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## Melting of glaciers 'speeds up'

By Richard Black

Environment correspondent, BBC News website

**Mountain glaciers are shrinking three times faster than they were in the 1980s, scientists have announced.**

The World Glacier Monitoring Service, which continuously studies a sample of 30 glaciers around the world, says the acceleration is down to climate change.

Its announcement came as climate scientists convened in Paris to decide the final wording of a major report.

There is reported to be some disagreement over what forecasts they will make for sea level rise.

But whatever form of words they agree on, the Intergovernmental Panel on Climate Change (IPCC) will declare that human-induced climate change is happening and needs to be tackled.

"[The report] embodies substantial new research, it addresses gaps that existed in our knowledge earlier, it has reduced existing uncertainties," IPCC chairman Rajendra Pachauri told reporters at a news briefing in Paris.

"I hope policies and actions will be formed to address the problem."

The report, due out on Friday, forms the first part of the IPCC's Fourth Assessment Report, and will be the latest definitive assessment of climate science.

### Melting away

Of all the various features that make up the surface of the Earth, glaciers are perhaps showing the starkest signs of rising temperatures.

The World Glacier Monitoring Service (WGMS), based in Switzerland, continuously studies a set of 30 mountain glaciers in different parts of the world. It is not quite a representative sample of all mountain glaciers, but does give a reliable indication of global trends.

The latest survey, just released, shows accelerating decline. During 2005, this sample of 30 glaciers became,



Imaging a glacier's decline

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**“ We will enter conditions which we have not seen in the past 10,000 years, and perhaps conditions which mankind has never experienced ”**

Wilfried Haeberli, WGMS

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### MOUNTAIN GLACIERS DECLINE

on average, 60-70cm thinner.

This figure is 1.6 times more than the average annual loss during the 1990s, and three times faster than in the 1980s.

With mountain glaciers typically only tens of metres thick, this meant, said WGMS director Wilfried Haeberli, that many would disappear on a timescale of decades if the trend continued.

"We can say there were times during the warmer periods of the last 10,000 years when glaciers have been comparable to what they are now," he told the BBC News website.

"But it is not the past that worries us, it is the future. With the scenarios predicted, we will enter conditions which we have not seen in the past 10,000 years, and perhaps conditions which mankind has never experienced."

Last year, WGMS scientists forecast that the Alps would lose up to three-quarters of their glaciers during the coming century.

The WGMS is closely allied to the United Nations Environment Programme, whose executive director Achim Steiner commented: "Glaciers are important sources of water for many important rivers upon which people depend for drinking water, agriculture and industrial purposes.

"The findings... should strengthen the resolve of governments to act now to reduce greenhouse gas emissions."

## Rough seas

The IPCC report due out on Friday is likely to contain stronger wording than its previous assessment, in 2001, on the likelihood that human activities are principally responsible for the climatic changes observed around the world.

The 2001 report forecast that by the end of this century, temperatures would have risen by between 1.4C and 5.8C.

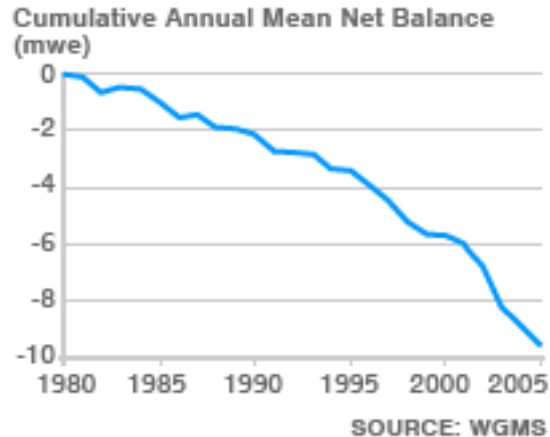
The new report is likely to reduce the range of uncertainty, though not rule out the possibility entirely of increases in the order of 5.8C.

But there is reported to be disagreement over the wording on expected sea level rise.

A bigger network of tide gauges and other instruments has enabled researchers to conclude that the sea level is on average rising by about 2mm per year, or 20cm per century.

This is one of the factors which led to earlier drafts of this report projecting rises by the end of the century which were a lot less than the maximum figure of 88cm contained in the 2001 version.

But some scientists are arguing that recent observations of the Greenland and West Antarctic ice sheets suggest a major melt may be commencing. This, they say, should be reflected in the eventual IPCC projections.



- ◆ Data comes from sample of 30 mountain glaciers
- ◆ Glaciers have different densities, so thinning is expressed in metres of water equivalent (mwe)
- ◆ One mwe is roughly equivalent to 1.1m of ice

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