

# Ice and snow cover are melting rapidly, threatening ruinous consequences for all unless we act now, writes Jonas Gahr Store

## The blue planet?

**T**he figure of our planet—a shining blue-and-white orb silhouetted against the stars, the swirl of clouds with the blinding white of polar ice caps set against ocean blue—is an image almost every human carries inside as the symbol of our common home. But for how long will future generations see that blinding polar white anchoring the only place of human existence?

While climate negotiators gather in Copenhagen to address global warming, speaking in terms of 2020, 2030 or 2050, the future of the global climate system may be determined not in these decadal timelines, but by our actions—or inaction—of the next few years, determined instead by the speed of melting ice.

The cryosphere—the regions of our earth covered by snow and ice—has long been considered the “canary in the coal mine” for global warming. We have known ever since the very first report of the Intergovernmental Panel on Climate Change (IPCC), in 1990, that the Arctic was

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warming more rapidly, twice as fast as the rest of the globe. We have seen the glaciers topping Mount Kilimanjaro slowly disappearing, 85 per cent gone in the past century. We watched the Larsen B ice shelf of Antarctica collapse in 2002.

Last April, former US vice-president Al Gore and I charged an expert panel of scientists to summarise the state of the globe’s ice sheets and snow. Those scientists have completed their work, and we will hand that report over to the climate conference in Copenhagen today. We expected sobering reading. What we have is a loudly ringing alarm from every corner of the cryosphere, an alarm bell of melting ice.

What does this mean for the peoples of the world, most of whom live nowhere near ice and snow? It just might mean everything, in terms of our future:

- The latest (2007) IPCC estimates of a 50cm sea-level rise by 2100 are now considered the bare minimum. Because of

accelerated melting on Greenland and elsewhere, the anticipated rise by 2100 may reach 1.5 metres, having an impact on hundreds of millions of people.

- Loss of snow and sea ice is decreasing the reflectivity of the earth’s surface, and the thawing of permafrost is releasing more methane and carbon dioxide than anticipated. Both these changes will lead to much faster warming of the entire globe.

- Land-glacier loss may lead to widespread water shortages. Around 2 billion people today depend on water from the Himalayan Plateau alone, the earth’s “Third Pole”.

Melting ice is, therefore, not just about those who live in the mountains or in the Arctic. It is about the future of all of us.

What does this mean to the nations of the world? More than anything, world leaders need to agree to strong and aggressive cuts of carbon dioxide emissions. Nothing else will stay the melting of ice and snow in the coming centuries; and, because carbon dioxide is so long-lived, to have any hope of preserving the cryosphere, we need to begin those cuts today. Our climate negotiators have gone as far as they can on their own.

What is needed in Copenhagen are visionary leaders to look beyond narrow national interests, or issues of blame and compensation, to the threatened future of our increasingly fragile planet.

We also need an emergency plan for the cryosphere, acting now to preserve as much global ice and snow cover as we possibly can. That means reducing short-lived climate forcers not currently covered under any climate agreement, such as black carbon and ozone, and more focused attention on short-lived climate gases such as hydrofluorocarbons and methane.

Black carbon contributes as much as 12 per cent to overall global warming, and even more in the cryosphere, where it darkens snow and ice to vastly increase melting. Recent studies show that much of



the black carbon falling in the Arctic comes from springtime crop burning in the US, Canada and Russia: we all need to do our part to stop this harmful practice immediately.

Globally, smoke from old-fashioned cooking stoves not only produces black carbon, it also kills millions of women and children each year. Replacing dirty stoves with cleaner ones, especially around the Himalayas, will save lives and help the cryosphere at the same time.

Methane—a Kyoto gas responsible for at least 25 per cent of global warming, and more at the poles in the spring—also needs more urgent attention. Even as levels of

methane from greater permafrost melting keep rising, we need to cut human sources of methane all we can.

The Copenhagen agreement needs both mid-term and long-term goals, for 2020, 2030 and 2050; and, certainly, these need to be aggressive ones. But we should not be fooled by those dates into thinking our margin for action to save the cryosphere is equally long. The time to act is here, and now. Our planet, shining white and blue among the stars, may not get a second chance.

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