

## HEADLINE

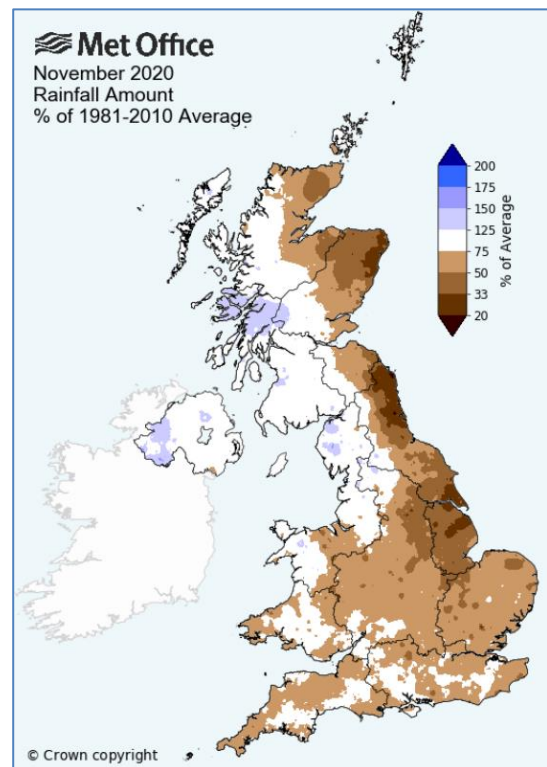
**Forecasts indicate a high chance of a wet and mild winter ahead.**

**There is an increase likelihood of impacts from heavy rainfall.**

### Situation summary

Rainfall in November was broadly average for the time of year (drier than average along the east coast). At the end of the month conditions were fairly stable and ground conditions were not as wet as the month before. However, the first week in December has seen some extremely heavy rainfall across a large part of the country. Current ground conditions are therefore likely to have become more saturated than shown on the latest Subsurface storage anomaly map below. Parts of Moray, for example, have received close to the average December rainfall in the first week.

Seasonal forecasts indicate that there is more than double the chance of a wetter than normal winter this year. With the current conditions this would point towards an increased likelihood of seeing impacts from flooding.



### Rainfall forecast

The latest long term rainfall forecast suggests that there is a much higher than normal likelihood of a wet and mild winter. The latter part of the winter could be particularly affected due to a moderately strong La Niña and other atmospheric drivers. This could result in notably high river flows across much of Scotland. See the latest Hydrological Outlook for details on this ([hydoutuk.net](http://hydoutuk.net)). For further details on the seasonal forecast see the latest 3-month outlook summaries at <https://www.metoffice.gov.uk/services/government/contingency-planners/index>.

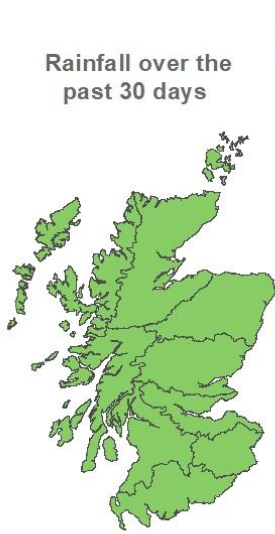
SEPA will continue to monitor the water situation throughout winter and report on any potential increased risks of both flooding and water scarcity as necessary. These reports will be issued monthly over this period.

Further details on the current situation are provided in the following figures:

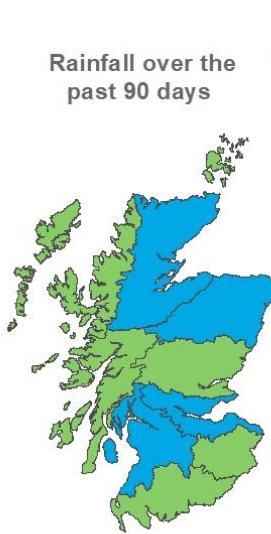
08/12/2020

### Rainfall anomaly

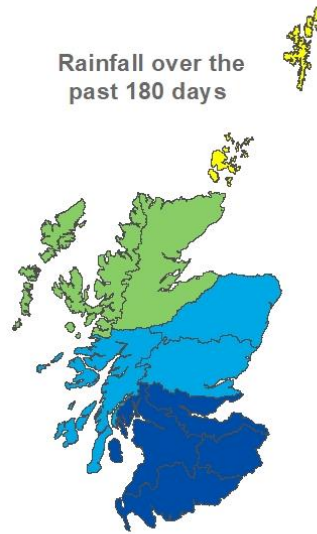
Rainfall over the past 30 days



Rainfall over the past 90 days



Rainfall over the past 180 days



These maps show how recent rainfall totals compare to the historical average for this time of year. This shows how relatively wet or dry it has been over the past 30, 90 and 180 days.

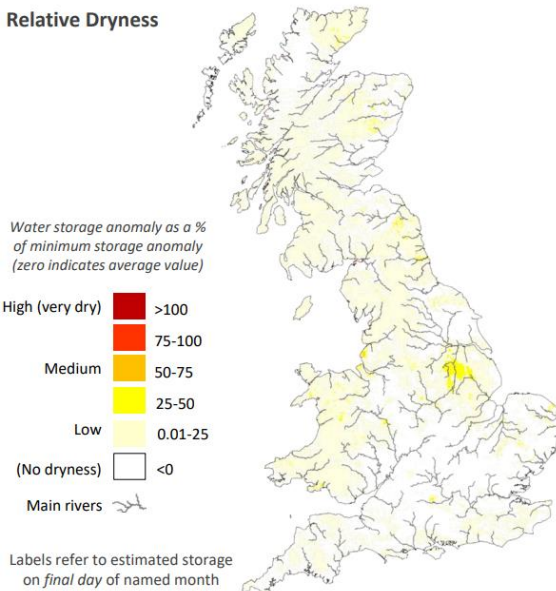
Rainfall data is obtained from SEPA rain gauging stations.



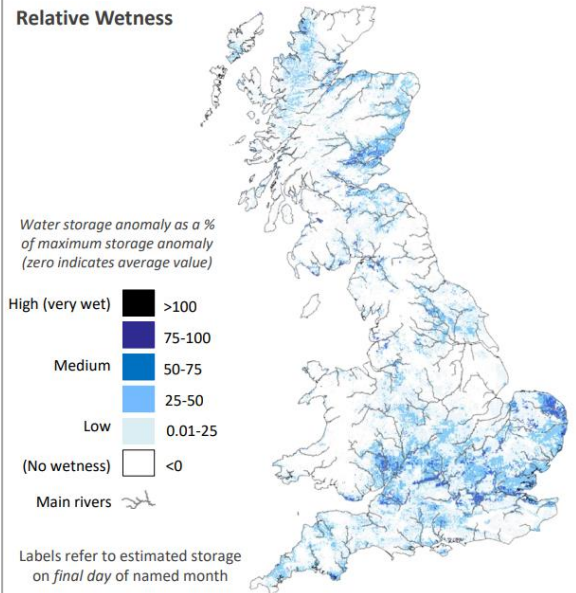
30/11/2020

### Subsurface storage anomaly

Relative Dryness



Relative Wetness



UK Centre for Ecology and Hydrology simulated subsurface water storage conditions relative to the historical monthly mean. These are based on subsurface water storage estimated to the end of **November 2020** and accounts for the storage capacity both within soils and in groundwater. For further information on how these are produced see the UK CEH Hydrological Outlook: <http://www.hydotuk.net/latest-outlook>.



## Natural water storage situation

In each river catchment there is some degree of water storage, which can maintain river flows even when it is not raining. This natural water storage is mainly held in lochs and groundwater. When natural storage has been depleted it will take a lot of rainfall for levels to recover.



### 10<sup>th</sup> December 2020

We have up to date data for 14 monitoring sites, spread across the East and South West of the country giving a good picture of the current situation. Levels from a selection of representative sites are shown in the charts below.

Groundwater storage is normal to high for this time of year when compared to the long-term average values.

Groundwater levels at northeast sites were extremely low throughout the summer but responded to rainfall at the start of October.



The following charts show the trend in groundwater level (GWL) since the end of 2019 at selected monitoring sites (see map above). The white zone represents the observed range in the long-term record. The black line shows the actual groundwater level and the dashed line is the long-term average trend.

Very high groundwater level
High groundwater level
Normal groundwater level range
Low groundwater level
Very low groundwater level

