

## Natural Resources Wales

- The monthly rainfall total for Wales during May was 57% of the Long Term Average (LTA, 1961-90). South East, South West and North Wales received 47%, 57% and 67% of the LTA, respectively.
- At the end of May, the differences between soil moisture deficit (SMD) values and the LTA across Wales were from -4.8 to 38.1 mm. Soil were drier than the LTA for most of the squares in May.
- For river flows in Wales, 12 out of 28<sup>1</sup> indicator sites were classed as *Normal* and 14 sites were *Below normal*. The remaining 2 sites were *Notably low*.
- The cumulative reservoir storage for 15 out of 18 indicator reservoirs was greater than 85% at the end of May. All reservoirs were within normal operating ranges for the time of year.

### Rainfall\*

The monthly rainfall total for Wales was 57% of the LTA for May. The percentage of rainfall recorded in catchments compared with their LTA across Wales was between 39% (Carmarthen) and 75% (Ynys Mon). The rainfall total for Wales was 35.8mm less than the May LTA. For South East, South West and North Wales the rainfall totals were 47%, 57% and 67% of LTA, respectively for May.

Rainfall Map [Wales](#)

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 -4.8 to 38.1 mm and soil were drier than the LTA for most of the squares in May.

SMD Map [Wales](#)

SMD Charts [Compare to LTA](#)

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<sup>1</sup> Note that Resolven and Clog y Fran gauging stations data is currently unavailable

## River Flows

River flows were between *Notably low* and *Normal* for all the indicator sites across Wales. 12 out of 28 indicator sites (which had flow data available) were classed as *Normal* and 14 sites were *Below normal*. The remaining 2 sites were *Notably low*.

**South East:** Flows in the area ranged from 52% (River Lugg at Butts Bridge and River Ebbw at Rhiwderin) to 73% (River Usk at Trostrey Weir) of the May LTA values.

**South West:** The river flows within this area ranged from 30% (River Tywi at Capel Dewi) to 70% (River Llynfi at Coytrahen) of the May LTA values.

**North:** Flows in the area ranged from 38% (River Cefni at Bodffordd and River Gelyn at Cynefail) to 102% (River Wheeler at Bodfari) of the May LTA values.

River Flow Map [Wales](#)  
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 May at the indicator sites (7 data available sites) were classed between *Exceptionally low* (Eastwick) to *Normal* (Broxton Obs). 2 sites were *Below normal* (Pant-y-Lladron and Llanfair DC Obs). The remaining 3 sites were *Notably low* (Pont y Cambwll, Handley and Greenfield Garage).

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

## Reservoir Storage

At the end of May the cumulative reservoir storage for 15 out of 18 indicator reservoirs were greater than 85% full. All reservoirs were within normal operating ranges for the time of year.

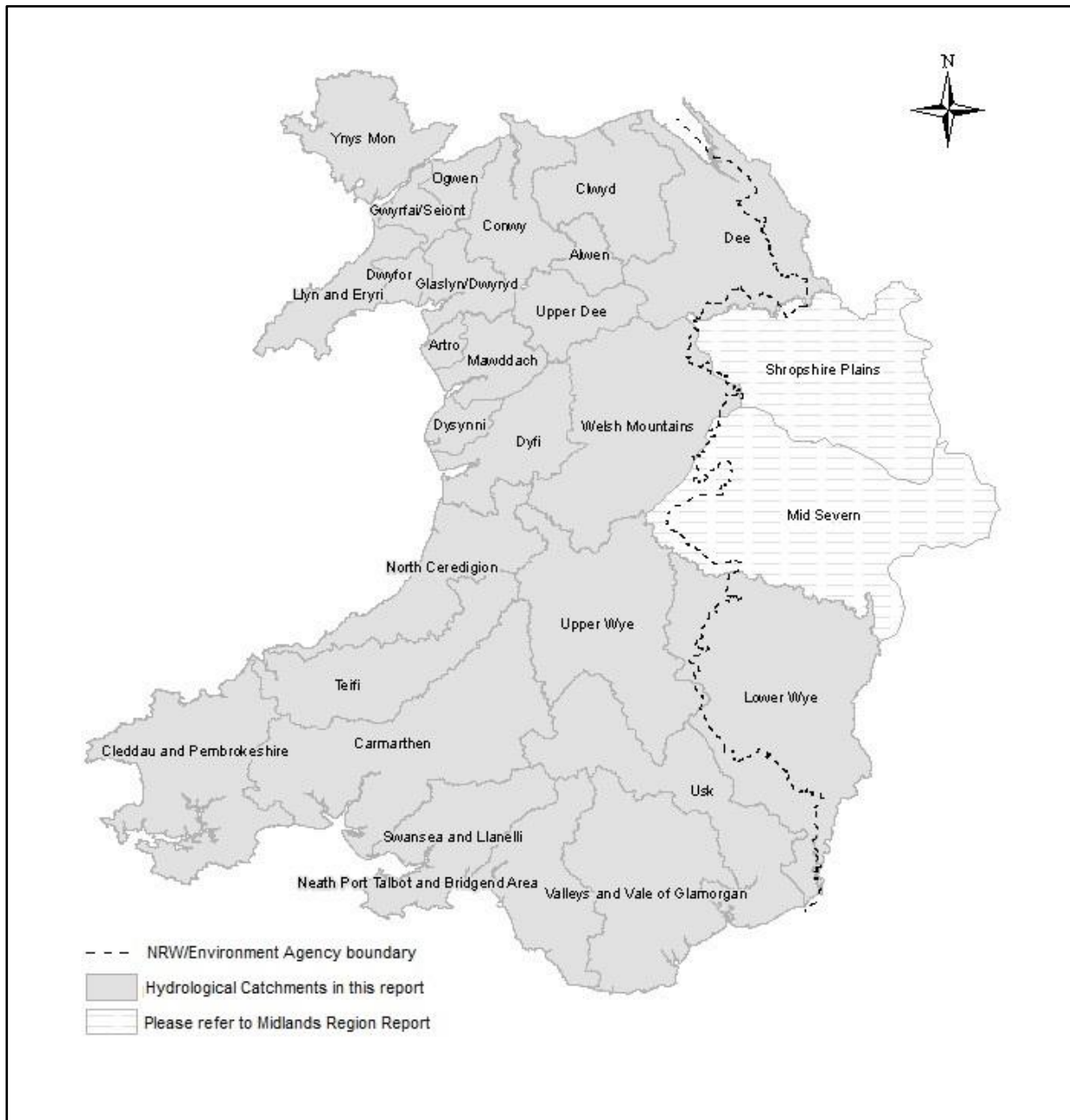
Reservoir Charts [South East Wales](#) [North Wales](#) [South West Wales](#)

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

Author: Zhong Zhang Telephone: 03000 654521

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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.**

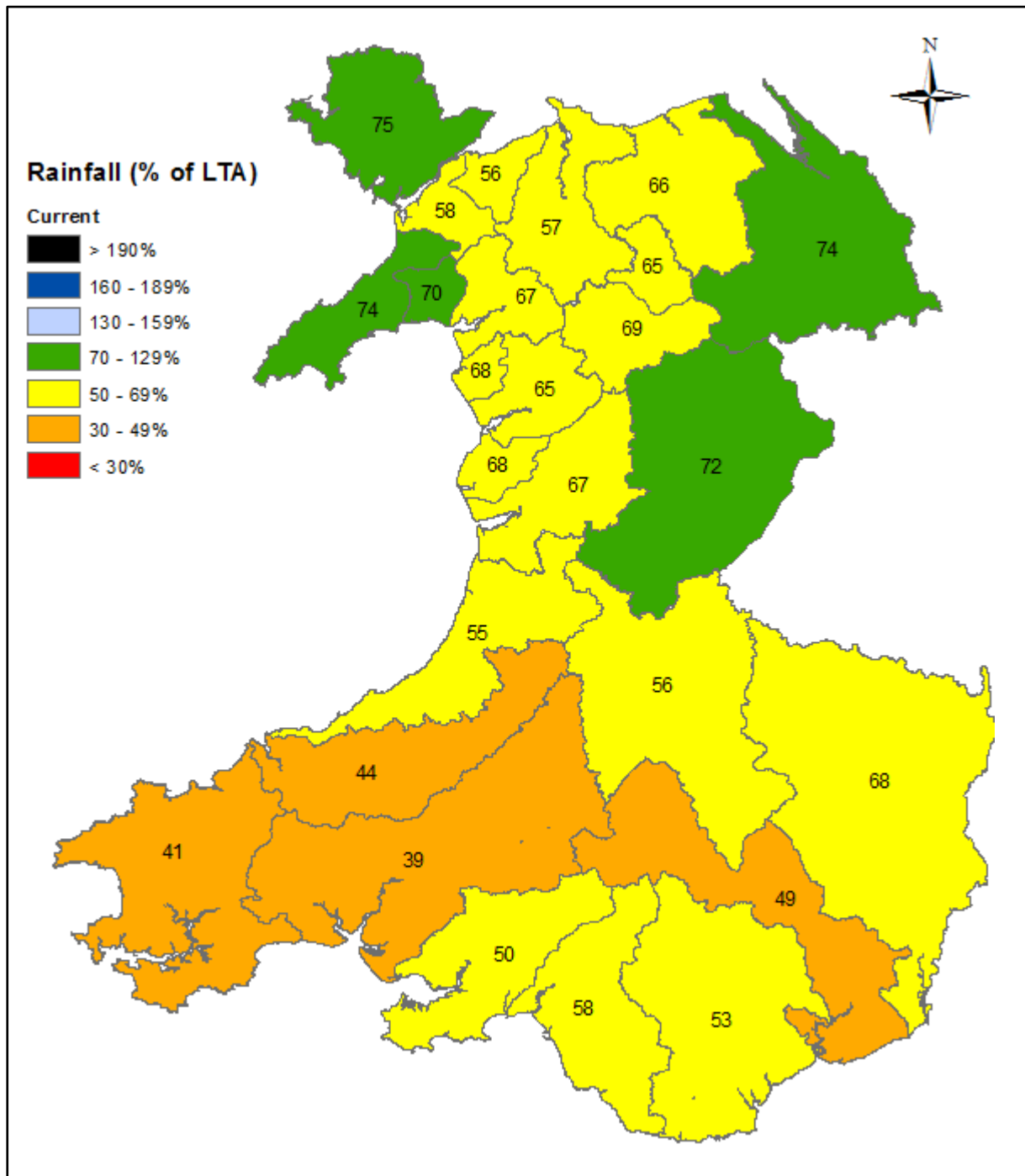
**For areas adjoining Natural Resources Wales, please see the reports for Environment Agency Midlands and North West England:**

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

All data are provisional and may be subject to revision.

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## Rainfall



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

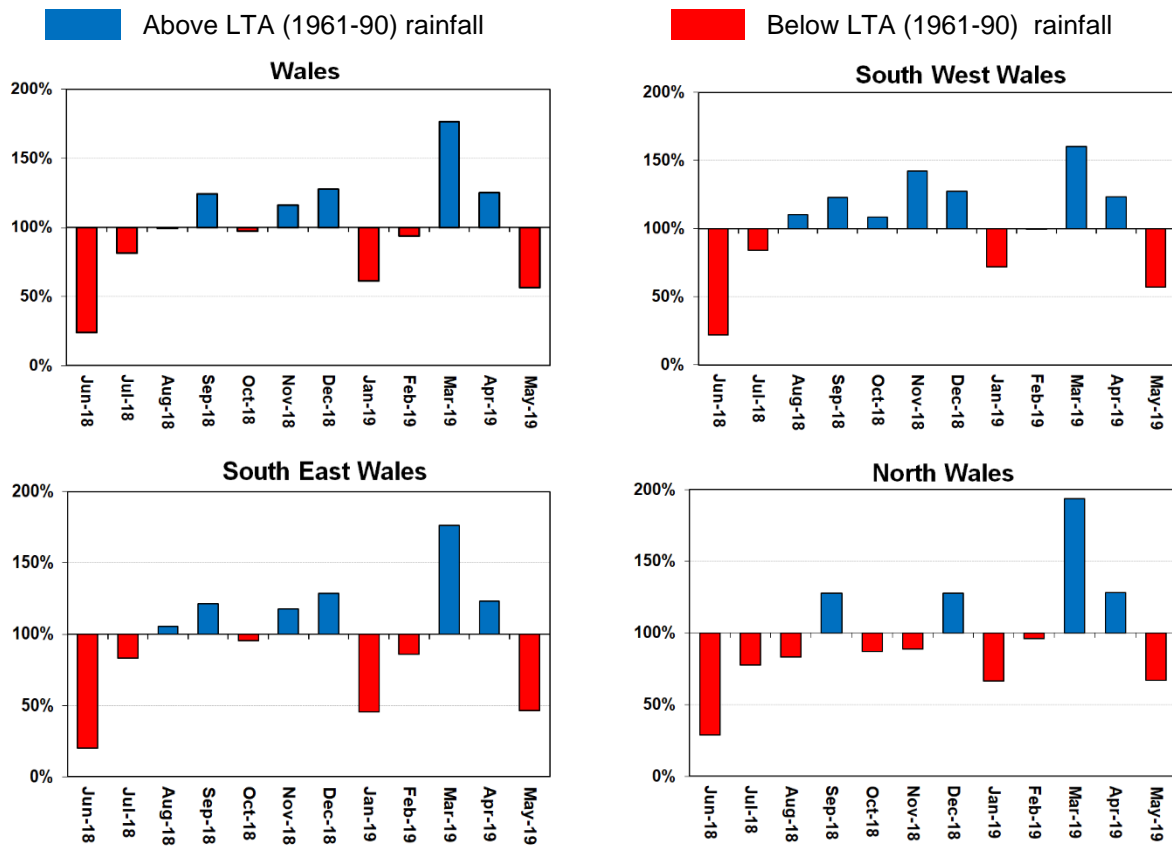
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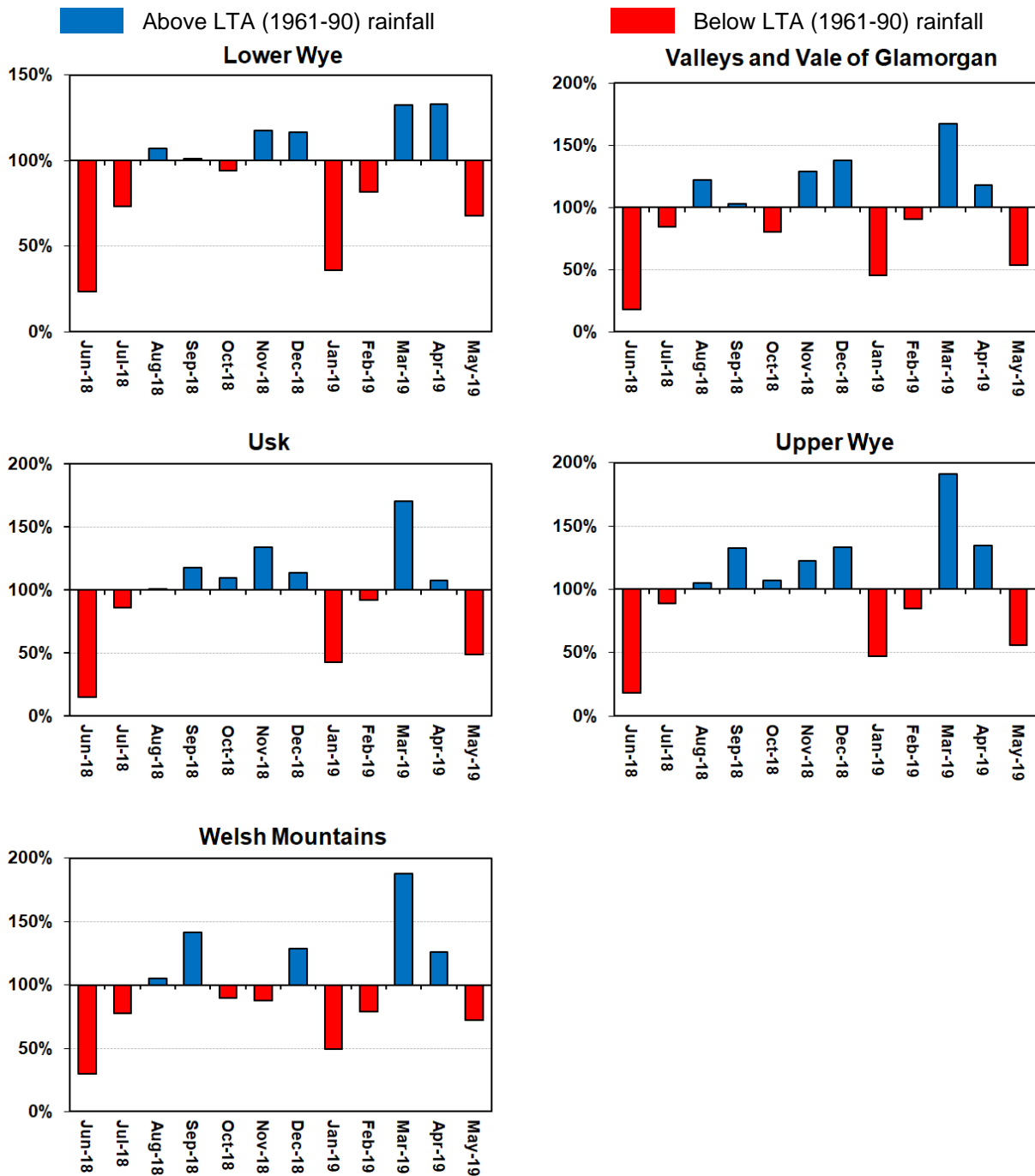
## Rainfall Charts

Figure 3: Rainfall Charts: National and Areas



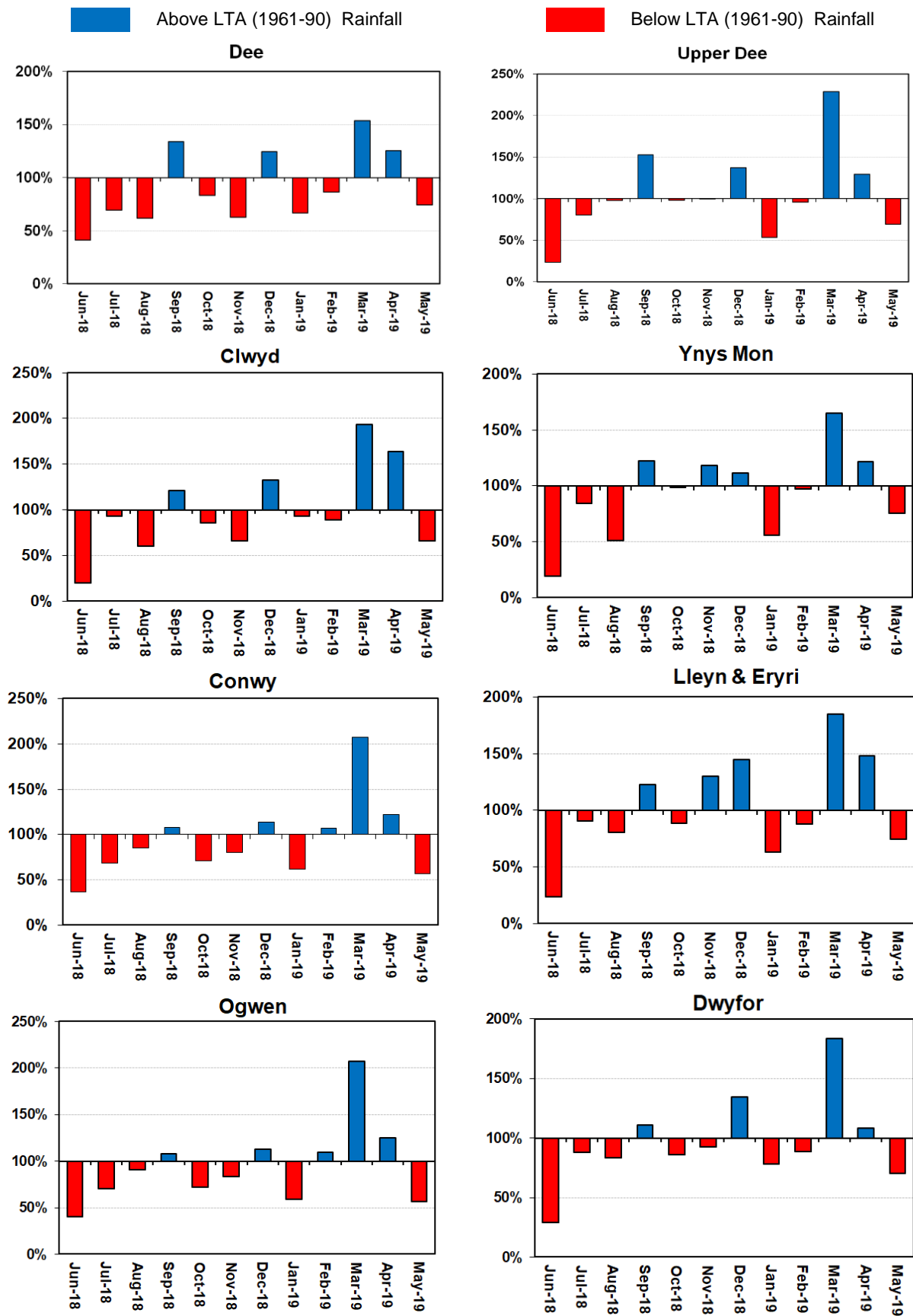
Comparison of monthly rainfall totals to the 1961-90 long term average expressed as percentage for Natural Resources Wales and Areas, using NCIC (National Climate Information Centre) data (Source: Met Office © Crown Copyright).

**Figure 4: Rainfall Charts: South East Wales**



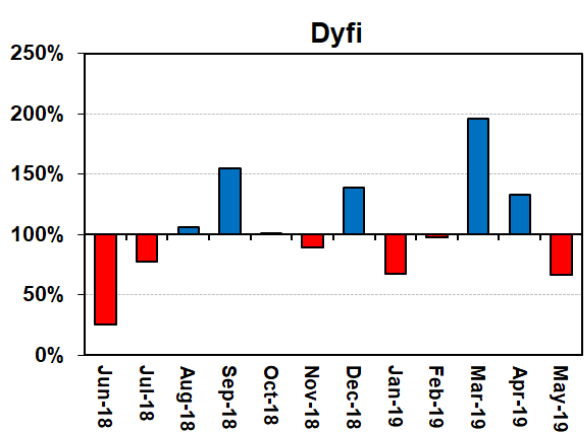
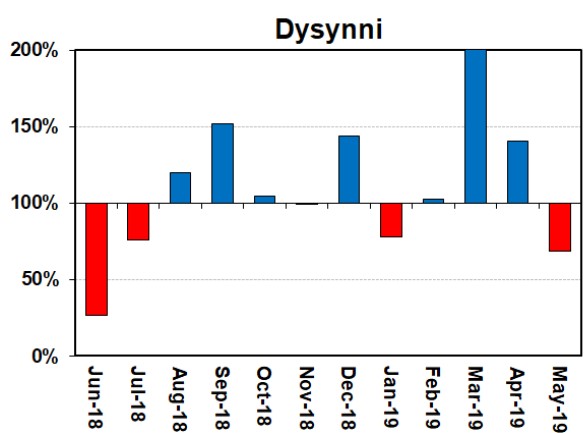
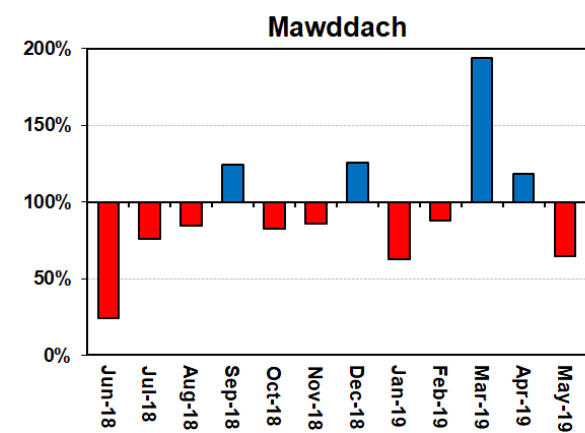
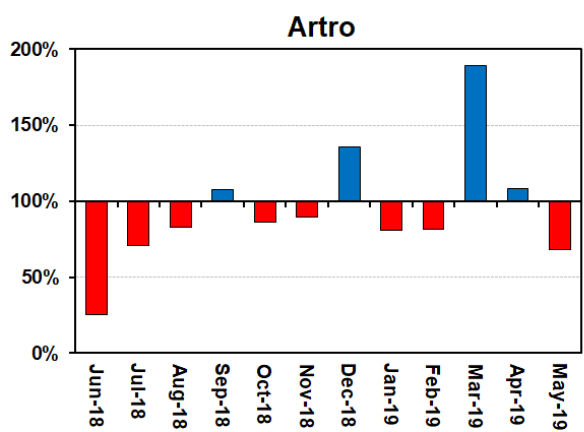
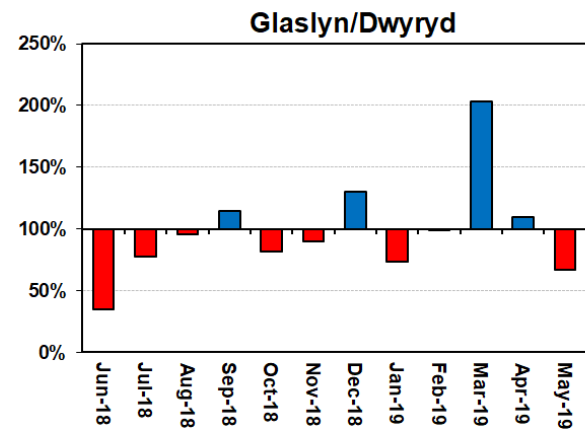
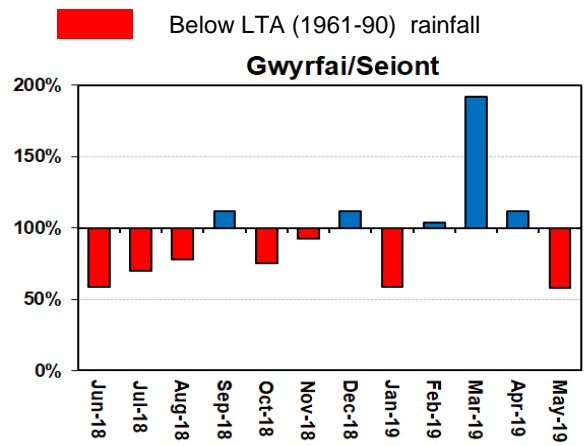
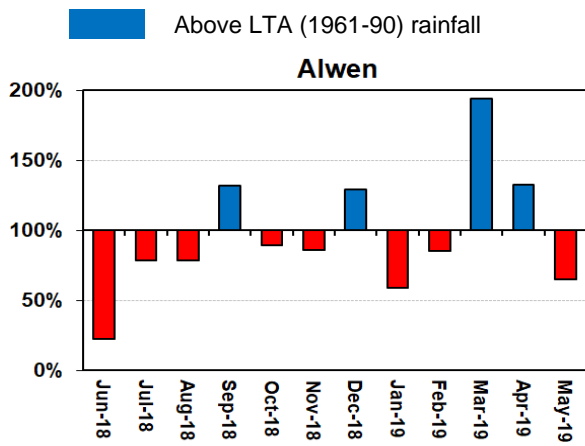
Comparison of monthly rainfall totals to the 1961-90 long term average expressed as percentage for South East Wales, using NCIC (National Climate Information Centre) data (Source: Met Office © Crown Copyright).

**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).

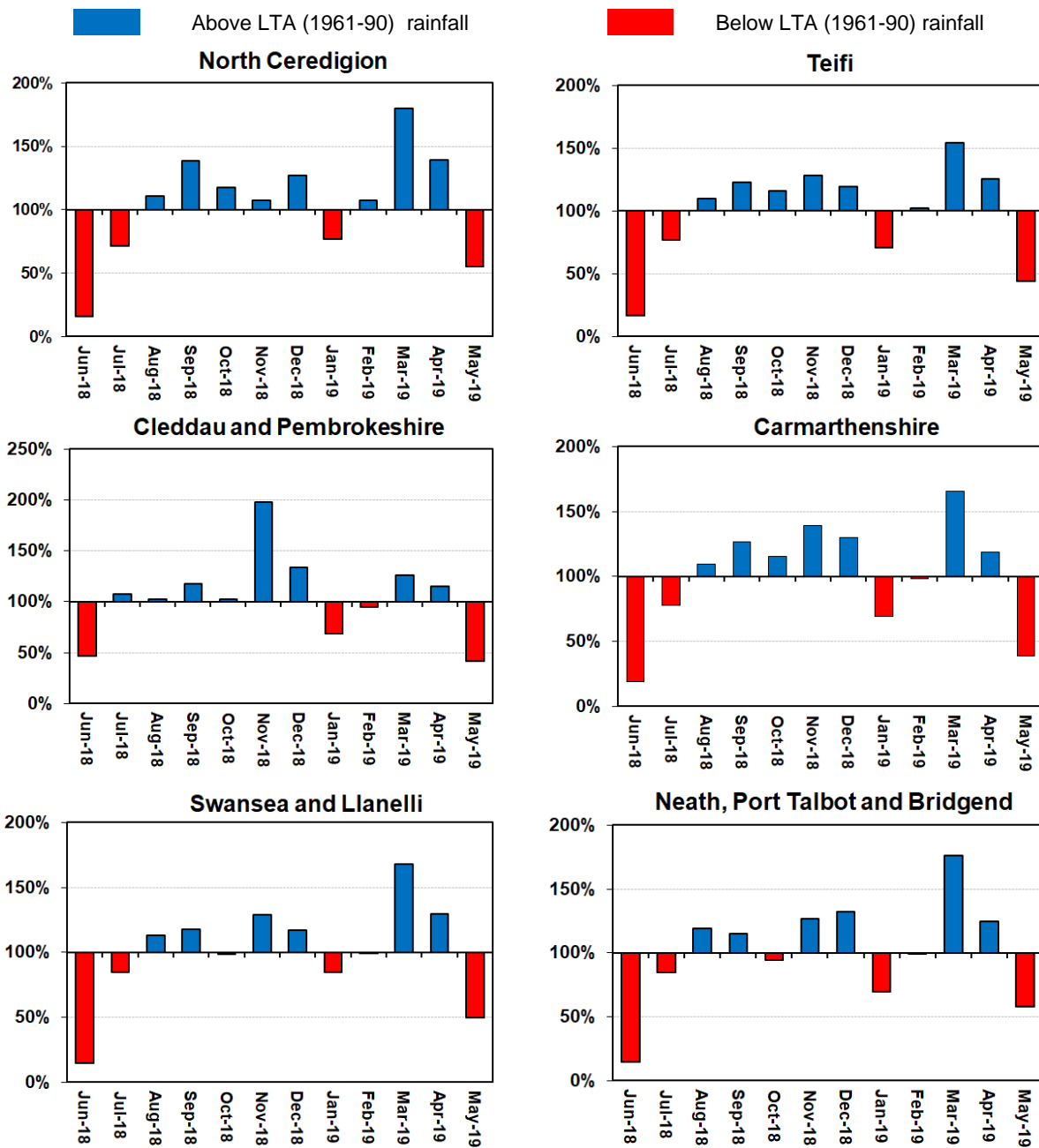
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Comparison of monthly rainfall totals to the 1961-90 long term average expressed as percentage for North Wales, using NCIC (National Climate Information Centre) data (Source: Met Office © Crown Copyright).



**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)

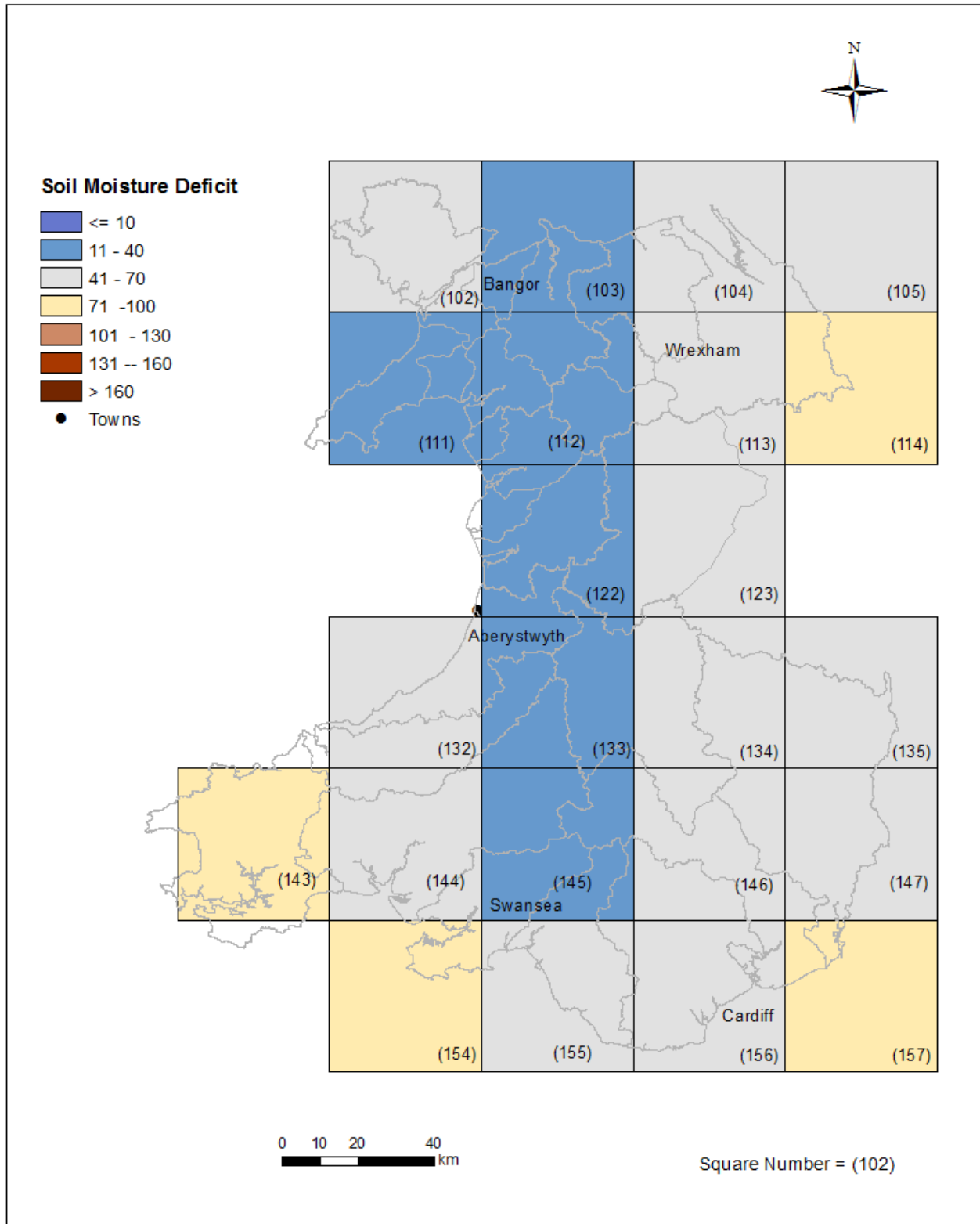


Figure 7: MORECS soil moisture deficits (mm) for May for real land use for Natural Resources Wales (Source: Met Office © Crown Copyright).

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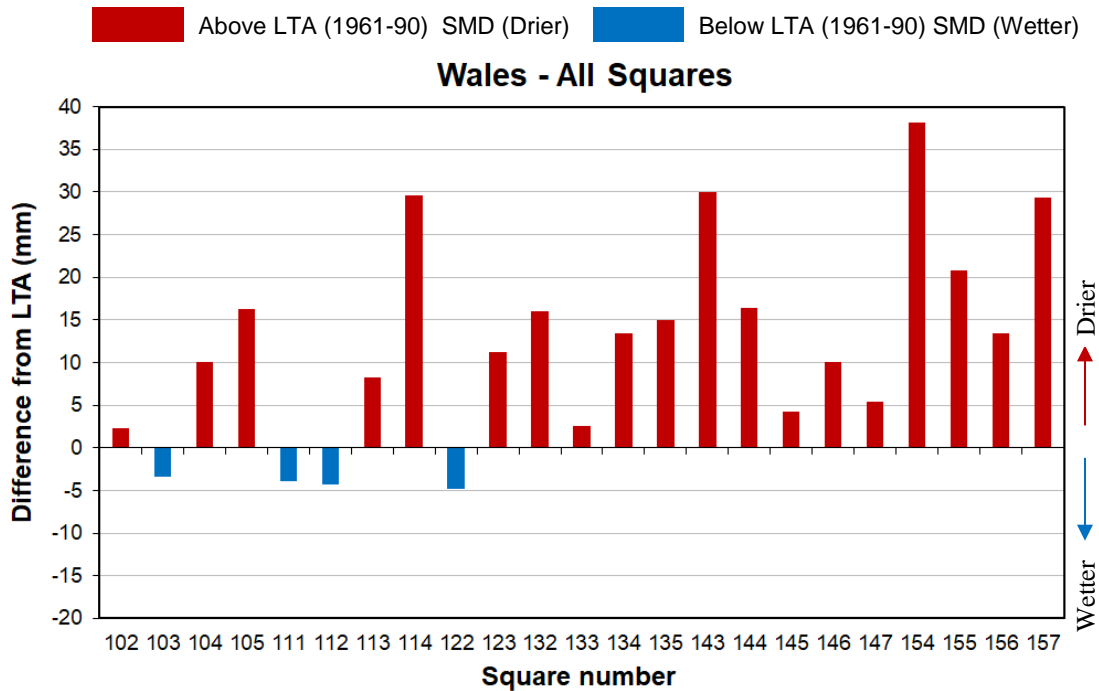


Figure 8: MORECS month end soil moisture deficits difference (mm) from the 1961-90 long term monthly average (LTA) for May for real land use for Natural Resources Wales squares (Source: Met Office © Crown Copyright).

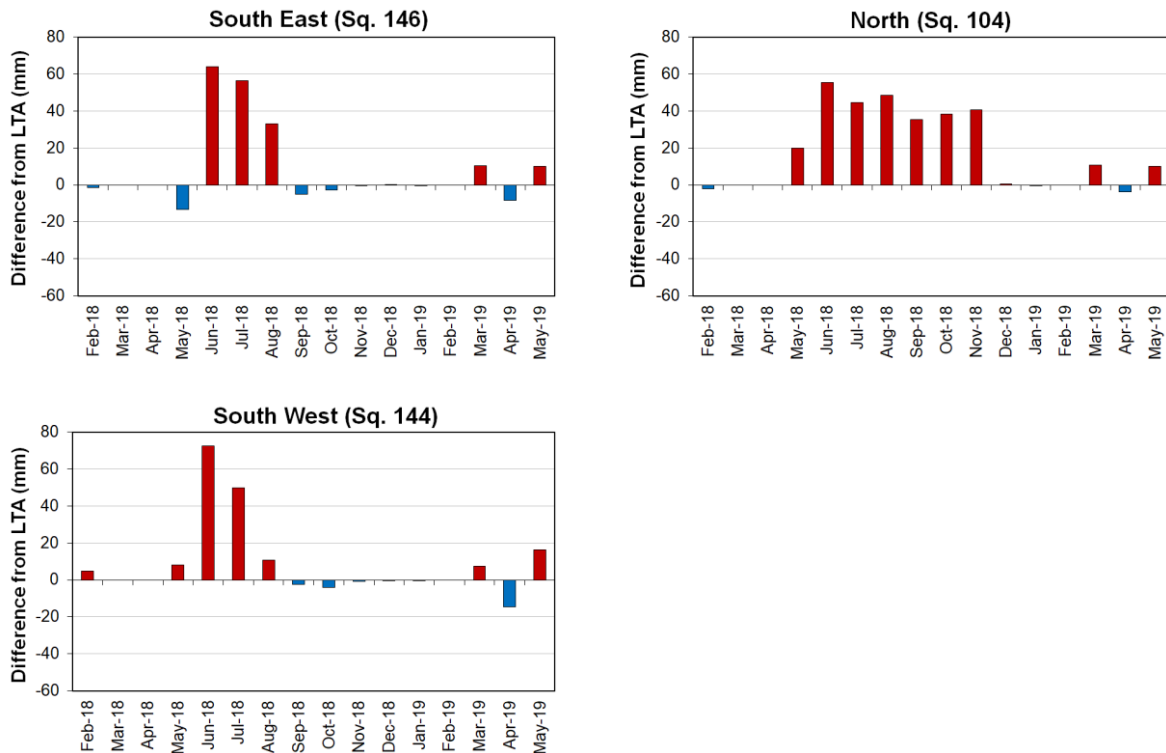


Figure 9: MORECS month end soil moisture deficit difference (mm) from the 1961-90 long term monthly average (LTA) for real land use for South East, North and South West (Source: Met Office © Crown Copyright). (Note: no LTA available for Natural Resources Wales.)

## River Flow

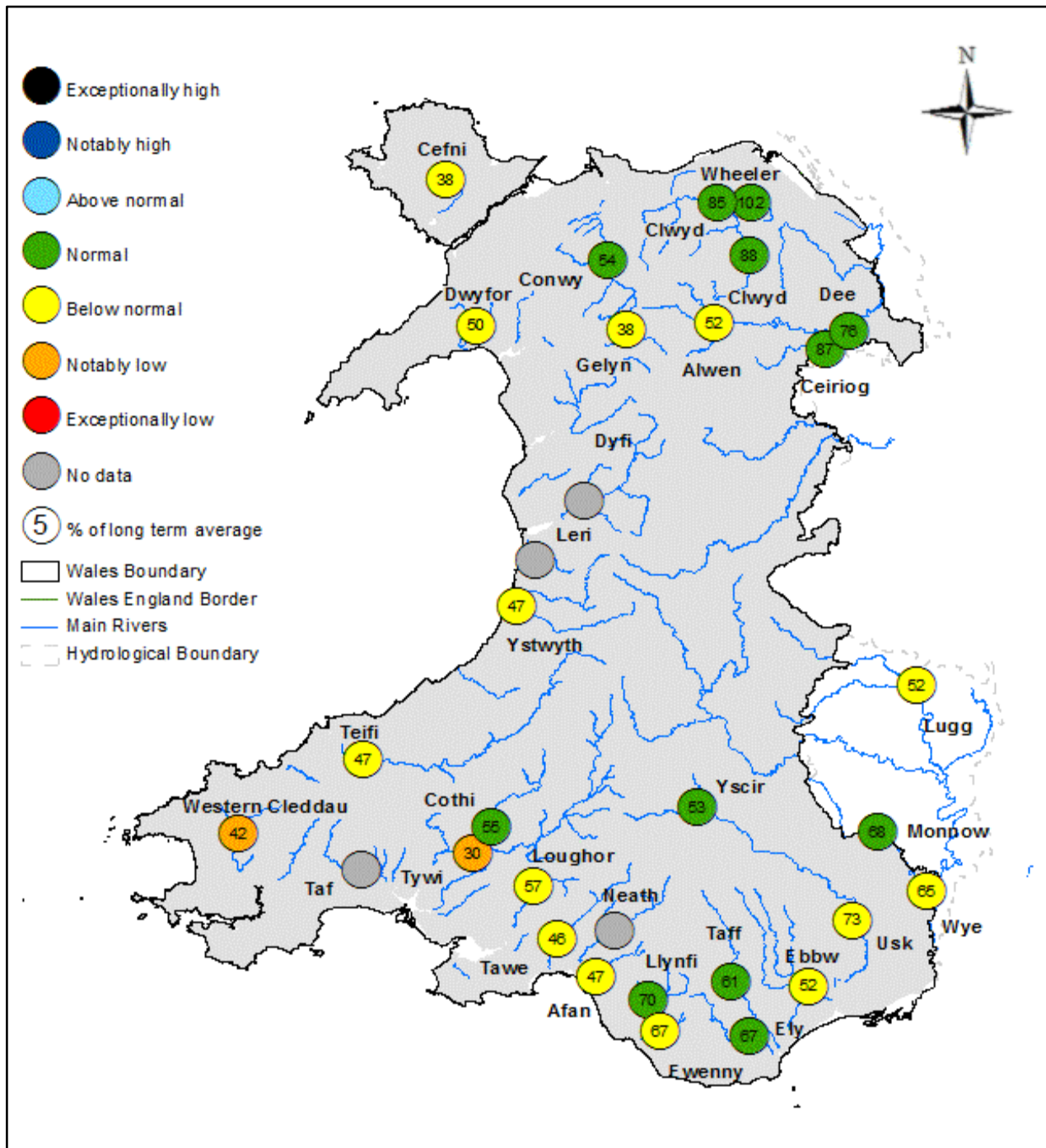


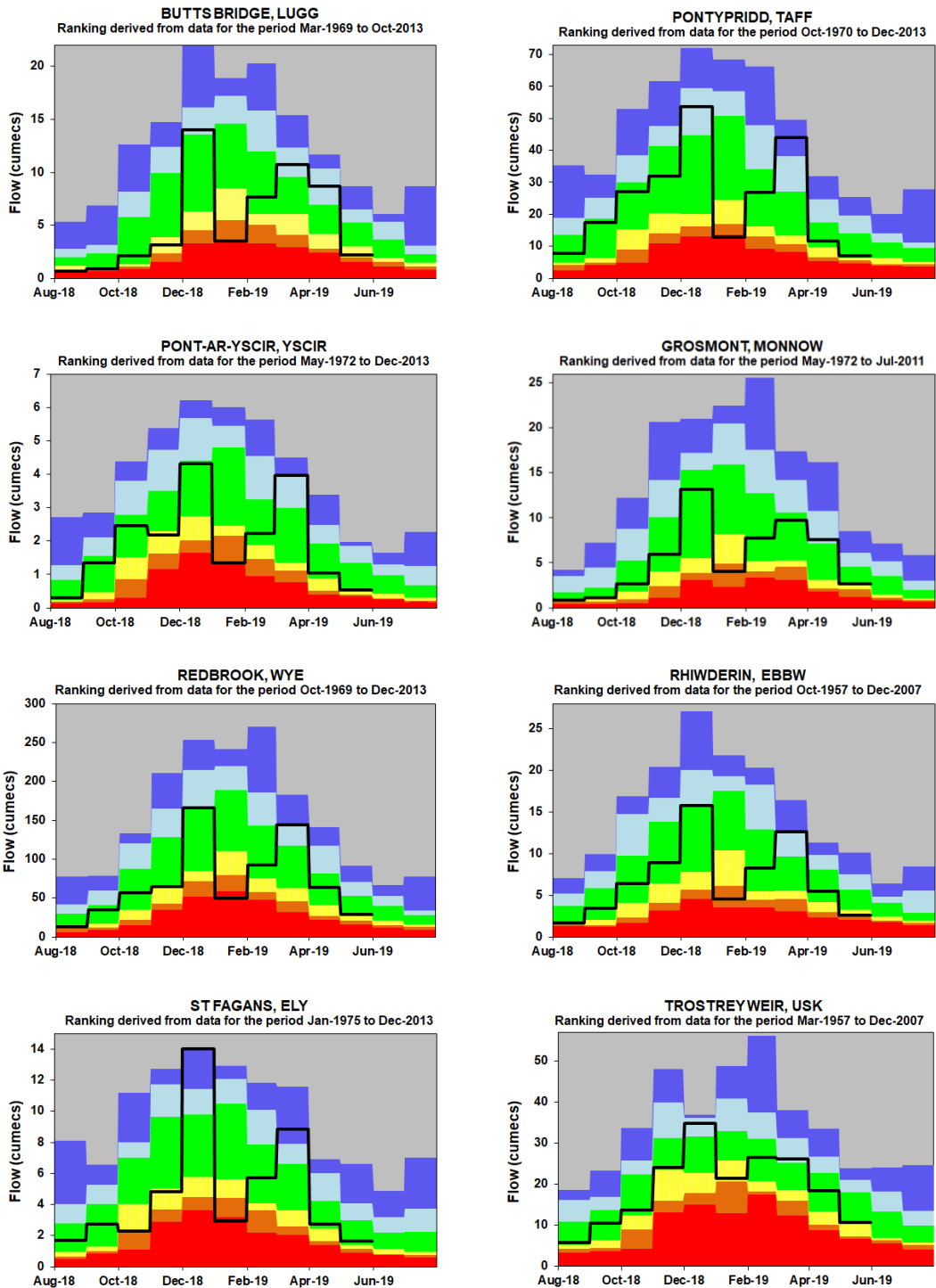
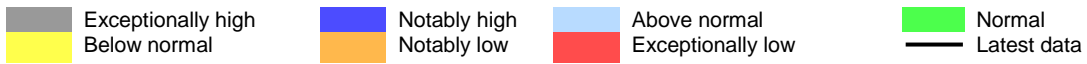
Figure 10: Monthly mean river flow for May, classed relative to analysis of historic May monthly means (Source: Natural Resources Wales).

SITE NAME	RIVER	May 2019			May 2018		May LTA		
		Class	% of LTA	Flow (m3/s)	% of LTA	Flow (m3/s)	LTA	Min Monthly Mean (m3/s)	Max Monthly Mean (m3/s)
<b>River Flow Sites : South East Area</b>									
Butts Bridge	Lugg	Below normal	52%	2.24	67%	2.85	4.27	1.23	11.50
Grosmont	Monnow	Normal	68%	2.70	85%	3.39	3.99	1.09	9.49
Pont ar Yscir	Yscir	Normal	53%	0.54	76%	0.78	1.02	0.27	3.05
Pontypridd	Taff	Normal	61%	6.93	93%	10.60	11.41	4.03	30.70
Redbrook	Wye	Below normal	65%	29.00	84%	37.60	44.70	14.00	130.00
Rhiwderin	Ebbw	Below normal	52%	2.56	86%	4.20	4.88	1.45	15.20
St Fagans	Ely	Normal	67%	1.65	103%	2.55	2.47	0.77	6.68
Trostrey Weir	Usk	Below normal	73%	10.70	102%	14.90	14.58	5.99	29.80
<b>River Flow Sites : North Area</b>									
Bodfari	Wheeler	Normal	102%	0.64	103%	0.65	0.63	0.31	1.77
Bodffordd	Cefni	Below normal	38%	0.06	63%	0.10	0.16	0.04	0.52
Brynkinalt Weir	Ceiriog	Normal	87%	1.90	71%	1.56	2.19	0.60	5.46
Cwmlanerch	Conwy	Normal	54%	5.54	60%	6.07	10.19	0.76	29.20
Cynefail	Gelyn	Below normal	38%	0.15	56%	0.22	0.39	0.07	1.03
Dol y Bont	Leri	N/A	No	No data	No	No data	0.86	0.16	2.78
Druid	Alwen	Below normal	52%	1.40	63%	1.72	2.71	0.57	6.59
Dyfi bridge	Dyfi	N/A	No	No data	No	No data	11.90	1.18	35.40
Garndolbenmaen	Dwyfor	Below normal	50%	0.68	No	No data	1.36	0.19	4.10
Manley Hall	Dee	Normal	76%	12.80	83%	14.10	16.94	8.32	38.60
Pont y Cambwll	Clwyd	Normal	85%	3.22	75%	2.86	3.79	1.27	11.40
Ruthin Weir	Clwyd	Normal	88%	0.63	85%	0.61	0.72	0.22	2.18
<b>River Flow Sites : South West Area</b>									
Capel Dewi	Tywi	Notably low	30%	6.33	106%	22.30	21.13	4.50	58.90
Clog y Fran	Taf	N/A	No	No data	108%	4.23	3.92	1.02	10.90
Coytrahen	Llynfi	Normal	70%	0.90	122%	1.57	1.29	0.30	2.90
Felin Mynachdy	Cothi	Normal	55%	3.60	88%	5.79	6.59	0.84	17.90
Glanteifi	Teifi	Below normal	47%	7.80	90%	15.10	16.70	4.23	39.50
Keepers Lodge	Ewenny	Below normal	67%	0.75	95%	1.05	1.11	0.50	2.60
Marcroft	Afan	Below normal	47%	1.54	103%	3.41	3.31	0.72	17.80
Pont Llwlwyn	Ystwyth	Below normal	47%	1.48	62%	1.94	3.13	0.58	10.80
Treffgarne *	Western Cleddau	Notably low	42%	1.02	101%	2.22	2.20	0.82	5.18
Resolven	Neath	N/A	No	No data	89%	4.77	5.36	0.80	13.80
Tir-y-Dail	Loughor	Below normal	57%	0.67	118%	1.40	1.19	0.30	3.51
Ynystanglws	Tawe	Below normal	46%	3.27	87%	6.12	7.07	1.38	19.50

**Figure 11: Monthly mean river flow for May with comparison against previous year expressed as a percentage of the May long term average and classed relative to analysis of historic May 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)**

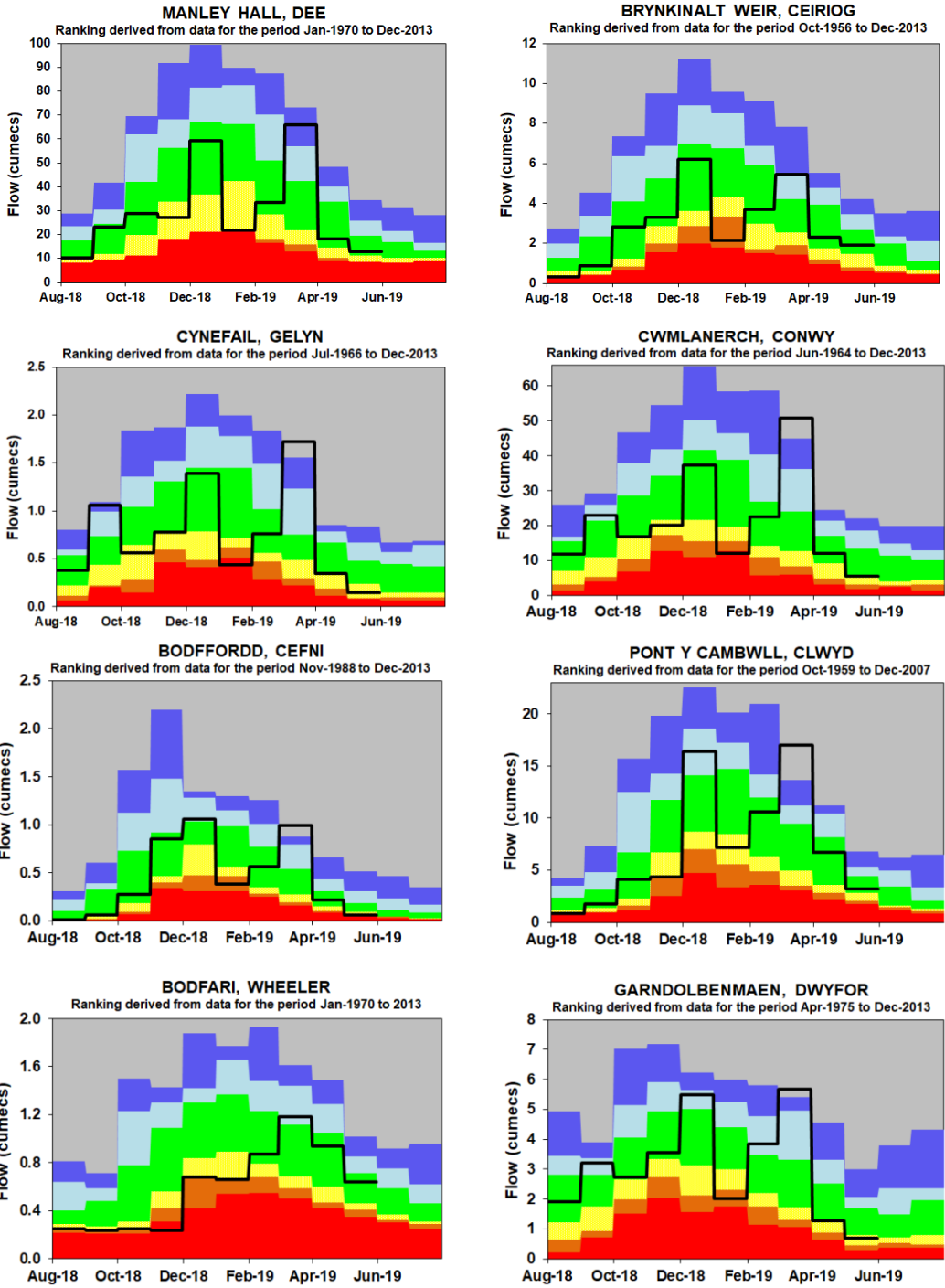
## River Flow Charts

Figure 12: River Flow Charts: South East Wales



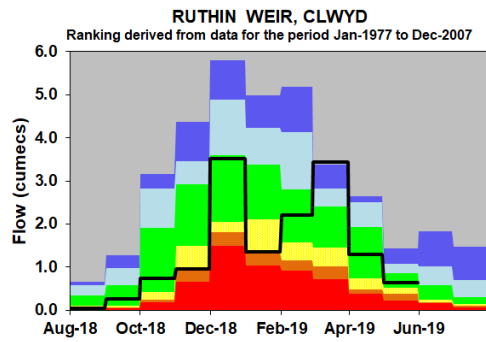
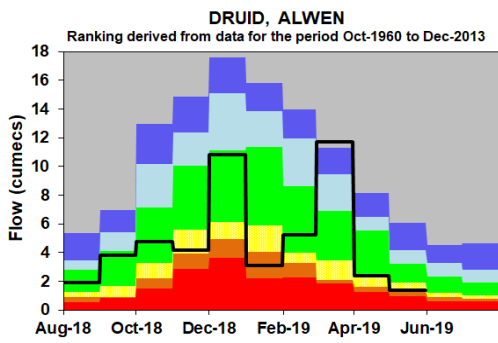
Monthly mean river flows for the last 10 months classed relative to the analysis of historic river levels (*Source: Natural Resources Wales*).

**Figure 13: River Flow Charts: North Wales**

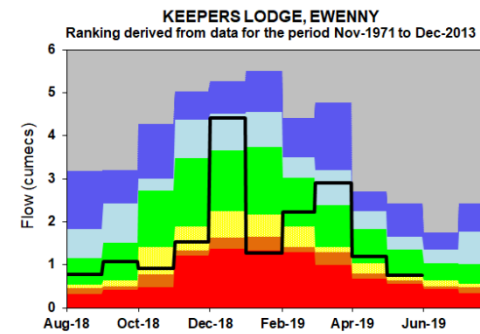
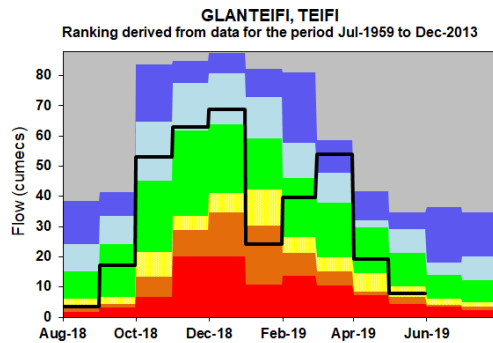
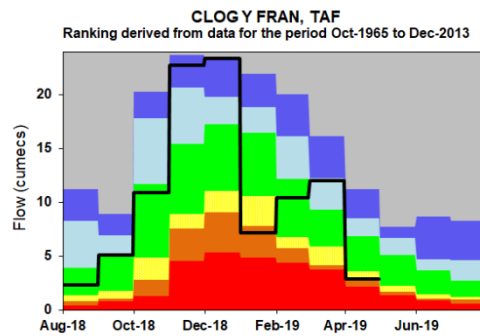
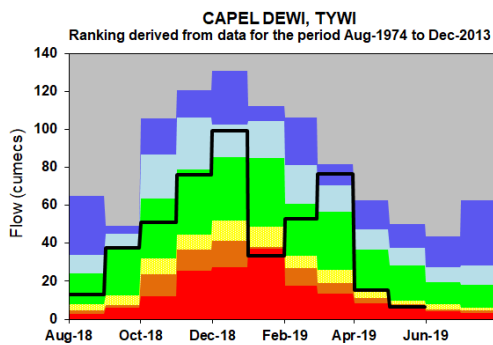
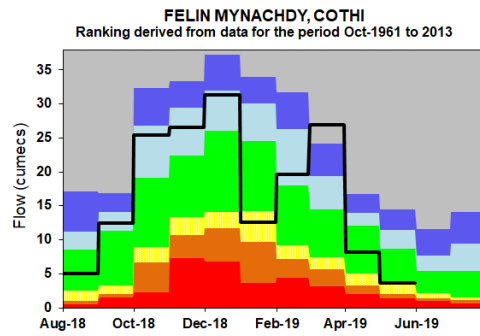
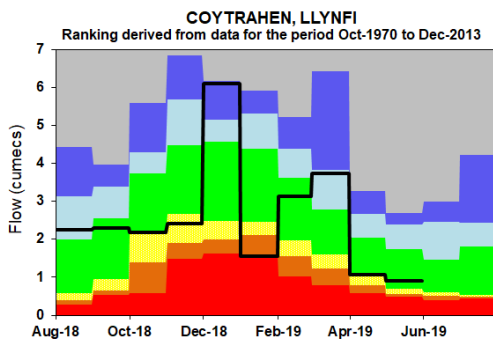


Monthly mean river flows for the last 10 months classed relative to the analysis of historic river levels (Source: Natural Resources Wales).

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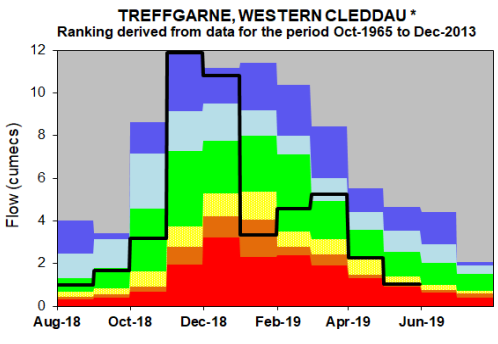
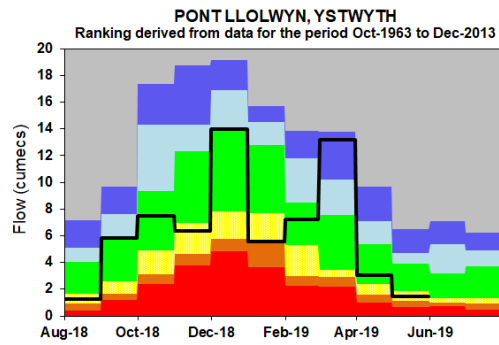
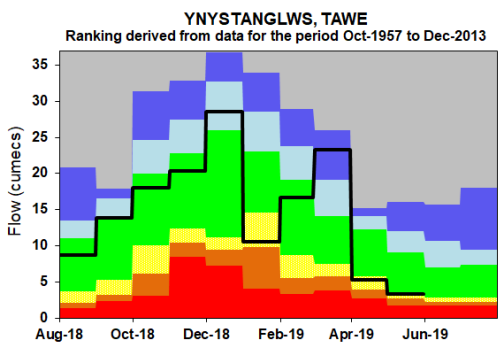
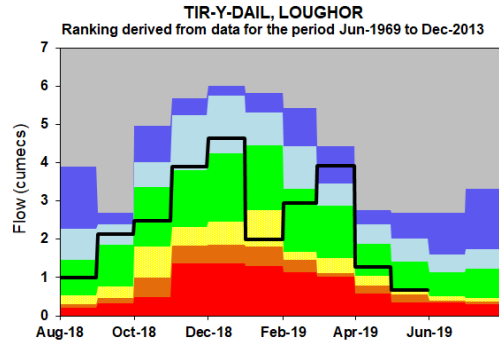
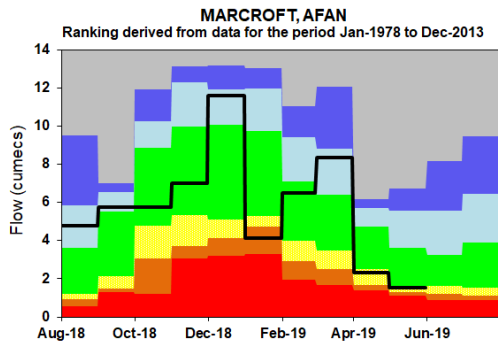
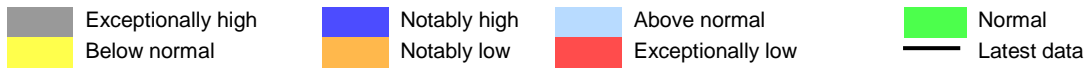


**Figure 14: River Flow Charts: South West Wales**





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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 Resolven, therefore the graph for this station is not shown here.)

## Groundwater Levels

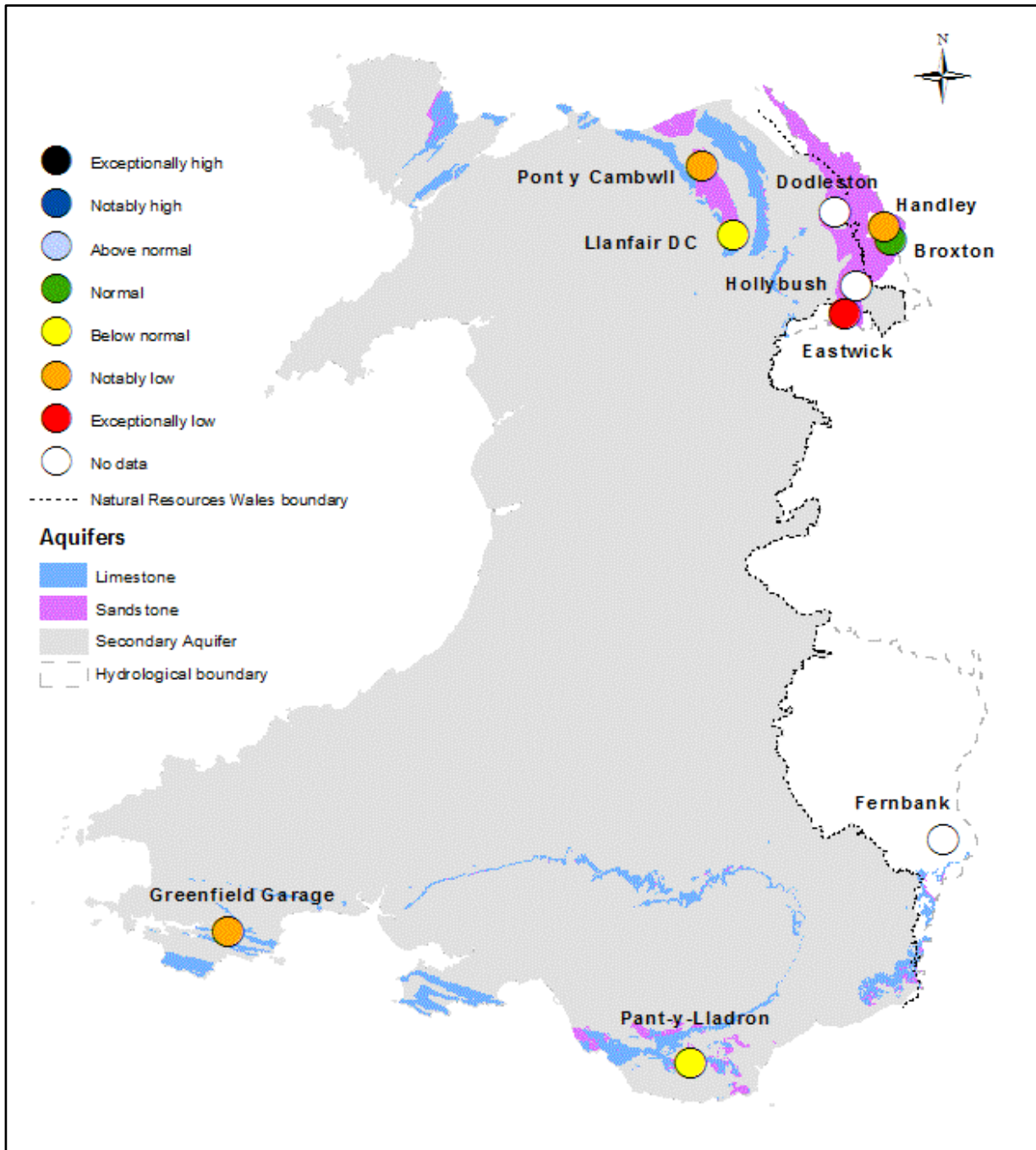
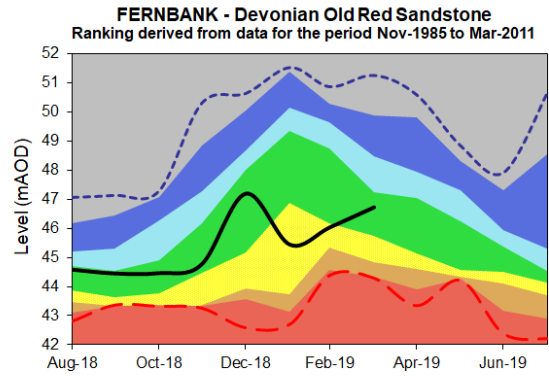
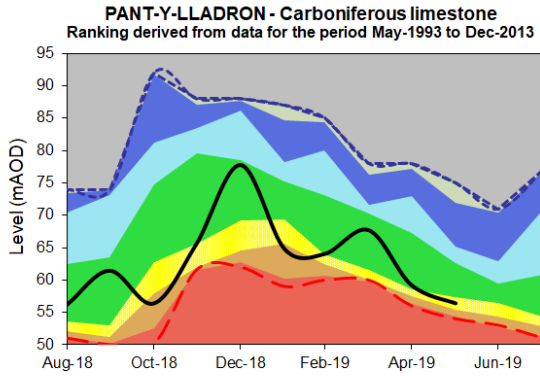
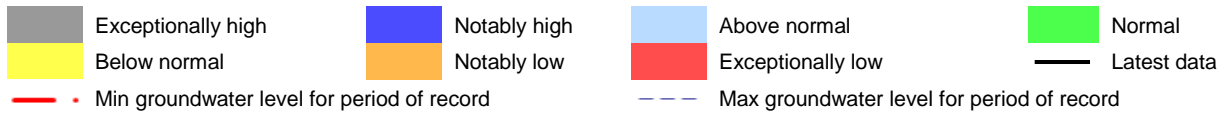


Figure 15: Groundwater levels at the end of month classed relative to an analysis of historic May groundwater levels (Source: Natural Resources Wales and Environment Agency).

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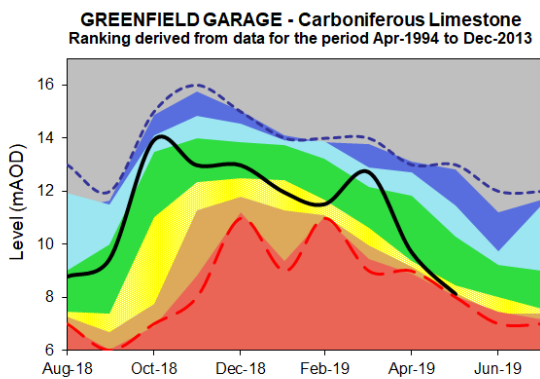
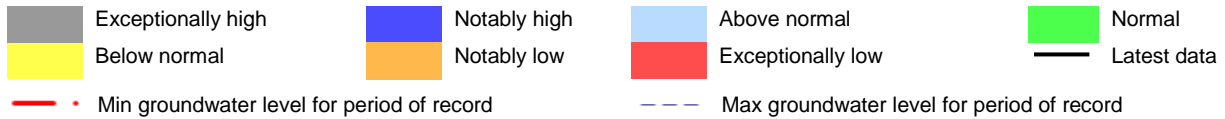
## Groundwater charts

**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).

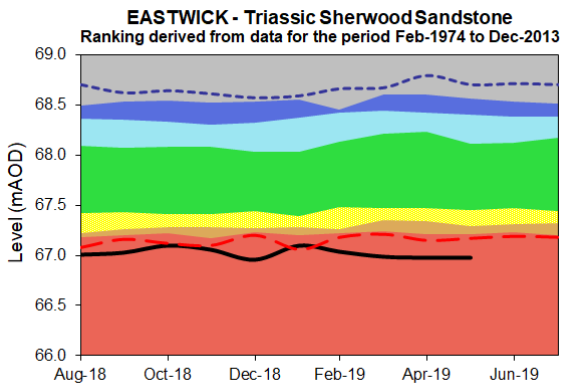
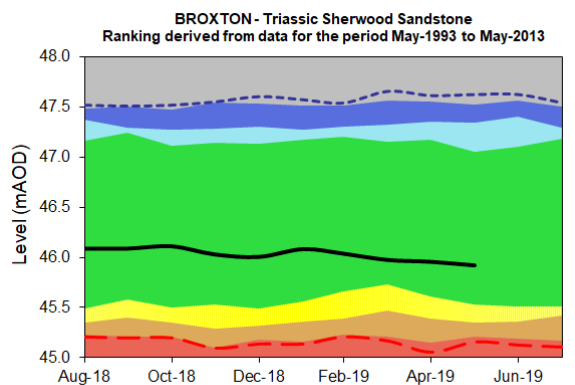
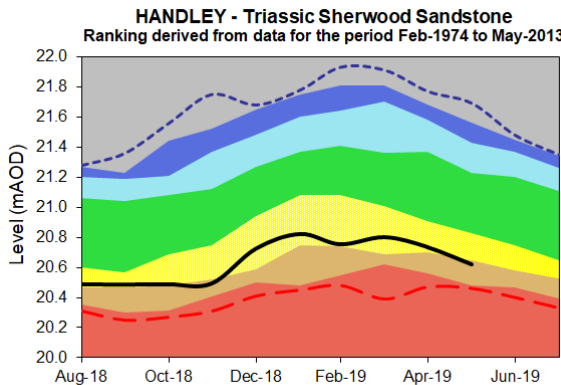
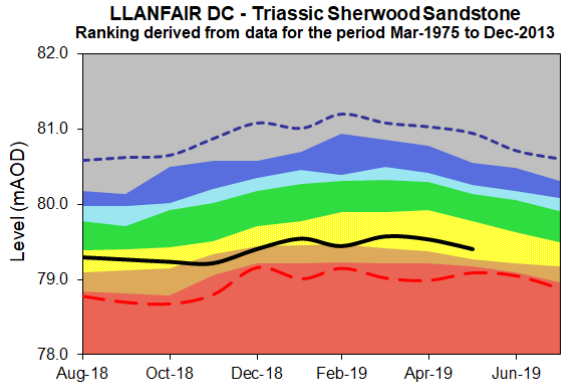
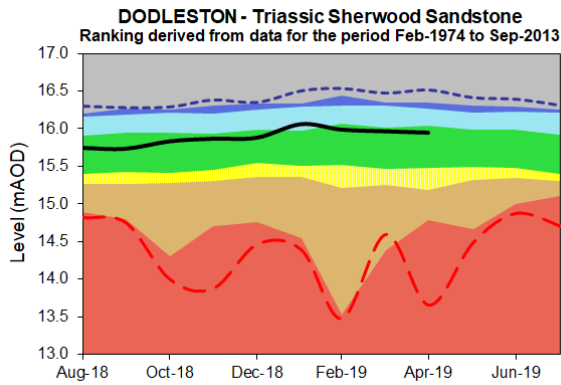
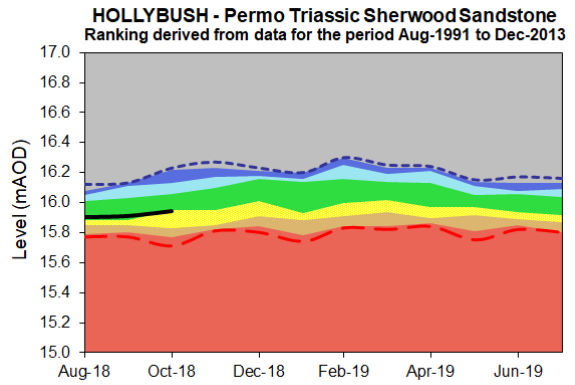
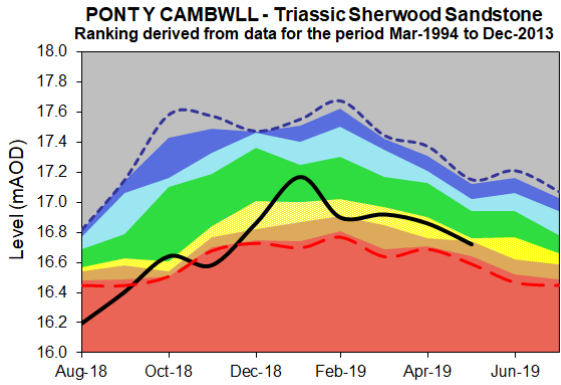
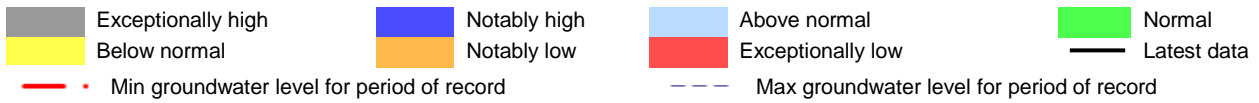
**Figure 17: Groundwater level charts: South West Wales**



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**

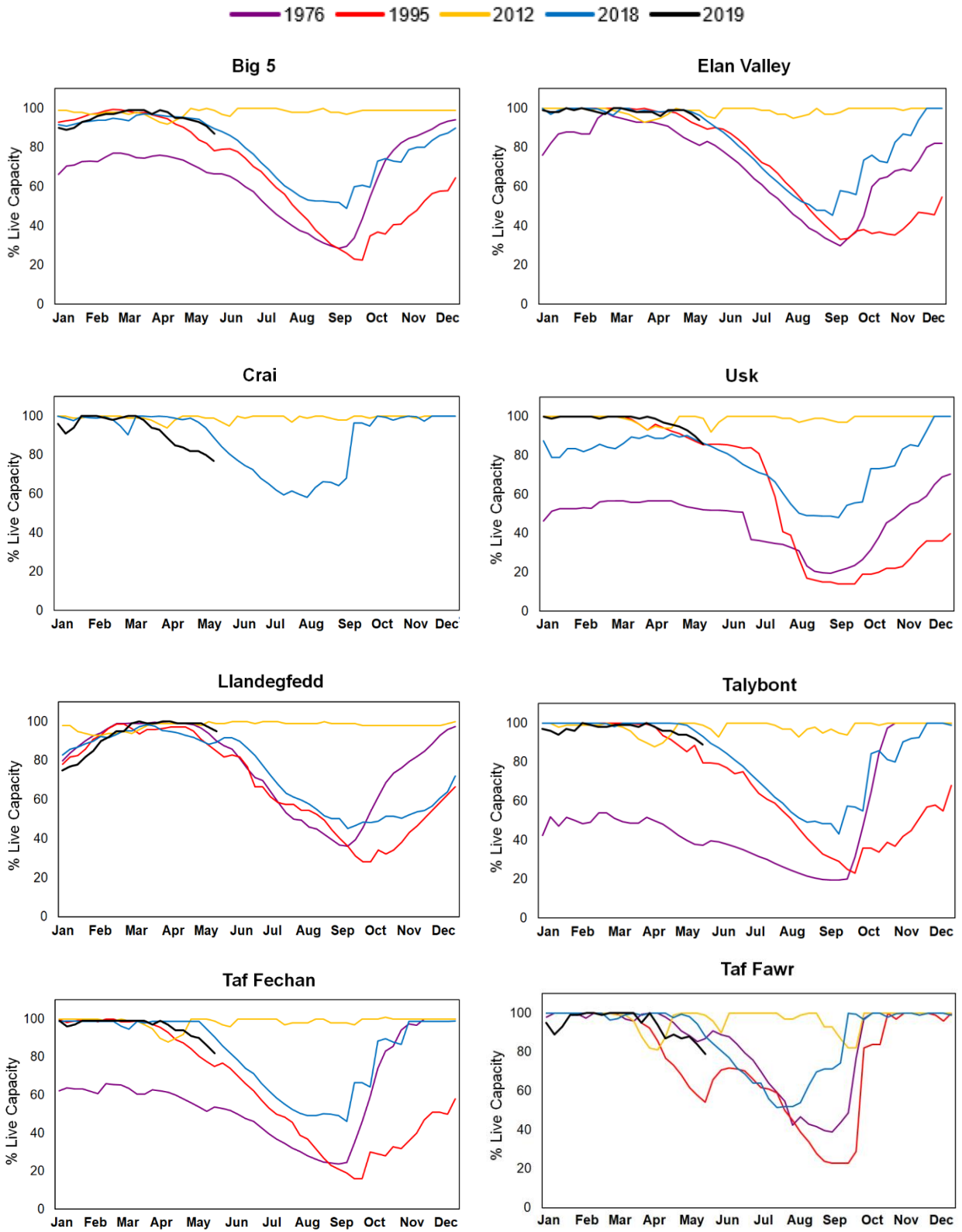


**End of month groundwater levels for the past 10 months for index sites (Source: Natural Resources Wales and Environment Agency).** (Please note that data is not available for November 2018 -May 2019 for Hollybush. The data for October 2018 for this station is taken on 9<sup>th</sup> October 2018)

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## Reservoir Storage

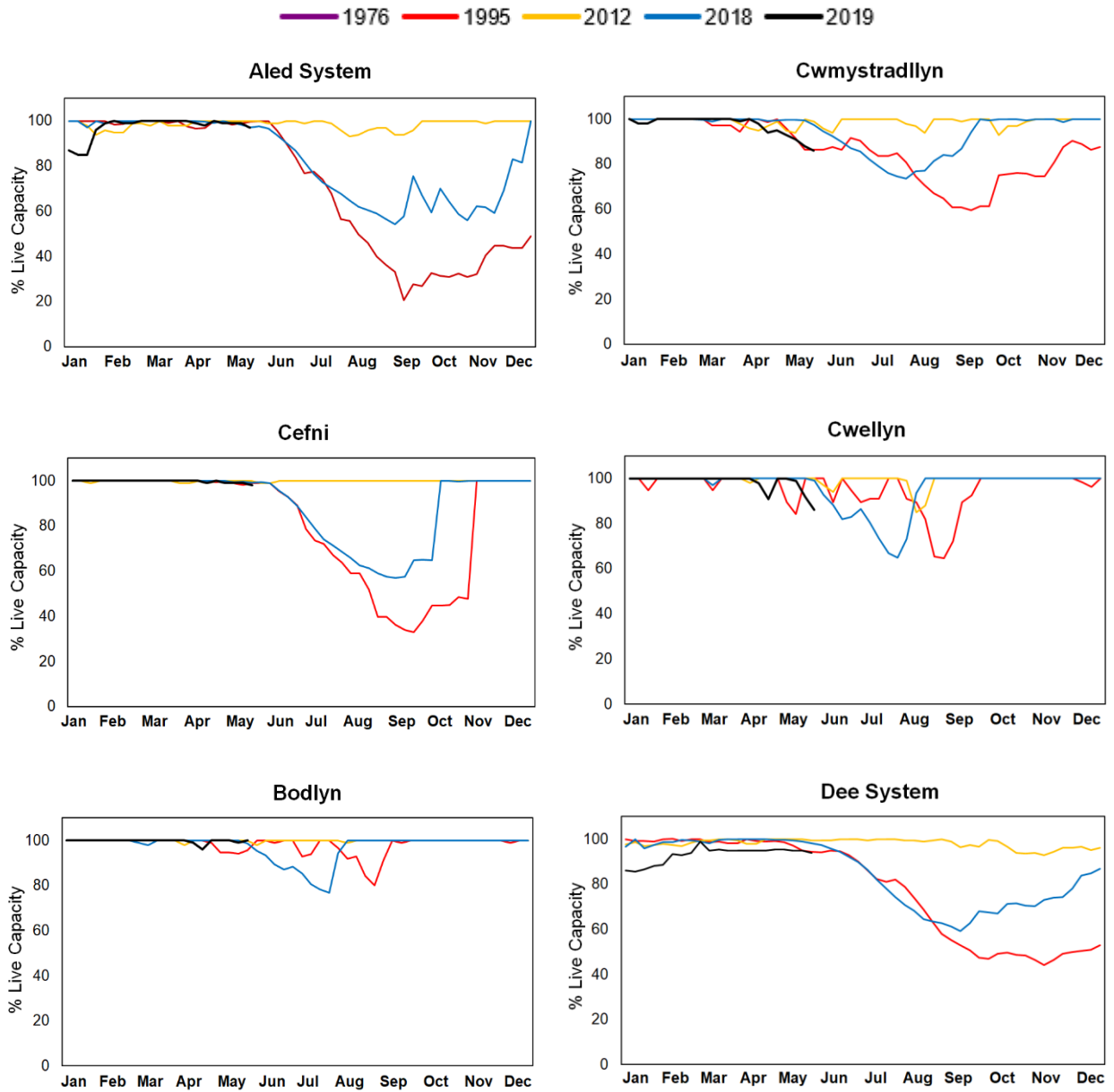
Figure 19: Reservoir charts: South East Wales



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

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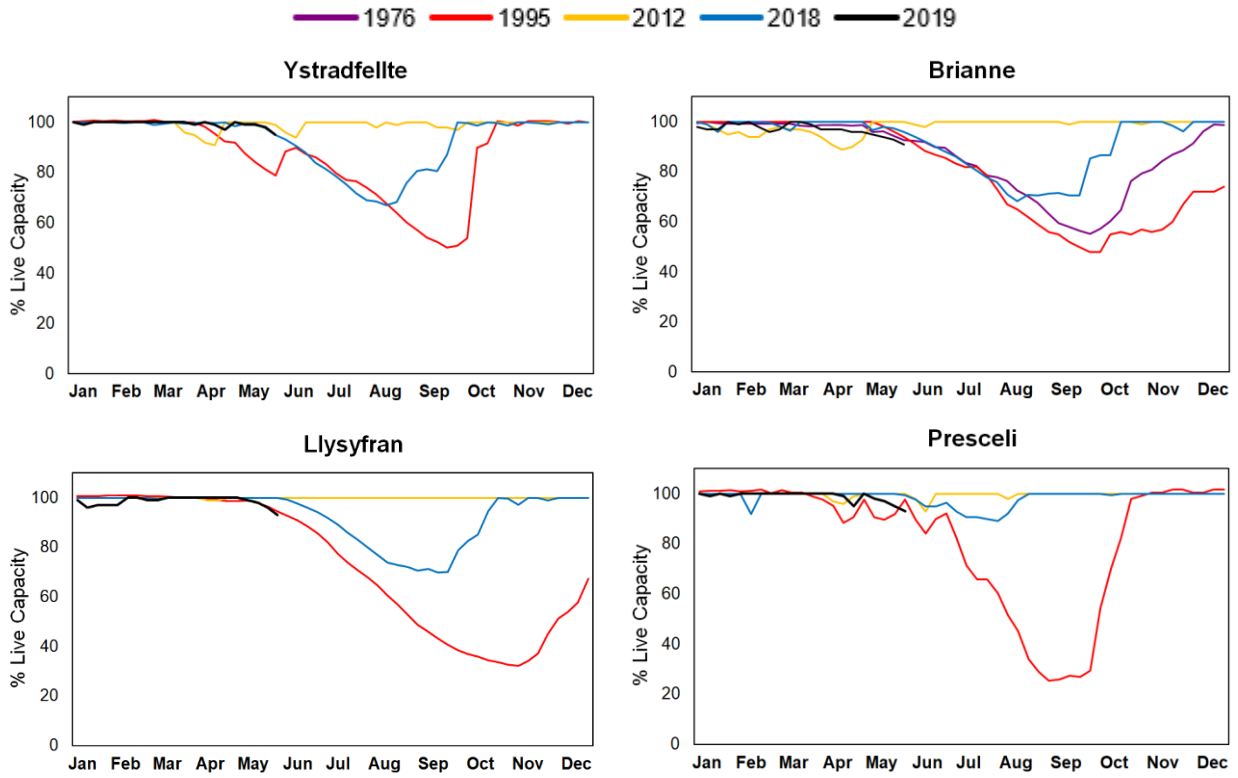
**Figure 20: Reservoirs charts: North Wales**



**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).