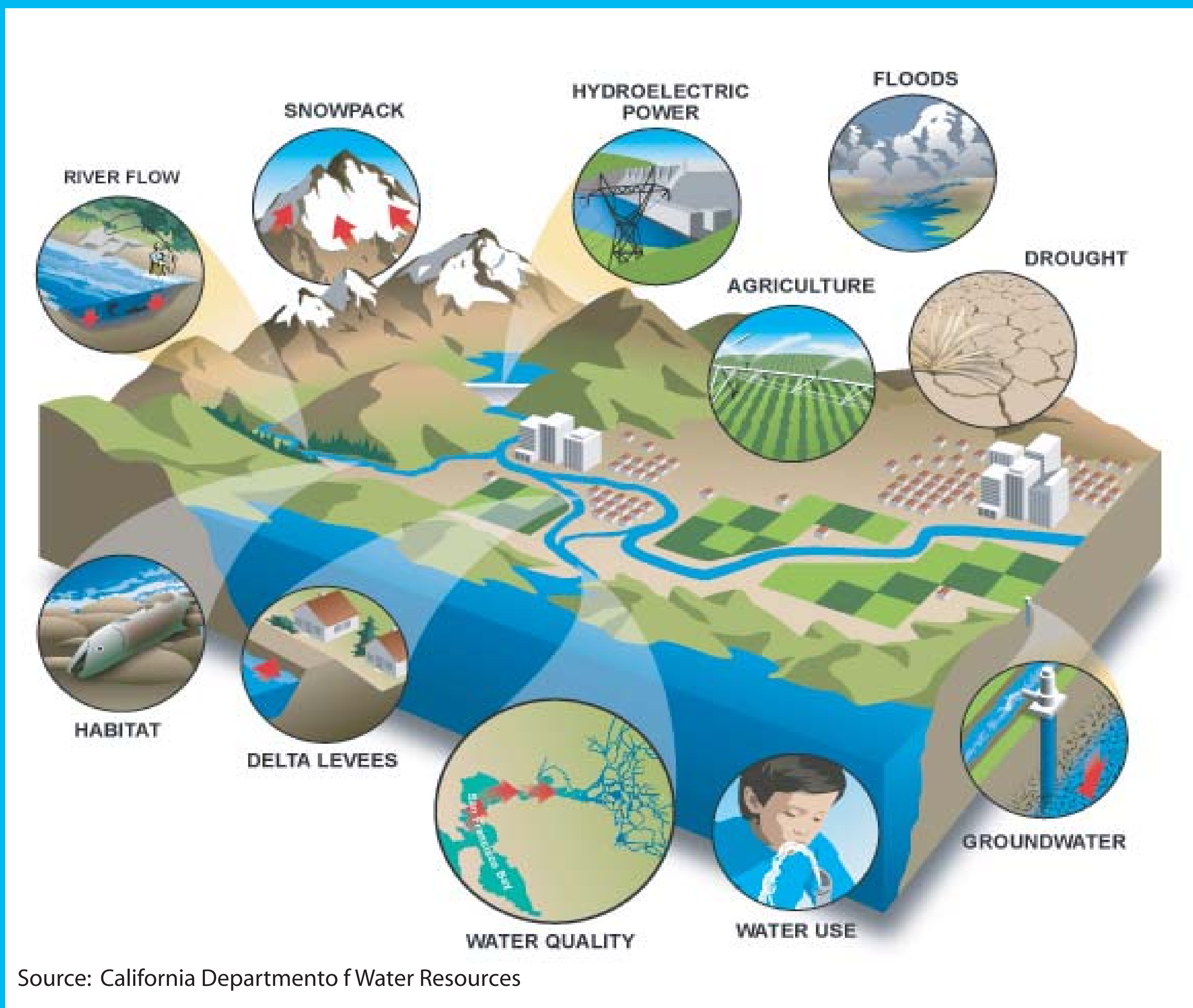


# How will increasing temperatures affect humans?

*What affect will increasing global temperature have on our resources and the environment?*



Source: California Department of Water Resources

Global temperature increase will effect essential resources that we rely on for survival. Areas that will be adversely affected are energy, ecosystems health, and water supply.

## Main Points

- \*Natural systems and infrastructure that humans rely on for survival will be adversely impacted by increasing global temperatures
- \* Increasing global temperatures will likely result in species decline, scarcity of fresh water, and a decrease in crop production
- \* Artic sea ice has shrunk to its lowest extent since observations began and is melting faster than predicted.

## Impacts of increasing global temperature: Food Production

*Crops in the San Juaquin Valley*



Source: student.brittanica.com

\*Increasing temperature will decrease grain production in low latitudes

\*Small and subsistence farmers will find it increasingly difficult to raise crops

*A man collects dead fish in Donghu lake in China*



Source: treehugger.com

## Impacts of increasing global temperature: Water and Ecosystems

### Water

- \*Millions of people around the world will be exposed to increased water stress
- \*There will be decreasing water availability and increasing drought in the mid and low latitudes

### Ecosystems

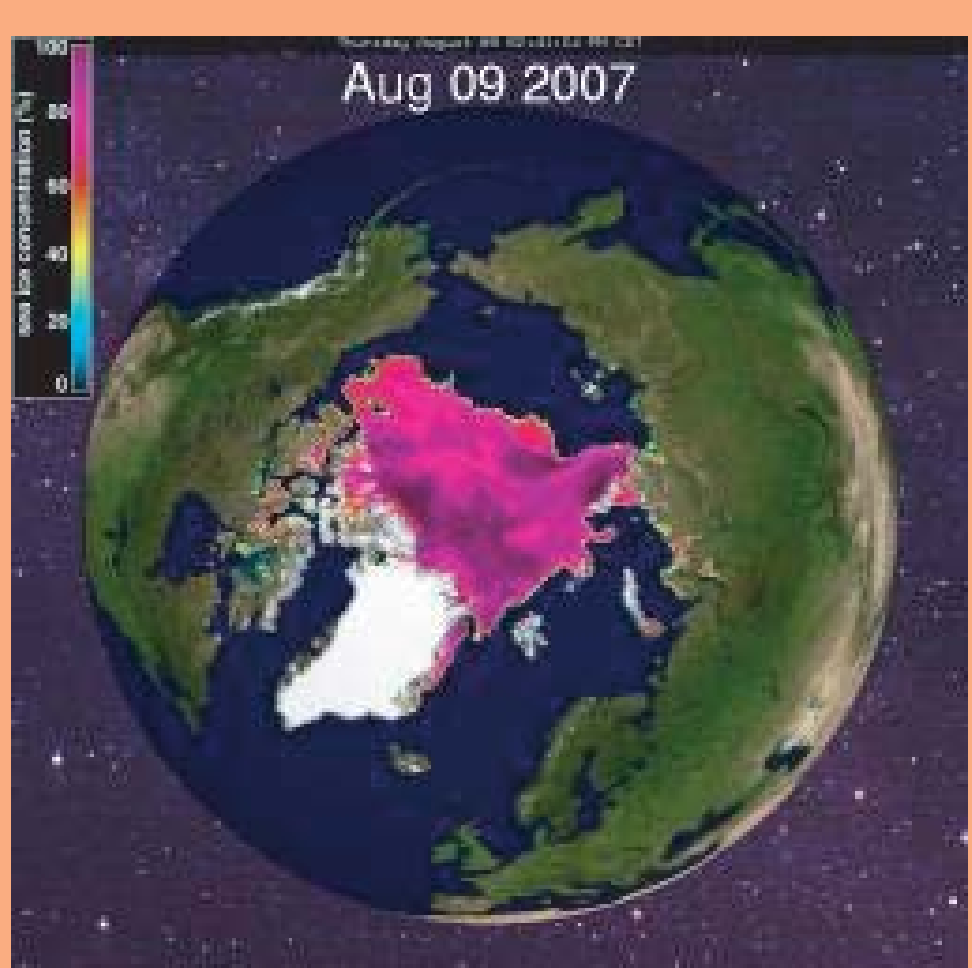
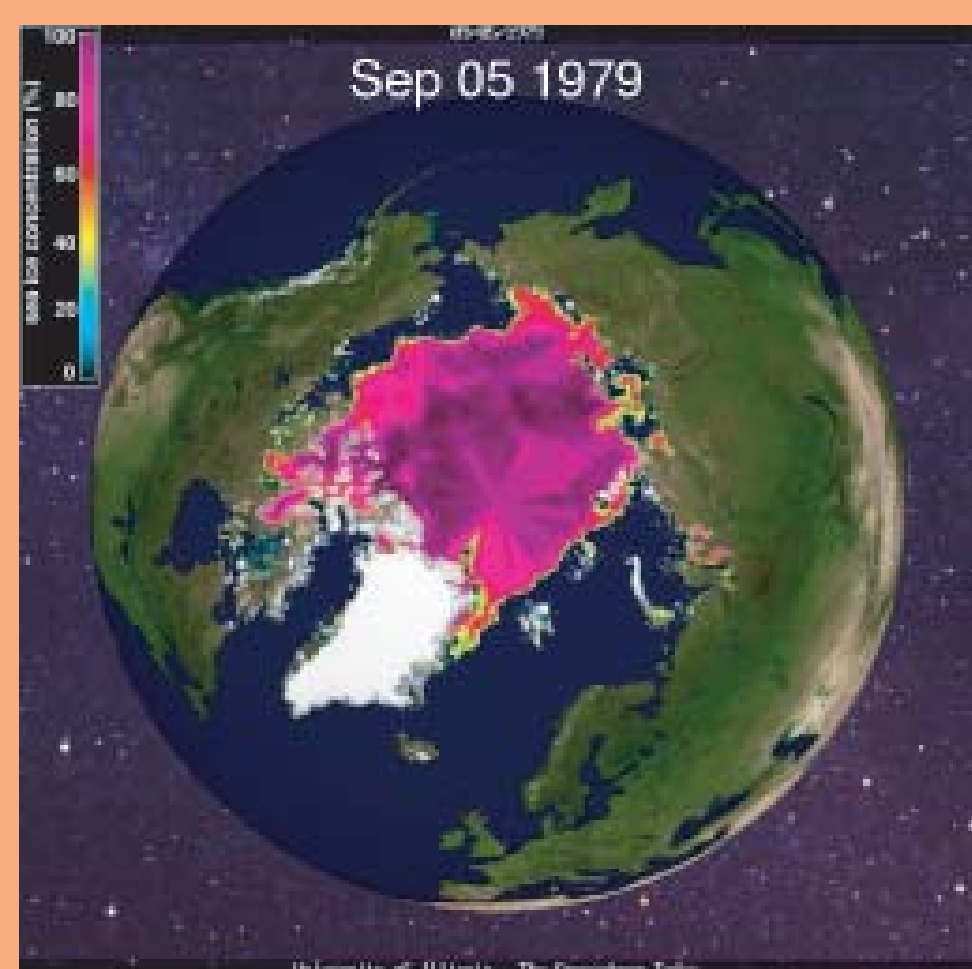
- \*Ocean corals will bleach and become extinct with rising temperatures
- \*The rate of species extinction will accelerate with increasing temperature

*Mt. Tamalpais and Corte Madera Creek*

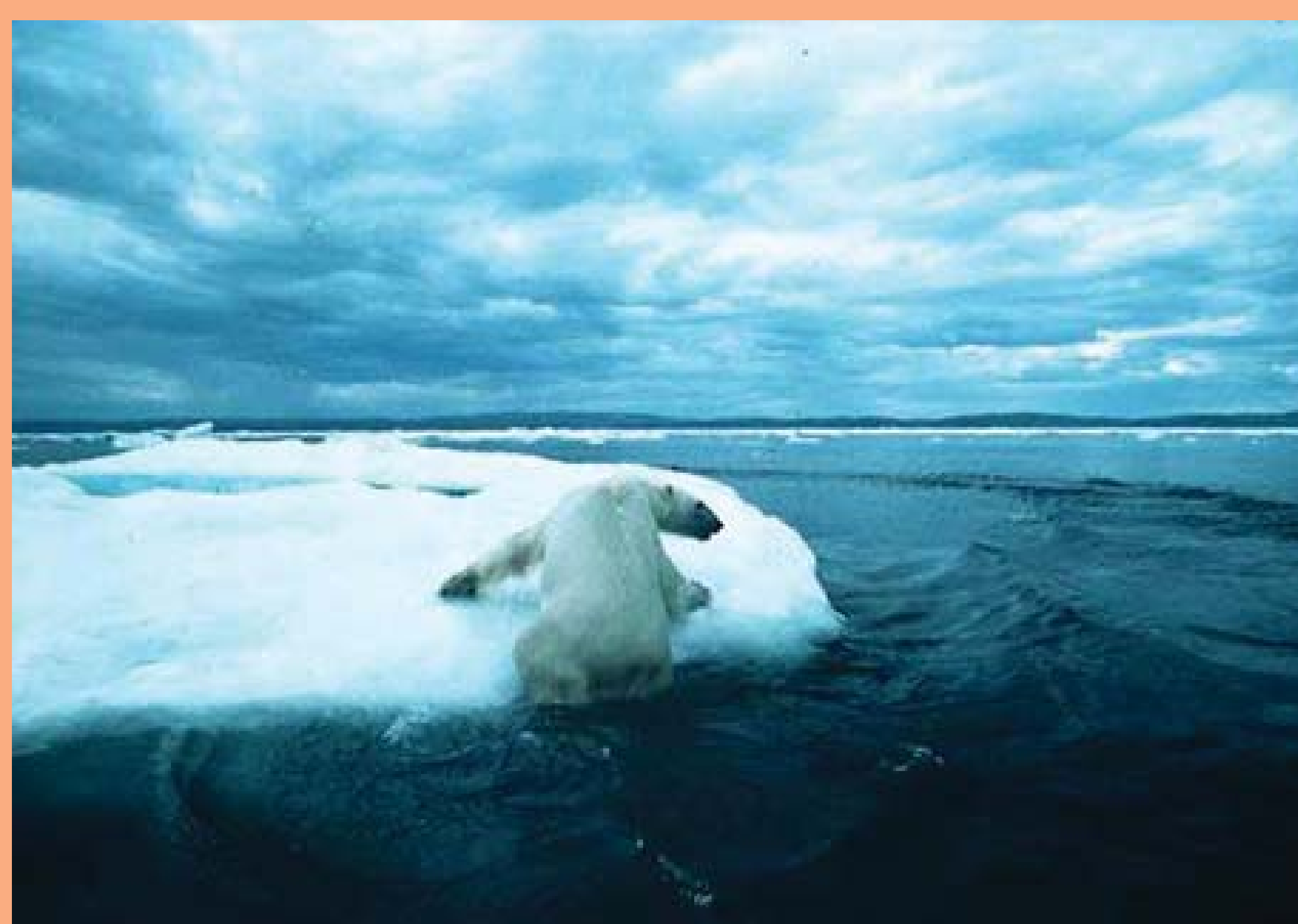


Source: marinwater.org

## Impacts of increasing global temperature: Melting in the Polar Regions



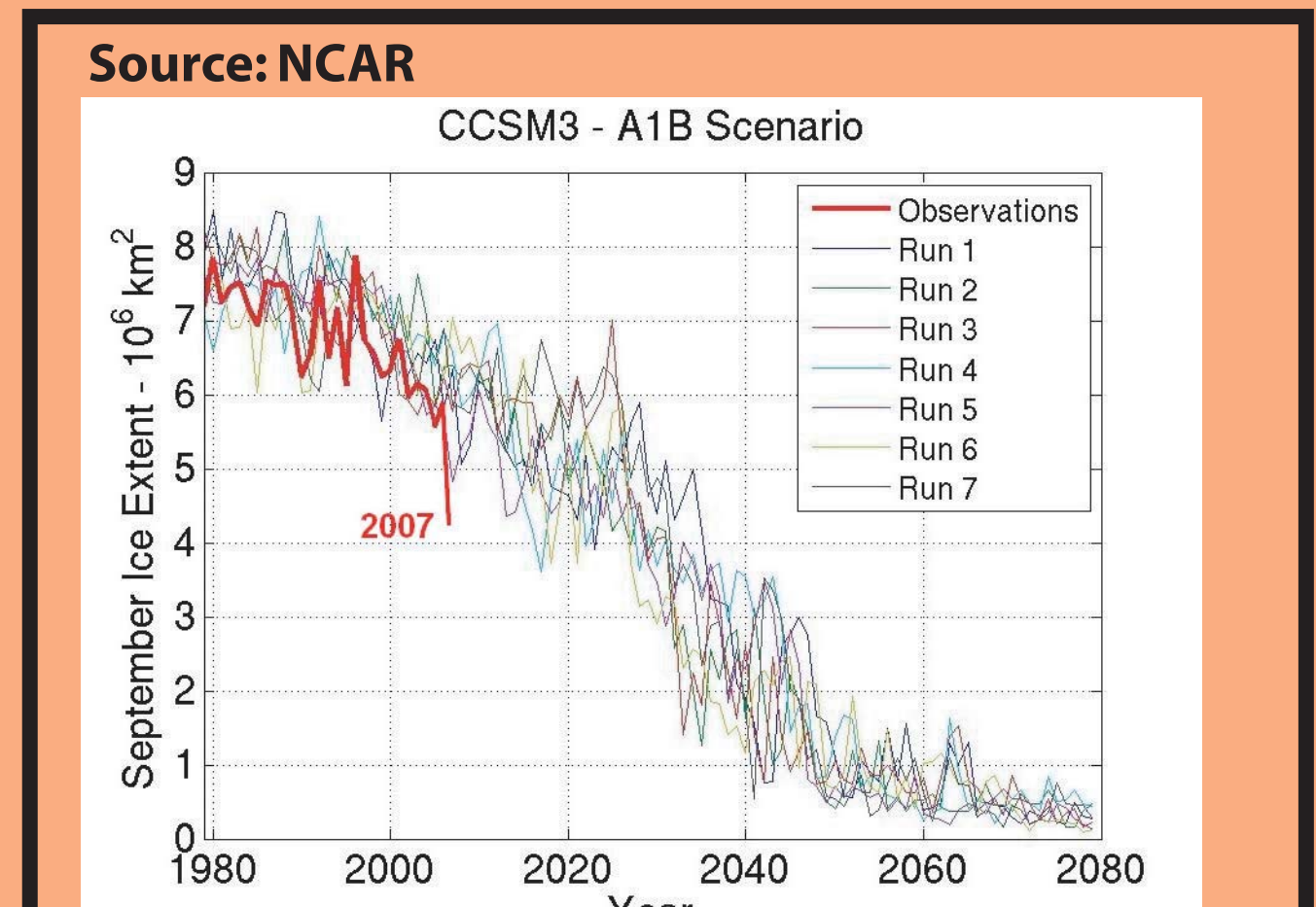
**Comparison of Artic Sea Ice: 1979 and 2007**  
The amount of artic sea ice has been decreasing since observations began in the 1950's. The two globes on the left compare Artic sea ice cover in 1979 and 2007. Artic sea ice now covers a much smaller area than it did 30 years ago.



Source: nationalgeographic .com

### The Consequences of Disappearing Ice

Sea ice is melting faster than predicted (CCSM3 figure on the right ). The rate of ice melt will have a significant impact on human existence, and the species that depend on ice for survival. The effects of global temperature increase on the stability of ice fields is unknown. A catastrophic melt off could impact millions of people who live in population centers next to the sea.



**Comparison of model simulations of sea ice loss to observations.** Artic sea ice plummeted to unprecented low extents in 2007. The ice is disappearing at a rate much faster than expected. At the current rate of melting the artic will be ice free in the next 20 years.