International obligations

Nearly 200 countries, including the United States and Australia, have ratified the United Nations Framework Convention on Climate Change. The objective of the convention states that the concentration of heat-trapping gases in the atmosphere should be kept “at a level that would prevent dangerous anthropogenic interference with the climate system,” and that “such a level should be achieved within a time frame sufficient to allow ecosystems to adapt.” But what level exactly is that implies such dangerous interference?

Despite being increasingly linked to global markets, the culture and economy of the Inuit, particularly smaller communities, remain intimately tied to Arctic wildlife. In a part of the world where paid jobs are scarce and prepared foods expensive, hunting is key to nutrition. Local foods are shared among family and friends and epitomize what it means to be Inuit. But global warming is threatening this tradition. A recent international assessment of climate change in the Arctic concluded that “warming is likely to disrupt or even destroy [the Inuit’s] hunting and food-sharing culture as reduced ice causes the animals on which they depend to decline because less accessible and possibly . . . extinct.”

Mild winters and warm summers are remaking the Arctic, and will continue to wreak havoc on traditional ways of life unless emissions are reduced. International agreements like the Kyoto Protocol are a first step to slowing emissions growth, but much deeper cuts are required.

2° is too much!

The Arctic is changing. For millennia, Inuit and other Arctic indigenous peoples have used their traditional knowledge of the weather, climate, animals and the natural environment to survive. But now that traditional knowledge is less reliable. Weather is more difficult to predict; sea ice is less stable; permafrost is melting; southern species of birds and insects are found farther north than ever before.

Scientists blame global warming. For millennia, Inuit and other Arctic indigenous peoples have used their traditional knowledge of the weather, climate, animals and the natural environment to survive. But now that traditional knowledge is less reliable. Weather is more difficult to predict; sea ice is less stable; permafrost is melting; southern species of birds and insects are found farther north than ever before.

A snapshot of global warming in the Arctic

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For more information visit www.panda.org/arctic. All figures are found and explained in the contributing papers to the report.
Since the mid-1800s, humans have been increasing the concentration of heat-trapping gases in the atmosphere. Coal-fired power plants, factories, and automobiles emit a seemingly endless stream of carbon dioxide into the air, sending temperatures soaring. New research commissioned by WWF indicates that unless strong measures are taken to reduce carbon emissions, the Earth’s temperature will continue to climb rapidly. Between 2025 and 2090 the global temperature increase is expected to reach a level 1.5°C (32°F) higher than before the industrial revolution.

Unfortunately, the Arctic is warming faster than the rest of the world – two to three times faster – and it can increase an increase of 3.2°–6.6°C by the end of the century. This is because the Arctic is a small area surrounded by a broad sheet of land and sea that reflects more heat from the sun back into space than does the ocean. When Arctic-warming snow and ice melt, the land shows an orange-brown. This darker surface absorbs more heat from the sun, which warms the atmosphere and raises temperatures even more quickly.

Global emissions can be reduced economically by using current technologies. Unless we act now, higher temperatures will dramatically alter polar ecosystems, bringing a natural world that is nearly unrecognizable to today’s Arctic residents.

Many Arctic plants will find themselves in warmer environments where they cannot compete with more aggressive species from the south. Boreal forests will move northward and replace the tundra which is the habitat of lemurs, geese, artic foxes, caribou, and musk oxen, as well as an important stopping area for migratory birds. Significant changes of this magnitude have not been seen since the last ice age 11,000 years ago.

Habitat loss for migratory birds

A snapshot of global warming in the Arctic:

- A severe trend will expand northward and coincide up to 50% of short-strap lemons, a critical habitat for the Arctic, boreal forests, tundra, sea ice and far. In many areas, ice on the Arctic Ocean, a main area of the open melt on the ice of Alaska and causes severe warming
- Indigenous peoples face major in cultural and economic resources
- Promoting indigenous peoples living sustainable communities to reduce global carbon emissions sharply

In the Arctic, food chains are short where a species is displaced it can have negative consequences for others. For example, fluctuations in the population of herring can severely limit the number of seals and, in Canada, changes in the herring have been linked to a detrimental change for migratory birds. Significant changes of this magnitude have not been seen since the last ice age 11,000 years ago.

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The WWF study also shows that so-called ozone air is shrinking at a rate of 8.9% per decade. If this continues for more than a few decades, the polar ice will disappear entirely by the end of the century. A loss in is an important habitat for many forms of life, from microorganisms to large mammals, the impact of retreating ice on the marine ecosystems can be devastating. Of particular concern are the effects on polar bears, walrus and ice-feeding seals and birds. Changes in the abundance and distribution of these species will lead to increased cultural and economic impacts for the Inuit and other northern indigenous peoples.