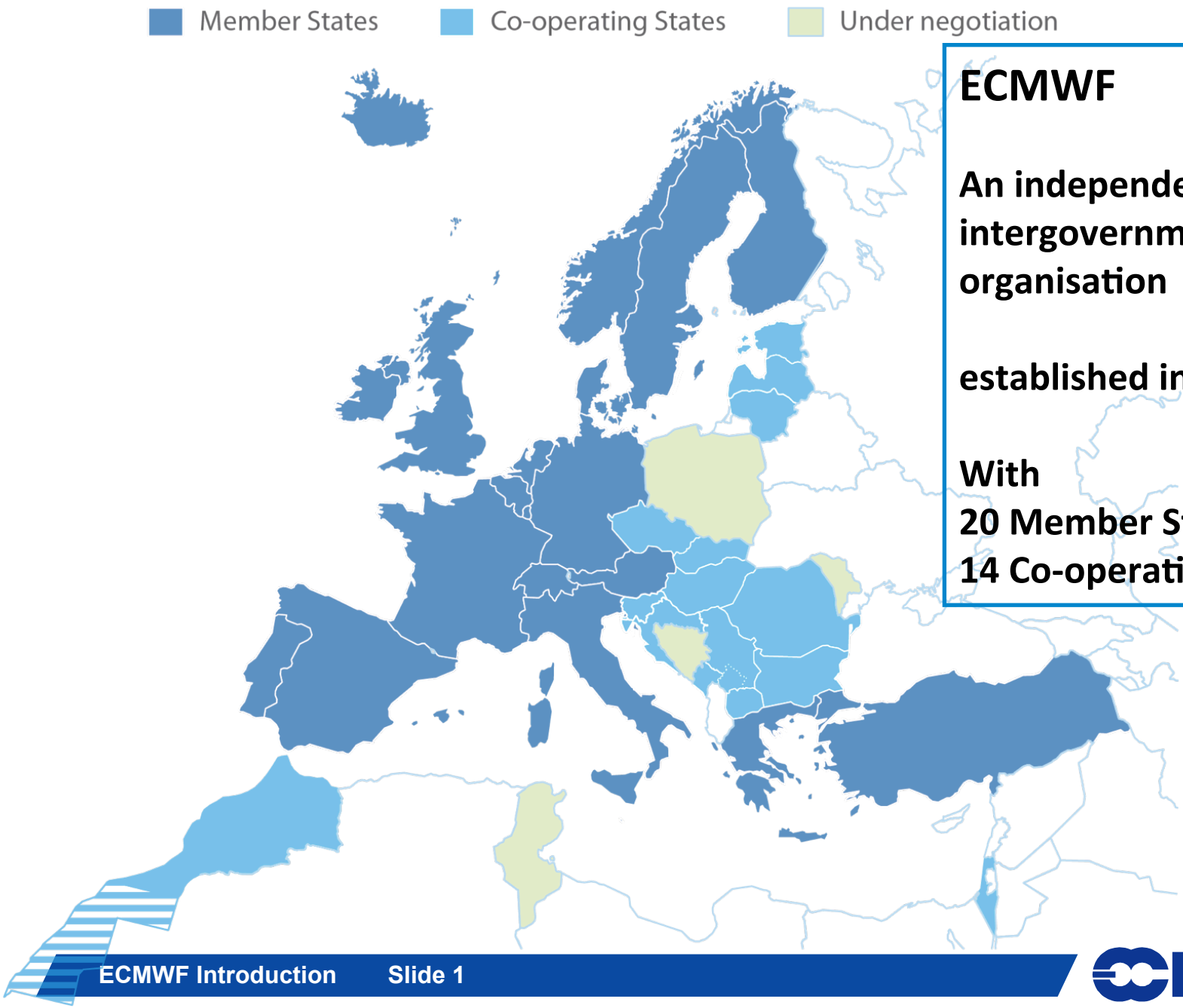



# ECMWF

**An independent intergovernmental organisation**

**established in 1975**

**With**
**20 Member States**
**14 Co-operating States**

# Who are we and what do we do?

**Medium-Range** Up to fifteen days ahead. Also monthly and seasonal forecasts. We collect and store meteorological data.

**Weather Forecasts** We produce world-wide weather forecasts

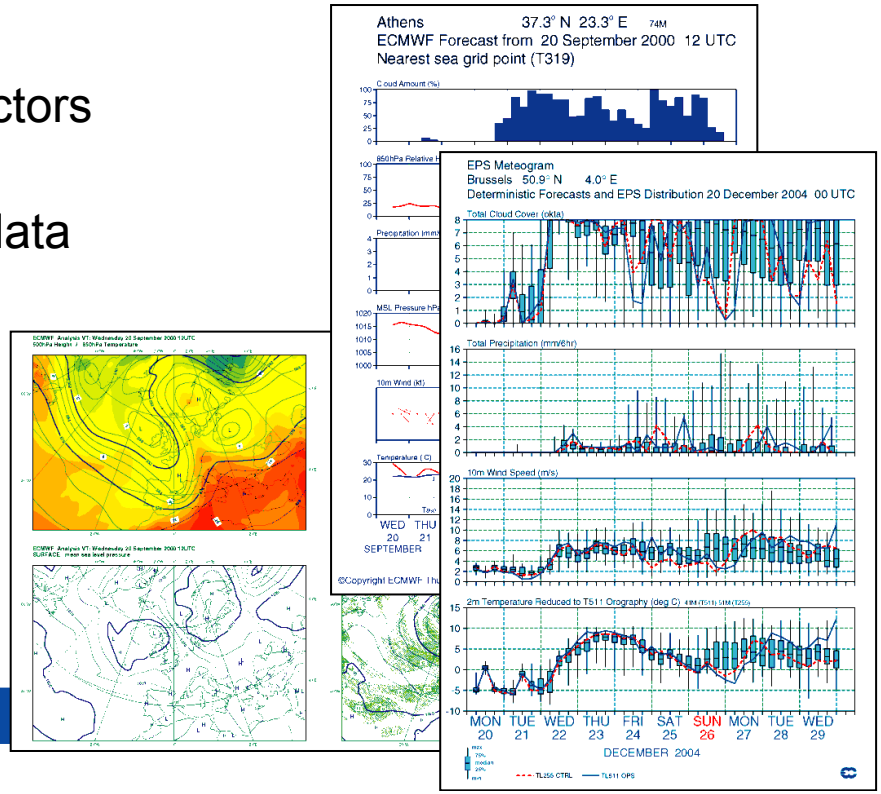
## What do we have to achieve this?

**People** About 250 staff, specialists and contractors

**Equipment** State-of-the-art supercomputers and data handling systems

**Budget** £50 million per year

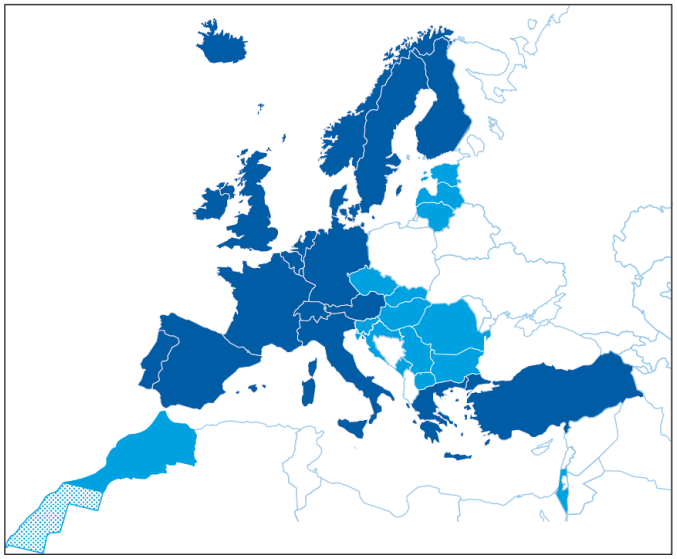
**Experience** 36 years



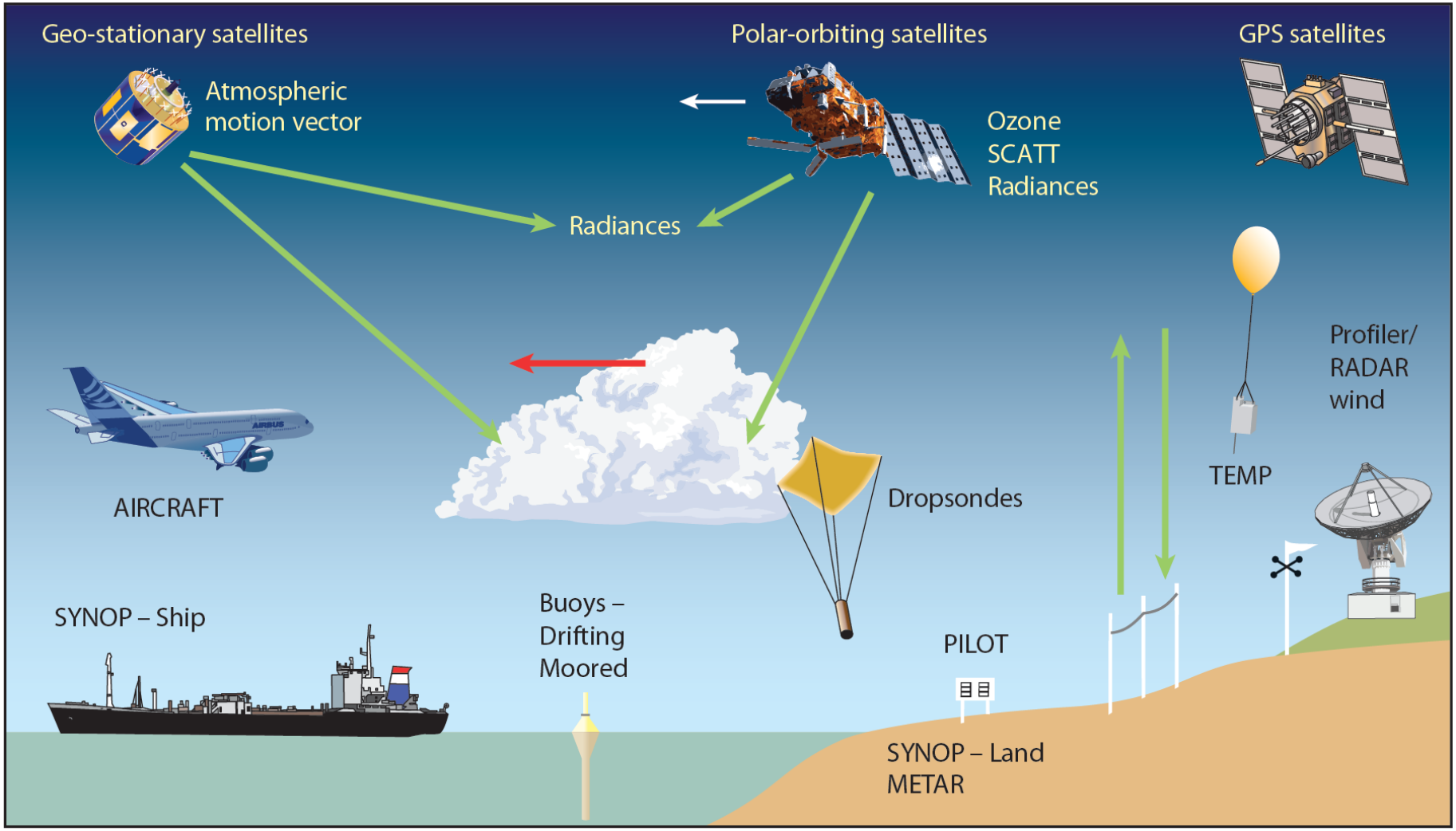
Global observation system

Global numerical weather forecasts


National weather services

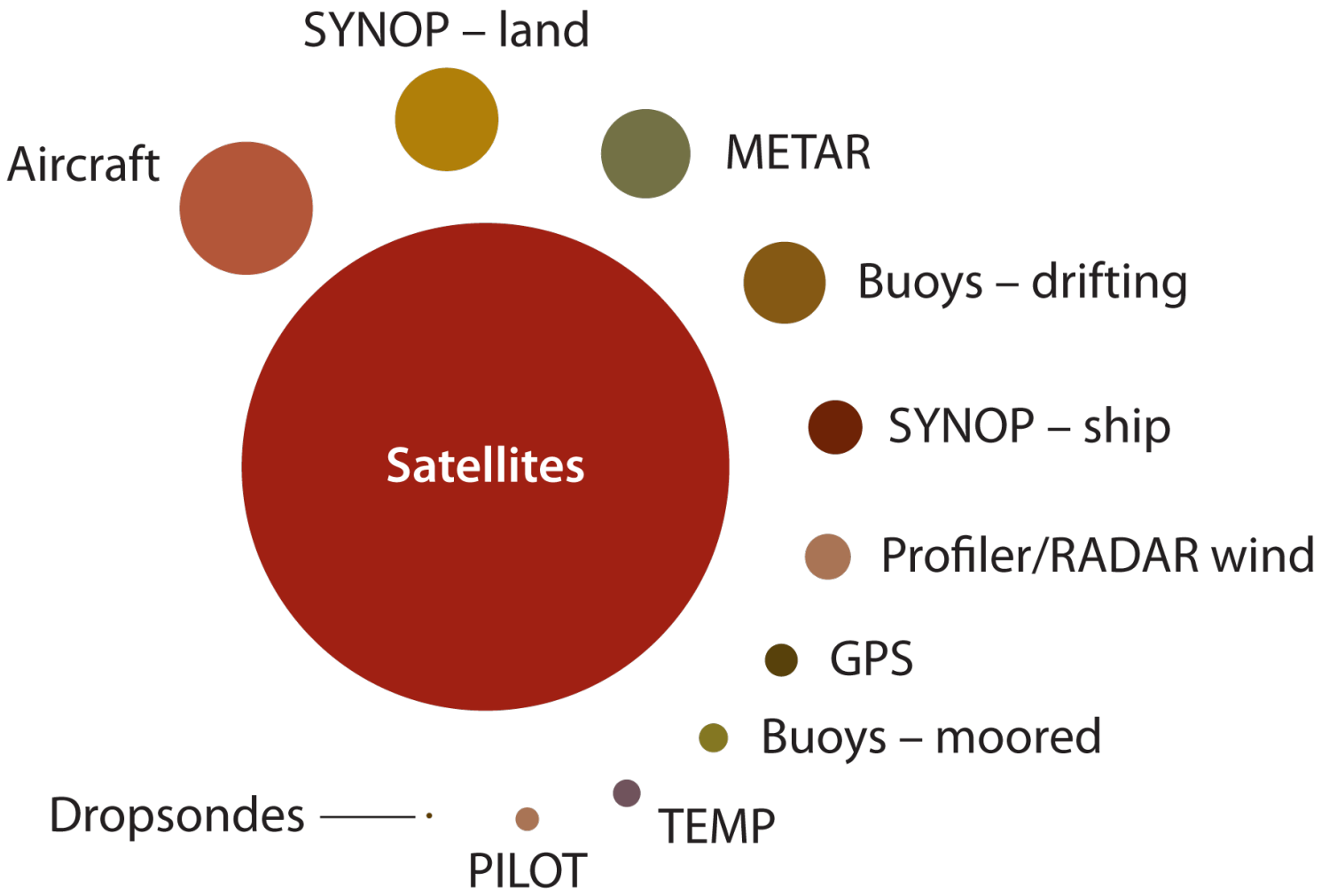


Users

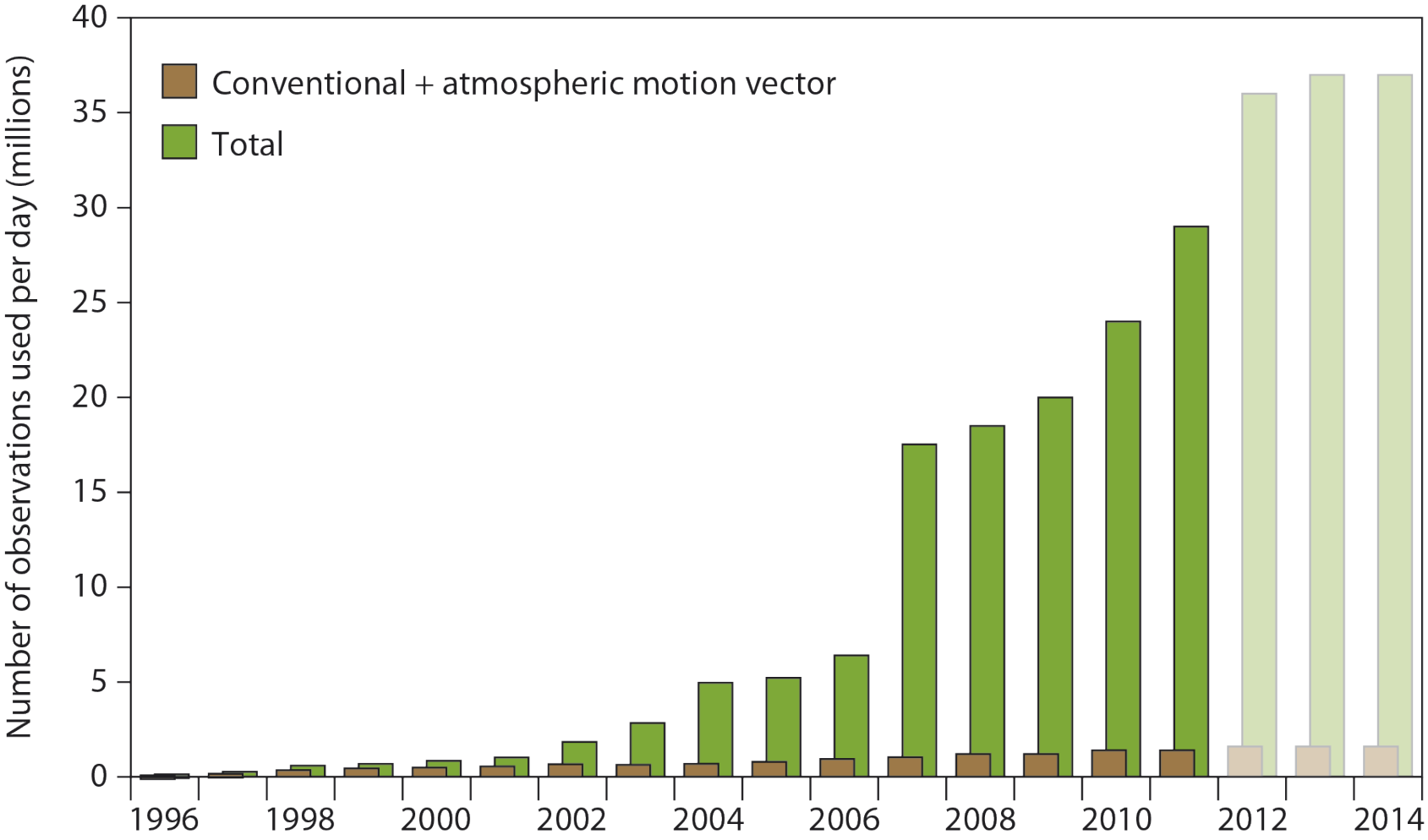



Data sources for the ECMWF Meteorological Operational System

# Instrument usage



# Satellite data used by ECMWF




AIRBUS

# A basic description of our models

Aproximately 20 million observations

Data assimilation

First guess

Initial conditions

Model next step

Intermediate results

Archive

Prediction

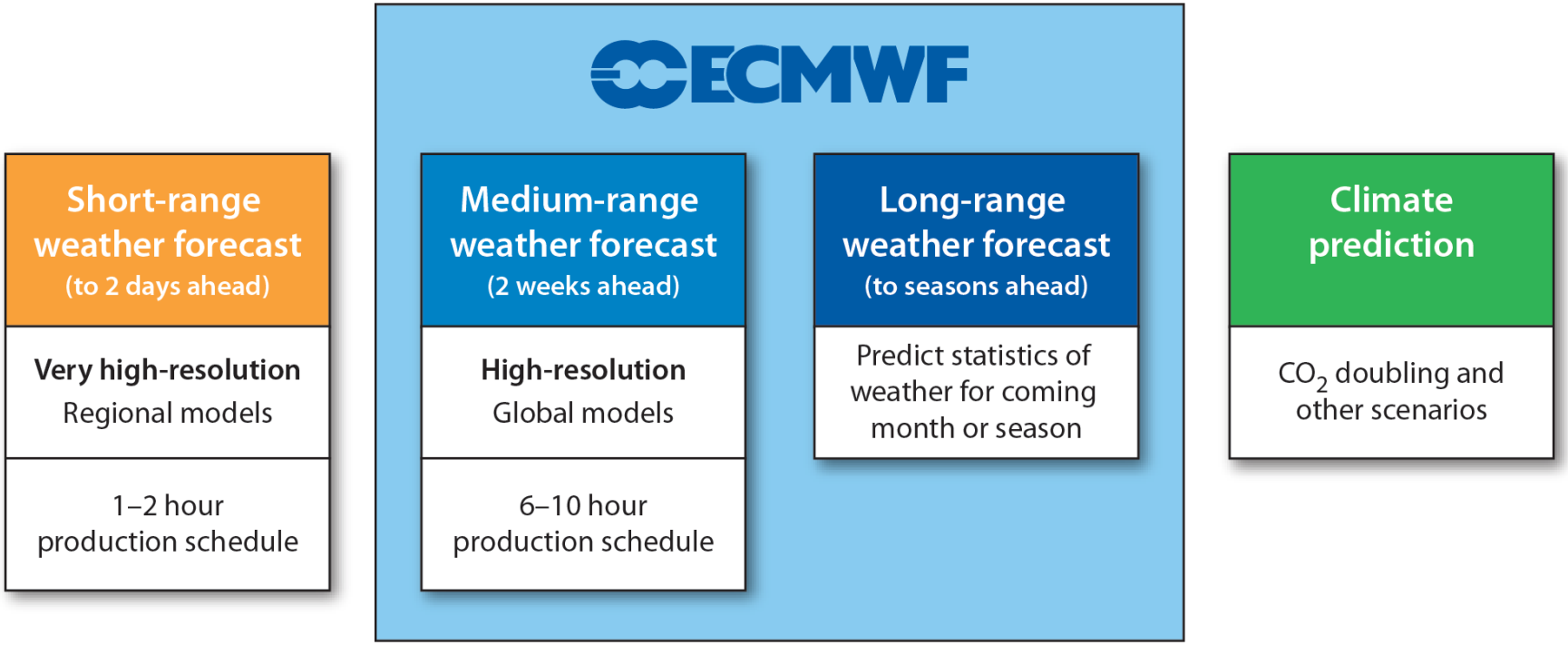
The atmosphere is divided into about one billion cells each having associated parameters such as temperature, pressure, and wind direction.

Laws of physics



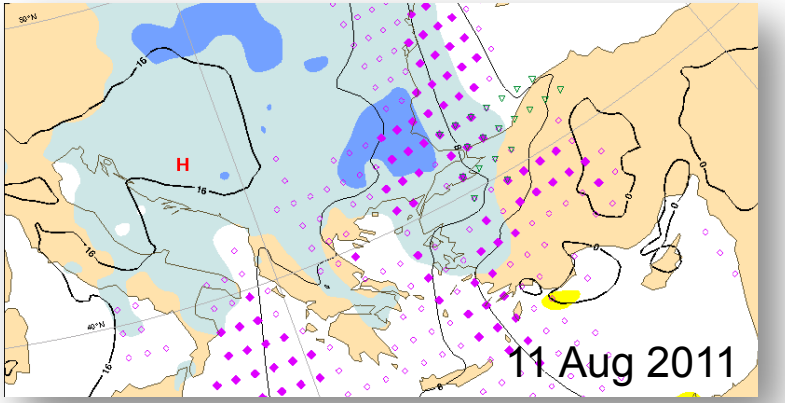
ECMWF

# Why “medium-range”?



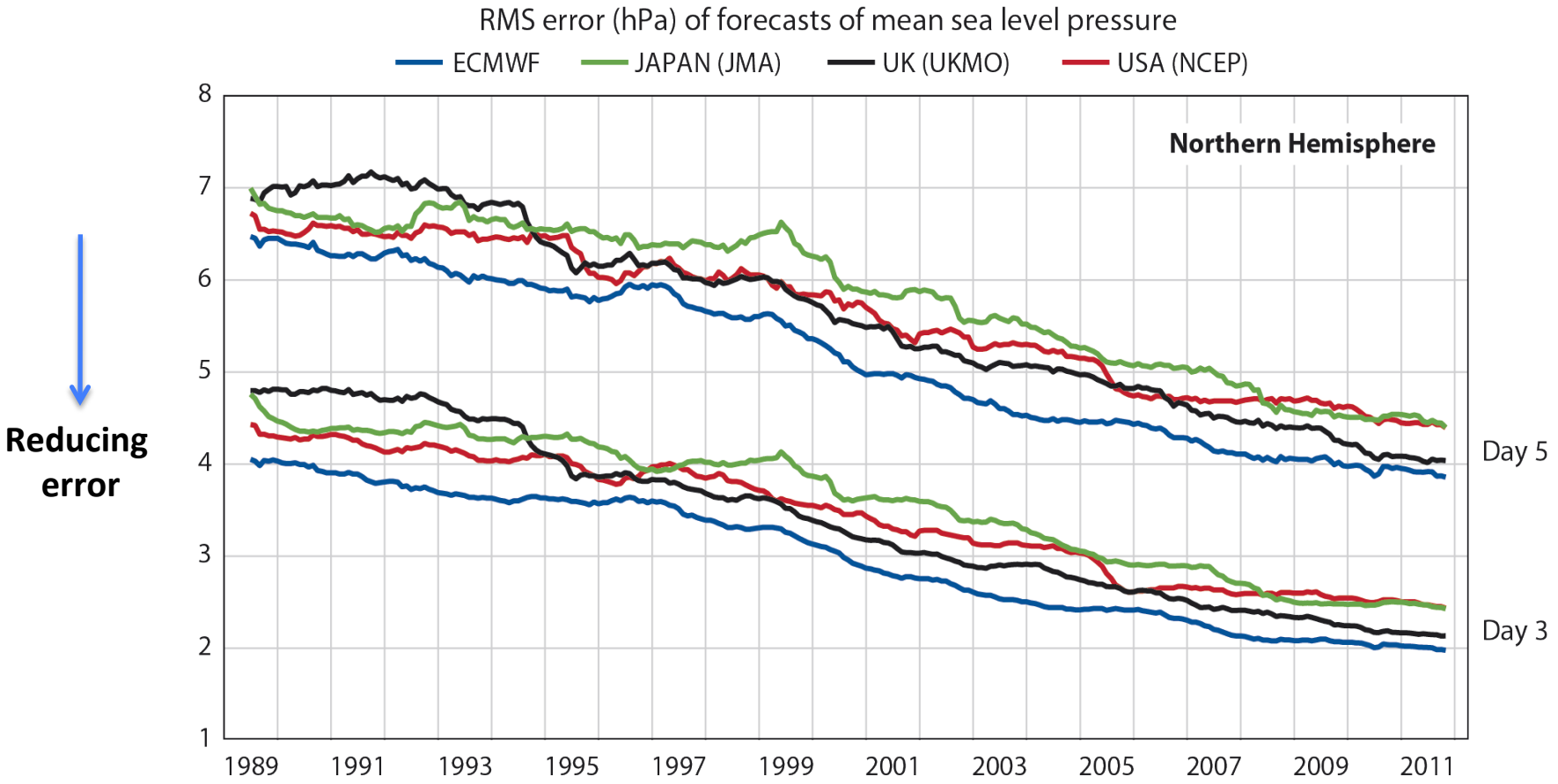
# The operational forecasting system

- **High resolution deterministic forecast:** twice per day
  16 km 91-level, to 10 days ahead
- **Ensemble forecast:** twice daily
  51 members, 30/60 km 62-level, to 15 days ahead




- **Monthly forecast:** twice a week (Mon/Thursdays)
  51 members, 30/60 km 62 levels, to 1 month ahead
- **Seasonal forecast:** once a month (coupled to ocean model)
  41 members, 125 km, 62 levels, to 7 months ahead

# ECMWF scores compared to other major global centres



# ECMWF Objectives

- Operational forecasting up to 15 days ahead (including ocean waves)
- R & D activities in forecast modelling
- Data archiving and related services
- Operational forecasts for the coming month and season
- Advanced NWP training
- Provision of supercomputer resources
- Assistance to WMO programmes
- Management of Regional Meteorological Data Communications Network (RMDCN)

# ECMWF Products – for NMHSs of WMO members

- **Services**

  **Conventional GTS, ftp data downloads, WEB plots, EUMETCast**

- **Data resolution**

  **0.5° × 0.5° global, (tropic belt for vorticity and divergence parameter)**

- **“Essential” Products**

  **MSL pressure**

  **850 hPa temperature and winds**

  **500 hPa geopotential height**

  **EPS mean and standard deviation of all above parameters**

  **Validity: Analysis, 24, 48, 72, 96, 120, 144, 168, 192, 216, 240 hour forecasts**

- **Frequency**

  **Twice per day, based on 00 and 12 UTC data**

- **Format**

  **WMO FM92-Ext GRIB edition 2**

# ECMWF Products – for NMHSs of WMO members

- **"Additional" Products**

  **700, 500, 200 hPa winds**

  **850, 700 hPa Relative Humidity**

  **700 hPa vorticity and divergence**

  **Significant wave height, wave mean period, wave mean direction**

  **EPS event probabilities total precipitation >10/20 mm, 10m wind gusts >15/25m/s, significant wave height > 2/4/6/8m**

  **Seasonal System sea surface temperature anomalies**

  **Tropical Cyclone Tracks (WMO FM-92 BUFR)**

- **Products only available as WEB Products**

  **Extreme Forecast Indices**

  **EPSgrams (site specific forecasts of near surface weather parameters up to 10 days)**

# ECMWF training course for WMO

## A warm welcome to all participants!

- The forecasting systems: observations & models
- Operational forecasting / Lab Sessions
- Discussion and exchange of ideas