



**C3S CLIMATE & ENERGY EDUCATION DEMONSTRATOR
VARIABLE FACT SHEET**

PRECIPITATION

Historical & Projected 1971-2100

WHAT IS PRECIPITATION?

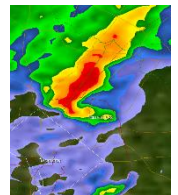
Precipitation is the name given to rain, snow, sleet or hail that falls to the ground. Different places around the world have different amounts of precipitation, e.g. deserts naturally have very little precipitation, while rainforests have high amounts of it.



HOW IS IT MEASURED?



Precipitation, when it falls as rain, is measured in millimetres (mm). Snowfall is often measured in centimetres (cm). Sometimes the units include the period of time that the precipitation fell, for example millimetres per year (mm/yr) or centimetres per month (cm/month) etc. Rain gauges (left) are used to collect rainfall where the rain fills up a container. A weather radar map (right) can also be used to monitor precipitation, where it is moving and how much is falling.



DID YOU KNOW?



Areas that receive less than 500mm of precipitation a year are considered deserts. Deserts can be hot, like the Sahara, or cold, like Antarctica. Parts of the Atacama Desert in South America (left) are amongst some of the driest places on Earth. Life there has adapted to the dry conditions so much, that rain can actually be harmful!



GLOSSARY

DROUGHT A prolonged period of below average rainfall which usually leads to a shortage of water: "The drought in the south-east of the United Kingdom has forced the government to issue a hose-pipe ban".

FLASH FLOODING When a large amount of precipitation falls during a short space of time leading to a flood which comes very quickly after the storm: "A month's worth of rain fell in 2 hours causing flash flooding and mudslides."

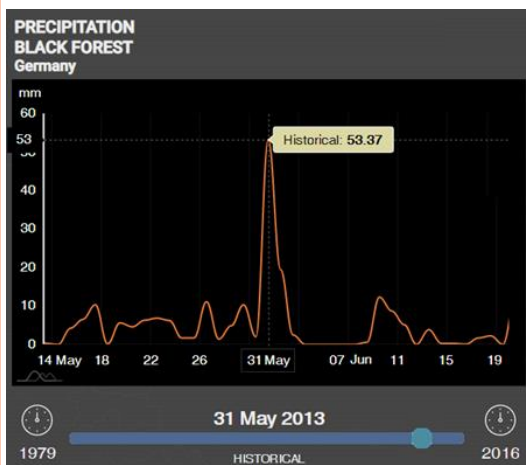
MONTHLY RAINFALL The amount of rainfall recorded in one month. Rainfall can be recorded over any time period, for example: "A total 79mm of rain fell in October this year"

KEY MESSAGES FROM THE DATA

- While rainfall is likely to increase year-round in northern Europe, decreases are indicated for southern Europe.
- Climate projections for Europe show that the likely patterns of change depend on both the season and region. For example, under a high emissions scenario by 2100 it is projected to be wetter in both summer and winter in Sweden and drier in Spain and Greece. The UK shows a slight reduction in summer rainfall but higher winter rainfall.



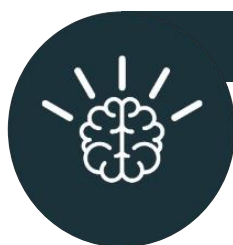
CASE STUDY: European Floods 2013



Extreme flooding in Central Europe began after several days of heavy rain in late May and early June 2013. Flooding and damages primarily affected south and east German states, western regions of the Czech Republic and Austria. Austria saw twice as much rainfall as average during the month. The flood crest progressed down the Elbe and Danube drainage basins and tributaries, leading to high water and flooding along their banks.

i FOR MORE DETAILS AND ACTIVITIES, AND FOR OTHER CASE STUDIES, SEE THE “RESOURCES” SECTION VIA THE MENU.

BE DATA SMART



Think of recording precipitation (rainfall) like filling a bath, measuring the depth of the water and then pulling the plug. Recording daily rainfall is like filling the bath over 24 hours, taking your measurement and then emptying the bath ready for the next 24 hours. Monthly rainfall is when you add all those daily measurements together in one month, but it is the same as measuring the depth and then pulling the plug once a month rather than each day.

The [Copernicus Climate Change Service \(C3S\)](#) is one of the European Union’s Copernicus Earth Observation Programme services and is operated by the European Centre for Medium-Range Weather Forecast (ECMWF) on behalf of the European Commission.

SEE THE ‘REFERENCES & SOURCES’ SHEET FOR SOURCES OF INFORMATION. FOR TECHNICAL INFORMATION, LICENSE CONDITIONS, LINEAGE STATEMENT ETC SEE THE EUROPEAN CLIMATIC ENERGY MIXES (ECEM) VARIABLE FACT SHEET 002: http://ecem.wemcouncil.org/pdf/ECEM_VFS_C02_TP_20171128.pdf

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