

Natural Resources Wales

- The monthly rainfall total for Wales during February was 127% of the Long Term Average (LTA, 1961-90). South East, South West and North Wales received 114%, 124% and 144% of the LTA, respectively.
- At the end of February, soil moisture deficit (SMD) values across Wales were 0mm for all MORECS squares. Soil was slightly wetter than the long term average for all the squares for February.
- For river flows in Wales, 24 out of 30 indicator sites (which had flow data available) were classed as *Normal*, 5 were classed as *Above normal* and 1 site was classed as *Below normal* for February.
- The overall reservoir storage across all indicator sites was greater than 92% at the end of February and all reservoirs were within normal operating ranges.

Rainfall*

The monthly rainfall total for Wales was 127% of the LTA for February. The percentage of rainfall recorded in catchments compared with the LTA across Wales was between 86% (Lower Wye) and 164% (Ynys Mon). The rainfall total for Wales was 26.7mm more than the February LTA. For South East, South West and North Wales the rainfall totals were 114%, 124% and 144% 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

All 23 MORECS squares had SMD values which were 0mm. Soil was slightly wetter than the long term average for all the squares.

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 normal or above normal for all the indicator sites across Wales except one below normal. 24 sites (out of 30 sites which had flow data) were classed as *Normal* and 5 were classed as *Above normal*. 1 site was classed as *Below normal*.

South East: Flows in the area ranged from 82% (River Monnow at Grosmont) to 100% (River Ely at St Fagans) of the February LTA values.

South West: The river flows within this area ranged from 86% (River Ewenny at Keepers Lodge) to 130% (River Ystwyth at Pont Llolwyn) of the February LTA values.

North: Flows in the area ranged from 69% (River Wheeler at Bodfari) to 118% (River Gelyn at Cynefail) of the February 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 February at all indicator sites (10 sites) were classed between *Below normal* to *Above normal* (Doddleston). 5 sites were classed as *Normal* (Pant-y-Lladron, Fernbank, Pont y Cambwll, Hollybush and Broxton). The 4 sites which were classed as *Below normal* were Greenfield Garage, Llanfair DC, Handley and Eastwick).

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

Reservoir Storage

At the end of February most of the indicator reservoirs (17 out of 18) were greater than 92% full and were in normal range for the time of year. However, the Usk reservoir was 65% full due to maintenance work being carried out on this reservoir.

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.

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Natural Resources Wales

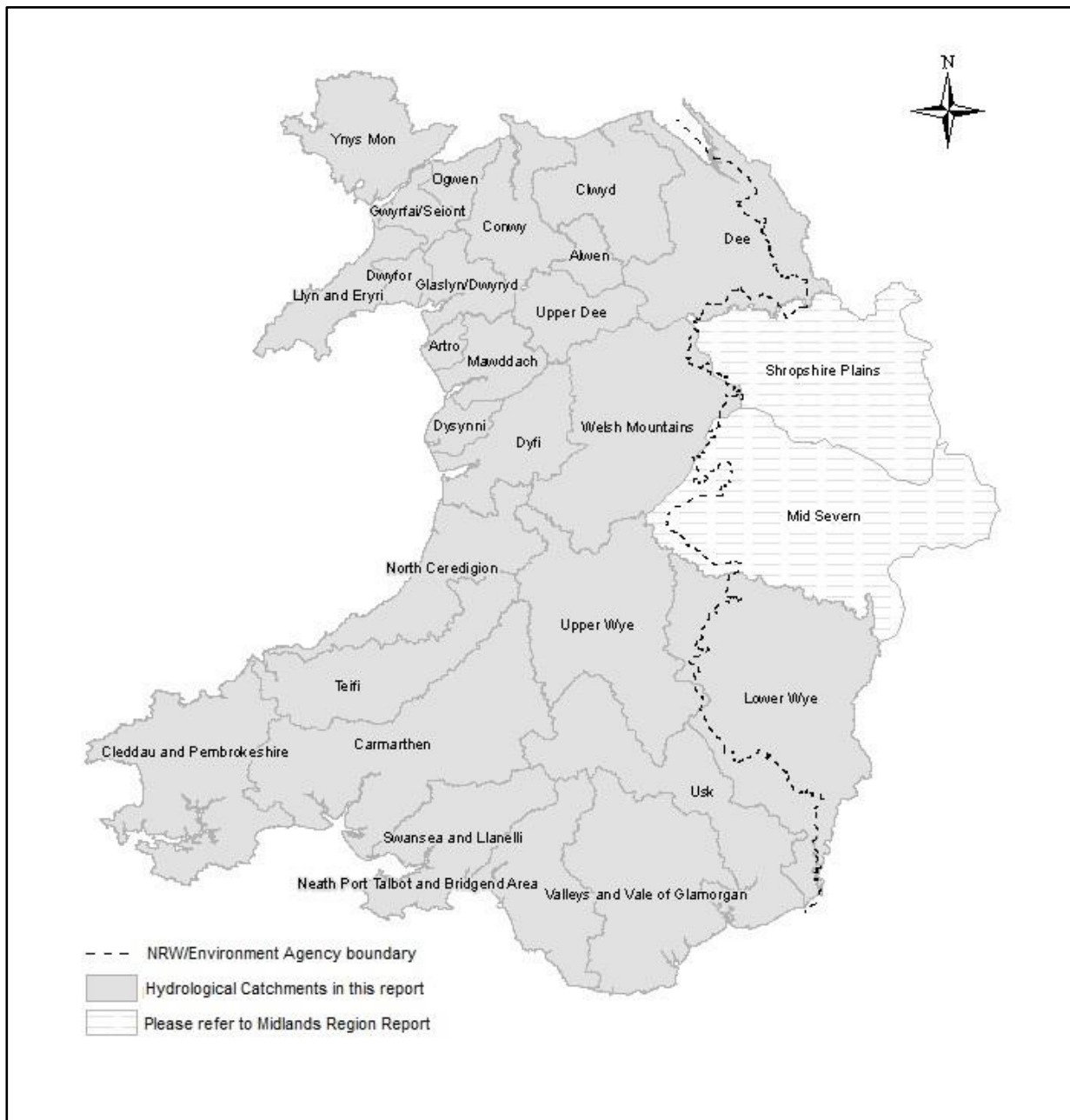


Figure 1: The Natural Resources Wales Water Situation Report features sites in the catchments shown. Parts of the Shropshire Plains and Mid Severn catchments are within Wales. For full information on these catchments, please see the Environment Agency Midlands Water Situation Report.

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

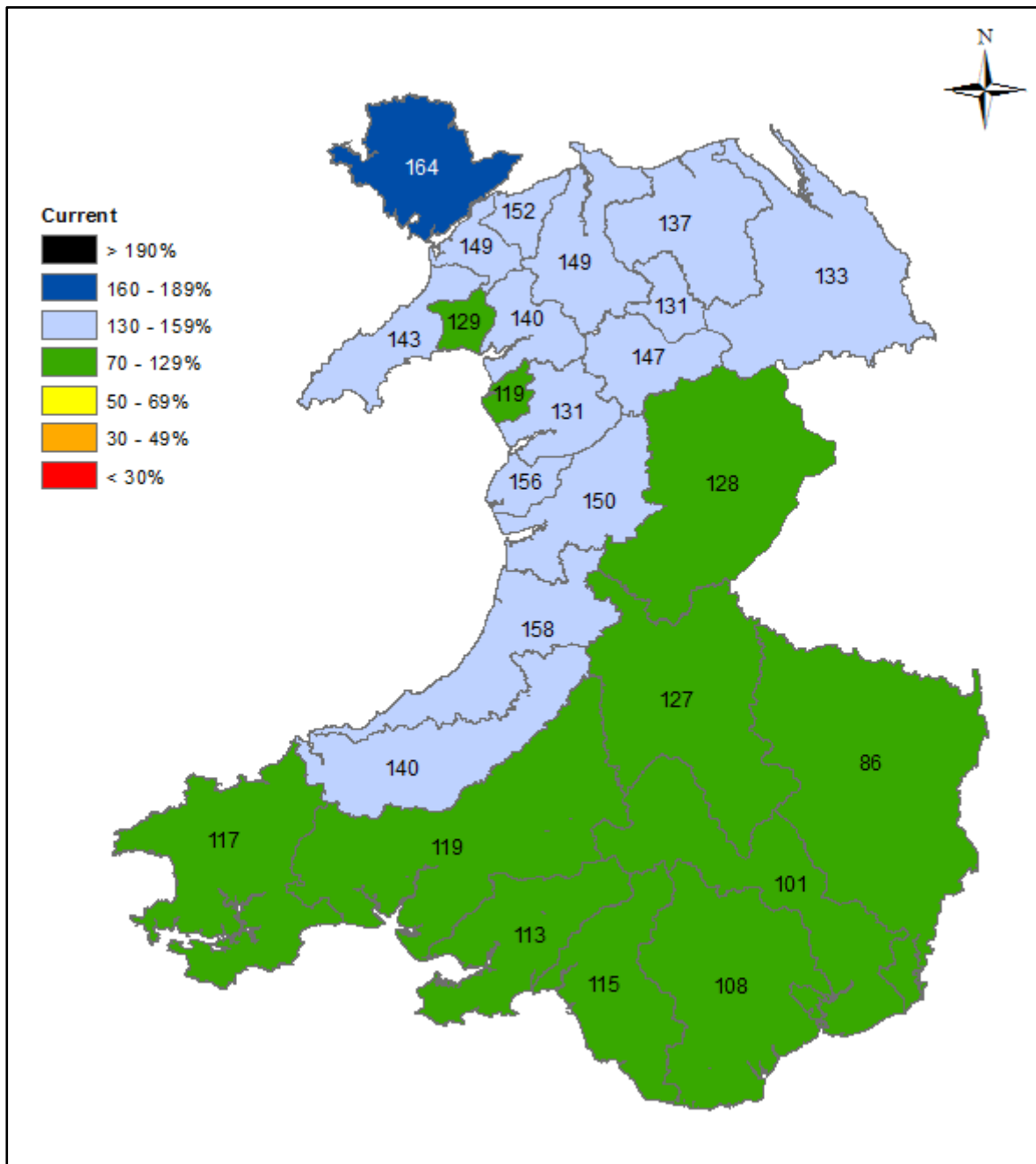


Figure 2: Calculated catchment average February rainfall totals as a percentage of the 1961-90 February long term average for Natural Resources Wales catchments, using NCIC (National Climate Information Centre) data (Source: Met Office © Crown Copyright).

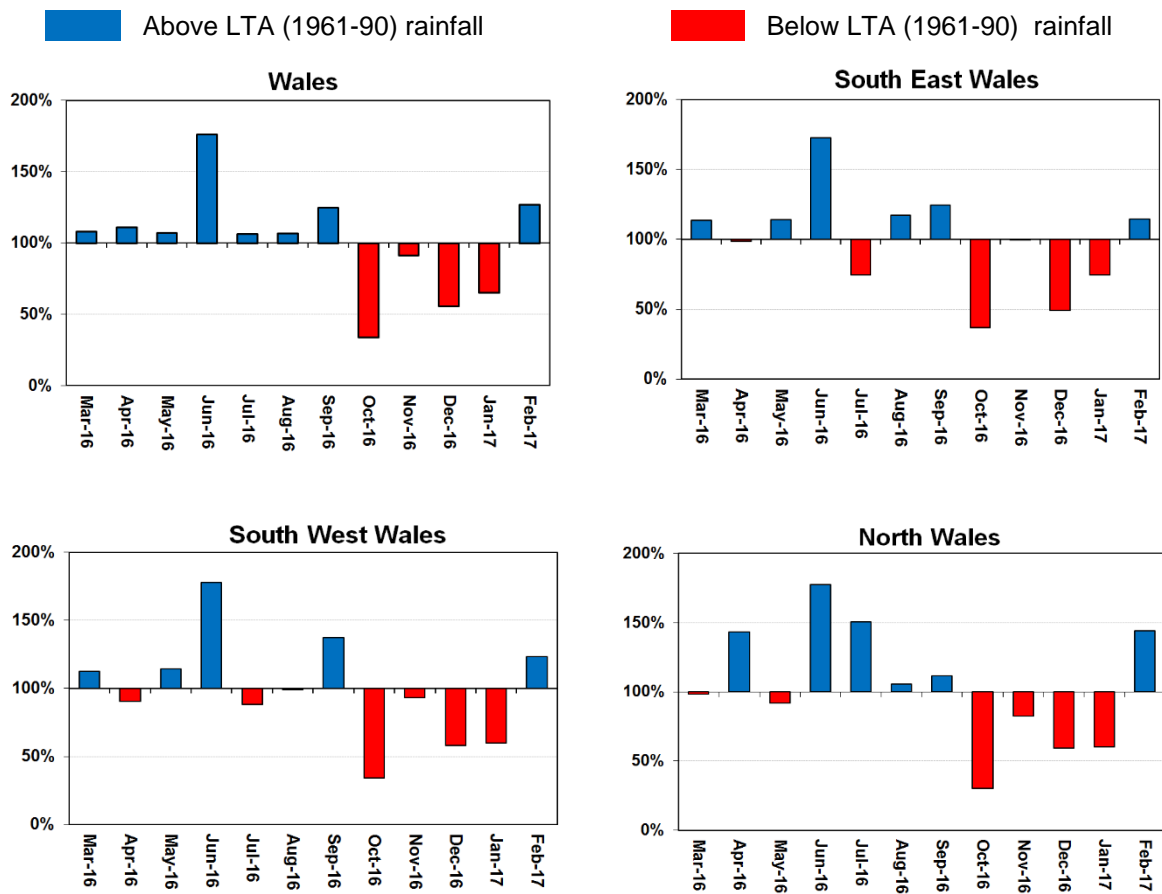
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Rainfall Charts

Figure 3: Rainfall Charts: National and Areas



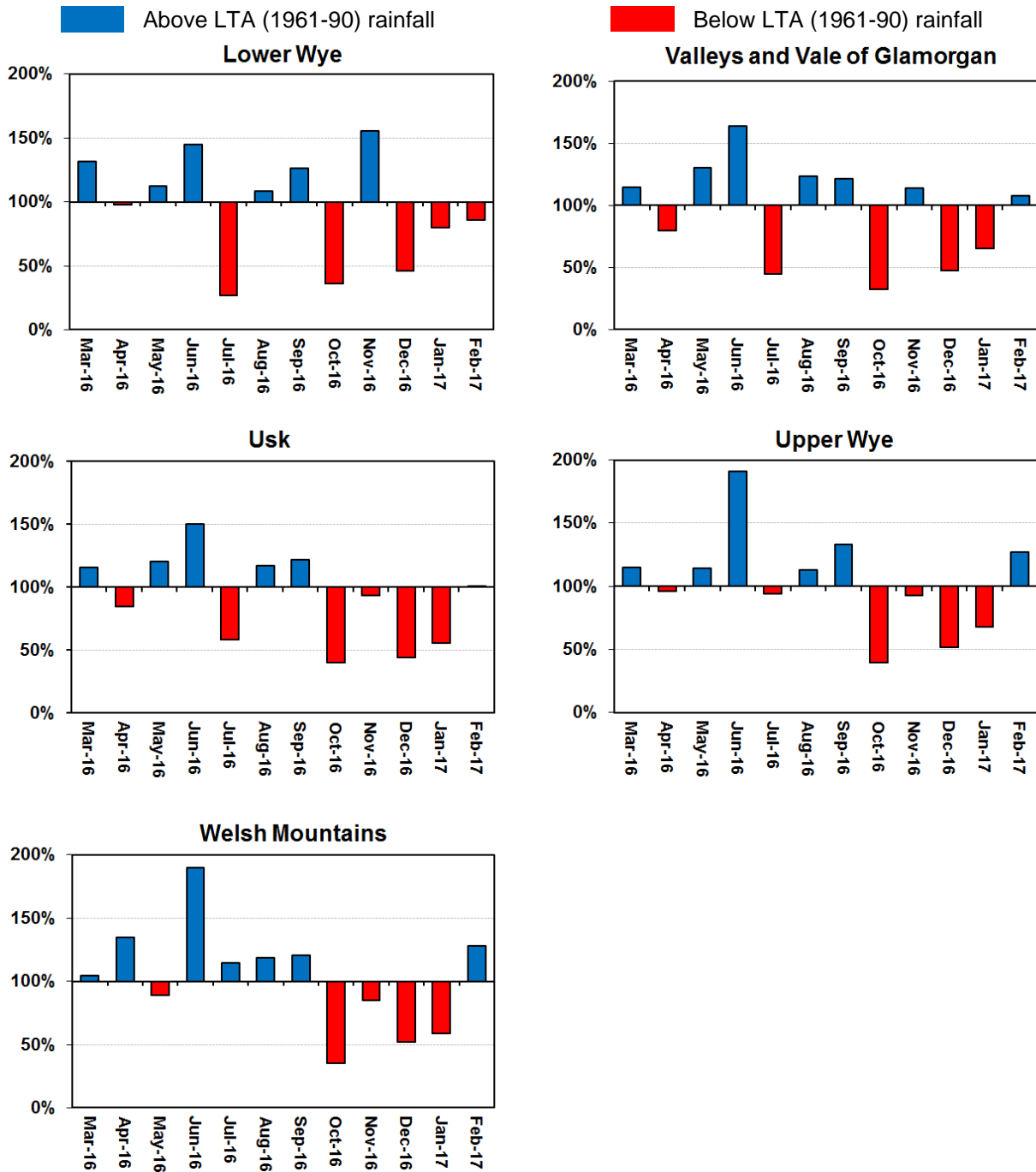
Comparison of monthly rainfall totals to the 1961-90 long term average expressed as percentage for Natural Resources Wales and Areas, using NCIC (National Climate Information Centre) data (Source: Met Office © Crown Copyright).

All data are provisional and Jul be subject to revision.

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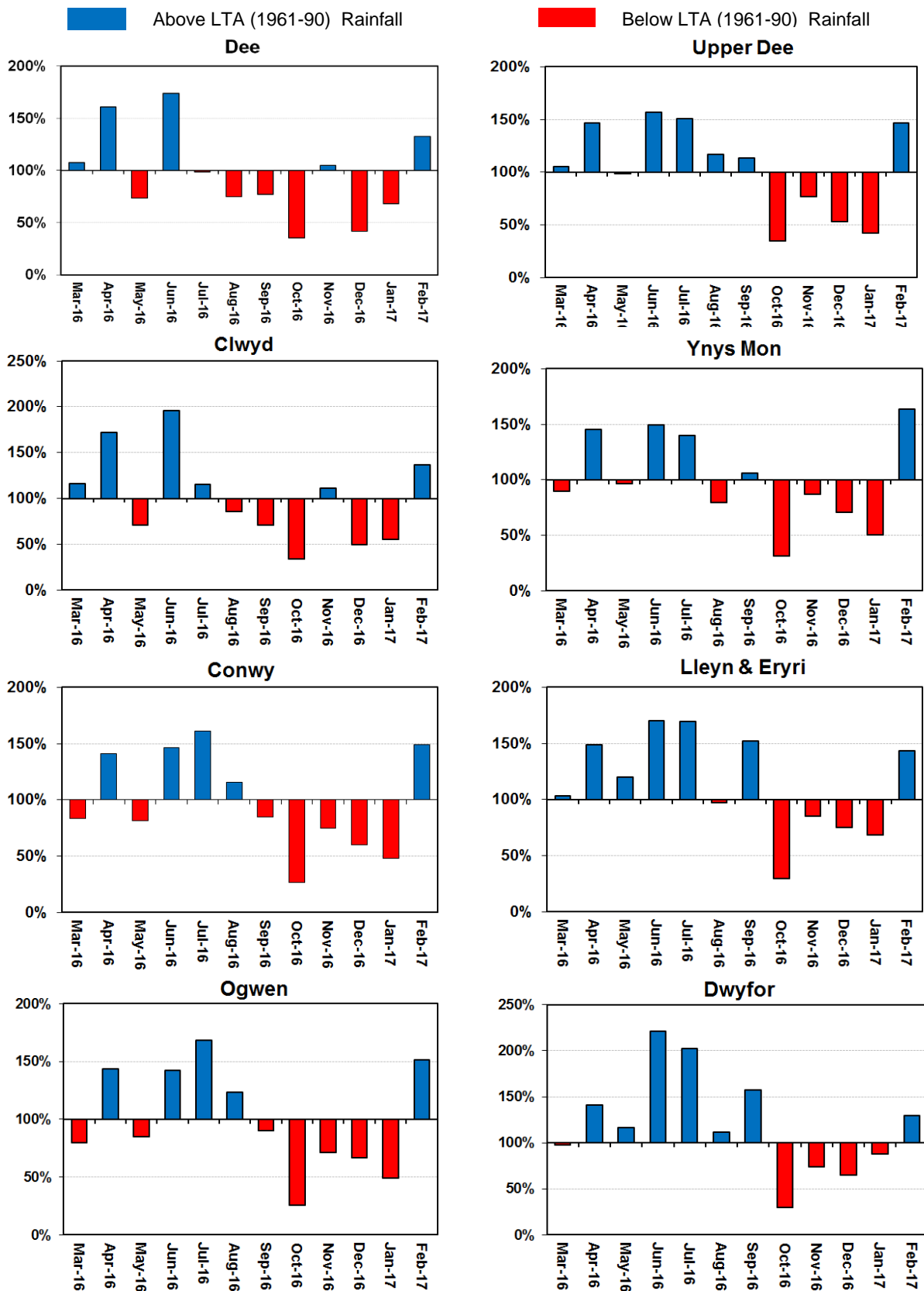
Figure 4: Rainfall Charts: South East Wales



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).

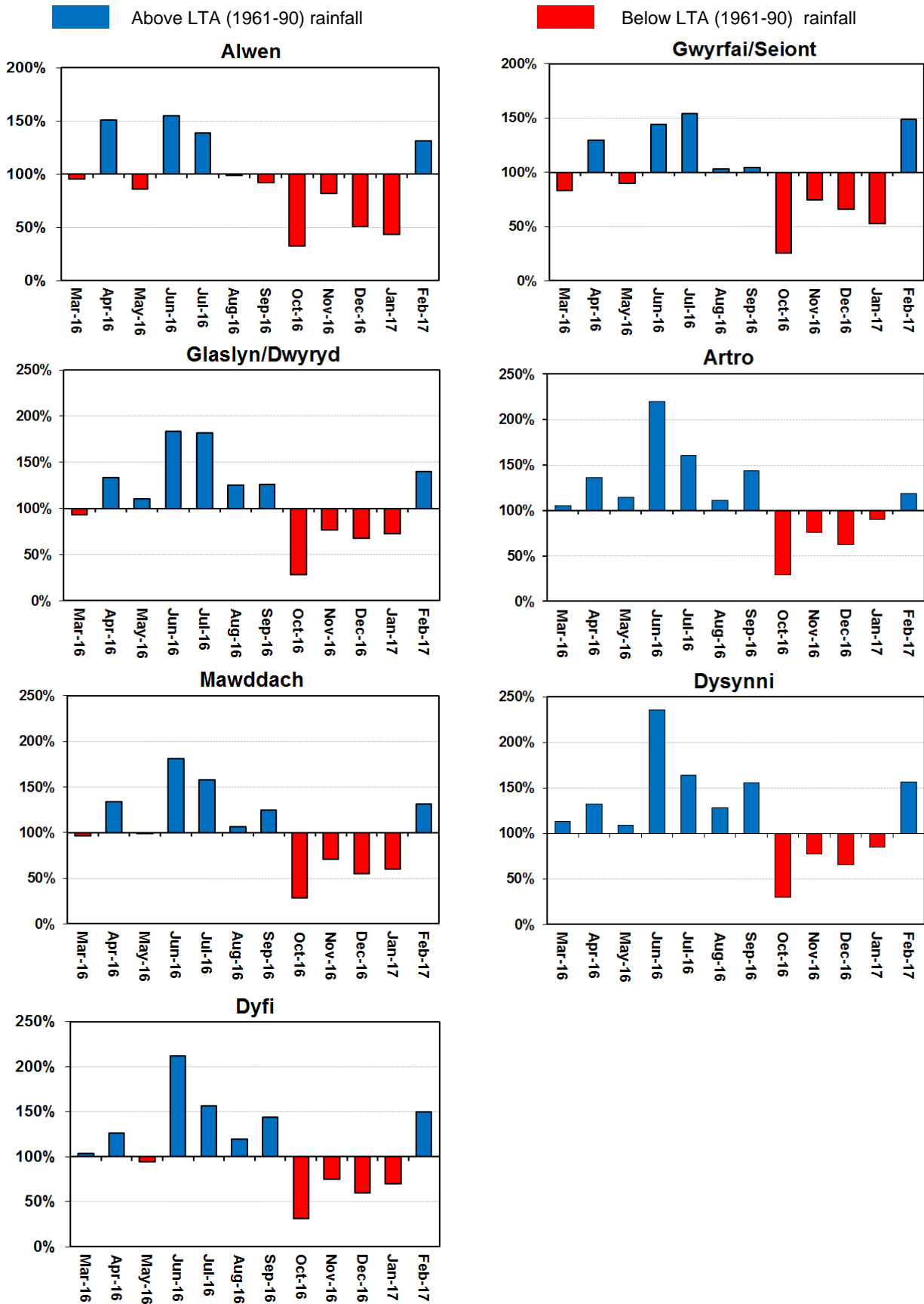
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Figure 5: Rainfall Charts: North Wales



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).

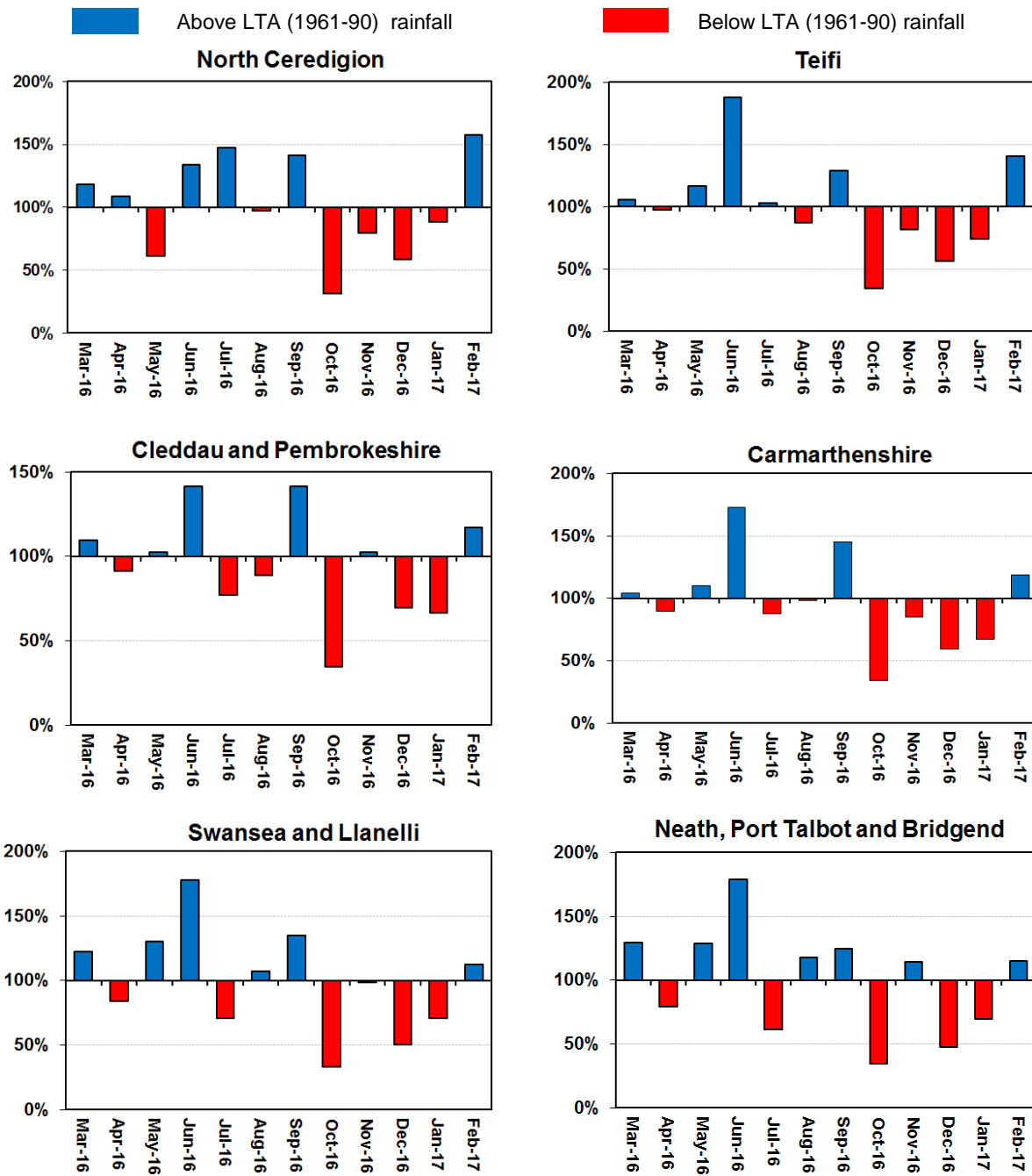
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Comparison of monthly rainfall totals to the 1961-90 long term average expressed as percentage for North Wales, using NCIC (National Climate Information Centre) data (Source: Met Office © Crown Copyright).

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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).

Soil Moisture Deficit (SMD)

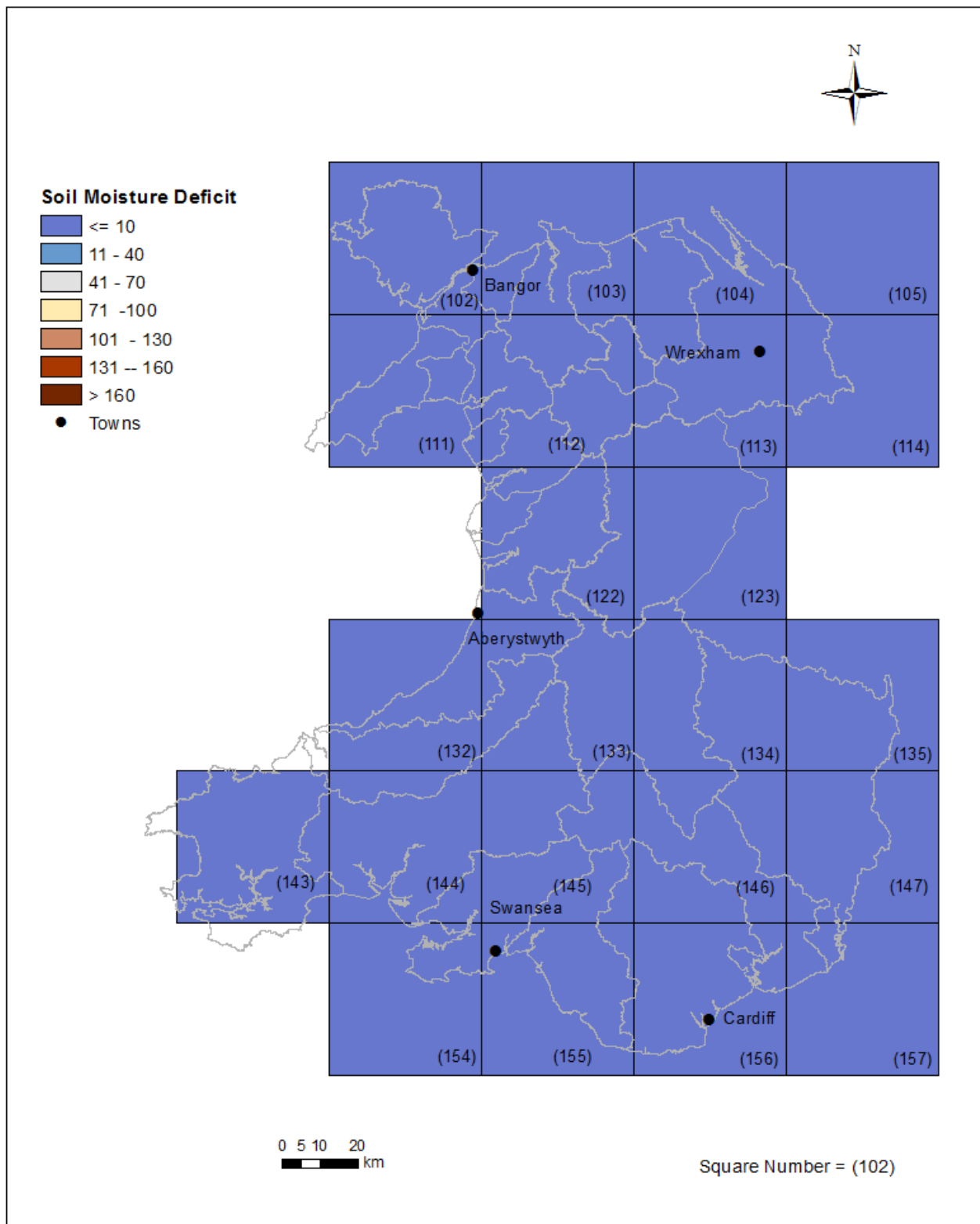


Figure 7: MORECS soil moisture deficits (mm) for February for real land use for Natural Resources Wales (Source: Met Office © Crown Copyright).

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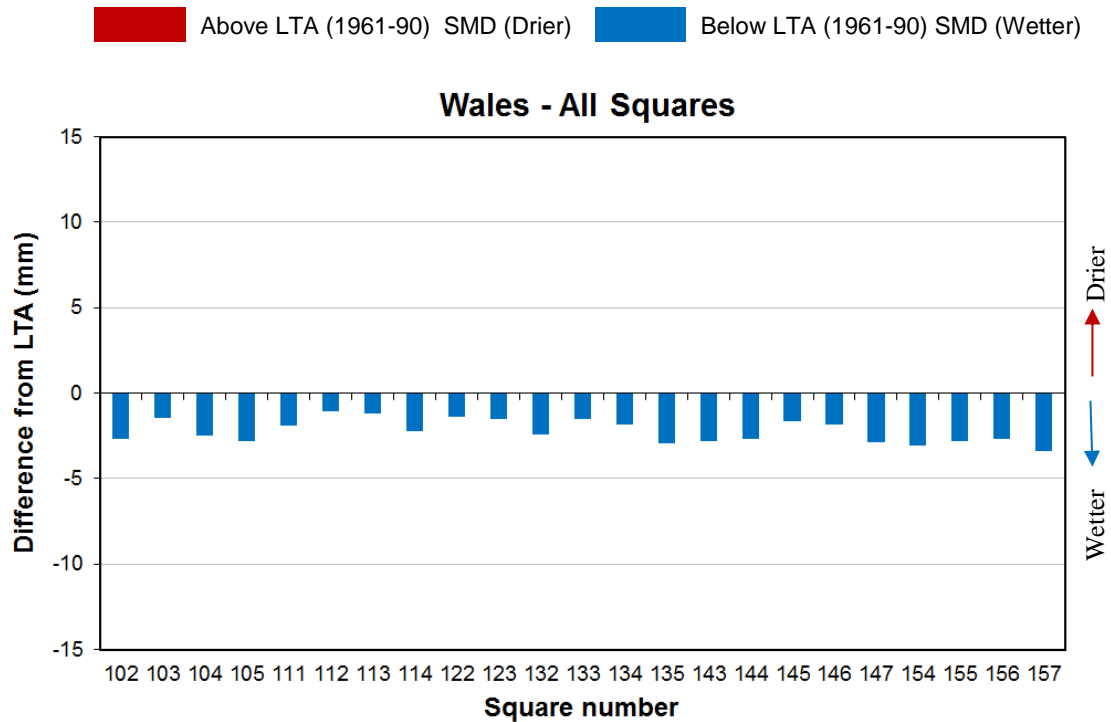


Figure 8: MORECS month end soil moisture deficits difference (mm) from the 1961-90 long term monthly average (LTA) for real land use for Natural Resources Wales squares (Source: Met Office © Crown Copyright).

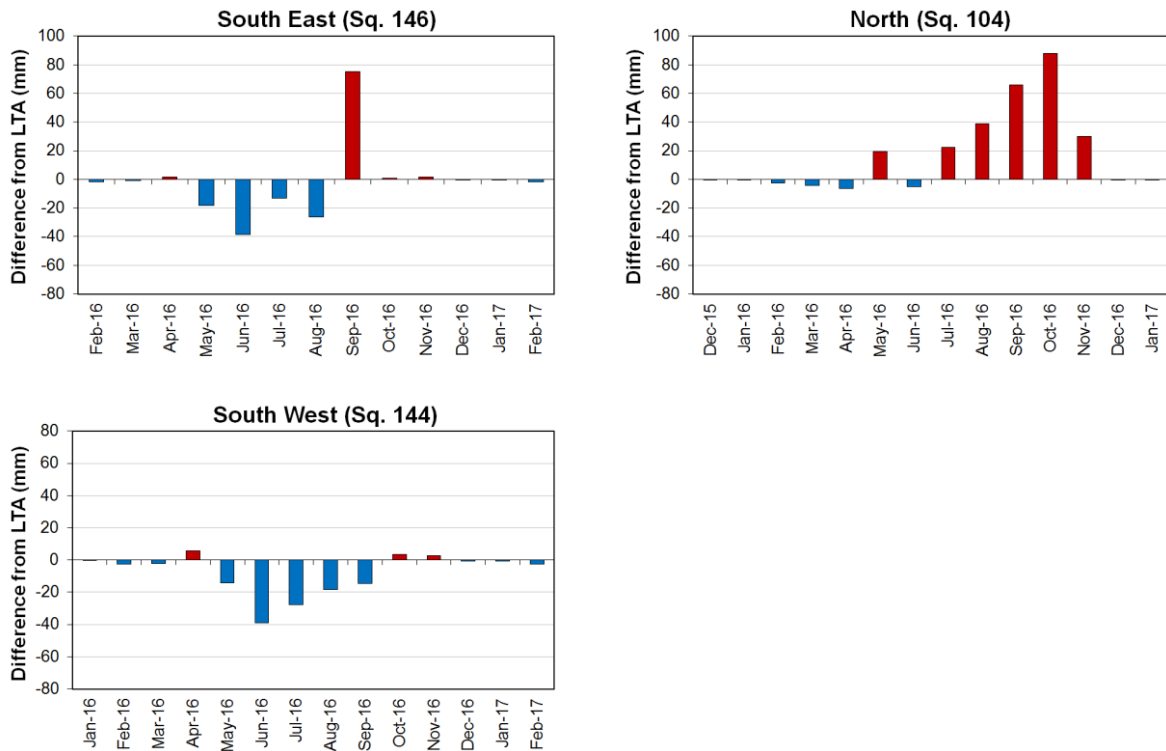


Figure 9: MORECS month end soil moisture deficit difference (mm) from the 1961-90 long term monthly average (LTA) for real land use for South East, North and South West (Source: Met Office © Crown Copyright). (Note: no LTA available for Natural Resources Wales.)

River Flow

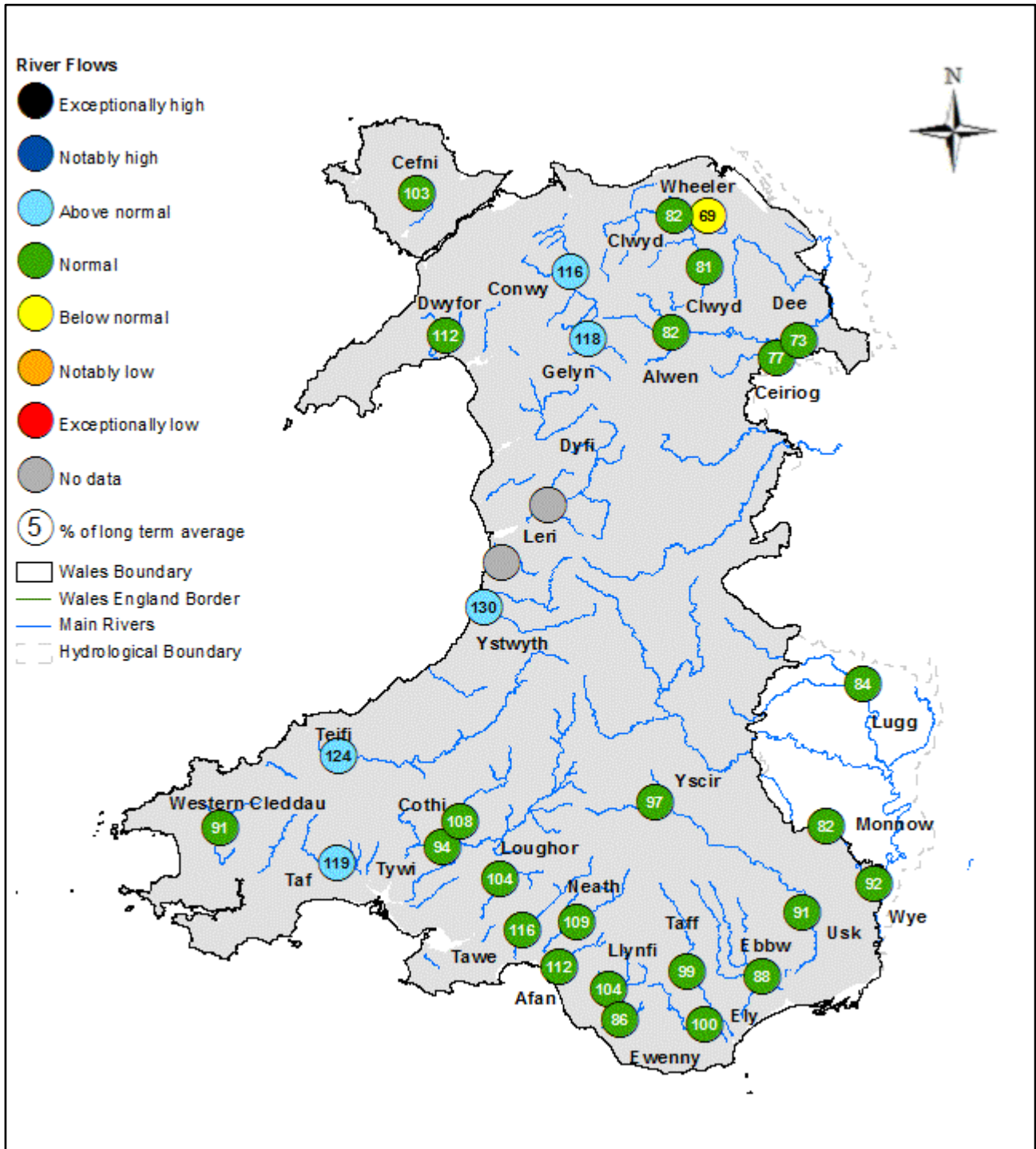


Figure 10: Monthly mean river flow for February, classed relative to analysis of historic February monthly means (Source: Natural Resources Wales).

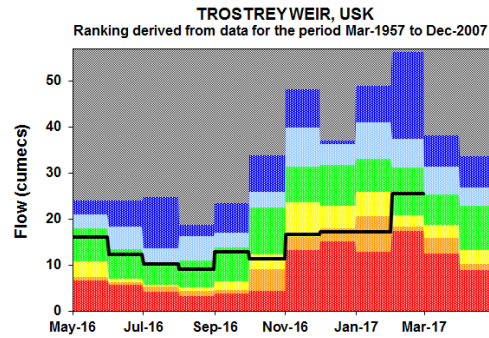
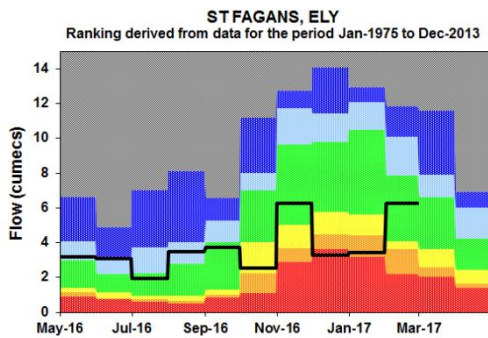
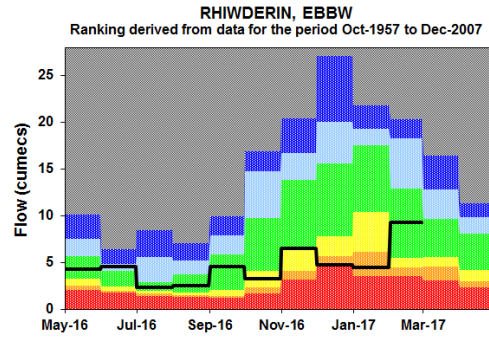
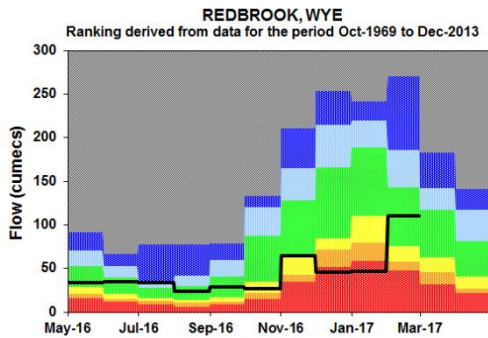
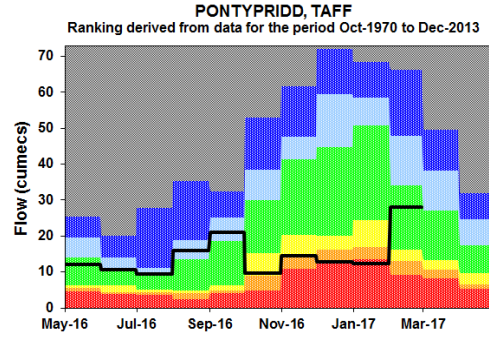
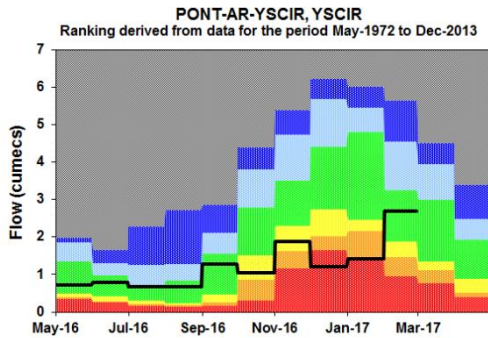
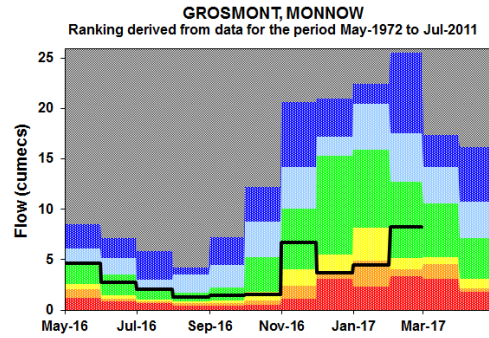
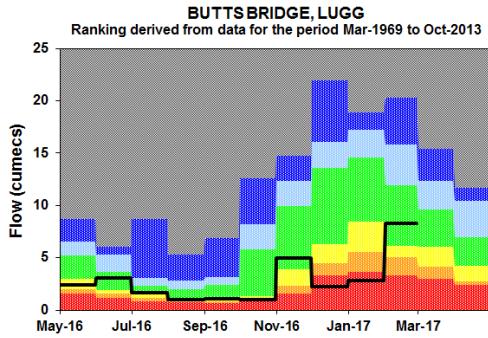
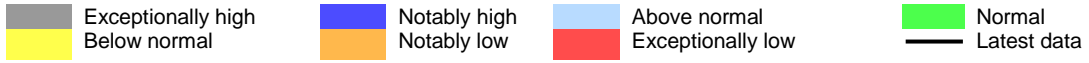
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SITE NAME	RIVER	February 2017			February 2016		February LTA		
		Class	% of LTA	Flow (m3/s)	% of LTA	Flow (m3/s)	LTA	Monthly Min (m3/s)	Monthly Max (m3/s)
River Flow Sites : South East Area									
Butts Bridge	Lugg	Normal	84%	8.27	138%	13.50	9.80	3.15	22.40
Grosmont	Monnow	Normal	82%	8.24	120%	12.10	10.08	3.30	28.10
Pont ar Yscir	Yscir	Normal	97%	2.68	141%	3.90	2.76	0.74	7.98
Pontypridd	Taff	Normal	99%	28.00	166%	46.80	28.18	8.17	90.30
Redbrook	Wye	Normal	92%	110.00	135%	161.35	119.95	41.00	329.00
Rhiwderin	Ebbw	Normal	88%	9.25	160%	16.80	10.50	3.32	33.40
St Fagans	Ely	Normal	100%	6.25	178%	11.10	6.23	1.90	13.90
Trostrey Weir	Usk	Normal	91%	25.46	242%	67.99	28.12	14.20	86.20
River Flow Sites : North Area									
Bodfari	Wheeler	Below normal	69%	0.73	125%	1.33	1.06	0.39	2.59
Bodffordd	Cefni	Normal	103%	0.61	252%	0.71	0.59	0.24	1.28
Brynkinalt Weir	Ceiriog	Normal	77%	3.41	126%	5.58	4.44	0.72	9.74
Cwmlanerch	Conwy	Above normal	116%	27.60	157%	37.20	23.75	4.40	80.70
Cynefail	Gelyn	Above normal	118%	1.06	142%	1.28	0.90	0.21	2.88
Dol y Bont	Leri						1.92	0.73	4.28
Druid	Alwen	Normal	82%	5.72	150%	10.50	6.98	2.00	21.10
Dyfi bridge	Dyfi						28.83	5.17	98.30
Garndolbenmaen	Dwyfor	Normal	112%	3.36	129%	3.86	3.00	0.72	6.12
Manley Hall	Dee	Normal	73%	32.00	140%	61.50	43.89	12.90	124.00
Pont y Cambwll	Clwyd	Normal	82%	7.72	162%	15.30	9.44	2.24	23.20
Ruthin Weir	Clwyd	Normal	81%	1.95	151%	3.64	2.41	0.64	6.19
River Flow Sites : South West Area									
Capel Dewi	Tywi	Normal	94%	48.90	147%	76.50	51.92	14.20	143.00
Clog y Fran	Taf	Above normal	119%	12.50	136%	14.30	10.50	3.65	27.20
Coytrahen	Llynfi	Normal	104%	2.94	161%	4.54	2.82	0.78	6.56
Felin Mynachdy	Cothi	Normal	108%	16.30	151%	22.80	15.06	3.71	41.10
Glanteifi	Teifi	Above normal	124%	48.20	136%	52.80	38.94	11.10	91.20
Keepers Lodge	Ewenny	Normal	86%	2.13	152%	3.76	2.47	1.00	4.75
Marcroft	Afan	Normal	112%	6.57	158%	9.23	5.85	1.88	14.30
Pont Llolwyn	Ystwyth	Above normal	130%	9.70	112%	8.39	7.46	2.06	22.70
Treffgarne *	Western Cleddau	Normal	98%	5.30			5.40	2.23	12.19
Resolven	Neath	Normal	109%	13.50	155%	19.20	12.36	1.87	41.00
Tir-y-Dail	Loughor	Normal	104%	2.82	156%	4.23	2.72	0.98	6.30
Ynystanglws	Tawe	Normal	116%	16.90	155%	22.50	14.56	2.45	42.60

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

River Flow Charts

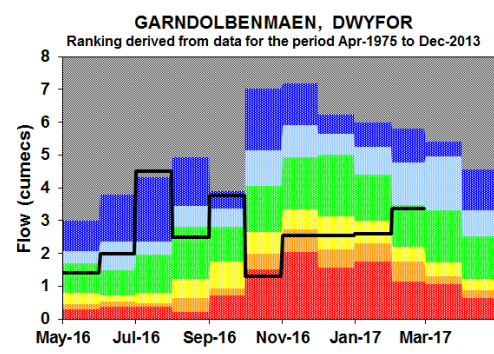
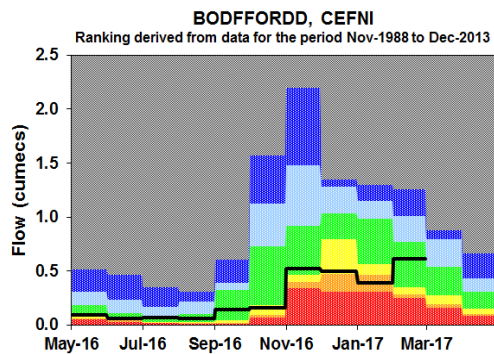
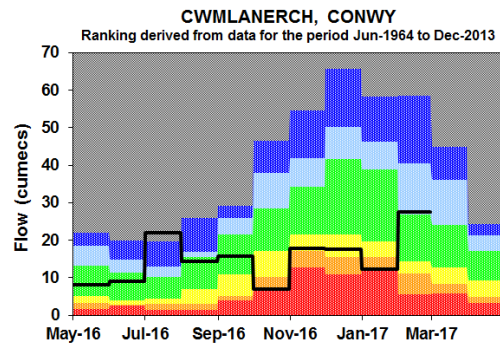
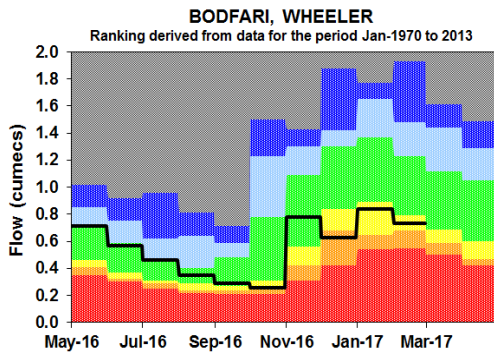
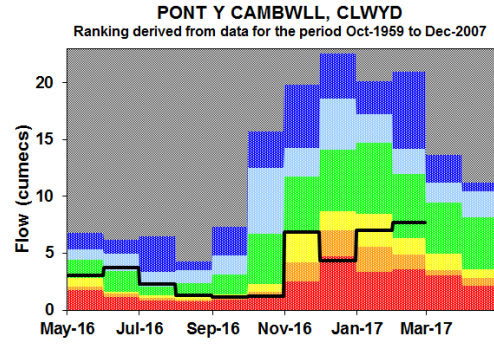
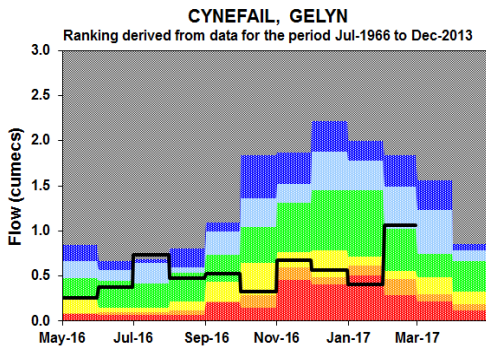
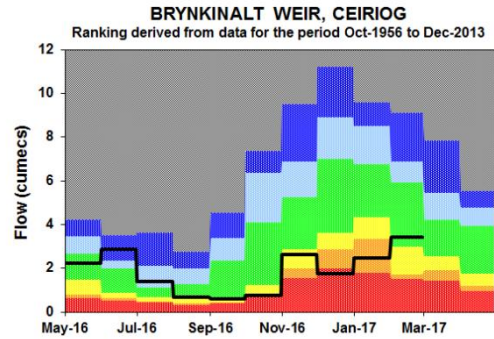
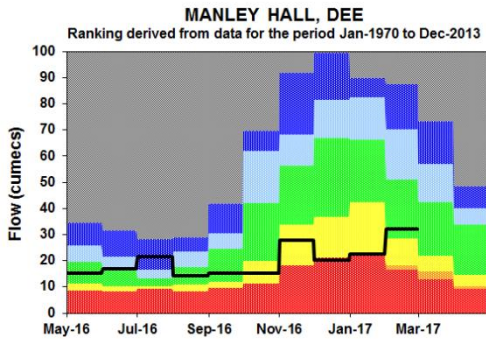
Figure 12: River Flow Charts: South East Wales



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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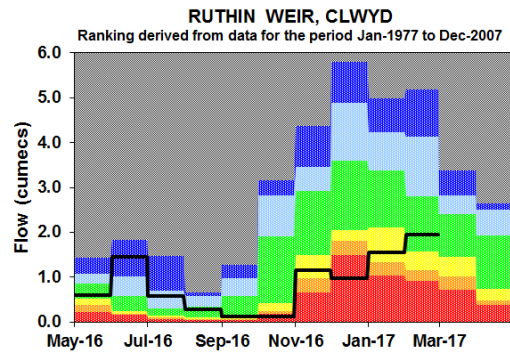
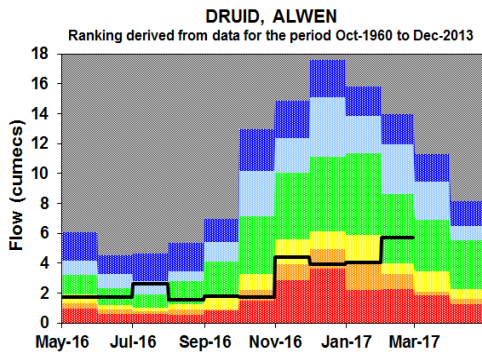
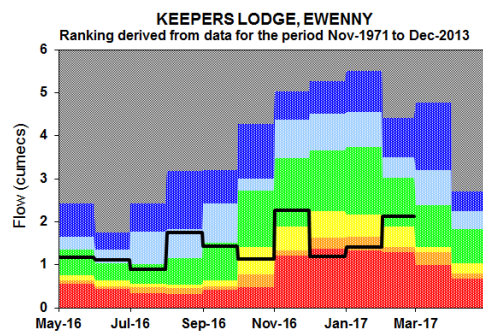
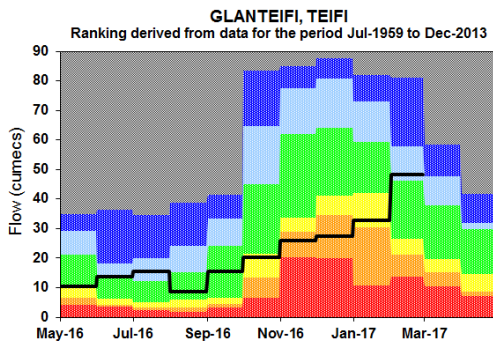
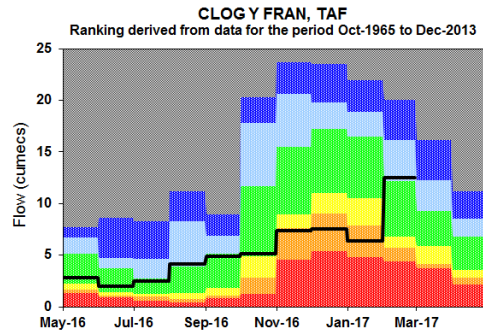
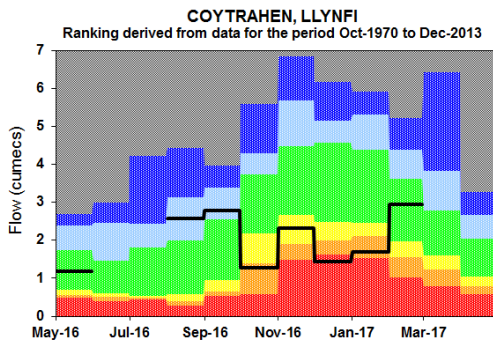
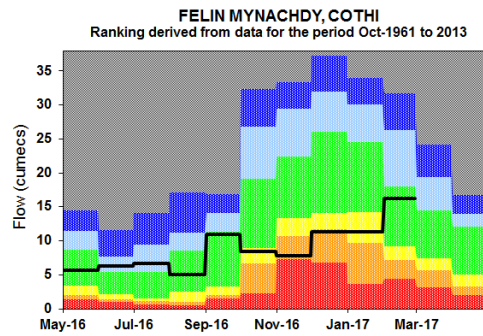
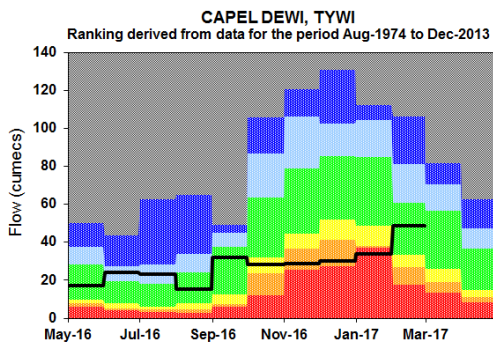
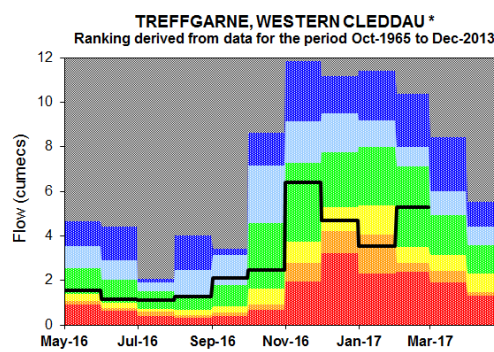
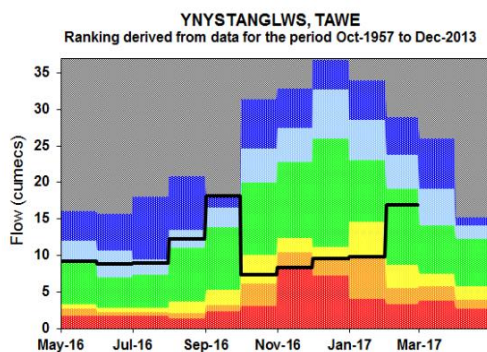
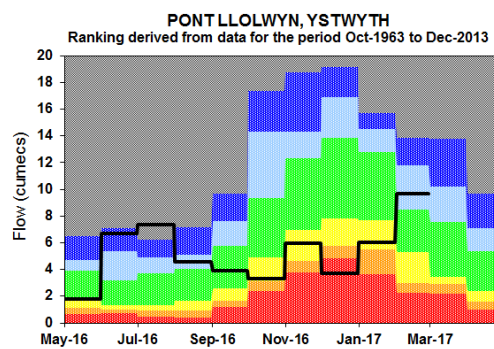
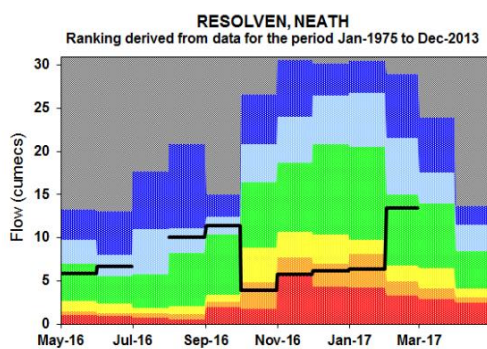
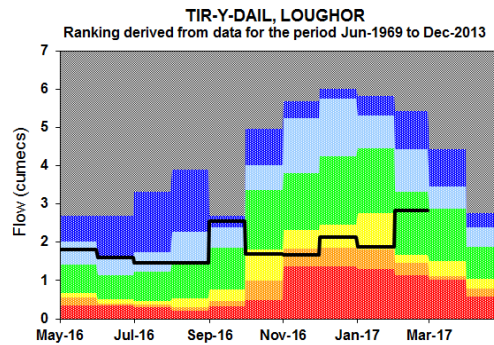
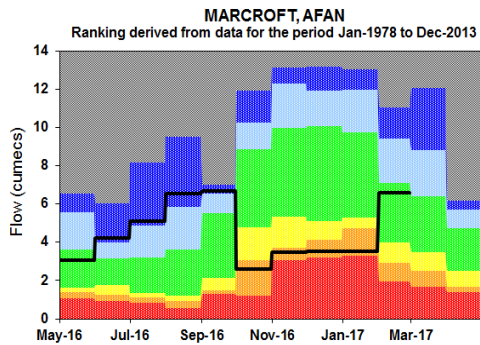
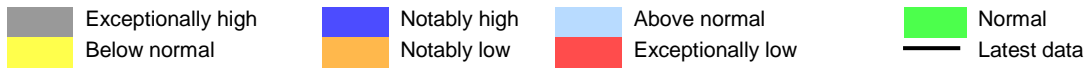


Figure 14: River Flow Charts: South West Wales



(Please note that there was no data for Coytrahen for June and July 2016 due to the river works)

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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 data for Resolven for July 2016 due to river works)

Groundwater Levels

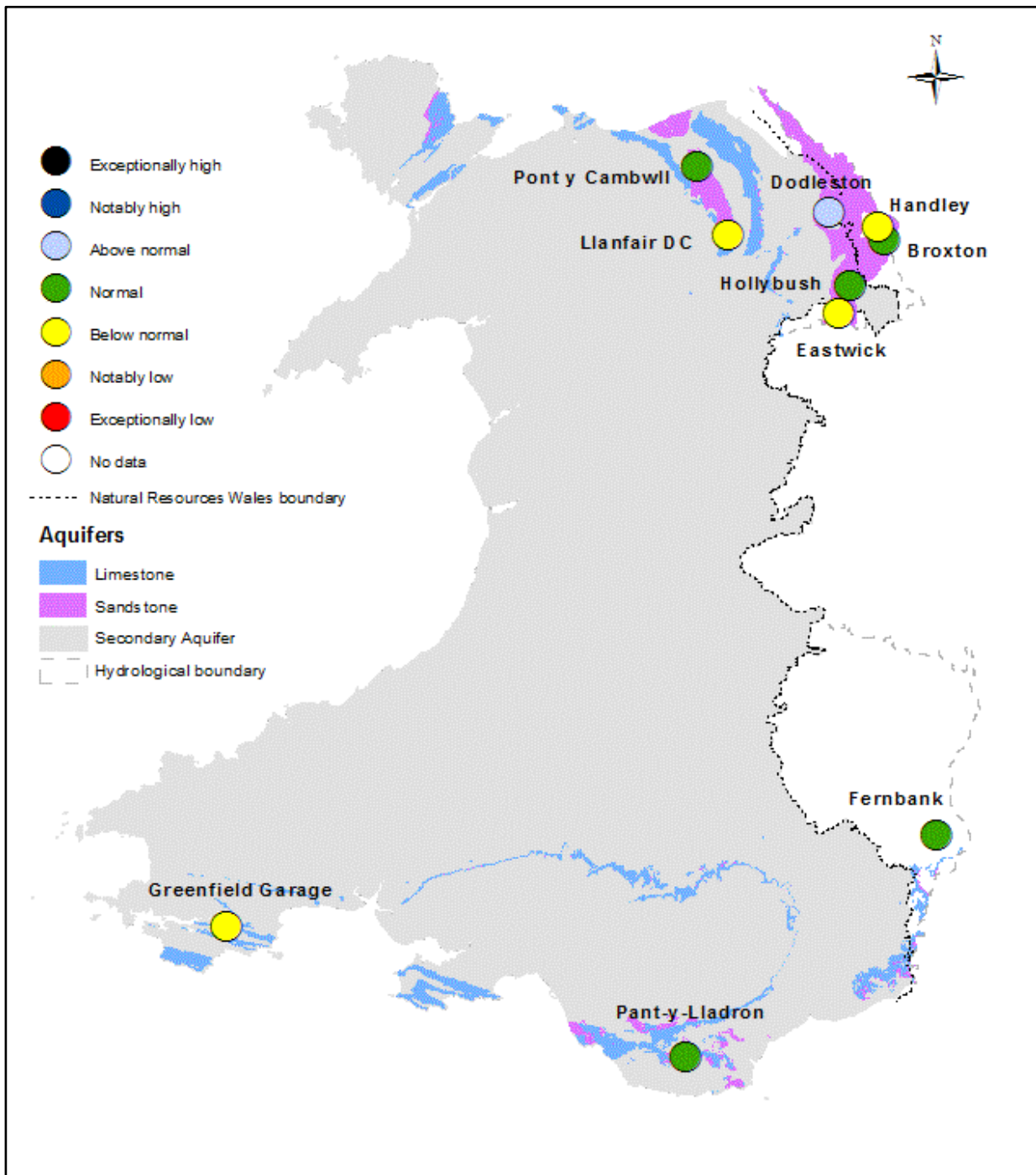
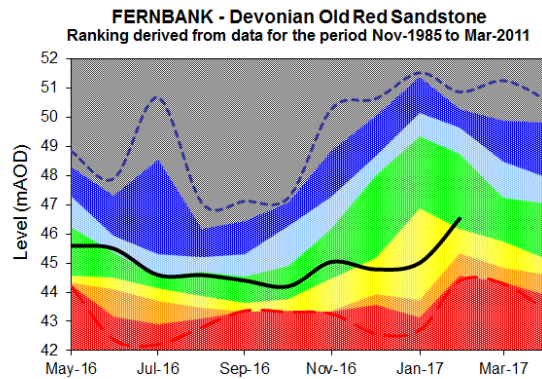
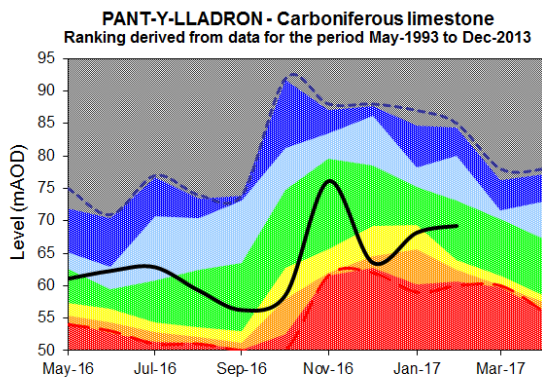
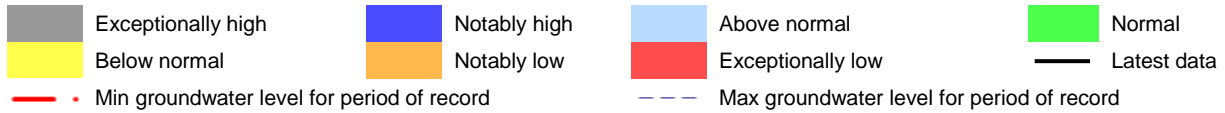


Figure 15: Groundwater levels at the end of month classed relative to an analysis of historic February groundwater levels (Source: Natural Resources Wales and Environment Agency).

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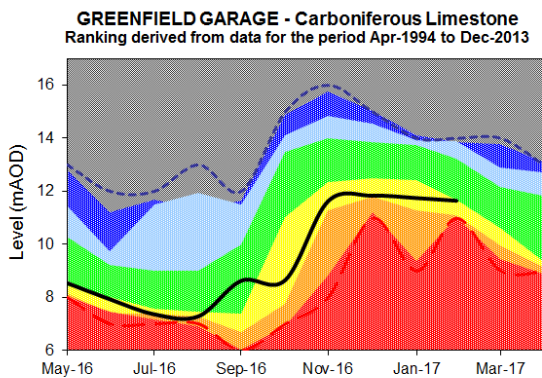
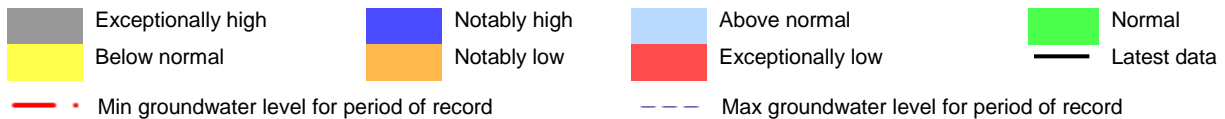
Groundwater charts

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).

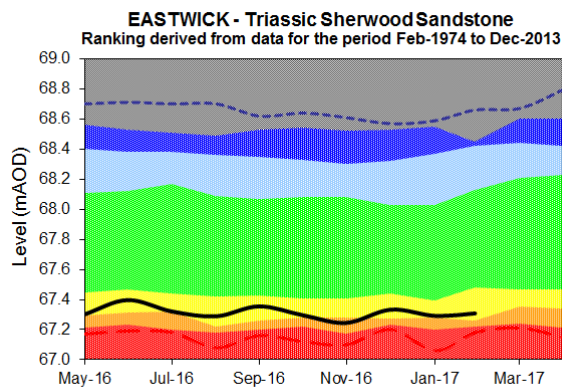
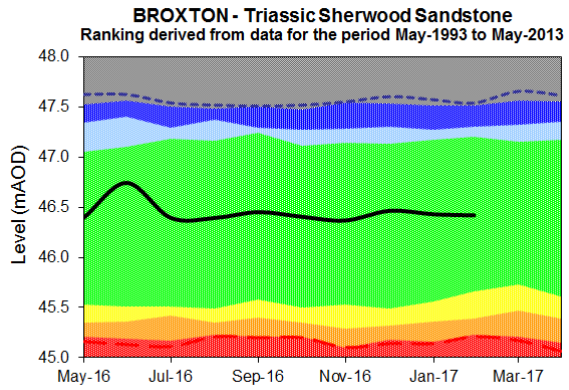
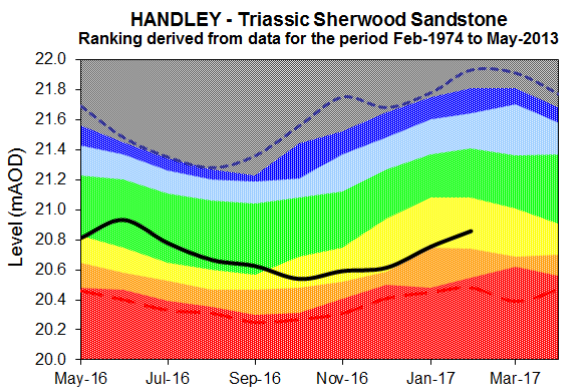
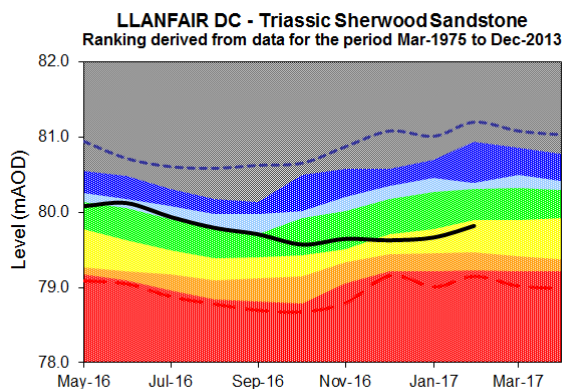
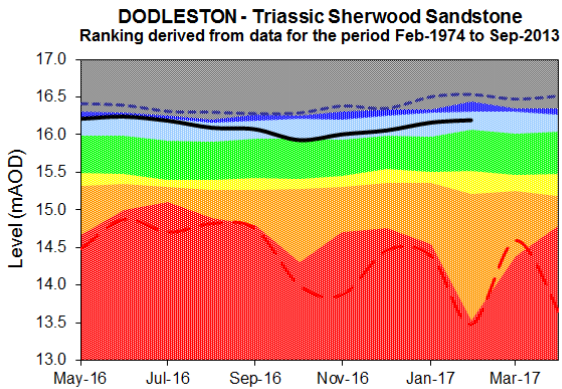
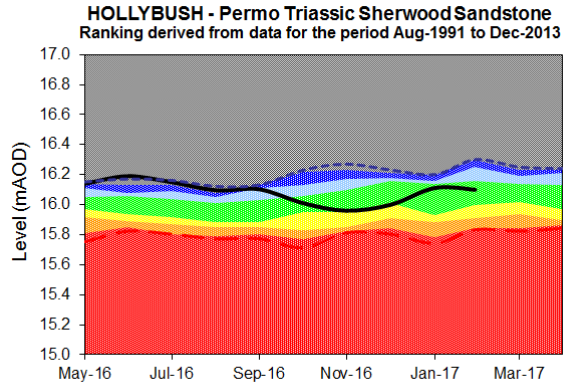
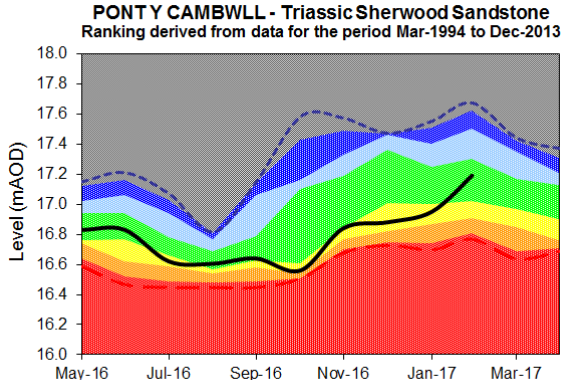
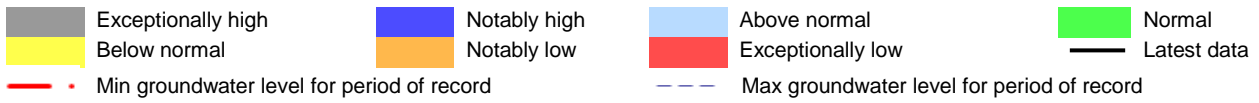
Figure 17: Groundwater level charts: South West Wales



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

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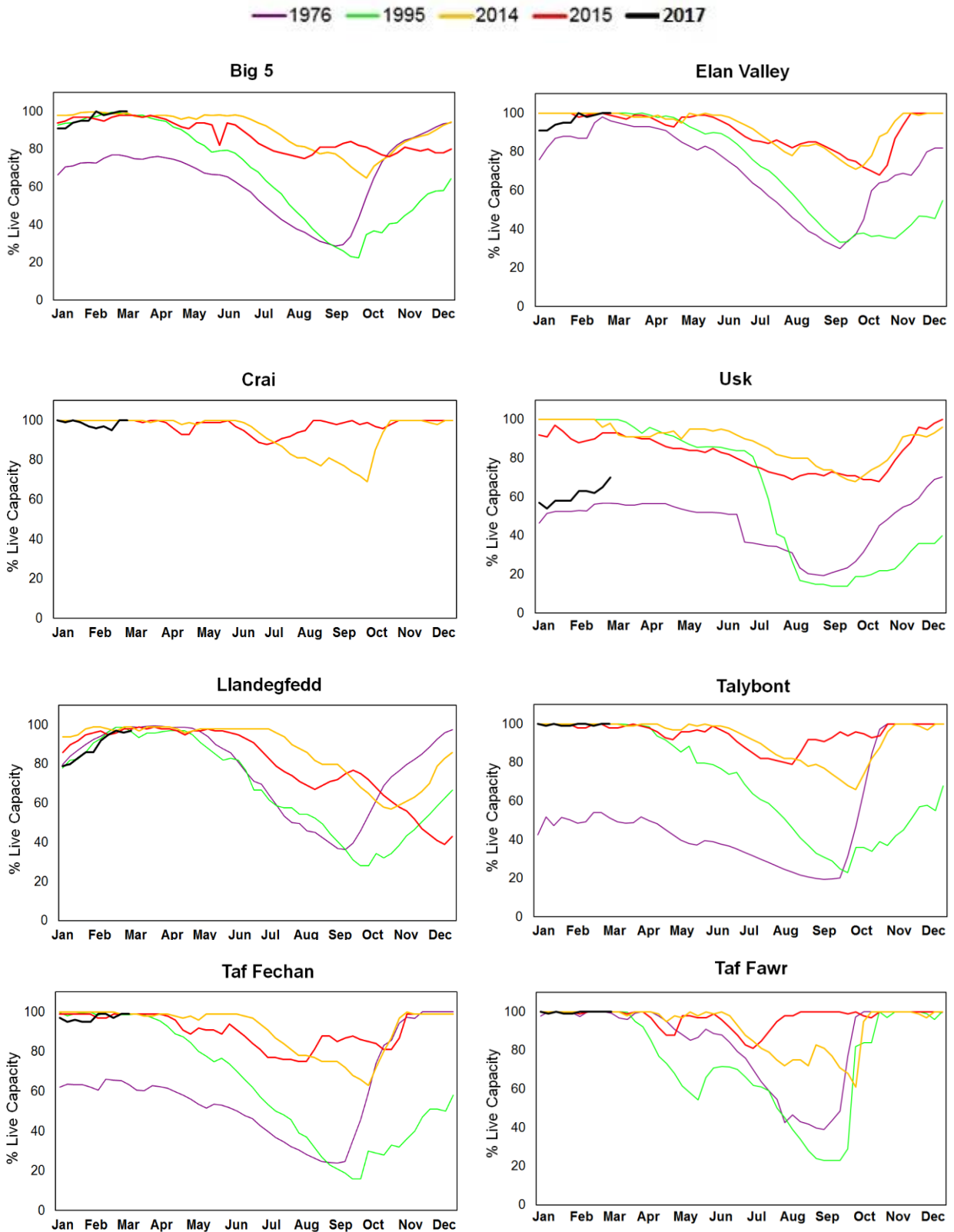
Figure 18: Groundwater level charts: North Wales



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

Reservoir Storage

Figure 19: Reservoir charts: South East Wales

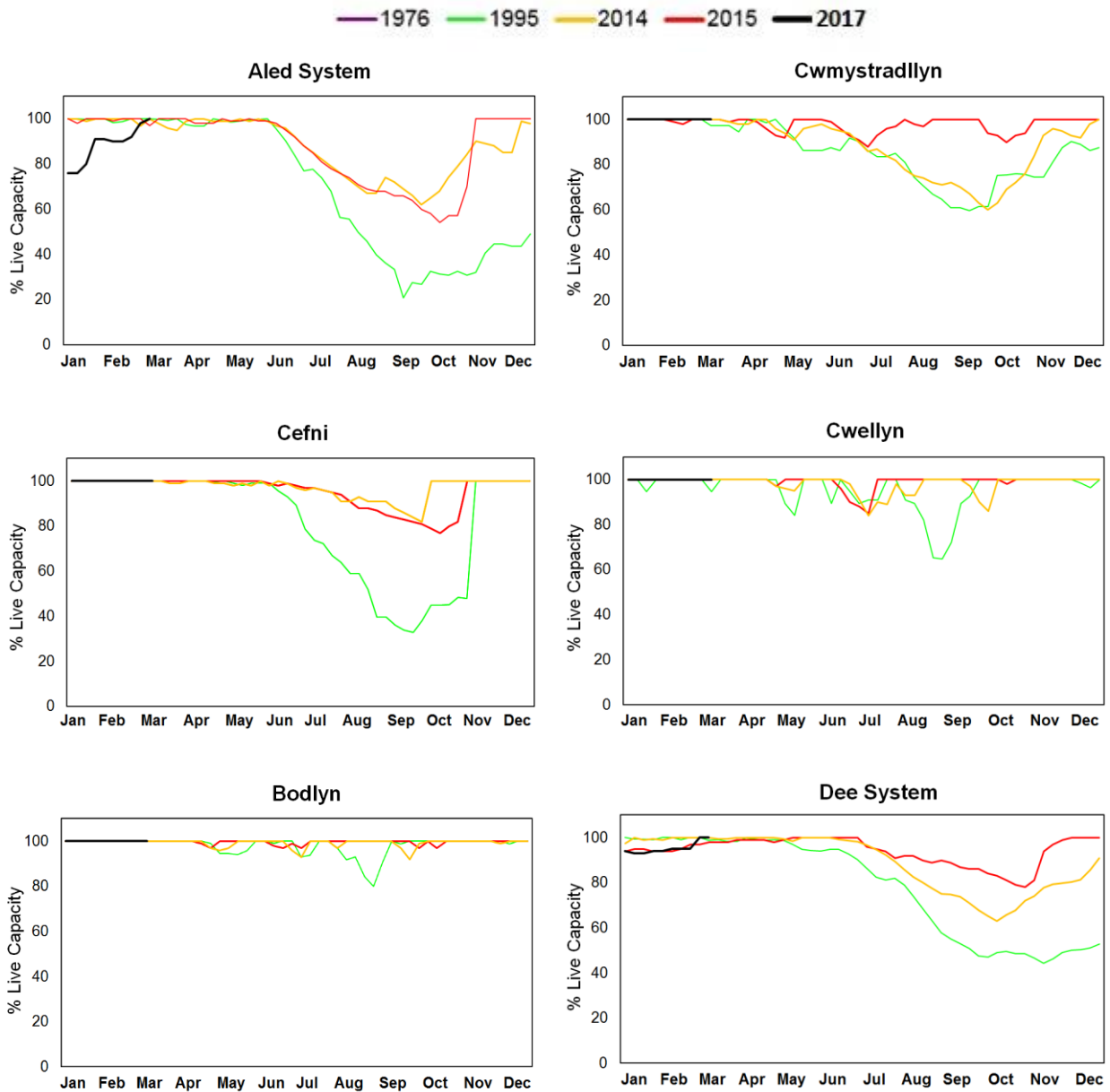


Weekly reservoir stocks for Natural Resources Wales index sites (Source: Welsh Water)

(Please note that the reservoir Usk stock (65%) were low at the end of February due to maintenance work being carried out on this reservoir although its stock has increased compared with the previous months.)

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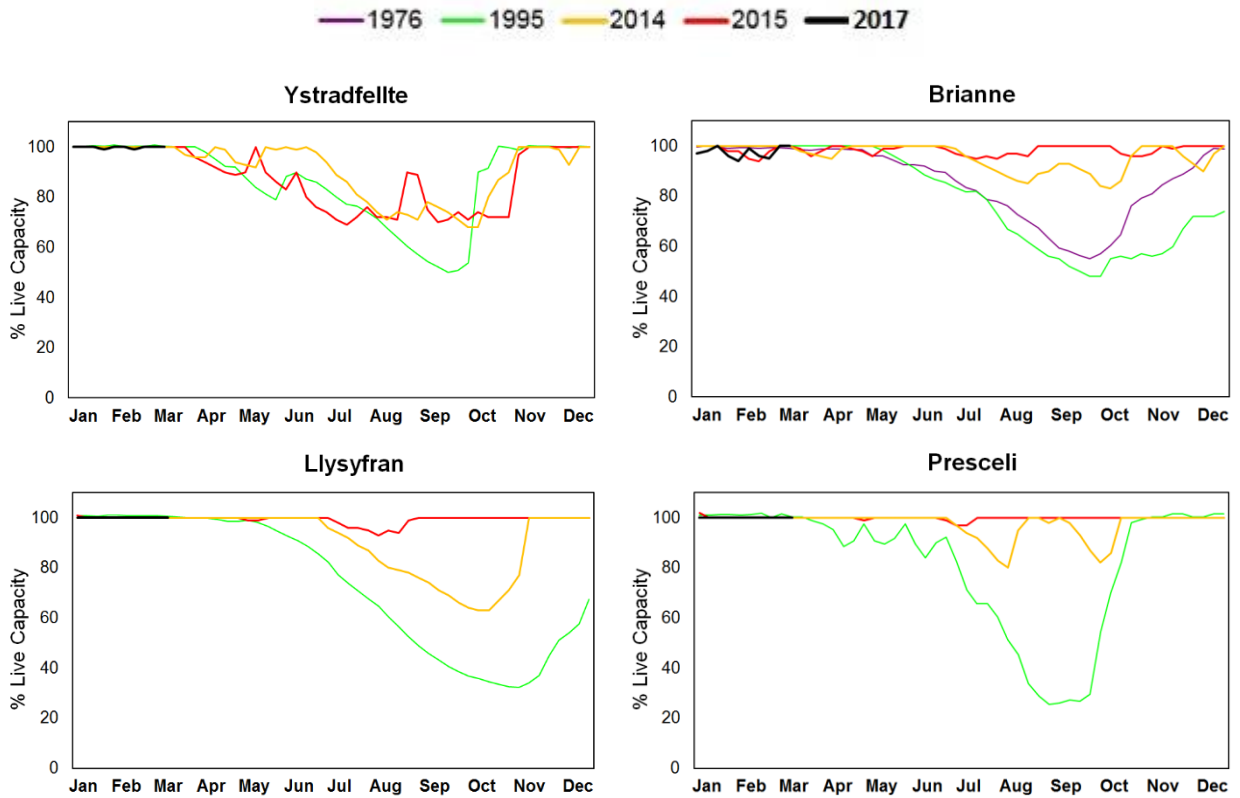
Figure 20: Reservoirs charts: North Wales



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 ($m^3 s^{-1}$)
mAOD	Metres Above Ordnance Datum (mean sea level at Newlyn Cornwall).