

Natural Resources Wales

- The monthly rainfall total received for Wales during September was 64% of the Long Term Average (LTA, 1961-90). North, South West and South East Wales received 56%, 77% and 58% of the LTA, respectively.
- At the end of September, soil moisture deficit (SMD) across Wales was between 8.1mm and 106.6mm for all MORECS squares. The difference when compared to the long term average September (1961-90), ranged from -18mm to 62mm. Most of the squares (16 out of 23) had SMD values greater than the LTA (Drier).
- For river flows in Wales, 18 out of 28 indicator sites were classed as *Normal*, 8 sites were classed as *Below normal* and 2 sites were *Above normal*.
- The overall reservoir storage across all indicator sites was above 64% full at the end of September and were within normal operating ranges.

Rainfall*

The monthly rainfall total received for Wales was 64% of the LTA for September.

The percentage of rainfall recorded in catchments compared with the long term average (1961-90) across Wales was between 41% (Ogwen) and 100% (Cleddau and Pembrokeshire). The rainfall total for Wales was 42mm less than the September LTA. For South East, South West and North Wales the rainfall totals were 58%, 77% and 56% of the LTA, respectively. Therefore, September was relatively dry when compared to the monthly LTA value, particularly in South East and North Wales where totals were 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, out of 23 MORECS squares, 16 had a SMD value greater than the LTA (drier than average) while 7 sites had a value less than the LTA (wetter than average).

SMD Map [National](#)

SMD Charts [Compare to LTA](#)

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River Flows

River flows at 18 sites (out of 28) are classed as *Normal* and 8 were classed as *Below normal*. For the remaining 2 sites, they were *Above normal*.

North: Flows in the area ranged from 10% (River Cefni at Bodffordd) to 70% (River Wheeler at Bodfari) of the September LTA Values.

South East: Flows in the area ranged from 64% (River Yscir at Pont ar Yscir) to 116% (River Usk at Trostrey Weir) of the September LTA values.

South West: The river flows within this area ranged from 52% (River Ystwyth at Pont Llolwyn) to 170% (River Taf at Clog y Fran) of the September LTA values.

River Flow Map	National		
River Flow Table	% of LTA and compare to previous year		
River Flow Charts	South East	North	South West
	Wales	Wales	Wales

Groundwater Levels

Groundwater levels for September at all indicator sites were classed between *Exceptionally low* (Eastwick) and *Exceptionally high* (Greenfield Garage) with 2 sites (Pont y Cambwll and Handley) classed as *Notably low* and 1 site (Llanfair) as classed as *Below normal*. For the remaining 5 sites, 3 sites (Fernbank, Hollybush and Broxton) were classed as *Normal* and 2 sites (Pant-y-Lladron and Dodleston) are classed as *Above normal*.

Groundwater Map	National		
Groundwater Charts	South East	North	South West
	Wales	Wales	Wales

Reservoir Storage

At the end of September storage at all of the indicator reservoirs exceeded 64% full and they were within their normal operating ranges .

Reservoir Charts	South East	North Wales	South West
	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

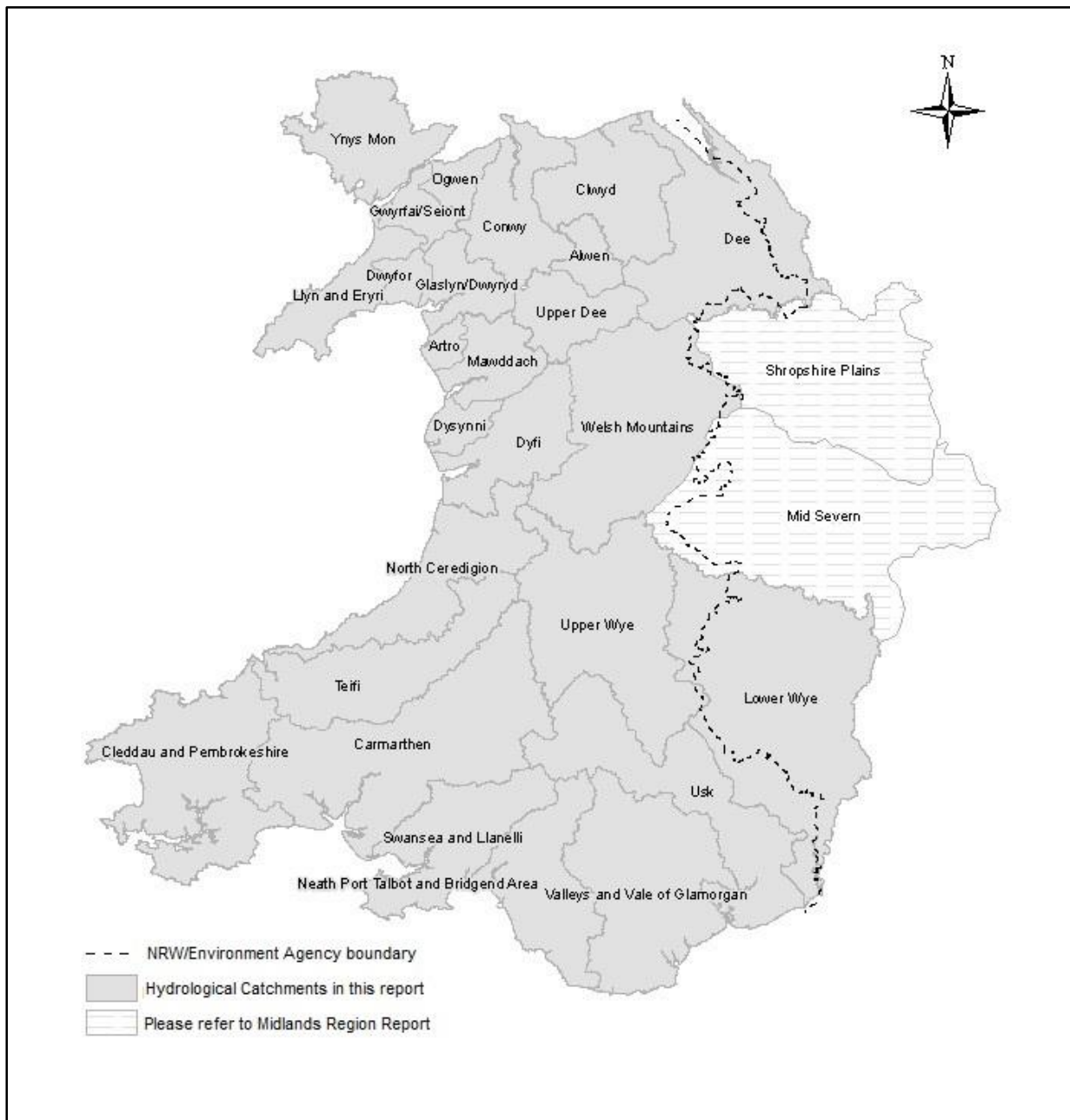


Figure 1: The Natural Resources Wales Water Situation Report features sites in the catchments shown. Parts of the Shropshire Plains and Mid Severn catchments are within Wales. For full information on these catchments, please see the Environment Agency Midlands Water Situation Report.

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

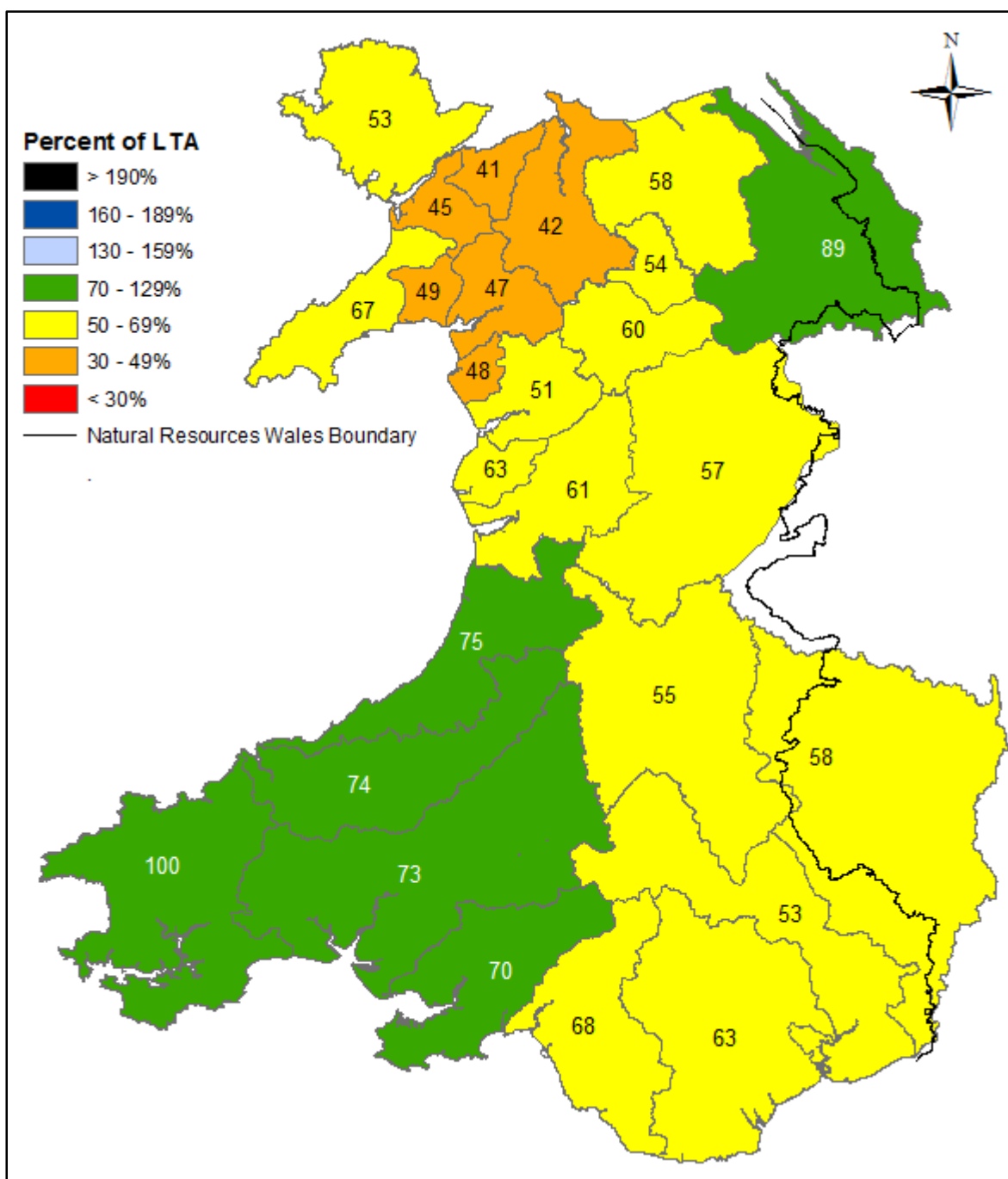
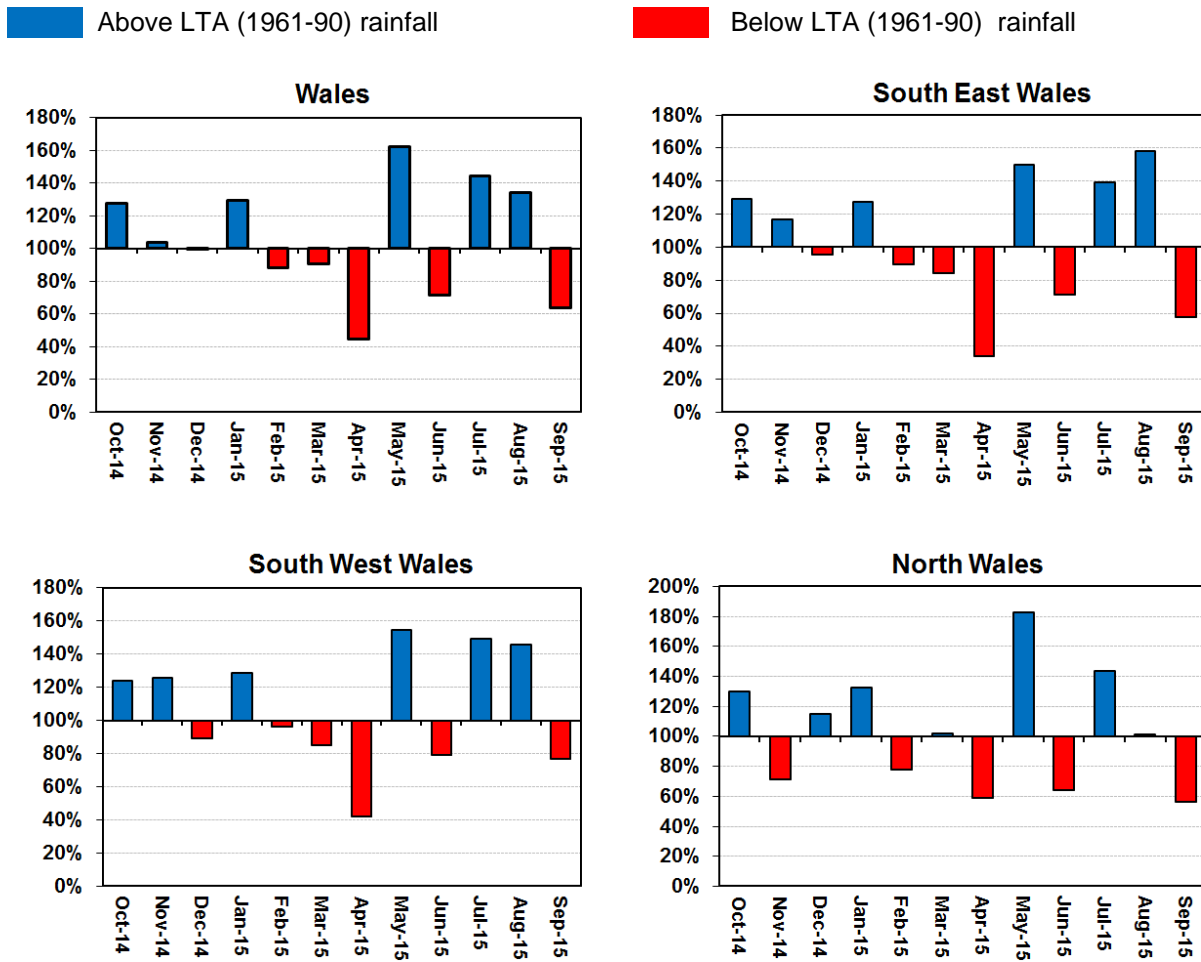


Figure 2: Calculated catchment average September rainfall totals as a percentage of the 1961-90 September long term average for Natural Resources Wales catchments, using NCIC (National Climate Information Centre) data (Source: Met Office © Crown Copyright).

[Return to Summary](#)

Rainfall Charts

Figure 3: Rainfall Charts: National and Areas



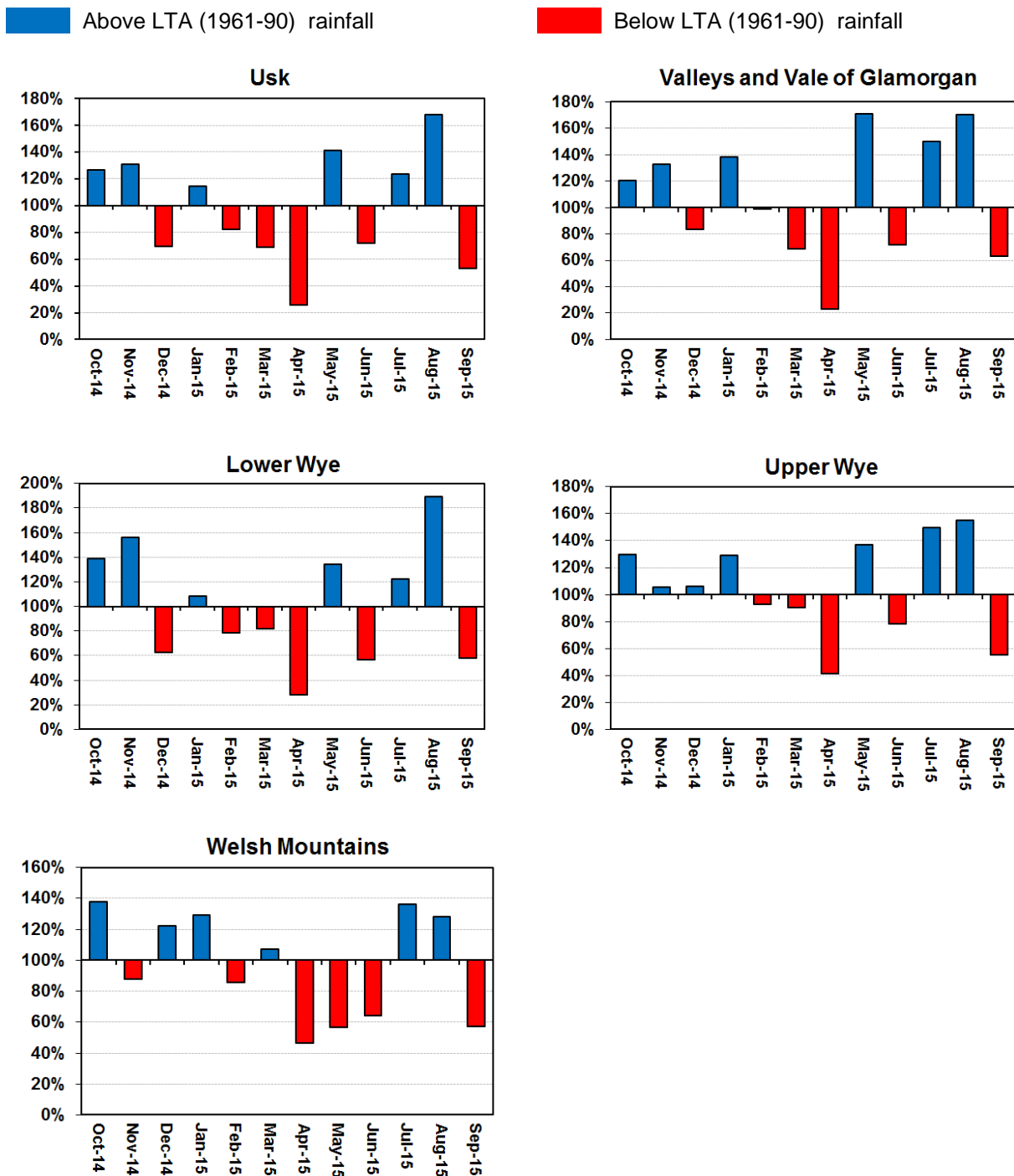
Comparison of monthly rainfall totals to the 1961-90 long term average expressed as percentage for Natural Resources Wales and Areas, using NCIC (National Climate Information Centre) data (Source: Met Office © Crown Copyright).

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[Return to Summary](#)

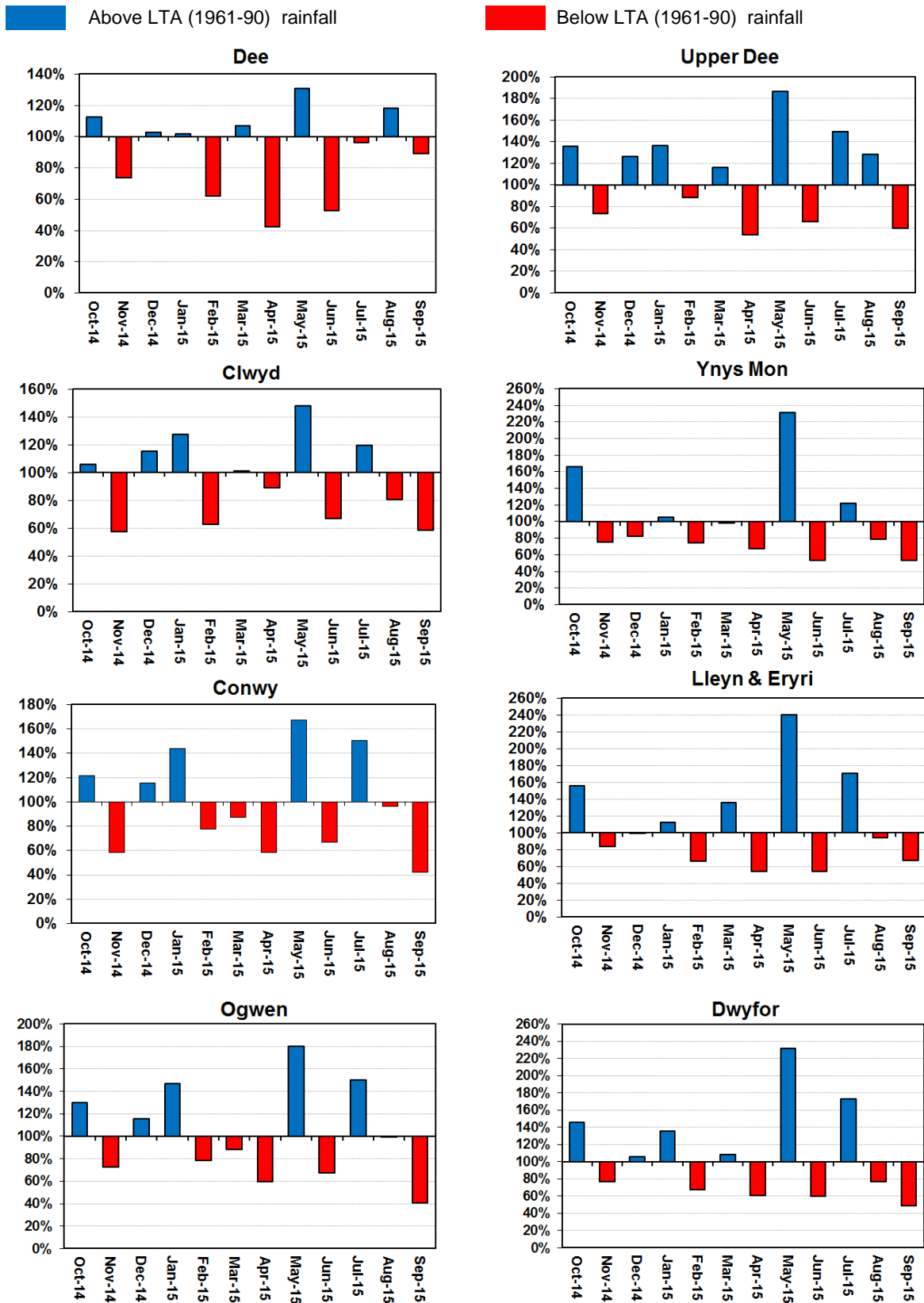
Figure 4: Rainfall Charts: South East Wales



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).

[Return to Summary](#)

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).

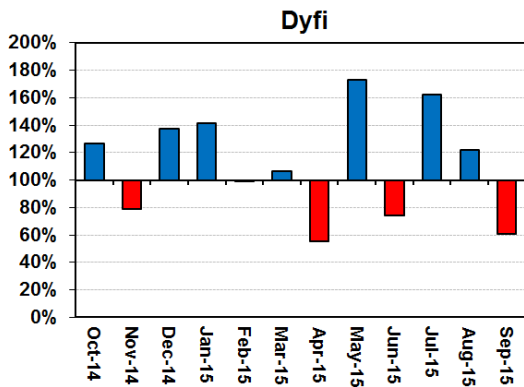
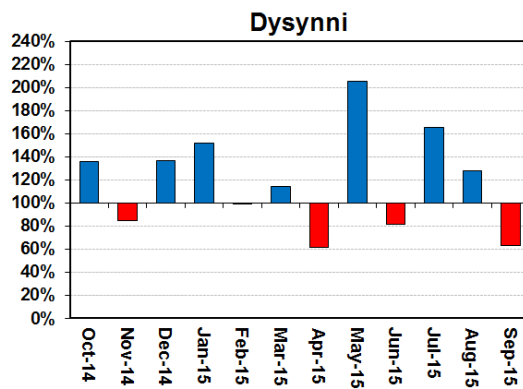
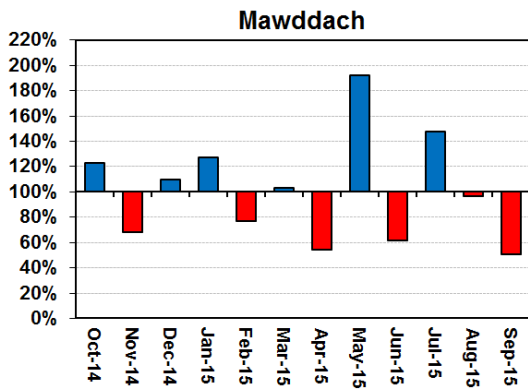
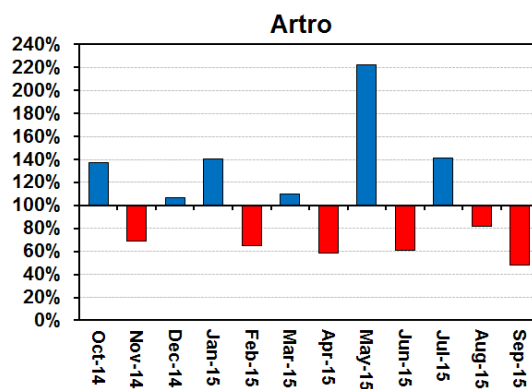
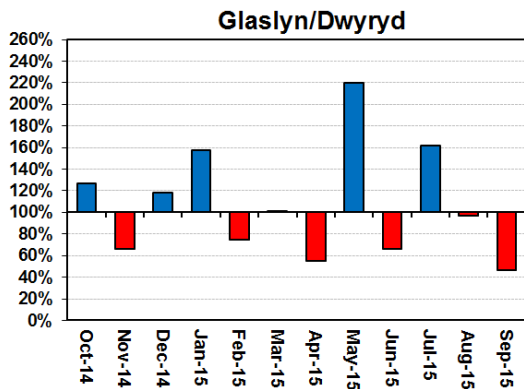
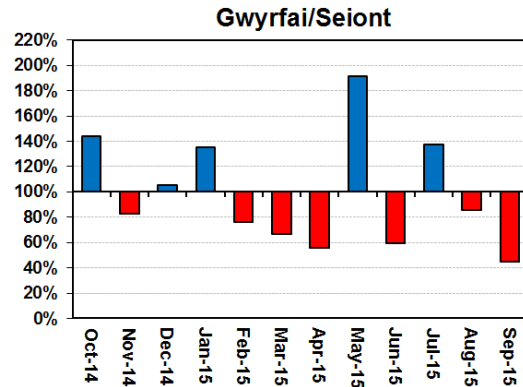
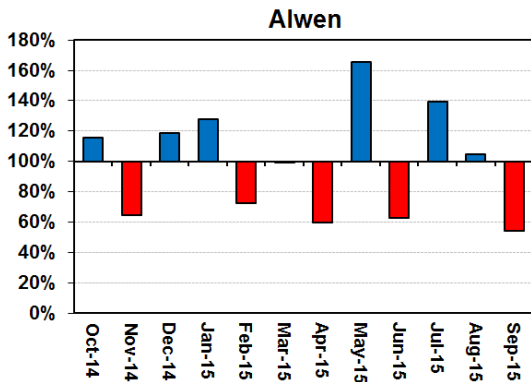
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[Return to Summary](#)

■ Above LTA (1961-90) rainfall

■ Below LTA (1961-90) rainfall

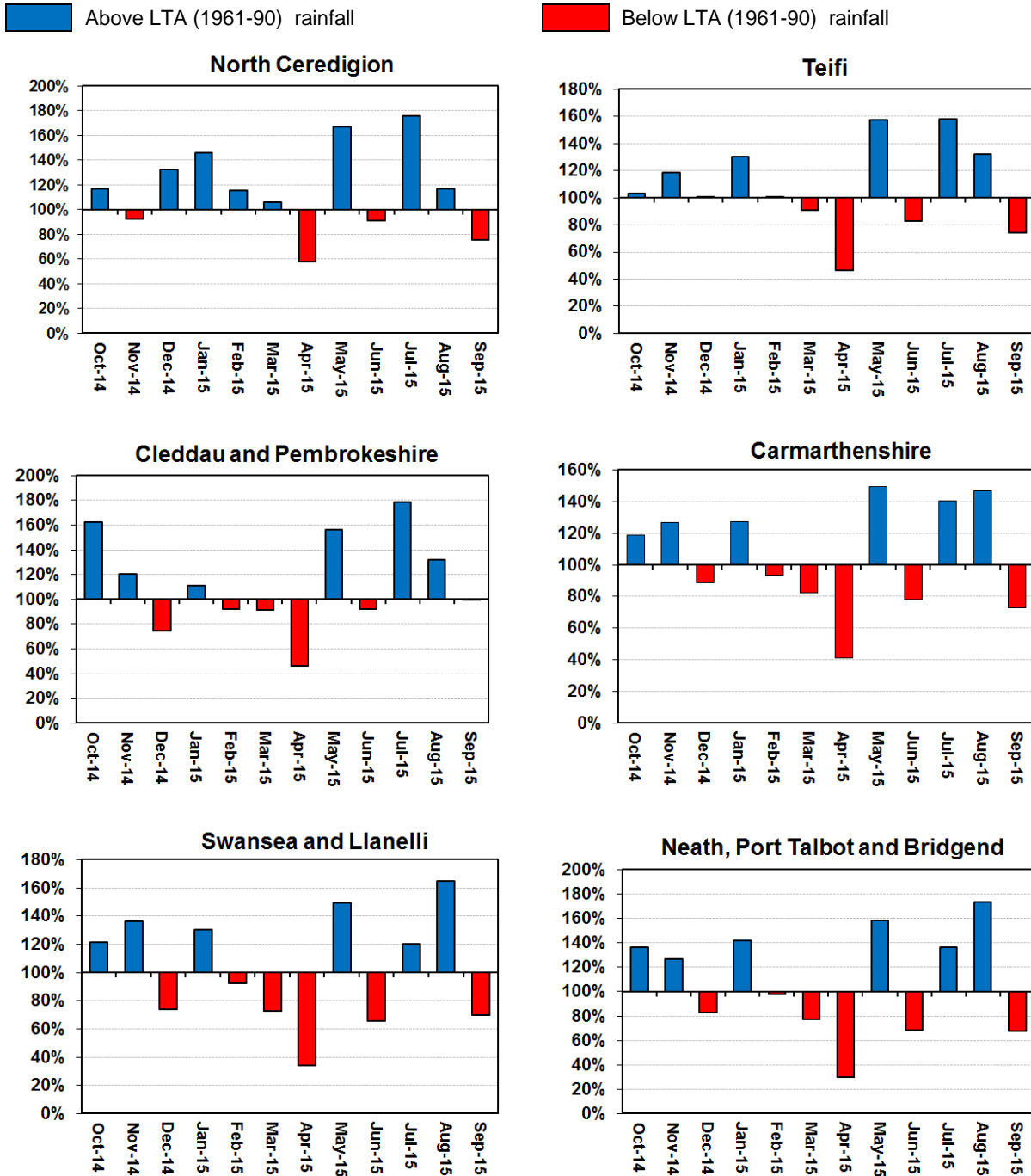


Comparison of monthly rainfall totals to the 1961-90 long term average expressed as percentage for North Wales, using NCIC (National Climate Information Centre) data (Source: Met Office © Crown Copyright).

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[Return to Summary](#)

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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[Return to Summary](#)

Soil Moisture Deficit (SMD)

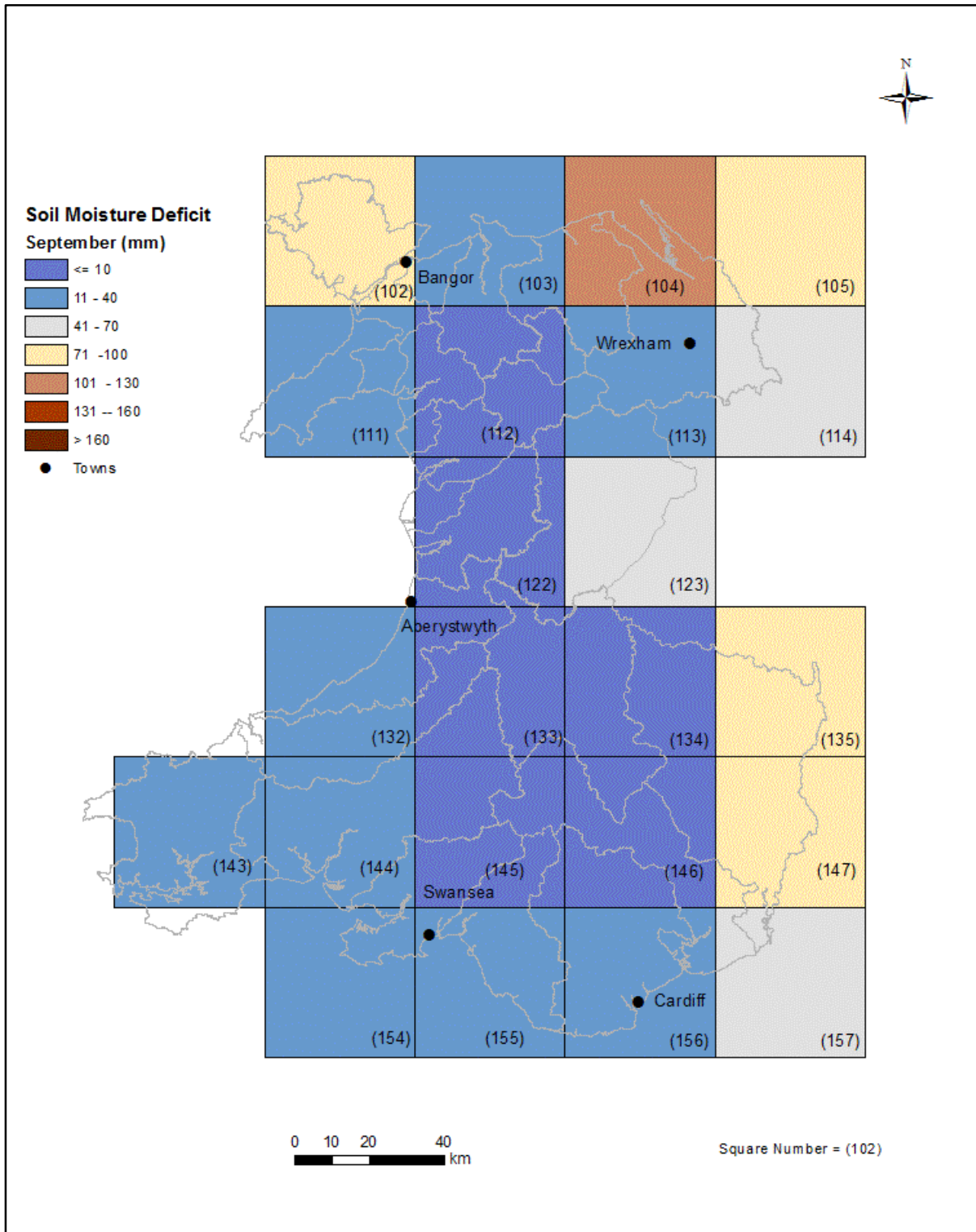


Figure 7: MORECS soil moisture deficits (mm) for September for real land use for Natural Resources Wales (Source: Met Office © Crown Copyright).

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[Return to Summary](#)

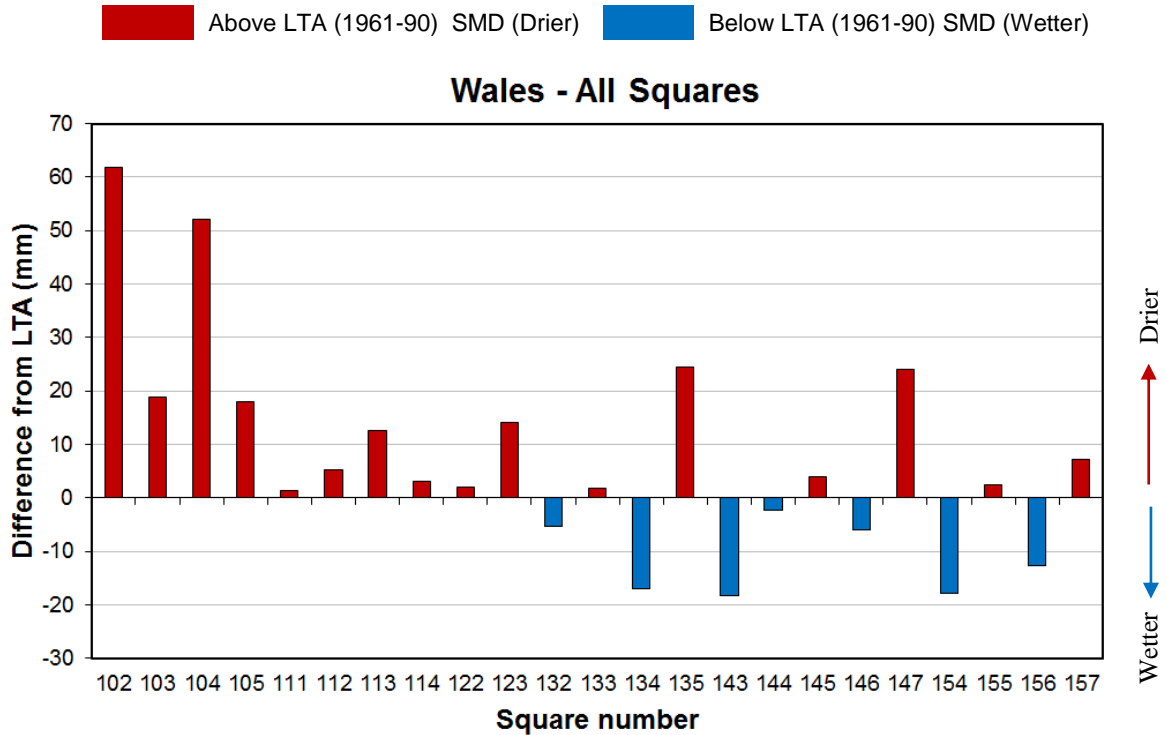


Figure 8: MORECS month end soil moisture deficits difference (mm) from the 1961-90 long term monthly average (LTA) for real land use for Natural Resources Wales squares (Source: Met Office © Crown Copyright).

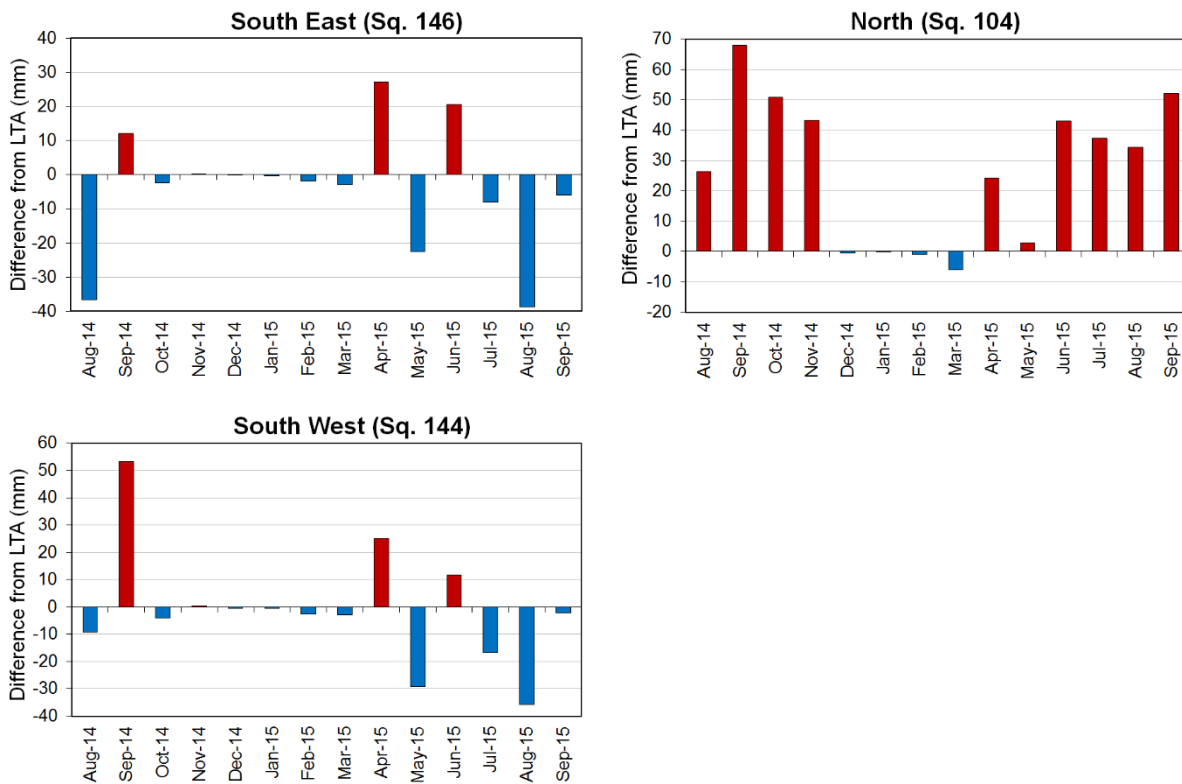


Figure 9: MORECS month end soil moisture deficit difference (mm) from the 1961-90 long term monthly average (LTA) for real land use for South East, North and South West (Source: Met Office © Crown Copyright). (Note: no LTA available for Natural Resources Wales)

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[Return to Summary](#)

River Flow

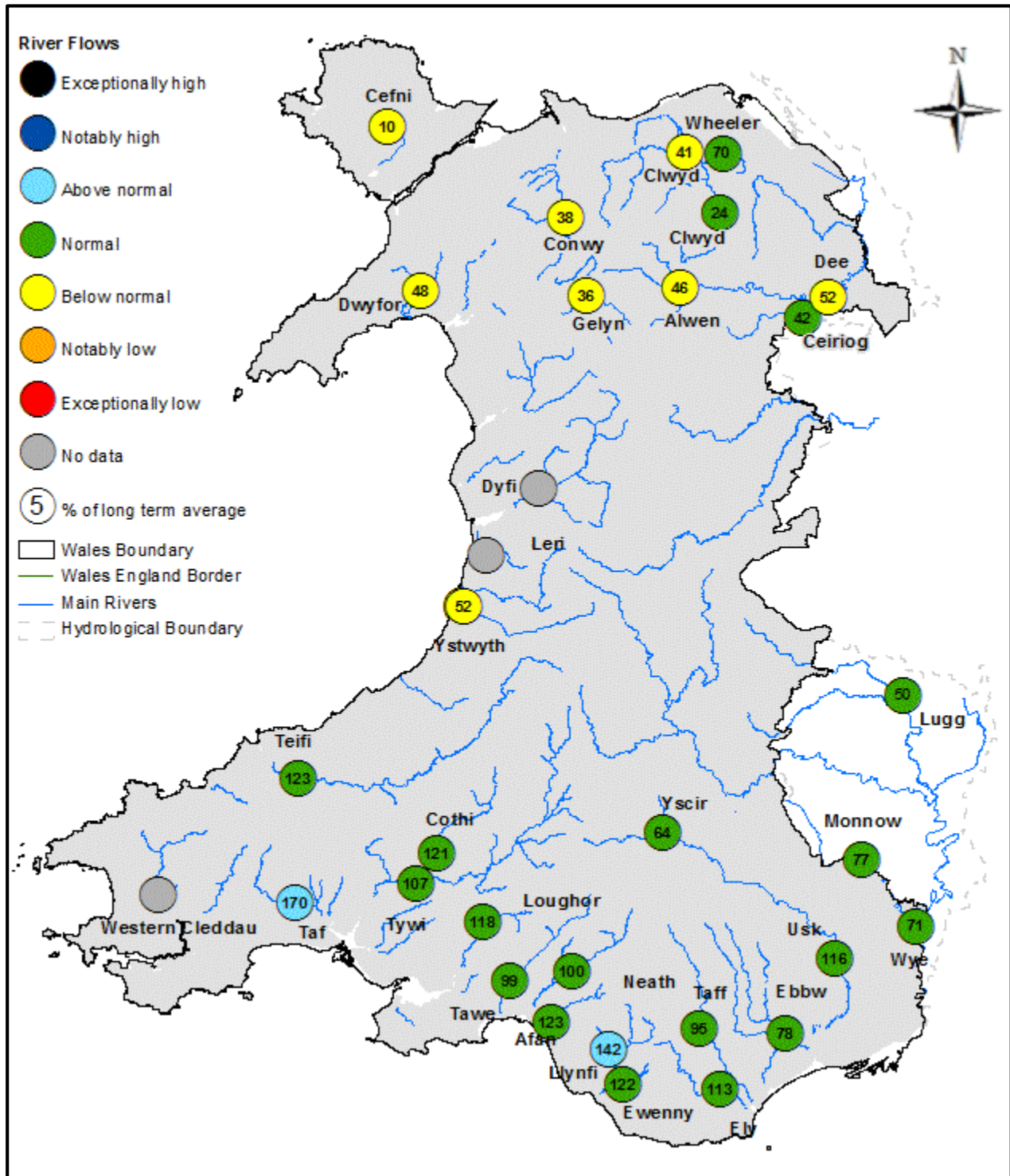


Figure 10: Monthly mean river flow for September, classed relative to analysis of historic September monthly means (Source: Natural Resources Wales).

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[Return to Summary](#)

SITE NAME	RIVER	September 2015			September 2014		September 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	50%	1.10	51	1.02	2.18	0.65	9.64
Grosmont	Monnow	Normal	77%	1.73	81	1.51	2.25	0.43	13.60
Pont ar Yscir	Yscir	Normal	64%	0.69	32	0.33	1.07	0.13	3.95
Pontypridd	Taff	Normal	95%	12.71	41	5.14	13.36	3.67	41.60
Redbrook	Wye	Normal	71%	23.34	35	13.07	32.65	7.85	121.00
Rhiwderin	Ebbw	Normal	78%	3.35	46	1.91	4.30	0.80	14.60
St Fagans	Ely	Normal	113%	3.24	56	1.42	2.88	0.67	11.90
Trostrey Weir	Usk	Normal	116%	12.49	40	5.40	10.74	3.27	24.70
River Flow Sites : North Area									
Bodfari	Wheeler	Normal	70%	0.28	66	0.26	0.40	0.20	1.01
Bodffordd	Cefni	Below normal	10%	0.02	15	0.02	0.20	0.01	0.78
Brynkinalt Weir	Ceiriog	Normal	42%	0.71	27	0.45	1.70	0.35	6.67
Cwmlanerch	Conwy	Below normal	38%	6.03	13	2.00	16.06	1.37	36.50
Cynefail	Gelyn	Below normal	36%	0.22	17	0.10	0.61	0.08	1.41
Dol y Bont	Leri	No data					1.38	0.22	2.72
Druid	Alwen	Below normal	46%	1.41	25	0.76	3.08	0.72	8.81
Dyfi bridge	Dyfi	No data					17.36	4.16	36.30
Garndolbenmaen	Dwyfor	Below normal	48%	1.10	23	0.49	2.28	0.52	4.49
Manley Hall	Dee	Below normal	52%	10.60			20.26	9.23	50.20
Pont y Cambwll	Clwyd	Below normal	41%	1.13	42	1.08	2.73	0.52	9.73
Ruthin Weir	Clwyd	Normal	24%	0.11			0.46	0.04	1.83
River Flow Sites : South West Area									
Capel Dewi	Tywi	Normal	107%	26.34	30	7.00	24.68	4.96	76.50
Clog y Fran	Taf	Above normal	170%	6.50	33	1.16	3.83	0.51	15.30
Coytrahen	Llynfi	Above normal	142%	2.62	48	0.84	1.85	0.39	5.06
Felin Mynachdy	Cothi	Normal	121%	9.01	24	1.70	7.42	0.93	23.90
Glanteifi	Teifi	Normal	123%	20.63	34	5.36	16.82	1.07	48.70
Keepers Lodge	Ewenny	Normal	122%	1.50	62	0.71	1.23	0.39	4.60
Marcroft	Afan	Normal	123%	5.08			4.14	0.91	8.58
Pont Llolwyn	Ystwyth	Below normal	52%	2.29	24	1.03	4.43	0.71	10.70
Prendergast Mill	Western Cleddau	No data					2.55	0.50	9.07
Resolven	Neath	Normal	100%	6.91	21	1.36	6.92	0.98	15.20
Tir-y-Dail	Loughor	Normal	118%	1.57	38	0.48	1.33	0.43	2.92
Ynystanglws	Tawe	Normal	99%	9.56	26	2.44	9.69	0.57	26.30

Figure 11: Monthly mean river flow for September with comparison against previous year expressed as a percentage of the September long term average and classed relative to analysis of historic September monthly means. (Source: Natural Resources Wales).

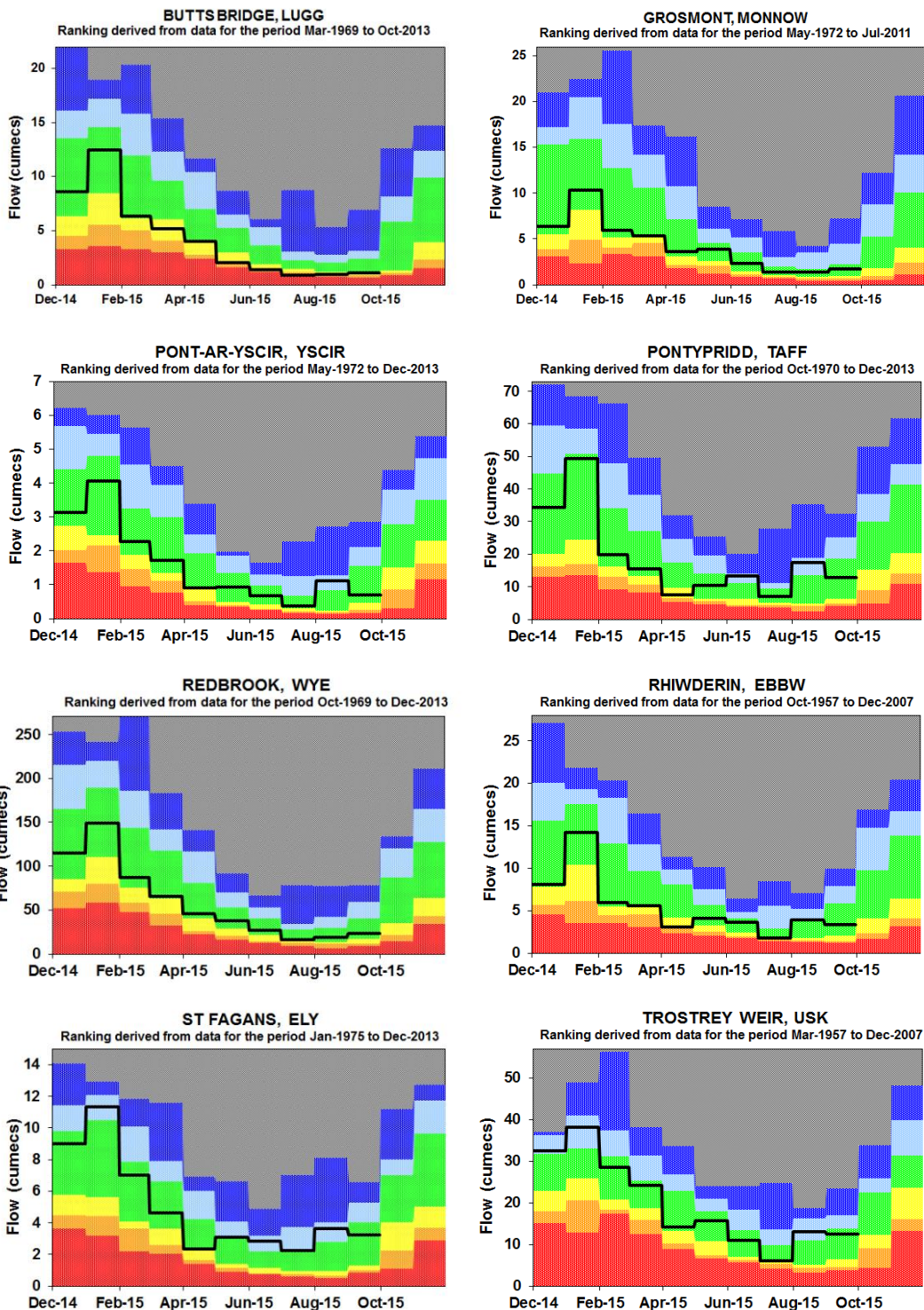
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[Return to Summary](#)

River Flow Charts

Figure 12: River Flow Charts: South East Wales



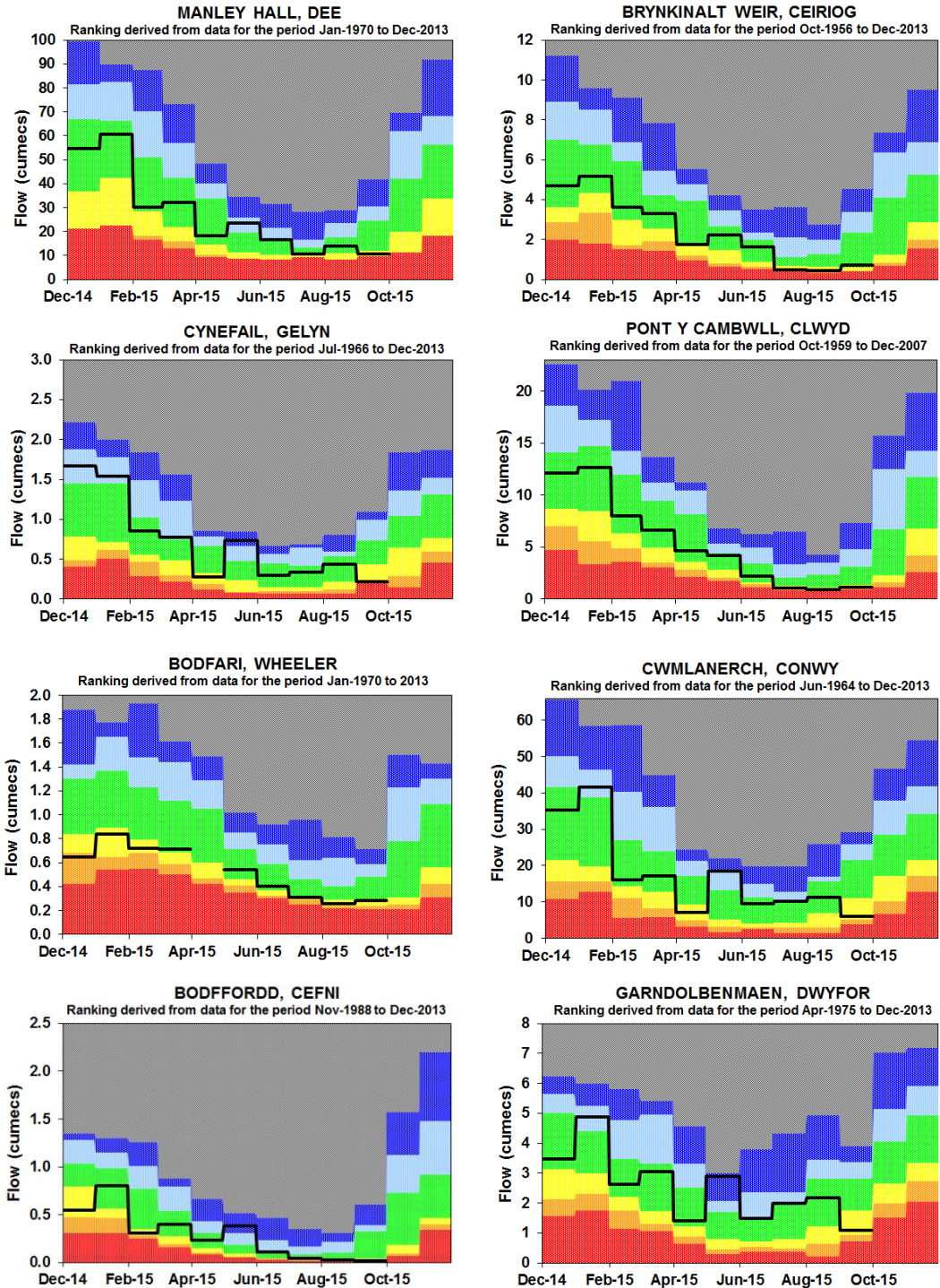
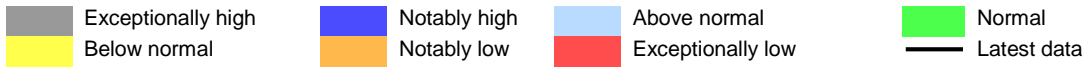
Monthly mean river flows for the last 10 months classed relative to the analysis of historic river levels (Source: Natural Resources Wales).

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[Return to Summary](#)

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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[Return to Summary](#)

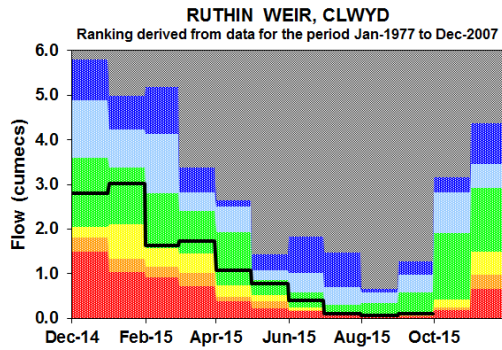
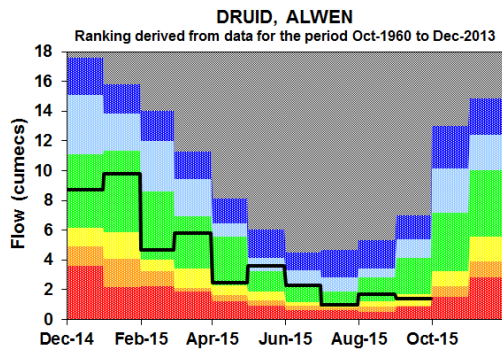
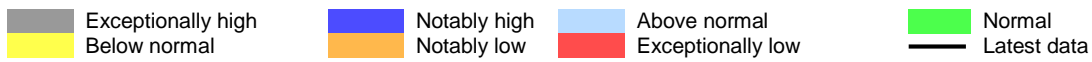
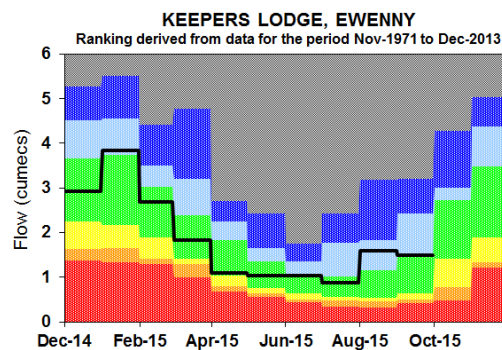
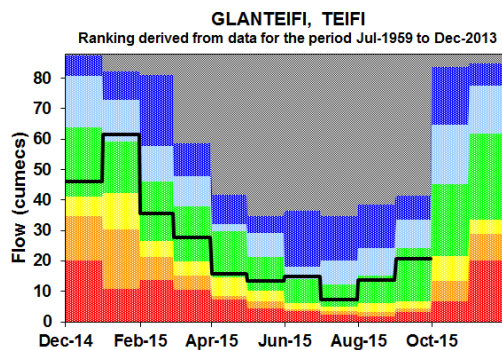
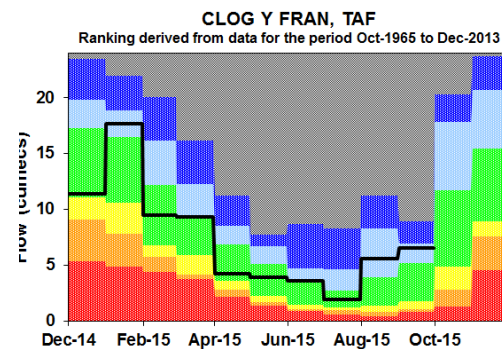
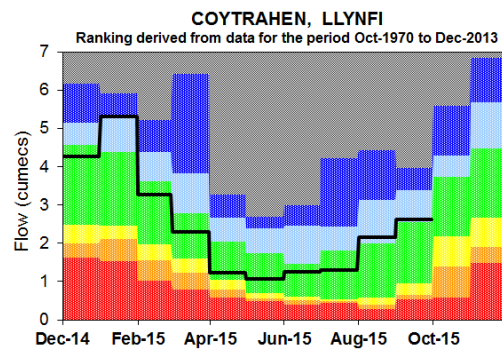
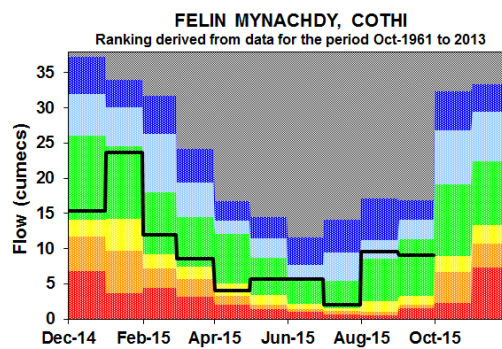
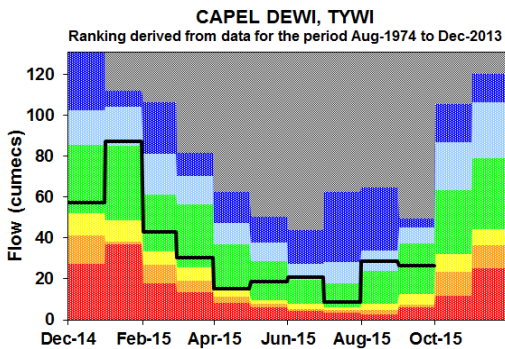
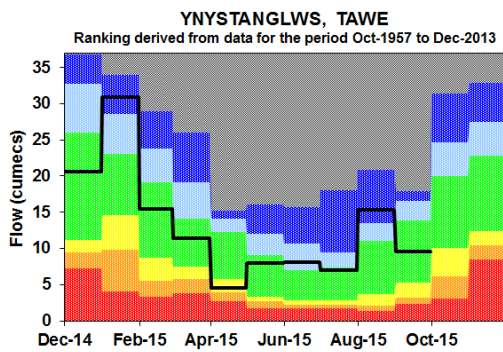
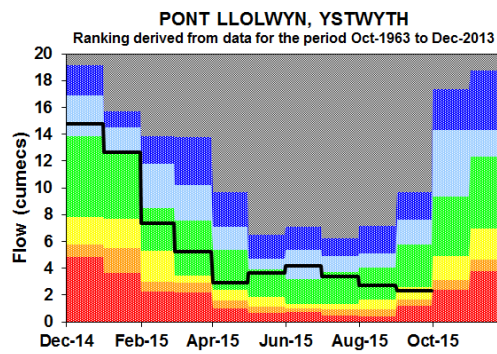
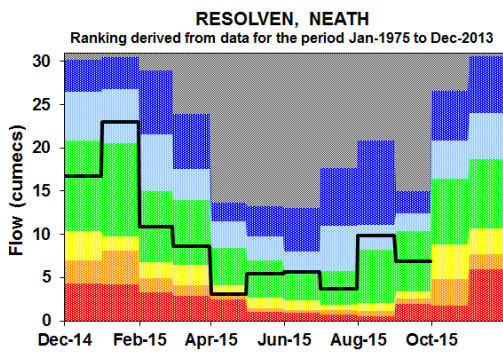
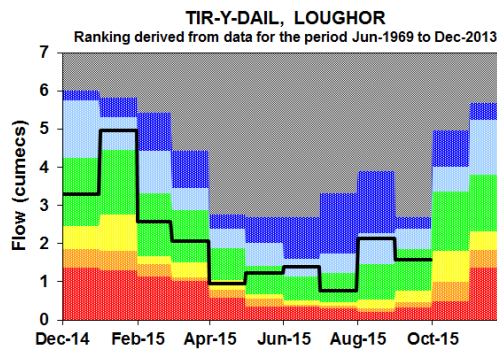
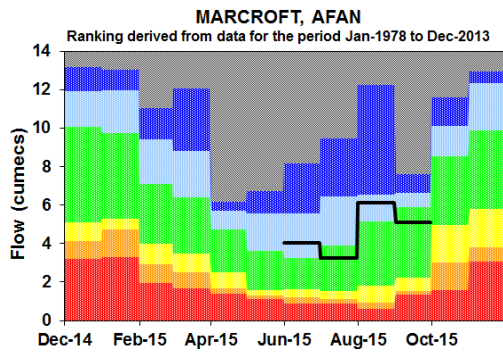


Figure 14: River Flow Charts: South West Wales



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[Return to Summary](#)



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

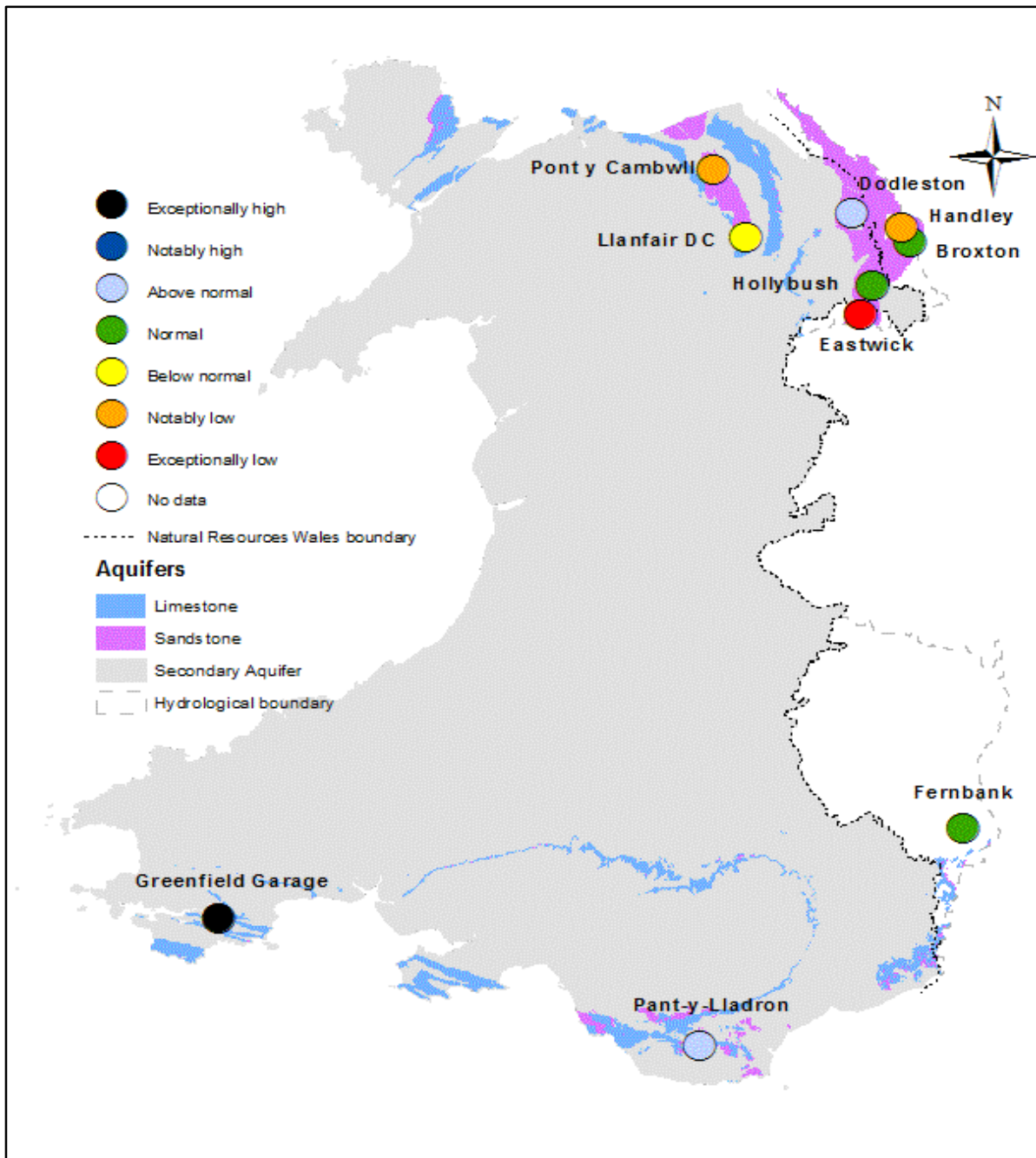


Figure 15: Groundwater levels at the end of month classed relative to an analysis of historic September groundwater levels (Source: Natural Resources Wales and Environment Agency).

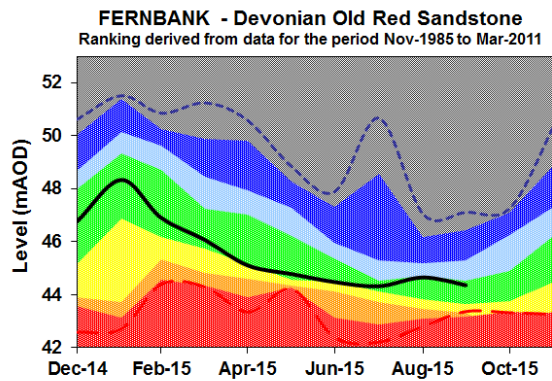
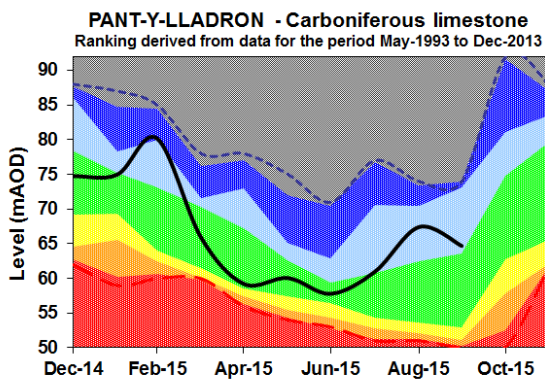
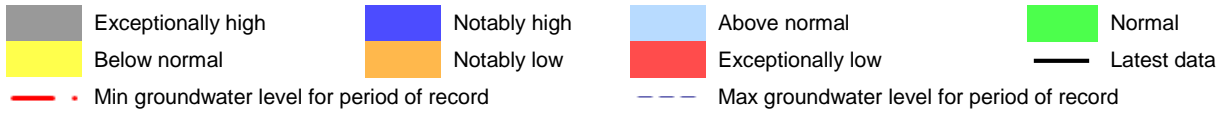
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[Return to Summary](#)

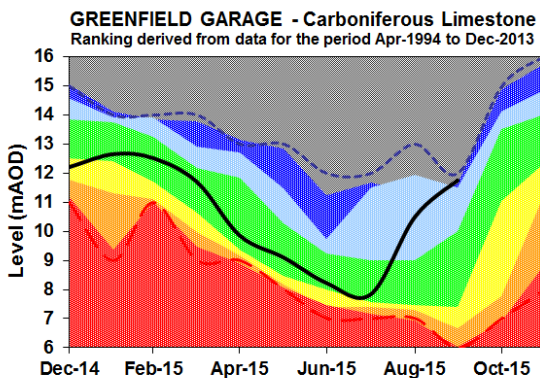
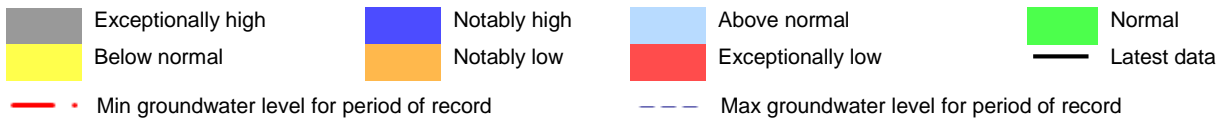
Groundwater charts

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



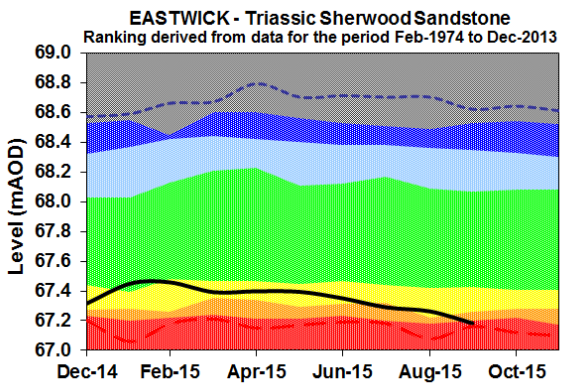
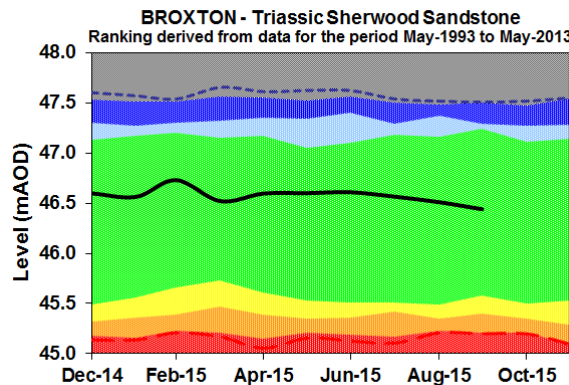
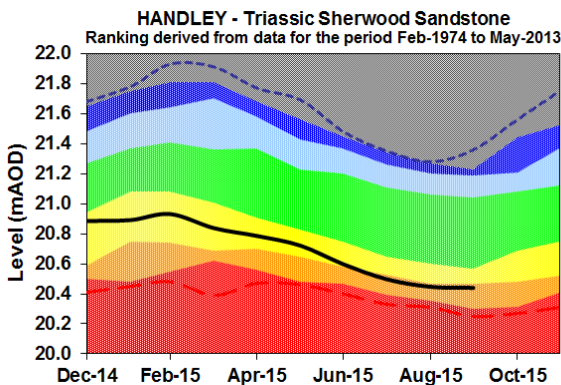
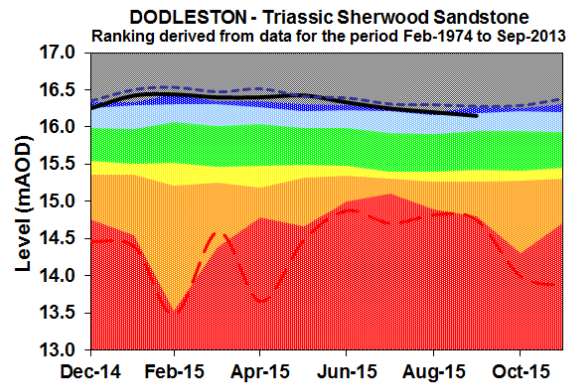
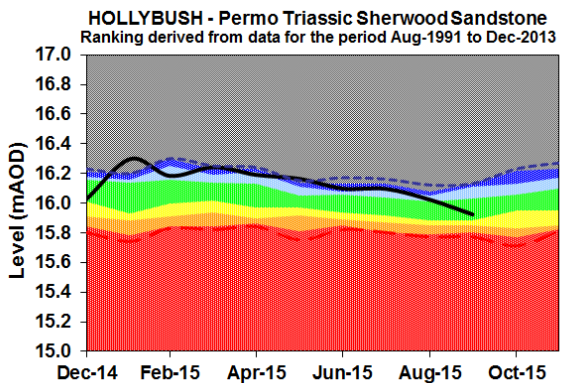
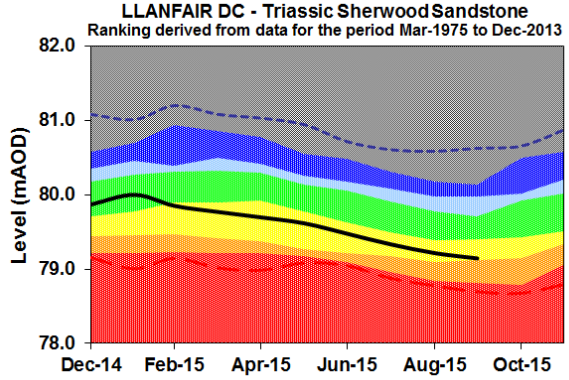
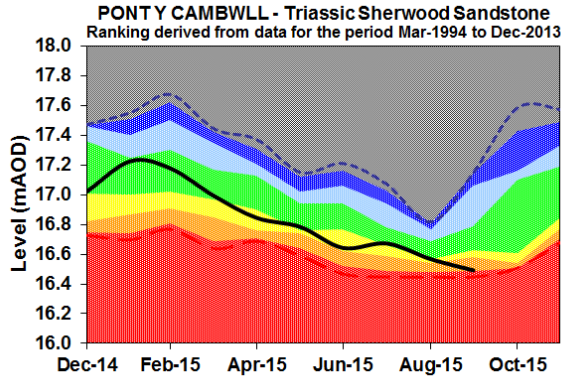
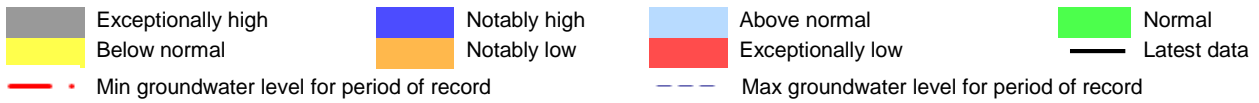
End of month groundwater levels for the past 10 months for index sites (Source: Natural Resources Wales).

All data are provisional and may be subject to revision.

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[Return to Summary](#)

Figure 18: Groundwater level charts: North Wales



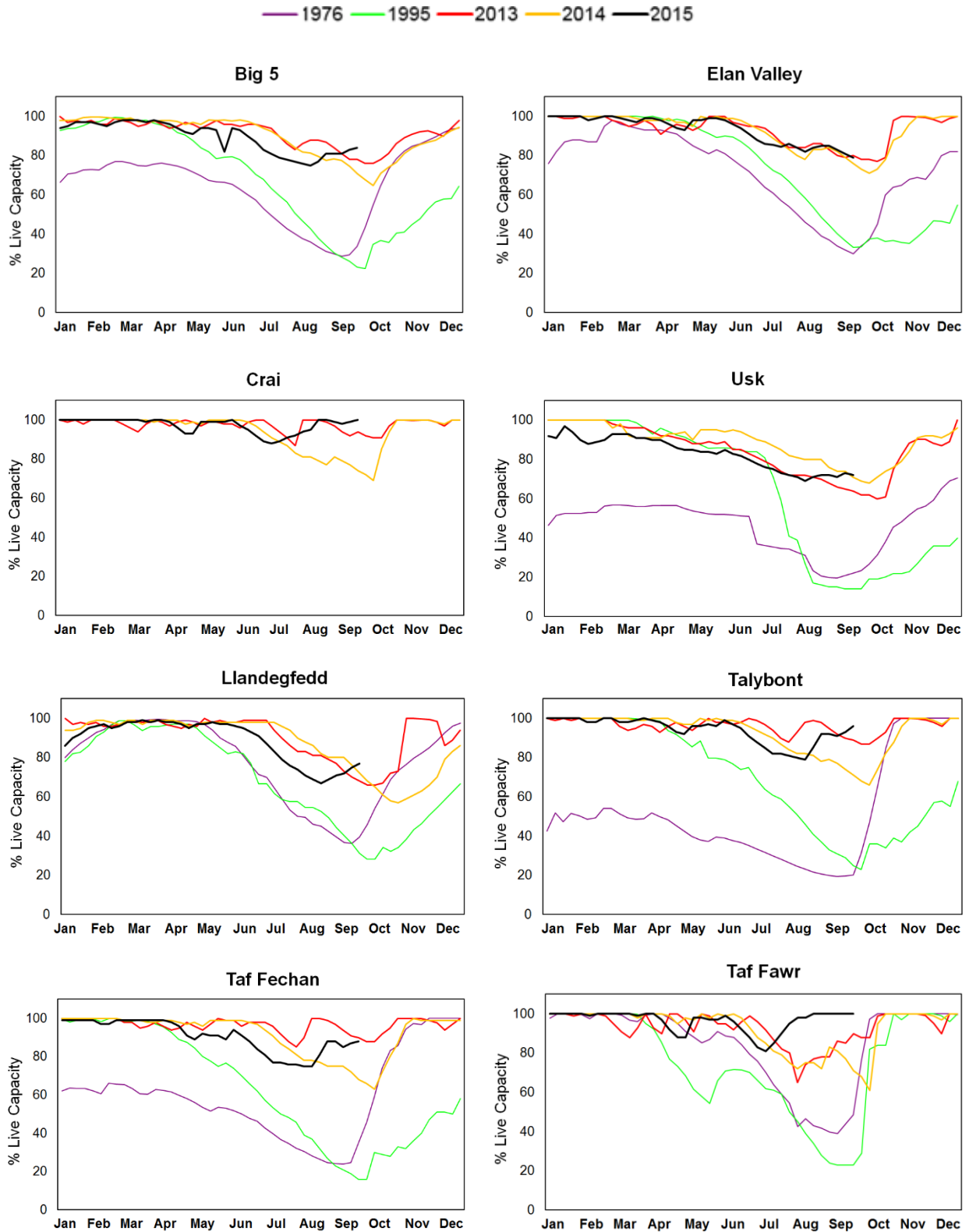
End of month groundwater levels for the past 10 months for index sites (Source: Natural Resources Wales and Environment Agency).

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[Return to Summary](#)

Reservoir Storage

Figure 19: Reservoir charts: South East Wales

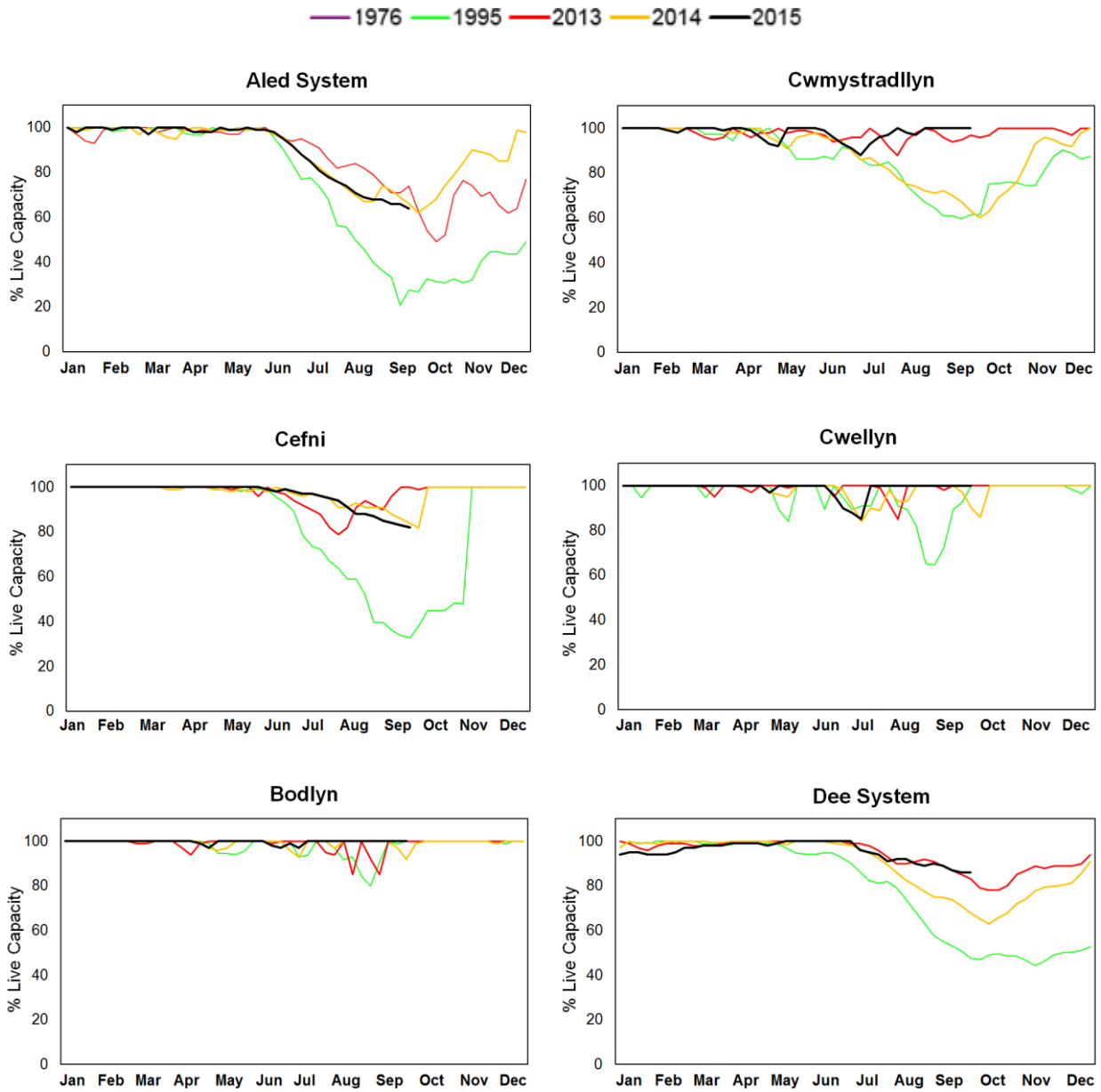


Weekly reservoir stocks for Natural Resources Wales index sites (Source: Water Companies).

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[Return to Summary](#)

Figure 20: Reservoirs charts: North Wales

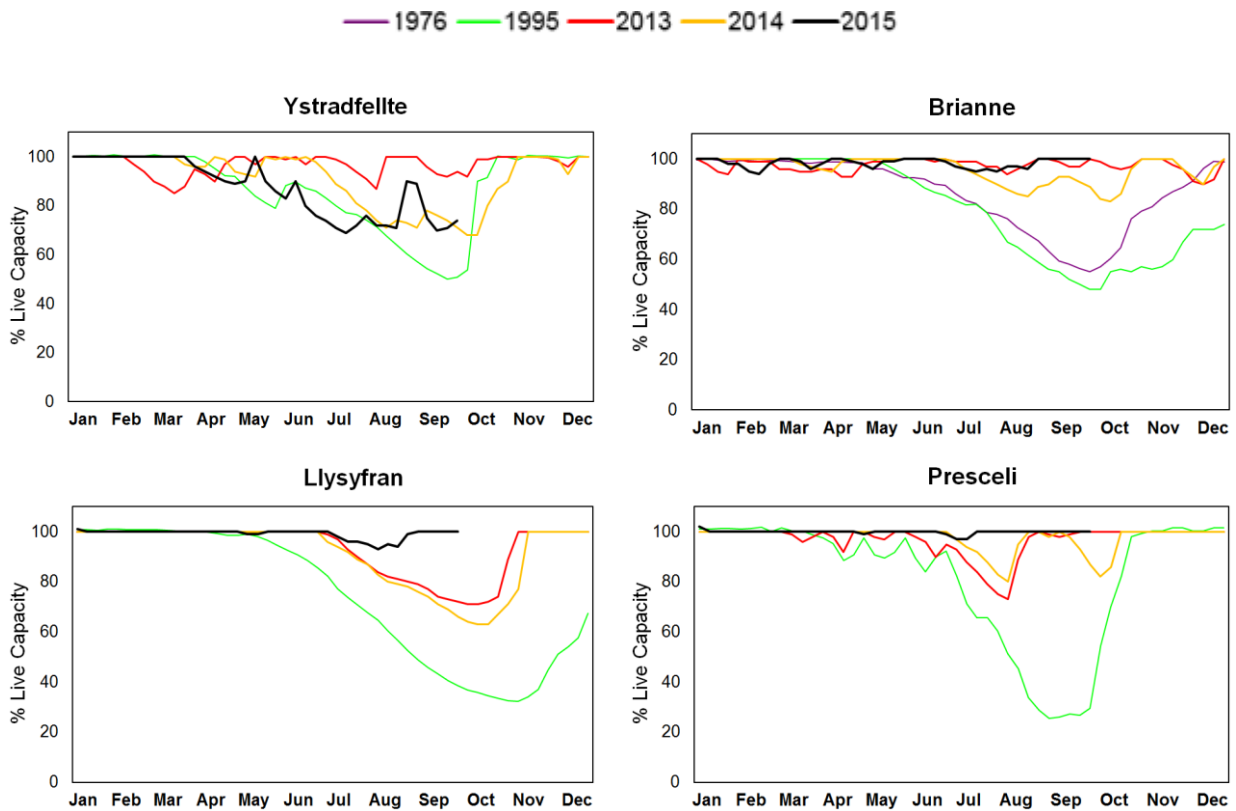


Weekly reservoir stocks for Natural Resources Wales index sites (Source: Water Companies).

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[Return to Summary](#)

Figure 21: Reservoirs charts: South West Wales



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

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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).