

Natural Resources Wales

- The monthly rainfall total for Wales during October was 97% of the Long Term Average (LTA, 1961-90). South East, South West and North Wales received 95%, 108% and 87% of the LTA, respectively.
- At the end of October, the differences between soil moisture deficit (SMD) values and the LTA across Wales were from -11.3 to 53.6 mm. Soil in 14 squares (out of 23) squares was wetter than the LTA for October.
- For river flows in Wales, 21 out of 29 indicator sites (which had flow data available) were classed as *Normal*. 6 sites were *Below normal* and 2 sites were *Above normal*.
- The cumulative reservoir storage for 16 out of 18 indicator reservoirs was greater than 70% at the end of October. All reservoirs were within normal operating ranges.

Rainfall*

The monthly rainfall total for Wales was 97% of the LTA for October. The percentage of rainfall recorded in catchments compared with their LTA across Wales was between 71% (Conwy) and 118% (North Ceredigion). The rainfall total for Wales was 3.8mm less than the October LTA. For South East, South West and North Wales the rainfall totals were 95%, 108% and 87% of LTA, respectively.

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 -11.3 to 53.6 mm and soil in 14 squares (out of 23) was wetter than the LTA for October.

SMD Map [National](#)

SMD Charts [Compare to LTA](#)

All data are provisional and may be subject to revision.

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River Flows

River flows were between *Below normal* and *Above normal* for all the indicator sites across Wales. 21 out of 29 indicator sites (which had flow data available) were classed as *Normal*. 6 sites were *Below normal* and 2 sites were *Above normal*.

South East: Flows in the area ranged from 42% (River Ely at St. Fagans) to 114% (River Taff at Pontypridd) of the October LTA values.

South West: The river flows within this area ranged from 44% (River Ewenny at Keepers lodge) to 169% (River Cothi at Felin Mynachdy) of the October LTA values.

North: Flows in the area ranged from 41% (River Wheeler at Bodfari) to 92% (River Ceiriog at Brynkinalt Weir) of the October 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 October at indicator sites (9 data available sites) were classed between *Exceptionally low* (Eastwick) to *Above Normal* (Greenfield Garage). 1 site (Pant-y-Lladron) was *Notably low* and 3 sites were classed as *Below normal* (Llanfair DC, Handley and Hollybush). The remaining 4 sites (Fernbank, Pont y Cambwll, Dodleston Obs and Broxton Obs) were *Normal*.

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

Reservoir Storage

At the end of October the cumulative reservoir storage for 16 out of 18 indicator reservoirs were greater than 70% full. All reservoirs were within normal operating ranges.

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

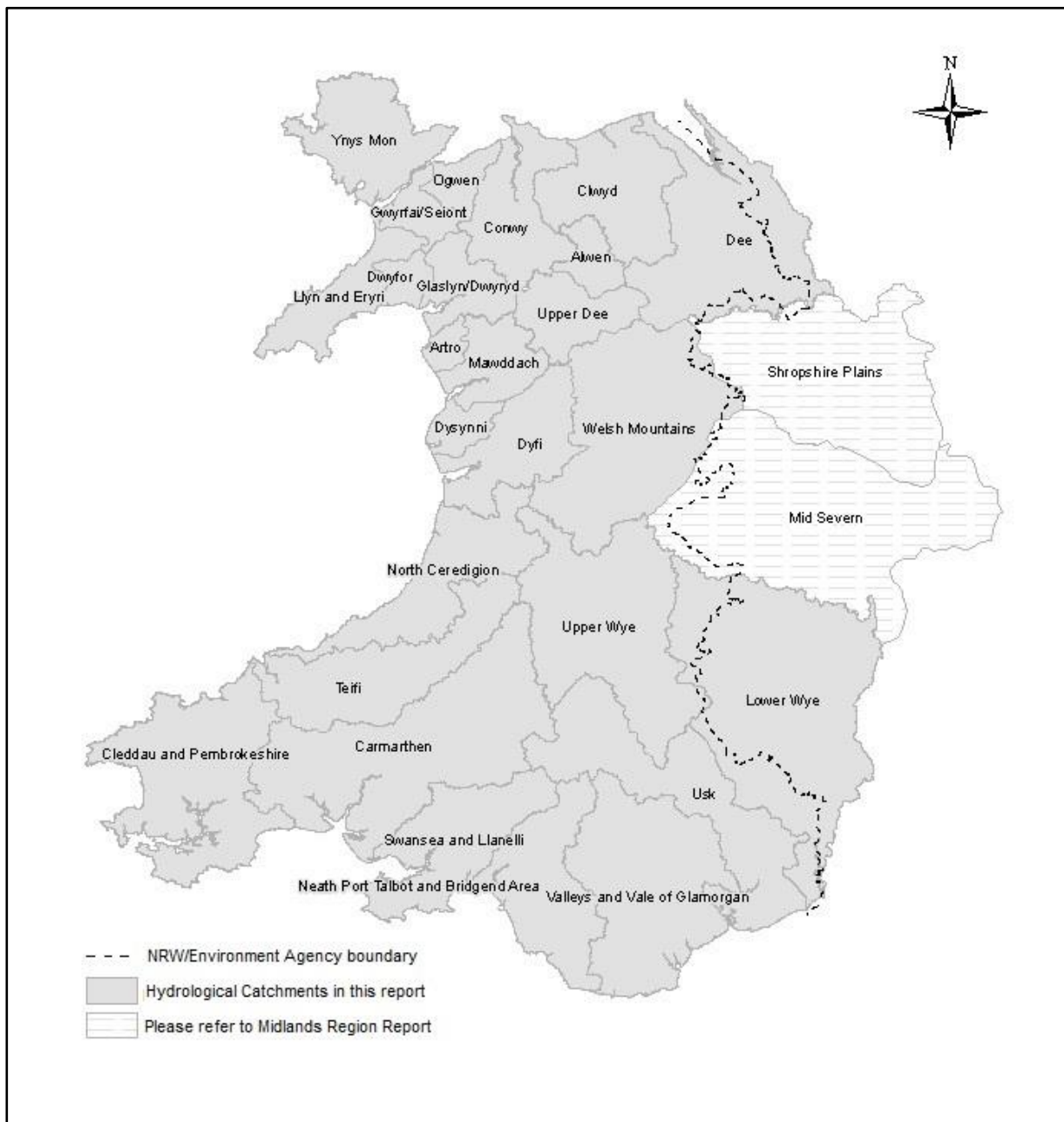


Figure 1: The Natural Resources Wales Water Situation Report features sites in the catchments shown. Parts of the Shropshire Plains and Mid Severn catchments are within Wales. For full information on these catchments, please see the Environment Agency Midlands Water Situation Report.

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](#)

Rainfall

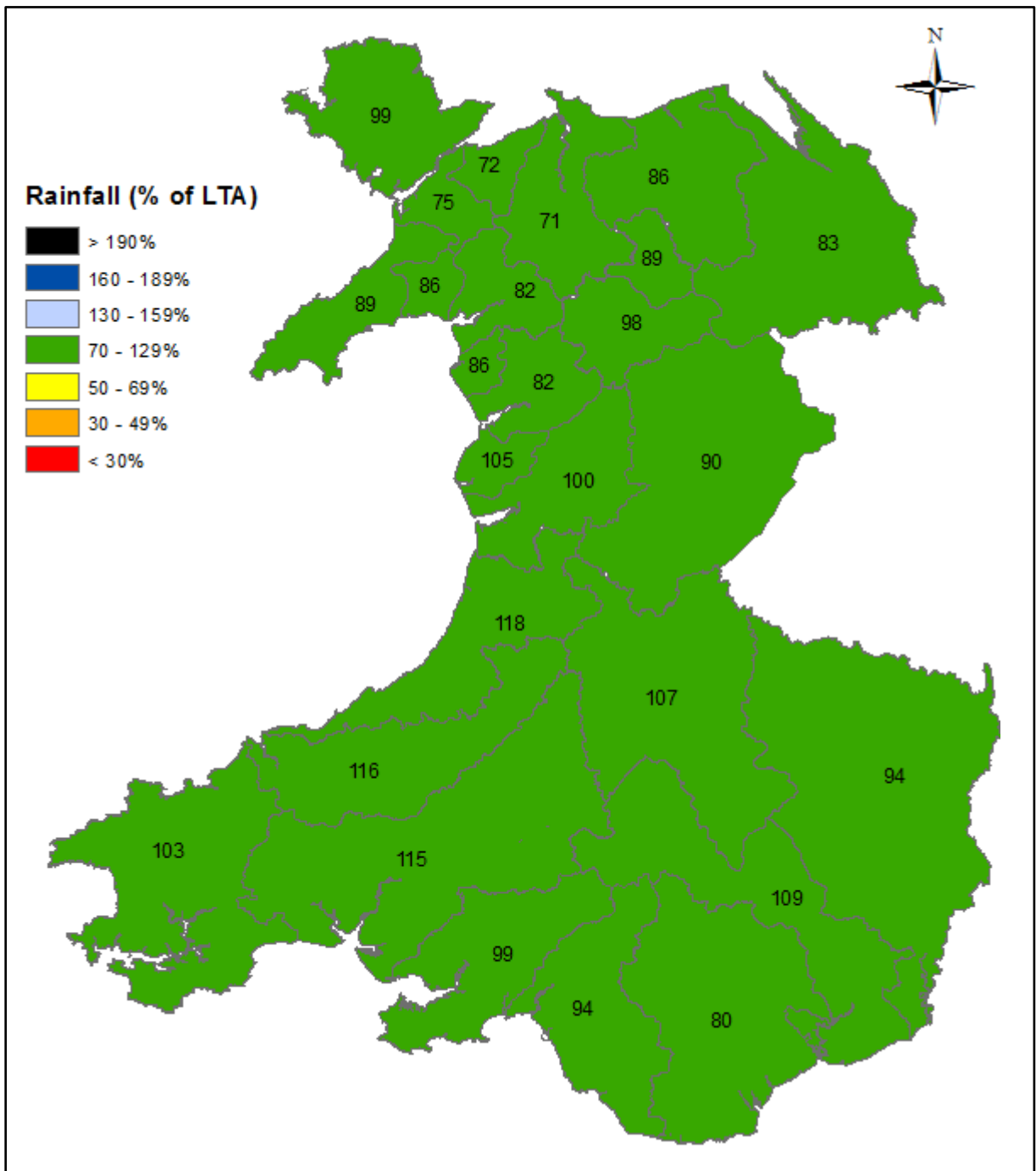


Figure 2: Calculated catchment average October rainfall totals as a percentage of the 1961-90 October long term average for Natural Resources Wales catchments, using NCIC (National Climate Information Centre) data (Source: Met Office © Crown Copyright).

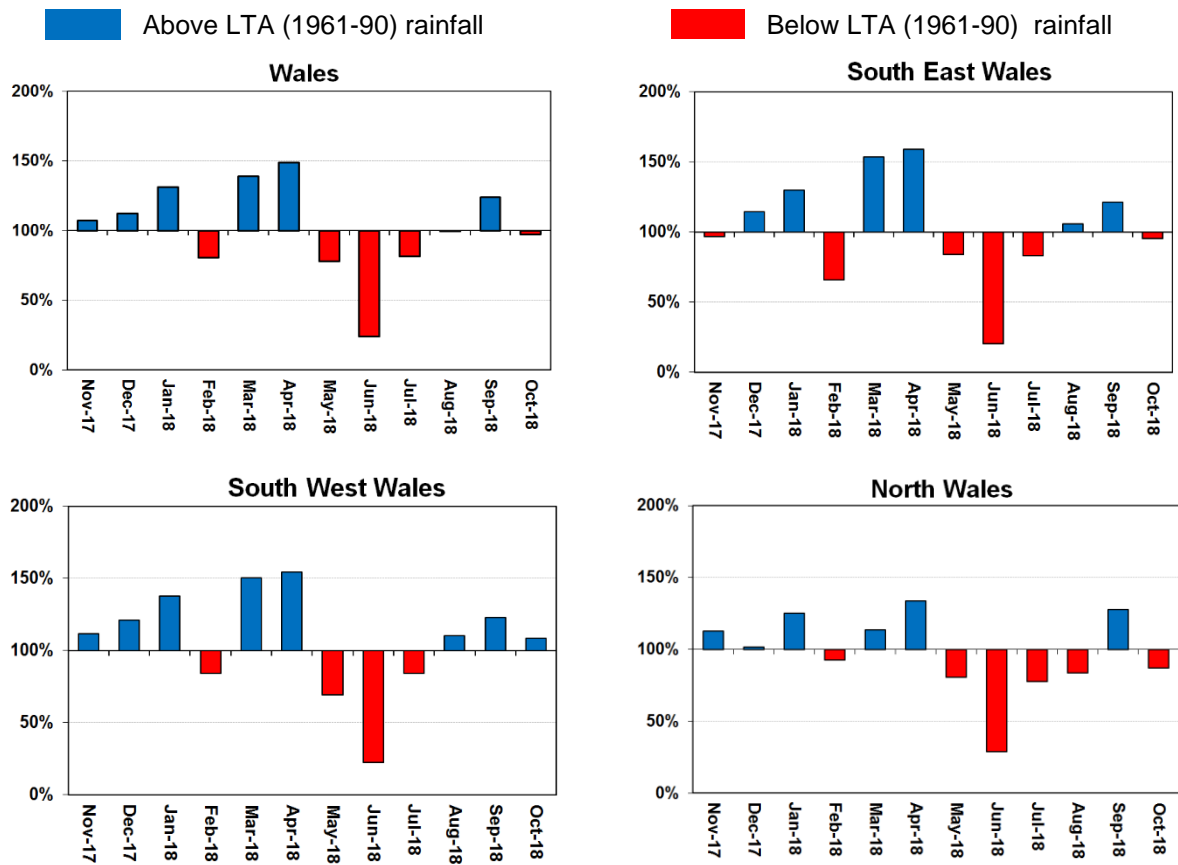
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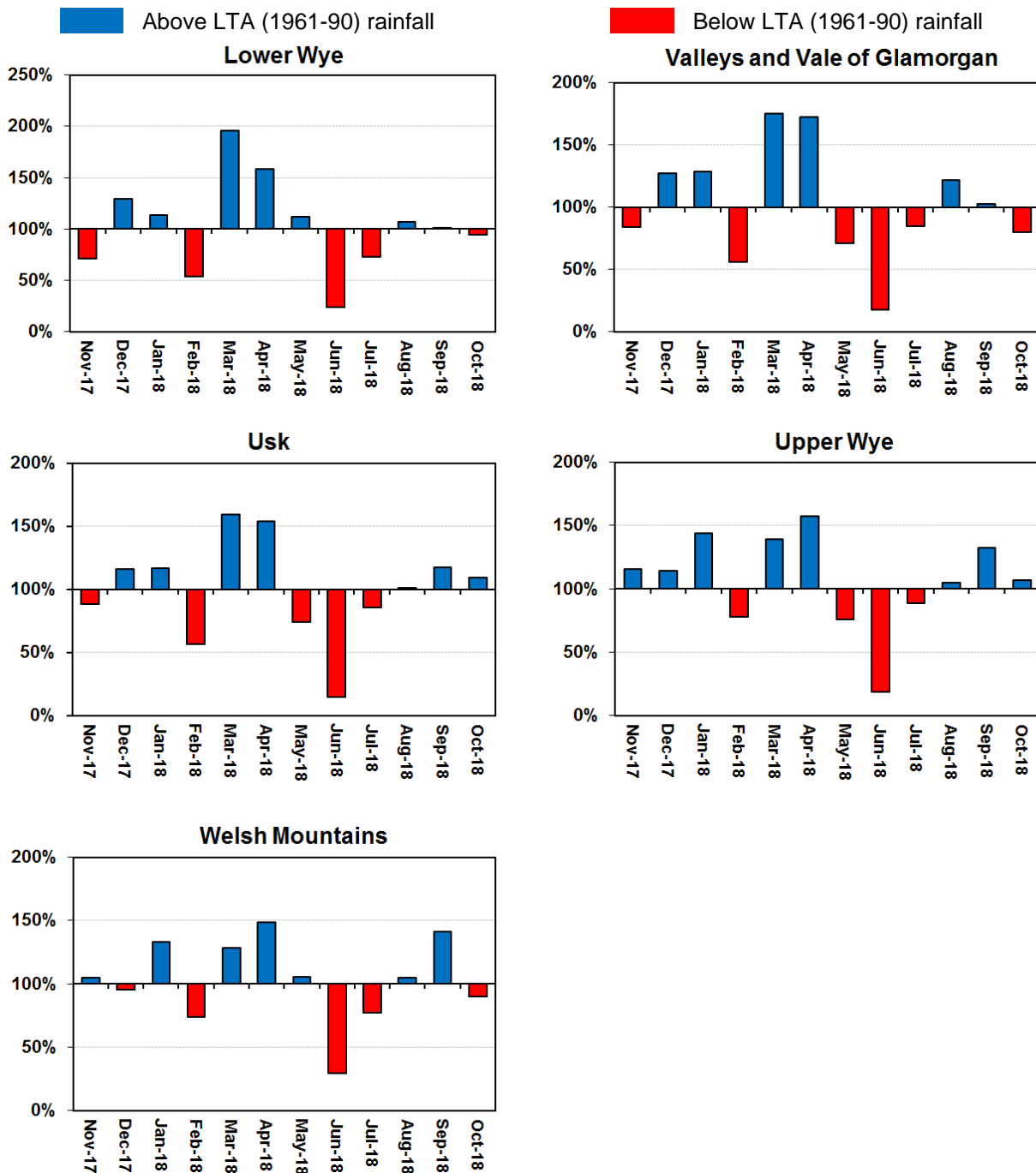
Rainfall Charts

Figure 3: Rainfall Charts: National and Areas



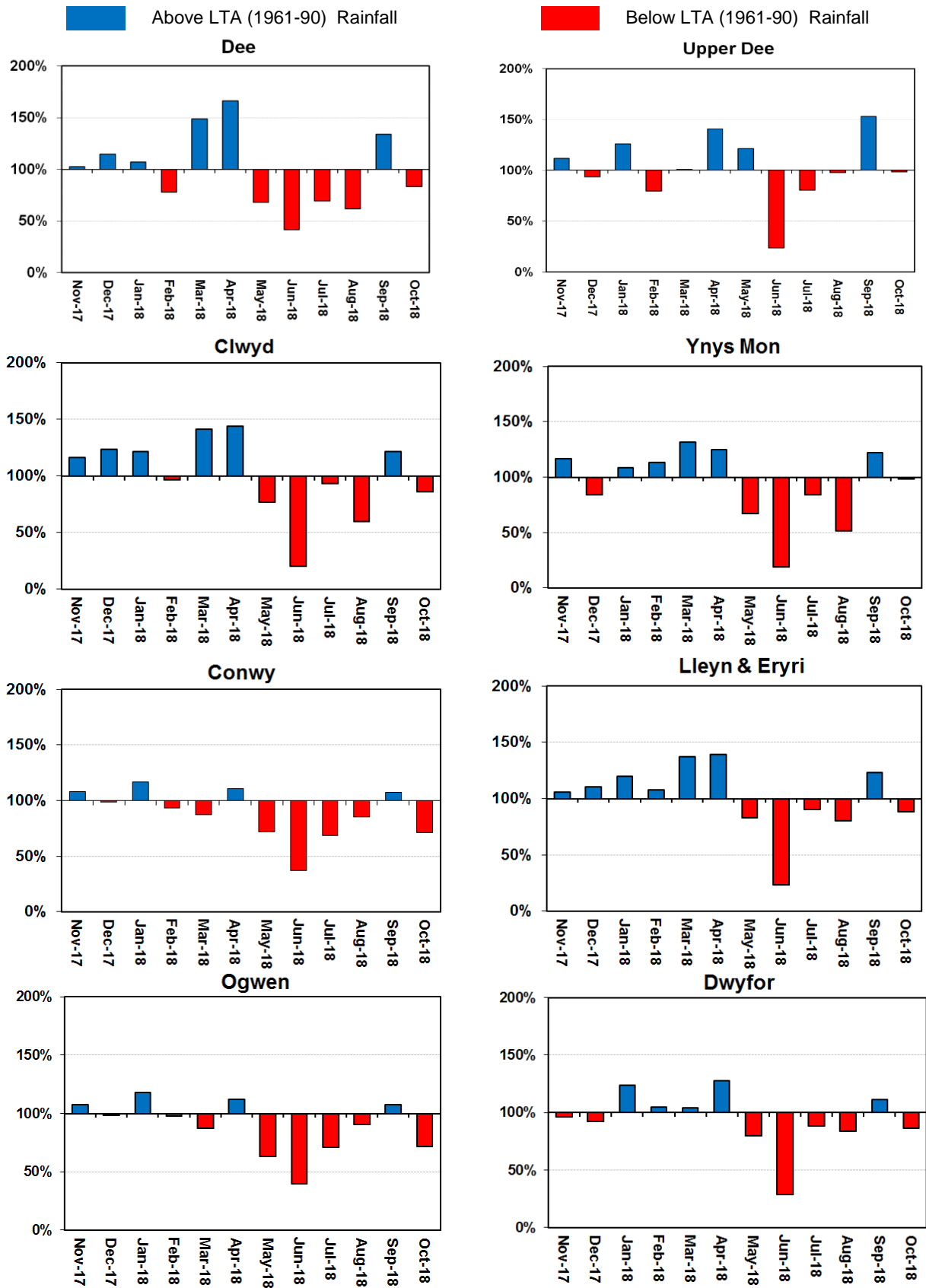
Comparison of monthly rainfall totals to the 1961-90 long term average expressed as percentage for Natural Resources Wales and Areas, using NCIC (National Climate Information Centre) data (Source: Met Office © Crown Copyright).

Figure 4: Rainfall Charts: South East Wales



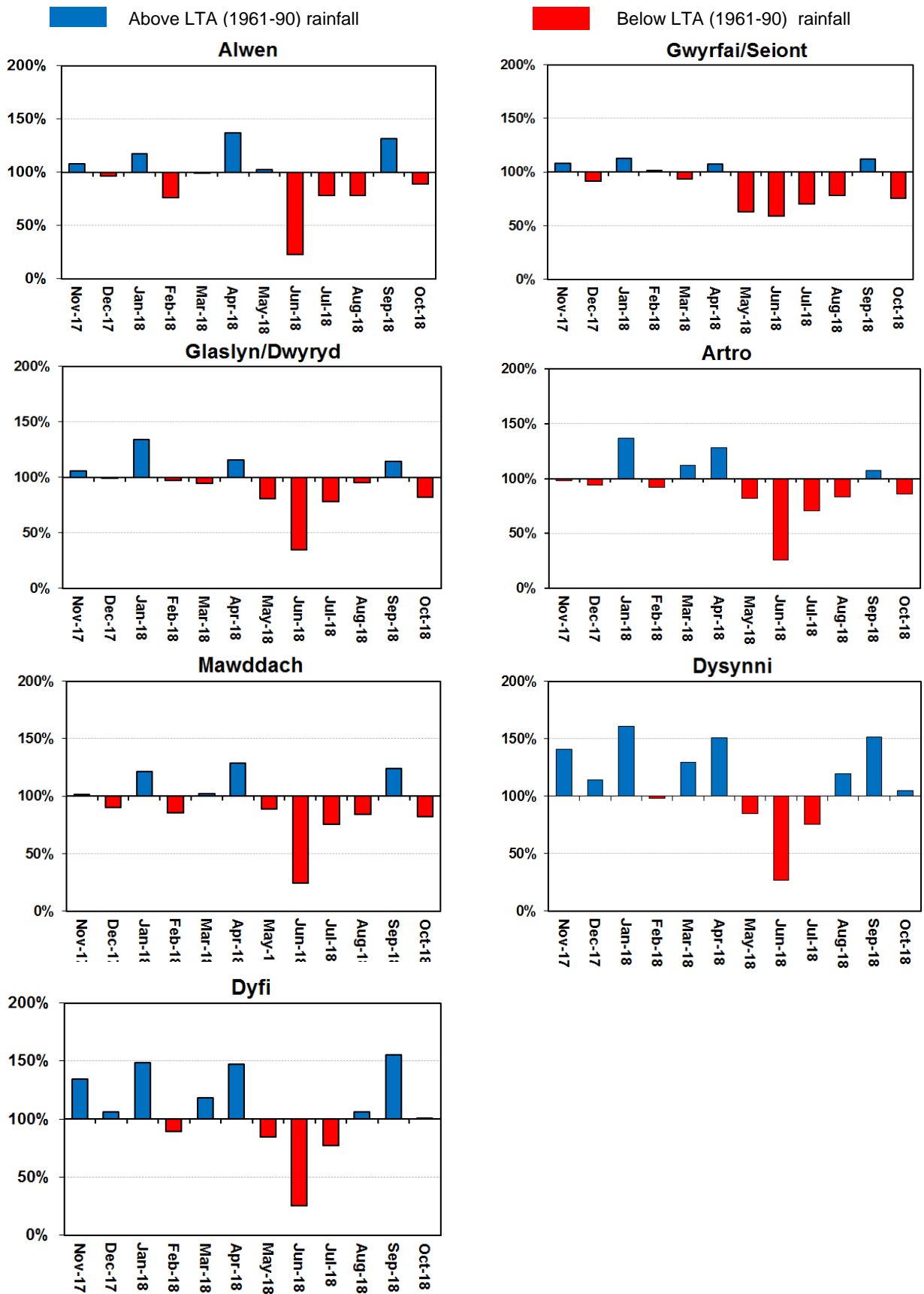
Comparison of monthly rainfall totals to the 1961-90 long term average expressed as percentage for South East Wales, using NCIC (National Climate Information Centre) data (Source: Met Office © Crown Copyright).

Figure 5: Rainfall Charts: North Wales



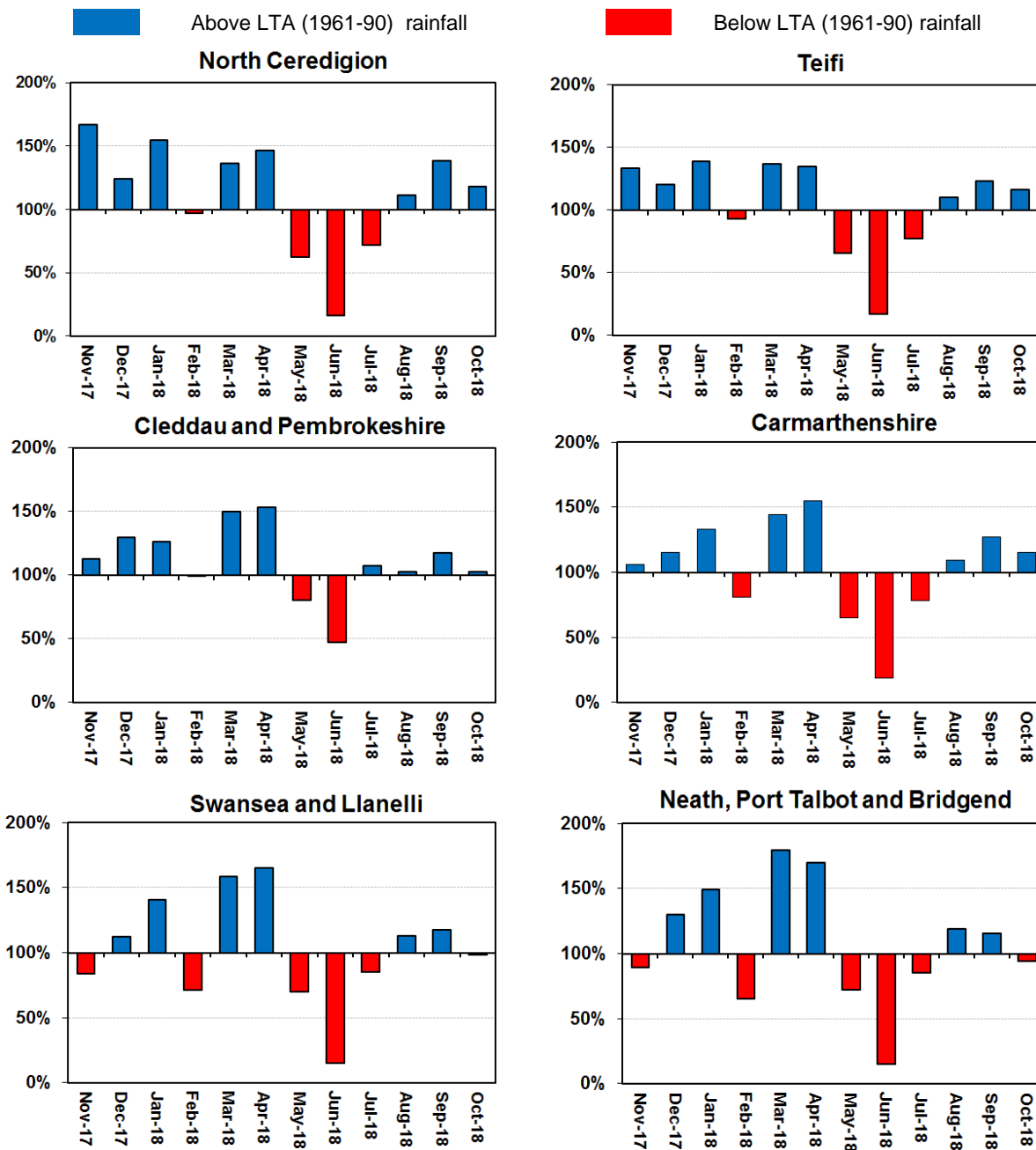
Comparison of monthly rainfall totals to the 1961-90 long term average expressed as percentage for North Wales, using NCIC (National Climate Information Centre) data (Source: Met Office © Crown Copyright).

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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)

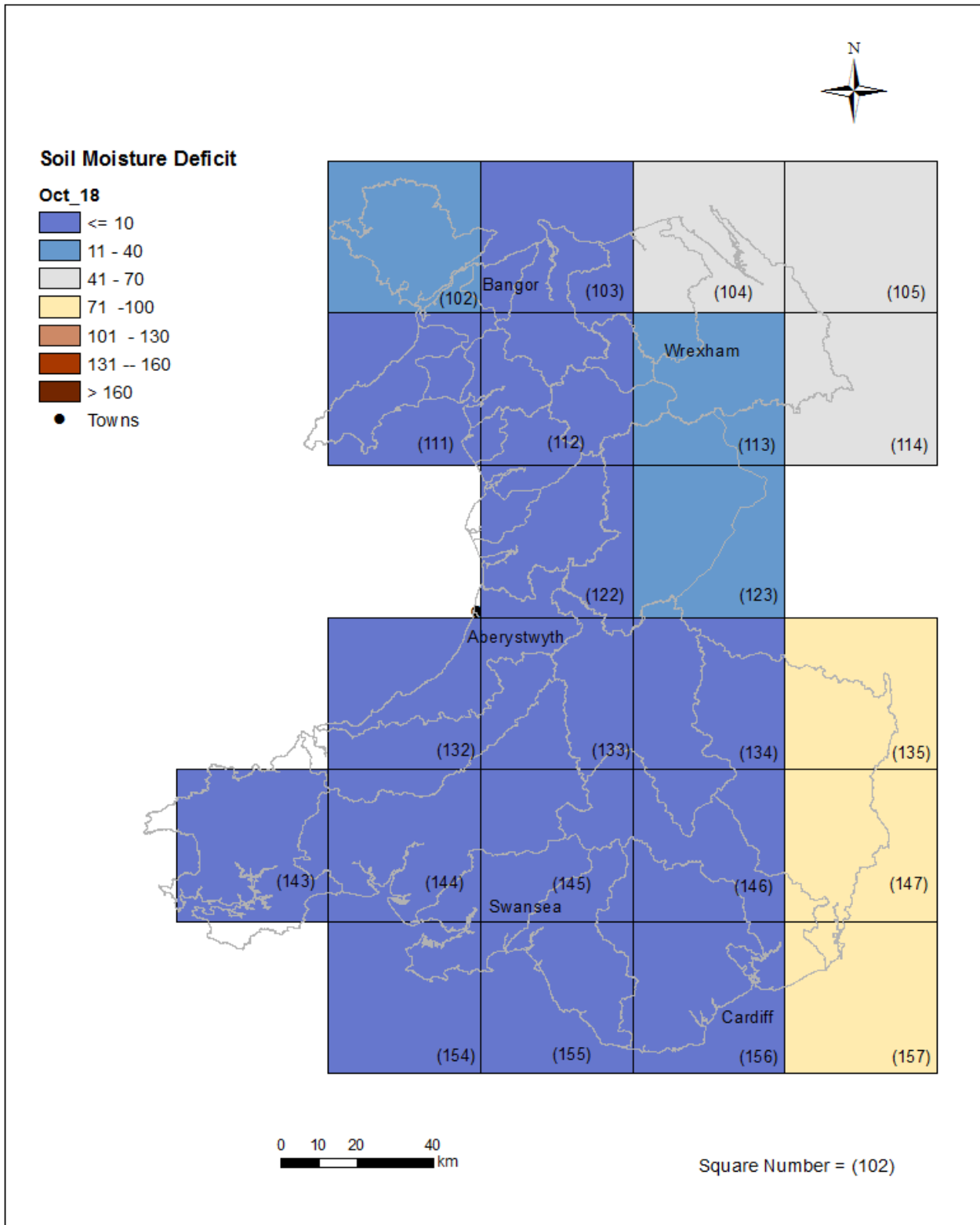


Figure 7: MORECS soil moisture deficits (mm) for October for real land use for Natural Resources Wales (Source: Met Office © Crown Copyright).

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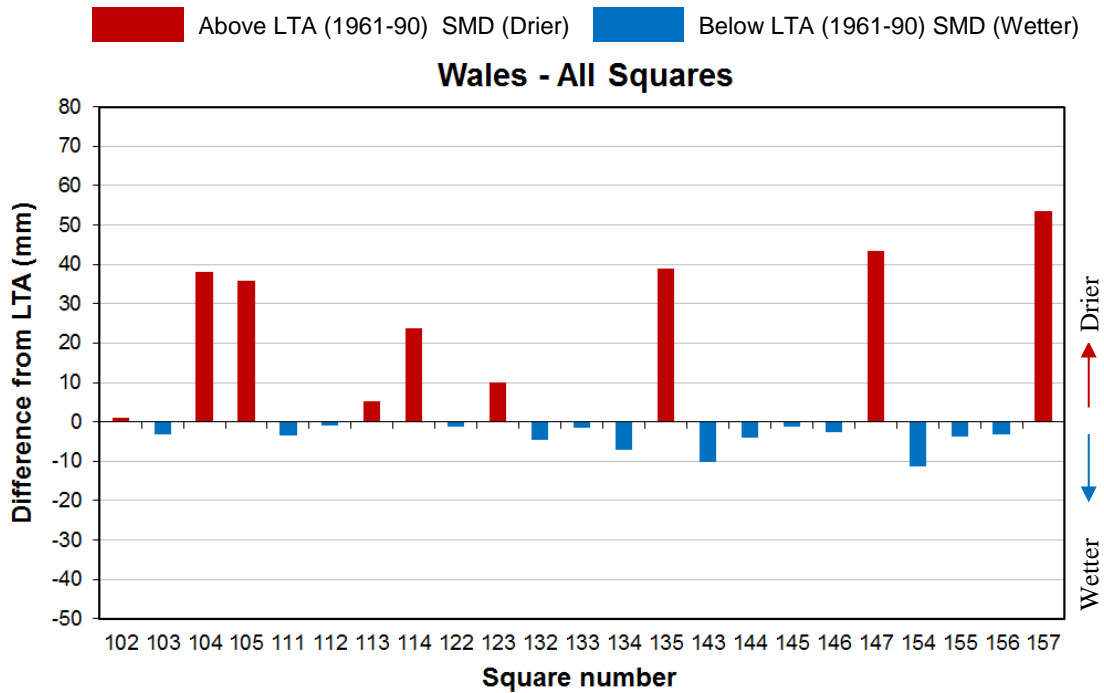


Figure 8: MORECS month end soil moisture deficits difference (mm) from the 1961-90 long term monthly average (LTA) for October for real land use for Natural Resources Wales squares (Source: Met Office © Crown Copyright).

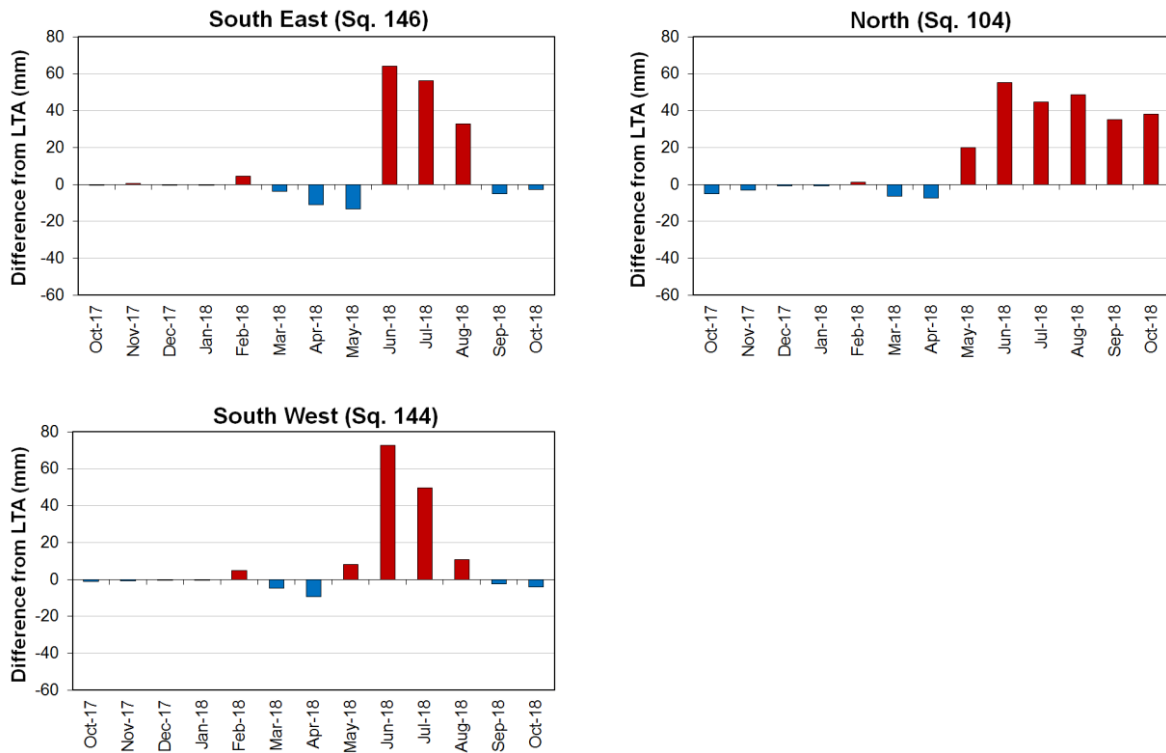


Figure 9: MORECS month end soil moisture deficit difference (mm) from the 1961-90 long term monthly average (LTA) for real land use for South East, North and South West (Source: Met Office © Crown Copyright). (Note: no LTA available for Natural Resources Wales.)

River Flow

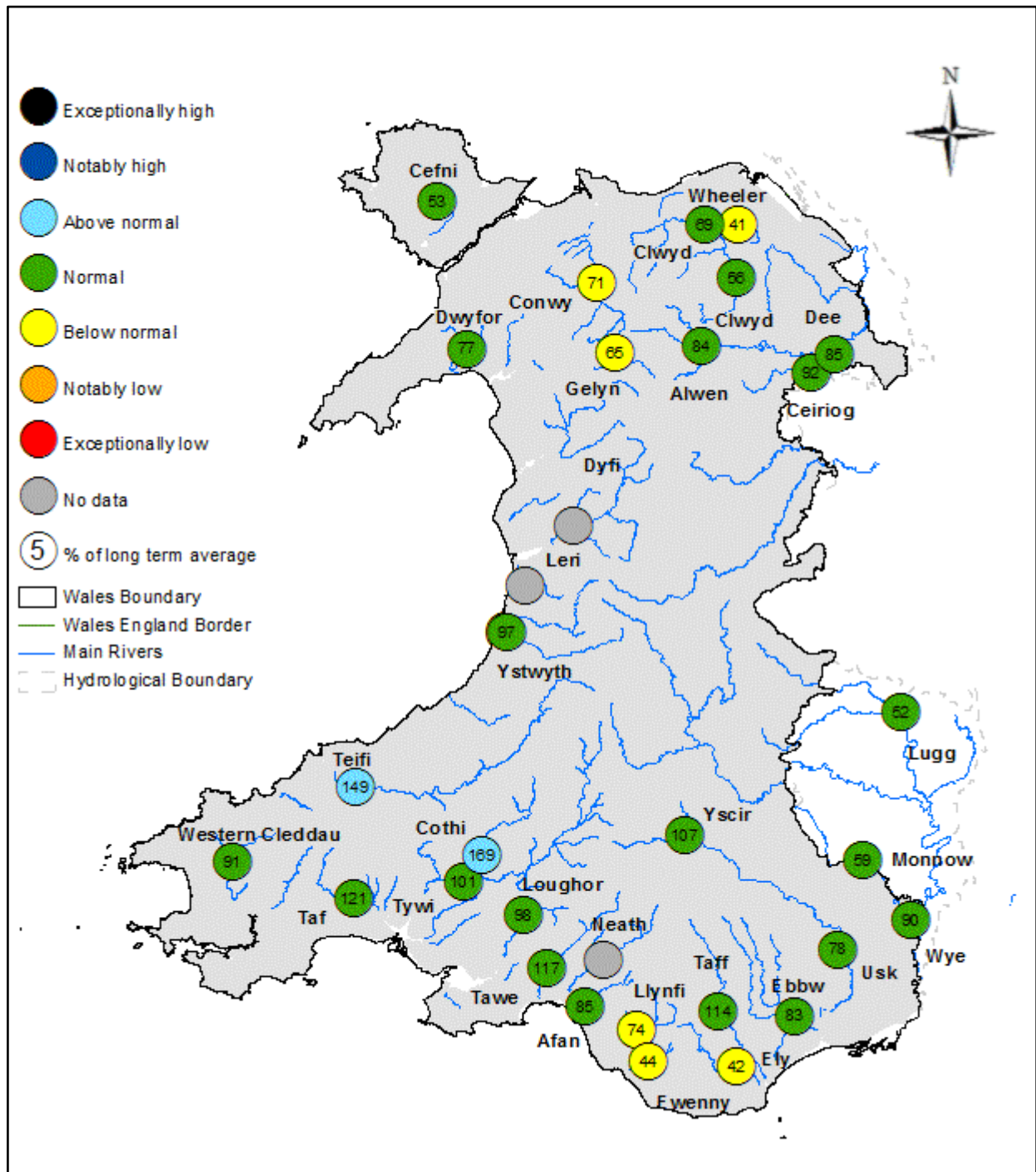


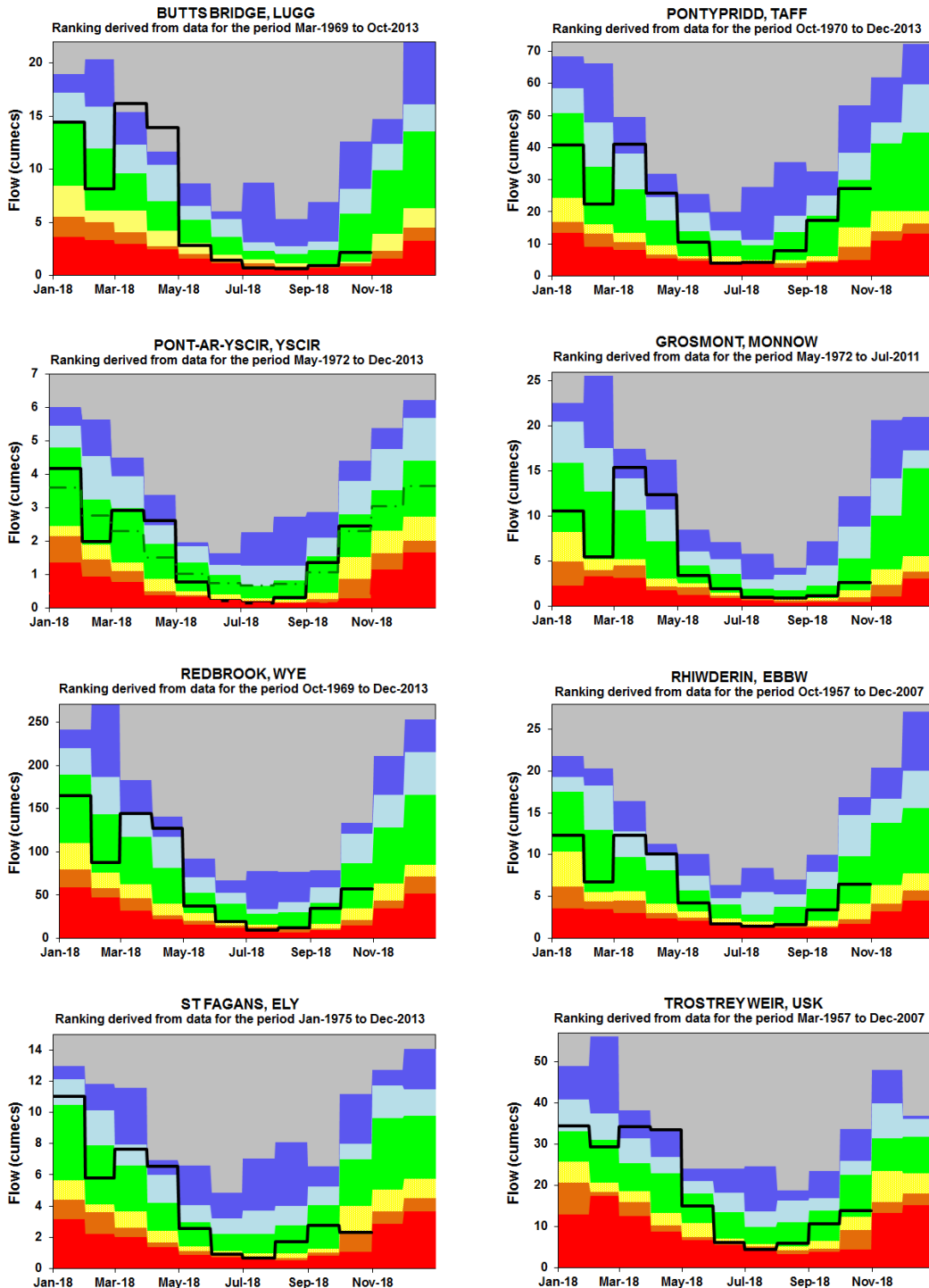
Figure 10: Monthly mean river flow for October, classed relative to analysis of historic October monthly means (Source: Natural Resources Wales).

SITE NAME	RIVER	October 2018			October 2017		October 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	Normal	52%	2.14	35%	1.46	4.15	0.68	14.50
Grosmont	Monnow	Normal	59%	2.65	42%	1.86	4.46	0.35	19.50
Pont ar Yscir	Yscir	Normal	107%	2.45	78%	1.78	2.29	0.19	7.19
Pontypridd	Taff	Normal	114%	27.2	103%	24.60	23.85	3.54	66.30
Redbrook	Wye	Normal	90%	56.7	79%	50.00	63.01	9.53	174.00
Rhiwderin	Ebbw	Normal	83%	6.42	74%	5.68	7.71	0.91	23.20
St Fagans	Ely	Below normal	42%	2.3	79%	4.38	5.54	0.71	13.80
Trostrey Weir	Usk	Normal	78%	13.8	114%	20.20	17.71	3.39	59.50
River Flow Sites : North Area									
Bodfari	Wheeler	Below normal	41%	0.25	82%	0.50	0.61	0.20	1.77
Bodffordd	Cefni	Normal	53%	0.27	122%	0.62	0.51	0.06	1.60
Brynkinalt Weir	Ceiriog	Normal	92%	2.83	76%	2.35	3.08	0.47	8.13
Cwmlanerch	Conwy	Below normal	71%	16.8	188%	44.70	23.82	2.86	60.10
Cynefail	Gelyn	Below normal	65%	0.56	184%	1.58	0.86	0.09	2.00
Dol y Bont	Leri						2.10	0.14	5.15
Druid	Alwen	Normal	84%	4.74	150%	8.41	5.61	0.60	15.00
Dyfi bridge	Dyfi						30.07	9.73	77.00
Garndolbenmaen	Dwyfor	Normal	77%	2.73	164%	5.82	3.54	1.32	9.05
Manley Hall	Dee	Normal	85%	28.8	146%	49.50	33.87	8.73	75.70
Pont y Cambwll	Clwyd	Normal	69%	4.08	122%	7.17	5.89	0.94	19.40
Ruthin Weir	Clwyd	Normal	56%	0.74	113%	1.48	1.31	0.14	3.34
River Flow Sites : South West Area									
Capel Dewi	Tywi	Normal	101%	51.2	97%	49.10	50.74	8.81	113.00
Clog y Fran	Taf	Normal	121%	10.9	109%	9.82	9.01	1.02	22.30
Coytrahen	Llynfi	Below normal	74%	2.17	102%	3.00	2.94	0.50	6.33
Felin Mynachdy	Cothi	Above normal	169%	25.4	96%	14.50	15.04	1.61	37.90
Glanteifi	Teifi	Above normal	149%	53.2	99%	35.20	35.70	3.89	98.70
Keepers Lodge	Ewenny	Below normal	44%	0.922	71%	1.48	2.09	0.41	4.49
Marcroft	Afan	Normal	85%	5.74	116%	7.84	6.74	0.93	13.60
Pont Llwlwyn	Ystwyth	Normal	97%	7.52	98%	7.55	7.74	0.56	19.80
Treffgarne *	Western Cleddau	Normal	91%	3.2	107%	3.78	0.48	10.95	3.53
Resolven	Neath				146%	18.50	12.63	1.57	29.30
Tir-y-Dail	Loughor	Normal	98%	2.48	110%	2.79	2.53	0.43	5.38
Ynystanglws	Tawe	Normal	117%	18	109%	16.80	15.37	2.66	43.40

Figure 11: Monthly mean river flow for October with comparison against previous year expressed as a percentage of the October long term average and classed relative to analysis of historic October 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 due to the maintenance work at the gauge station)

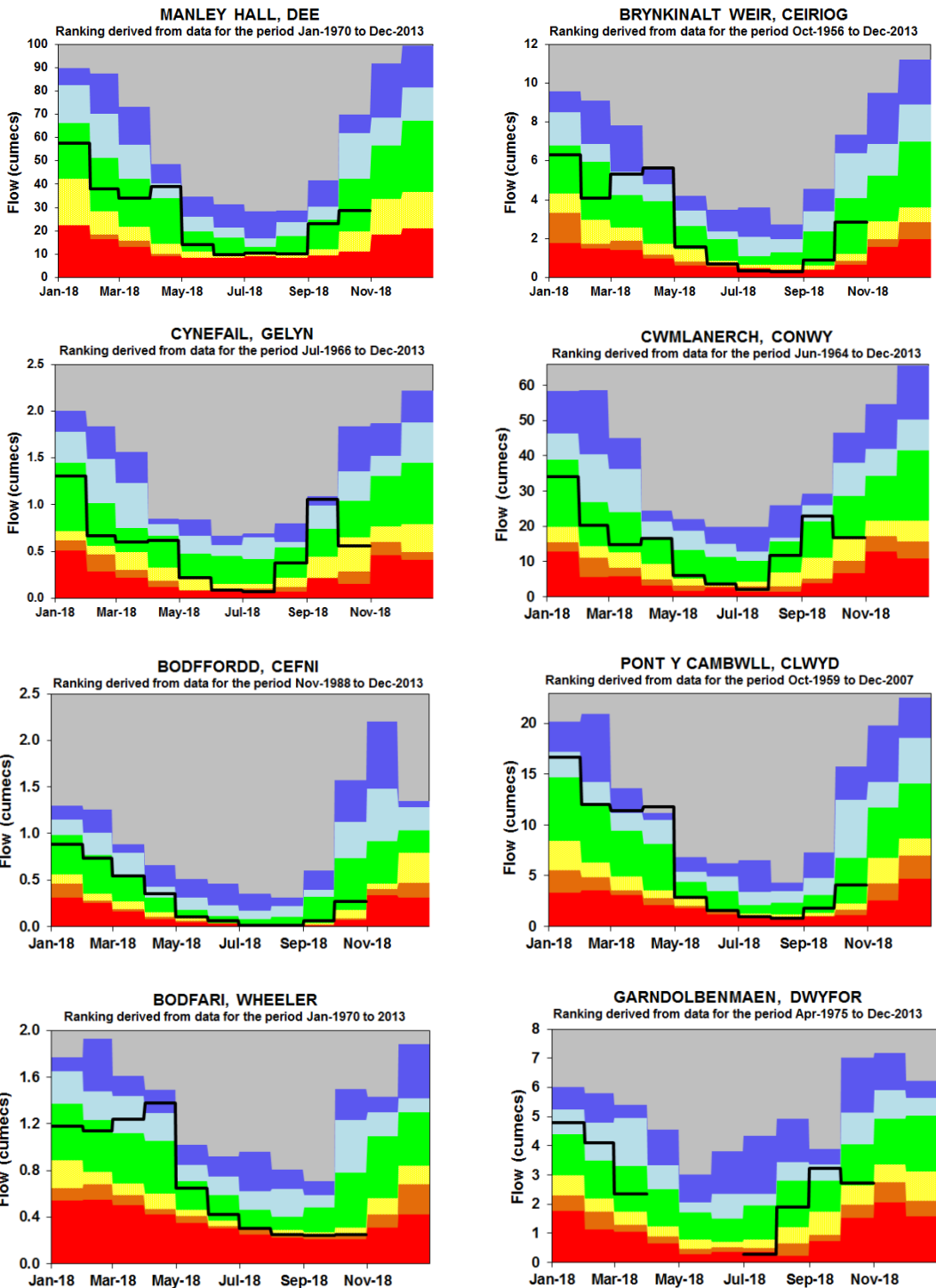
River Flow Charts

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 April to June 2018 due to maintenance work)

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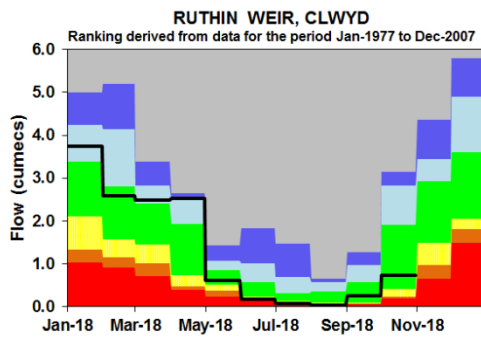
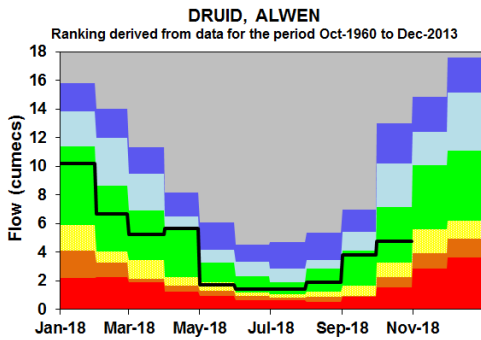
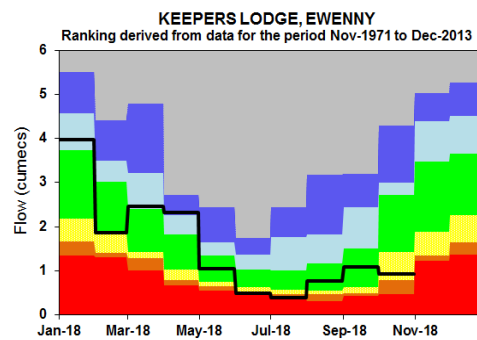
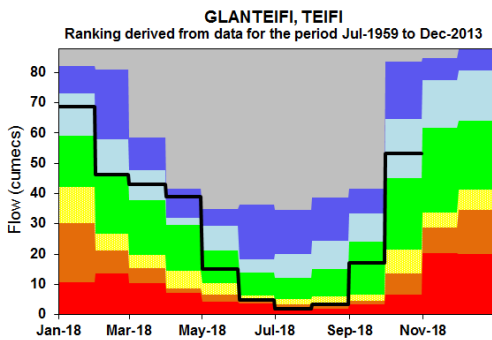
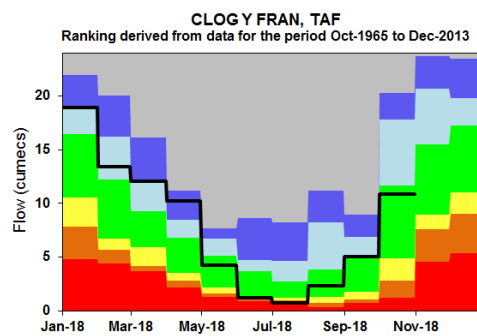
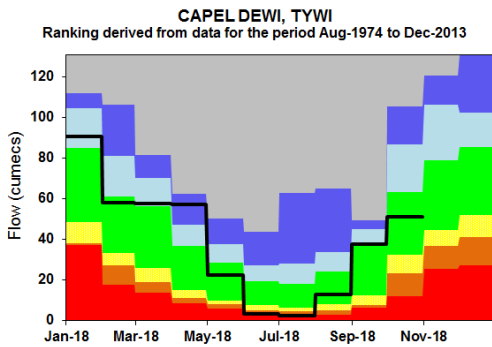
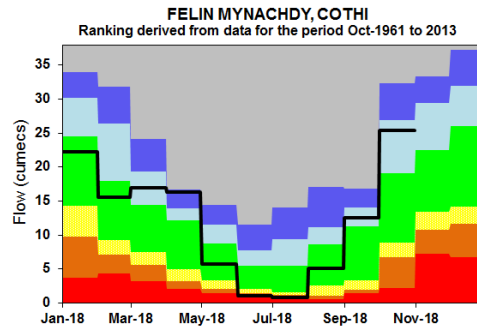
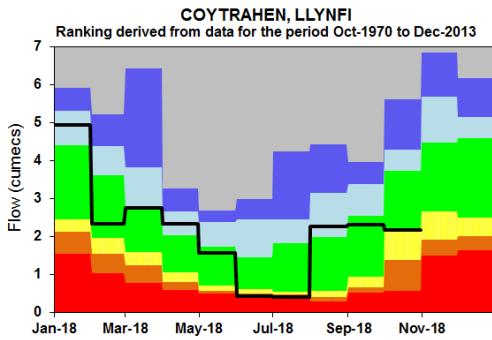
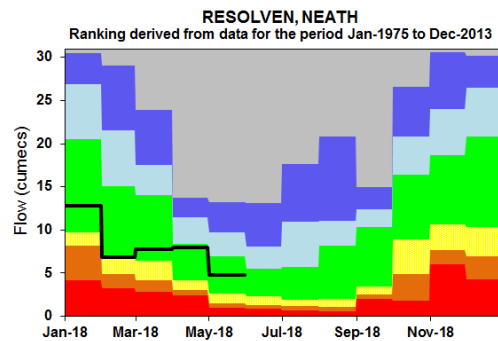
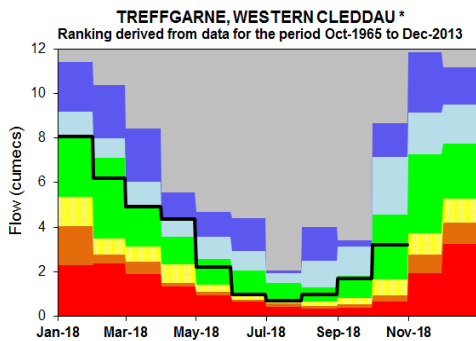
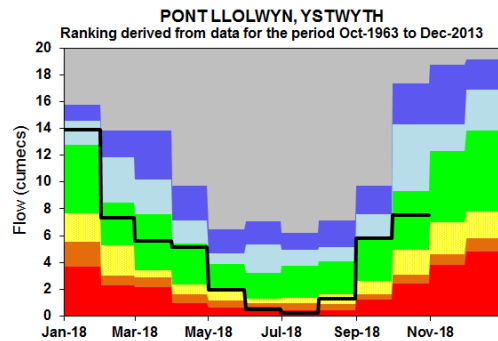
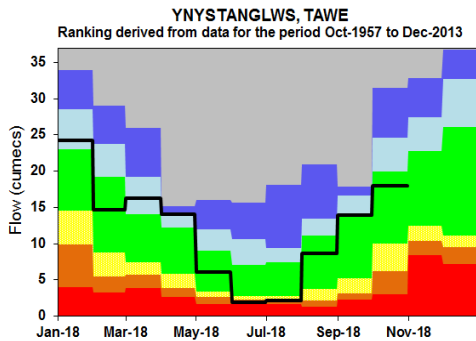
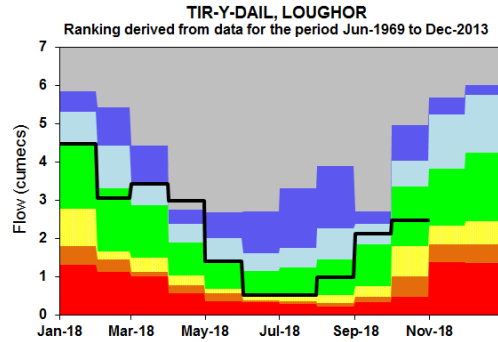
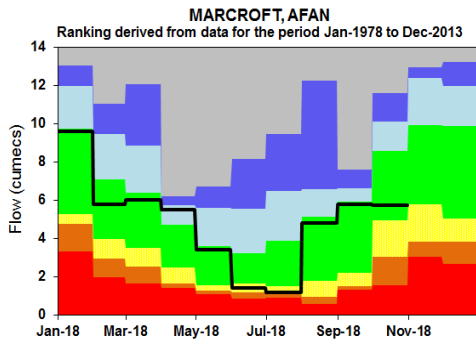


Figure 14: River Flow Charts: South West Wales



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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. There were no flow data for June and October 2018 for Resolven)

Groundwater Levels

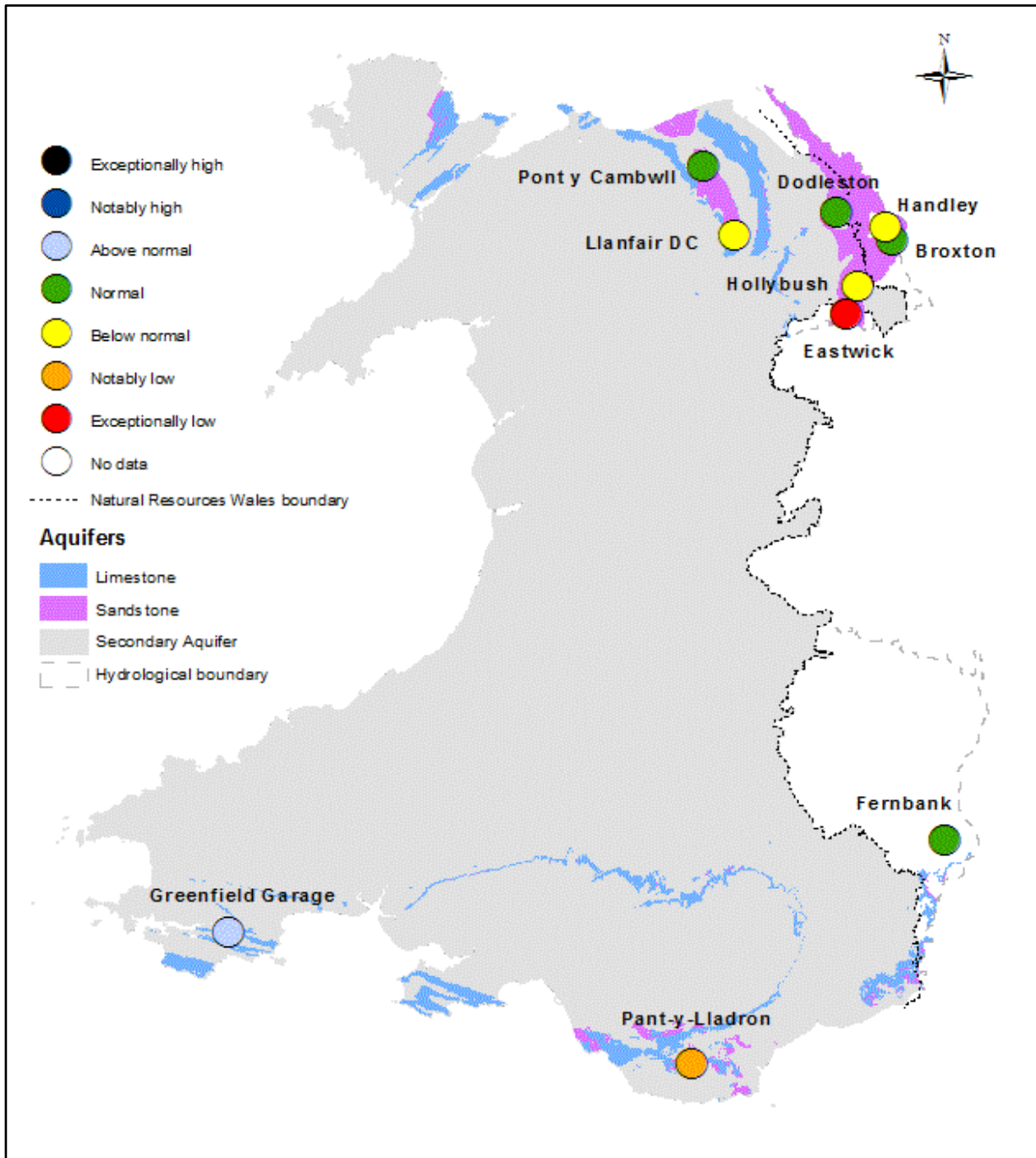
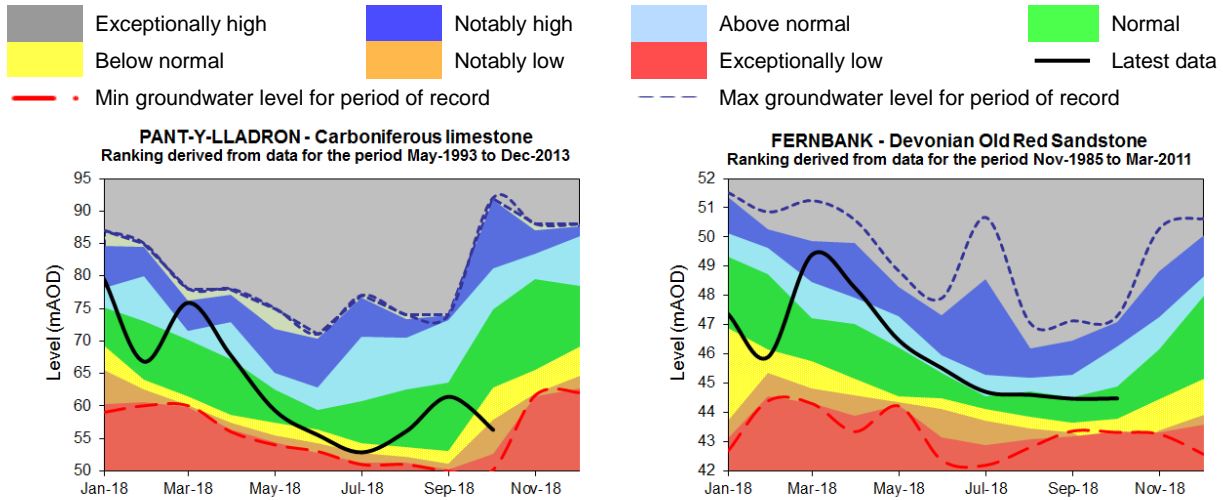


Figure 15: Groundwater levels at the end of month classed relative to an analysis of historic October groundwater levels (Source: Natural Resources Wales and Environment Agency).

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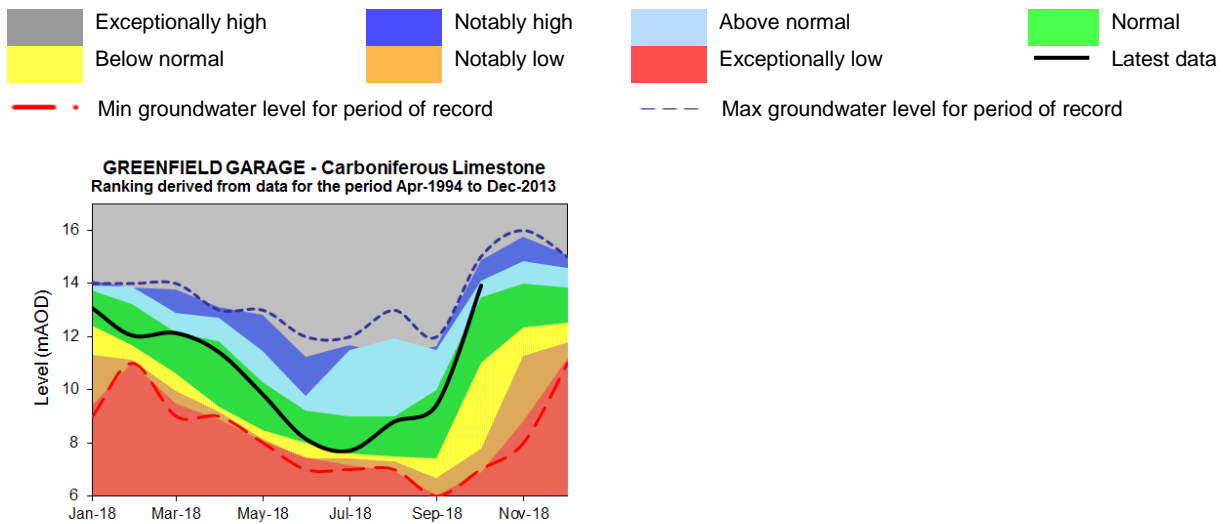
Groundwater charts

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 July 2018 for Pant-y-Lladron)

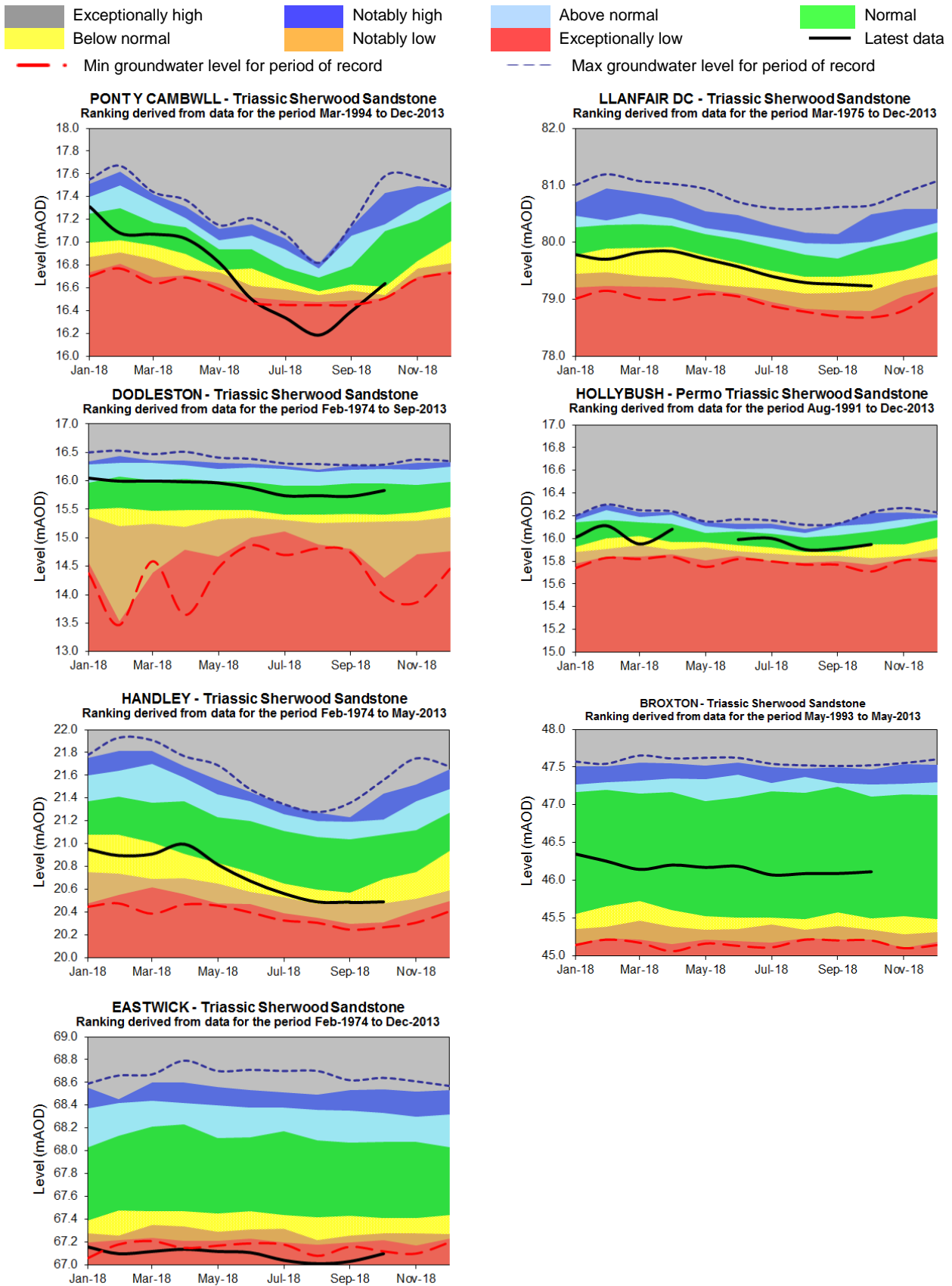
Figure 17: Groundwater level charts: South West Wales



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

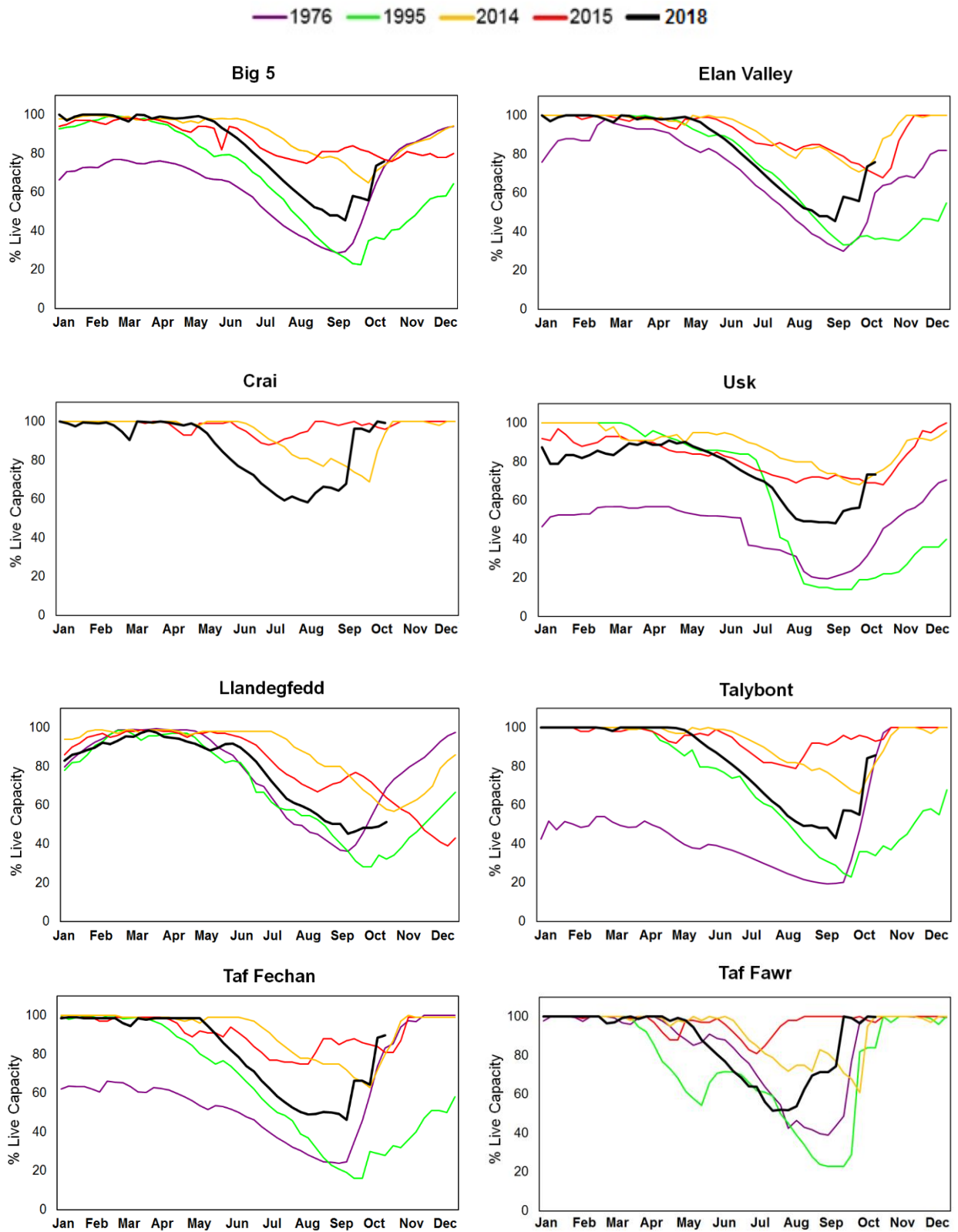


End of month groundwater levels for the past 10 months for index sites (Source: Natural Resources Wales and Environment Agency). (Please note that data is not available for May 2018 for Hollybush and the data for October for this station is taken on 9th October 2018)

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Reservoir Storage

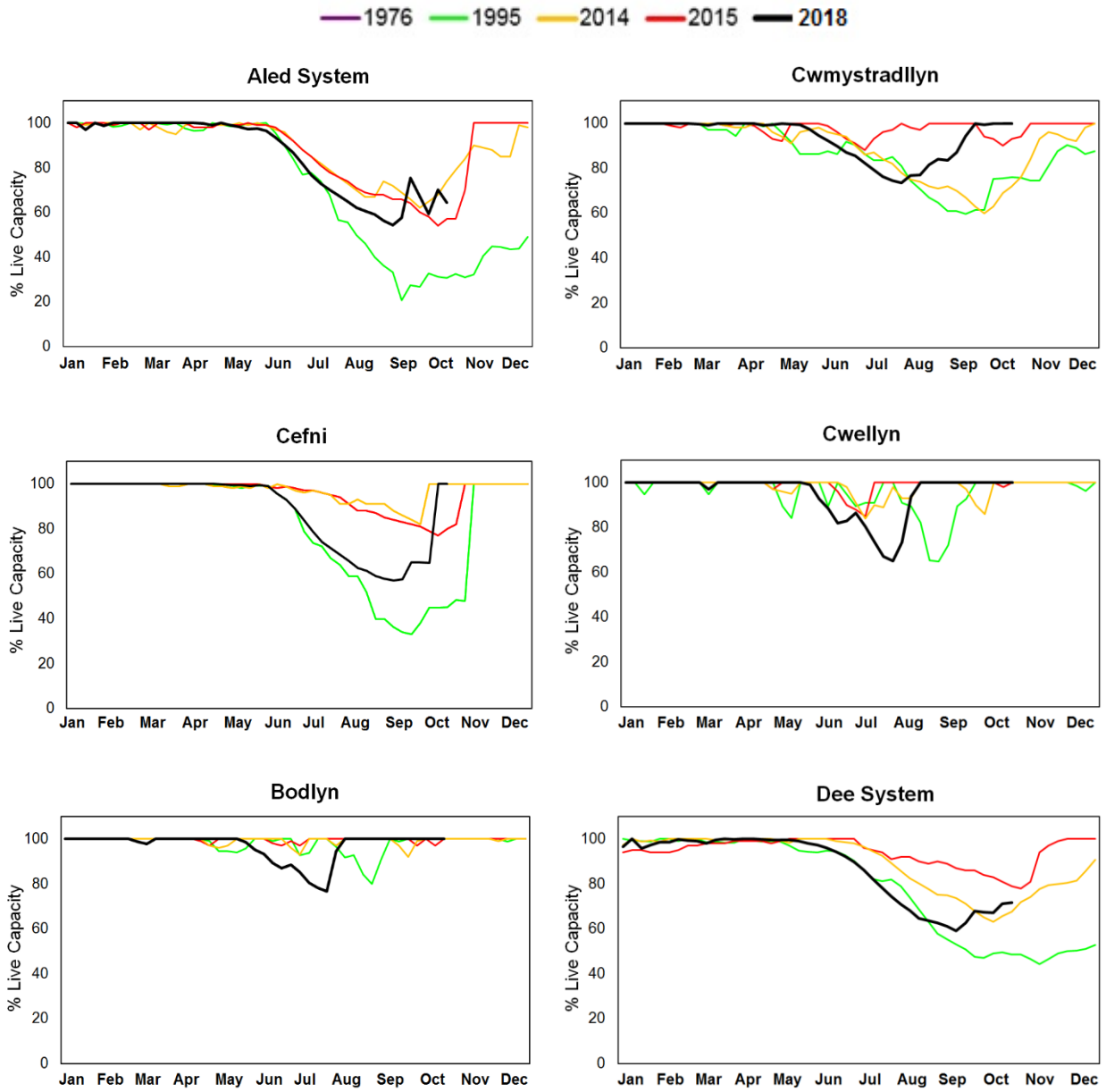
Figure 19: Reservoir charts: South East Wales



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

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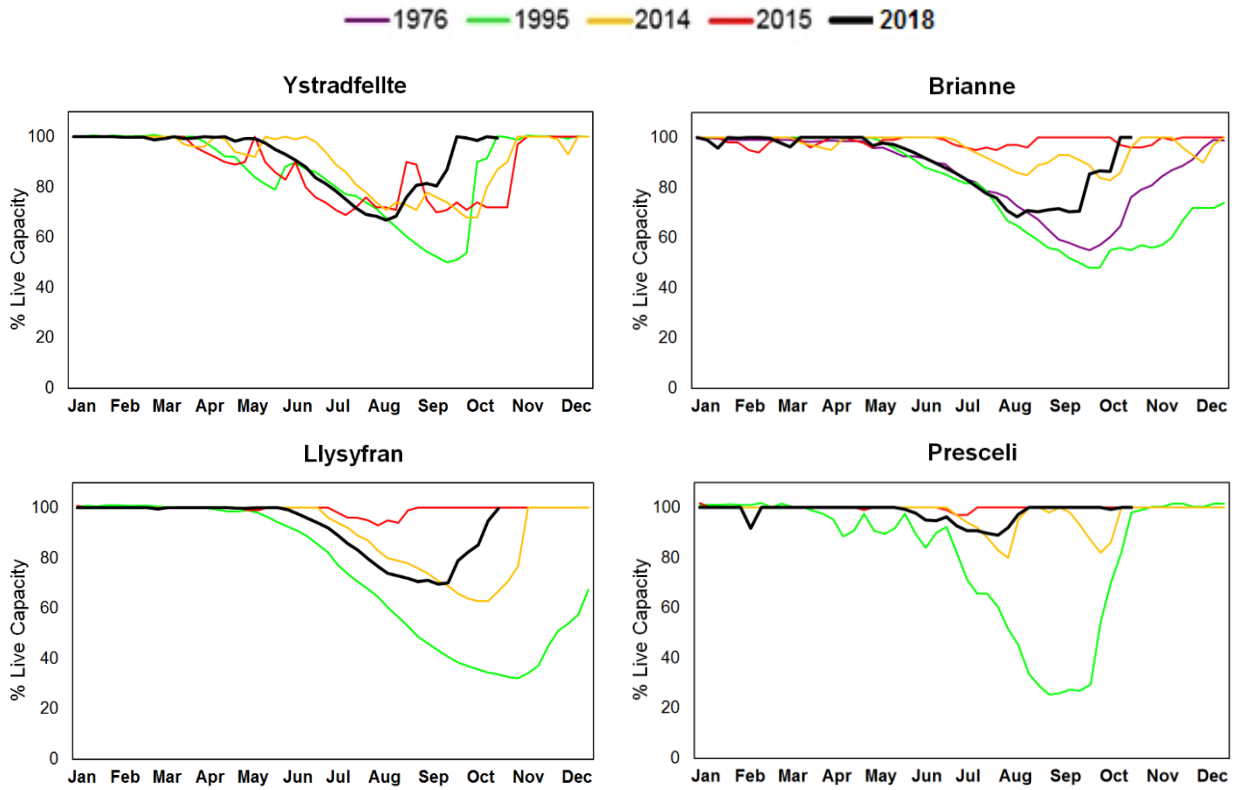
Figure 20: Reservoirs charts: North Wales



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).