Department of Energy & Climate Change

Summer and winter precipitation in England and Wales

12 August 2013

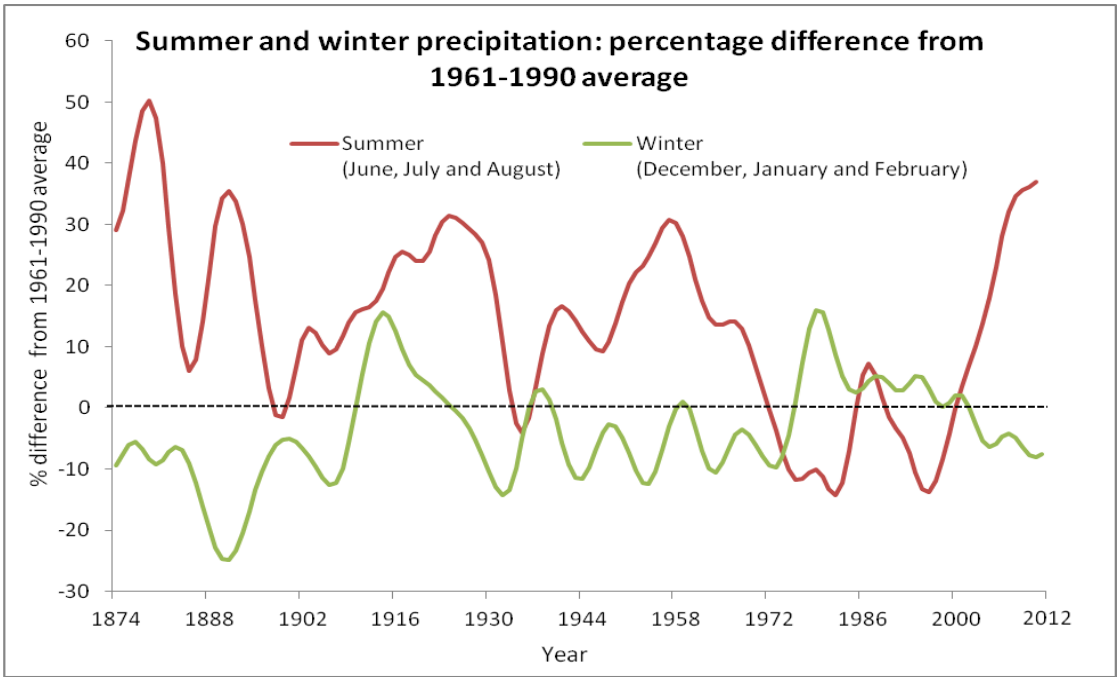
Summer and winter precipitation in England and Wales

Data summary

Summer precipitation (June, July and August) from the Hadley Centre England and Wales precipitation (HadEWP) record has increased dramatically in the past decade. However, there have been more subtle changes in the winter (December, January and February), which have seen less prominent decreases in rainfall since the late 1970s.

Looking at the smoothed totals recorded in the graph, summer rainfall in the last 15 years has increased year-on-year. Since 2006, summer precipitation has been at least 22 per cent higher than the baseline, represented by the 1961-1990 long term average. In the summer of 2012, rainfall in England and Wales was the highest for 100 years with a total of 375.0 mm. This total represents the fourth wettest summer on a record dating back to 1766.

Since 2003 winters have seen less rain compared to the 1961-1990 average. In the winter of 2012, rainfall was 213.3 mm, 8 per cent lower than the 1961-1990 average.



Year	Difference from 1961-1990 average (%)	
	Summer precipitation (June, July, August)	**Winter precipitation** (December, January, February)
1990	-1.5	4.0
1995	-13.3	5.0
2000	-0.2	2.0
2005	18.0	-6.4
2010	35.6	-6.5
2011	36.1	-7.7
2012	36.9	-8.0

Data sources

The UK seasonal precipitation data come from the Hadley Centre UK precipitation (HadUKP) dataset.

HadUKP is a series of datasets of UK regional precipitation, which incorporates the long-running England & Wales Precipitation (EWP) series that began in 1766. The accompanying graph uses EWP data which is the longest instrumental series of this kind in the world. The map shows the regions that are available, with the monthly series for England and Wales sub-regions going back to 1873. Daily series for all sub-regions, and the monthly series for Scotland and Northern Ireland, begin in 1931.

All data series are kept up to date by the Climate Data Monitoring section of the Hadley Centre, Met Office.

HadUKP datasets (including HadEWP) are available on the Met Office website at the link below:
http://www.metoffice.gov.uk/hadobs/hadukp/

Background information on data collection and processing

HadUKP incorporates a selection of long-running rainfall stations to provide a homogeneity-adjusted series of areally averaged precipitation. The England and Wales (HadEWP) precipitation totals are based on daily weighted totals from a network of stations within each of five England and Wales regions. A full quality control is performed on the 5th of each subsequent month, allowing monthly totals to be updated.

During 2011, all daily and monthly HadUKP values since the start of 2006 were re-calculated using a more representative, evenly-spread selection of stations. This was necessary because some stations had closed and also some new ones were available. Thus some values have altered, but overall the representativeness of the data has improved.

The UK seasonal precipitation data are smoothed to highlight the decadal variability in the records. This is made by applying a 21-point binomial filter to the annual data. The filter is a weighted moving average of the data, with weights centred on the year of interest.

References

- *Alexander, L.V. and Jones, P.D. (2001) Updated precipitation series for the U.K. and discussion of recent extremes, Atmospheric Science Letters doi:10.1006/asle.2001.0025*

Further information

Please email climatechange.statistics@decc.gsi.gov.uk if you have any questions or comments about the information on this page.

Department of Energy & Climate Change
3 Whitehall Place
London SW1A 2AW
www.gov.uk/decc