

Natural Resources Wales

- The monthly rainfall total for Wales during June was 24% of the Long Term Average (LTA, 1961-90). South East, South West and North Wales received 20%, 22% and 29% of the LTA, respectively. For all these areas and the whole of Wales, June 2018 was the 4th driest June since records began in 1910.
- At the end of June, the differences between soil moisture deficit (SMD) values and the LTA across Wales were from 48.8 to 91.3 mm. Soil in all 23 squares was drier than the LTA for June.
- For river flows in Wales, 11 out of 28 indicator sites (which had flow data available) were classed as *Below normal* and 9 sites were *Notably low*. 3 sites were classed as *Exceptionally low*. The remaining 5 sites were *Normal*.
- The cumulative reservoir storage for most of the indicator sites (12 out of 18) was greater than 80% at the end of June. All reservoirs were within normal operating ranges.

Rainfall*

The monthly rainfall total for Wales was 24% of the LTA for June. The percentage of rainfall recorded in catchments compared with their LTA across Wales was between 15% (Neath Port Talbot and Bridgend Area) and 47% (Cleddau and Pembrokeshire). The rainfall total for Wales was 60.6mm less than the June LTA. For South East, South West and North Wales the rainfall totals were 20%, 22% and 29% of LTA, respectively.

June 2018 was the driest June since 1942 for Wales. For South West Wales June monthly total rainfall at Dinas in North Ceredigion and Cynghordy in Carm were the lowest on record for 33 years and 16 years, respectively. For South East Wales June monthly total rainfall at Cowbridge in Vale of Glamorgan and Ciloerwynt in Wye were the lowest on record for 30 years and 58 years, respectively. Although June 2018 was one of the driest month, the accumulated rainfall for the last six months (Jan – June 2018) was close to the 100%LTA values for that period.

Rainfall Map

[National](#)

Rainfall Charts

[National & Areas](#)

[South East Wales](#)

[North Wales](#)

[South West Wales](#)

* using NCIC (National Climate Information Centre) data (Source: Met Office © Crown Copyright)

Soil Moisture Deficit/Recharge

The differences between the soil moisture deficits and the LTA for the 23 MORECS squares were from 48.8 to 91.3 mm and soil in all the 23 squares was drier than the LTA for June.

All data are provisional and may be subject to revision.

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SMD Map [National](#)
SMD Charts [Compare to LTA](#)

River Flows

River flows were between *Exceptionally low* and *Normal* for all the indicator sites across Wales. 11 out of 28 indicator sites (which had flow data available) were classed as *Below normal* and 9 sites were *Notably low*. 3 sites were classed as *Exceptionally low* and the remaining 5 sites were *Normal* for June.

South East: Flows in the area ranged from 31% (River Yscir at Pont ar Yscir) to 69% (River Monnow at Grosmont) of the June LTA values.

South West: The river flows within this area ranged from 18% (River Ystwyth at Pont Llolwyn) to 55% (River Cleddau at Treffgarne) of the June LTA values.

North: Flows in the area ranged from 30% (River Gelyn at Cynefail) to 82% (River Wheeler at Bodfari) of the June LTA values.

River Flow Map [National](#)
River Flow Table [% of LTA and compare to previous year](#)
River Flow Charts [South East Wales](#) [North Wales](#) [South West Wales](#)

Groundwater Levels

Groundwater levels for June at indicator sites (8 data available sites) were classed between *Exceptionally low* (Eastwick and Pont y Cambwll) to *Above normal* (Fernbank). 2 sites were classed as *Below normal* (Llanfair DC and Handley) and 4 sites were classed as *Normal* (Greenfield Garage, Dodleston Obs and Broxton Obs).

Groundwater Map [National](#)
Groundwater Charts [South East Wales](#) [North Wales](#) [South West Wales](#)

Reservoir Storage

At the end of June the the cumulative reservoir storage for most of the indicator sites (12 out of 18) were greater than 80% full and all reservoirs were in normal operation.

Reservoir [South East](#) [North](#) [South West](#)
Charts [Wales](#) [Wales](#) [Wales](#)

All data on Water Situation Reports are provisional, based on spot readings, and are subject to revision.

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Natural Resources Wales

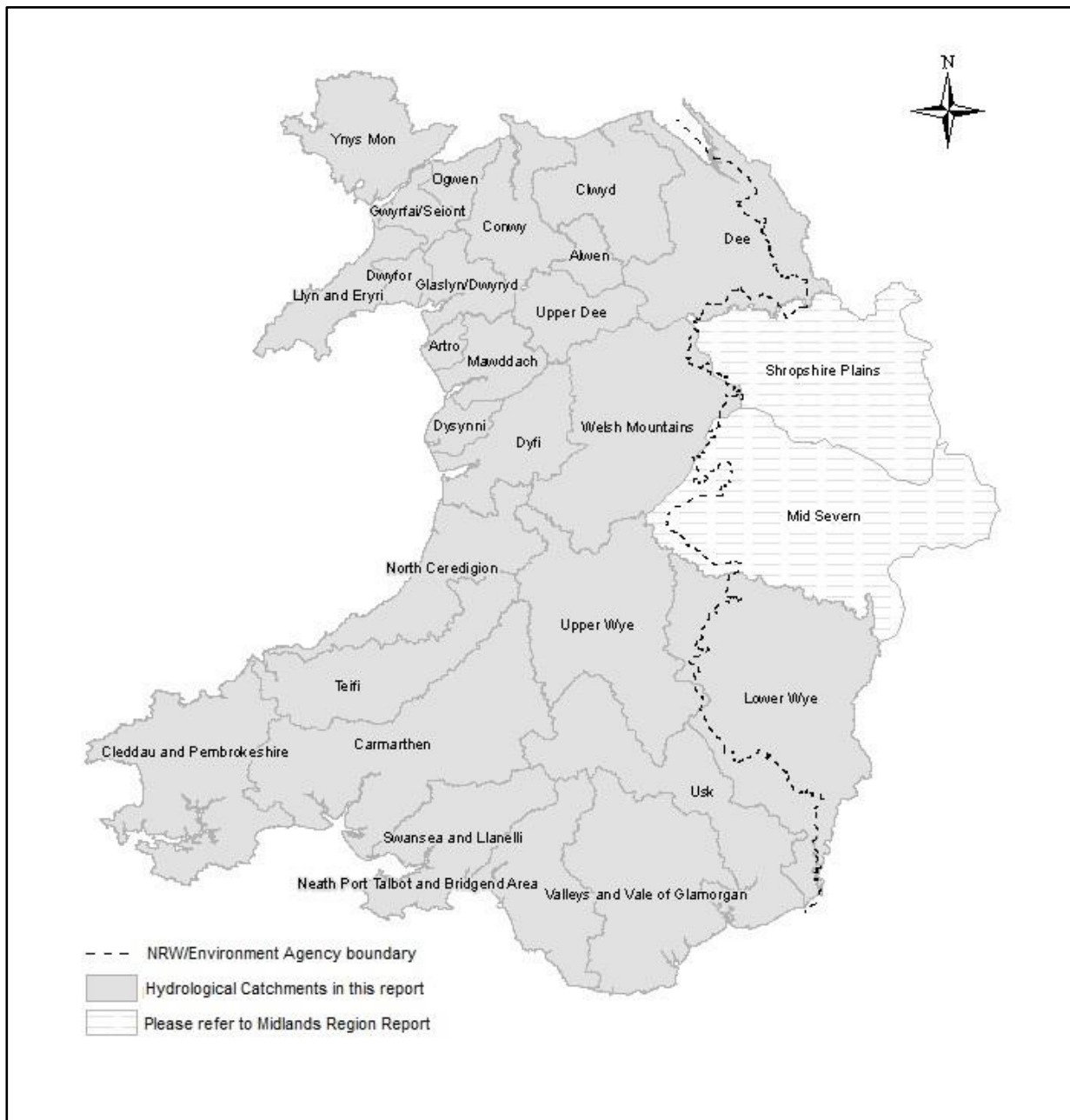


Figure 1: The Natural Resources Wales Water Situation Report features sites in the catchments shown. Parts of the Shropshire Plains and Mid Severn catchments are within Wales. For full information on these catchments, please see the Environment Agency Midlands Water Situation Report.

For areas adjoining Natural Resources Wales, please see the reports for Environment Agency Midlands and North West England:

[Environment Agency - Midlands, England Water Situation Report](#)
[Environment Agency - North West, England Water Situation Report](#)

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Rainfall

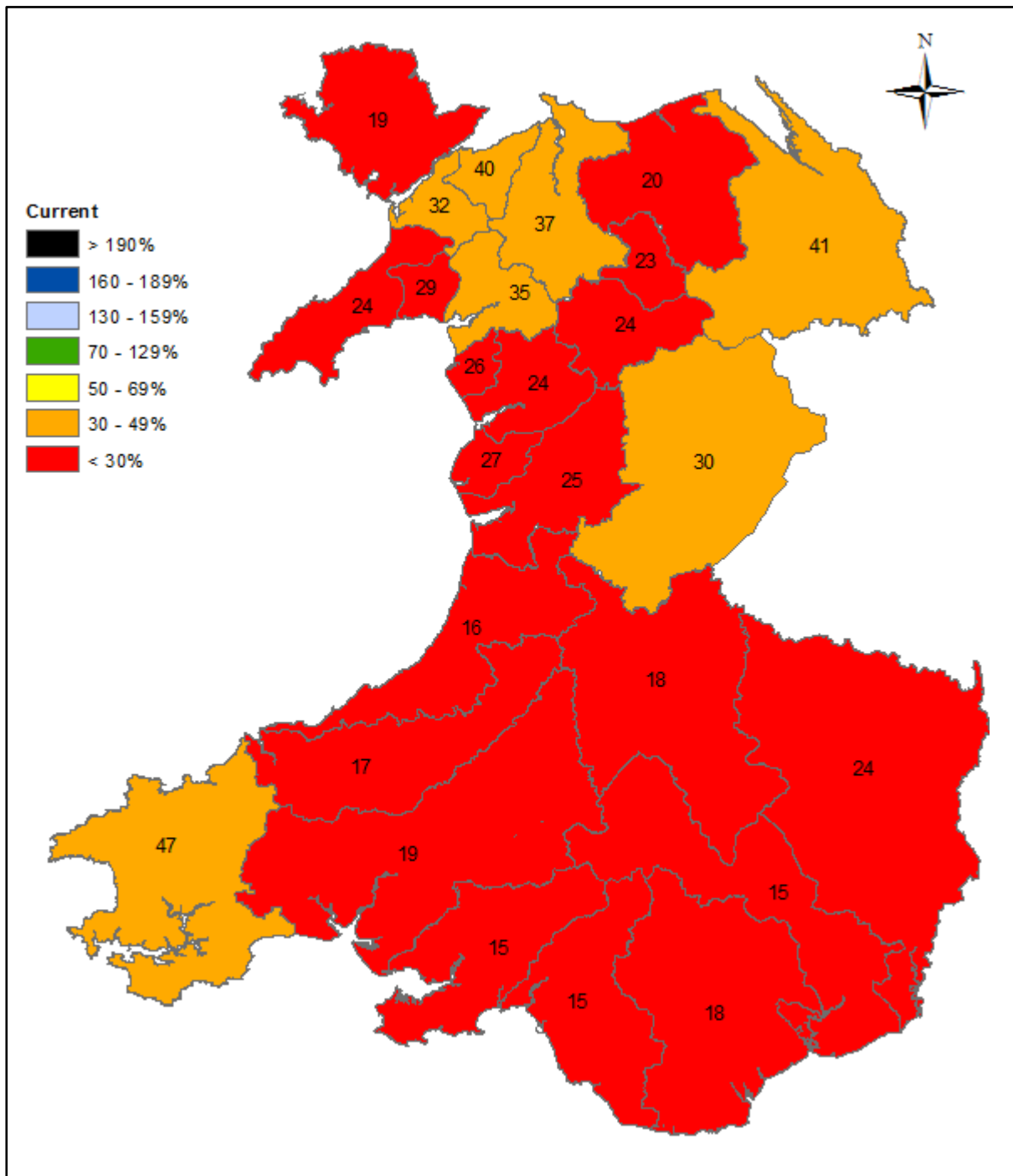


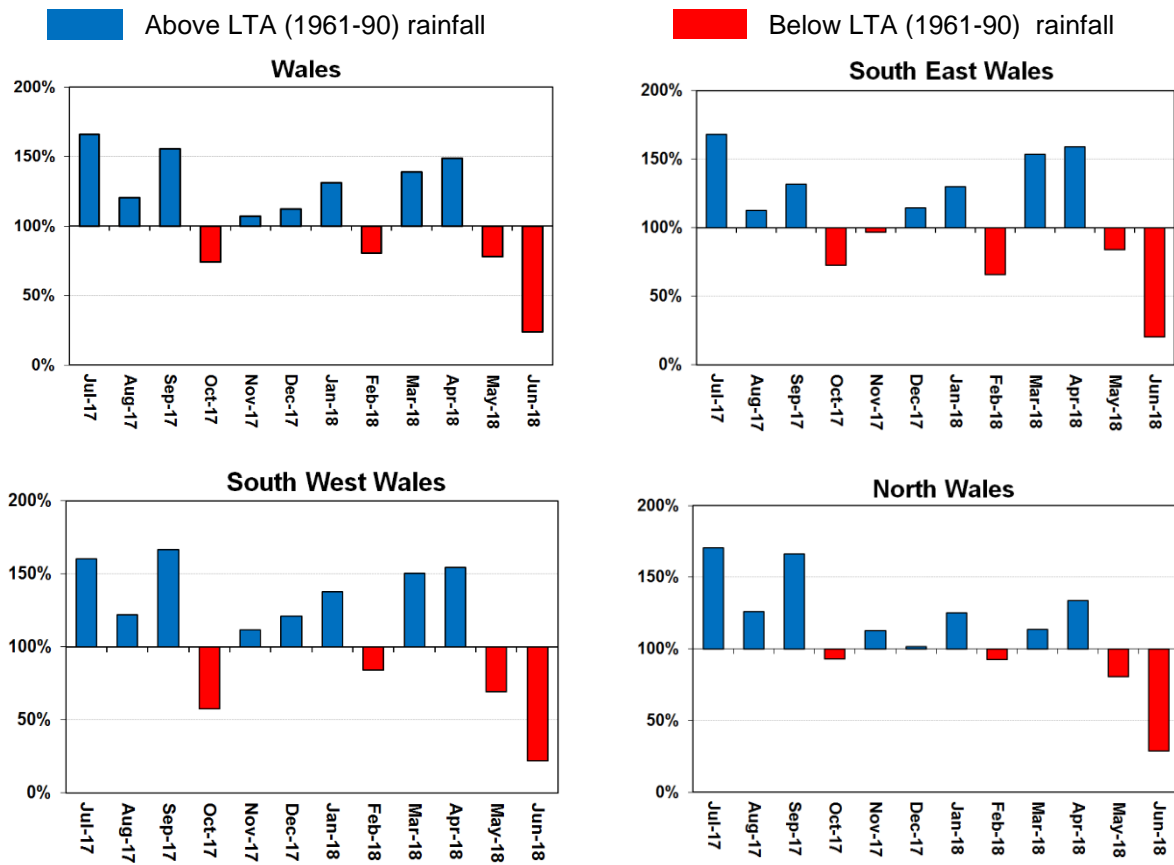
Figure 2: Calculated catchment average June rainfall totals as a percentage of the 1961-90 June long term average for Natural Resources Wales catchments, using NCIC (National Climate Information Centre) data (Source: Met Office © Crown Copyright).

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Rainfall Charts

Figure 3: Rainfall Charts: National and Areas



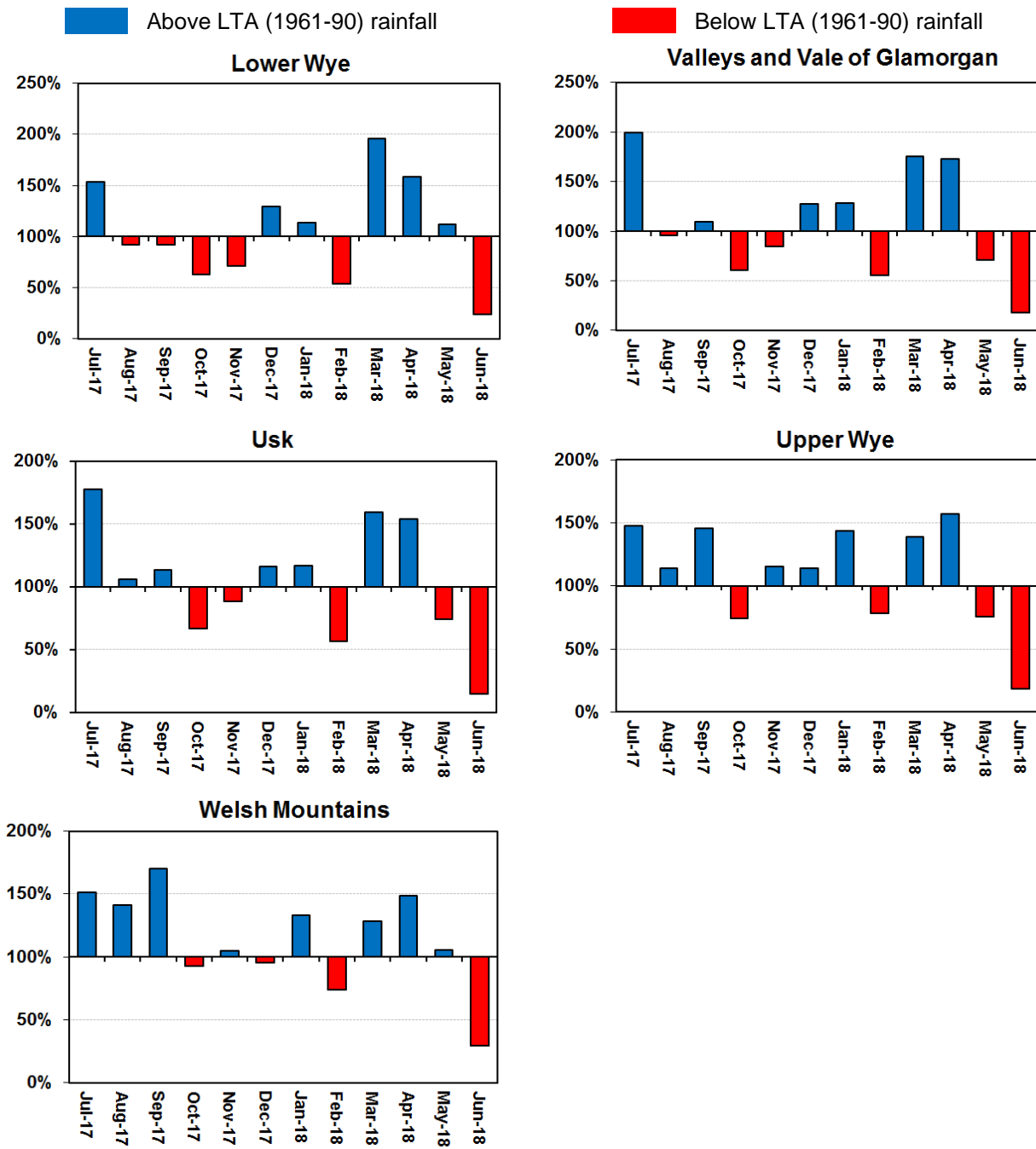
Comparison of monthly rainfall totals to the 1961-90 long term average expressed as percentage for Natural Resources Wales and Areas, using NCIC (National Climate Information Centre) data (Source: Met Office © Crown Copyright).

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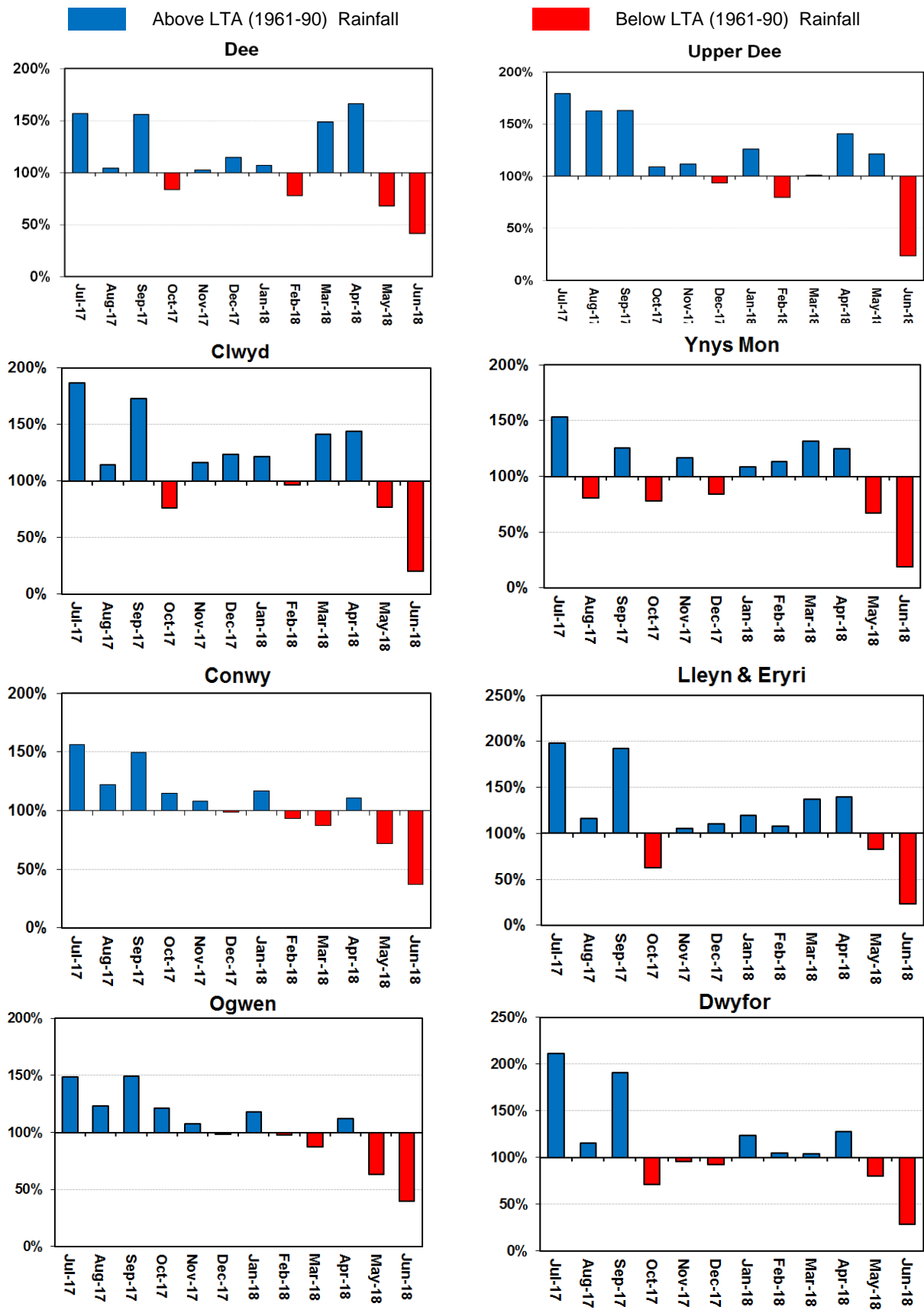
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Figure 4: Rainfall Charts: South East Wales



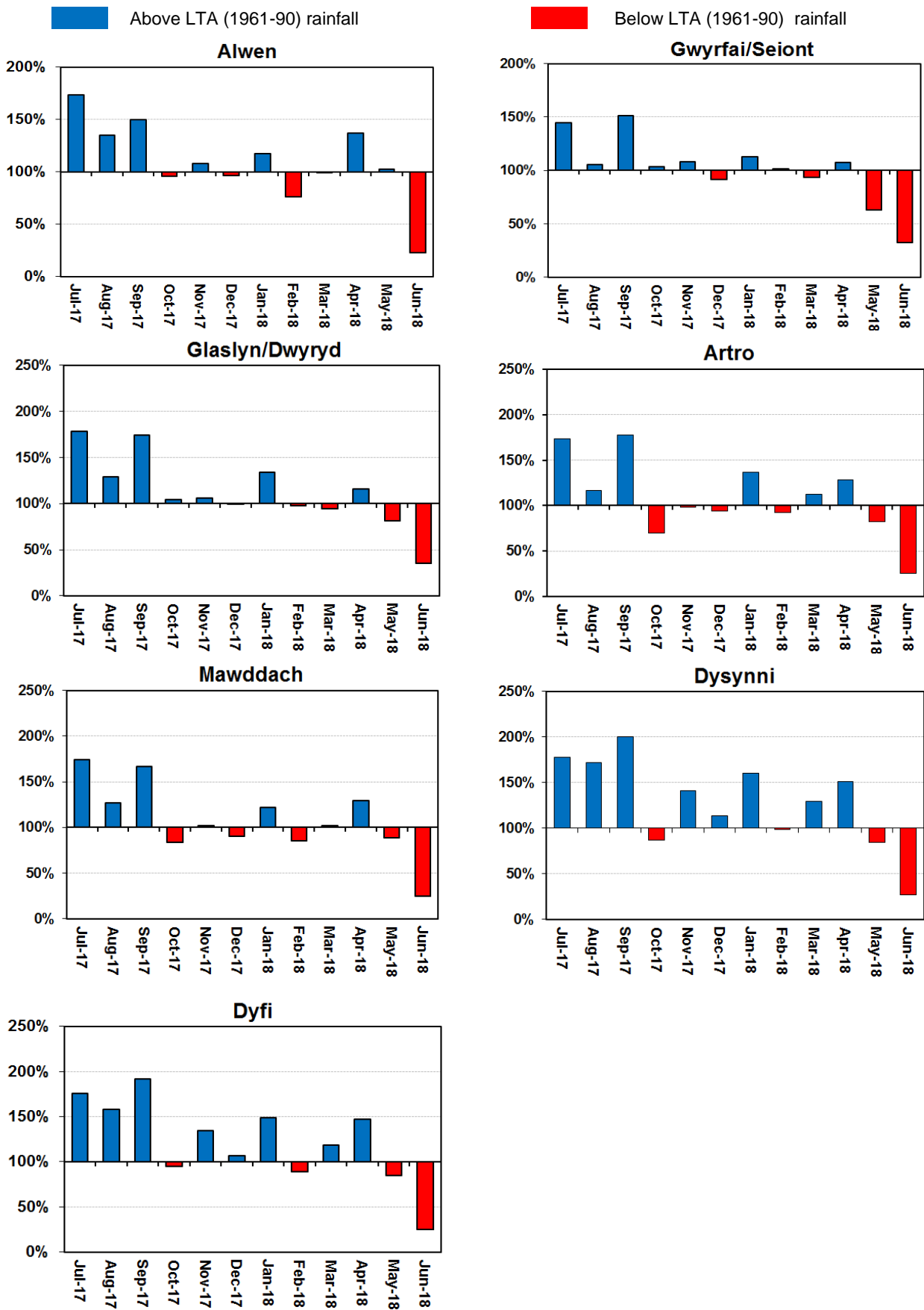
Comparison of monthly rainfall totals to the 1961-90 long term average expressed as percentage for South East Wales, using NCIC (National Climate Information Centre) data (Source: Met Office © Crown Copyright).

Figure 5: Rainfall Charts: North Wales



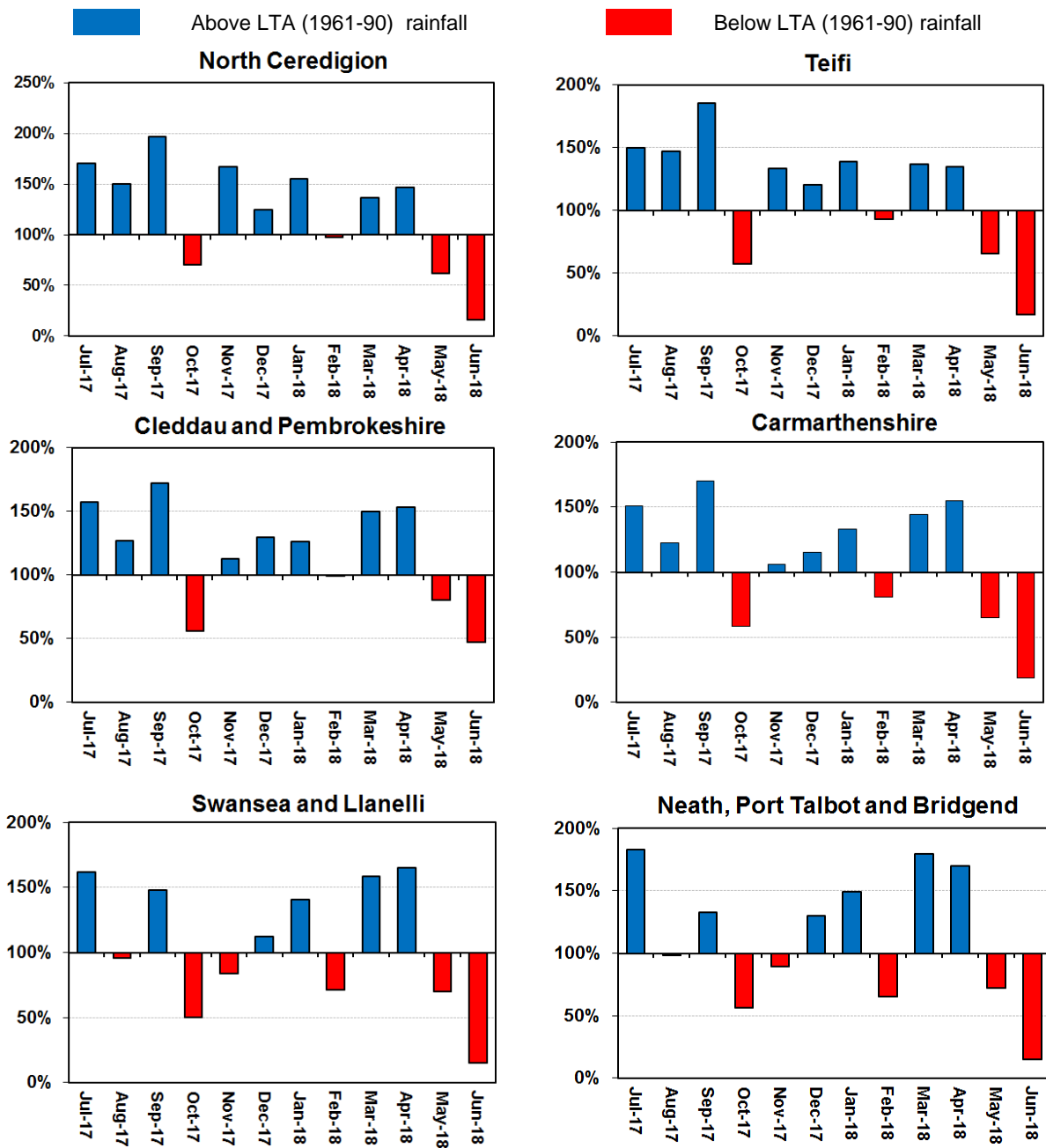
Comparison of monthly rainfall totals to the 1961-90 long term average expressed as percentage for North Wales, using NCIC (National Climate Information Centre) data (Source: Met Office © Crown Copyright).

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Comparison of monthly rainfall totals to the 1961-90 long term average expressed as percentage for North Wales, using NCIC (National Climate Information Centre) data (Source: Met Office © Crown Copyright).

Figure 6: Rainfall Charts: South West Wales



Comparison of monthly rainfall totals to the 1961-90 long term average expressed as percentage for South West Wales, using NCIC (National Climate Information Centre) data (Source: Met Office © Crown Copyright).

Soil Moisture Deficit (SMD)

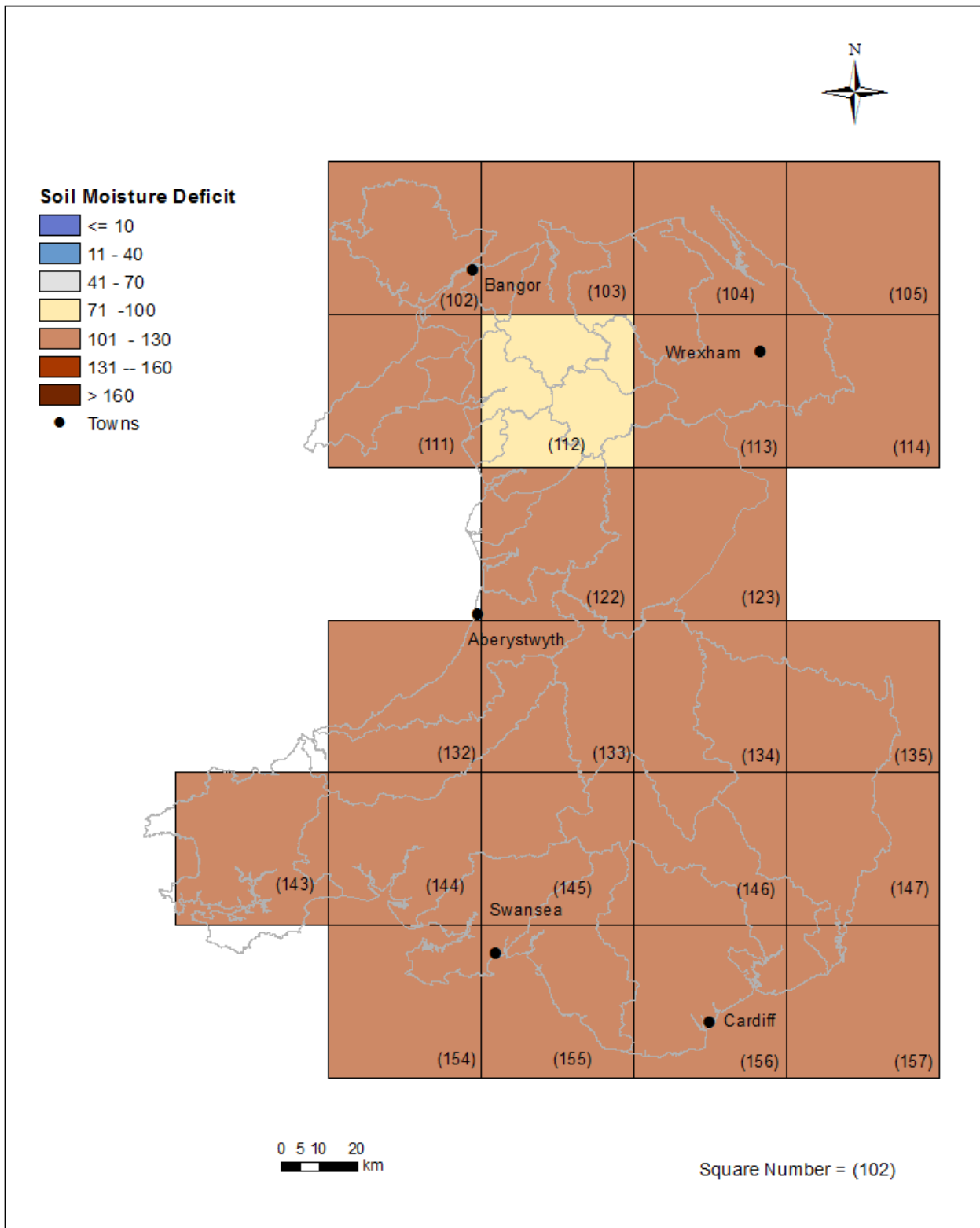


Figure 7: MORECS soil moisture deficits (mm) for June for real land use for Natural Resources Wales (Source: Met Office © Crown Copyright).

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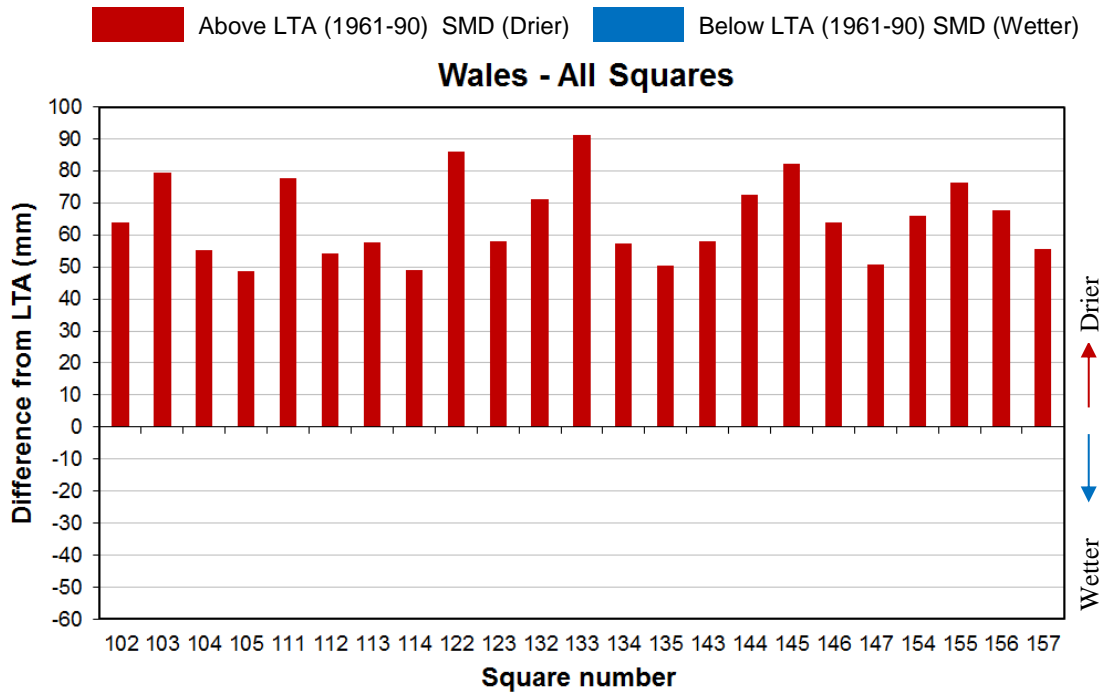


Figure 8: MORECS month end soil moisture deficits difference (mm) from the 1961-90 long term monthly average (LTA) for June for real land use for Natural Resources Wales squares (Source: Met Office © Crown Copyright).

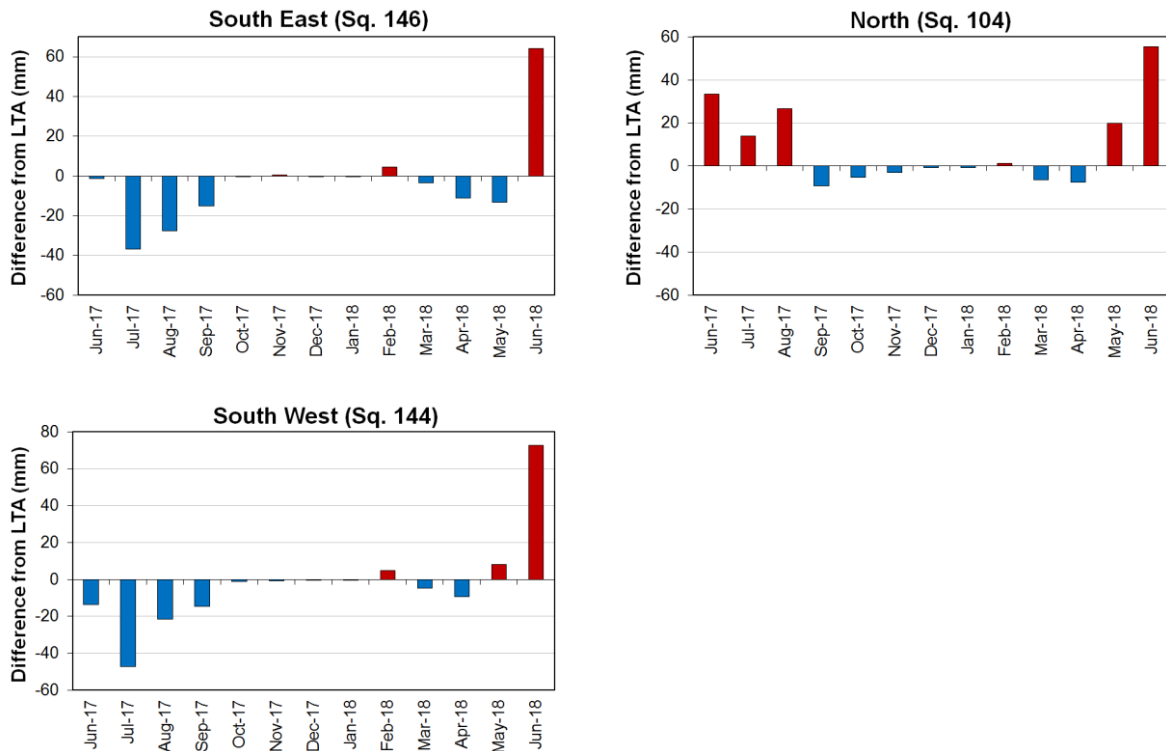


Figure 9: MORECS month end soil moisture deficit difference (mm) from the 1961-90 long term monthly average (LTA) for real land use for South East, North and South West (Source: Met Office © Crown Copyright). (Note: no LTA available for Natural Resources Wales.)

River Flow

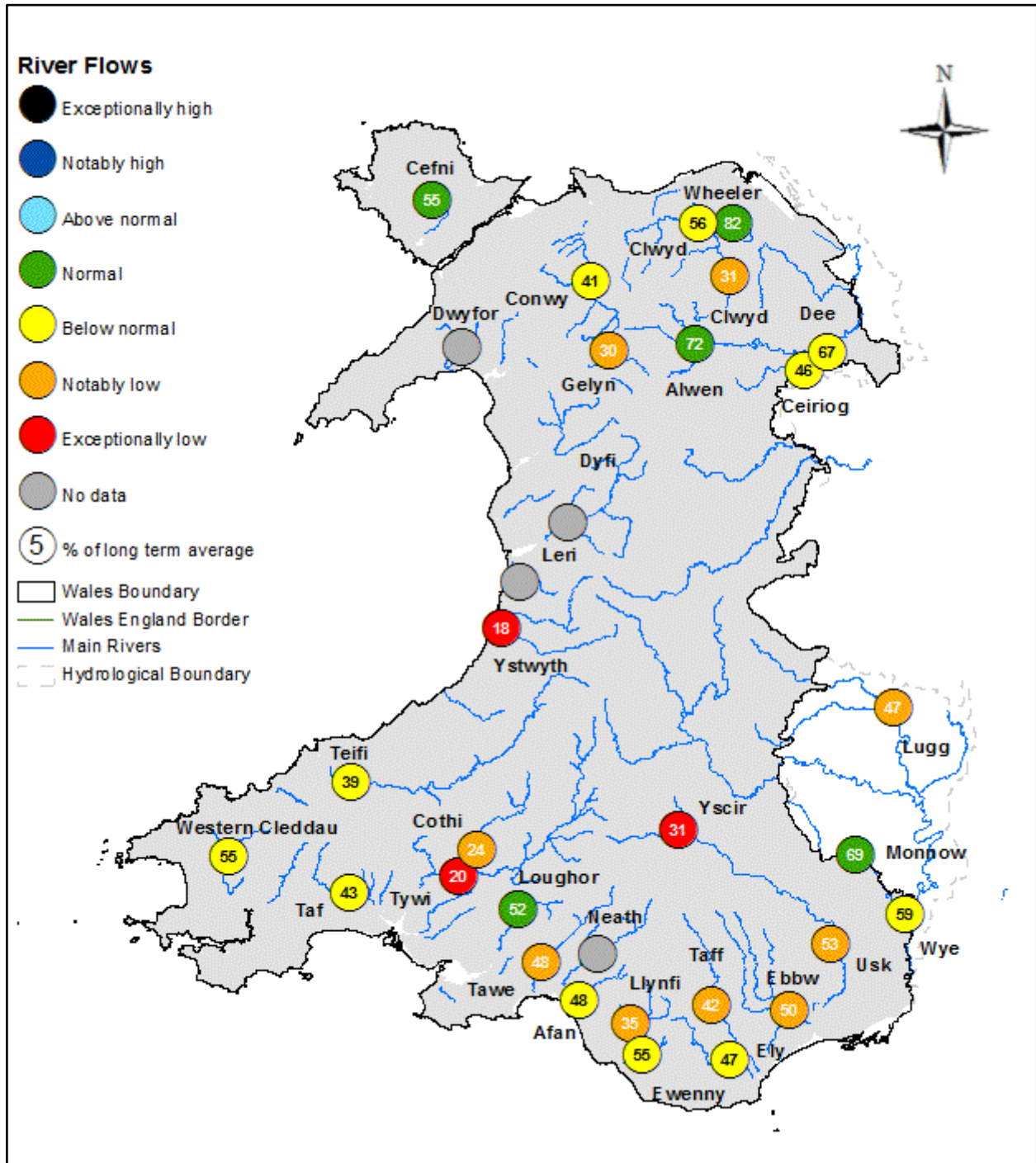


Figure 10: Monthly mean river flow for June, classed relative to analysis of historic June monthly means (Source: Natural Resources Wales).

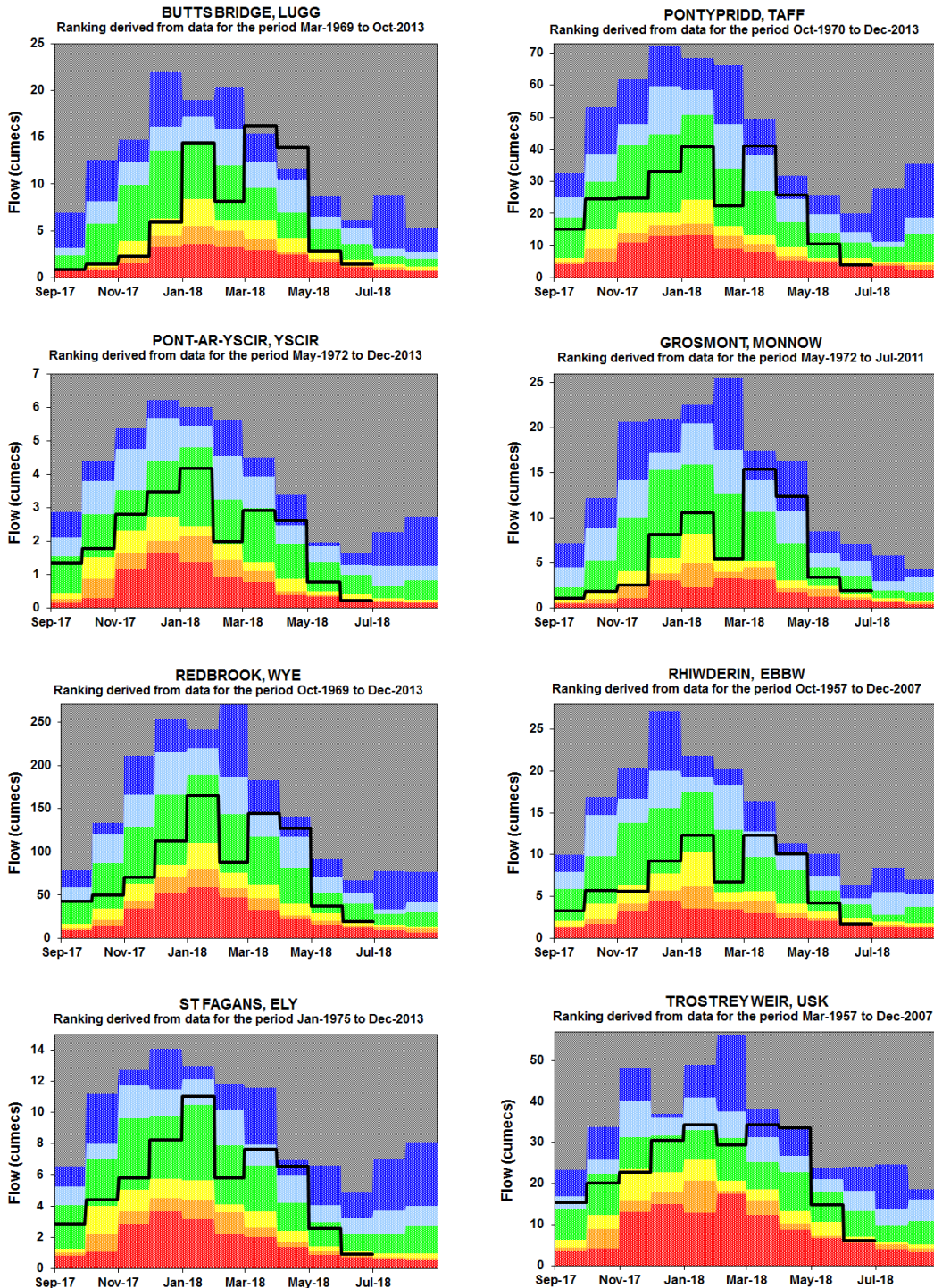
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SITE NAME	RIVER	June 2018			June 2017		June LTA		
		Class	% of LTA	Flow (m3/s)	% of LTA	Flow (m3/s)	LTA	Monthly Min (m3/s)	Monthly Max (m3/s)
River Flow Sites : South East Area									
Butts Bridge	Lugg	Notably low	47%	1.45	37%	1.14	3.09	0.80	8.66
Grosmont	Monnow	Normal	69%	1.91	82%	2.28	2.78	0.67	8.75
Pont ar Yscir	Yscir	Exceptionally low	31%	0.23	84%	0.63	0.75	0.21	2.75
Pontypridd	Taff	Notably low	42%	4.02	187%	17.80	9.52	3.52	34.50
Redbrook	Wye	Below normal	59%	19.70	90%	30.00	33.22	11.00	112.00
Rhiwderin	Ebbw	Notably low	50%	1.76	128%	4.51	3.53	1.33	11.10
St Fagans	Ely	Below normal	47%	0.91	105%	2.05	1.95	0.66	5.92
Trostrey Weir	Usk	Notably low	53%	6.13	107%	12.30	11.49	4.48	27.90
River Flow Sites : North Area									
Bodfari	Wheeler	Normal	82%	0.42	69%	0.35	0.51	0.26	1.04
Bodffordd	Cefni	Normal	55%	0.06	255%	0.28	0.11	0.02	0.54
Brynkinalt Weir	Ceiriog	Below normal	46%	0.68	131%	1.94	1.48	0.44	5.22
Cwmlanerch	Conwy	Below normal	41%	3.52	235%	20.00	8.50	1.63	24.90
Cynefail	Gelyn	Notably low	30%	0.09	217%	0.65	0.30	0.06	0.89
Dol y Bont	Leri	No data					0.82	0.17	4.55
Druid	Alwen	Normal	72%	1.41	135%	2.65	1.97	0.52	4.89
Dyfi bridge	Dyfi	No data					9.64	1.62	25.40
Garndolbenmaen	Dwyfor	No data			320%	4.42	1.38	0.31	5.01
Manley Hall	Dee	Below normal	67%	9.91	127%	18.60	14.69	7.71	41.50
Pont y Cambwll	Clwyd	Below normal	56%	1.56	65%	1.82	2.78	1.06	9.42
Ruthin Weir	Clwyd	Notably low	31%	0.17	48%	0.26	0.54	0.13	2.19
River Flow Sites : South West Area									
Capel Dewi	Tywi	Exceptionally low	20%	3.20	306%	48.50	15.87	3.74	61.20
Clog y Fran	Taf	Below normal	43%	1.27	223%	6.53	2.93	0.78	9.41
Coytrahen	Llynfi	Notably low	35%	0.43	139%	1.72	1.24	0.37	4.33
Felin Mynachdy	Cothi	Notably low	24%	1.11	313%	14.70	4.70	0.80	18.70
Glanteifi	Teifi	Below normal	39%	4.74	206%	24.90	12.06	2.97	52.00
Keepers Lodge	Ewenny	Below normal	55%	0.50	74%	0.68	0.91	0.41	2.00
Marcroft	Afan	Below normal	48%	1.42	215%	5.83	2.97	0.75	8.79
Pont Llolwyn	Ystwyth	Exceptionally low	18%	0.47	147%	3.94	2.68	0.62	14.90
Treffgarne *	Western Cleddau	Below normal	55%	0.98	157%	2.81	1.79	0.63	6.79
Resolven	Neath	No data			291%	13.00	4.47	0.57	14.30
Tir-y-Dail	Loughor	Normal	52%	0.51	294%	2.88	0.98	0.30	2.98
Ynystanglws	Tawe	Notably low	34%	1.96	248%	14.40	5.81	1.35	19.60

Figure 11: Monthly mean river flow for June with comparison against previous year expressed as a percentage of the June long term average and classed relative to analysis of historic June monthly means. (Source: Natural Resources Wales). (* For Treffgarne station the LTAs were derived using scaled historical flows (1965-2003) from the downstream station at Prendergast Mill. There was no flow data for Resolven and Garndolbenmaen due to the maintenance work at the gauge station.)

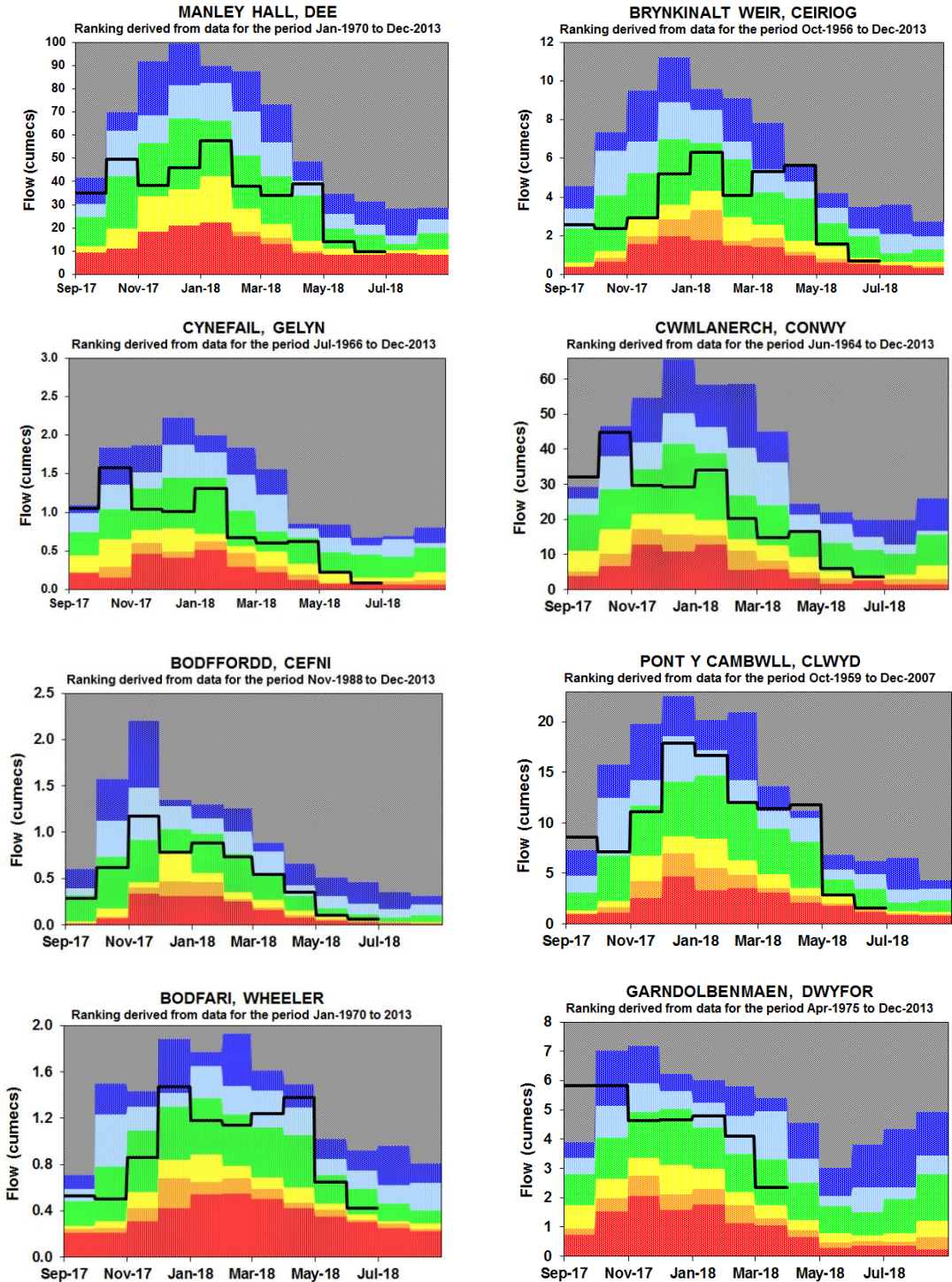
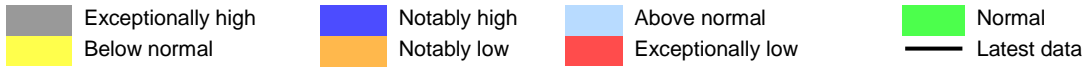
River Flow Charts

Figure 12: River Flow Charts: South East Wales



Monthly mean river flows for the last 10 months classed relative to the analysis of historic river levels (*Source: Natural Resources Wales*).

Figure 13: River Flow Charts: North Wales



Monthly mean river flows for the last 10 months classed relative to the analysis of historic river levels (*Source: Natural Resources Wales*).

(Please note that there was no data for Garndolbenmaen for May and June 2018 due to maintenance work)

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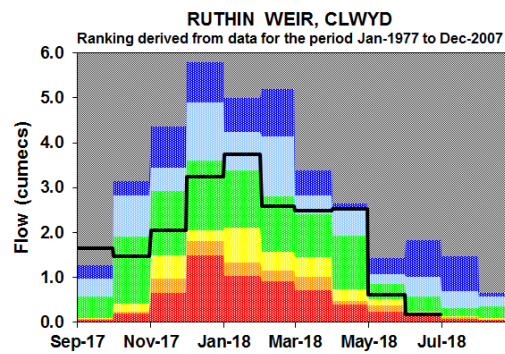
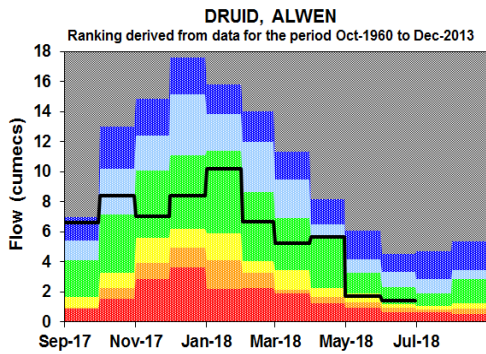
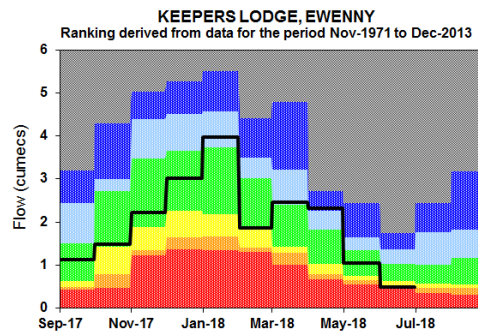
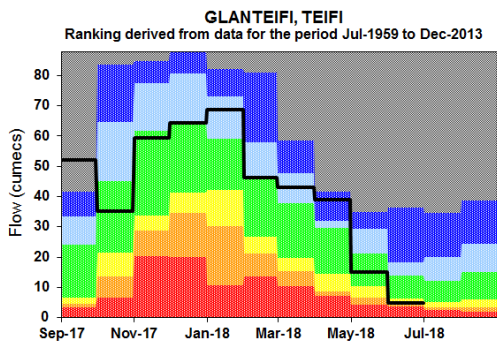
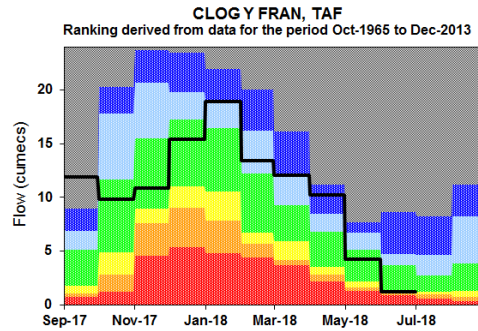
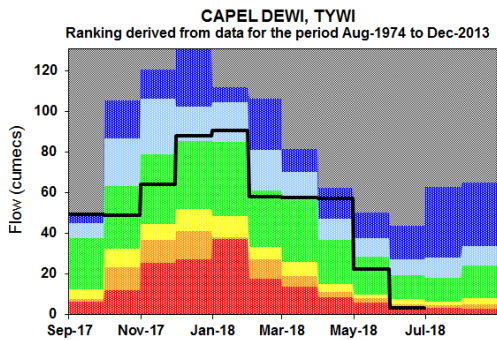
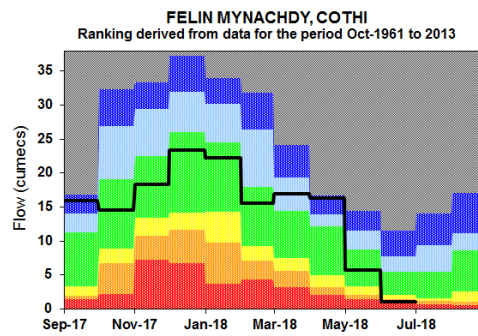
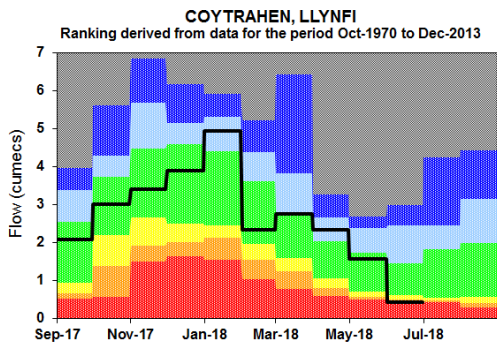
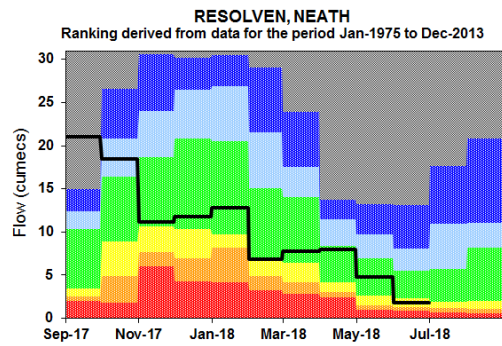
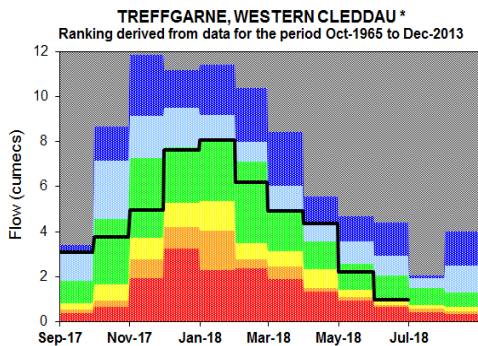
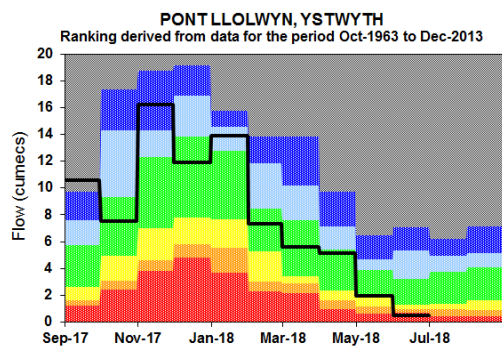
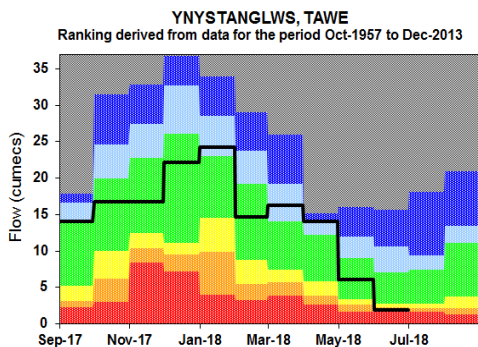
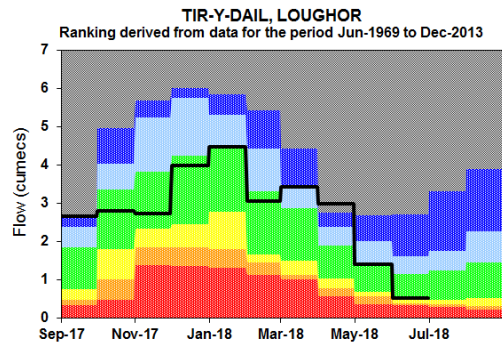
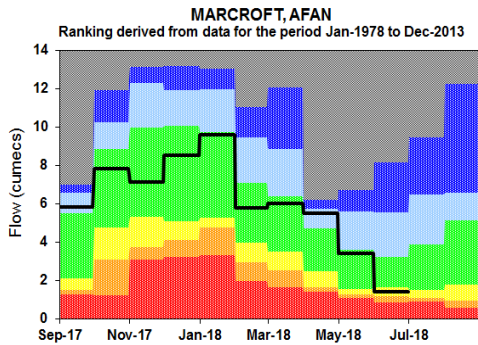


Figure 14: River Flow Charts: South West Wales



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Monthly mean river flows for the last 10 months classed relative to the analysis of historic river levels. (Source: Natural Resources Wales).

(* Please note that for Treffgarne station the ranking bands were derived using scaled historical flows (1965-2003) from the downstream station at Prendergast Mill)

Groundwater Levels

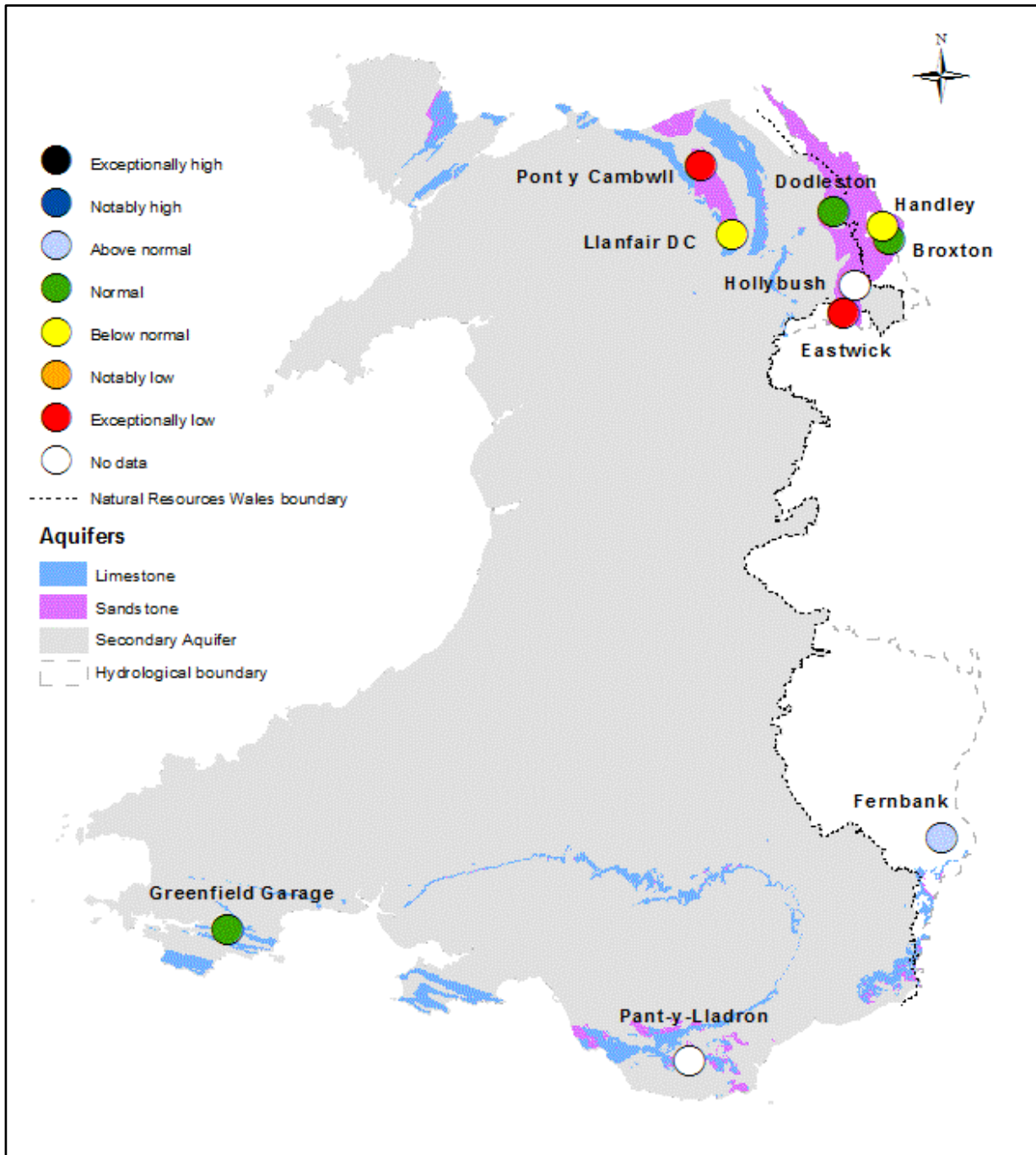
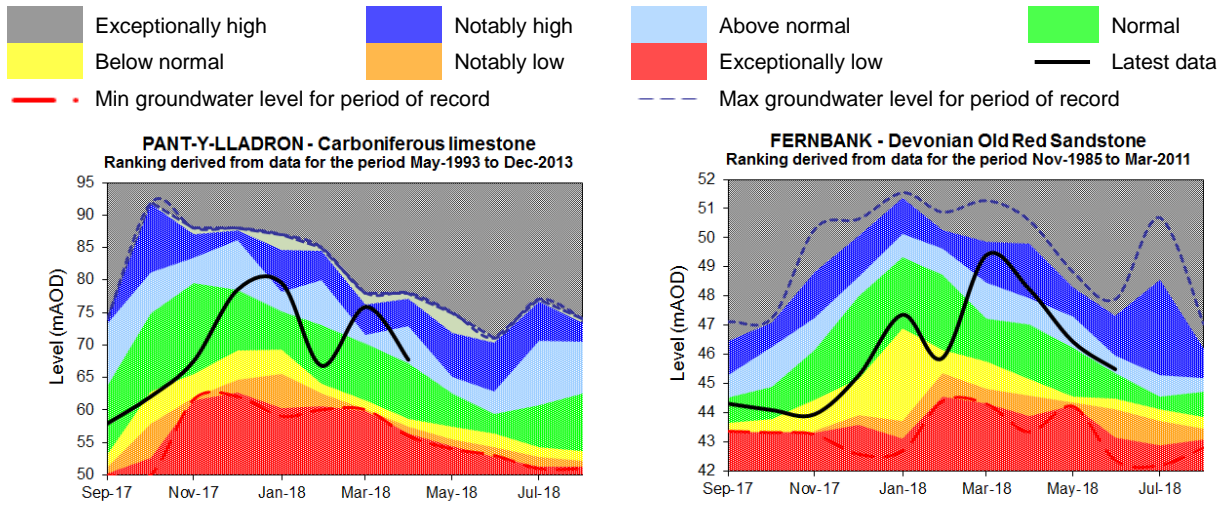


Figure 15: Groundwater levels at the end of month classed relative to an analysis of historic June groundwater levels (Source: Natural Resources Wales and Environment Agency).

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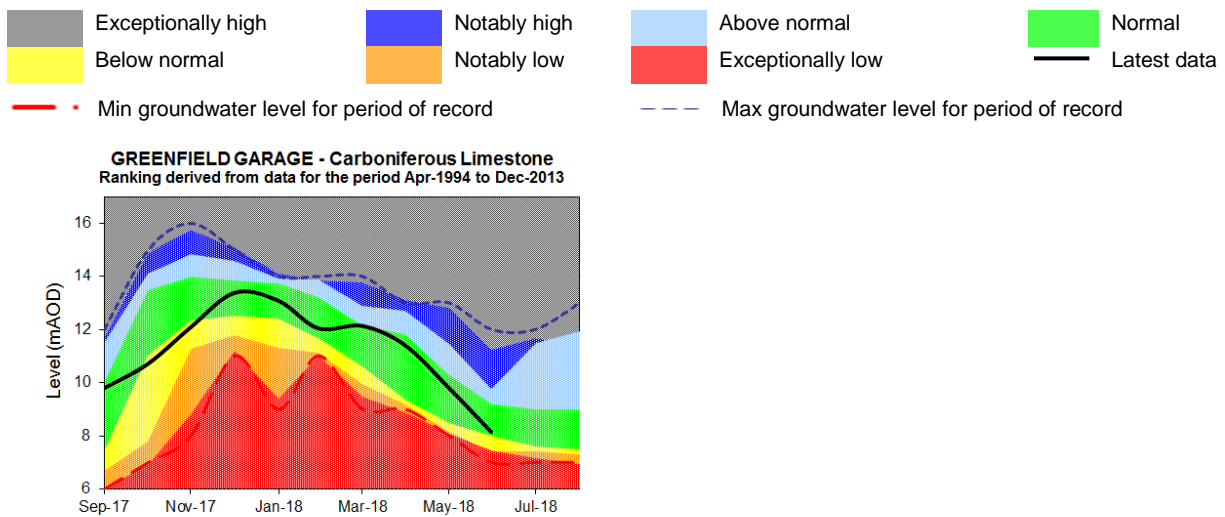
Groundwater charts

Figure 16: Groundwater level charts: South East Wales



End of month groundwater levels for the past 10 months for index sites (Source: Natural Resources Wales). (Please note that data is not available for May and June 2018 for Pant-y-Lladron)

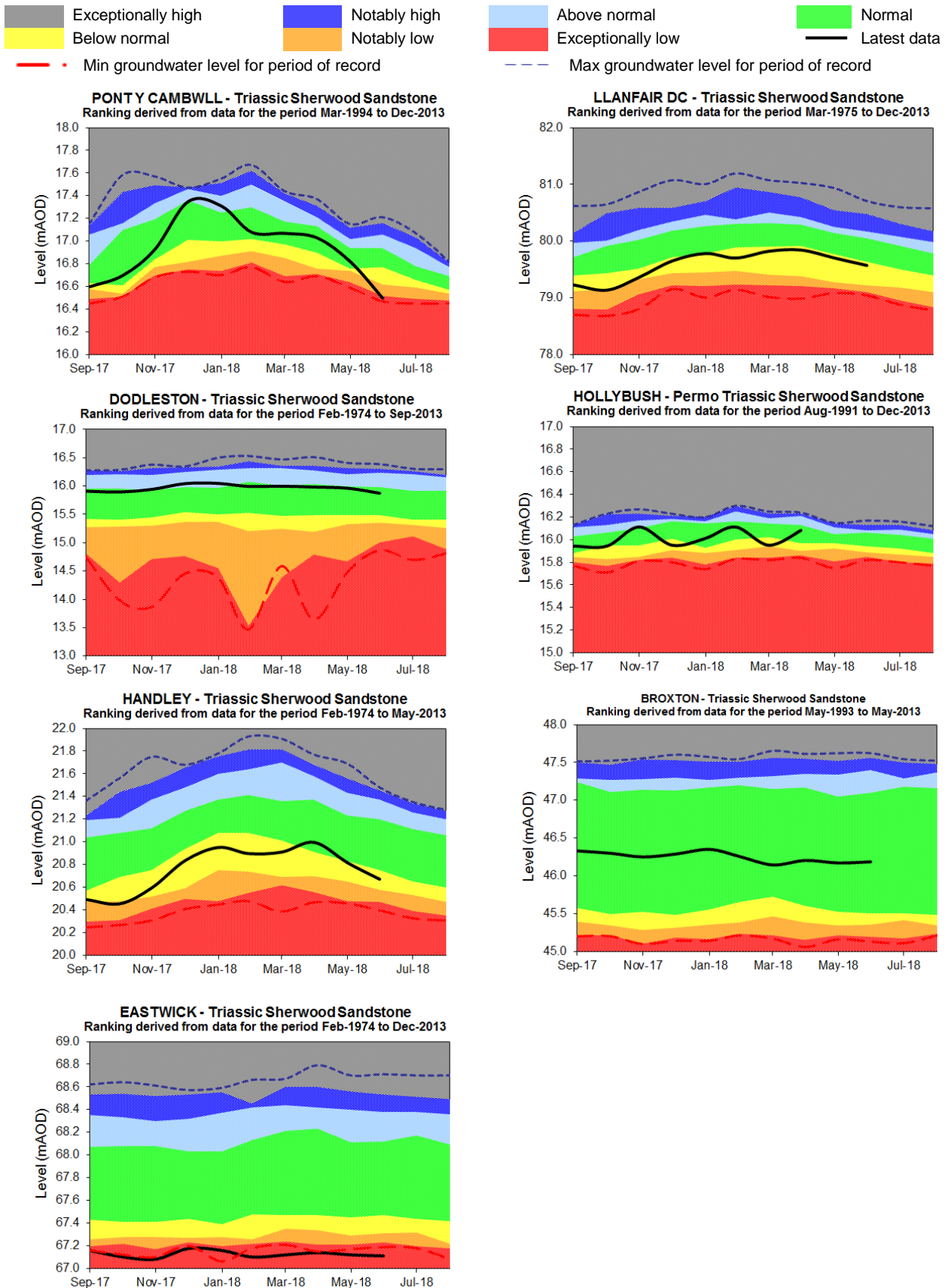
Figure 17: Groundwater level charts: South West Wales



End of month groundwater levels for the past 10 months for index sites (Source: Natural Resources Wales).

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Figure 18: Groundwater level charts: North Wales

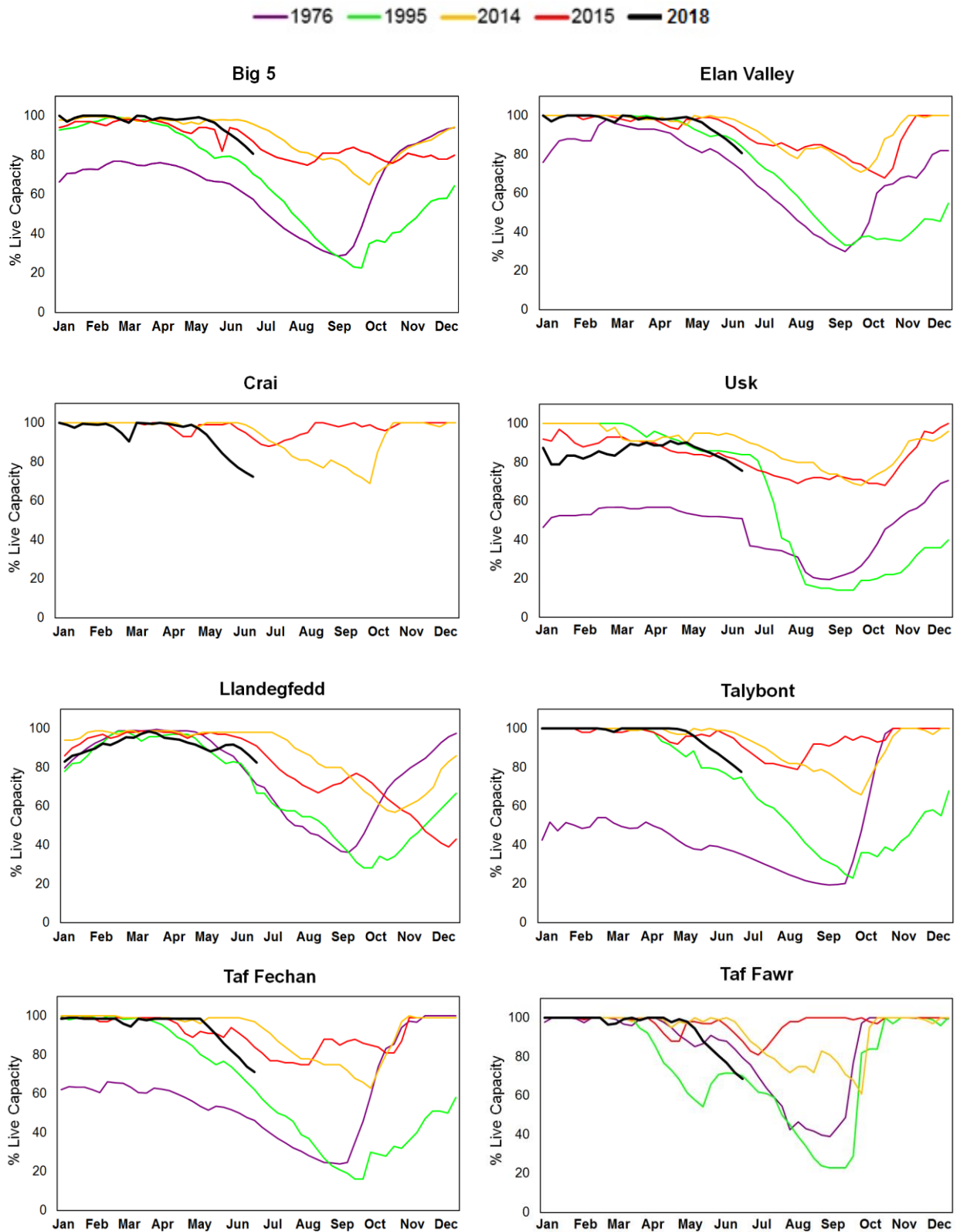


End of month groundwater levels for the past 10 months for index sites (Source: Natural Resources Wales and Environment Agency). (Please note that data is not available for May and June 2018 for Hollybush)

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Reservoir Storage

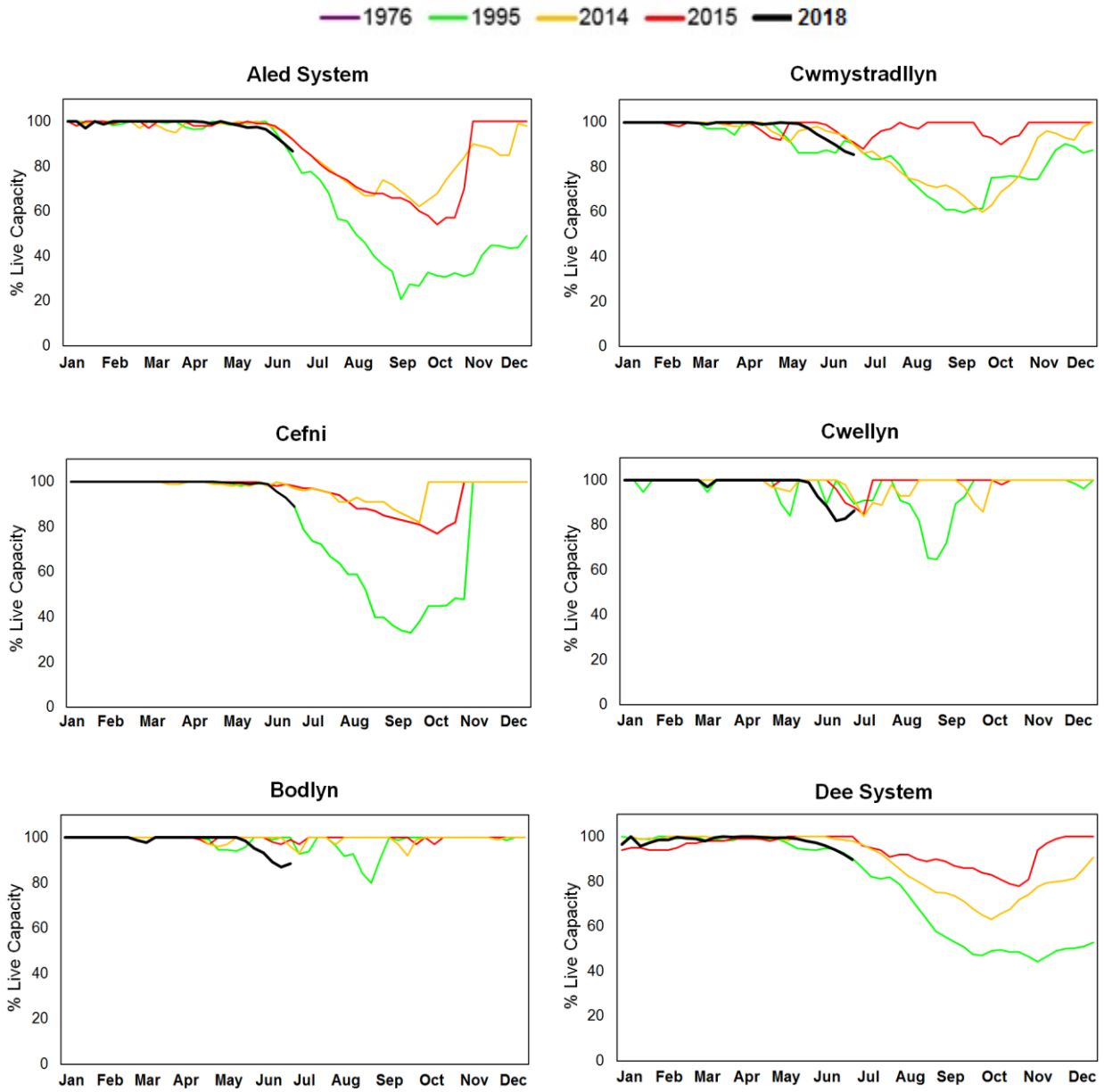
Figure 19: Reservoir charts: South East Wales



Weekly reservoir stocks for Natural Resources Wales index sites (Source: Welsh Water)

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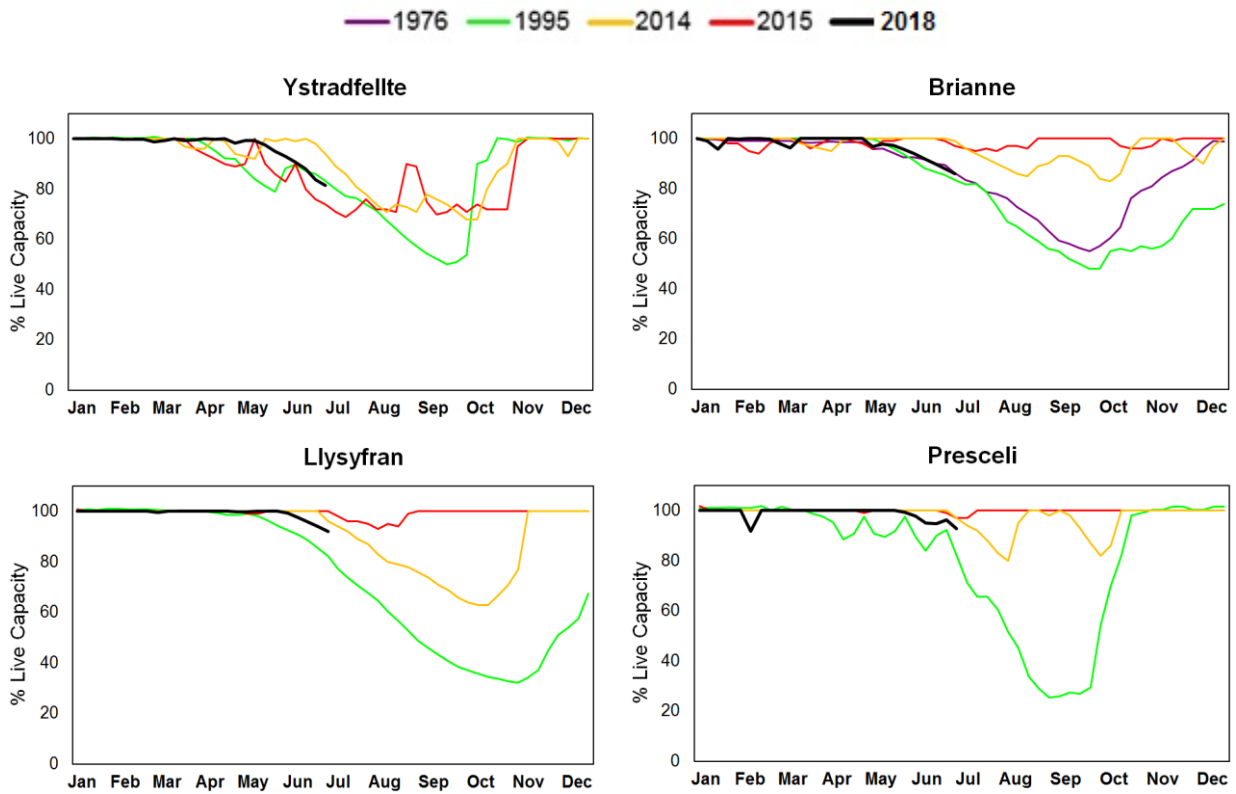
Figure 20: Reservoirs charts: North Wales



Weekly reservoir stocks for Natural Resources Wales index sites (Source: Welsh Water).

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Figure 21: Reservoirs charts: South West Wales



Weekly reservoir stocks for Natural Resources Wales index sites (Source: Welsh Water).

Glossary

Term	Definition
Aquifer	A geological formation able to store and transmit water.
Areal average rainfall	The estimated average depth of rainfall over a defined area. Expressed in depth of water (mm).
Effective rainfall	The rainfall available to percolate into the soil or produce river flow. Expressed in depth of water (mm).
Groundwater	The water found in an aquifer
Meteorological Office Rainfall and Evaporation Calculating System (MORECS)	The Met Office provides climate data for grid squares measuring 40km by 40km across the UK using MORECS
Recharge	The process of increasing the water stored in the saturated zone of an aquifer. Expressed in depth of water (mm).
Reservoir live capacity	The reservoir capacity normally usable for storage to meet established reservoir operating requirements. It is the total capacity less that not available because of operating agreements or physical restrictions. Only under abnormal conditions, such as a severe water shortage might this additional water be extracted.
Soil moisture deficit (SMD)	The difference between the amount of water actually in the soil and the amount of water that the soil can hold. Expressed in depth of water (mm).

Categories

Exceptionally high	Value likely to fall within this band 5% of the time
Notably high	Value likely to fall within this band 8% of the time
Above normal	Value likely to fall within this band 15% of the time
Normal	Value likely to fall within this band 44% of the time
Below normal	Value likely to fall within this band 15% of the time
Notably low	Value likely to fall within this band 8% of the time
Exceptionally low	Value likely to fall within this band 5% of the time

Units

cumecs	Cubic metres per second ($\text{m}^3 \text{s}^{-1}$)
mAOD	Metres Above Ordnance Datum (mean sea level at Newlyn Cornwall).