

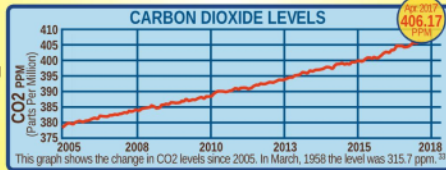
Animals at Risk from Climate Change

Earth has a history of climate change

Changes in the sun, the Earth's orbit, ocean currents and volcanic eruptions are natural effects on climate. Studies of tree rings, glacial layers, ocean sediment, pollen remains, sedimentary rocks, coral reefs and air trapped in bubbles in ice cores, reveal a climate record going back hundreds of thousands of years. Fossil records show that in the past 490 million years dramatic changes in climate have caused at least five mass extinctions. Some studies estimate that the current rate of extinction is 100 times faster than what would occur without human impact.

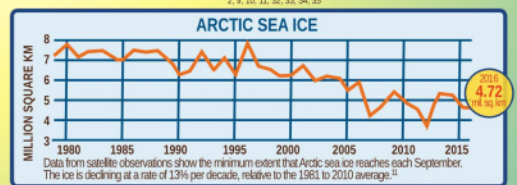
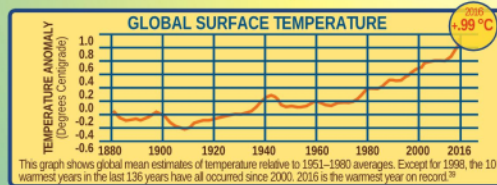
The climate is changing now

Indicators that the climate is changing include: rising mean temperatures; rising ocean temperatures; increased ocean acidity; sea level rise; decrease of ice in the Arctic and Antarctic; and retreat of almost all alpine glaciers. Recent studies show that the paths and speed of the northern jet stream (large rivers of wind high in the atmosphere) are shifting because of warmer temperatures in the Arctic—bringing colder winters south and warmer winters to the north.



Species are at risk of extinction

A global mean temperature rise of 2 to 3 °C will greatly increase the percentage of species at risk and amplify the dangerous impacts on biodiversity and ecosystems. If an ecosystem is already degraded from other causes not related to climate, such as pollution, a species is less resilient or likely to adapt. The animals shown here illustrate the wondrous diversity of life on Earth, and also highlight the many ways climate change puts all forms of life on the planet, including humans, at risk of extinction.^{2, 9, 10, 11, 32, 33, 34, 35}



RINGED SEAL
Pusa hispida

Ringed seals are the smallest of all seals and live primarily in the Arctic Ocean. They are able to dive as deep as 300 feet and stay under for up to 45 minutes. They blow bubbles before surfacing to check for Polar Bears, their main predator. The seals use their sharp claws to make breathing holes in the thick ice.

All populations of Ringed Seals are expected to be adversely affected by climate change because of dependence on sea ice and snow dens for breeding, protecting pups, moulting and resting. Early warming causes pups to separate prematurely from their mothers. As sea ice declines, other threats are fisheries by-catch, increased shipping, tourism and development. Seals are vulnerable to disease from heavy concentrations of pollutants that have accumulated in the Arctic food web.^{1, 2, 3}

RUSTY PATCHED BUMBLE BEE
Bombus affinis

Bees have existed on the planet for at least 40 million years. There are 250 species of bumblebees and seven species of honeybees. Fatter and furrer than honeybees, bumble bees make only a small amount of honey for their own food.

The Rusty Patched is the first bee to be listed as endangered in the US. Populations have declined as much as 87% from habitat loss, disease and pesticides. Climate threats include: warming and precipitation, early snow, late frost and drought. Bees and butterflies are important agricultural pollinators. In 2016, 40% of invertebrate pollinators (bees and butterflies) were listed as threatened with extinction.^{1, 19, 20}

"Animals at Risk from Climate Change" is an attractive and colourful **24"x 30" poster** featuring 25 animals that highlight the fundamental impacts of greenhouse gases—causes, effects and risk of extinction—on all forms of life on the planet. The complex interaction of biological traits and environmental conditions that cause a species to be susceptible to climate change, the basics of the carbon cycle, and the impact of greenhouse gases are made simple and understandable through beautiful illustrations, symbols and brief explanatory text.

The **70 page presentation** includes all illustrations, keys, text and charts from "Animals at Risk from Climate Change"—a unique and timely companion to the wall poster. The flexible PDF platform functions both as a carefully sequenced slide show and a set of printable handouts. Comprehensive and thoroughly documented to reliable sources, these resources are a timely and relevant educational aid for educators, parents and students.



To see the additional components of the poster in detail, or to order, please visit:
www.theglobaleducationproject.org/climate-change

"Animals at Risk from Climate Change"

A 24" x 30" full colour poster covering the fundamental causes, effects and risks of climate change to ecosystems, animals and humans.

Retail orders online at: www.theglobaleducationproject.org/climate-change

Download the Presentation: US\$14.95*

The poster is supplied two ways:

Laminated: (for quantities of 1-9) US\$18.95 + shipping

Folded (for quantities of 1-9): US\$10.00 + shipping

Bulk/Wholesale orders: Please email Melanie:
mm@theglobaleducationproject.org or phone 206 261 1453

Bulk Folded:

Qty Unit

10 to 49 @ 6.50

50 to 99 @ 6.00

100+ @ 5.50
plus shipping



Folded case options:

Case of 25 folded *US\$ 162.50 plus 15.00 shipping (within the US)

Case of 50 folded 300.00 plus 20.00 shipping (within the US)

Case of 100 folded 550.00 plus 20.00 shipping (within the US)

Bulk Laminated:

Any Qty: over 9 @ \$11.40 plus shipping

**Please note: the purchase of the presentation is intended for a single user. We are a small non-profit organization, so if you would like to share or distribute additional copies, we ask that you purchase them, make a donation, or contact us and let us know. Many thanks.*

US Vendor: Sunship Distributors

7600 SE 22nd Street

Mercer Island, WA 98040

email: mm@theglobaleducationproject.org

Ph: 206 261 1453