

Water Scarcity Situation Report:

WINTER RECHARGE

21st March 2018

HEADLINE

Winter recharge of groundwater and reservoir levels has not been sufficient to counter the dry conditions of 2017 in central and eastern areas.

Introduction

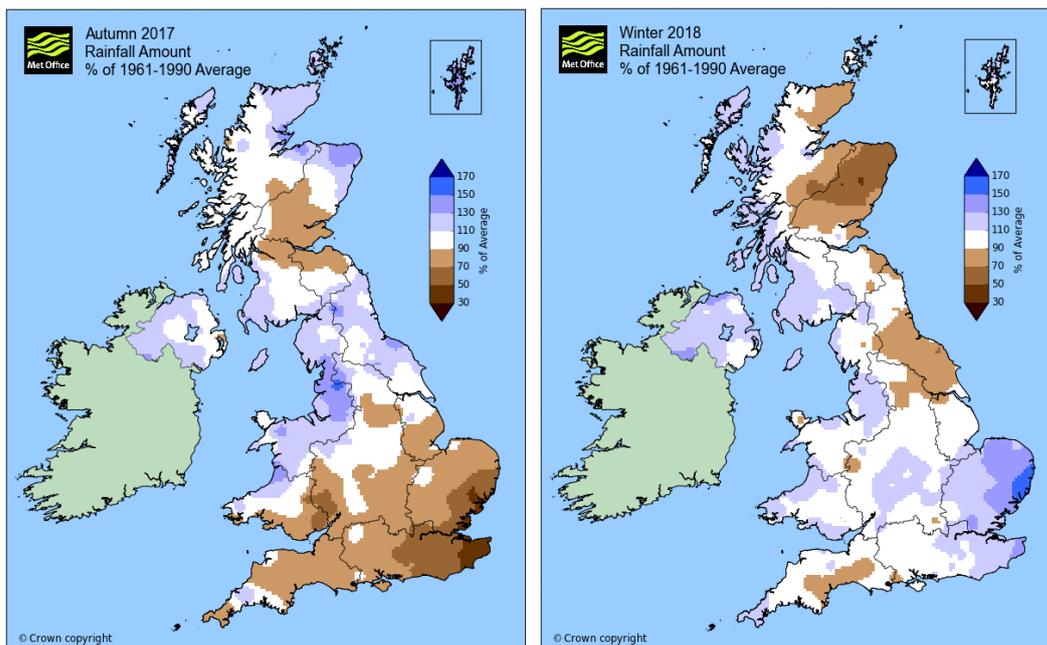
The autumn/winter 'recharge' period is one of the most crucial in terms of water resources as this is when water storage in lochs, reservoirs, and groundwater is replenished. This buffers supplies for water users and river ecology during dry spells in the summer months. Dry winters can therefore lead to water resource issues later in the year and the worst drought conditions generally follow more than one successive 'dry' winter.

Situation summary

2017 saw water scarcity alerts raised due to a very dry winter and spring. This was particularly evident in the central-eastern areas of Fife, Angus and Lothian. This was relieved in the short term by an exceptionally wet summer but the longer-term impact on groundwater levels was still evident, with some boreholes reading the lowest levels on record.

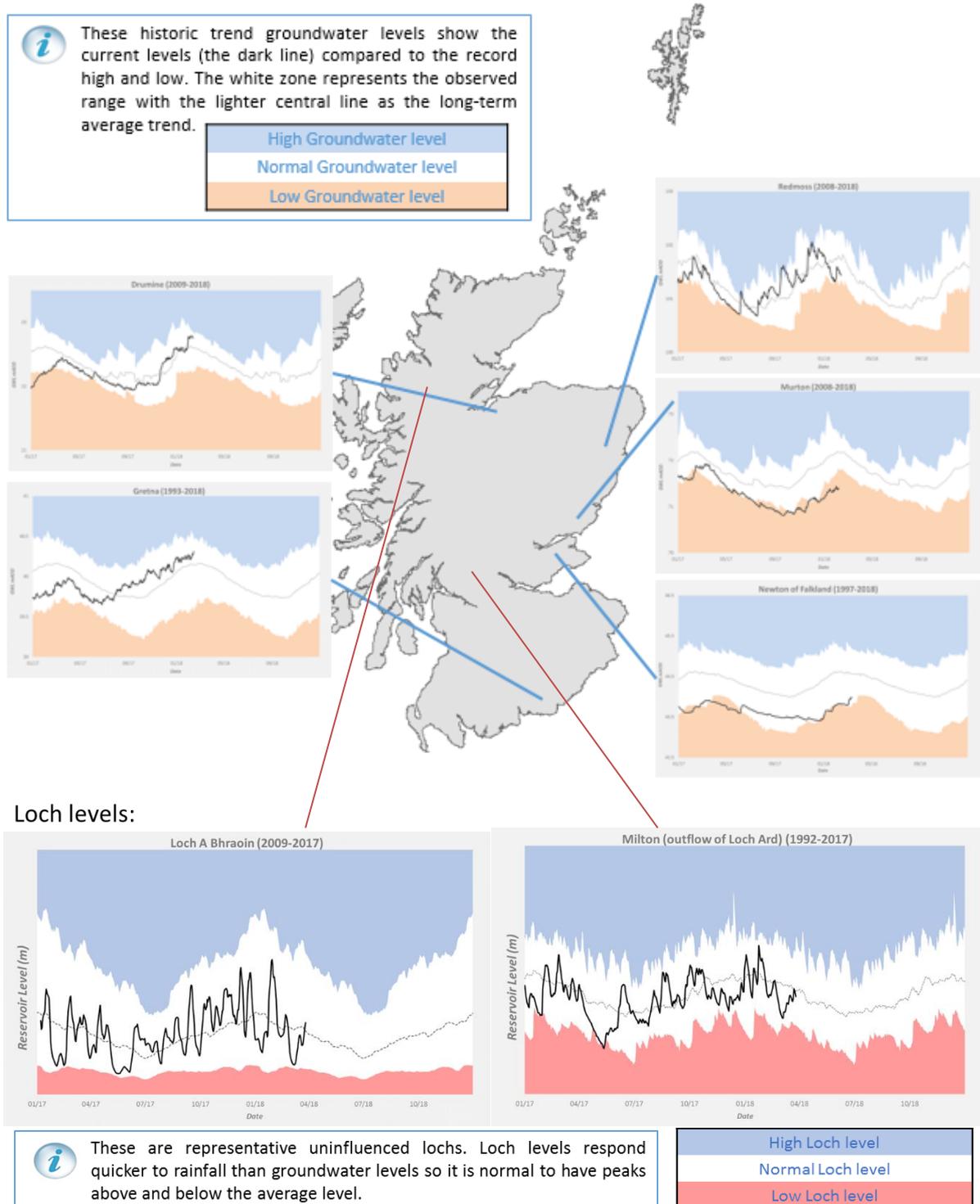
The 2017-18 winter recharge has been variable across Scotland, with a general East-West split. Central and eastern areas have been drier than normal while the west coast and Islands have seen normal conditions or slightly wetter than normal.

Figure 1: Autumn 2017 and Winter 2018 rainfall anomaly maps



This could potentially put pressure on catchments up the east coast in 2018, particularly in Fife and Angus, which shows in the groundwater level records. There were periods of recharge over the autumn and winter but groundwater levels at some key sites in the East regions remain relatively low (figure 2). Loch and reservoir storage has generally recovered normally over the winter. Scottish Water have reported that almost all of their sources returned to close to 100% capacity, with the exception of Backwater Reservoir in the Tay region, which is being closely monitored.

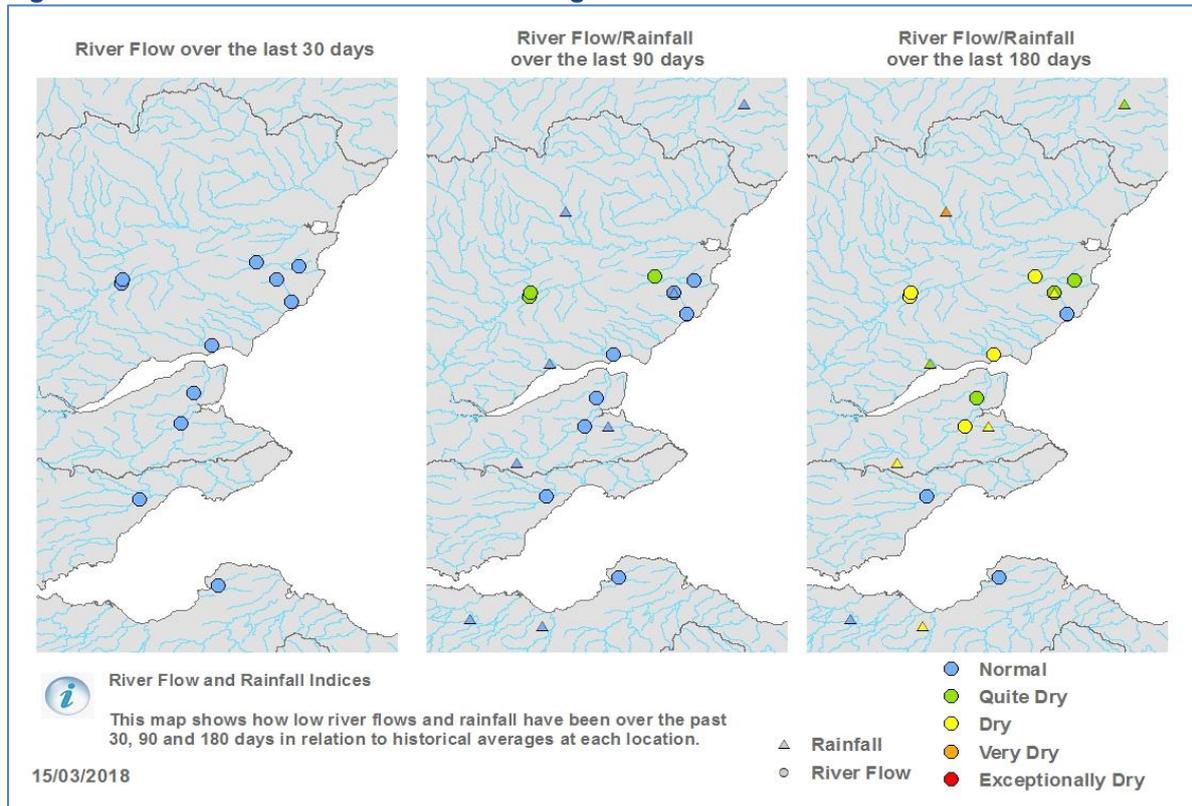
Figure 2: Groundwater and loch levels 2017- 2018: Historic trend comparison



Fife and Angus detail

Figure 3 shows river flows and rainfall specific to the Fife and Angus region showing again that although recent conditions have been *Normal*, over the long term the region has been *Dry*. SEPA will continue to monitor this region and report any issues at a catchment level wherever possible.

Figure 3: River flow and rainfall indices – Angus and Fife detail



Forecast: March – May

The latest Hydrological outlook suggests that rainfall over April – May is more likely to be below-average than above-average, with river flows forecast to be in the *Normal range* or below. Seasonal forecasting and hydrological outlook reports are produced by the Centre for Ecology and Hydrology and are available to view online (www.hydoutuk.net/about). Colder than normal conditions over the period would reduce evaporation but the forecast for this is less clear.

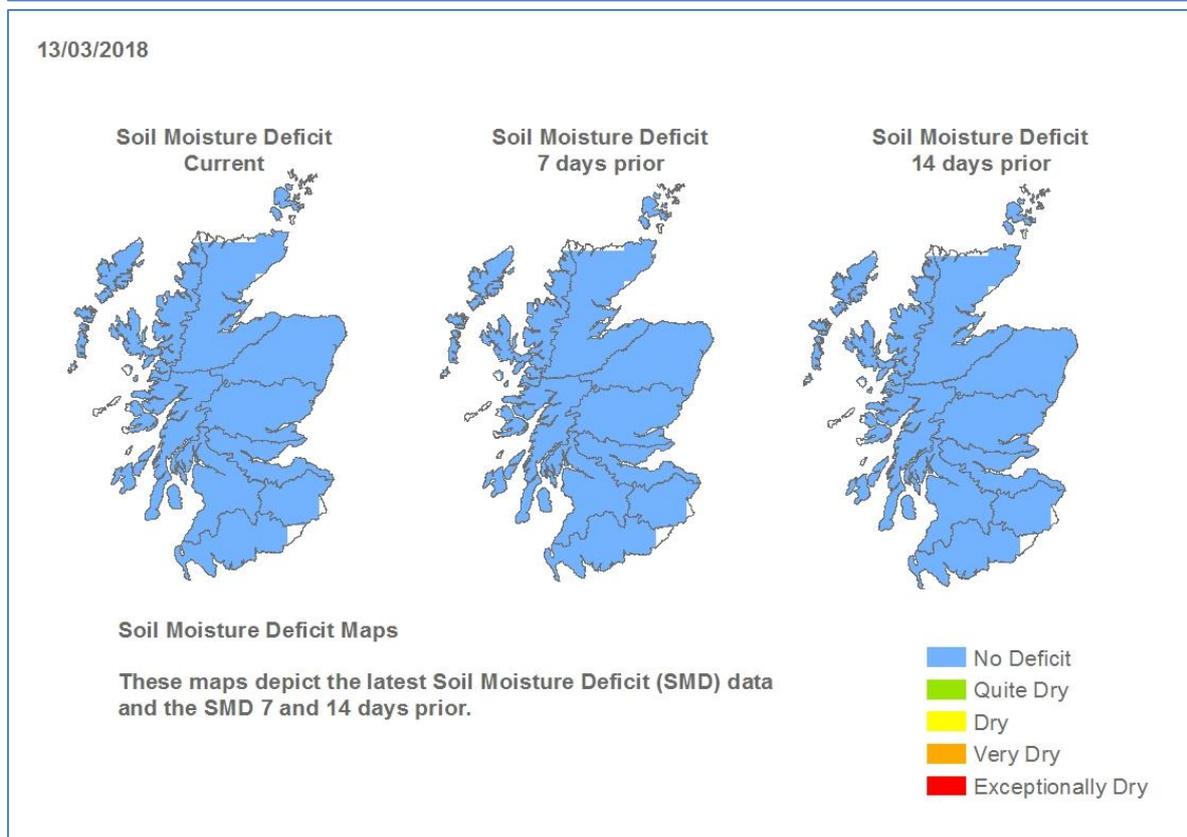
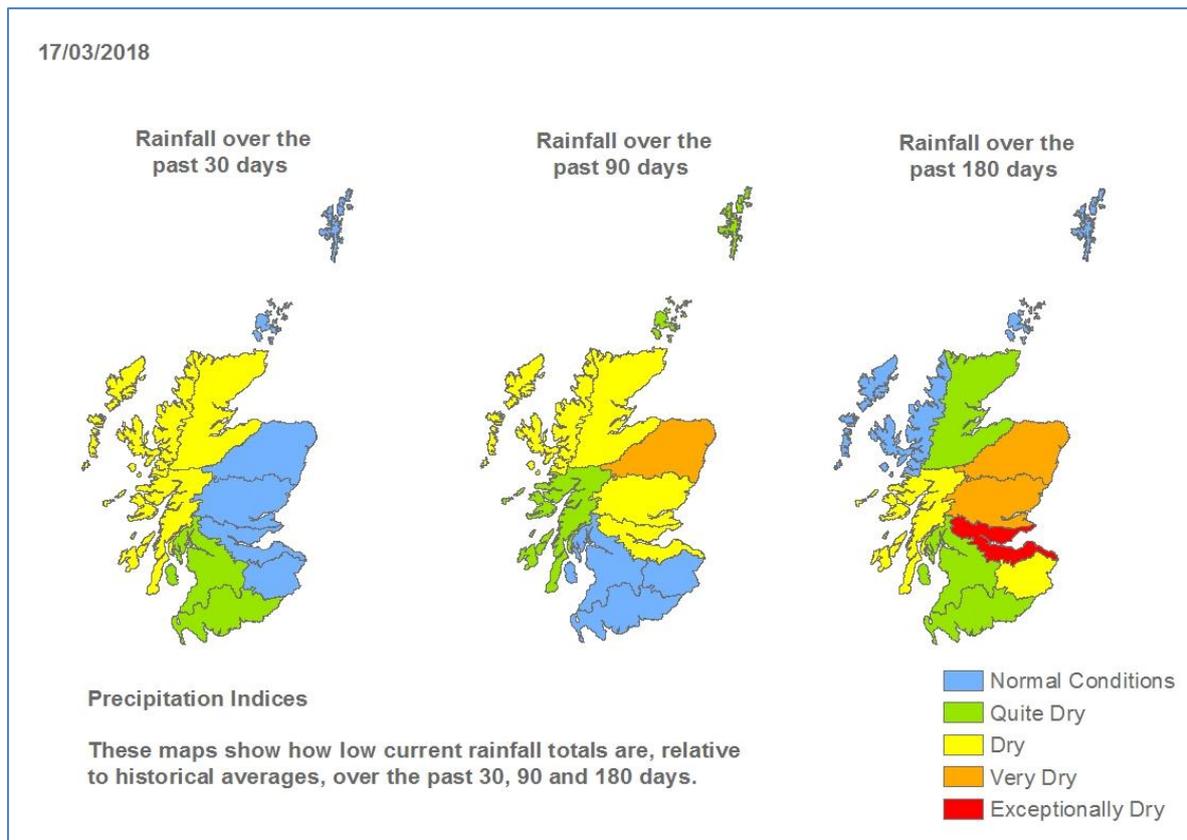
Further information

SEPA monitor and regularly report on the water resources situation throughout the spring and summer. We will endeavour to provide early warnings of any upcoming drought risk and give sector-specific advice where possible. These reports will be available on SEPA's website at www.sepa.or.uk/environment/water/water-scarcity/.

All water users should be aware of the water resources situation in their area and adapt their water use accordingly.

Further details of the actions to manage water scarcity can be found in [Scotland's National Water Scarcity Plan](#).

Current water resources situation:



Soil moisture categories are based upon MORECS data (Source: Met Office © Crown Copyright, 2017).