

Lesson Plans: Historical Climate Statistics

Objective

The objective of this activity is to demonstrate the concept of climate change at a sample locality where the historical temperature records are available.

Materials

Each student or group of students will need the following:

- Graph paper
- Ruler
- Pen and pencil

Important Points to Understand

- Scientists do have evidence that the global climate has been different in the past and was, and still is, subject to natural changes even before the ides of enhanced greenhouse gases.
- Global temperature is gradually changing according to the long-term temperature records.
- There are no accurate predictions of what will happen to the earth's climate with an increase in greenhouse gases.

Preparation

Before the activity, try to explain that the climate system is very complex so scientists have been using a combination of mathematical models, the geological record of past climates, meteorological records and theories on the global atmospheric and oceanic circulation to provide an estimate.

The information in the following table shows the average winter temperature in central England from 900-1900 AD.

Year	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400
Temp (degrees Celsius)	3.46	3.55	3.62	3.69	3.58	3.69	4.12	4.09	4.05	3.81	3.63
Year	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	
Temp (degrees Celsius)	3.46	3.65	3.50	3.21	3.18	3.38	3.55	3.47	3.66	3.97	

Procedure

1. Plot on graph paper, time on the horizontal axis and temperature on the vertical axis (be careful of scale).
2. The period 1550-1700 in Europe is known as the Little Ice Age. Can you see evidence for this?
3. What can you say in general from the whole plot?
4. Can you explain why the temperatures in the plot are much colder than the temperatures in your country?