

# Weekly water situation report

Wednesday 11 – Tuesday 17 January 2012

## Summary

Following another very dry week across England and Wales soil moisture deficits have remained similar to last week. River flows have continued to recede at the majority of our indicator sites, with eleven sites now *exceptionally low* for the time of year. Reservoir stocks have increased at the majority of reported reservoirs and reservoir groups in southern England and fallen at the majority in northern England and Wales.

## Rainfall

There has been little or no rainfall this week and it has been the driest week since the beginning of May 2011 across England and Wales as a whole. Rainfall totals ranged from 1mm in our Anglian, Midlands and South East Regions to 6mm in EA Wales (Figure 1 and Table 1). For the month to date, totals range from 30% of the January long term average (LTA) in our South West Region to 52% in our North West Region, with most of this due to the heavy rain at the start of the month (Table 1).

## Soil Moisture Deficit

The continued dry weather has meant soil moisture deficits (SMDs) have remained similar to last week in all our regions, with the greatest change being a 1mm increase in our South East Region. Deficits remain similar to those in January 1976 in all regions except our Anglian Region, which remains at 62mm, approximately 30mm greater than in 1976 (Figure 2).

## River Flows

As a result of the very dry weather this week river flows have continued to fall at all but one of our indicator sites. River flows are now *normal* or lower at all our reported indicator sites, with flows *below normal* or lower at all but four of our sites. Flows at eleven of our reported sites are *exceptionally low* for the time of year, all located in our Anglian, Midlands and South East Region (Figure 3).

## Reservoir Stocks

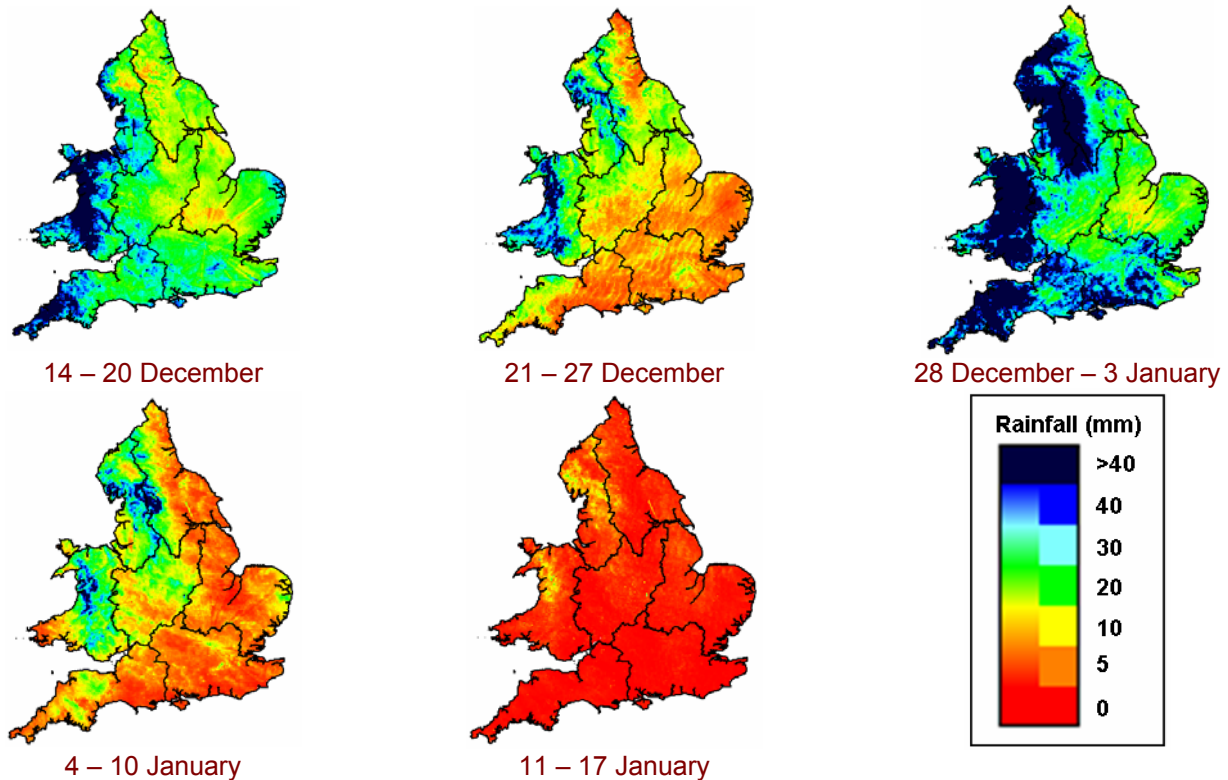
Stocks in reported reservoirs and reservoir groups have increased at the majority of sites in southern England, while decreasing at the majority of sites in northern England and Wales. Stocks are now *normal* for the time of year at the majority of reservoirs and reservoir groups, with only five remaining *below normal* or lower (Figure 5). Regional reservoir stocks have increased in our Anglian, Midlands and South East Regions, while decreasing elsewhere, and range from 71% in our Anglian Region to 98% in EA Wales (Figure 6).

## Outlook

A band of scattered showers is expected to move in later on Thursday to affect north west England and north Wales. The rain is then expected to move south east to affect all regions during Friday, although remaining drier in south west England. Showers are expected in north west England and north Wales over the weekend, with some spreading south east at times. Monday and Tuesday are expected to remain unsettled with rain most likely in the north and west.

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# Rainfall



**Figure 1:** Weekly accumulated rainfall across England and Wales for the past five weeks. MOSES (Met Office Surface Exchange Scheme) UKPP radar data (Source: Met Office © Crown Copyright). Note: Radar beam blockages in some regions may give anomalous totals in some areas.

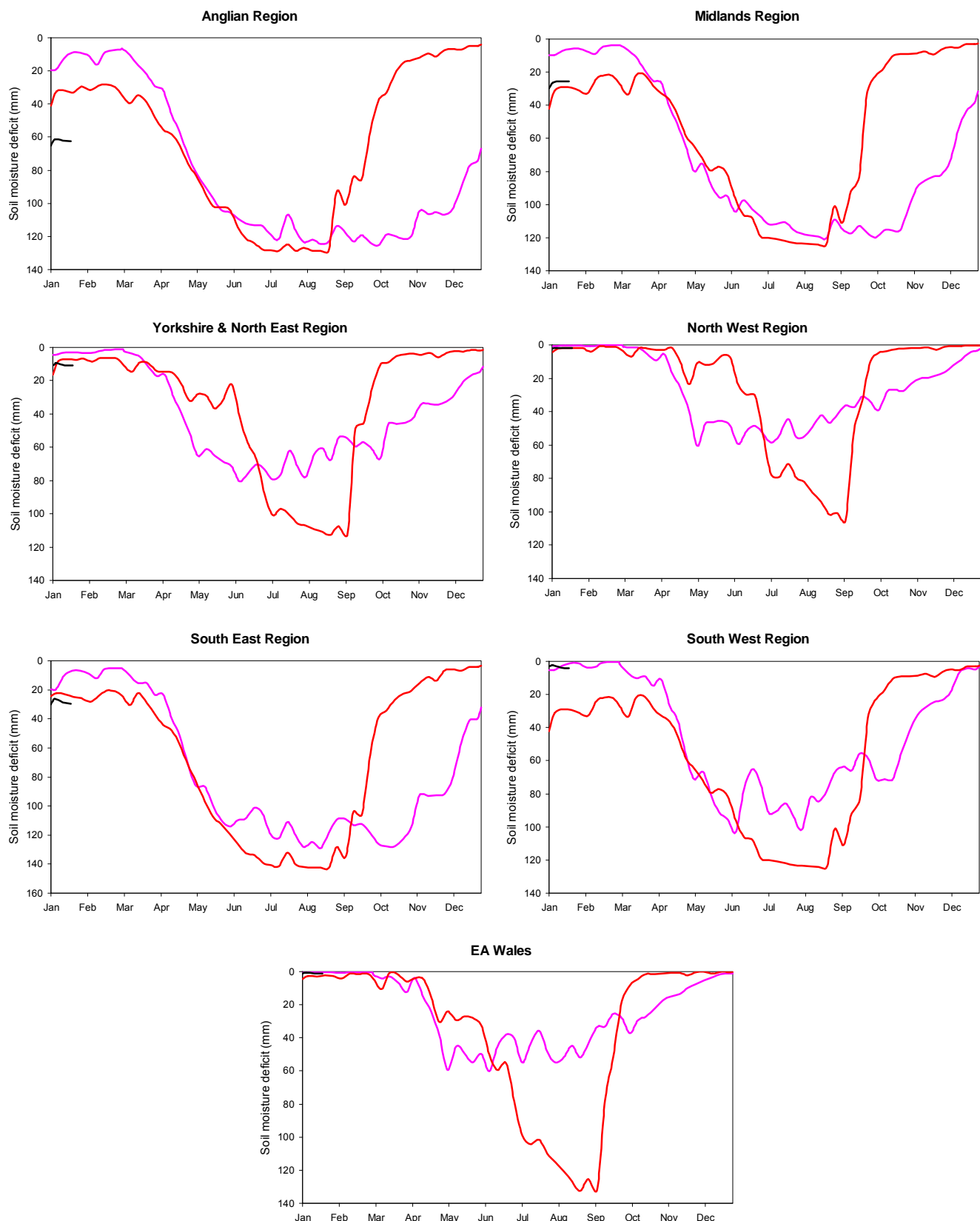
Region	Latest week: 11 - 17 Jan	Latest month to date: Jan '12			Last Month: Dec '11			Last 3 Months: Oct - Dec '11			Last 6 Months: Jul - Dec '11			Last 12 Months: Jan '10 - Dec '11		
	Total (mm)	Total (mm)	Def (mm)	% LTA	Total (mm)	Def (mm)	% LTA	Total (mm)	Def (mm)	% LTA	Total (mm)	Def (mm)	% LTA	Total (mm)	Def (mm)	% LTA
North West	5	62	58	52	203	+	169	417	+	115	775	+	117	1308	+	113
North East	3	37	44	45	102	+	127	233	2	99	472	+	107	800	20	98
Midlands	1	28	44	39	80	+	112	169	28	86	281	93	75	502	213	70
Anglian	1	17	38	32	56	+	101	111	53	68	242	75	76	429	169	72
South East	1	29	46	39	88	+	116	167	52	76	332	57	85	605	123	83
South West	2	35	81	30	133	+	114	290	29	91	512	25	95	872	137	86
EA Wales	6	64	93	41	212	+	135	430	14	97	713	28	96	1241	97	93
England & Wales	3	37	56	40	118	+	126	244	22	92	450	26	94	781	100	89

**Table 1:** Latest rainfall summary information (Source: Met Office © Crown Copyright)<sup>1</sup>

<sup>1</sup> Notes:

- LTA = long term average rainfall for 1961 – 1990
- Data for the current month are calculated using MORECS (Met Office Rainfall and Evaporation Calculation System); data for past months are provisional values from the National Climate Information Centre (NCIC).
- The data is rounded to the nearest millimetre or percent (except when values are less than 1).
- Def = Rainfall Deficit in millimetres which is the difference between the LTA and the actual rainfall over the period. Where actual rainfall over the period exceeds the LTA this is shown with the '+' symbol

# Soil Moisture Deficit

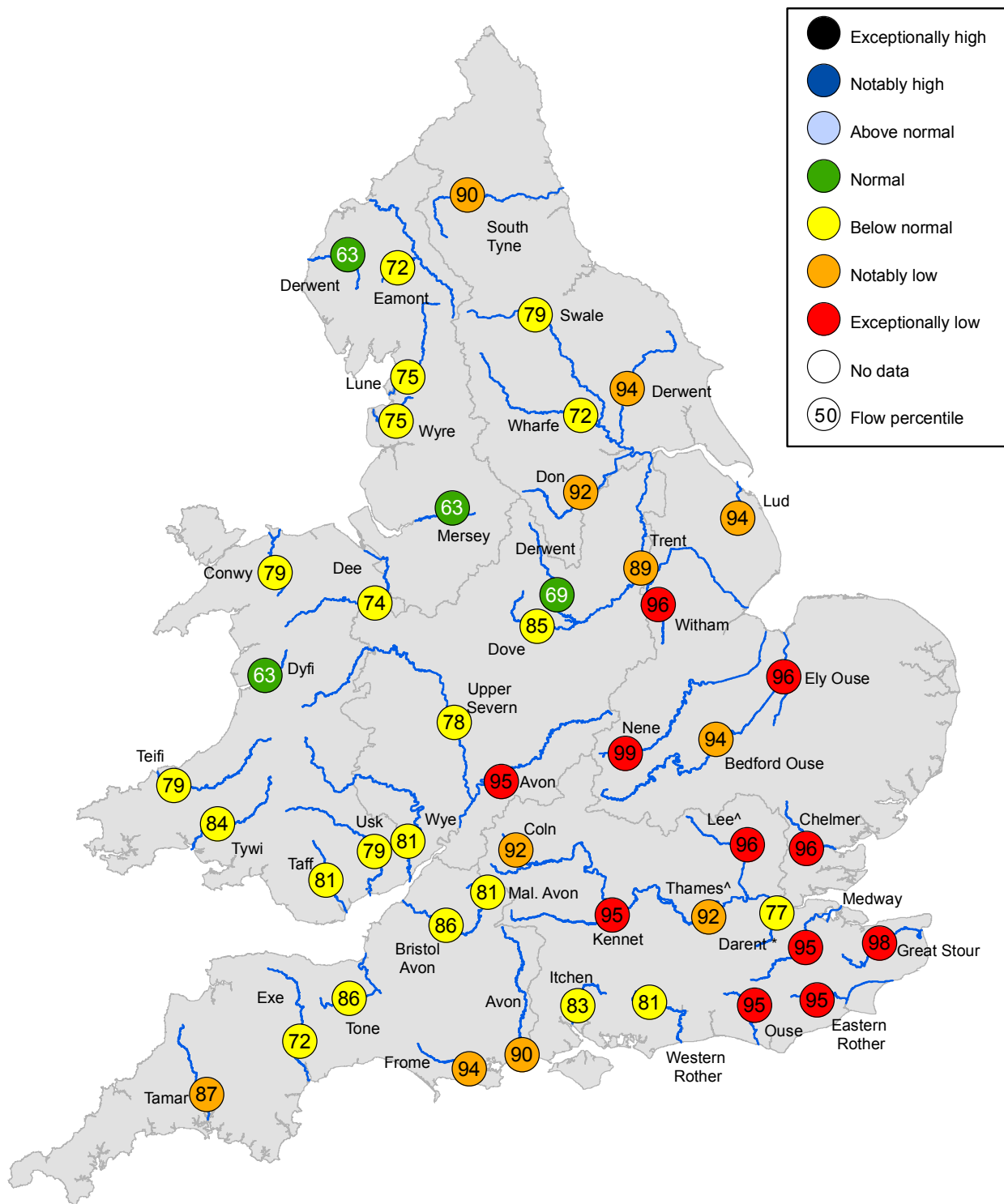


**Figure 2:** MORECS soil moisture deficits for real land use for all Environment Agency Regions. (Source: Met Office © Crown Copyright)

All data are provisional and may be subject to revision.

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# River Flow



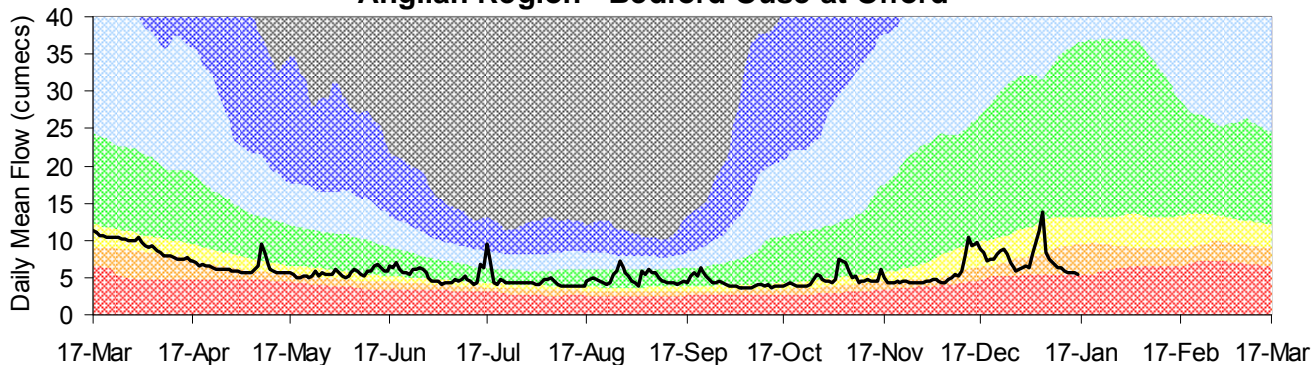
^ - 'Naturalised' flows are provided for the Thames at Kingston and the Lee at Feildes Weir.

\* - Flows on the Darent at Hawley are augmented during low flows by a Restoring Sustainable Abstraction (RSA) scheme.

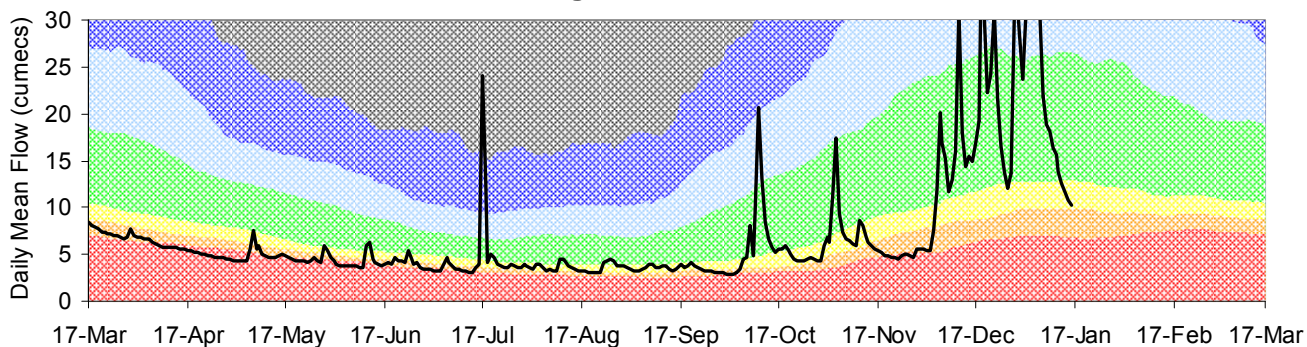
**Figure 3:** Latest daily mean river flow expressed as a percentile<sup>2</sup> and classed relative to an analysis of historic daily mean flows for the same time of year (Source: Environment Agency)

<sup>2</sup> Flow percentiles describe the percentage of time that a particular flow has been equalled or exceeded compared to the historic flow record for that site for the time of year. For example, a flow percentile of 5 indicates that the current flow has only been equalled or exceeded approximately 5% of the time within the historic record for that time of year – i.e. a very high flow. A flow percentile of 95 indicates that the current flow has been equalled or exceeded approximately 95% of the time – i.e. a low flow. Flow percentiles presented relate to an analysis for the time of year and not a whole year.

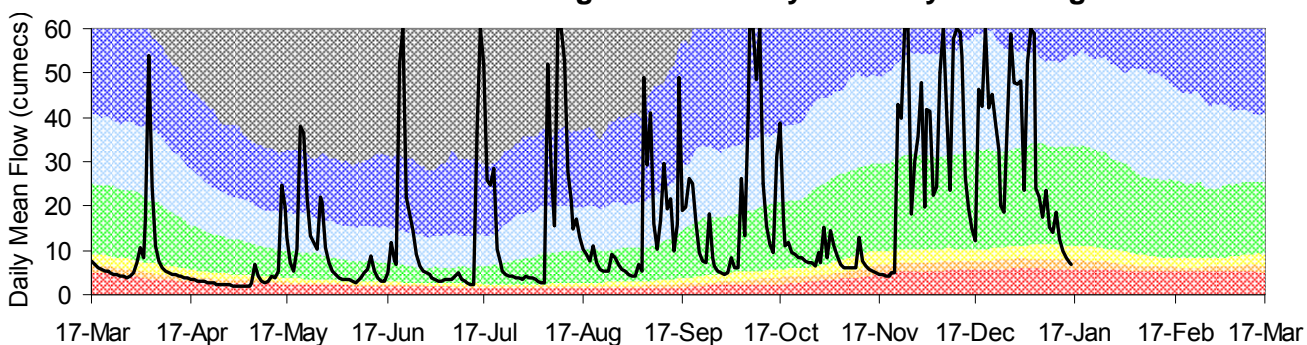
### Anglian Region - Bedford Ouse at Offord



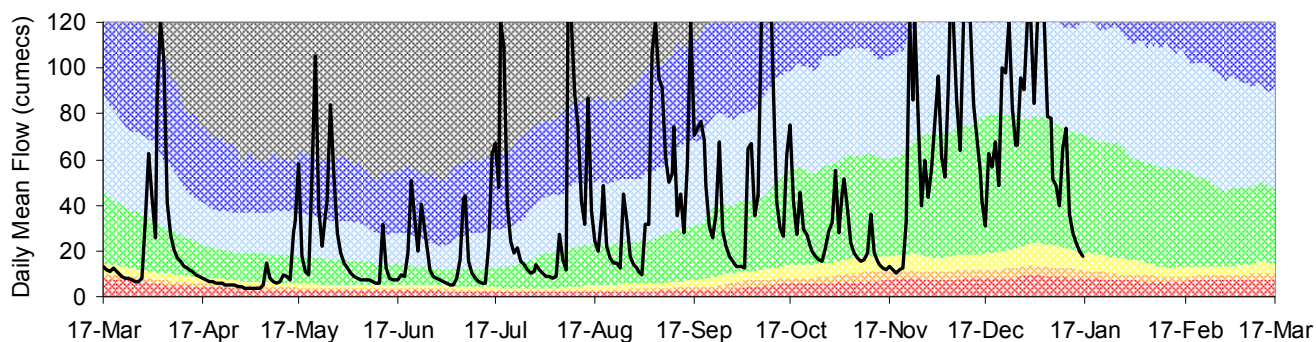
### Midlands Region - Dove at Marston



### Yorkshire & North East Region - South Tyne at Haydon Bridge



### North West Region - Lune at Caton

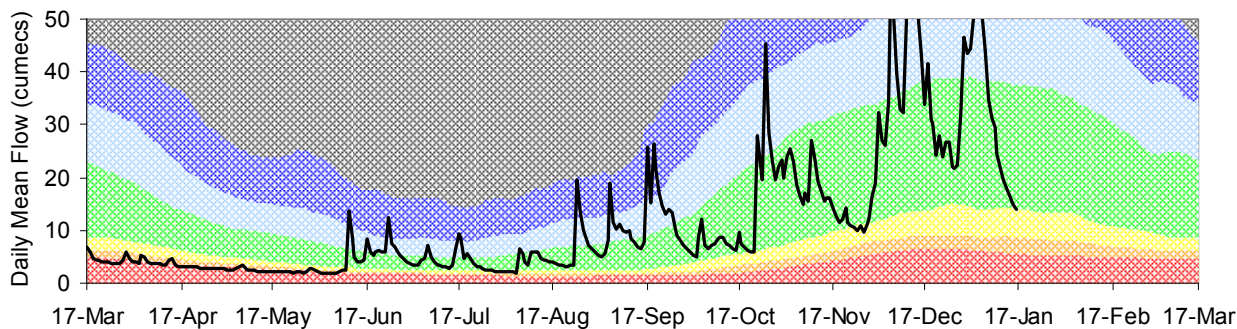


Exceptionally high	Notably high	Above normal	Normal
Below normal	Notably low	Exceptionally low	— Latest data

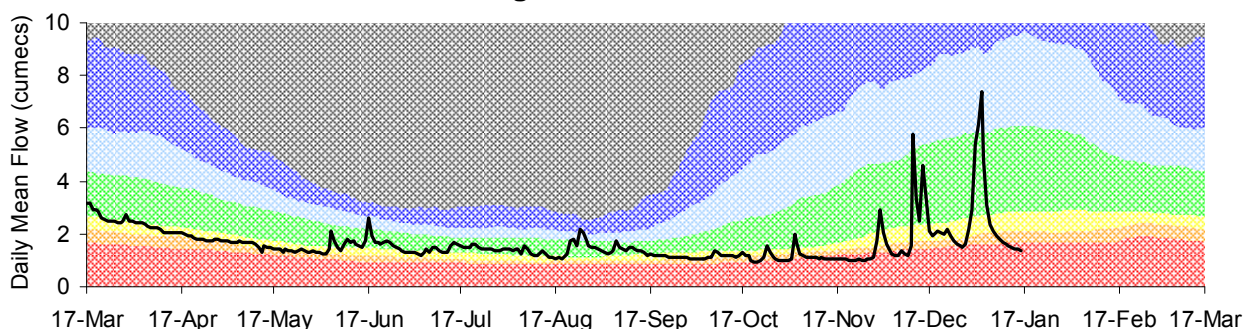
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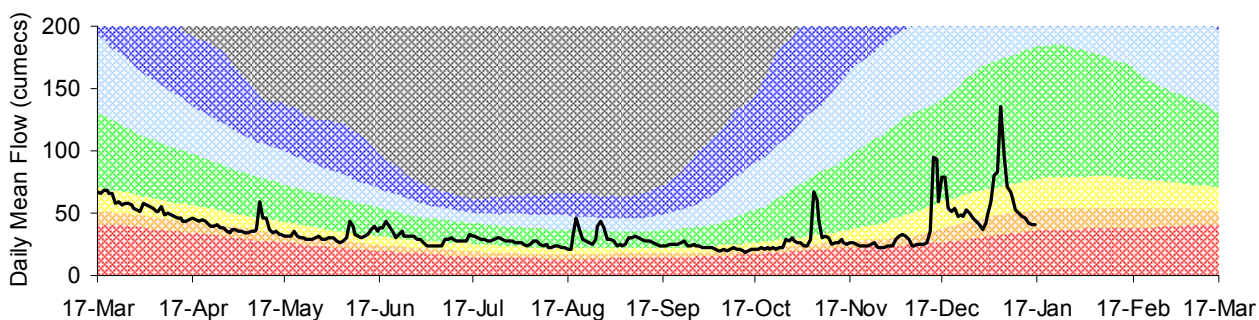
### South West Region - Exe at Thorverton



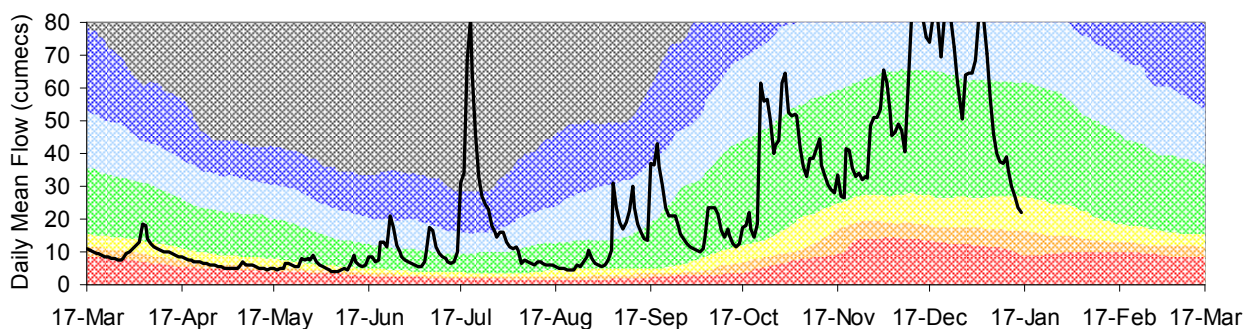
### South East Region - Great Stour at Horton



### South East Region - Thames at Kingston



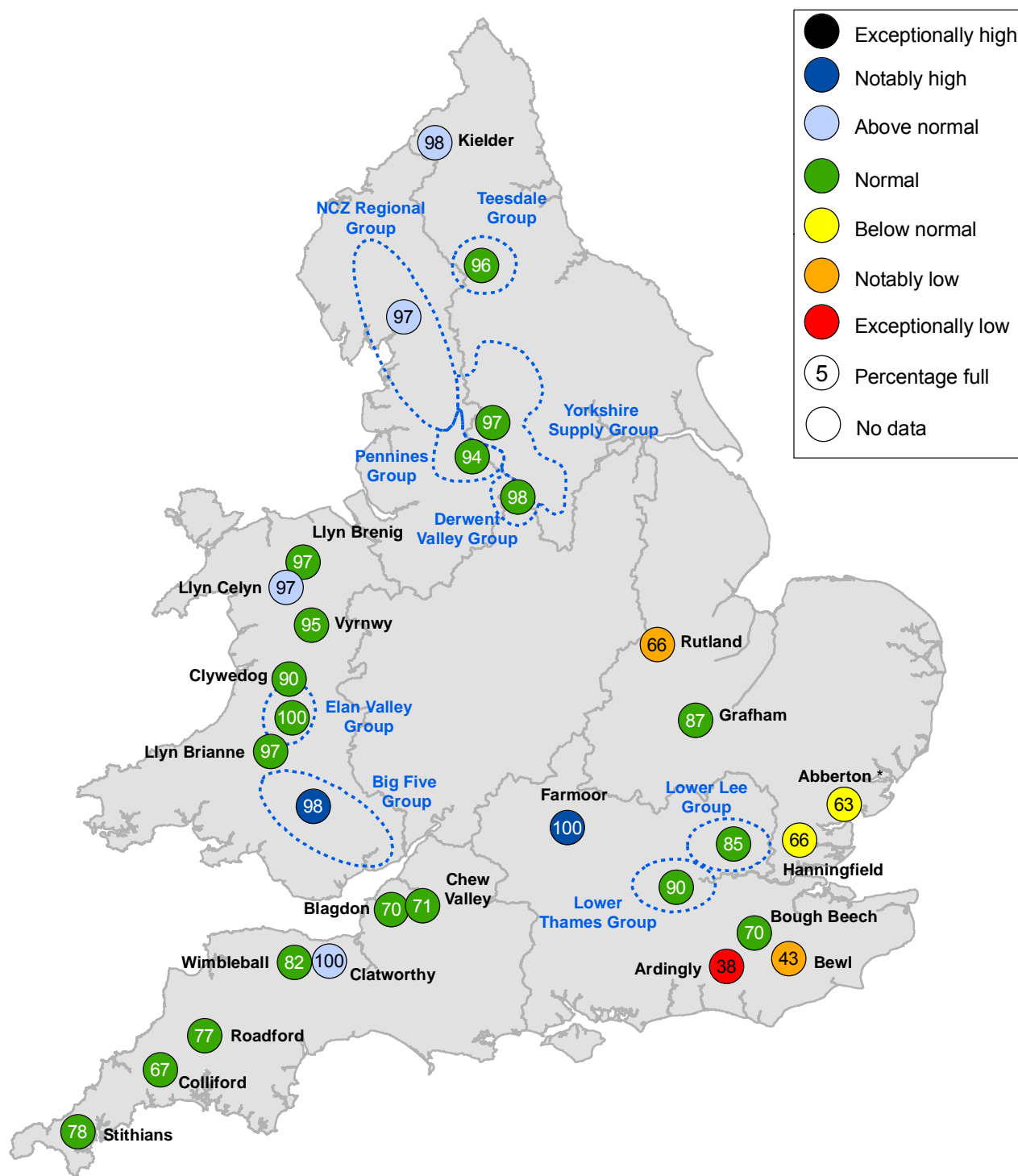
### EA Wales - Teifi at Glan Teifi



Exceptionally high	Notably high	Above normal	Normal
Below normal	Notably low	Exceptionally low	Latest data

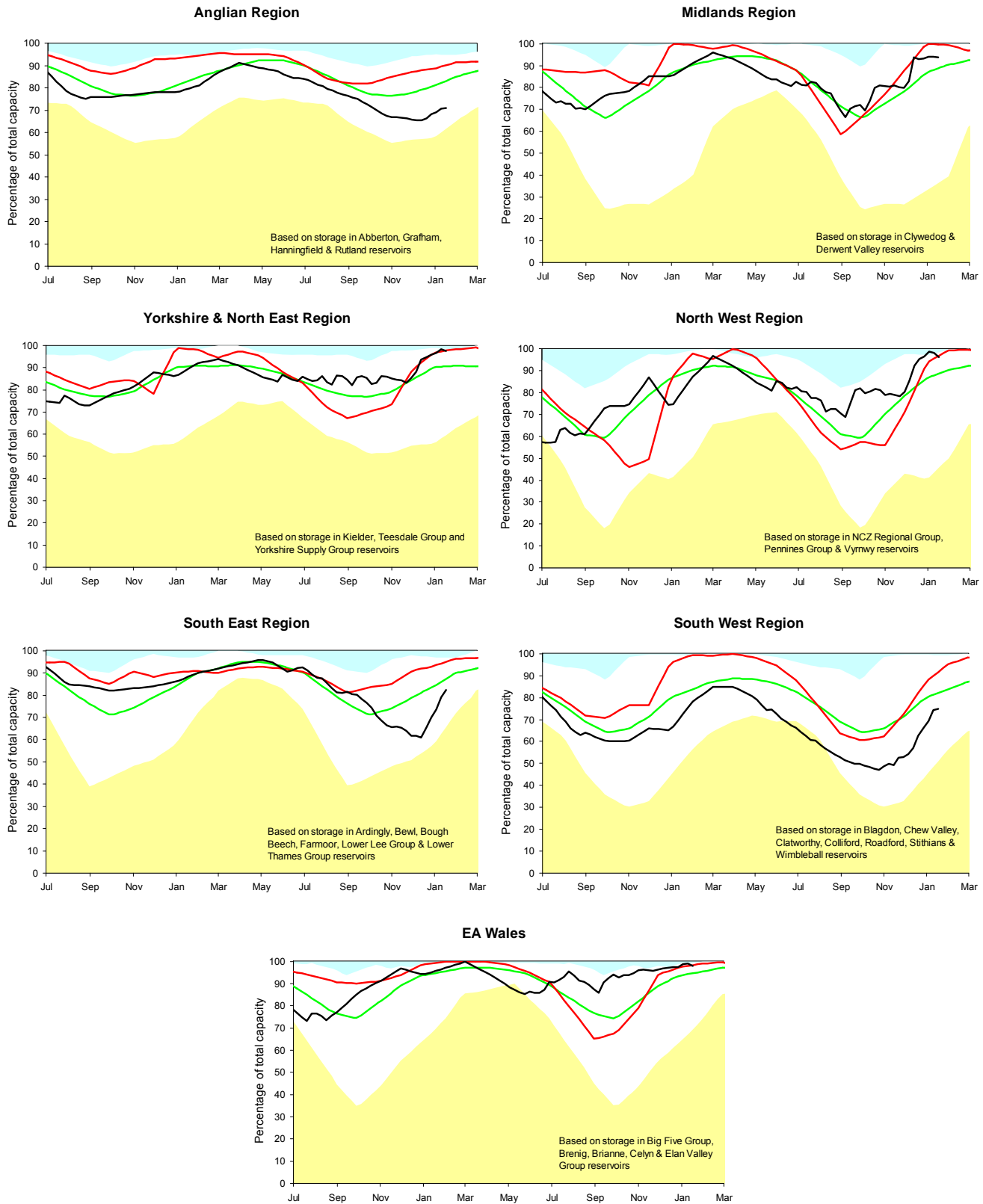
**Figure 4:** Index river flow sites for each Environment Agency Region. Daily mean flow for the past 10 months compared to an analysis of historic daily mean flows and long term maximum and minimum flows. (Source: Environment Agency)

# Reservoir Stocks



\* Storage at Abberton Reservoir in Anglian Region is affected by ongoing engineering works to increase capacity by 60% - works are expected to be complete by the end of 2013.

**Figure 5:** Reservoir stocks at key individual and groups of reservoirs for the week ending 17 January, as a percentage of total capacity and classed relative to an analysis of historic values for the same time of year (Source: Water Companies). Note: Classes shown may not necessarily relate to control curves or triggers for drought actions. As well as for public water supply, some reservoirs are drawn down to provide flood storage, river compensation flows or for reservoir safety inspections. In some cases current reservoir operating rules may differ from historic ones.



Below minimum monthly level	Above maximum monthly level	Average	1993-1995	2010-2012
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**Figure 6:** Regional reservoir stocks for the past 18 months up to the 17 January, compared to long term maximum, minimum, average and 1993 – 1995 stocks (Source: Water Companies). Note: Historic records of individual reservoirs/reservoir groups making up the regional values vary in length.