

**The Big Picture**

**Sources/Copyright Links**

Here are the links to the sources of the graphs included in the lesson. There are also links to information explaining the trends seen in the graphs.

Antarctic Glacial Melt graph

<http://science.sciencemag.org/content/341/6143/266.figures-only>

Email permission received

Explanation

<http://science.sciencemag.org/content/341/6143/266>

Penguins population graph

<http://pal.lternet.edu/images/sci-research/transformational_science/3.4.png>

Explanations

<http://www.scientificamerican.com/article/gentoo-penguins-thrive-while-adelies-and-chinstraps-falter-in-a-climate-changed-world/>

<http://news.nationalgeographic.com/2016/06/adelie-penguins-antarctica-climate-change-population-decline-refugia/>

CO2 Time Series graph

<http://pmel.noaa.gov/co2/files/co2timeseries.jpg>

Explanation

[http://pmel.noaa.gov/co2/story/Ocean+Carbon+Uptake](http://pmel.noaa.gov/co2/story/Ocean%2BCarbon%2BUptake)

Antarctica Ice Mass Variation graph and explanation

<http://climate.nasa.gov/vital-signs/land-ice/>

Extent of Arctic Sea Ice graph and explanation

<http://nsidc.org/cryosphere/icelights/arctic-sea-ice-101>

Greenland Ice Mass Variation graph and explanation

<http://climate.nasa.gov/vital-signs/land-ice/>

Sea Level Satellite Data graph and explanation

<http://climate.nasa.gov/vital-signs/sea-level/>

Arctic and Antarctic Sea Ice Anomaly graph and explanation

<https://nsidc.org/cryosphere/sotc/sea_ice.html>

Arctic Sea Ice Extent Anomalies graph and explanation

<https://nsidc.org/cryosphere/sotc/sea_ice.html>

Arctic Sea Ice 1979-2013

<http://thinkprogress.org/wp-content/uploads/2013/04/arctic-death-spiral-1979-201303.gif>

Permission granted by creator.

 Explanation

<http://neven1.typepad.com/blog/2016/02/piomas-february-2016.html>

Average Arctic Monthly Arctic Sea Ice 79-13

<http://nsidc.org/arcticseaicenews/2015/10/2015-melt-season-in-review/>

 Explanation

 <http://nsidc.org/arcticseaicenews/>

CO2 and Temperature Trends in Antarctica graph and explanation

<http://www.southwestclimatechange.org/figures/icecore_records>

Keeling Curve graph and lessons

<http://scrippsco2.ucsd.edu/history_legacy/keeling_curve_lessons>