

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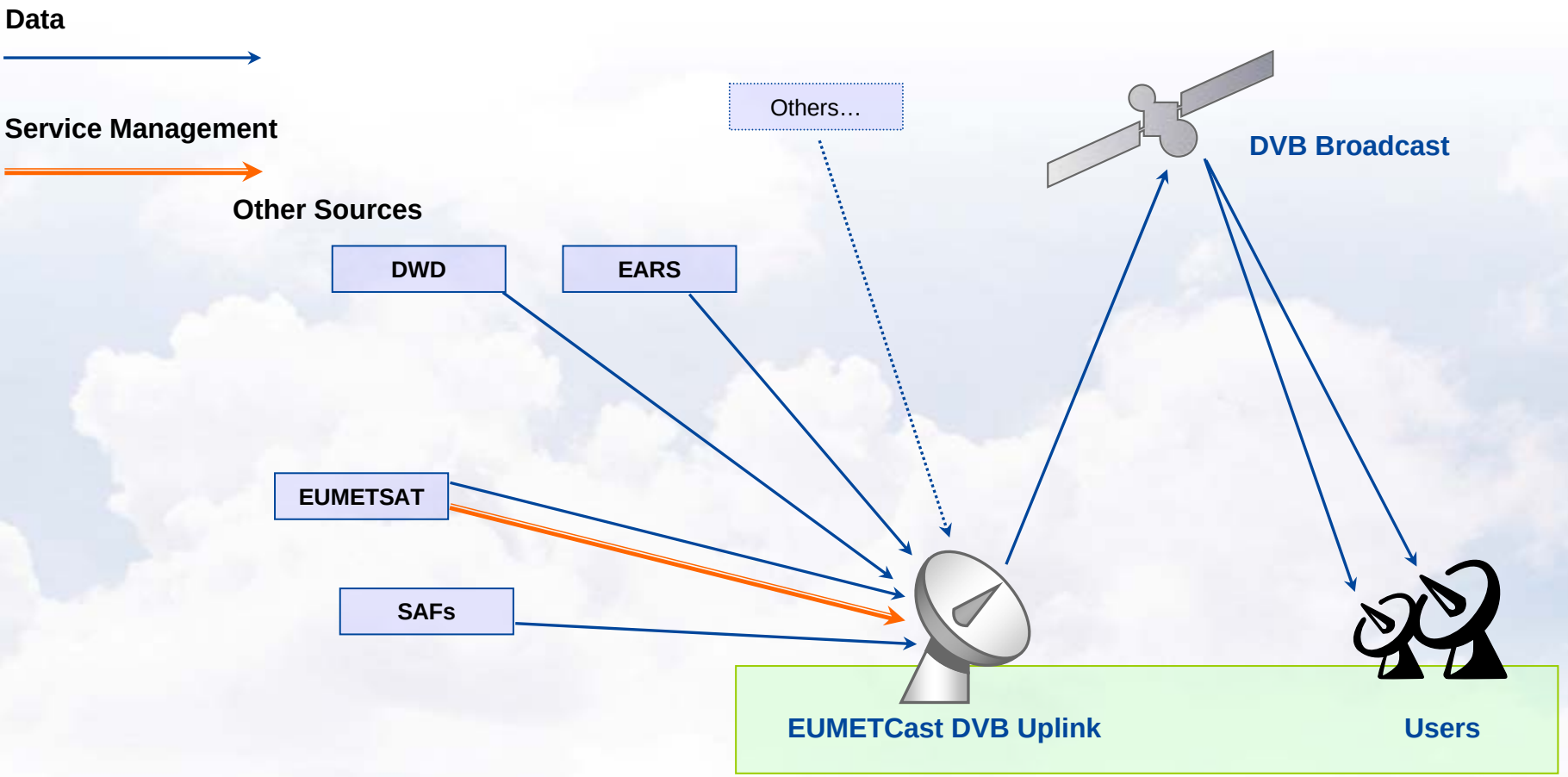
EUMETSAT's role as EUMETCast Service Management Provider



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EUMETCast Communication System Integration

Networks used for Data Acquisition:

- **WMO and regional networks (GTS, RMDCN)**
- **Private networks**
- **IP-VPN networks**
- **Internet**

EUMETSAT is involved in all WMO related activities (WIS, VGISC/SIMDAT, IGDDS etc.)

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EUMETCast User Growth

- Stations continue to be added at the rate of about 50 per month;
- Installed User base passed 2000 in early November;
- Nearly all stations have an EKU - allowing access to licensed services;
- Most Users utilise a number of datastreams.

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EUMETCast Data Provision Growth

- OSI SAF Sea Ice and Surface winds products;
- Regional AVHRR from NOAA-17 & 18;
- LSA SAF products covering South America and Africa;
- ECMWF forecast data for RA I and RA VI;
- MetOp GDS level 0 and 1 data;
- MODIS Direct Broadcast polar cap winds;
- Additional Vegetation products from VITO as part of VGT4Africa;

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Procedure to become a EUMETCast Data Provider

- Specification to EUMETSAT:
  - Data (files) to be transmitted, with attributes
    - Size
    - Frequency (per hour, day, week, month …)
    - Time (hh:mm) of transmission
    - Timeliness requirements
- Discussion/clarification of technical issues (like need for a segmentation of files for very large file sizes)
- Test Phase:
  - File transfers from Data Provider to EUMETCast Uplink, transmissions via satellite, Reception Station handling
- Inclusion in the operational EUMETCast schedule

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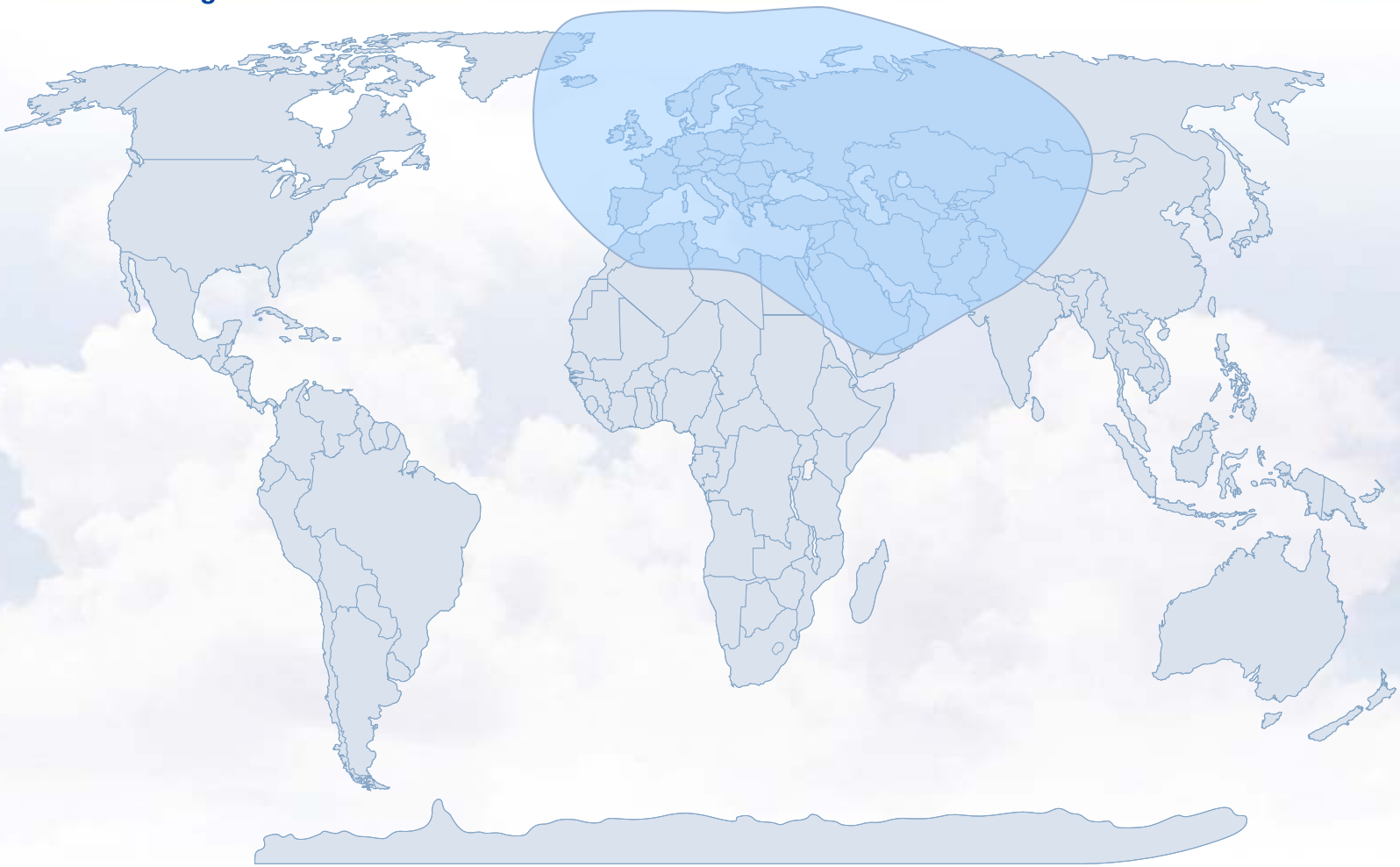
EUMETCast Europe Coverage

HB-6, Ku-Band Coverage



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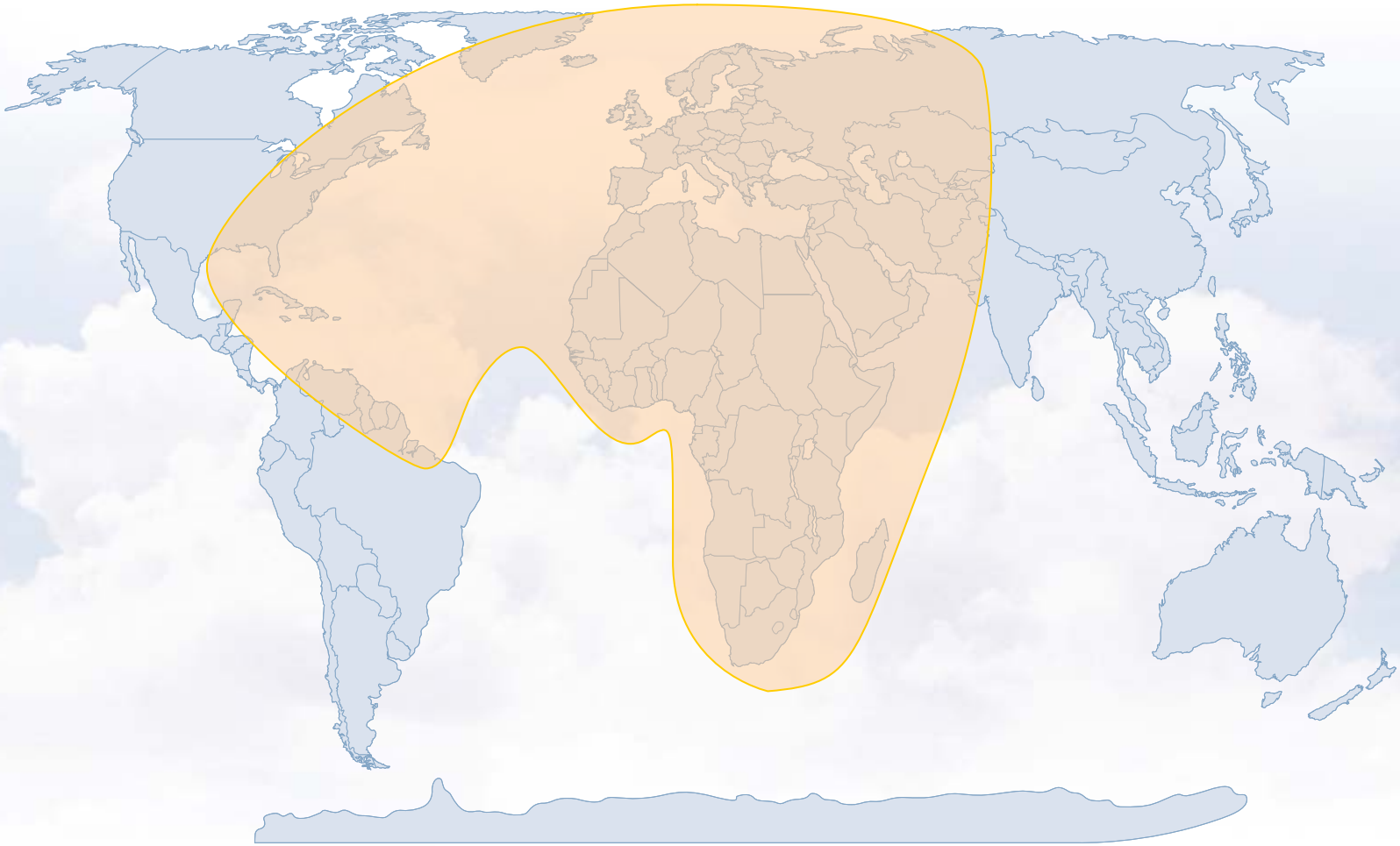
EUMETCast Africa Coverage

AB-3, C-Band Coverage



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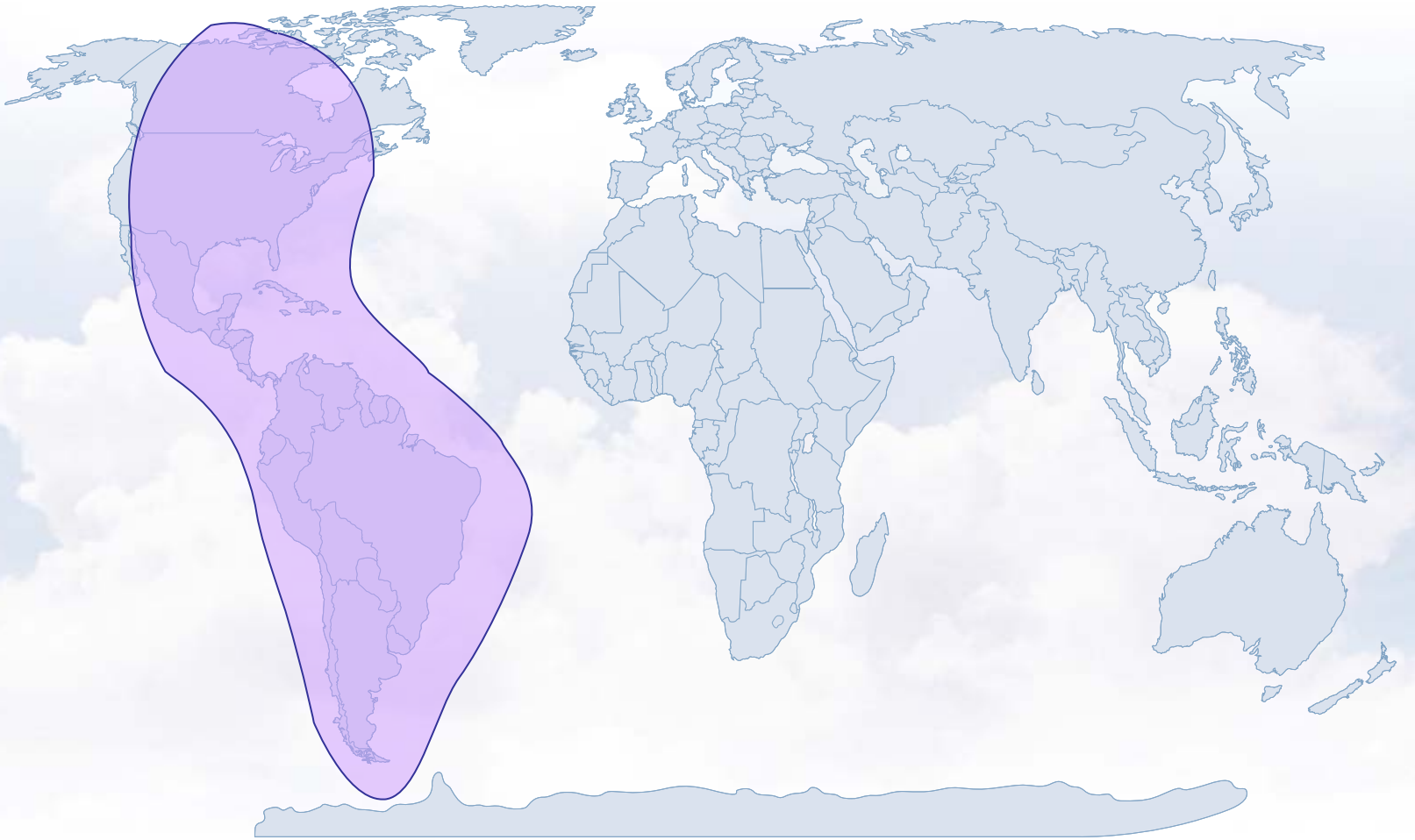
EUMETCast Americas Coverage

NSS 806, C-Band Coverage Begins Q2 2006



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The Future

- **EUMETCast as service framework for operational and pre-operational data and product delivery with guaranteed timeliness**

- **EUMETCast as technology core for the implementation of a satellite multicast based dissemination system for environmental data with global coverage: GEONETCast**

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GEONETCast Status

- The added value that GEONETCast brings is to facilitate and **enhance access, particularly for developing countries**, to key environmental data in the **nine societal benefit areas of GEO** by **applying standards** across, and encouraging the development of, regional systems;

- 3 regional systems are seen as the minimum required to establish global geographic coverage - Americas, Europe and Africa, and Asia/Pacific. Should additional regional systems be made available the GEONETCast concept can easily accommodate them;

- establishment of GEONETCast is being organised by an Implementation Group consisting of CMA, EUMETSAT, NOAA and WMO.

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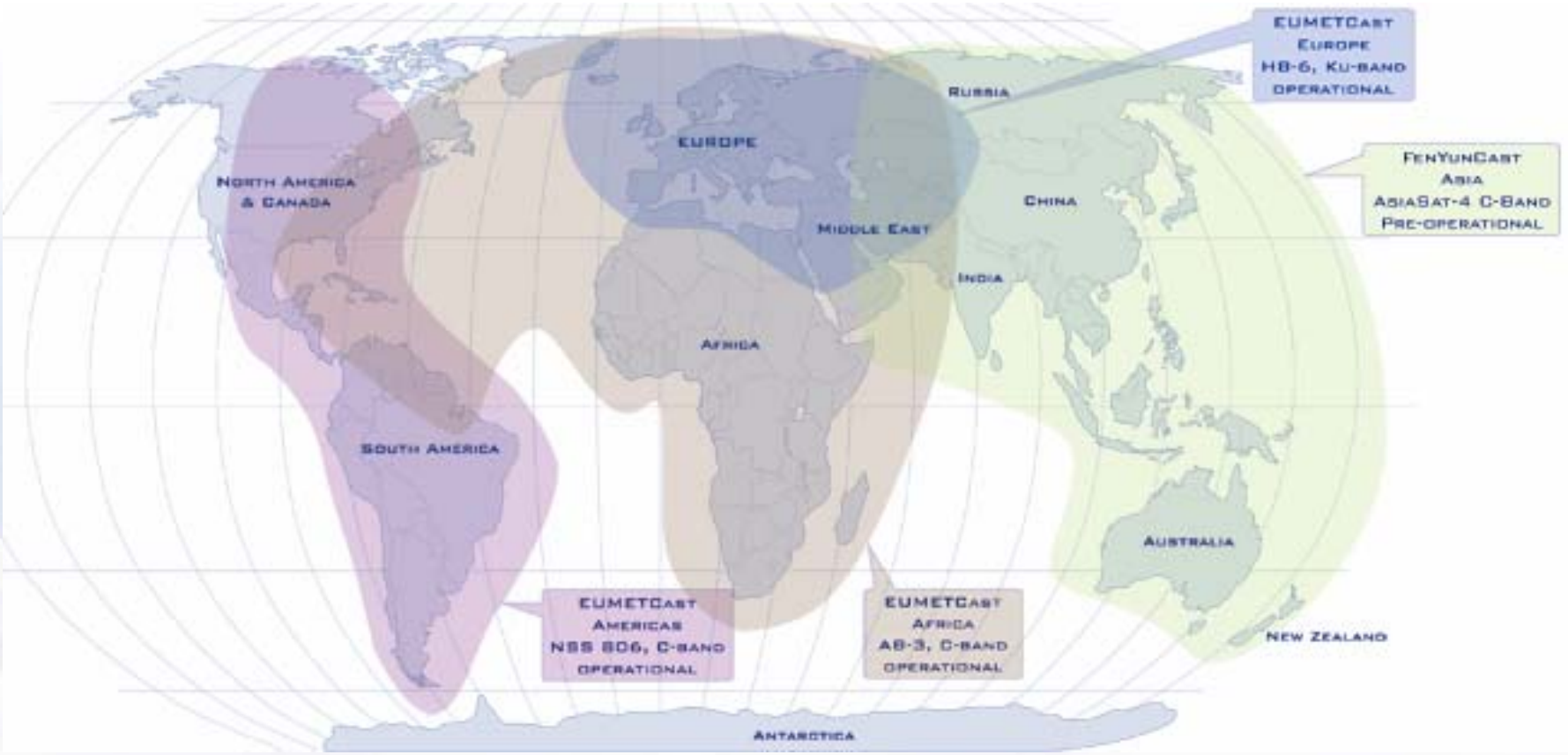
GEONETCast coverage



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EUMETCast and GEONETCast

- **GEONETCast further information:**
  http://www.geonetcast.org

- **GEONETCast Implementation Team collaboration:**
  http://wiki.geonetcast.org

- **EUMETCast further information**
  http://www.eumetsat.int

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Satellite based data dissemination systems

For more information on EUMETCast please visit our web site: http://www.eumetsat.int

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