How Human Noise Affects Ocean Habitats

from Kate Stafford's TED talks

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Arctic marine mammals live in a rich and varied underwater soundscape. In the spring, it can be a cacophony of sound.

But when the ice is frozen solid, and there are no big temperature shifts or current changes, the underwater Arctic has some of the lowest ambient noise levels of the world's oceans. But this is changing. This is primarily due to a decrease in seasonal sea ice, which is a direct result of human greenhouse gas emissions. We are, in effect, with climate change, conducting a completely uncontrolled experiment with our planet.

Over the past 30 years, areas of the Arctic have seen decreases in seasonal sea ice from anywhere from six weeks to four months. This decrease in sea ice is sometimes referred to as an increase in the open water season. That is the time of year when the Arctic is navigable to vessels. And not only is the extent of ice changing, but the age and the width of ice is, too.

Now, you may well have heard that a decrease in seasonal sea ice is causing a loss of habitat for animals that rely on sea ice, such as ice seals, or walrus, or polar bears. Decreasing sea ice is also causing increased erosion along coastal villages, and changing prey availability for marine birds and mammals.

Climate change and decreases in sea ice are also altering the underwater soundscape of the Arctic. What do I mean by soundscape? Those of us who eavesdrop on the oceans for a living use instruments called hydrophones, which are underwater microphones, and we record ambient noise -- the noise all around us. And the soundscape describes the different contributors to this noise field. What we are hearing on our hydrophones are the very real sounds of climate change. We are hearing these changes from three fronts: from the air, from the water and from land.