

## Natural Resources Wales

- The monthly rainfall total received for Wales during October was 55% of the Long Term Average (LTA, 1961-90). North, South West and South East Wales received 52%, 60% and 51% of the LTA, respectively.
- At the end of October, soil moisture deficit (SMD) across Wales was between 0mm and 88.4mm for all MORECS squares. The difference when compared to the long term average October(1961-90), ranged from -11mm to 58mm. 9 out of 23 squares had SMD values greater than the LTA (Drier than the long-term average).
- For river flows in Wales, only 1 out of 29 indicator sites were classed as *Normal* for October, 7 sites were classed as *Below normal* and 14 sites were *Notably low*. The remaining 7 sites were classed as *Exceptionally low*.
- The overall reservoir storage across all indicator sites was above 54% full at the end of October and all reservoirs were within normal operating ranges.

### Rainfall\*

The monthly rainfall total received for Wales was 55% of the LTA for October.

The percentage of rainfall recorded in catchments compared with the long term average (1961-90) across Wales was between 36% (Gwy Uchaf) and 74% (North Ceredigion). The rainfall total for Wales was 63mm less than the October LTA. For South East, South West and North Wales the rainfall totals were 51%, 60% and 52% of the LTA, respectively. Therefore, October was relatively dry when compared to the monthly LTA value for all the three areas where totals were equal or below 60% of LTA.

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

For the SMD values, 9 out of 23 MORECS squares had SMD values greater than the LTA (drier than average) while the remaining 14 sites had values less than the LTA (wetter than average).

SMD Map [National](#)

SMD Charts [Compare to LTA](#)

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## River Flows

River flows at only 1 sites (out of 29) are classed as *Normal*. 7 sites were classed as *Below normal* and 14 sites were *Notably low*. The remaining 7 sites were classed as *Exceptionally low*.

**North:** Flows in the area ranged from 6% (River Clwyd at Ruthin Weir) to 41% (River Wheeler at Bodfari) of the October LTA Values.

**South East:** Flows in the area ranged from 23% (River Lugg at Butts Bridge) to 58% (River Usk at Trostrey Weir) of the October LTA values.

**South West:** The river flows within this area ranged from 26% (River Neath at Resolven) to 52% (River Teifi at Glanteifi) of the October LTA values.

River Flow Map	<a href="#">National</a>		
River Flow Table	<a href="#">% of LTA and compare to previous year</a>		
River Flow Charts	<a href="#">South East</a>	<a href="#">North</a>	<a href="#">South West</a>
	<a href="#">Wales</a>	<a href="#">Wales</a>	<a href="#">Wales</a>

## Groundwater Levels

Groundwater levels for October at all indicator sites were classed between *Exceptionally low* (Pont y Cambwll and Eastwick) and *Above normal* (Dodleston) with 3 sites (Pant-y-Lladron, Llanfair and Handley) classed as *Notably low* and 1 site (Greenfield Garage) as classed as *Below normal*. The remaining 3 sites (Fernbank, Hollybush and Broxton) were classed as *Normal*.

Groundwater Map	<a href="#">National</a>		
Groundwater Charts	<a href="#">South East</a>	<a href="#">North</a>	<a href="#">South West</a>
	<a href="#">Wales</a>	<a href="#">Wales</a>	<a href="#">Wales</a>

## Reservoir Storage

At the end of October storage at all of the indicator reservoirs exceeded 54% full and they were within their normal operating ranges .

Reservoir Charts	<a href="#">South East</a>	<a href="#">North Wales</a>	<a href="#">South West</a>
	<a href="#">Wales</a>		<a href="#">Wales</a>

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

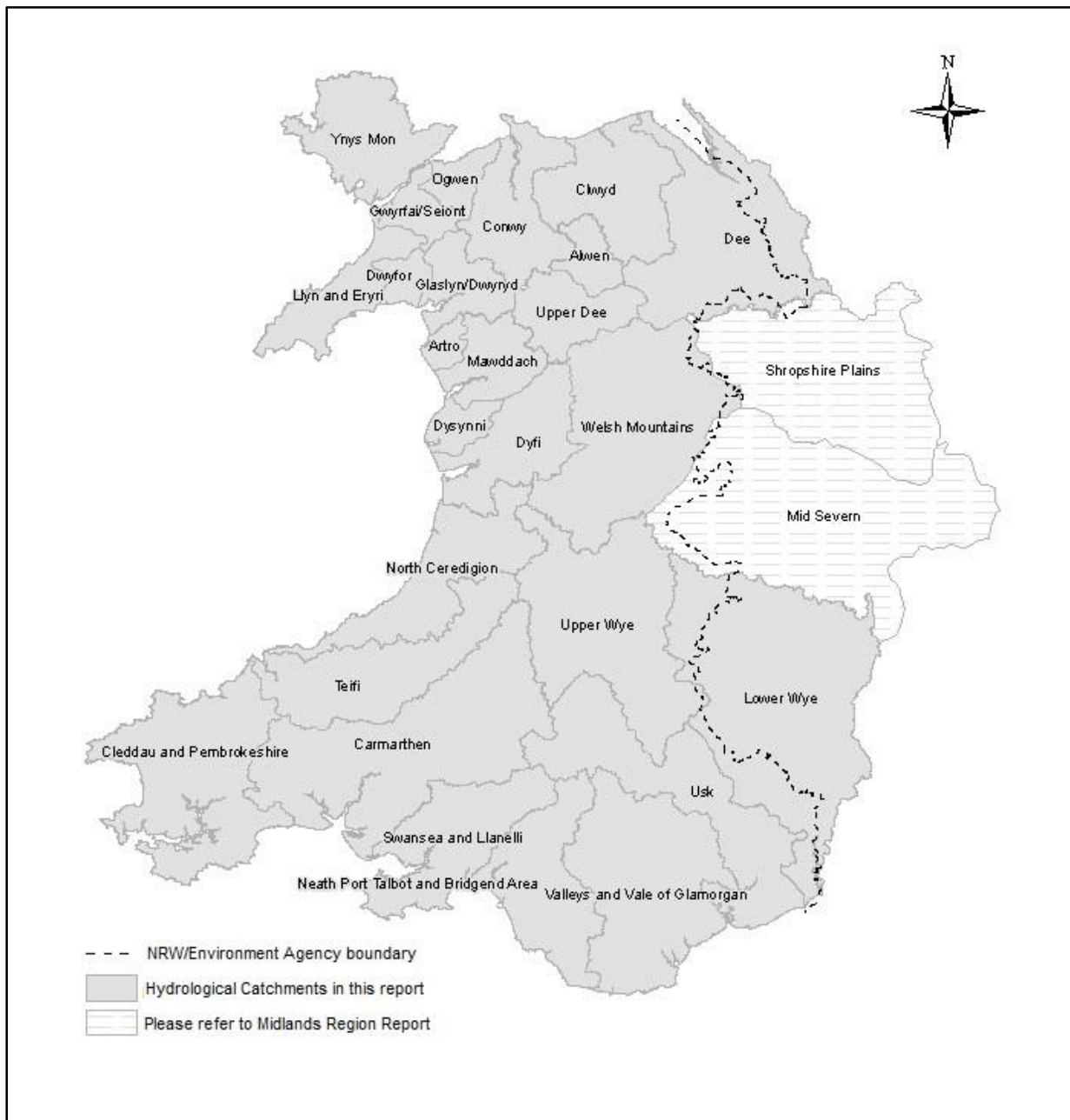
Author: Zhong Zhang Telephone: 03000 654521

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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.**

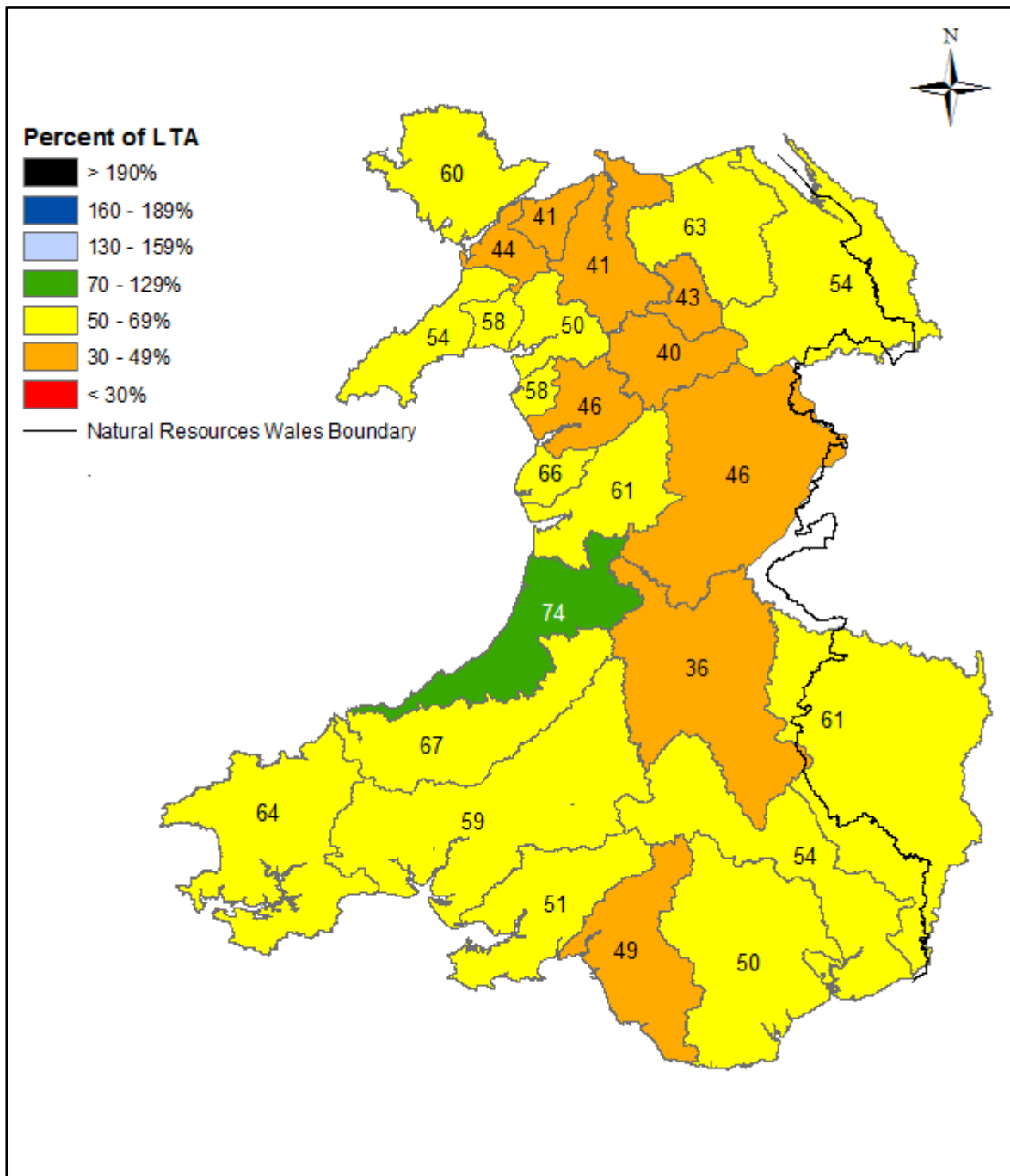
**For areas adjoining Natural Resources Wales, please see the reports for Environment Agency Midlands and North West England:**

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

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## Rainfall

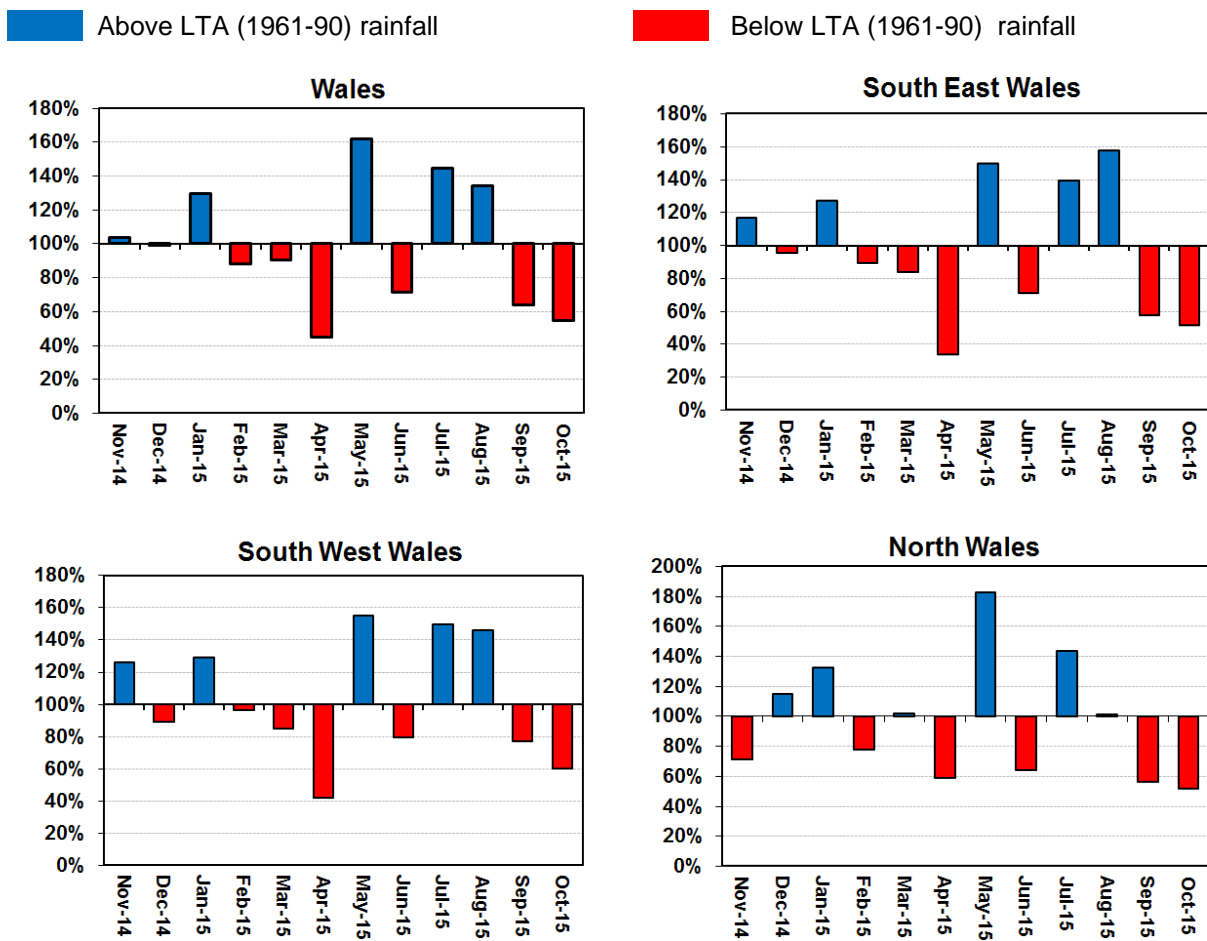


**Figure 2: Calculated catchment average October rainfall totals as a percentage of the 1961-90 October long term average for Natural Resources Wales catchments, using NCIC (National Climate Information Centre) data (Source: Met Office © Crown Copyright).**

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## Rainfall Charts

Figure 3: Rainfall Charts: National and Areas



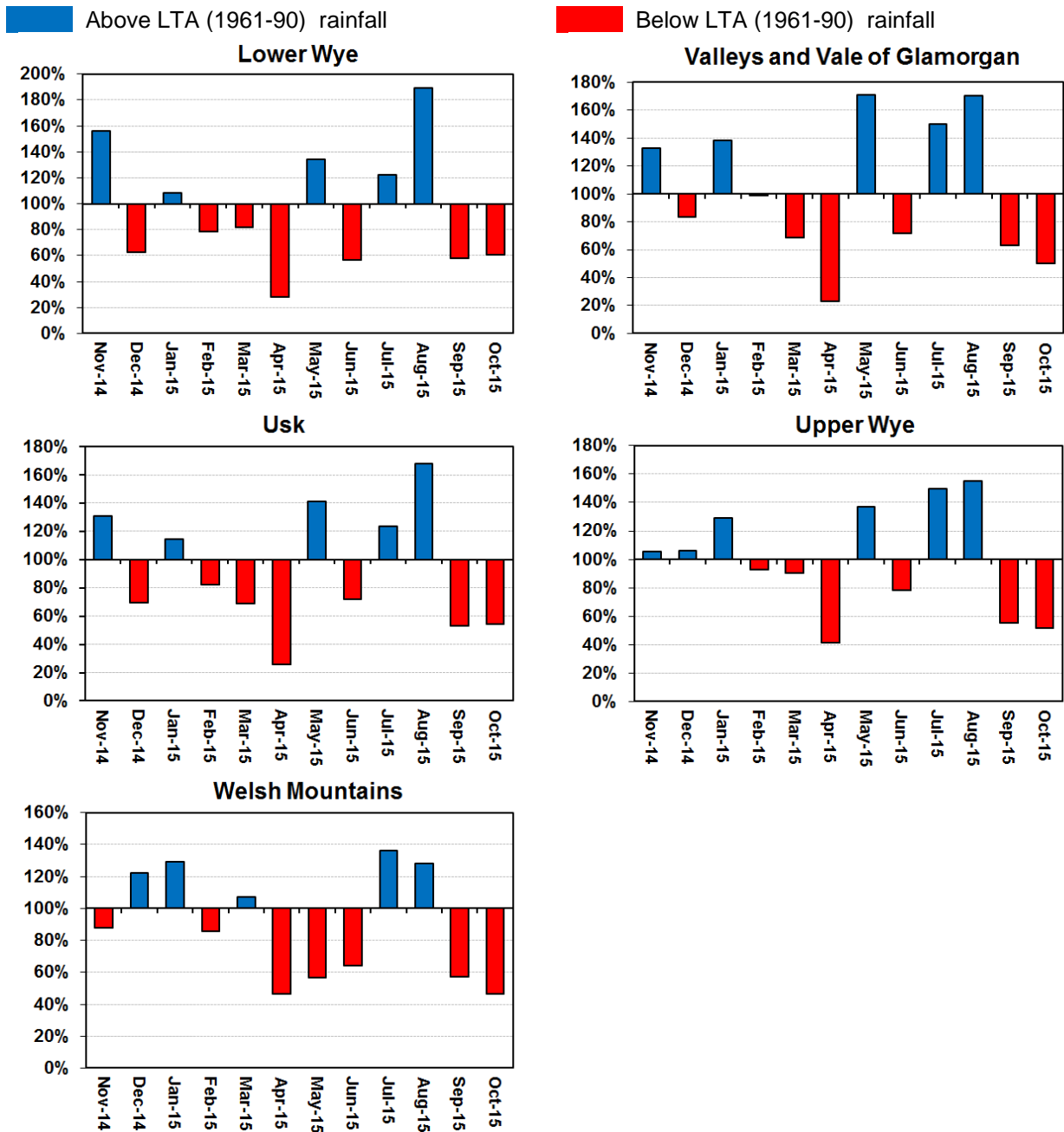
Comparison of monthly rainfall totals to the 1961-90 long term average expressed as percentage for Natural Resources Wales and Areas, using NCIC (National Climate Information Centre) data (Source: Met Office © Crown Copyright).

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

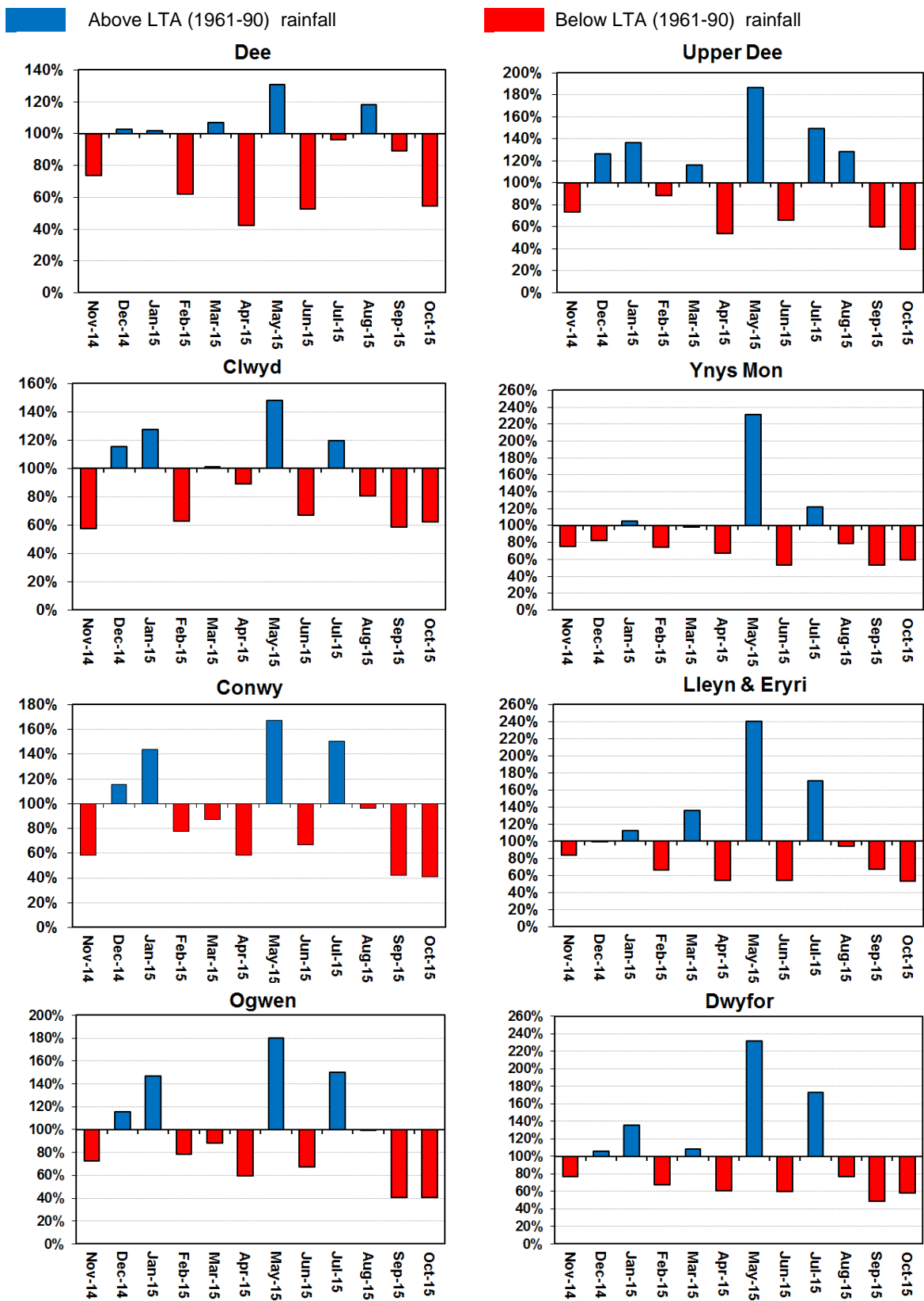


Comparison of monthly rainfall totals to the 1961-90 long term average expressed as percentage for South East Wales, using NCIC (National Climate Information Centre) data (Source: Met Office © Crown Copyright).

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**Figure 5: Rainfall Charts: North Wales**



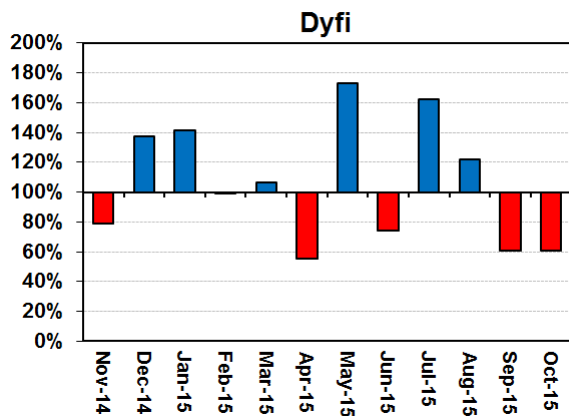
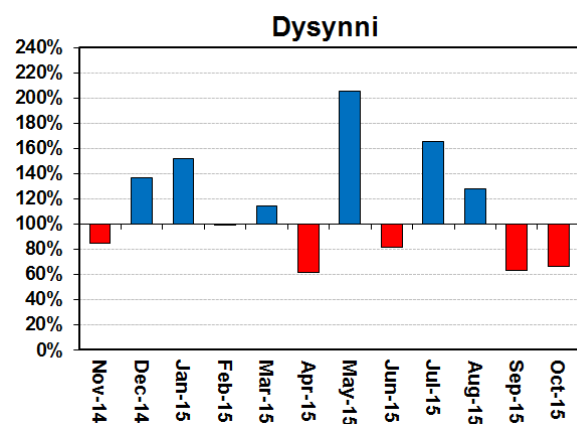
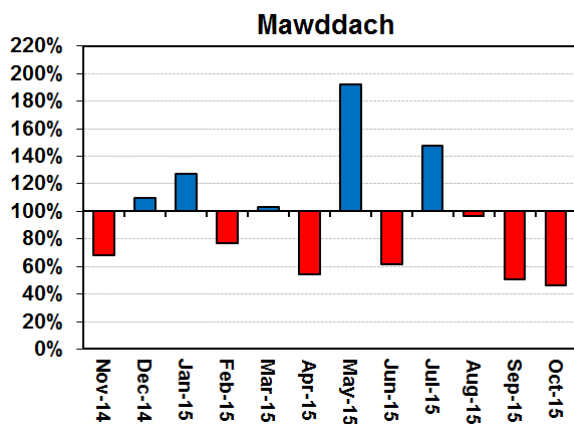
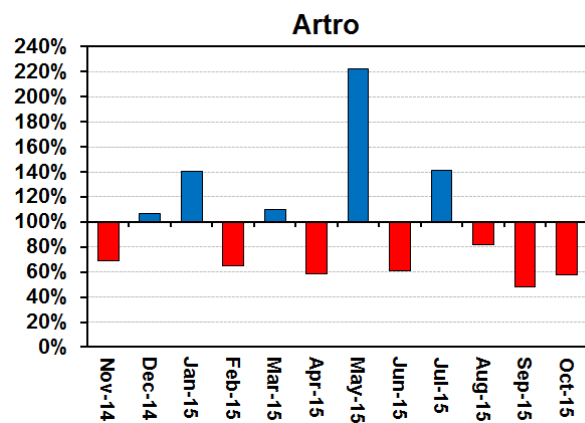
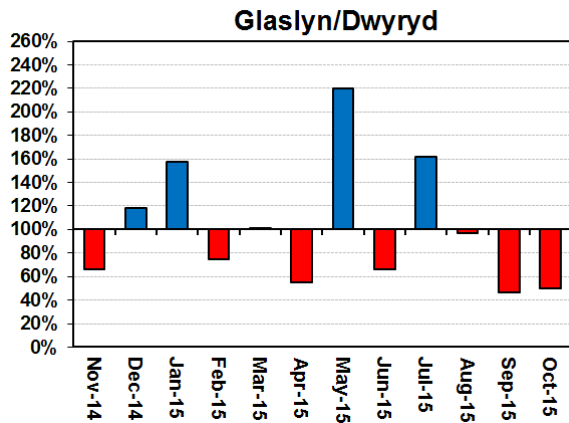
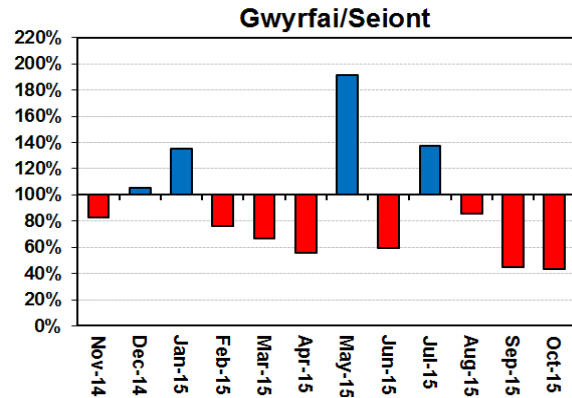
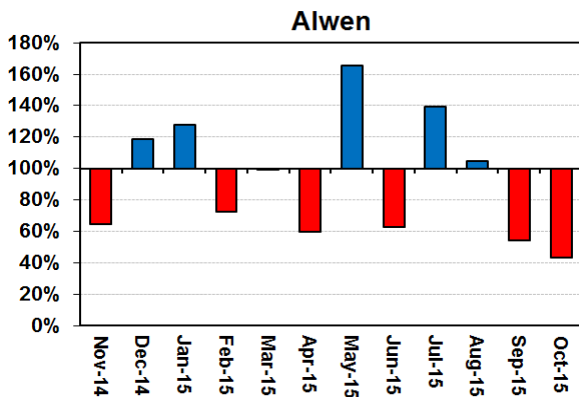
Comparison of monthly rainfall totals to the 1961-90 long term average expressed as percentage for North Wales, using NCIC (National Climate Information Centre) data (Source: Met Office © Crown Copyright).

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■ Above LTA (1961-90) rainfall

■ Below LTA (1961-90) rainfall



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).

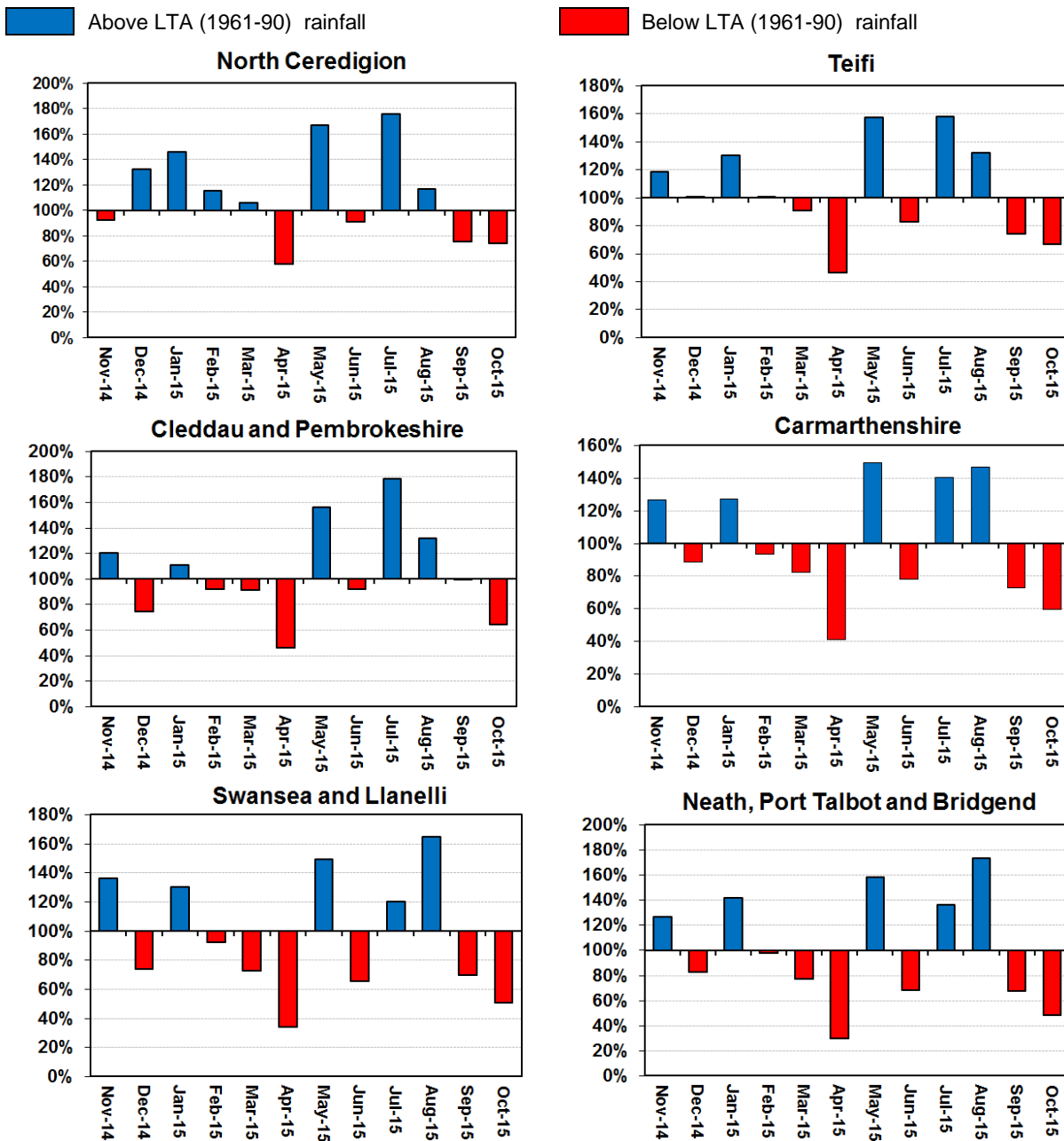
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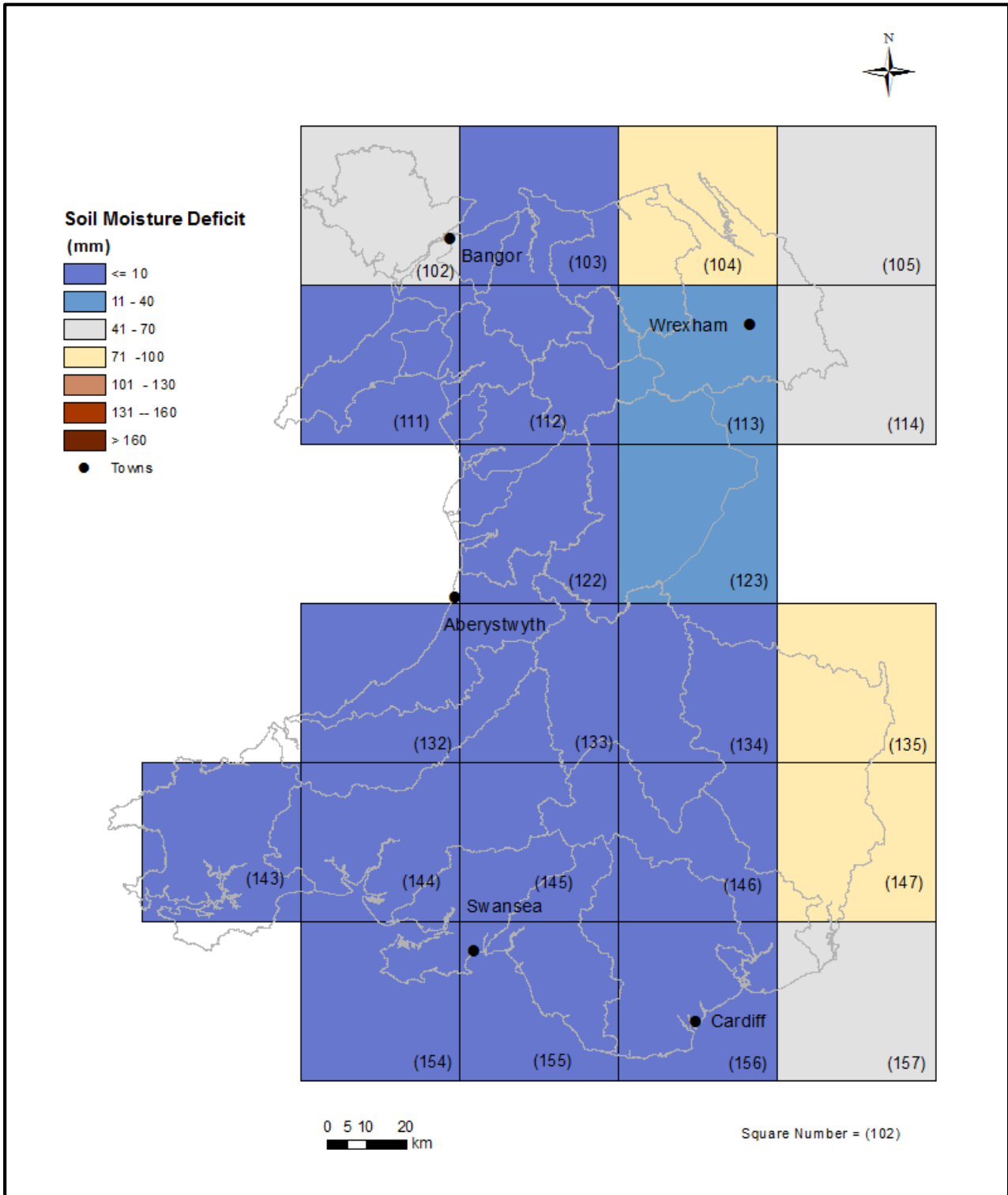
**Figure 6: Rainfall Charts: South West Wales**



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).

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## Soil Moisture Deficit (SMD)



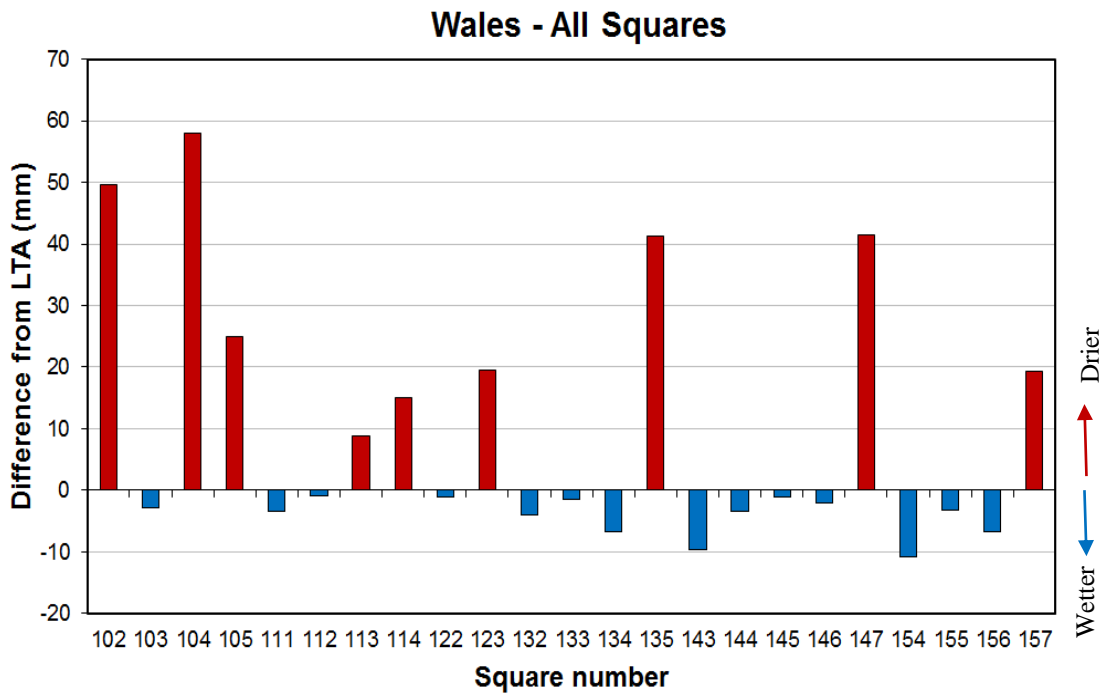
**Figure 7: MORECS soil moisture deficits (mm) for October for real land use for Natural Resources Wales (Source: Met Office © Crown Copyright).**

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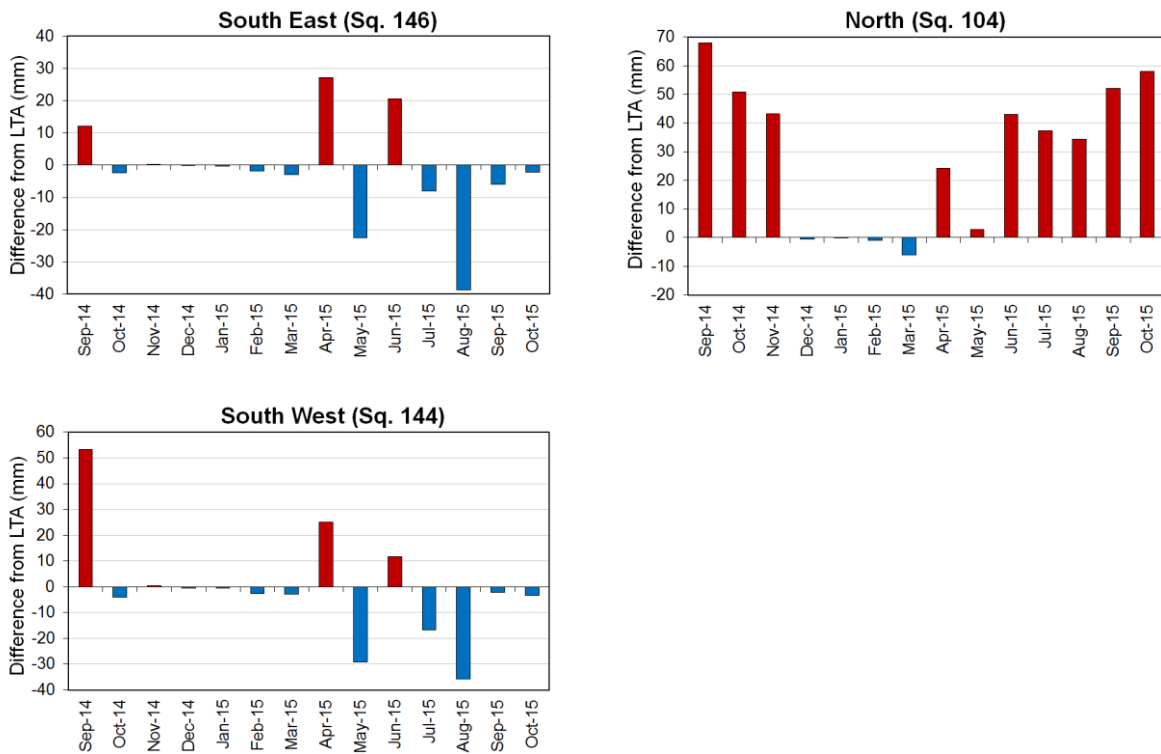
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■ Above LTA (1961-90) SMD (Drier)
 ■ Below LTA (1961-90) SMD (Wetter)



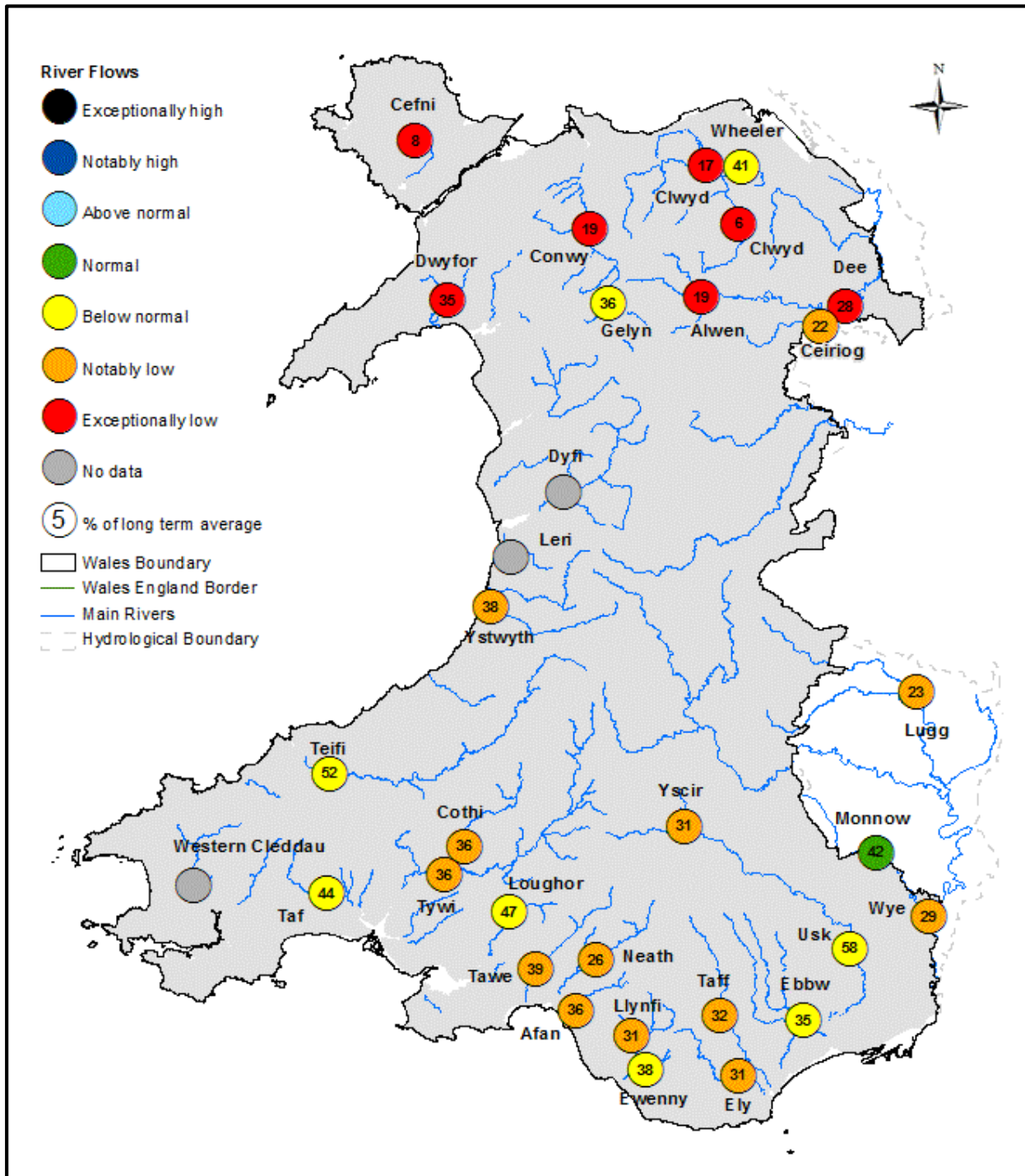
**Figure 8: MORECS month end soil moisture deficits difference (mm) from the 1961-90 long term monthly average (LTA) for real land use for Natural Resources Wales squares (Source: Met Office © Crown Copyright).**



**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)**

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## River Flow



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

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SITE NAME	RIVER	October 2015			October 2014		October LTA		
		Class	% of LTA	Flow (m3/s)	% of LTA	Flow (m3/s)	LTA	Monthly Min (m3/s)	Monthly Max (m3/s)
<b>River Flow Sites : South East Area</b>									
Butts Bridge	Lugg	Notably low	23%	0.96	58	2.22	4.15	0.68	14.50
Grosmont	Monnow	Normal	42%	1.87	86	3.81	4.46	0.35	19.50
Pont ar Yscir	Yscir	Notably low	31%	0.71	87	2.07	2.29	0.19	7.19
Pontypridd	Taff	Notably low	32%	7.66	91	21.31	23.85	3.54	66.30
Redbrook	Wye	Notably low	29%	18.00	66	49.27	63.01	9.53	174.00
Rhiwderin	Ebbw	Below normal	35%	2.69	72	5.87	7.71	0.91	23.20
St Fagans	Ely	Notably low	31%	1.72	75	4.20	5.54	0.71	13.80
Trostrey Weir	Usk	Below normal	58%	10.20	85	23.52	17.71	3.39	59.50
<b>River Flow Sites : North Area</b>									
Bodfari	Wheeler	Below normal	41%	0.25	43	0.26	0.61	0.20	1.77
Bodffordd	Cefni	Exceptionally low	8%	0.04	89	0.40	0.51	0.06	1.60
Brynkinalt Weir	Ceiriog	Notably low	22%	0.69	60	1.87	3.08	0.47	8.13
Cwmlanerch	Conwy	Exceptionally low	19%	4.59	93	21.77	23.82	2.86	60.10
Cynefail	Gelyn	Notably low	26%	0.22	117	0.98	0.86	0.09	2.00
Dol y Bont	Leri	No data			0	0.00	2.10	0.14	5.15
Druid	Alwen	Exceptionally low	19%	1.09	57	3.18	5.61	0.60	15.00
Dyfi bridge	Dyfi	No data					30.07	9.73	77.00
Garndolbenmaen	Dwyfor	Exceptionally low	35%	1.23	97	3.33	3.54	1.32	9.05
Manley Hall	Dee	Exceptionally low	28%	9.52	77	25.88	33.87	8.73	75.70
Pont y Cambwll	Clwyd	Exceptionally low	17%	1.01	32	1.89	5.89	0.94	19.40
Ruthin Weir	Clwyd	Exceptionally low	6%	0.08	22	0.28	1.31	0.14	3.34
<b>River Flow Sites : South West Area</b>									
Capel Dewi	Tywi	Notably low	36%	18.18	79	40.14	50.74	8.81	113.00
Clog y Fran	Taf	Below normal	44%	3.98	94	8.39	9.01	1.02	22.30
Coytrahen	Llynfi	Notably low	31%	0.91	80	2.34	2.94	0.50	6.33
Felin Mynachdy	Cothi	Notably low	36%	5.41	82	12.26	15.04	1.61	37.90
Glanteifi	Teifi	Below normal	52%	18.60	91	32.05	35.70	3.89	98.70
Keepers Lodge	Ewenny	Below normal	38%	0.79	63	1.33	2.09	0.41	4.49
Marcroft	Afan	Notably low	36%	2.46			6.74	0.93	13.60
Pont Llolwyn	Ystwyth	Notably low	38%	2.93	65	4.98	7.74	0.56	19.80
Prendergast Mill	Western Cleddau	No data					5.82	0.72	16.50
Resolven	Neath	Notably low	26%	3.32	95	12.80	12.63	1.57	29.30
Tir-y-Dail	Loughor	Below normal	47%	1.20	110	2.79	2.53	0.43	5.38
Ynystanglws	Tawe	Notably low	39%	5.95	118	18.26	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).**

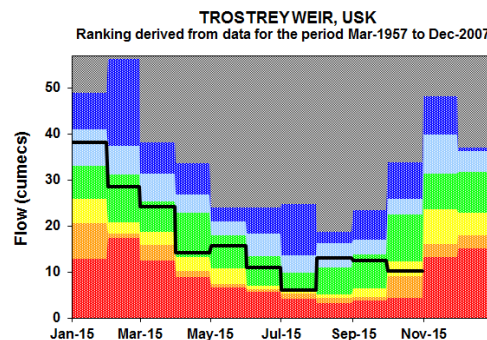
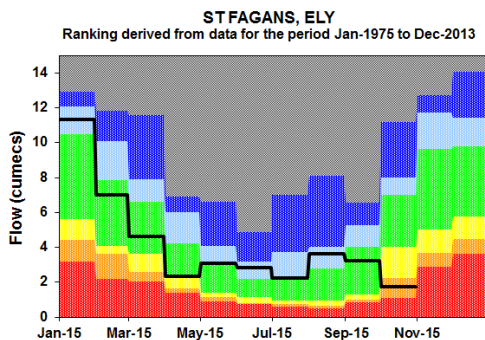
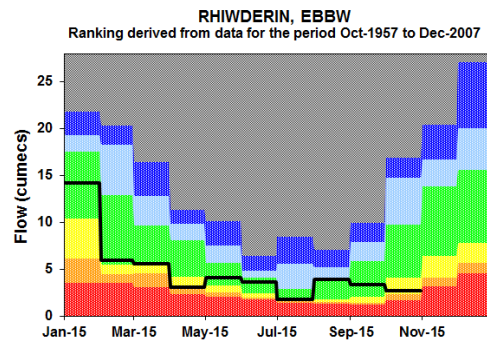
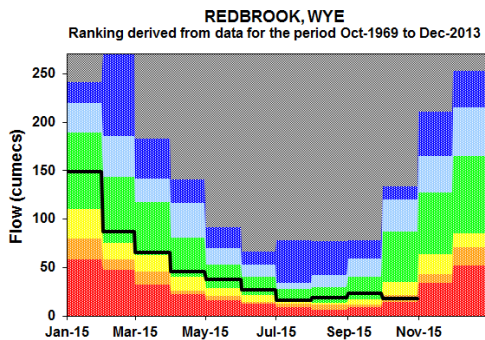
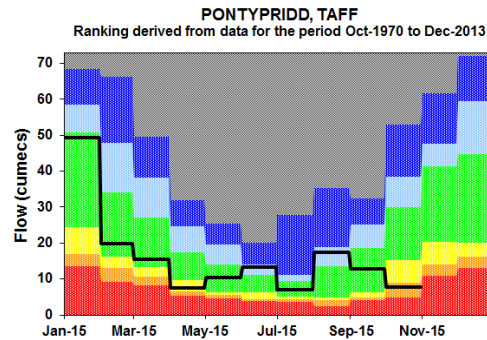
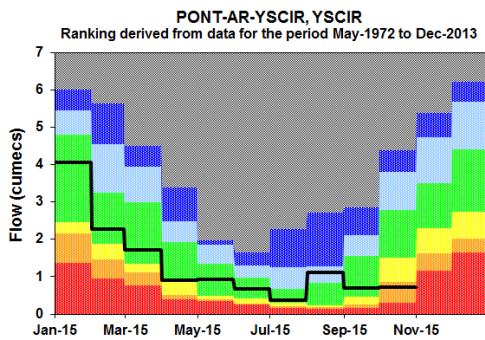
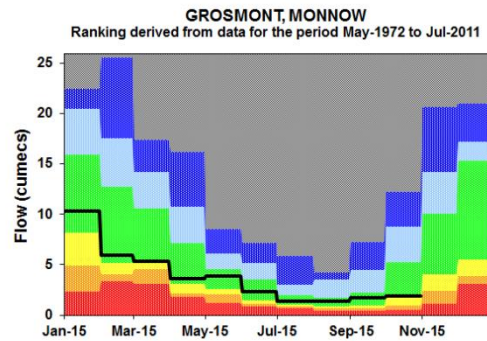
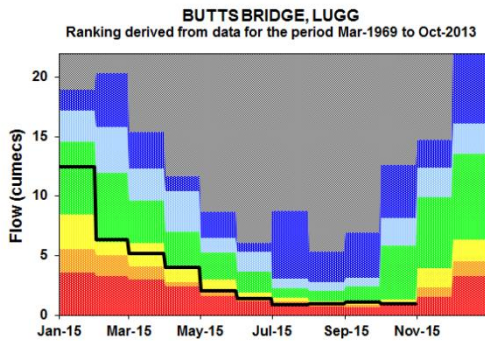
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## River Flow Charts

Figure 12: River Flow Charts: South East Wales



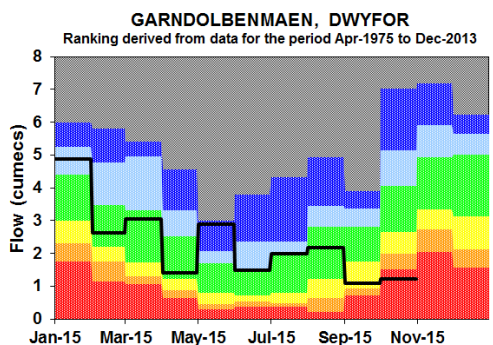
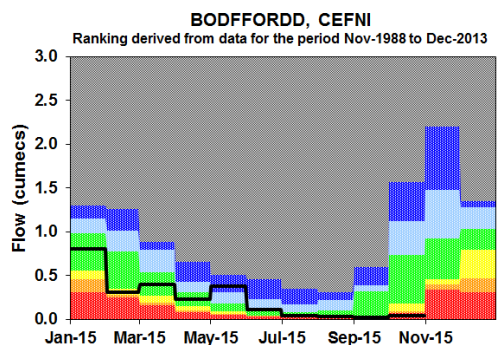
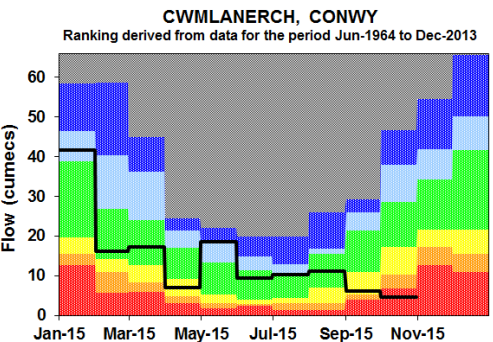
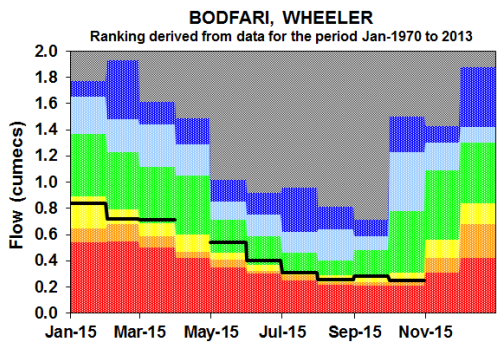
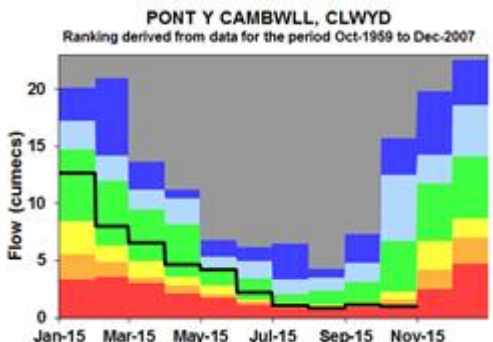
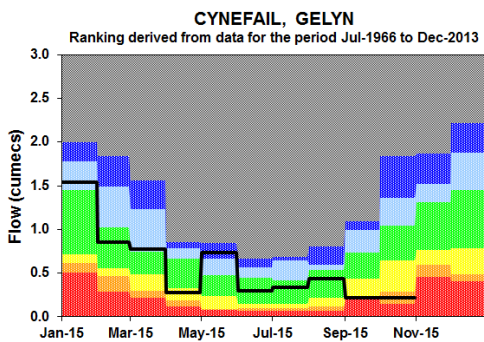
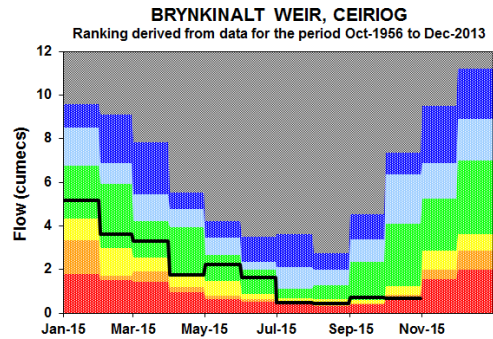
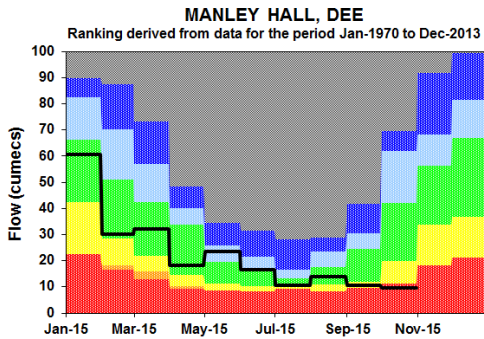
Monthly mean river flows for the last 10 months classed relative to the analysis of historic river levels (Source: Natural Resources Wales).

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

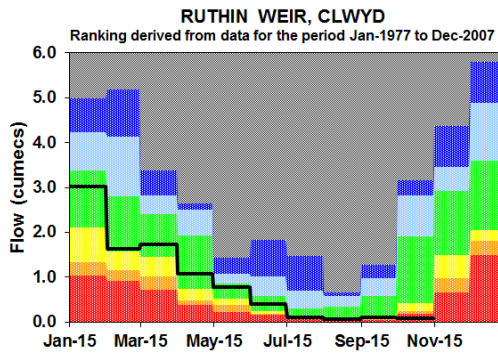
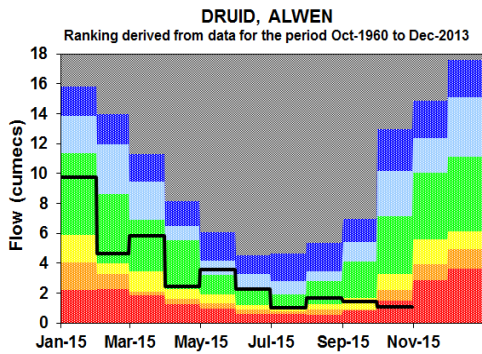


### Monthly mean river flows for the last 10 months classed relative to the analysis of historic river levels (Source: Natural Resources Wales).

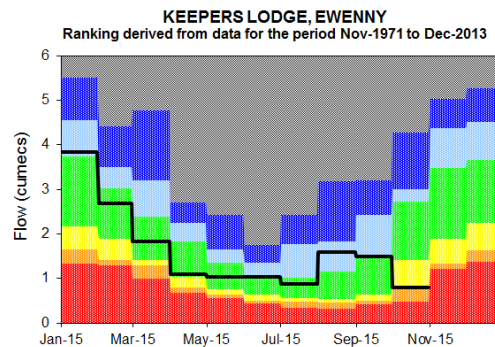
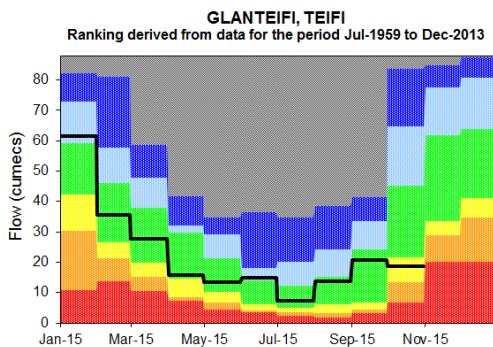
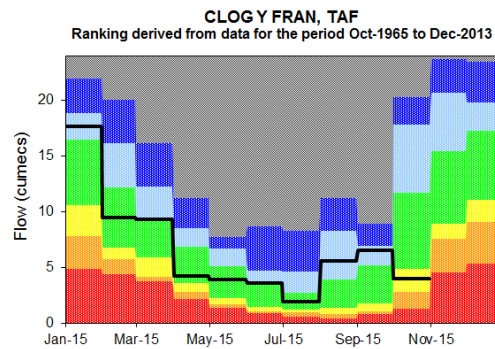
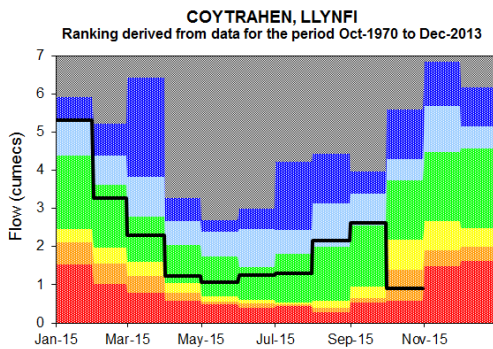
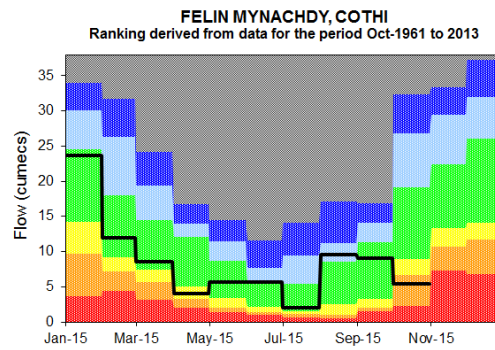
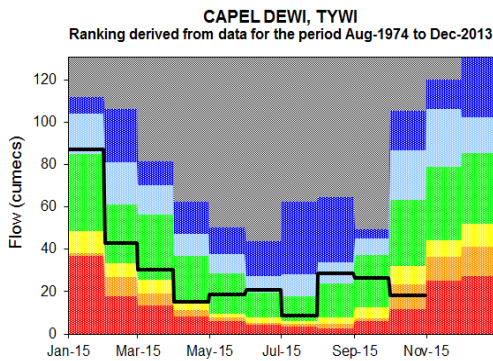
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**Figure 14: River Flow Charts: South West Wales**

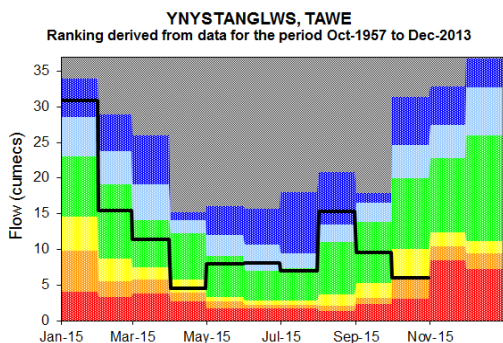
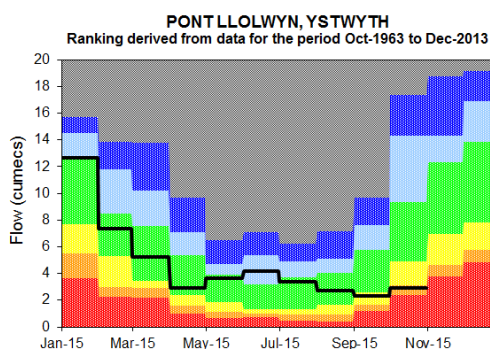
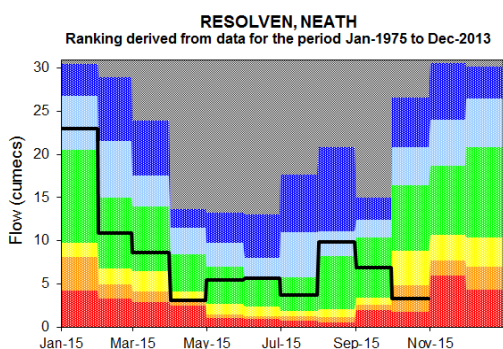
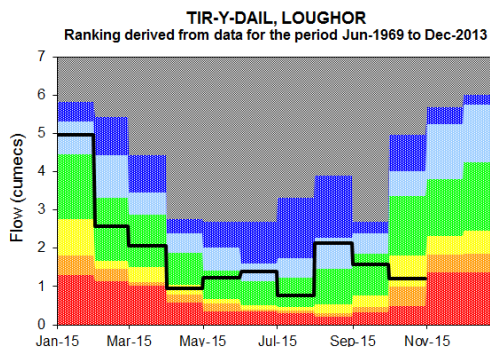
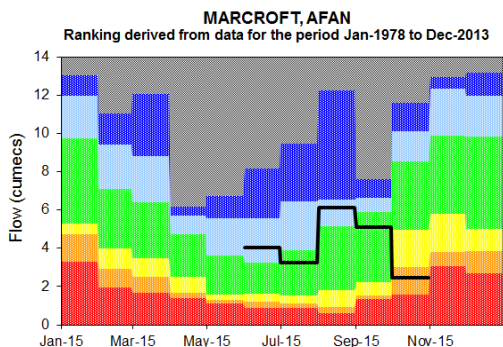


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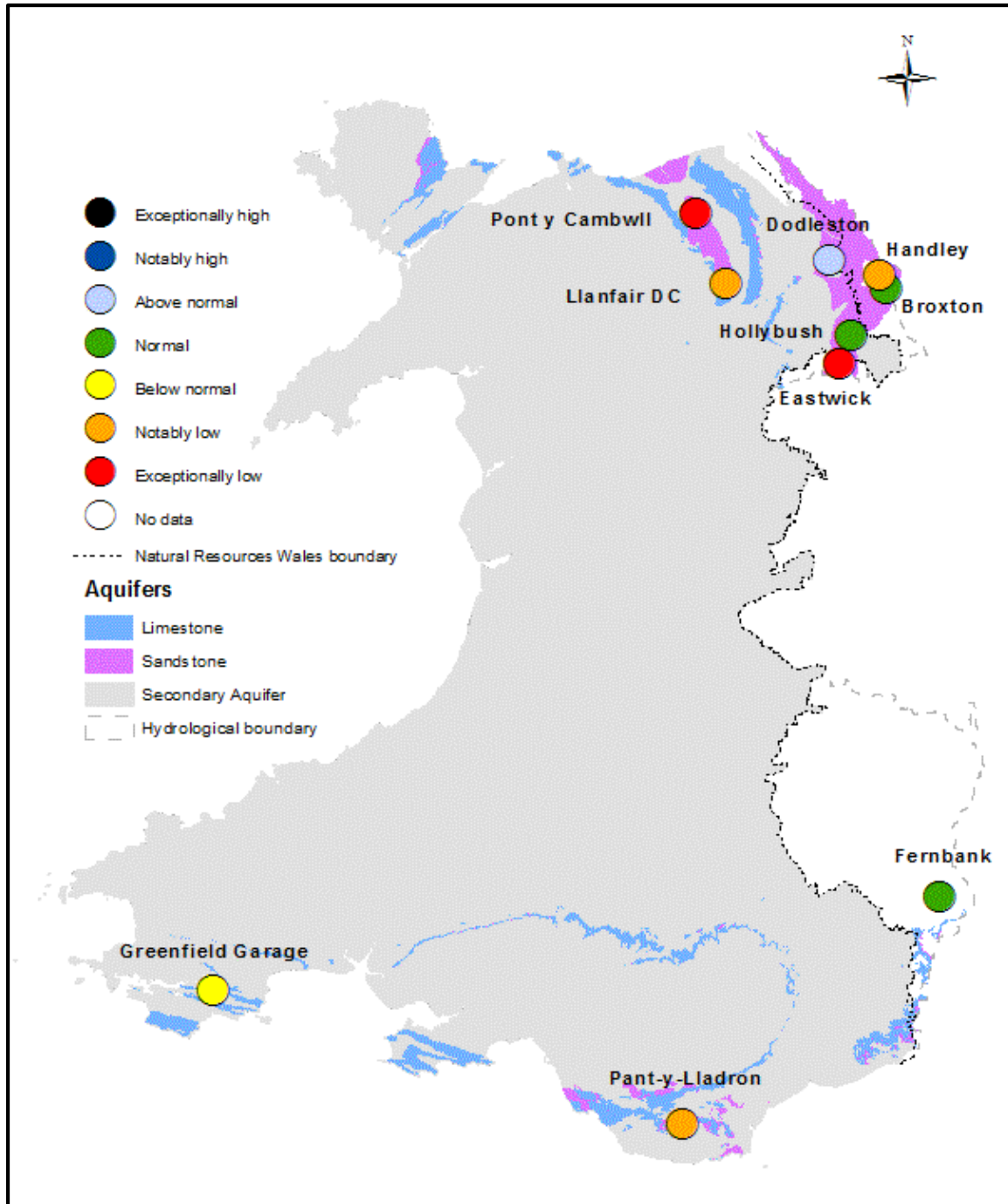


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Monthly mean river flows for the last 10 months classed relative to the analysis of historic river levels. (Source: Natural Resources Wales). (please note that there was no data available pre-June 2015 for the site of Marcroft in the river Afan.)

## Groundwater Levels

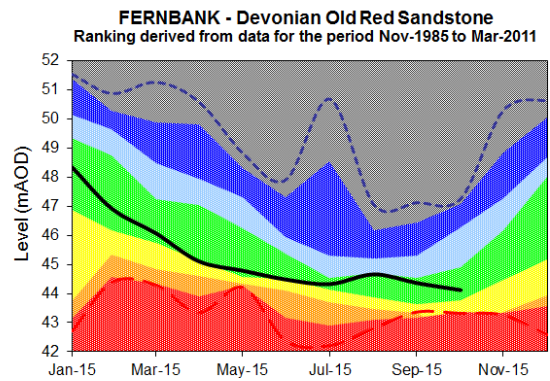
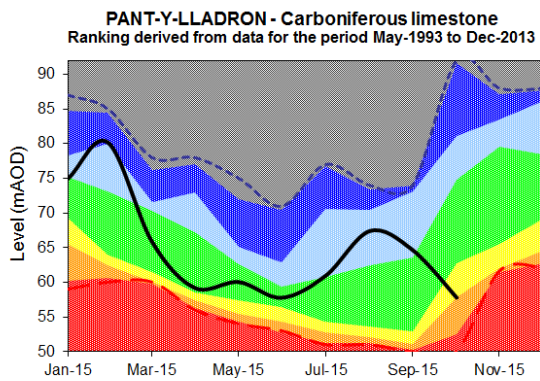
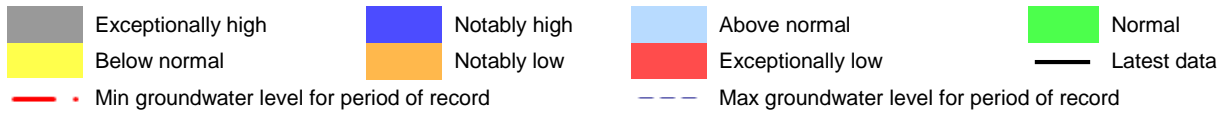


**Figure 15: Groundwater levels at the end of month classed relative to an analysis of historic October groundwater levels (Source: Natural Resources Wales and Environment Agency).**

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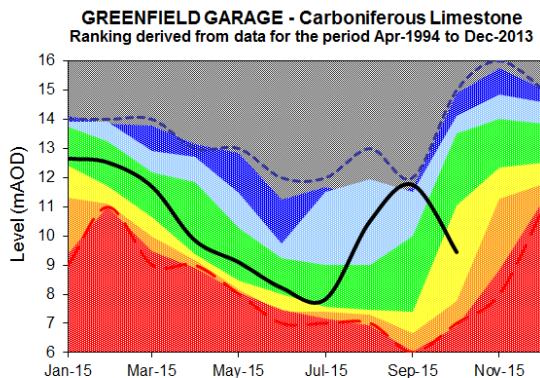
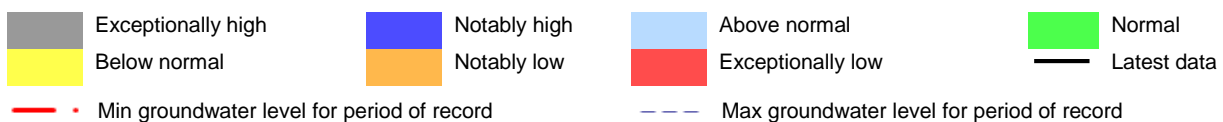
## Groundwater charts

**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).

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



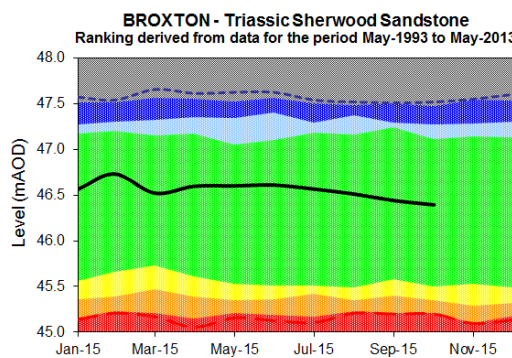
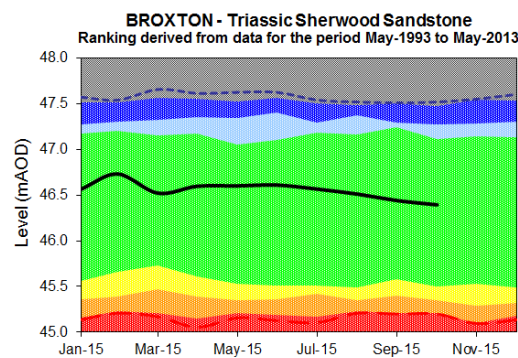
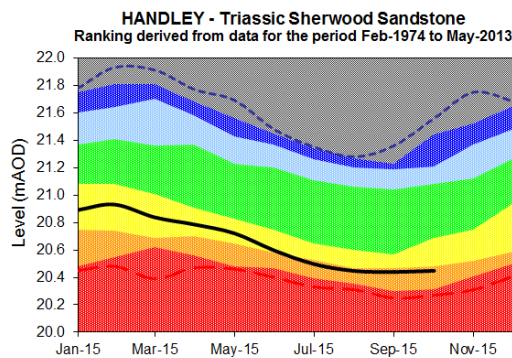
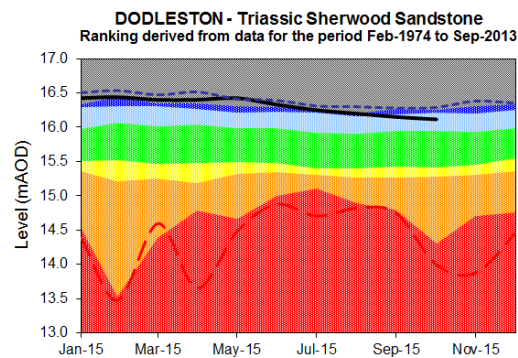
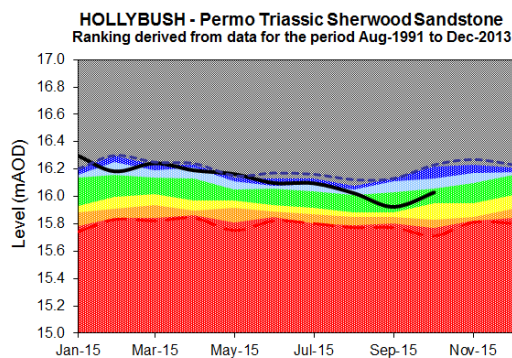
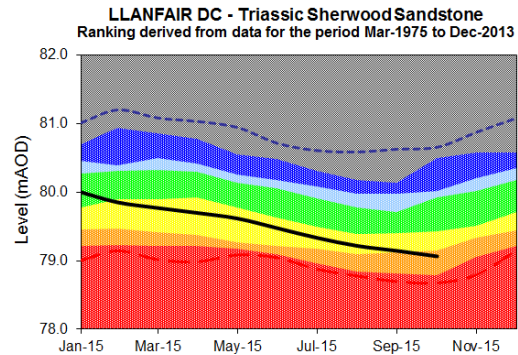
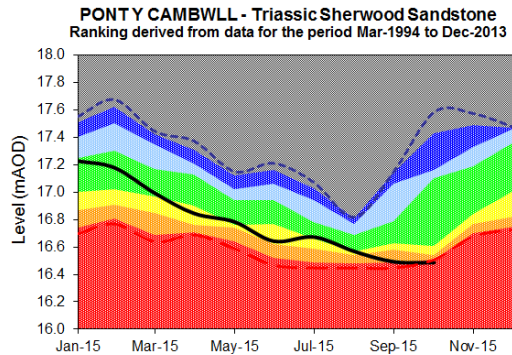
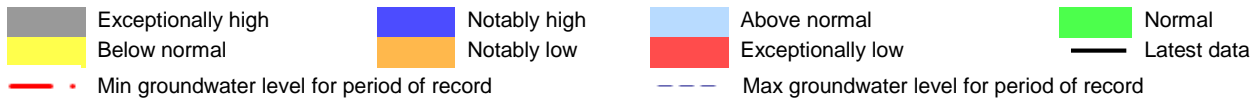
End of month groundwater levels for the past 10 months for index sites (Source: Natural Resources Wales).

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**Figure 18: Groundwater level charts: North Wales**



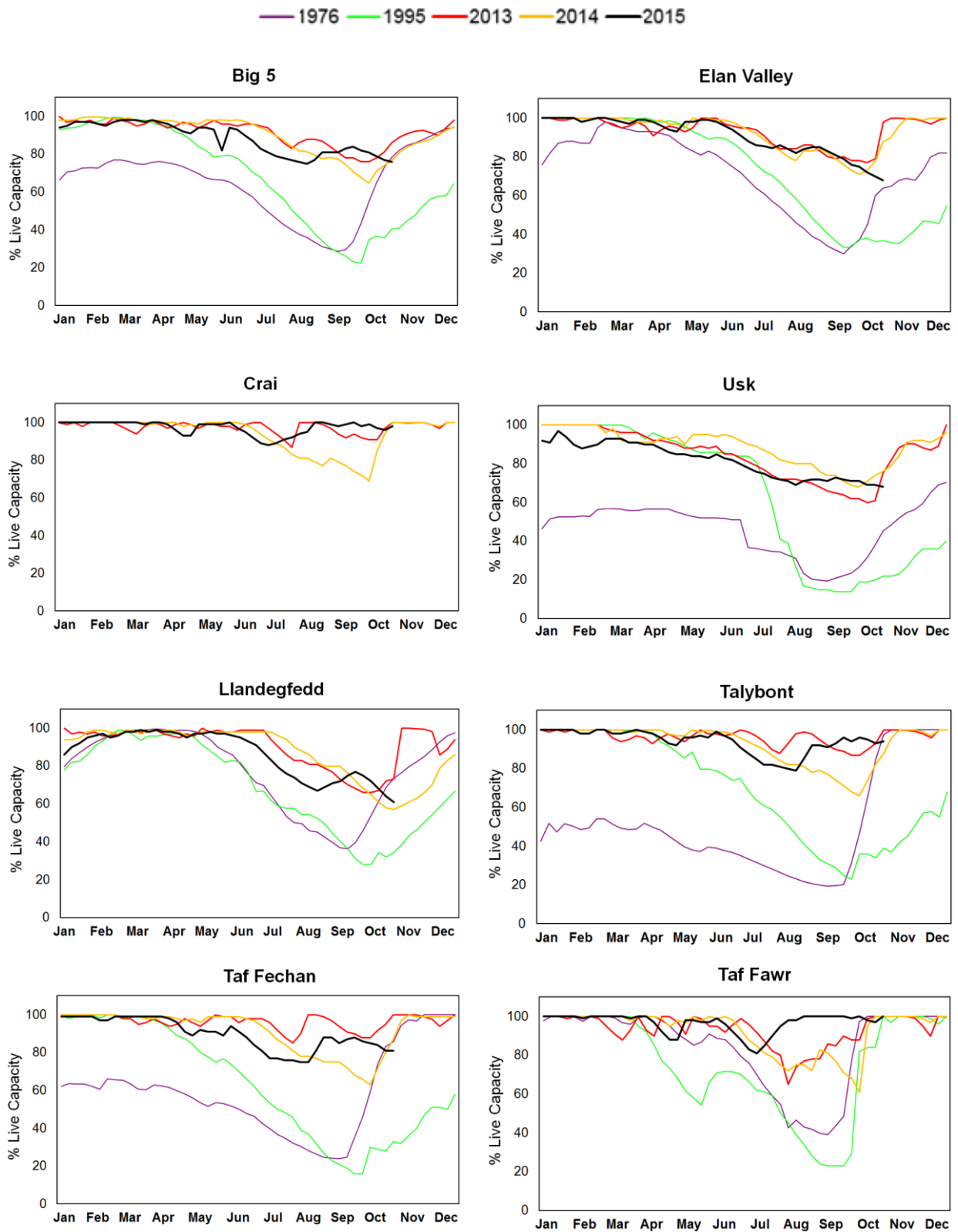
**End of month groundwater levels for the past 10 months for index sites (Source: Natural Resources Wales and Environment Agency).**

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## Reservoir Storage

Figure 19: Reservoir charts: South East Wales



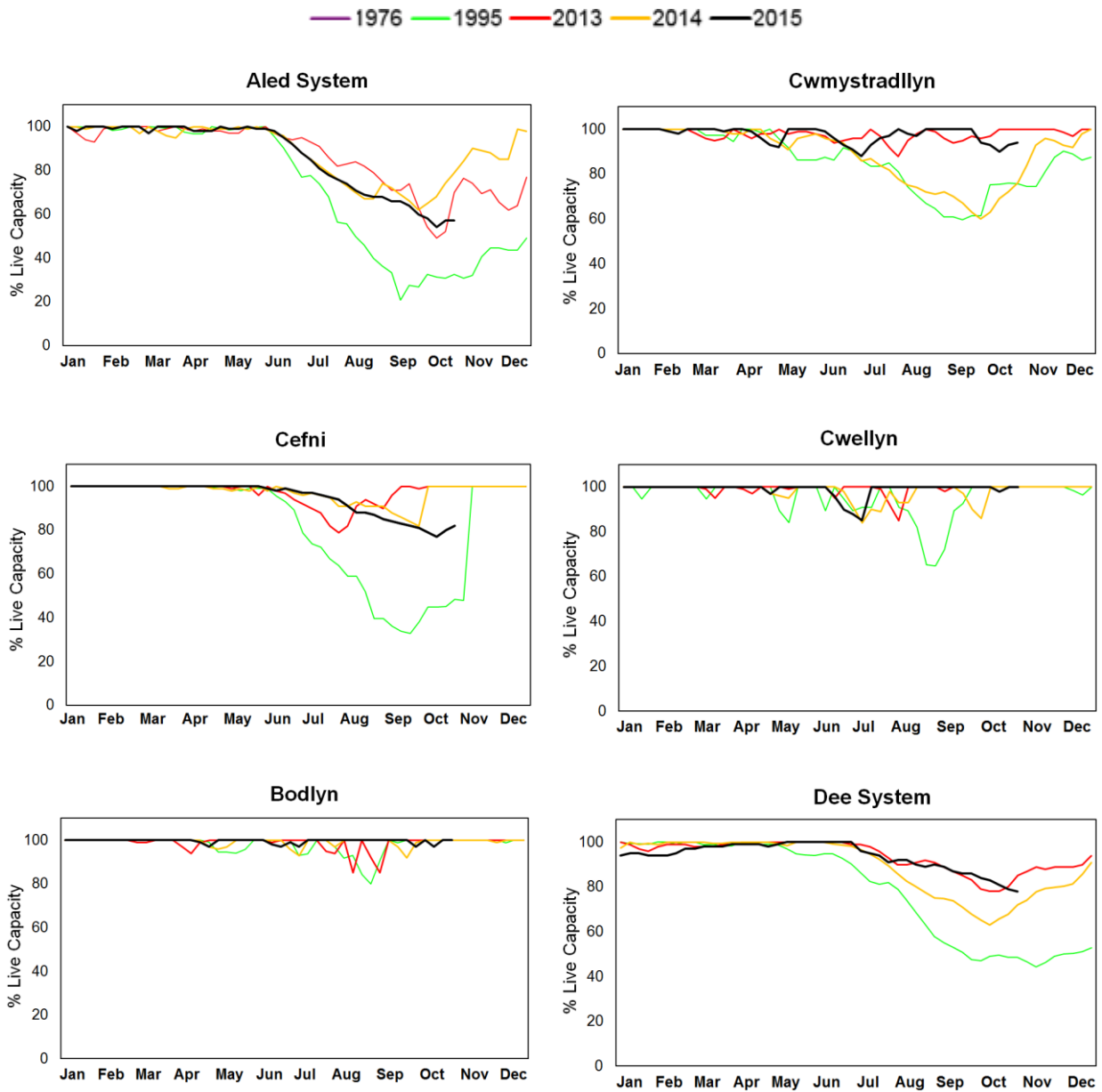
Weekly reservoir stocks for Natural Resources Wales index sites (Source: Water Companies).

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

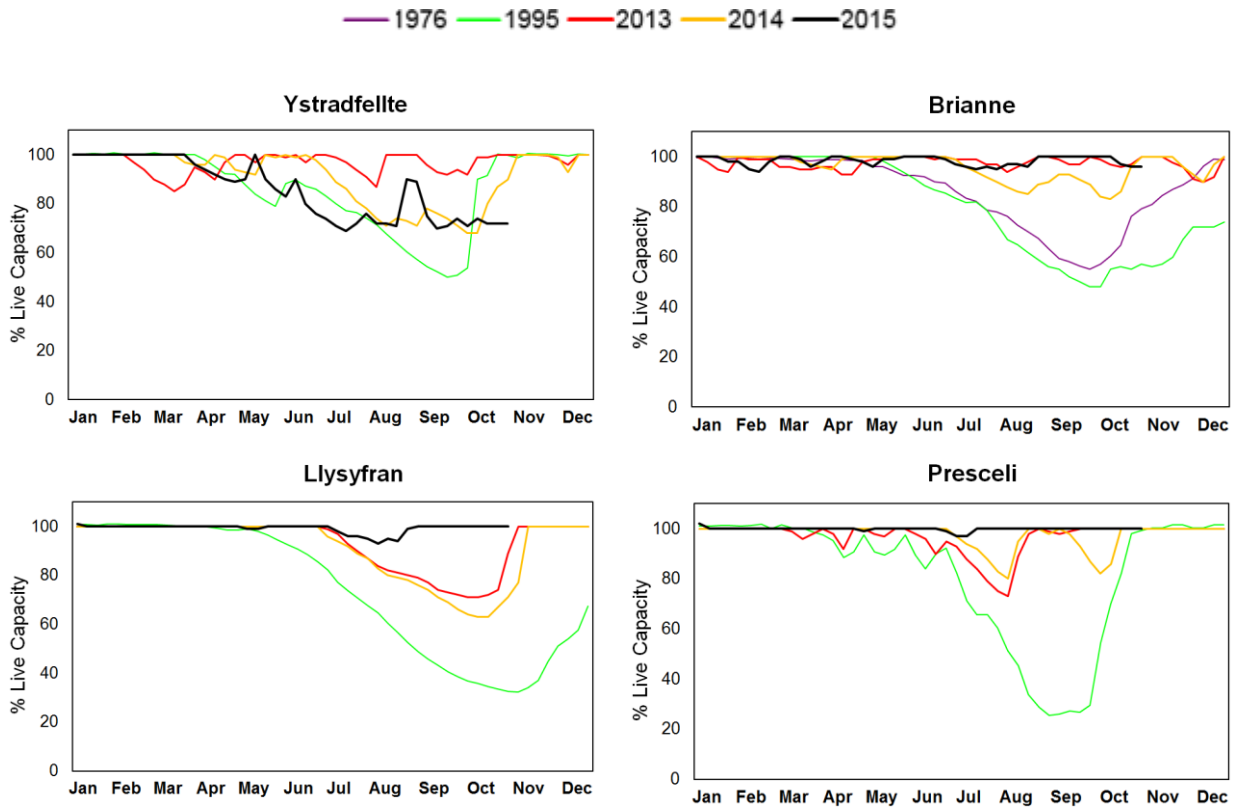


**Weekly reservoir stocks for Natural Resources Wales index sites (Source: Water Companies).**

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**Figure 21: Reservoirs charts: South West Wales**



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

## 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).