

Project work in climate and general circulation

You will study the climate and general in a part of the world. The work is partly carried out in groups of two persons, and each group gives a joint oral presentation (20 minutes including question and time for discussion). In addition, you individually will write a report of about four pages of text (excluding figures, tables and references). The presentations are scheduled Thursday, 09:15–15:00, 2026-03-18. The written reports should be handed in the same day (sent by email to nilsson@misu.su.se)

Choice the topic of your project work from one of the following areas

1. Europa
2. Africa
3. Asia
4. North America
5. South America
6. Australia and New Zealand
7. High Arctic, including Greenland
8. Antarctica and the Southern Ocean

Account for the Köppen characteristics (a system for classification of climates) of your area; discuss for instance seasonal variations in temperature and precipitation, extremes and special weather phenomena. Discuss how the climate is affected by factors such as geographical features, the atmospheric general circulation, regional weather patterns, and ocean currents.

Construct at least two data-based figures that illustrate aspect of the regional climate, using the data that are provided in the course (the data will be presented in the first exercise). Also, describe through which observations or techniques the data is constructed, as well as the methods you have used to analyse and present the data graphically. Here, it is important to discuss the reliability and limitations of the data as well as the analyses you have used.

Based on the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (available online) account briefly for ongoing and future climate change in your study area. Discuss briefly also how anticipated climate change will affect the human society; for instance water supply, agriculture, infrastructure and health aspects. Are there any ethical aspects, related to the science of meteorology, within your project work.

The written report should, in addition to two originally produced figures, include the following themes or subject headings:

1. Introduction: where, why, and the basic geographical setting.
2. Data and methods: what data and analyses are used for producing the figures. Describe briefly the origins of the data, and *the reliability of the data*; for instance are there aspects regarding measurements techniques that can cause the accuracy of data for air pressure, temperature, and precipitation to differ?
3. A brief overview of the regional climate.
4. The interplay between regional climate and the general circulation.
5. Climate changes: ongoing and projected for the future.
6. The climate impact on societal activities, and possible ethical aspects.
7. References: listing cited literature and data sources.

In the written report, it is important to put roughly equal emphasis on the points 1–6, and provide a correctly composed list of references.

Grading criteria

In the grading of the written project report the following items will be assessed with equal weight:

- Ability write a readable report, which content has a good balance between the points 1–6 listed above.
- Ability to describe the methods and data used.
- Ability to relate regional climate to the general circulation, and to where relevant discuss societal and ethical aspects.

- Ability handle typographical aspects (e.g. use of fonts and mathematical notations), citations, references, tables, and producing readable figures with adequate captions.