1. **Introduction**

Drought is a complex and poorly understood natural hazard with many multifaceted environmental and socio-economic impacts.

Recent drought events (2010-2012) have highlighted the UK’s continued vulnerability to hydrological extremes.

There is a need for further understanding of drought events from a water resources perspective.

The UK has wealth of long series rainfall data that can be used to investigate drought characteristics.

Rainfall data from 1900-2012 for 7 locations in the English Midlands and Central Wales is analysed using a drought metric.

2. **Study region & data**

Severn Trent Water supply water to 7.4 million people in a 21,100 km² area in the English Midlands and Central Wales.

Water is supplied from varying sources consisting of approximately 40% river abstractions, 30% from reservoirs and 30% groundwater.

The maps show the Severn Trent region and the 7 rainfall records labelled A-G used in the analysis.

3. **Drought characteristics**

Drought characteristics include frequency, intensity, duration, magnitude, spatial extent, onset and termination.

The Standardised Precipitation Index (SPI) is a commonly used metric to characterise and monitor droughts.

4. **Analysis of characteristics**

4 ‘extreme’ droughts lasting longer than 12 months in 113 year record.

Regional variability - spatial variability in drought severity and duration across the study region.

Spatial variability in drought characteristics between sites suggests divisions in the drought climatology across the region.

5. **Implications for water resources**

Reconstructing drought characteristics for past events improves our understanding of drought characteristics and the development of drought conditions in a water supply system.

Analysis of drought characteristics for the water supply region may have implications for water resource management.

Variability could alter recovery times of reservoirs and groundwater supplies.

Variation in drought onset and termination could impact on customer demand across the region.

Understanding the features of past key drought events may be used to inform future management decisions.