

Natural Resources Wales

- The monthly rainfall total received for Wales during January was 183% of the Long Term Average (LTA, 1961-90). North, South West and South East Wales received 191%, 180% and 178% of the LTA, respectively.
- At the end of January, soil moisture deficit (SMD) across Wales were between 0 and 1mm for all MORECS squares. The difference when compared to the long term average January (1961-90), ranged from -1.6mm to 0.1mm.
- For river flows in Wales, 20 out of 29 indicator sites were classed as *Exceptionally high* for January, 8 sites were classed as *Notably high* and 1 site was *Above normal*.
- The overall reservoir storage across all indicator sites was 100% full at the end of January and all reservoirs were within normal operating ranges.

Rainfall*

The monthly rainfall total received for Wales was 183% of the LTA for January. The percentage of rainfall recorded in catchments compared with the long term average (1961-90) across Wales was between 154% (Ynys Mon) and 228% (Glaslyn/Dwyrdd). The rainfall total for Wales was 120mm more than the January LTA. For South East, South West and North Wales the rainfall totals were 178%, 180% and 191% of the 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

For the SMD values, The 23 MORECS squares had SMD values between 0 (saturated) and 1mm. It is usual for soils to be saturated at this time of year.

SMD Map [National](#)

SMD Charts [Compare to LTA](#)

River Flows

River flows at 20 sites (out of 29) were classed as *Exceptionally high*. 8 sites were classed as *Notably high* and 1 site was *Above normal*.

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North: Flows in the area ranged from 160% (River Gelyn at Cynefail and River Dee at Manley Hall) to 219% (River Clwyd at Pont y Cambwll) of the January LTA Values.

South East: Flows in the area ranged from 141% (River Monnow at Grosmont) to 346% (River Usk at Trostrey Weir) of the January LTA values.

South West: The river flows within this area ranged from 149% (River Ystwyth at Pont Llolwyn) to 216% (River Taf at Clog y Frani) of the January 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 January at all indicator sites (10 sites) were classed between *Below normal* (Eastwick and Handley) and *Exceptional high* (Hollybush) with 3 sites (Greenfield Garage, Llanfair and Broxton) classed as *Normal* and 3 sites (Fernbank, Pont y Cambwll and Dodleston) classed as *Above normal*. The remaining 1 site (Pant-y-Lladron) was classed as *Notably high*.

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

Reservoir Storage

At the end of January almost all the indicator reservoirs (15 out of 18) were 100% full and one pump storage reservoir (Llandegfedd) was relative low (60% of the capacity) due to being drawn down for reservoir safety maintenance works. This reservoir has now started to refill by abstracting water from a river and subsequently transferring and expected to be full by early spring.

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

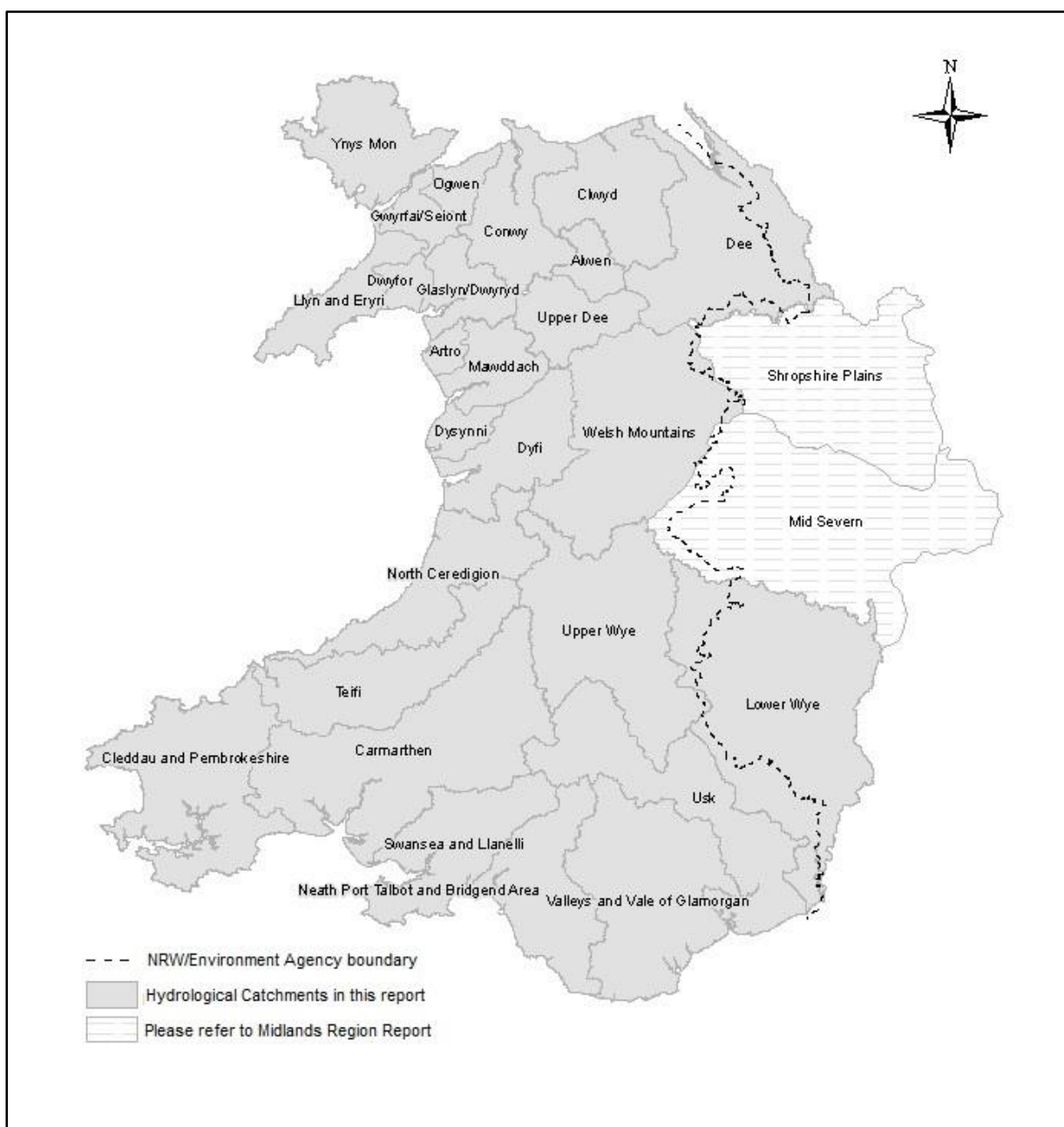


Figure 1: The Natural Resources Wales Water Situation Report features sites in the catchments shown. Parts of the Shropshire Plains and Mid Severn catchments are within Wales. For full information on these catchments, please see the Environment Agency Midlands Water Situation Report.

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

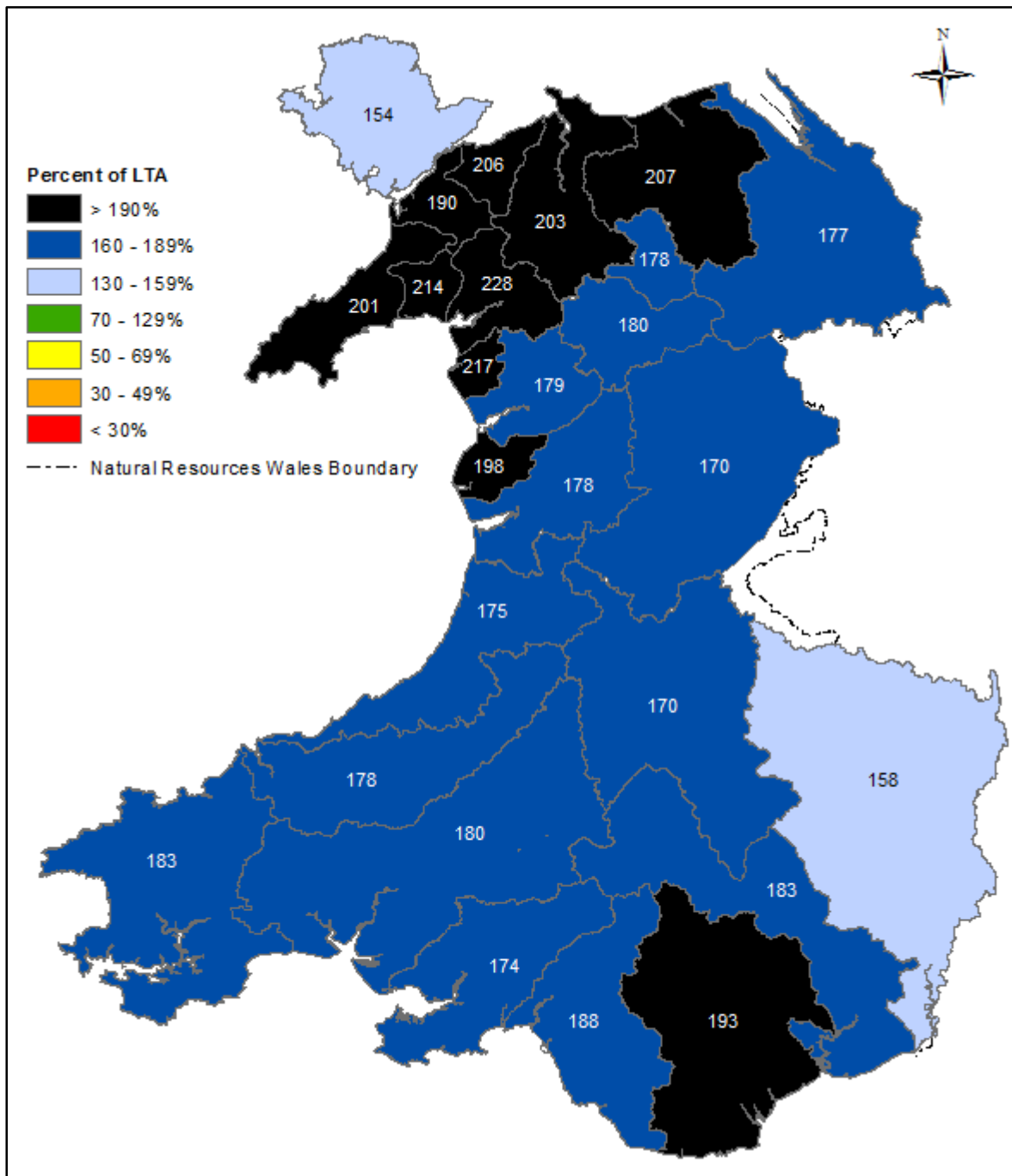
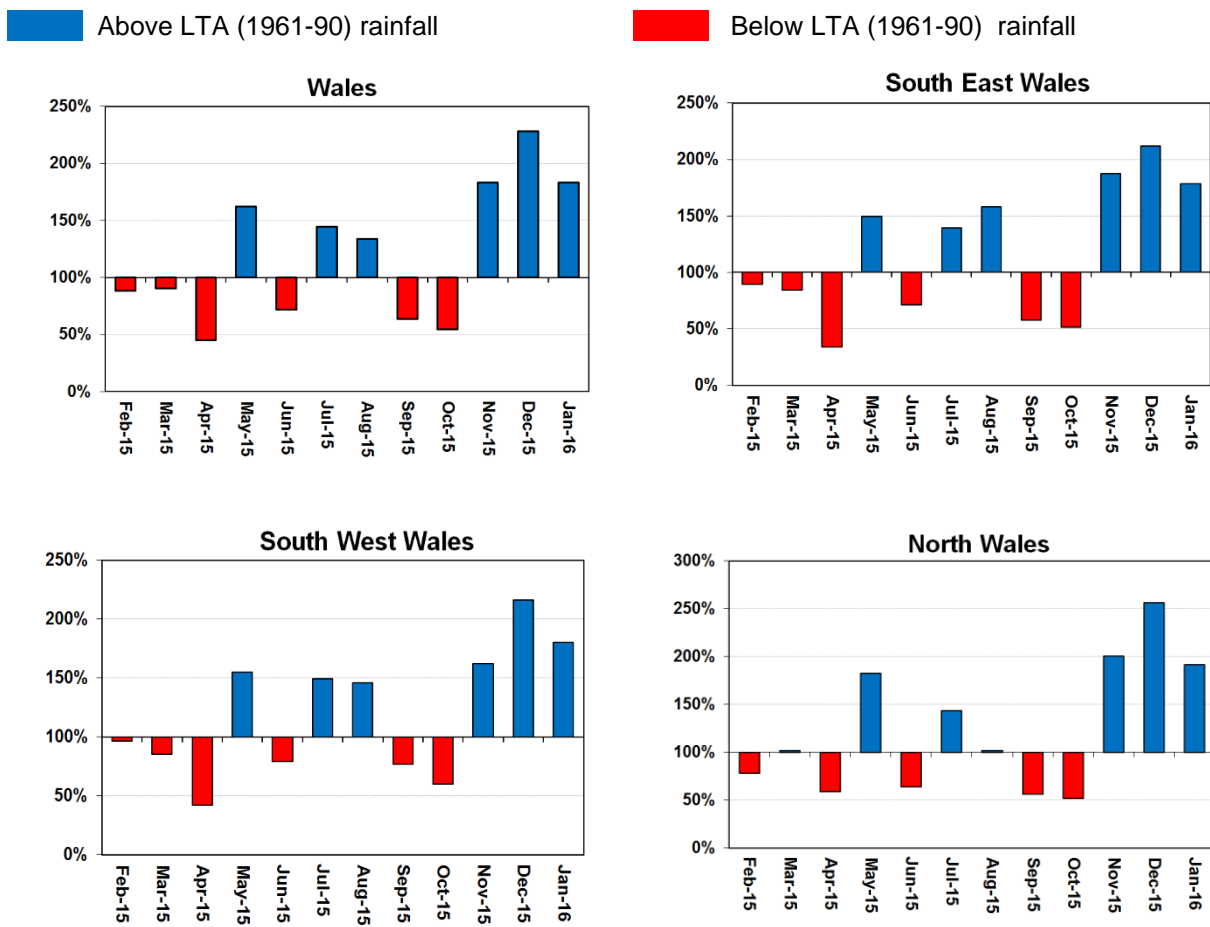


Figure 2: Calculated catchment average January rainfall totals as a percentage of the 1961-90 January long term average for Natural Resources Wales catchments, using NCIC (National Climate Information Centre) data (Source: Met Office © Crown Copyright).

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Rainfall Charts

Figure 3: Rainfall Charts: National and Areas



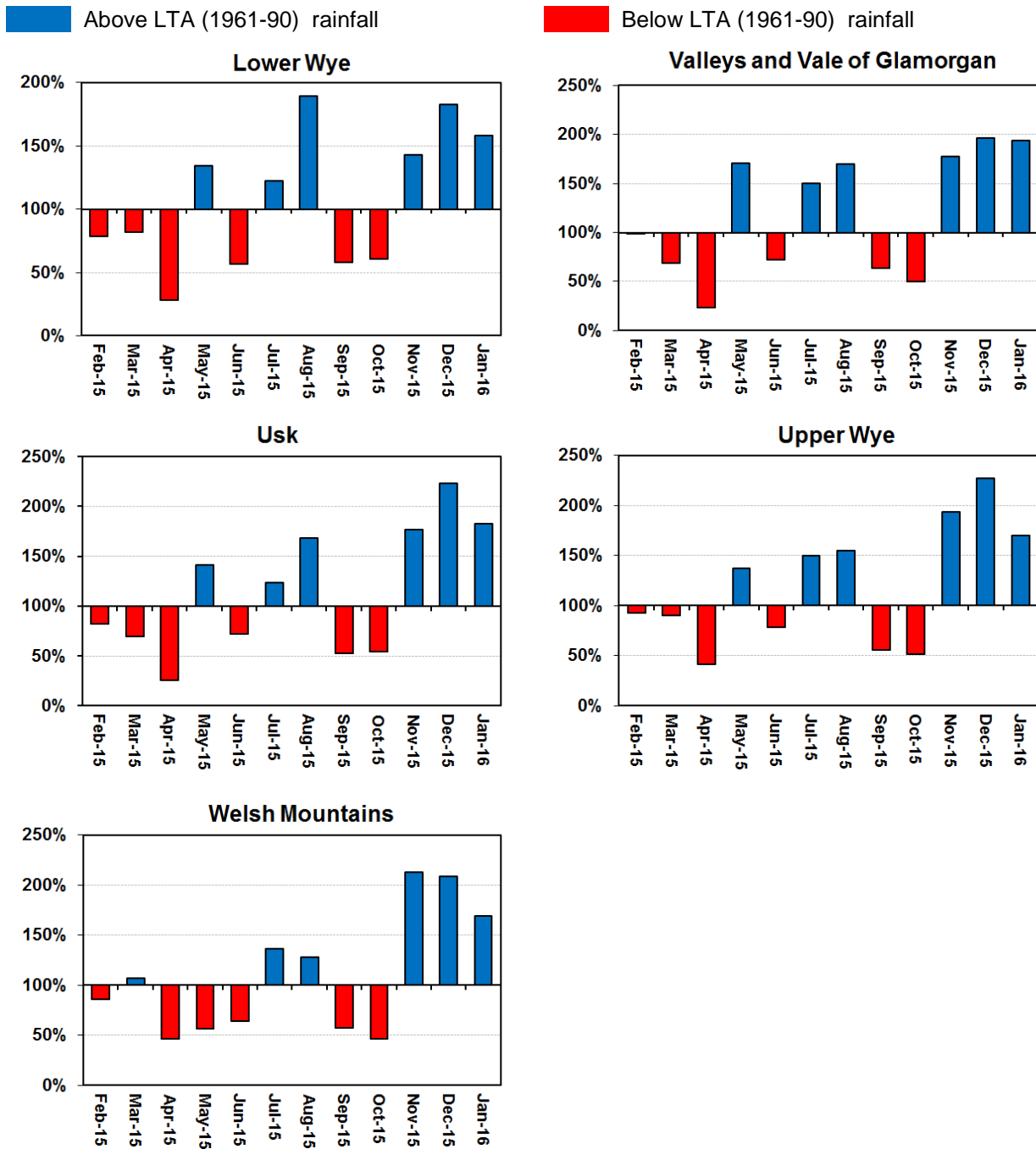
Comparison of monthly rainfall totals to the 1961-90 long term average expressed as percentage for Natural Resources Wales and Areas, using NCIC (National Climate Information Centre) data (Source: Met Office © Crown Copyright).

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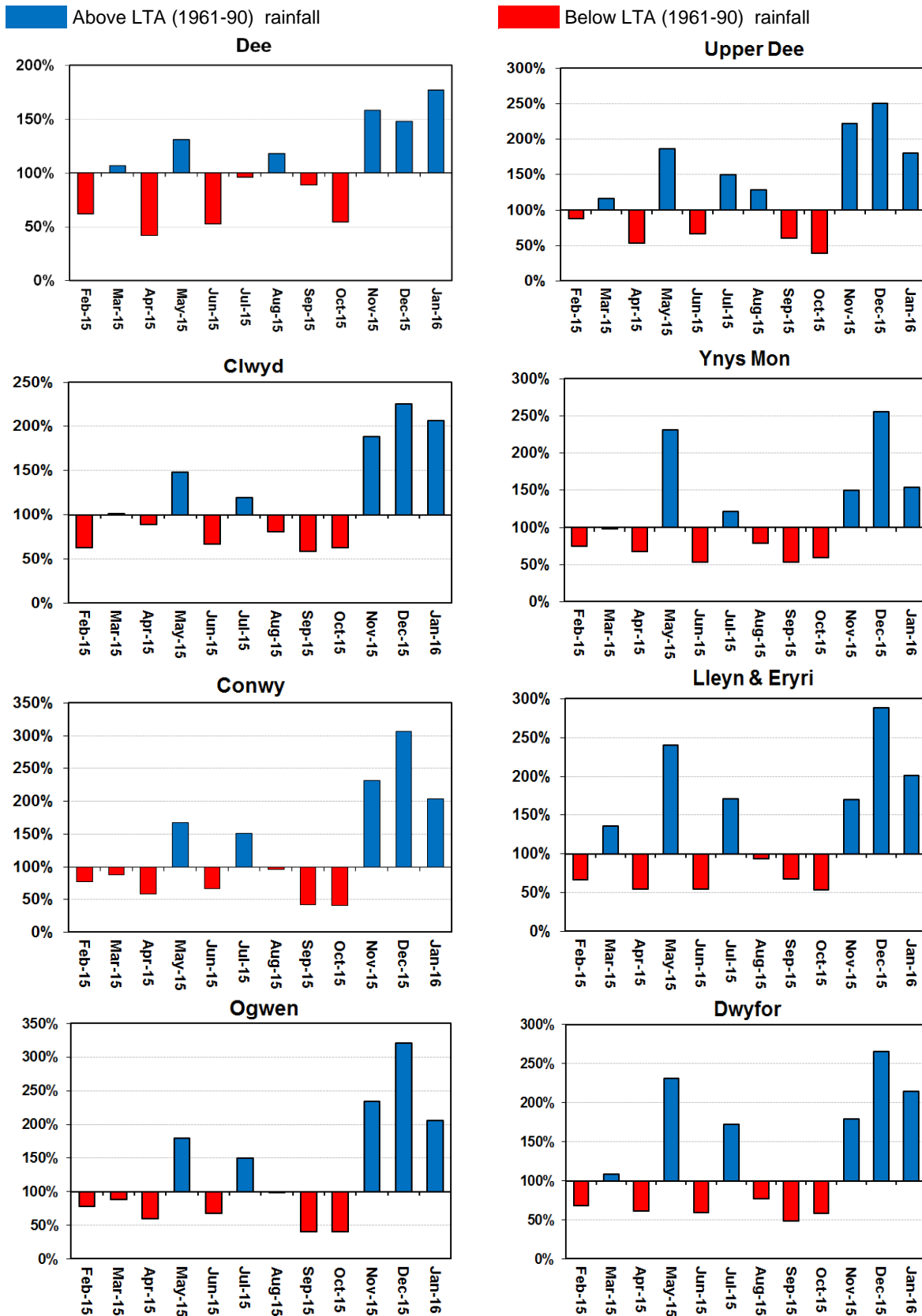
Figure 4: Rainfall Charts: South East Wales



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).

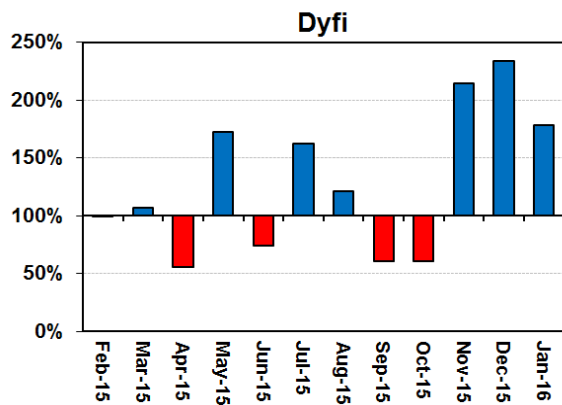
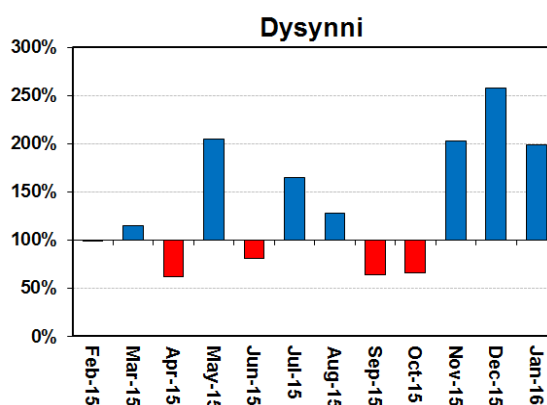
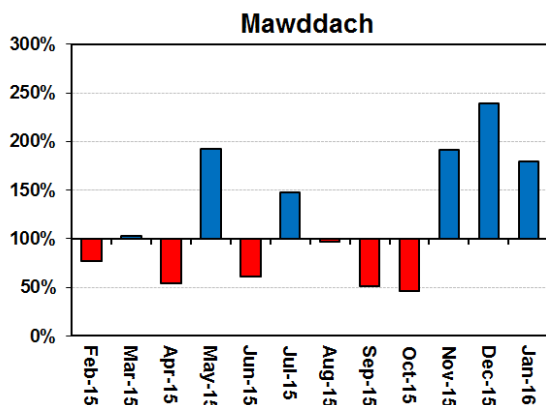
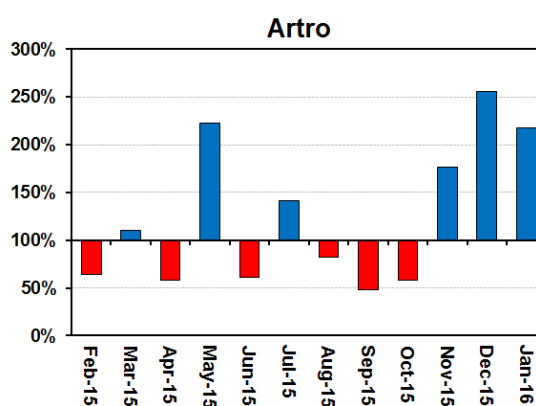
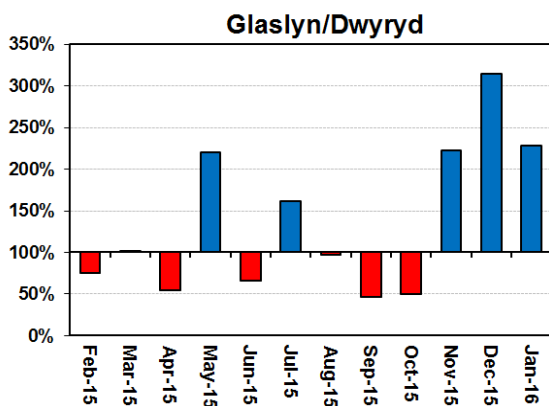
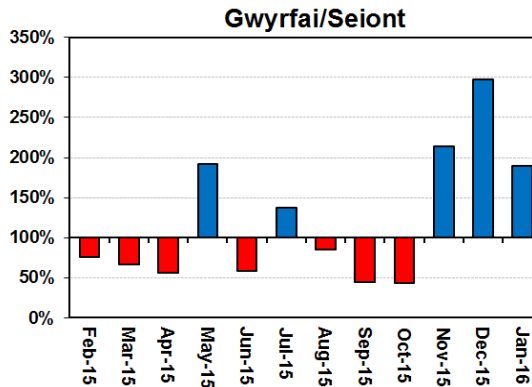
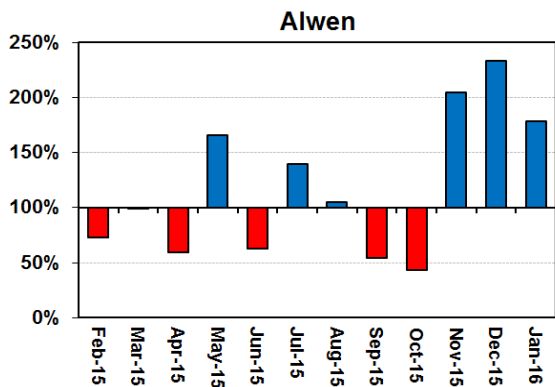
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■ Above LTA (1961-90) rainfall

■ Below LTA (1961-90) rainfall

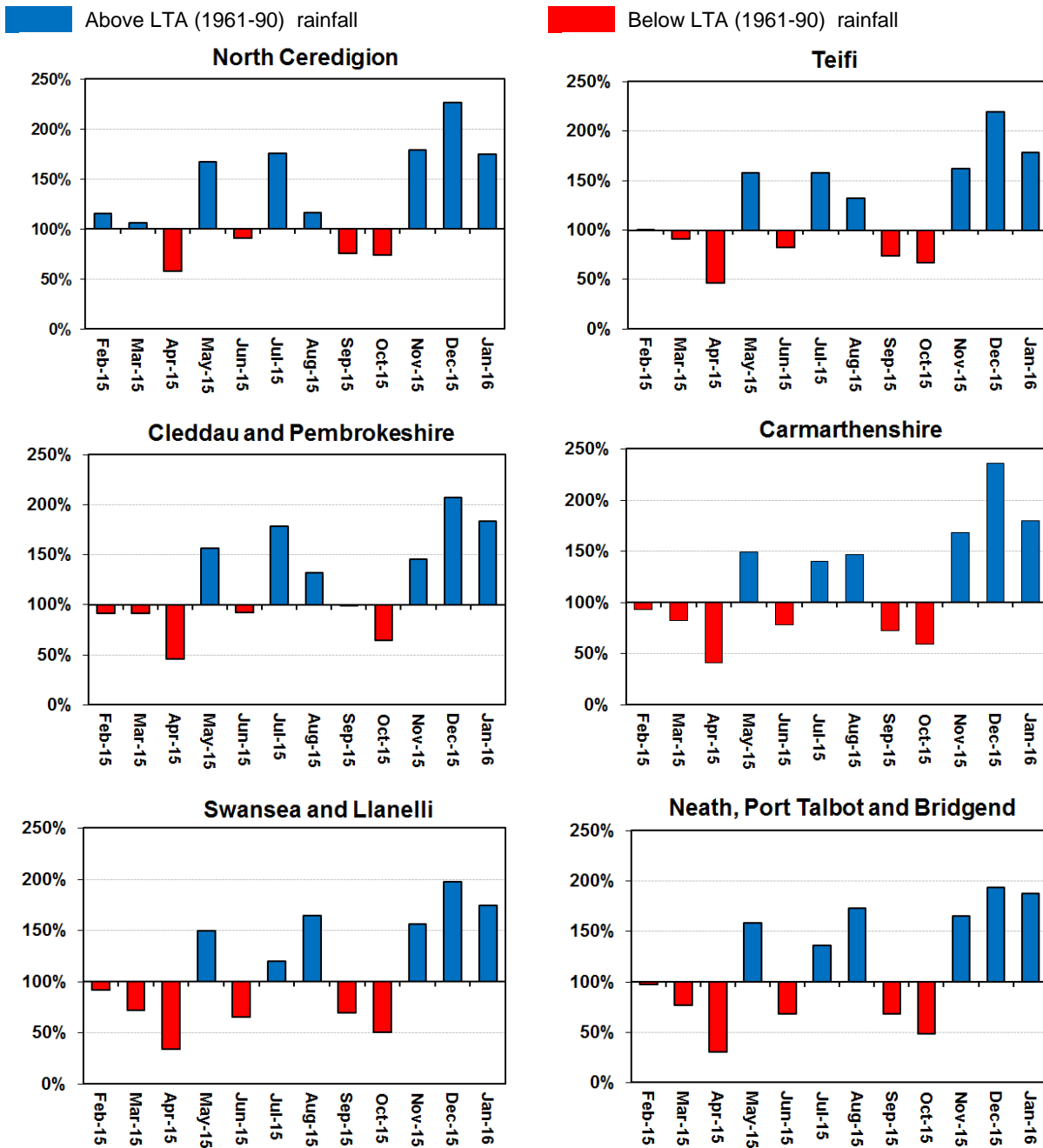


Comparison of monthly rainfall totals to the 1961-90 long term average expressed as percentage for North Wales, using NCIC (National Climate Information Centre) data (Source: Met Office © Crown Copyright).

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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)

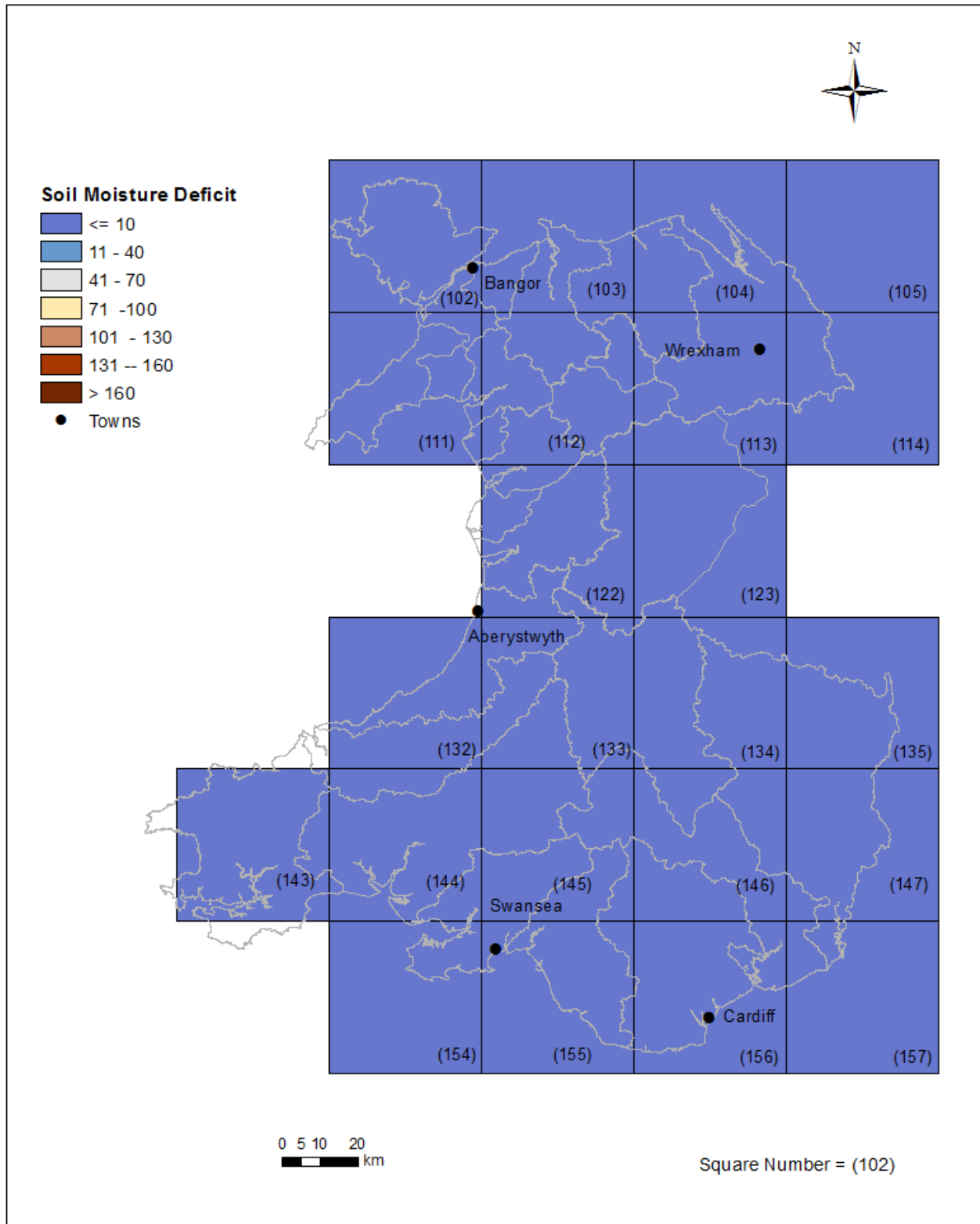


Figure 7: MORECS soil moisture deficits (mm) for January for real land use for Natural Resources Wales (Source: Met Office © Crown Copyright).

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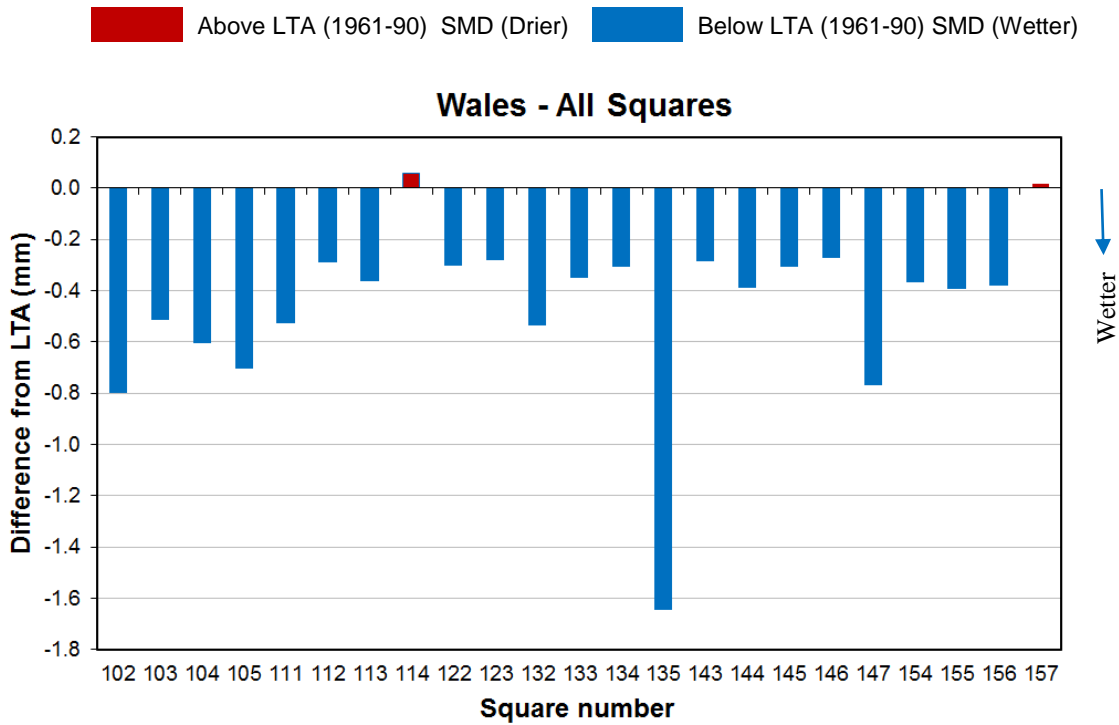


Figure 8: MORECS month end soil moisture deficits difference (mm) from the 1961-90 long term monthly average (LTA) for January for real land use for Natural Resources Wales squares (Source: Met Office © Crown Copyright).

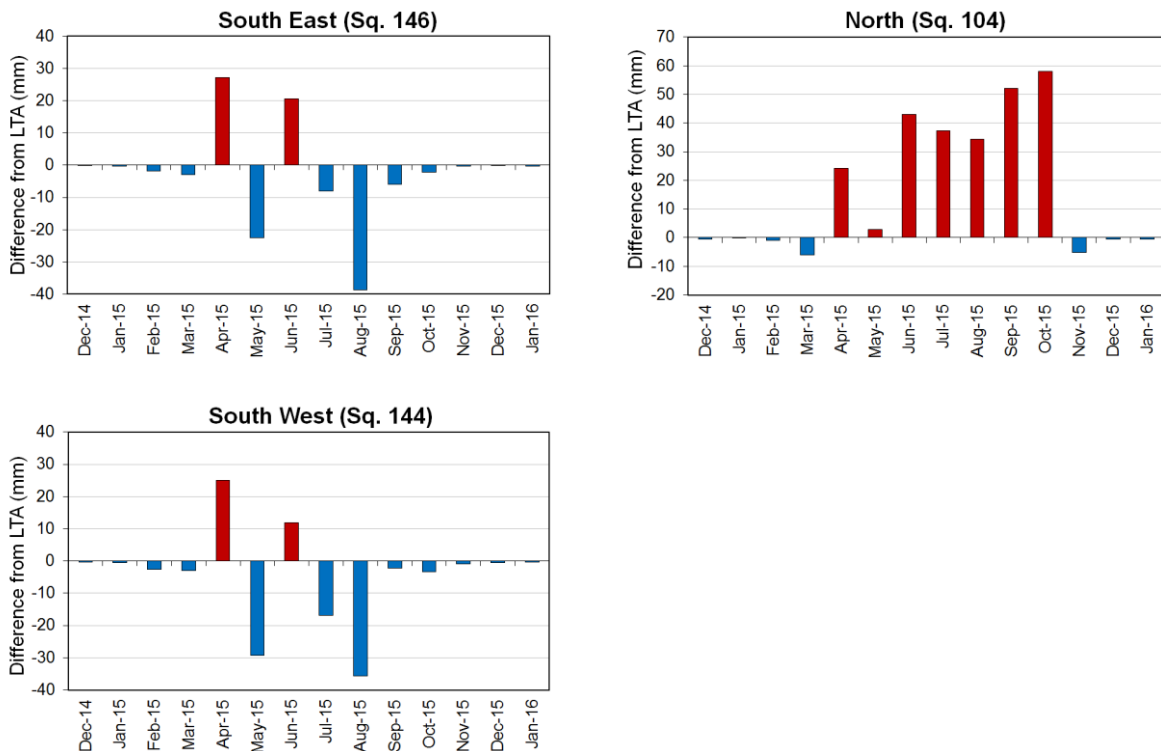


Figure 9: MORECS month end soil moisture deficit difference (mm) from the 1961-90 long term monthly average (LTA) for real land use for South East, North and South West (Source: Met Office © Crown Copyright). (Note: no LTA available for Natural Resources Wales)

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River Flow

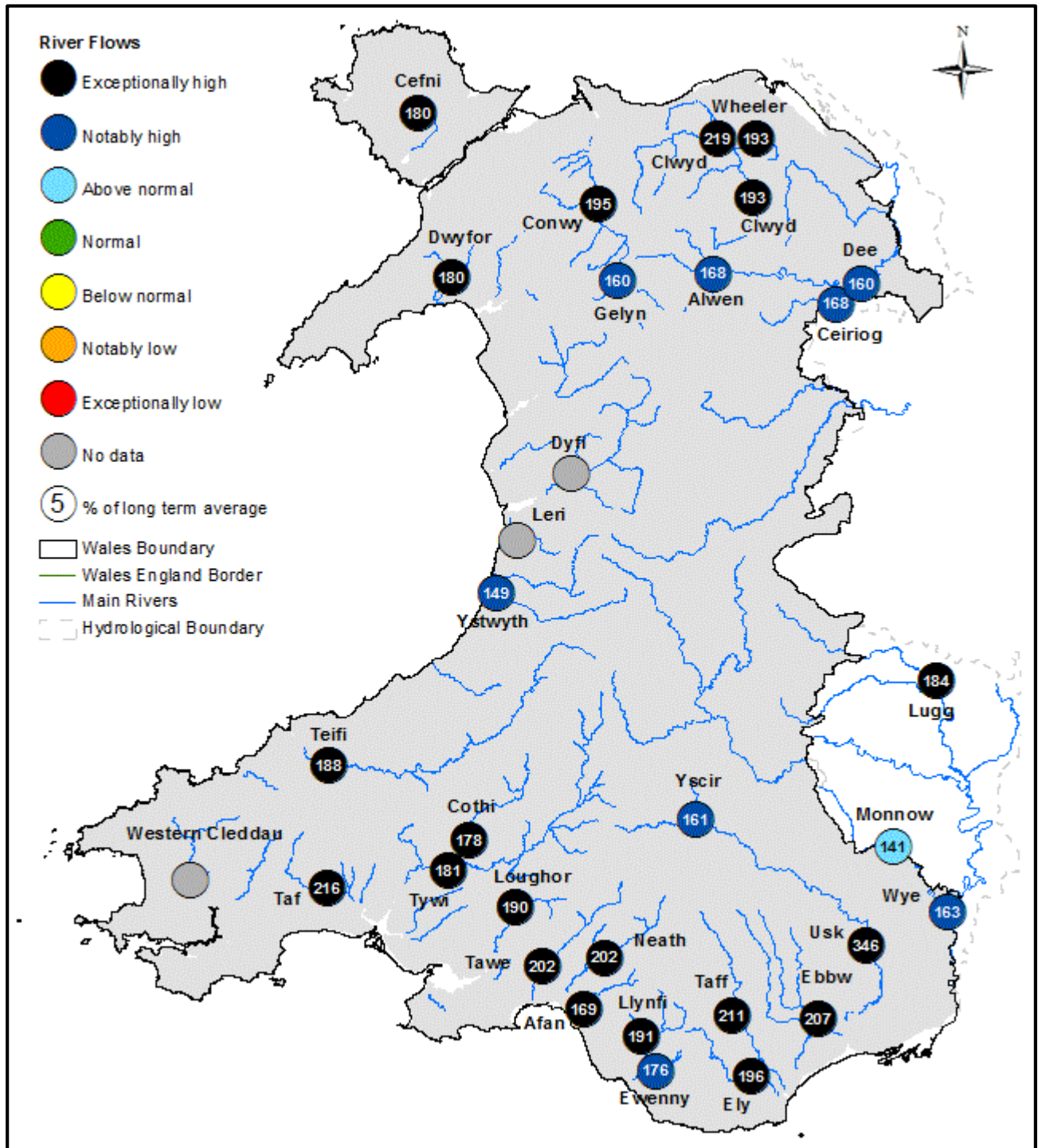


Figure 10: Monthly mean river flow for January, classed relative to analysis of historic January monthly means (Source: Natural Resources Wales).

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SITE NAME	RIVER	January 2016			January 2015		January 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	Exceptionally high	184%	21.19	108%	12.44	11.51	2.48	19.90
Grosmont	Monnow	Above normal	141%	17.30	84%	10.30	12.26	1.51	23.40
Pont ar Yscir	Yscir	Notably high	161%	5.77	113%	4.07	3.59	0.43	6.19
Pontypridd	Taff	Exceptionally high	211%	77.48	134%	49.37	36.72	5.08	68.80
Redbrook	Wye	Notably high	163%	369.00	103%	149.34	145.55	18.30	266.00
Rhiwderin	Ebbw	Exceptionally high	207%	27.22	108%	14.17	13.17	2.53	24.60
St Fagans	Ely	Exceptionally high	196%	15.66	142%	11.33	7.99	1.47	13.10
Trostrey Weir	Usk	Exceptionally high	346%	105.40	125%	38.23	30.46	7.33	62.40
River Flow Sites : North Area									
Bodfari	Wheeler	Exceptionally high	193%	2.22	73%	0.84	1.15	0.46	1.88
Bodffordd	Cefni	Exceptionally high	180%	1.37	106%	0.81	0.76	0.12	1.35
Brynkinalt Weir	Ceiriog	Notably high	168%	9.27	93%	5.17	5.53	1.12	10.50
Cwmlanerch	Conwy	Exceptionally high	195%	59.30	137%	41.64	30.39	3.62	59.80
Cynefail	Gelyn	Notably high	160%	1.79	137%	1.54	1.12	0.16	2.27
Dol y Bont	Leri						2.38	0.41	3.93
Druid	Alwen	Notably high	168%	14.60	112%	9.78	8.70	1.26	18.30
Dyfi bridge	Dyfi						36.76	3.48	68.80
Garndolbenmaen	Dwyfor	Exceptionally high	180%	6.62	133%	4.88	3.68	0.80	6.47
Manley Hall	Dee	Notably high	160%	85.80	113%	60.66	53.55	8.42	96.90
Pont y Cambwll	Clwyd	Exceptionally high	219%	25.10	110%	12.62	11.48	2.19	20.70
Ruthin Weir	Clwyd	Exceptionally high	193%	5.49	107%	3.03	2.84	0.55	5.44
River Flow Sites : South West Area									
Capel Dewi	Tywi	Exceptionally high	181%	125.18	126%	87.37	69.23	7.24	123.00
Clog y Fran	Taf	Exceptionally high	216%	29.41	130%	17.63	13.59	2.53	25.90
Coytrahen	Llynfi	Exceptionally high	191%	6.81	149%	5.30	3.56	0.52	6.67
Felin Mynachdy	Cothi	Exceptionally high	178%	34.88	120%	23.64	19.64	1.74	37.60
Glanteifi	Teifi	Exceptionally high	188%	94.96	122%	61.58	50.51	6.18	106.00
Keepers Lodge	Ewenny	Notably high	176%	5.34	127%	3.84	3.03	0.70	5.95
Marcroft	Afan	Exceptionally high	169%	13.30			7.85	1.10	13.80
Pont Llolwyn	Ystwyth	Notably high	149%	14.67	129%	12.64	9.83	1.14	18.30
Resolven	Neath	Exceptionally high	202%	32.75	142%	22.98	10.30	2.10	21.50
Tir-y-Dail	Loughor	Exceptionally high	190%	6.92	136%	4.96	16.20	1.78	33.70
Ynystanglws	Tawe	Exceptionally high	202%	39.36	159%	30.89	3.64	0.57	6.83

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

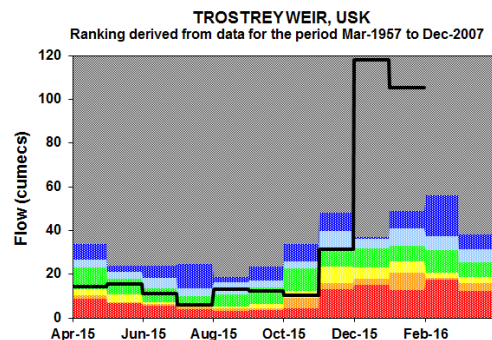
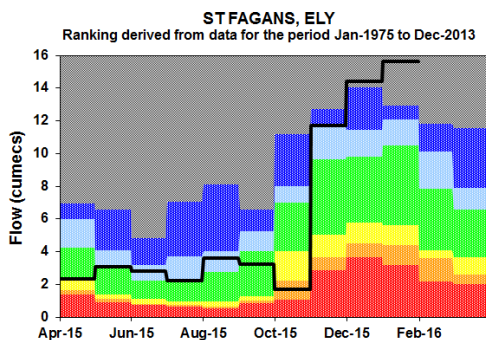
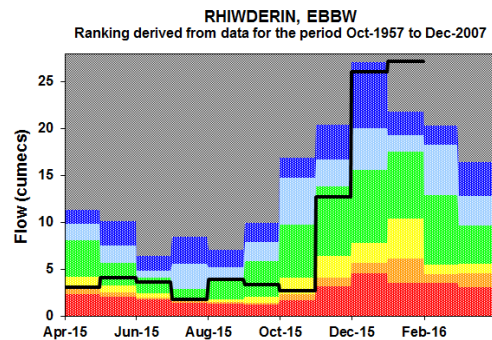
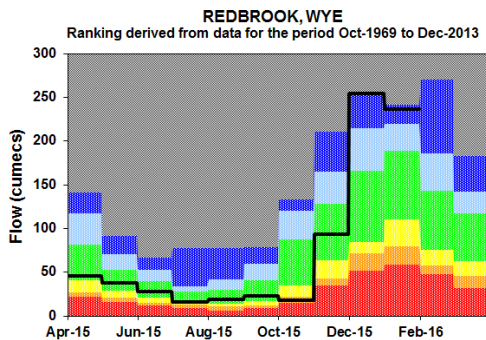
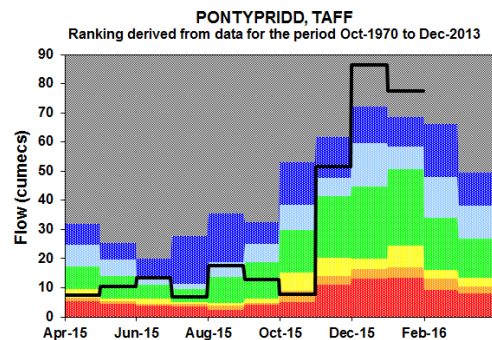
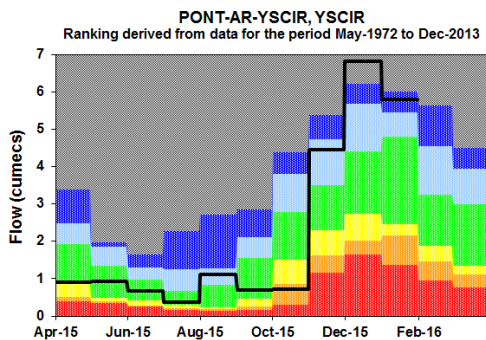
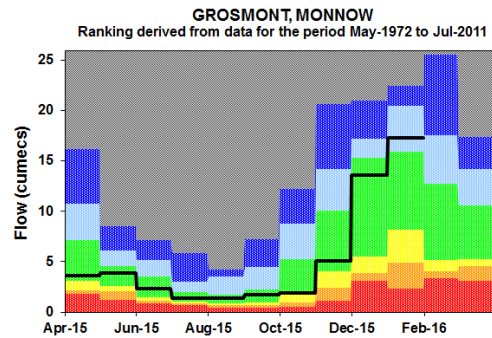
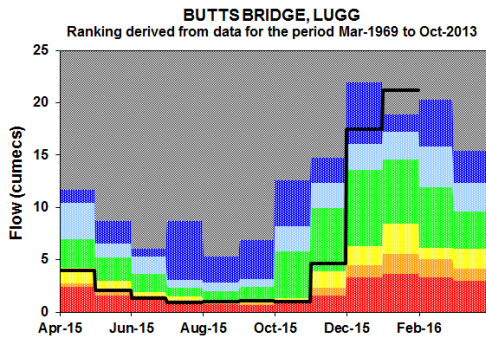
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River Flow Charts

Figure 12: River Flow Charts: South East Wales



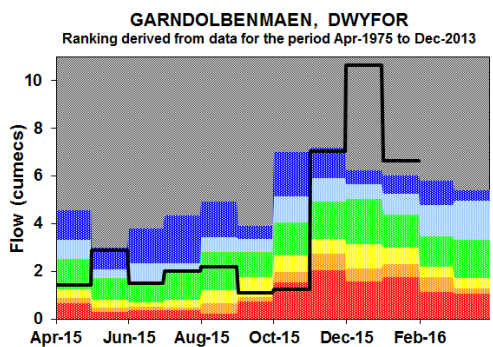
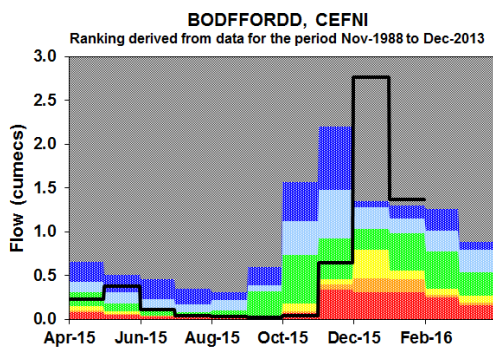
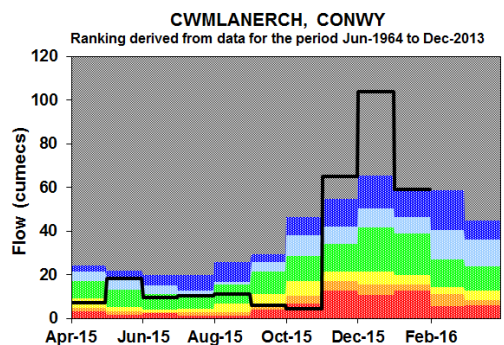
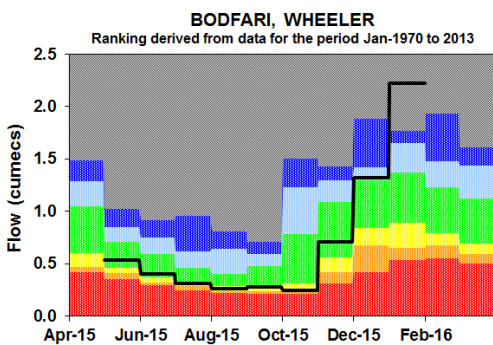
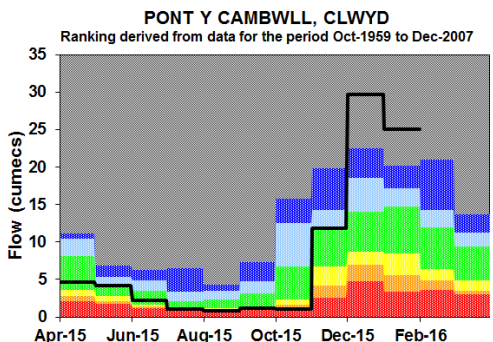
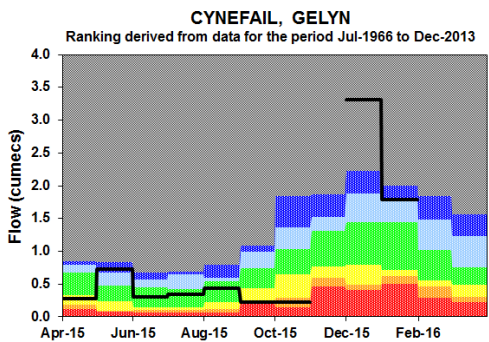
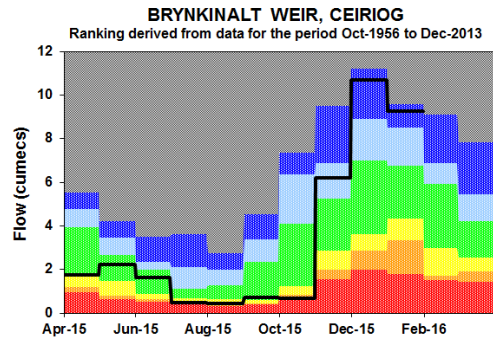
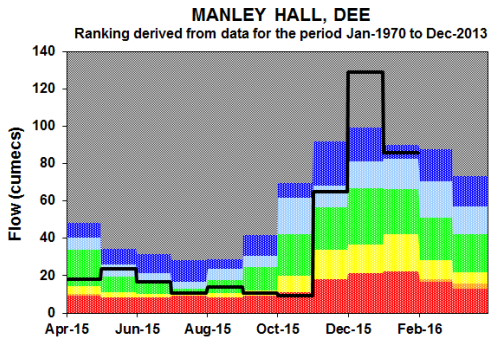
Monthly mean river flows for the last 10 months classed relative to the analysis of historic river levels (Source: Natural Resources Wales).

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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). (Please note that there is no data available for River Gelyn at Cynefail in November 2015)

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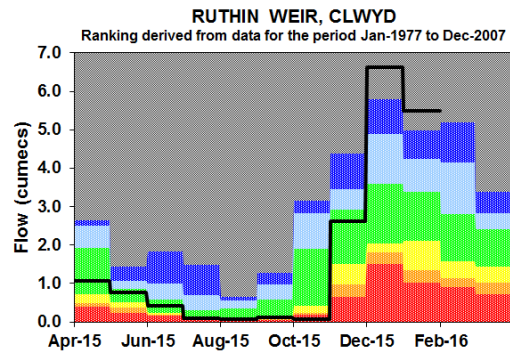
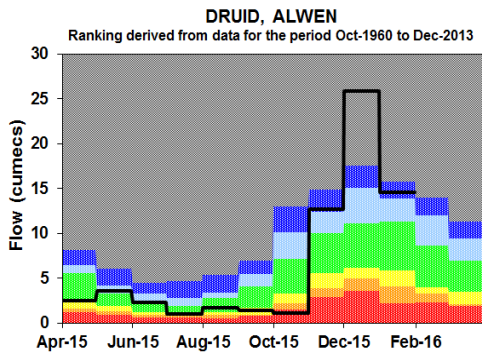
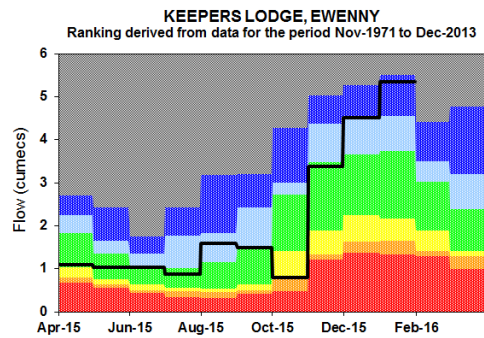
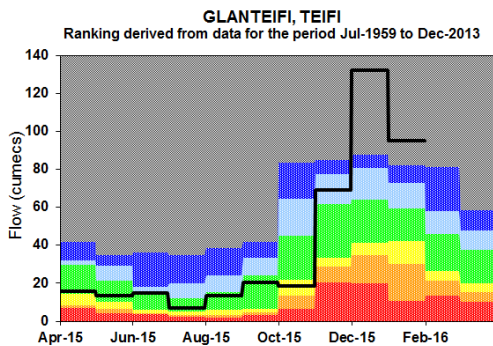
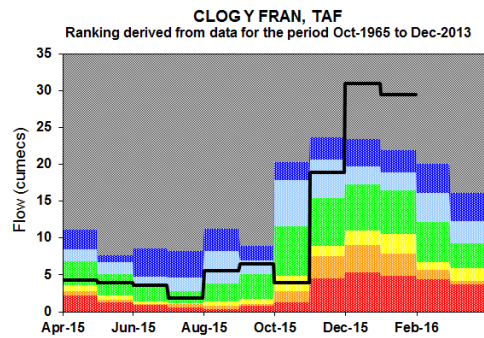
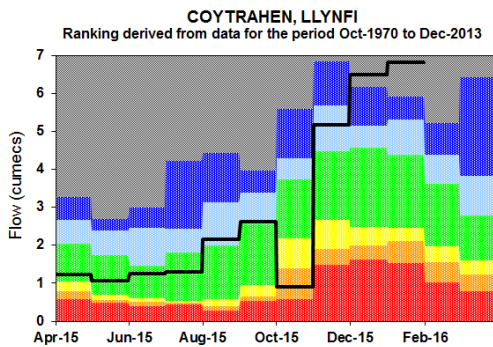
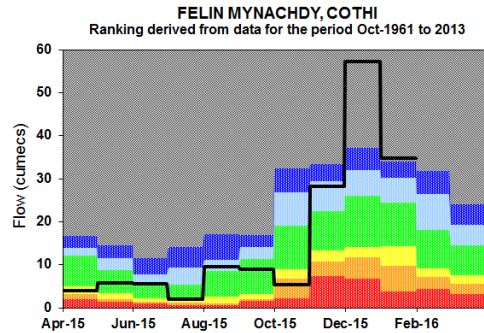
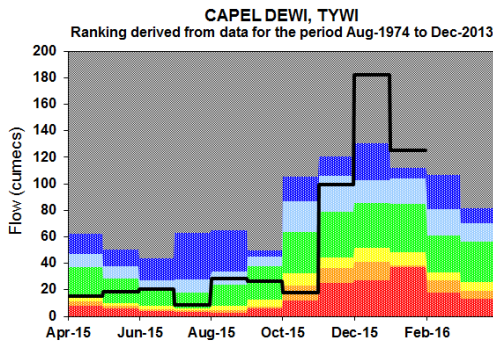


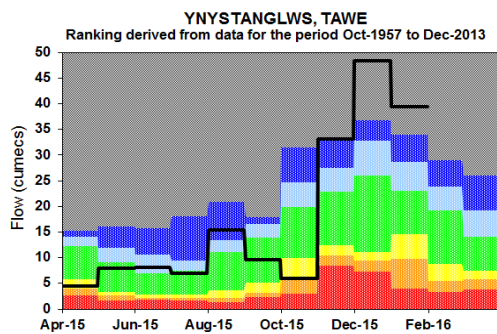
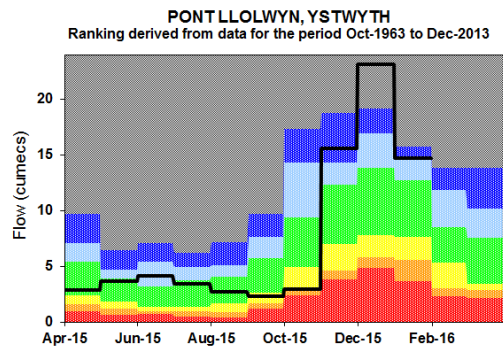
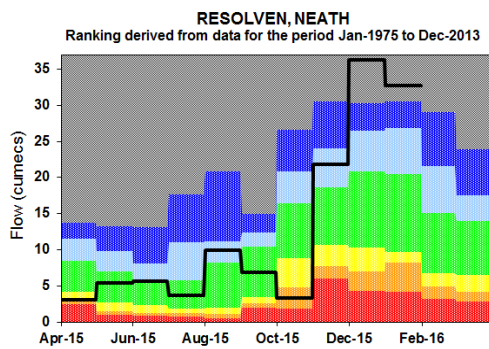
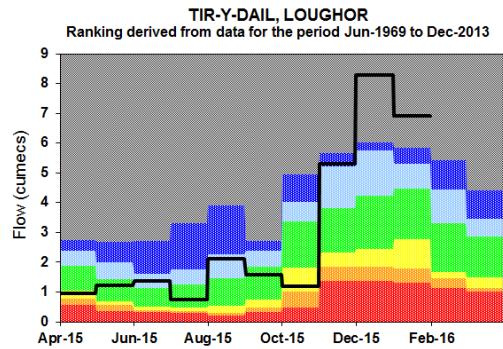
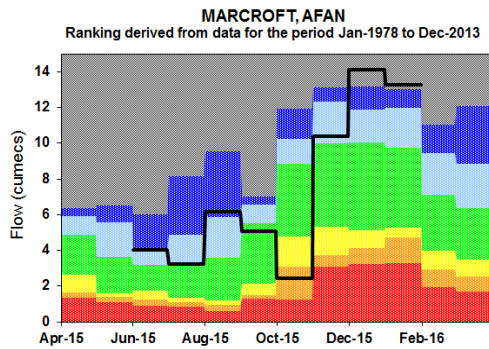
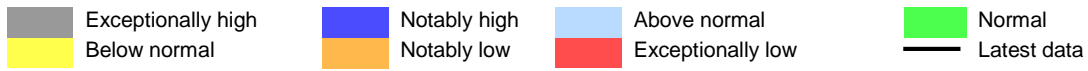
Figure 14: River Flow Charts: South West Wales



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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 there is no data available before June 2015 for the site of River Afan at Marcroft)

Groundwater Levels

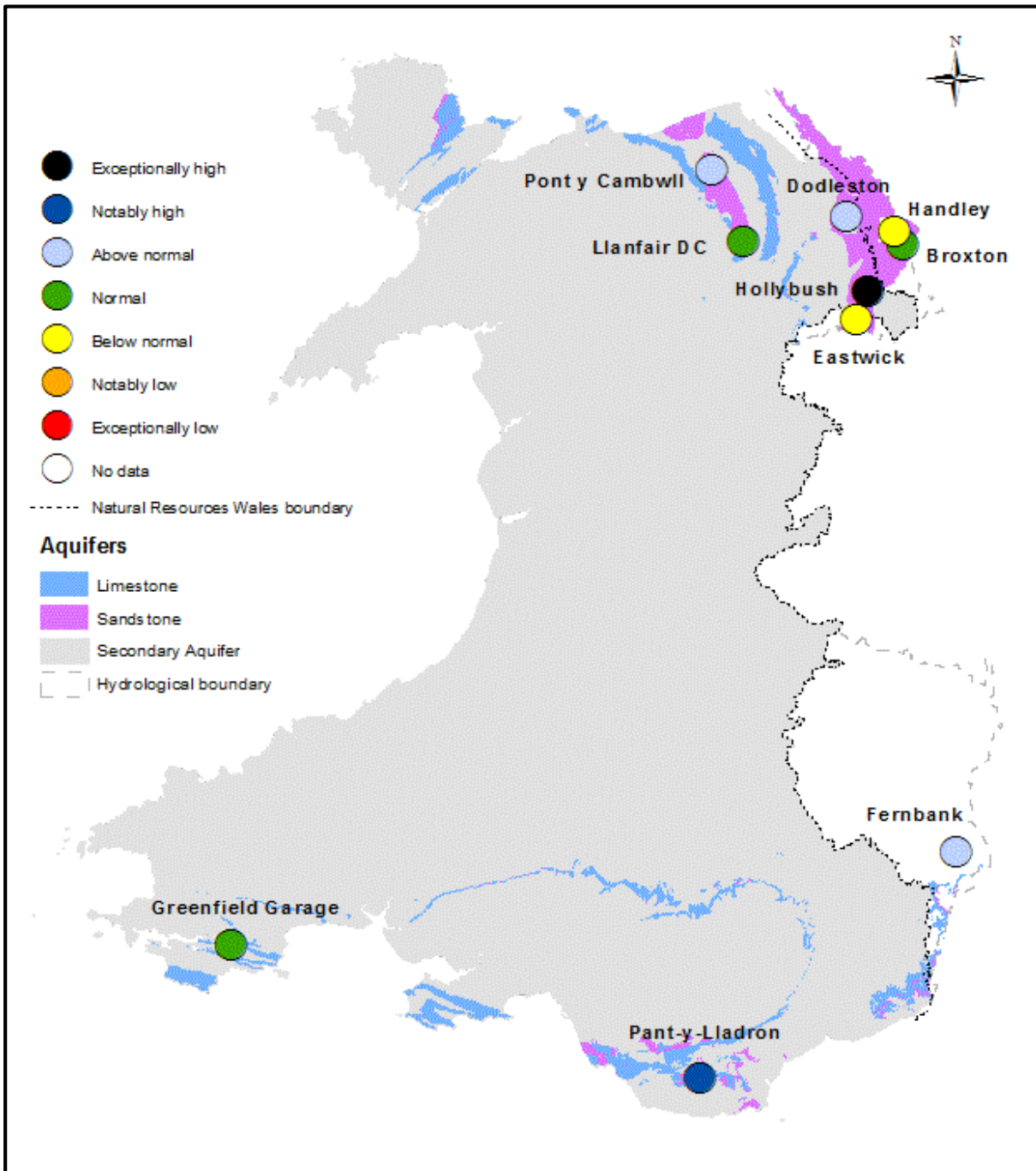
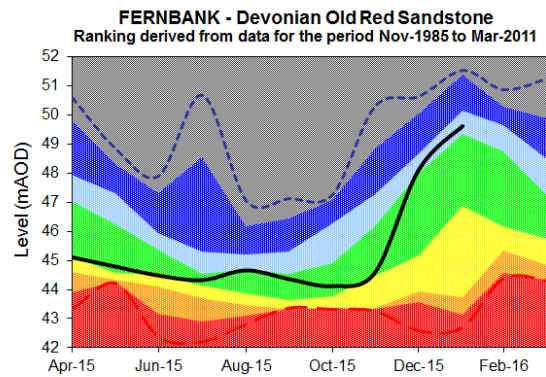
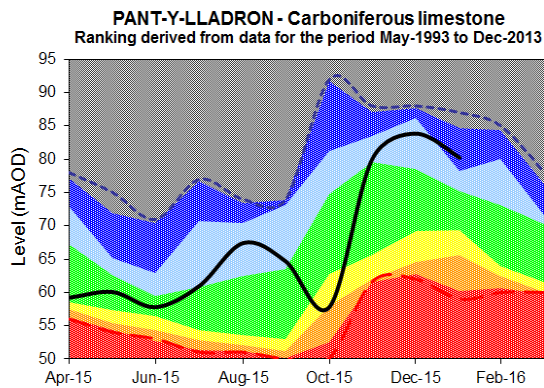
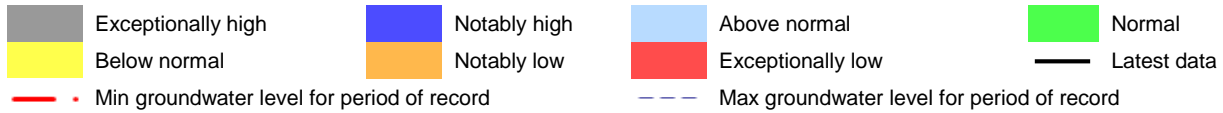


Figure 15: Groundwater levels at the end of month classed relative to an analysis of historic January groundwater levels (Source: Natural Resources Wales and Environment Agency).

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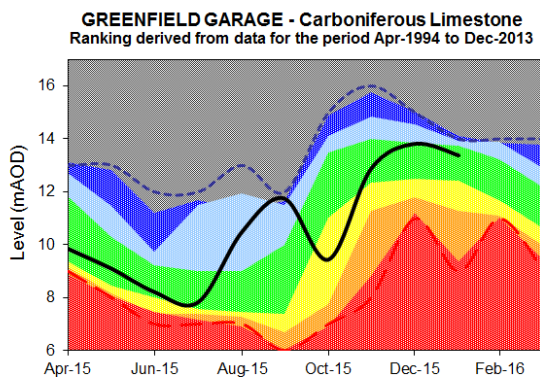
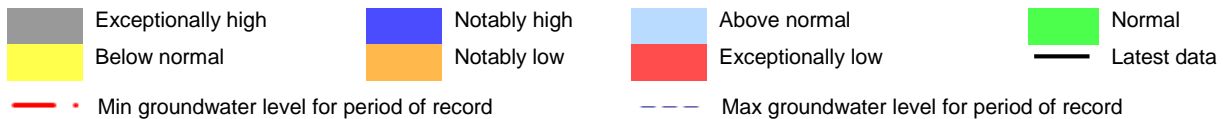
Groundwater charts

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



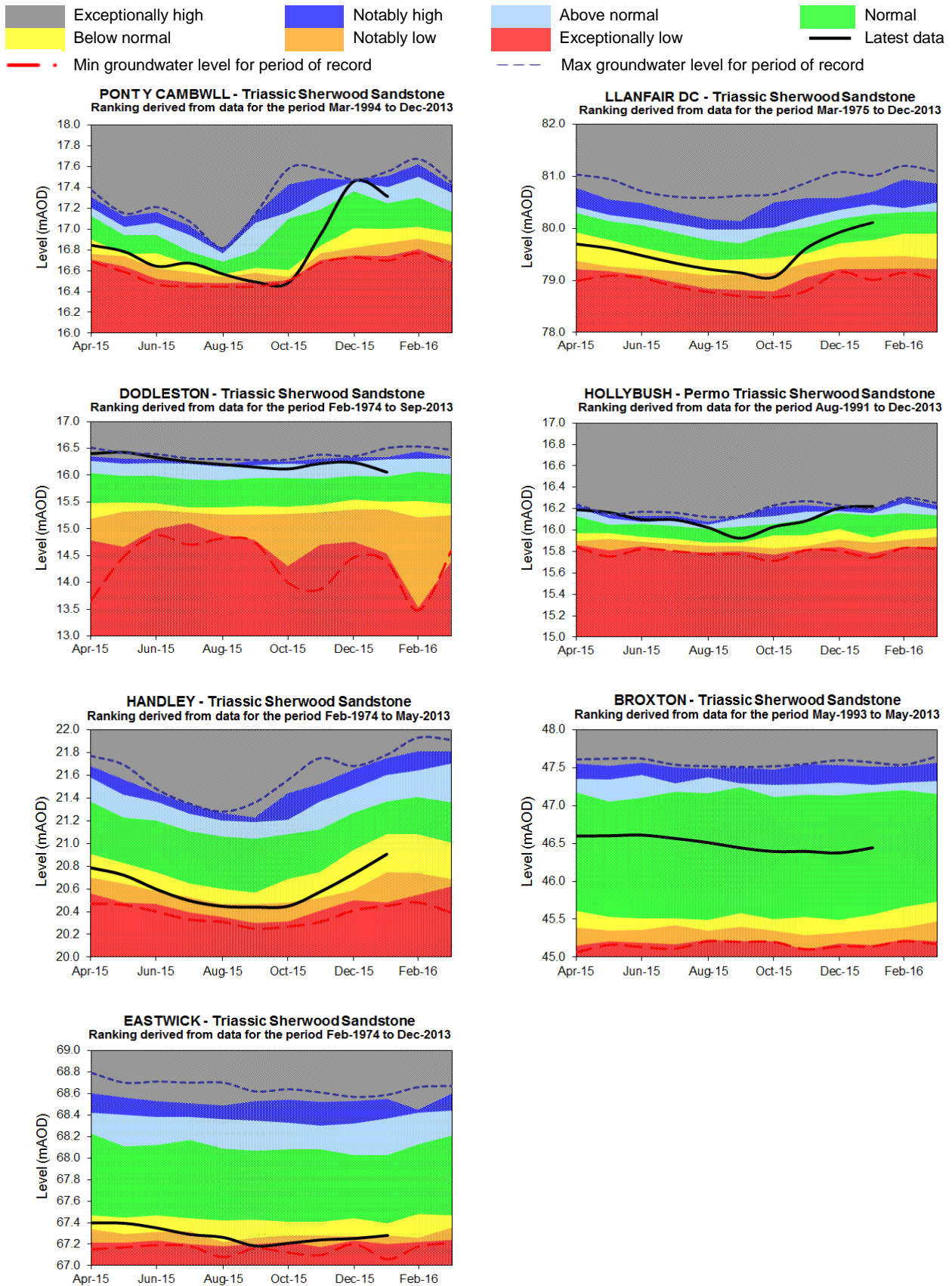
End of month groundwater levels for the past 10 months for index sites (Source: Natural Resources Wales).

All data are provisional and may be subject to revision.

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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).

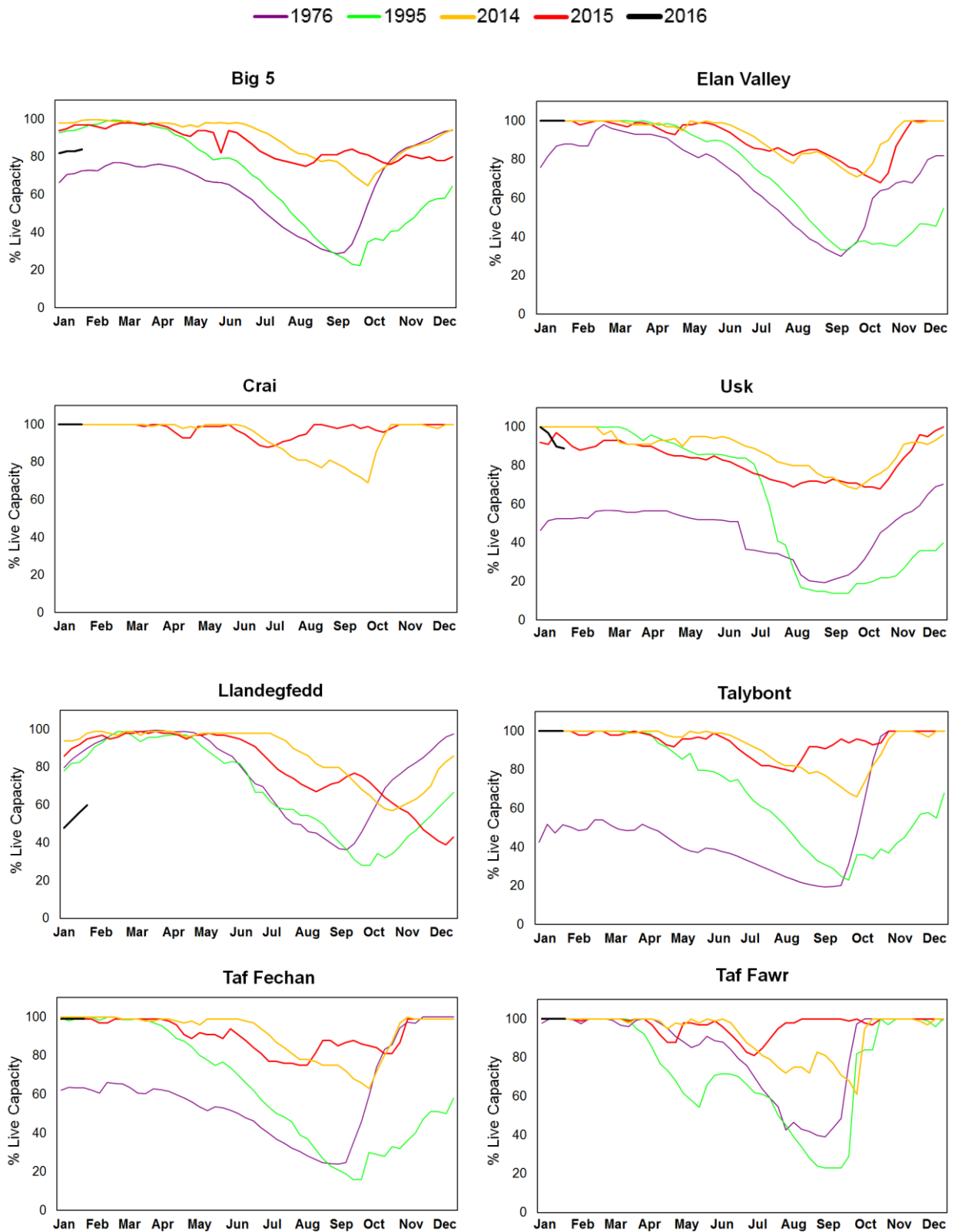
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Reservoir Storage

Figure 19: Reservoir charts: South East Wales



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

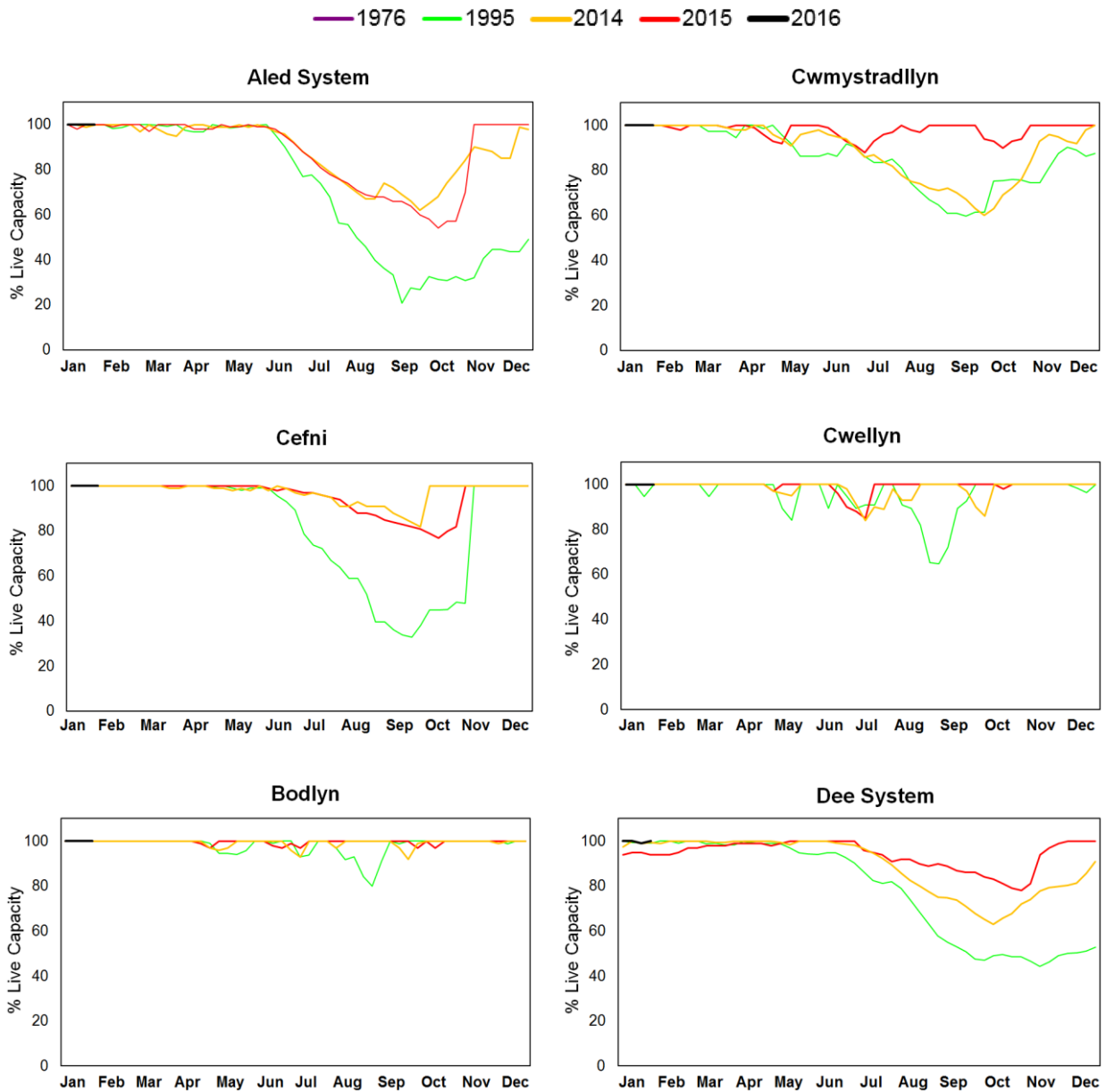
(*Please note that the Llandegfedd reservoir started to fill up after being drawn down for reservoir safety maintenance works)

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Figure 20: Reservoirs charts: North Wales



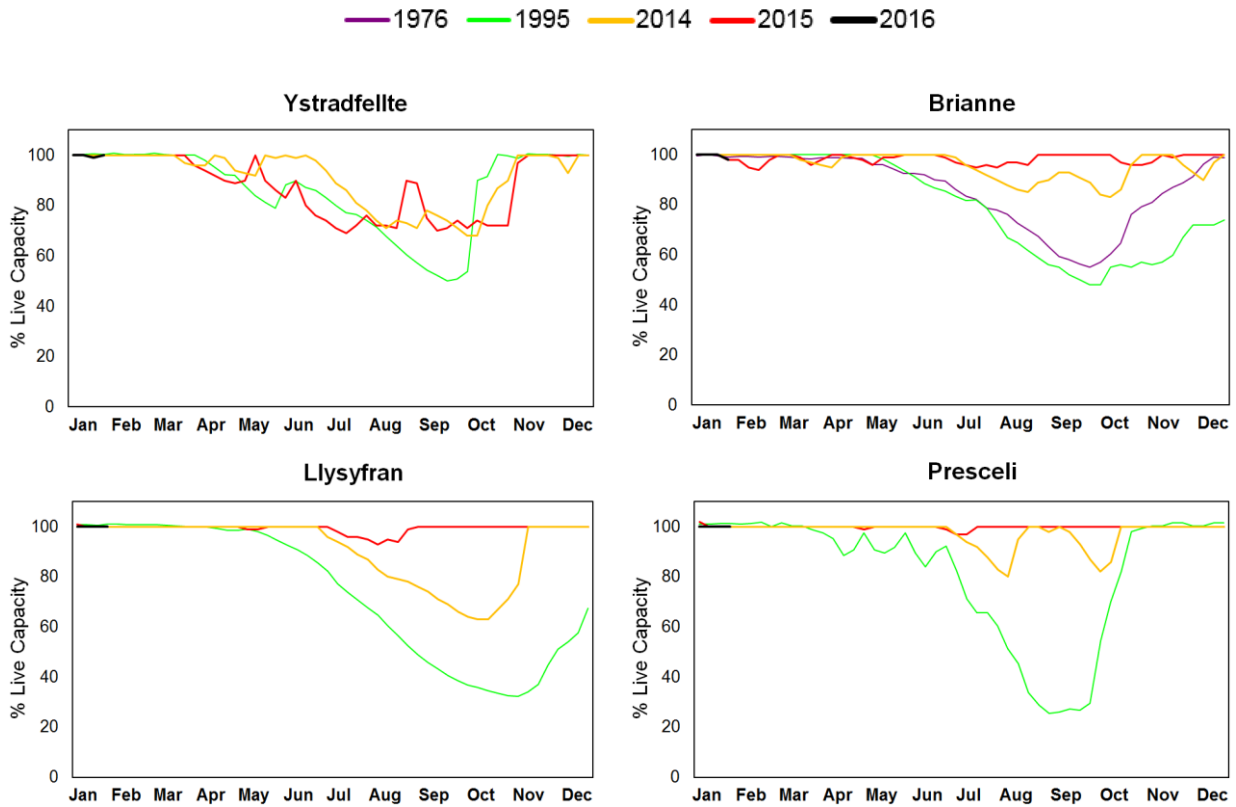
Weekly reservoir stocks for Natural Resources Wales index sites (Source: Water Companies).

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Figure 21: Reservoirs charts: South West Wales



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

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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).