Why is southern sea ice increasing?

What The Science Says:
Antarctic sea ice has grown in recent decades despite the Southern Ocean warming at the same time.

Climate Myth: Southern sea ice is increasing
'Antarctic sea ice set a new record in October 2007, as photographs distributed by the National Oceanic and Atmospheric Administration showed penguins and other cold-weather creatures able to stand farther north on Southern Hemisphere sea ice than has ever been recorded. The news of expanding Antarctic sea ice stole headlines from global warming alarmists who asserted Arctic sea ice had reached its lowest extent since 1979.' (James Taylor)

First of all, it's worth remembering that sea ice is not to be confused with land ice. This distinction might seem obvious, but the two are often confused in media reports. Sea ice is frozen seawater floating on the surface, whereas land ice is a layer of snow that has accumulated over time on a landmass. Antarctica is losing land ice at an accelerating rate.

However, it is clear that the extent of sea ice around the coast of the continent is growing. Why? The first explanation which comes to mind is that the Southern Ocean must be cooling. But on the contrary, the Southern Ocean has warmed by around 0.5°C in the three decades since satellites began measuring sea ice trends.

The true reasons for the increasing ice are a complex set of factors. One factor is an increase in precipitation over the Southern Ocean, which means more snowfall. However, this trend is expected to reverse in coming decades as the Antarctic continues to warm.

Finally, southern sea ice is not particularly important to the climate. Unlike land ice, sea ice doesn't affect sea levels because it's already displacing water. And unlike the situation in the Arctic, where disappearing sea ice is making the Arctic Ocean less reflective and amplifying Arctic warming, a decline in southern sea ice would not warm the Antarctic climate. For as long as climatologists have studied it, the Southern Ocean has been almost ice-free in summer, the time of year when it would receive enough heat from the Sun to have a large effect. The issue of southern sea ice is really just a distraction which diverts our attention from the more important issue of sea ice melt in the Arctic.

In conclusion, the increase of southern sea ice does not contradict global warming. The Southern Ocean is in fact warming, the increase of sea ice is due to a variety of factors, and sea ice is not as important to the Antarctic climate as it is to the Arctic.

Basic rebuttal written by James Wight

Update July 2015:

Here is a related lecture-video from Denial101x - Making Sense of Climate Science Denial

[*see video at **this link**.*]

Skeptical Science explains the science of global warming and examines climate misinformation through the lens of peer-reviewed research. The website won the Australian Museum 2011 Eureka Prize for the Advancement of Climate Change Knowledge. Members of the Skeptical Science team have authored peer-reviewed papers, a college textbook on climate change and the book Climate Change Denial: Heads in the Sand. Skeptical Science content has been used in university courses, textbooks, government reports on climate change, television documentaries and numerous books.