Web products

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What information is available for WMO member countries on ECMWF's web site and how to access them.

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Overview

- What products are available
- When they are available
- How to access them
- How to use the tools on our web site
- Many products will be explained in detail by my colleagues

ECMWF Login ...

- ❑ Please login with your training user-id.
  - o www.ecmwf.int/login

- ❑ Your id is set to show standard WMO products you can see from your institute.
- ❑ If your institute is participant to a WMO project, products of this project will be visible too.
- ❑ Main forecast products page;
  - o http://www.ecmwf.int/products/forecasts/d/charts

ECMWF Web site

- Web site serves to 5 type of users;
  - **Public**
  - **W.M.O.**
  - **Special projects**
  - Commercial
  - ECMWF Member state
- Each access type provide a different "view" of the web site with relevant products included.

  We are working on a new web site

ECMWF How to have access?

- ❏ Member State National Meteorological Services have full access

- ❏ Universities and different institutes should obtain permission from the National met. Service.

- ❏ Commercial organisation OR a WMO-member National meteorological service paying the full charge gain access to all products available. Web access can be purchased.
  - ○ Ie: Indonesia, China purchase full access.

- ❏ **WMO members can obtain access through their WMO representative.**
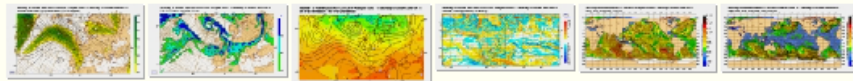
ECMWF Web products

- WMO countries can access products in the following groups;
  - High resolution forecast (HRES)
  - Ensemble prediction system (ENS)
  - Verification results
  - Tropical cyclones
  - Epsgrams (WMO members)
  - Special Projects
    - SWFDP for South Africa
    - SWFDP for Pacific
    - SWFDP East Africa
  - Seasonal forecast products
  - Observation availability (Data coverage charts)
  - Satellite data monitoring
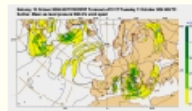
Medium Range Forecast

ECMWF Web products – a snapshot

Tropical cyclones

- Forecast
- Observation
- Verification

Home > Products > Forecasts > Medium range forecast > Ensemble Prediction System>

Ensemble Prediction System

Ensemble mean and spread for mean sea level pressure, wind speed and temperature at 850 hPa, and geopotential at 500 hPa
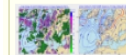
10-day forecasts from the ECMWF 'Ensemble Prediction System (EPS)'

Probabilities
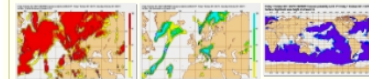
Forecast probabilities are computed from the 50 members of the Ensemble Prediction System for different parameters and relevant thresholds.

Extreme forecast index
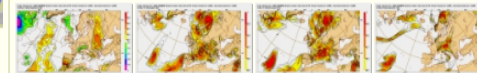
The Extreme Forecast Index (EFI) measures how far away from the mocel climatic distribution the EPS forecast is. It scales from -1 to 1 (all members reach respectively unprecedented small and unprecedented large values). More details can be found in the following article. Later changes to the model climate are described here.

Tropical cyclone activity (including genesis)

This product shows the potential trcpical cyclone activity at different time ranges during the forecast. It includes both tropical cyclones that are present at analysis time and those which may develop during the forecast.

Deterministic forecast

Deterministic forecast

The deterministic T799 forecast model runs twice-daily. Plots offered here show different parameters over the whole globe normally split into 6 different geographical areas.
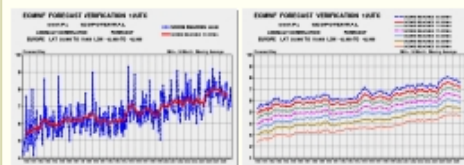
Mean sea level pressure, wind speed at 850 hPa and geopotential 500 hPa

Meteorological forecast of pressure reduced at sea level (Mean Sea Level Pressure), wind speed at low levels and height of the 500-hPa isobaric surface.

Verification
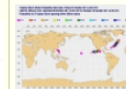
Deterministic forecast time series

Availability

ECMWF

- ❑ Medium Range Forecasts
  - ○ Most of the products produced twice a day
  - ○ High resolution model (HRES)
    - ○ 00 UTC available at 6:55 UTC
    - ○ 12 UTC available at 18:55 UTC
  - ○ Ensemble prediction system (ENS) (50 members)
    - ○ 00 UTC available at 8:20 UTC
    - ○ 12 UTC available at 20:20 UTC

- ❑ Seasonal forecast
  - ○ Available on 15th of month at 12 UTC

- ❑ Monitoring
  - ○ Mostly updated daily

  ECMWF web site is semi-operational.

WMO products list

- ❏ Web products made available to WMO are defined in "essential" and "additional" sets.
  Http://www.ecmwf.int/products/additional/

- ❏ Products could also be obtained as GRIB files to integrate into your workstation applications.
  - ○ Via GTS: WMO centres (ie. Exeter and Offenbach) push data to users
  - ○ Directly : ECMWF provides a data portal where your institute can register and pull data from there directly.

Medium range forecast products – Epsgrams

ECMWF

- Epsgrams contain probabilistic forecasts from ENS for a given location up to 10 days for several weather parameters (cloud cover, total precip., 10m wind speed, 2m T).
- They contain useful information as all forecast (high resolution and ENS members) are summarised in a single plot for a given position.
- WMO countries can access various cities in their countries up to a limit of 10 locations.
- If your country does not have 10 locations, your WMO representative may request further.

Angola

EPS meteograms
Documentation

EPS meteograms
ECMWF predefined
WMO predefined
Search a place
Input coordinates

Other charts
Afghanistan
Albania
Algeria
Angola
Antigua and Barbuda
Argentina
Armenia
Australia
Austria
Azerbaijan

Benguela   Cabinda   Luanda   Lubango
Luena   Malange   Mbanza Congo   Namibe
Porto Amboim   Saurimo   Uige

Epsgram example

ECMWF

The nearest grid point

Land or sea point: Depending on the land/sea mask of the nearest grid point in the model

Actual altitude of the station

London

Information
Grid point at 11 km north-east of London

Your Room
Add this product

Download...
PDF (24.4 Kbytes)
Postscript (120.1 Kbytes)

EPS Meteogram
London 51.57°N 0°E (EPS land point) 14 m
Deterministic Forecast and EPS Distribution Monday 8 October 2012 00 UTC

Total Cloud Cover (okta)

Total Precipitation (mm/6h)

10m Wind Speed (m/s)

2m Temperature (°C) reduced to the station height from 37 m (T1279) and 59 m (T639)

Mon 8   Tue 9   Wed 10   Thu 11   Fri 12   Sat 13   Sun 14   Mon 15   Tue 16   Wed 17
October 2012

max
90%
75%
median
25%
10%
min

EPS Control(31 km) High Resolution Deterministic(16 km)

Magics++ 2.8.1

ECMWF

- Forecast in every 6 hours up to 10 days.
- High resolution is interpolated to ENS resolution.
- All values instantaneous apart from Total precipitation (accumulated over 6 hr)
- Watch out the stations near coastlines. A land point request may pick up a sea point! (less representative)

Percentiles; how 50 ENS members are distributed.
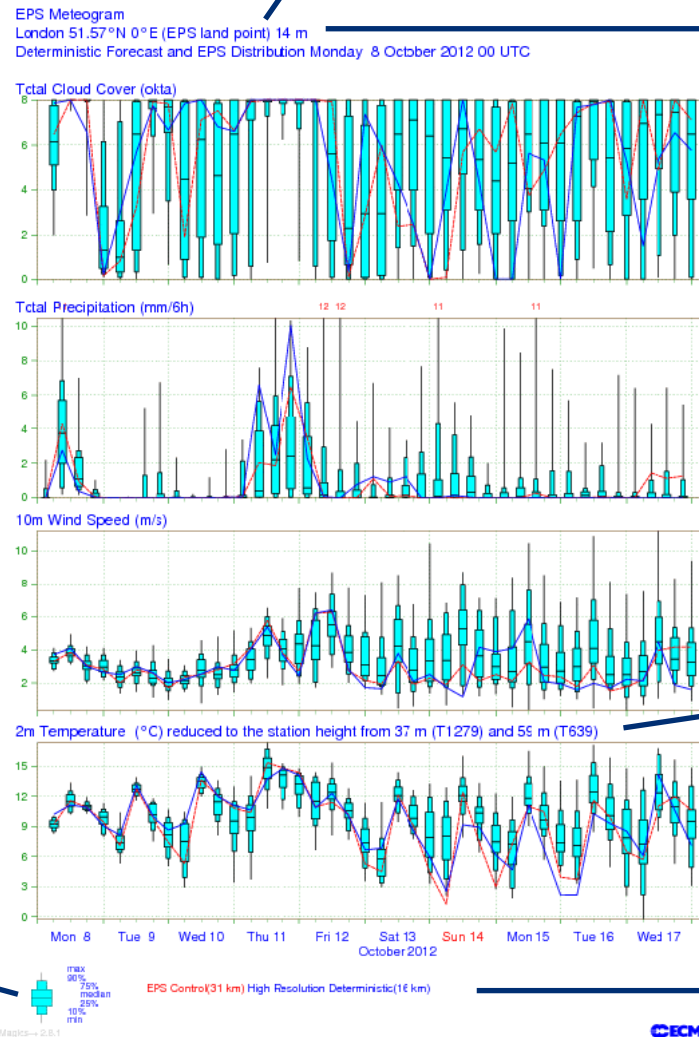
2mT is corrected to station height from model height (6C/1000mt)
T1279: HighRes Model height
T639: ENS model height

ENS resolution is coarser then high resolution

Severe Weather Forecast Demonstration Project (SWFDP)

ECMWF

A set of forecast products are made available to a list of WMO countries to support the forecast of severe weather on their region.

- They are available ~ 10:30 UTC for 00 run and 22:30 UTC for 12 run.
- SWFDP South Africa (D.R. Congo, Angola, Namibia,,S. Africa, Botswana, Zambia, Tanzania, Malawi, Zimbabwe, Mozambique, Swaziland, Lesotho, Madagascar, Seychelles, Comoros, Mauritius, Reunion)
  - Observations, High resolution and ENS forecast charts
  - Found under MRF / Special
    - Synop observations
    - Simulated satellite images (Model output, Not real-time but forecast)
    - Tephigrams and meteograms
    - Wave products
    - EFI
    - Probabilities
    - Epsgrams

SWFDP - Pacific

ECMWF

- ❑ Participating countries;
    - ❍ Fiji, Samoa, Solomon Islands and Vanuatu, Kiribati

- ❑ Products;
    - ❍ Deterministic and EPS forecast charts
    - ❍ Found under MRF / Special
        - o A lot of weather maps (RH, UV, T, Z , vertical velocity, Cape, Precip, Max/min 2T ...)
        - o Wave products
        - o Epsgrams
        - o EFI
        - o Probabilities (precip, wind, 24hr precip, mean wave period, swh)
        - o Wave epsgrams

SWFDP – East Africa

ECMWF

- Available since September 2011.
- Same product set as in SWFDP Pacific
- Participating countries;
  - Kenya, Tanzania, Burundi, Uganda, Ethiopia, Rwanda

ECMWF SWFDP

IMPORTANT

- You need to have special access credentials to be added to your account to access SWFDP charts
- If you are a participating country but cannot access to products

Contact ECMWF call desk ! (or me)

Web products presentation

ECMWF

- ❏ Many web products have;
  - ○ One or more meteorological parameter
  - ○ Pre-defined areas
  - ○ Steps (Forecast steps)
  - ○ Forecast base time (Retention period)
  - ○ Base time finder
  - ○ Your room
  - ○ Overview
  - ○ Download (pdf/ ps)
  - ○ Custom features
  - ○ Show guide

A product - example

ECMWF

We will have a look later

Web tools – base time finder

- Forecast charts from different base times verifying on the selected time are animated.
- A useful tool to see the evolution of the forecast.
- Gives information about the consistency of the forecast for different forecast scenarios.

ECMWF Web tools - Your room

- Charts from various locations on the web site can be collected together.
- User can create charts, chart groups (piles).
- Different viewings possible (drawers).
- Add/delete/move charts around.
- Charts have a "Add this product" under "Your room" on LHS of the page for adding this product to "Your room".

You need to have an account to have "your room" tool!

ECMWF Check "Your room"

- ❑ Every trainee is provided with a user account.
- ❑ Let's add a product to your room !

Some practicals -

ECMWF

- ❑ Login
- ❑ EPSgram checklist – check your contry has 10 epsgrams defined.
- ❑ Display a product - animation
- ❑ How to use your room
- ❑ How to use base time finder

ECMWF Useful resources

- ❑ User Guide to ECMWF Forecast Products
  - ○ http://www.ecmwf.int/products/forecasts/guide/
- ❑ Access to ECMWF web pages explained
  - ○ http://www.ecmwf.int/services/computing/help/access/web-access.html
- ❑ Guide to ECMWF epsgrams
  - ○ http://www.ecmwf.int/contrib/pages/epsdoc.html
- ❑ Guide to Extreme forecast index
  - ○ http://www.ecmwf.int/publications/newsletter/pdf/107.pdf
- ❑ Guide to GTS products (Products made available to NMHSs of WMO members)
  - ○ http://www.ecmwf.int/products/additional/
- ❑ ECMWF products access conditions for WMO members
  - ○ http://www.ecmwf.int/about/wmo_nmhs_access/conditions.html