



Glacial environments

Lesson 6: How will melting glaciers affect people living in other countries?

Key idea:

The risks associated with glacial melting and sea level rise are not evenly distributed around the world. Some of the world's poorest people are also the most vulnerable to flooding.

Starter activity:

Where in the world will the greatest impact of climate change and melting glaciers be felt?
Ask pupils to choose from: Antarctica, Amazon, Asia or Africa. Which of the '4As' will it be? Many will choose Antarctica, as they know that most ice is found there. They should be reminded that geographers think about people as well as places. Given that Asia is where most people live, it is the place where most people will be affected – mainly due to regional dependence on Himalayan seasonal meltwater.

The PowerPoint '4As' is a kinaesthetic alternative to a simple discussion on this topic; it encourages students to walk around and form four groups in the room according to which of the 4As they think is the correct answer.

Main activity:

What is the global threat of glaciers melting and who is most at risk?

In this last lesson, students should learn that the risks associated with glacial melting and sea level rise are not evenly distributed around the world. Taken together, the PowerPoint presentations 'The global threat' and 'Global pressure points' can be used to start a discussion helping them to identify some places that are especially vulnerable to sea level rise – and think about who lives there. They will see that some of the poorest people in the world are likely to be affected by sea level rises and may question whether the only solution will be mass migrations on a scale never seen before.

'The global threat' PowerPoint underlines the scale of the long-term threat of melting ice sheets. The significance of Greenland and Antarctica's ice stores should be underlined.

The 'Global pressure points' PowerPoint shows students that places like Bangladesh and Venice are especially vulnerable to the threat of glaciers melting. The key themes for classroom discussion are:

- Will poorer places and people be more vulnerable to the effects of sea level rise than richer places and people? Why?
- Will sea level rises over the next hundred years or so be more likely to cause mass mortality or mass migration? Or both? Why?
- Where will the world's poorest people migrate to in order to escape rising sea levels? What could the consequences of this movement be?
- How can we try to prevent all of this from happening, or what preparations can we make to help us deal with problems that arise?

Note that gifted and talented geographers at this age might already want to think more critically about the timescale for sea level changes. Younger children may imagine future sea level rise in catastrophic terms (like the 2004 Asian tsunami), with the sea suddenly

overwhelming communities. The reality may be less dramatic and extreme scenario changes will take many decades or centuries. In some places, a gradual creep of water inland will result in the less dramatic scenario of managed retreat and abandonment of high-risk property and land.

Following the discussion, students can work in groups to prepare a five minute TV (or radio) documentary focusing on the final question: how can we prevent sea level rise from happening or what preparations can we make to help us deal with the problems it will bring? The documentary can be aimed at an audience either in the UK or in another country – perhaps one that is particularly vulnerable to sea level rise – and should incorporate the following five themes:

1. Information about why sea level rise is happening.
2. Scientists' predictions for how much sea level may rise in the future.
3. The possible impacts of sea level rise in the country that you're broadcasting your documentary in.
4. The possible global impacts of sea level rise.
5. What people can do to (a) reduce sea level rise (e.g. reducing their carbon footprint), and (b) prepare for the problems that sea level rise might bring.

Students should be encouraged to act out, record or video their documentaries and share them with the rest of the class.

Plenary

End of unit quiz

A series of questions takes students back through the content of the entire scheme of work. Students could form teams named after the main glacial features.

Further research

Other useful online sources for showing impacts of sea-level changes:

- Royal Geographical Society (& BAS) Discovering Antarctica website: www.discoveringantarctica.org.uk
- US AIT website: www.climatecrisis.net/
- Australia AIT website: www.aninconvenienttruth.com.au/truth/guide.htm.

Printed resources:

The book of the film is called "An Inconvenient Truth: The Planetary Emergency of Global Warming and What We Can Do About It" (Rodale Press 2006) ISBN-10: 1594865671. If you are using the DVD of the film *An Inconvenient Truth*, look at Scene 21: Sea-level rise (4:00).