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Global Warming And Meltwater

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In order to find new approaches and new ideas for my students to appreciate the importance of science in their daily life, I proposed a theme for them to debate. They had to search for global warming information and illustrations in the media, and discuss the articles they found in the classroom. This task inspired them to search for new information about this important and timely theme in science.

I informed my students that all the best information about global warming and meltwater they found would be used in a poster that would help us to update the knowledge base of the Physics laboratory.
I guided them to choose the most eloquent images and significant information. Searching and working to create this poster, the students arrived to better appreciate the importance of science in their daily life and to critically evaluate scientific information transmitted via the media.

In the poster we created, one can find images, photos and diagrams and some interesting information:
Global warming refers to the rising average temperature of the Earth's atmosphere and oceans and its projected evolution. In the last 100 years, the Earth's average surface temperature increased by about 0.8 °C with about two thirds of the increase occurring over just the last three decades. Warming of the climate system is unequivocal, and scientists are more than 90% certain most of it is caused by increasing concentrations of greenhouse gases produced by human activities such as deforestation and burning fossil fuel.
They indicate that during the 21st century the global surface temperature is likely to rise a further 1.1 to 2.9 °C for the lowest emissions scenario and 2.4 to 6.4 °C for the highest predictions.
An increase in global temperature will cause sea levels to rise and will change the amount and pattern of precipitation, and potentially result in expansion of subtropical deserts. Warming is expected to be strongest in the Arctic and would be associated with continuing decrease of glaciers, permafrost and sea ice. Other likely effects of the warming include more frequent occurrences of extreme weather events including heat waves, droughts and heavy rainfall events, species extinctions due to shifting temperature regimes, and changes in agricultural yields.
Meltwater is the water released by the melting of snow or ice, including glacial ice and ice shelves in the oceans.
Meltwater is often found in the ablation zone of glaciers, where the rate of snow cover is reduced.
In a report published in June 2007, the United Nations Environment Program estimated that global warming could lead to 40% of the world's population being affected by the loss of glaciers, snow and the associated meltwater in Asia.

This is one of many activities of the physics laboratory that the students of our high school are involved in.