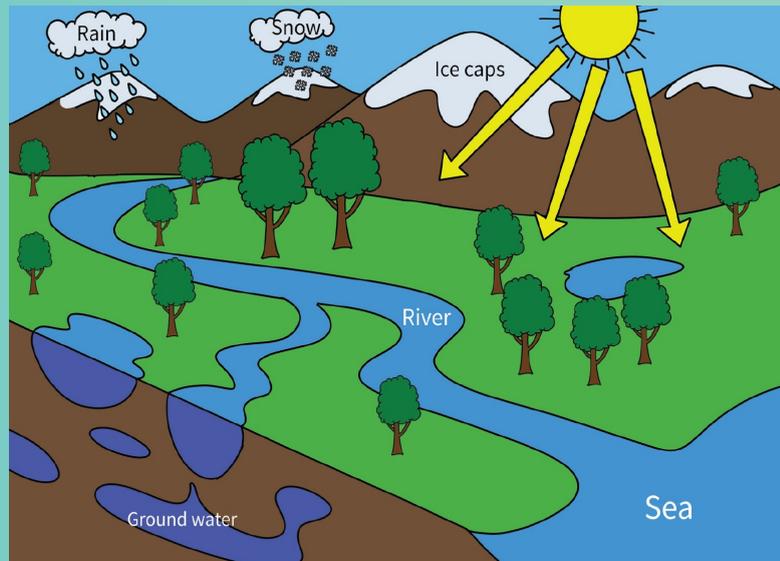
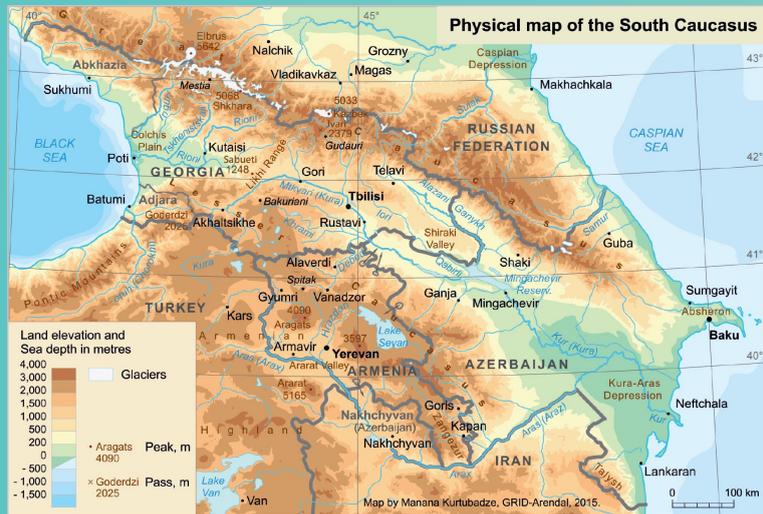




# Climate Change and Water

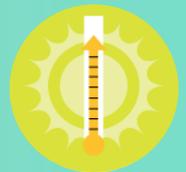
VI-VIII Grades





# Climate Change and Water

Among the problems the mankind faces, climate change is considered to be one of the most important ones. Change in climate conditions is essentially a continuous process and throughout history the Earth has witnessed many dramatic changes. However, unlike the changes that occurred in the past, the current process is mainly caused by human activities. This is significant because changes occur relatively fast and living organisms have little time to adapt to the new environment.



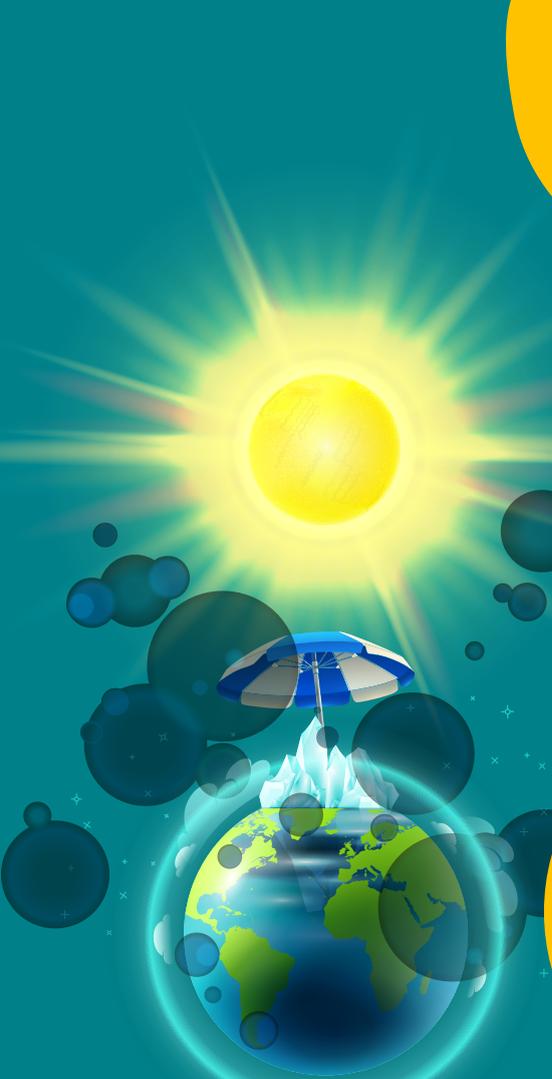


The current climate changes are due to human activities. In our daily activities, operation of businesses, agriculture, generation of electrical energy and many types of transportation, so called greenhouse gases (Carbon Dioxide, methane, water vapor, nitrous oxide) are emitted into the atmosphere in large quantities. These gases trap the energy from the Sun on the Earth, as heat in the atmosphere, causing the atmospheric temperature to rise and warming the entire planet.

#### It Is Interesting

Scientists think that there were seven warming and cooling periods throughout the existence of the Earth. The current changes are induced by man and occur rapidly.

From where do greenhouse gases come? At present the energy sector is the biggest source of greenhouse gases. It is followed by agriculture and industry. The contribution of transportation to the accumulation of these gases is also important.



The climate change process has an equally negative impact on all aspects of the environment, though it is likely that it will have extreme consequences on the watery part of Earth's surface, that is hydrosphere. If we take into consideration that water is a major natural resource underlying any development and improving economic well being, it will be clear what a substantial impact climate change can have on humans.

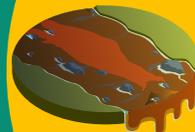
The intensity and distribution of precipitation will significantly change as a result of climate change. Some regions on the Earth may receive more intense precipitation for longer periods and some regions may have frequent droughts. There will be more catastrophic natural disasters, which in the end will have a significant negative impact on the quantity and quality of Earth's water resources. Water availability has already significantly decreased across the world, and in some regions it is alarmingly low.



Even though Georgia is relatively rich in water resources, climate change poses a threat to adversely affect the Kura Basin as well. We have already witnessed the intense process of glaciers melting in the mountainous regions of Georgia and Azerbaijan, putting into question a significant water source for our rivers. According to the estimates of scientists climate change will be especially acute in Eastern Georgia and Azerbaijan, where the flows in rivers will significantly decrease and consequently have a negative impact on the social and economic status of the basin's population.

Climate change is a real process, the negative impacts of which are visible in many regions of the world. As to what extent the climate will change and how problematic the effects will be for humans, it depends how humans will adapt to the new climatic conditions and whether mankind will succeed in reducing greenhouse gas emissions in the atmosphere, thus stopping further rise in the atmospheric temperature.

Climate change is a global challenge that knows no state borders and it negatively impacts the whole world. Therefore, only joint efforts of all countries can reduce greenhouse gas emissions and reduce increases in the atmospheric temperature. However, contributions each of us can make to combat climate change are also very important.



## DO IT YOURSELF

- 💧 Discuss the natural and anthropological (i.e. man-made) causes of greenhouse gases. Among these, which cause do you consider to be the most significant?
- 💧 Together with your classmates discuss and analyze impacts of climate change on future of your town. Prepare a presentation for the class. Together with the teacher discuss what can be done to reduce/avoid a negative impact of climate change on your town and take action.



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