

Section 2.1.2.3 ENS Long-Range (Seasonal) Forecast

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Long-Range (Seasonal) Forecast

Other names: System5 Forecast, SEAS5

The long-range forecast provides a broad overview of the atmospheric evolution for the 7-month or 12-month forecast period. It is a 51-member ensemble that is run monthly, data time 00UTC, on the first day of each month for forecasts to 7 months ahead, and run quarterly for forecasts to 12 months ahead. The products are available on the 8th of each month.

The long-range forecast is a land and sea coupled. It is based on an older version of the IFS and that therefore uses slightly different model physics. It runs at 36km resolution, similar to the extended range ENS but lower than the resolution typical of shorter range forecasts. The chart products generally are presented in terms of anomalies relative to the [seasonal model climate \(S-M-climate\)](#) and are mainly shown as 3 month mean anomalies and probability of greater or lesser deviations. From these one can infer whether conditions (e.g. temperature, rainfall, etc.) are likely to deviate from the average for the location and time of year, and whether such an anomaly could be extreme.

An important aspect of long-range forecasts is the identification of broad scale indicators or indices that represent important aspects of the global weather patterns (e.g. El Nino Southern Oscillation ([ENSO](#)) index).

[Climagrams](#) (a type of meteogram) give a month-by-month picture of the probability of appearance of these patterns, and of their possible amplitude. The typical skill level of seasonal forecasts, as assessed using re-forecasts, is generally much lower than that of short range forecasts. Skill levels are typically lower in the extra-tropics than in the tropics. Indeed in some regions, for some forecast variables, skill levels are vanishingly small. Users should familiarise themselves with [verification figures](#) from the outset to avoid over-interpretation of and over-reliance on the seasonal forecast charts.

Long-range (Seasonal) Products

Guidance on the [Interpretation of the seasonal products](#) is discussed elsewhere in the guide.

Definitive information on the ECMWF [dissemination schedule](#) and products can be found in the the [Catalogue of ECMWF real-time products](#) (SEAS: Set v).

Additional Sources of Information

(Note: In older material there may be references to issues that have subsequently been addressed)

- Read the [System5 Guide](#).
- Read an [introduction to SEAS5](#) (page15).
- Read more on [long-range forecasting](#).
- Watch a comprehensive lecture on [seasonal forecasting](#).
- Read more on [ENSO](#) (one perspective from 2012).
- Read about the effectiveness of long-range forecast before and during the [2015/16 ENSO event](#) (pages 16-21)