

# Tangent Class: Equinox and Climate Change

---

We spent a long time discussing how water (as ice and liquid) affects our climate, and how this can be devastating in the current scenario of human-caused global warming and overall climate change happening at a very fast pace.

<https://www.epa.gov/climate-indicators/climate-change-indicators-sea-surface-temperature>

1 degF is equivalent to 5/9degC -> we've seen a 1degC increase in ocean temperatures over the past century in North America, and places along the equator have seen even larger rises. This is why you may have heard world governments committing to a 1.5degC increase in ocean temperatures and trying to prevent anything larger.

Tipping point means that it is a point of no return – once you activate a tipping element, that system cannot return to the way it once was. It has been confirmed that a global rise in temperature of 2degC would activate multiple tipping points and lead to even more severe climate disaster.

- How would a rise in sea temperatures of 2degC mean a total global rise of 2degC?

<https://www.noaa.gov/news/new-research-shows-ocean-acidification-is-spreading-rapidly-in-arctic>

In addition to a warming effect, higher global temperatures also lead to more melting, which results in higher sea levels, lower salinity, and higher acidity in oceans (why?). Acidity is from an overall larger absorption of CO<sub>2</sub> in the ocean (why is there more CO<sub>2</sub>? What else is CO<sub>2</sub> impacting?).

- What are the risks and issues with these effects?

We can see these effects easily and readily by looking at the weather recently.

Sept. 23, 2019 is the fall equinox – when the sun's incoming rays perpendicular at the equator and the Northern Hemisphere starts getting further away from the sun (we're tilted 23.5deg!), and heading towards winter.

<https://www.businessinsider.com/when-is-first-day-of-spring-march-equinox-2019-03>

- Does it feel like fall to you?
- How does climate change affect our seasons?

<http://www.climateontario.ca/doc/workshop/CitizenPanel/D%20Pearson%20Panel%20-%20Climate%20Science.pdf>