Introduction
Pearson have provided this large data set, which will support the assessment of Statistics in the A level Mathematics Paper 3 and AS Mathematics Paper 2. Students are required to become familiar with the data set in advance of the final assessment. To support the use of the large data set in the teaching of the statistics content, tasks such as:
• selecting a sample
• cleaning the data
• creating diagrams from the data
• calculating summary statistics such as mean, standard deviation
• calculating regression equations and correlation coefficients where applicable
• hypothesis testing,
must be carried out by students during their course of study. Students should use technology such as spreadsheets or other statistical packages to explore the data.

See the specifications A level Mathematics (9MA0) and AS Mathematics (8MA0) for further information.

Data set source
The data set consists of weather data samples provided by the Met Office for five UK weather stations and three overseas weather stations in the time periods May to October 1987 and May to October 2015. The weather stations are labelled on the maps shown:
• in the UK - Camborne, Heathrow, Hurn, Learning and Leuchars
• overseas - Beijing, Jacksonville and Perth

Further information around our data source can be accessed at http://www.metoffice.gov.uk/}

Dataset variables and explanatory notes
The Met Office provides data for a number of different weather variables. Our data set includes data for eleven variables recorded across the weather stations during the set periods of time:

- Daily Mean Temperature
- Daily Mean Windspeed, Daily Maximum Gust, Daily Mean Wind Direction and Daily Maximum Gust Direction
- Daily Total Sunshine
- Daily Total Rainfall
- Daily Mean Temperature
- Daily Mean Air Temperature
- Daily Maximum Relative Humidity
- Daily Maximum Relative Humidity
- Daily Mean Windspeed, Daily Maximum Gust, Daily Mean Wind Direction and Daily Maximum Gust Direction
- Cloud cover
- Visibility
- Pressure

Suggested activities for students
Students are required to become familiar with the dataset prior to being assessed in Statistics. Below are a list of suggested activities for students to undertake, using the data-set, during their course of study.

1. Calculate the mean and standard deviation for some of these variables at one location and compare with another location or time.
2. Is there any correlation between average rainfall in 1987 and average rainfall in 2015 for the 6 months available for any of the weather stations?
3. Explore correlations and linear regression between variables such as temperature and hours of sunshine.
4. Explore whether or not the data available gives any evidence of global warming.
5. Use the data to generate suitable graphs.