Analysing Past Climate Conditions Using Trees

One way to understand the history of our climate system is to look at the size of **rings in tree trunks.** Using data from such dramatic, rapid changes in past climates that occurred before 1850 can **improve predictions** for the unusual and extreme climatic changes we are currently facing. In this activity, your students will determine the ages and years of growth of trees in order to draw conclusions about what the climate was like in the past.

Instructions

Have your students read the background information and use it to complete the activity. Each student/group should be provided with a handout and have a pair of scissors at hand. Students can either work individually or in groups.

Answer key

Sample	Age of tree	Year growth began	Year cut/scored
1	36	1962	1998
2	33	1962	1995
3	36	1954	1990
4	19	1949	1968

The analysis provided by your students should touch upon the following points:

- The lines/rings were **further apart** before 1963, which indicates that the climate was likely relatively **cool and wet** (favourable growing conditions). Greater width between rings indicates that the trees grew more during this period.
- The lines/rings were **closer together** after 1963 which indicates that the climate after this point was likely **hot and dry** (unfavourable growing conditions). Smaller width between rings indicates that the trees grew less during this period.
- This shift is indicative of a climatic change in the region likely marked by **low water availability or an increase in temperature**.

We welcome feedback and would be delighted to hear your thoughts on this activity. Feel free to send an email to schools@climatescience.org and we'll be sure to get back to you soon :)