

# SOCIO-ECONOMIC BENEFITS: FROM METEOROLOGY TO COPERNICUS

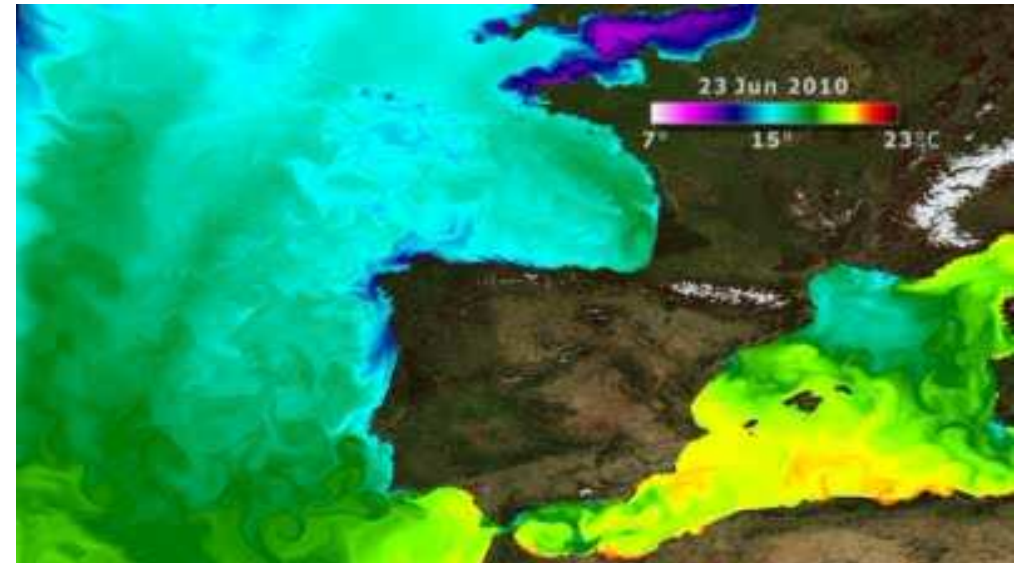


**Alain Ratier**  
**Director-General**

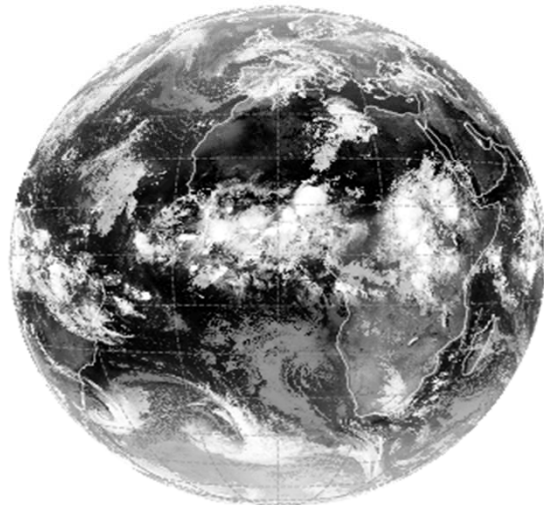
**Warsaw – Poland**  
**26 February 2015**



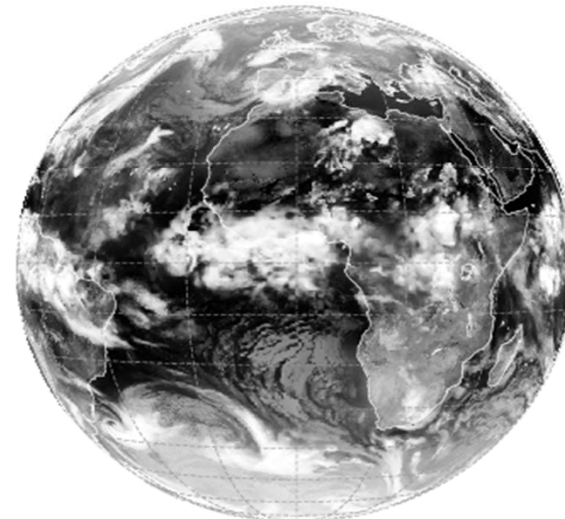
# COPERNICUS: from weather to environmental forecasting



Meteosat 9 IR10.8 20080525 0 UTC

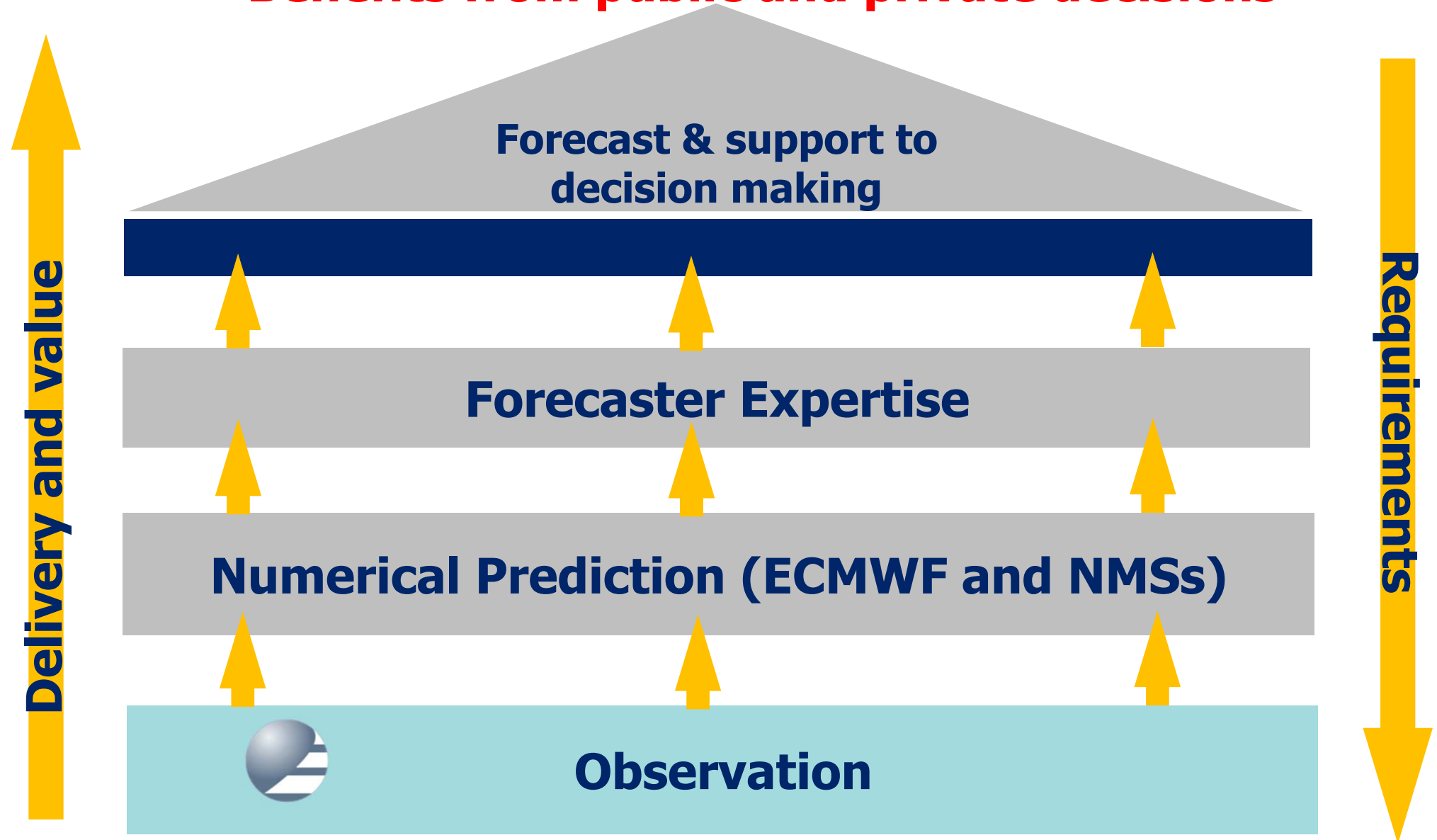


ECMWF Fc 20080525 00 UTC+0h:



# From observation to socio-economic benefits

## Benefits from public and private decisions





# Benefits areas of weather forecasting



**Safety of life, property and infrastructure...**

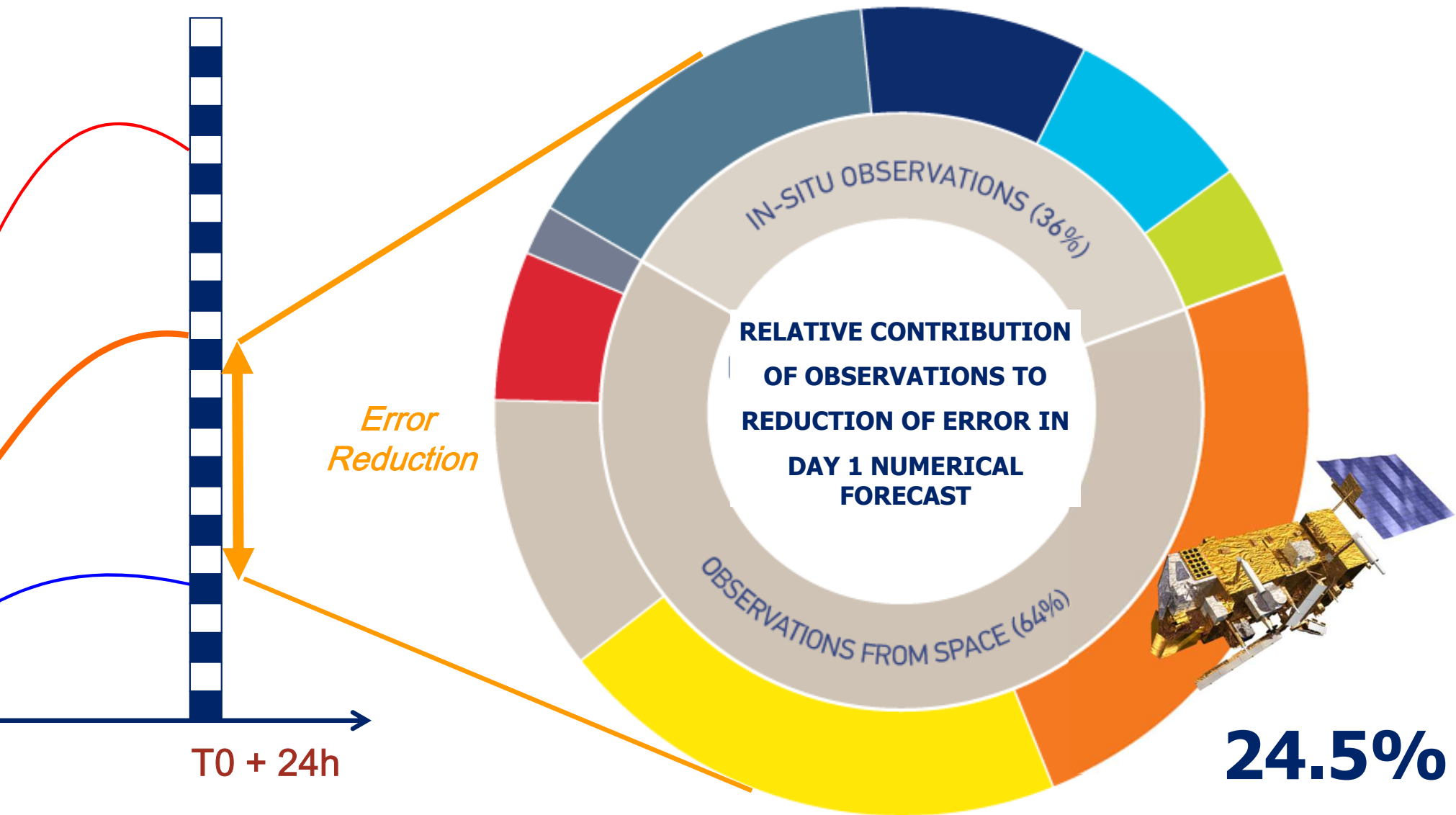


**Transport ...**



**....Energy, agriculture, tourism....**

# 25% of the socio-economic value of weather forecasts can be attributed to EUMETSAT's Metop-A satellite



# Estimated of benefits of weather forecasting in the EU 27

BENEFIT AREA	LIKELY BENEFIT
Protection of property and infrastructure <i>Polish share (2.92 % of EU GDP)</i>	€5.4 billion/year <i>€ 158 millions / year</i>
Added value to the European economy <i>Polish share</i>	€41.0 billion/year <i>€ 1.2 billion / year</i>
Private use by European citizens <i>Polish share</i>	€15.0 billion/year <i>€ 438 millions / year</i>
<b>TOTAL</b> <i>Polish share</i>	<b>€61.5 billion/year</b> <b><i>€ 1.8 billion / year</i></b>

- The value of hundreds of lives saved each year is not captured, nor the benefits to defense and security
- Also ignored are additional benefits of weather forecasts on specialised forecasts of weather-dependent phenomena, i.e. air quality, marine forecasts, dispersion of pollution in the context of Copernicus



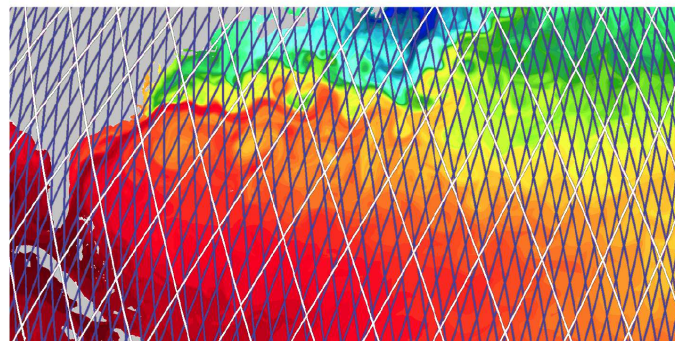
# Benefits areas: Copernicus Marine & Atmosphere services



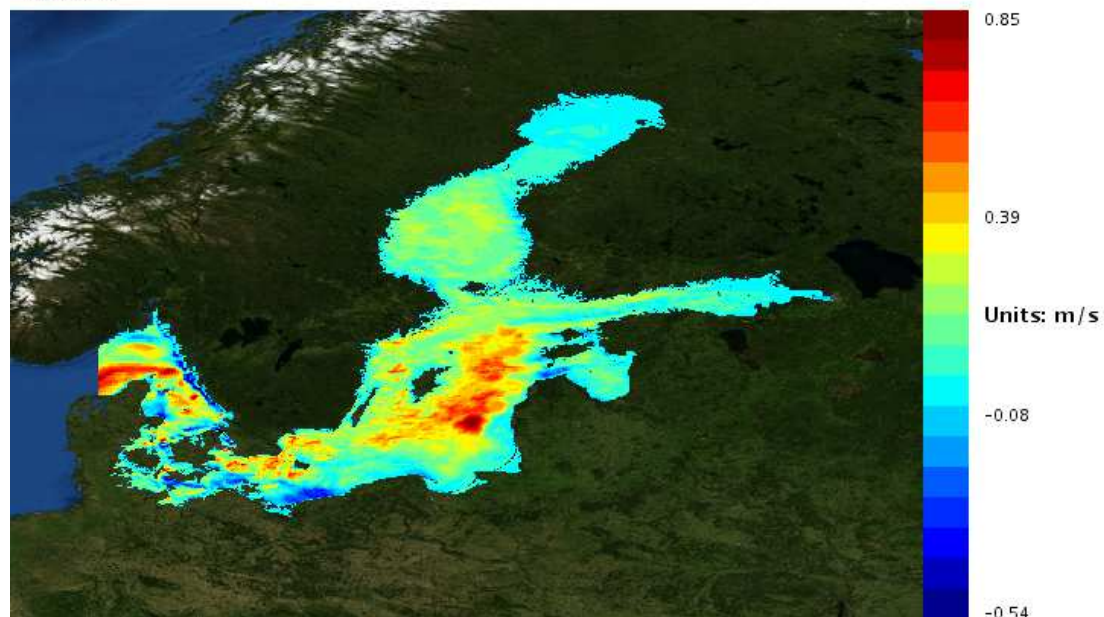
- **Marine resources**
- **Marine safety**
- **Ship routing**
- **Health**
- **European air quality**
- **Climatology**
- **Renewable energies**



# Combining Sentinel-3 and Jason for operational oceanography and climate change monitoring

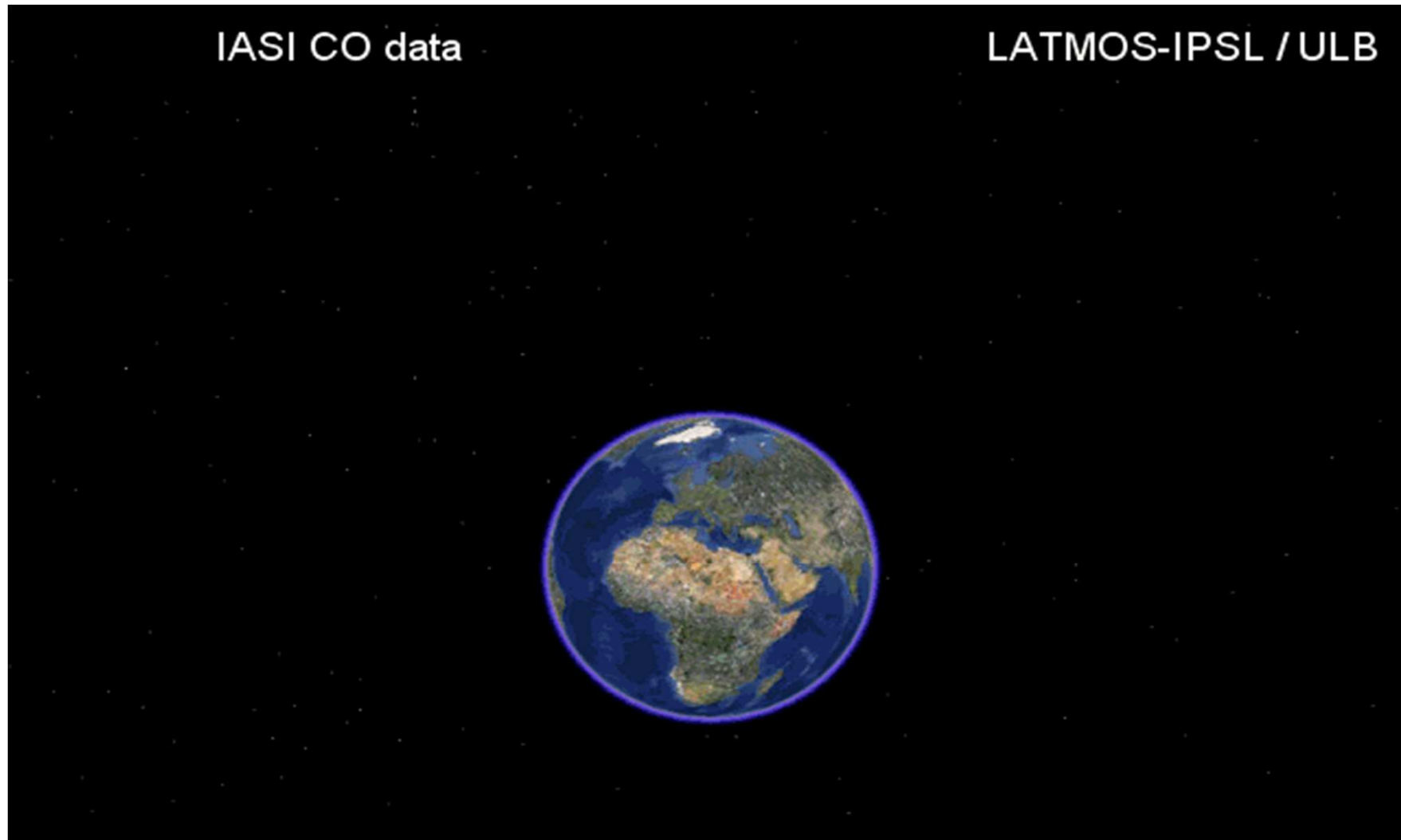


MyOcean V4: HBM model fields (hourly)  
eastward\_sea\_water\_velocity  
Time: 2015-02-23T10:00:00.000Z  
Elevation: 0m

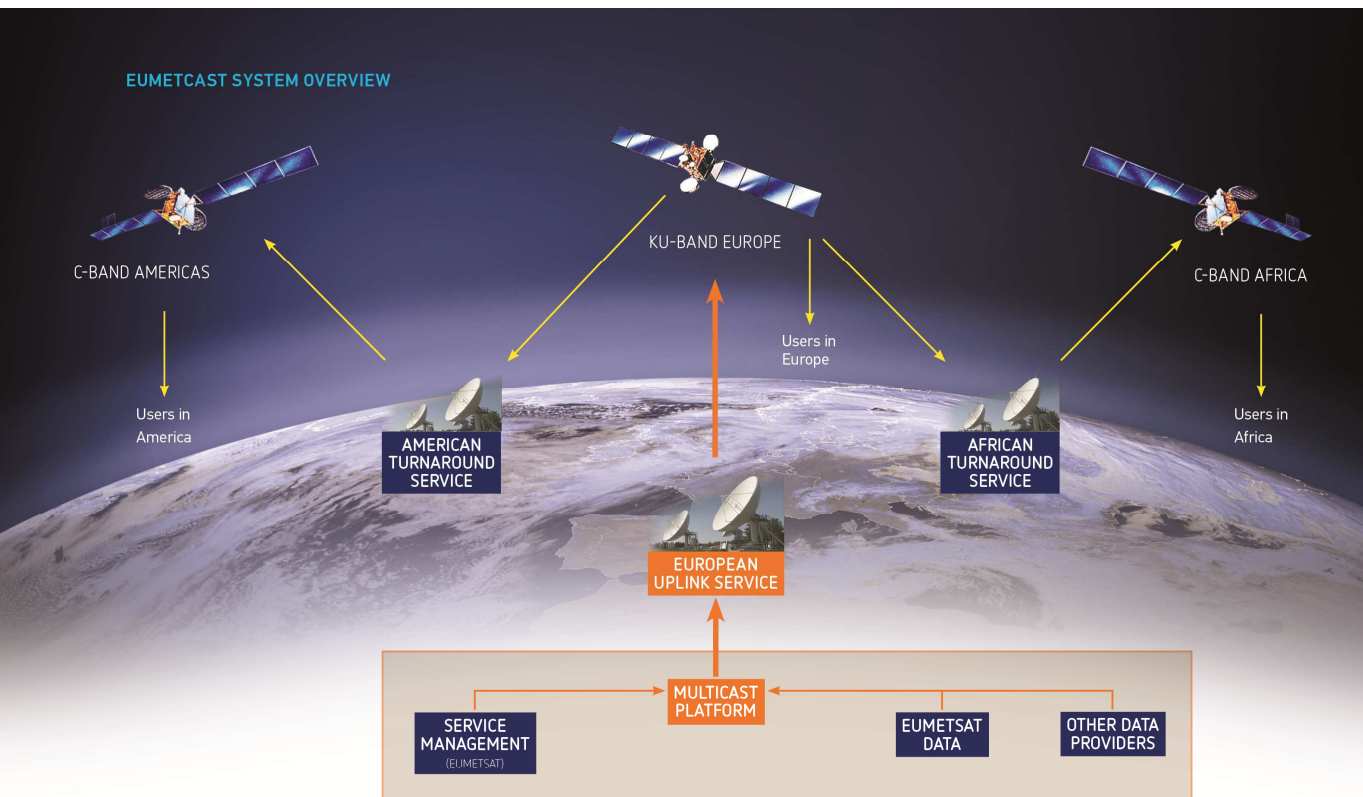




# Monitoring large scale fires & pollution: Russia, summer 2010



# EUMETCast: guaranteed real time access for all users in the EU Copernicus marine/atmospheric satellite data



- Same state of the art technology as digital TV broadcast (DVBS-2)
- User access via low cost off the shelf station: VSAT antenna and PCs (2 k€)
- No limit to number of users, no dependence on local infrastructures
- Integrated data stream for broad range of applications: EUMETSAT and Copernicus marine data
- Supports demanding timeliness requirements, high and low volumes, with 99.9% reliability
- Secure and controlled delivery (selection of users, data...)

