WR drought severity assessment + visualisation

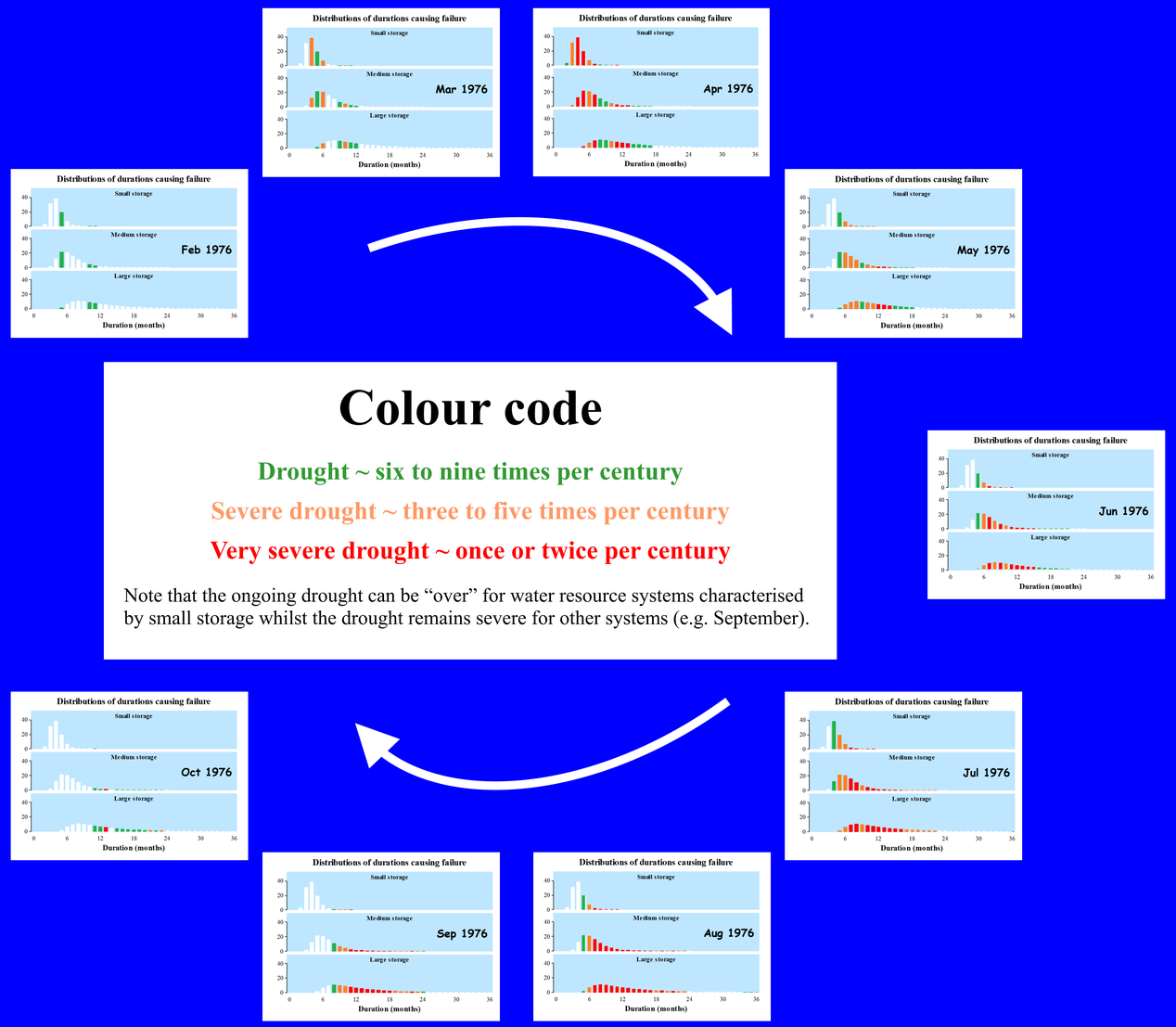
Duncan Reed aka DWRconsult

The poster is concerned with **drought severity assessment for water resources such as reservoirs, river abstractions and groundwater**. The approach is based on monthly rainfall records of high quality, using a century of record centred in 1887 to 1992.

Many consider it simplistic to assess drought severity from rainfall data alone. Reed (2015a, 2015b) argues that this view is prejudiced by the flawed methods applied when Water Companies seek to support a drought permit or drought order in times of shortage.

The diagrams below are from a new approach that incorporates the character of water resource (WR) systems into assessments. The approach is well adapted to visualisation. **The diagrams portray the evolution of drought severity in 1976, judged from the long-term rainfall record at the Radcliffe Observatory in Oxford**. In addition to illustrating outputs from the new research, the diagrams capture why UK hydrologists and water engineers of a certain age still speak of the 1975-76 drought with reverence.

If you would like to discuss the scope for national implementation of the approach, or have any other query, please contact on the revised email address of:



Colour code

Drought ~ six to nine times per century

Severe drought ~ three to five times per century

Very severe drought ~ once or twice per century

Note that the ongoing drought can be "over" for water resource systems characterised by small storage whilst the drought remains severe for other systems (e.g. September).

References

Reed, D.W. 2015a. How rare the ongoing drought? Paper 06, National Hydrology Conference 2015, Athlone, Ireland, 17 November 2015, 12pp.

Reed, D.W. 2015b. Naughty thoughts about drought rarity. Paper to HWRS2015 Conference, Hobart, Australia, 6-9 December 2015, 8pp.

MaRIUS Drought Symposium, Oxford, 27 Sep 2016