



Ocean Acidification in Alaska

Refresher & Resources

Darcy Dugan
Alaska Ocean Observing System
2021

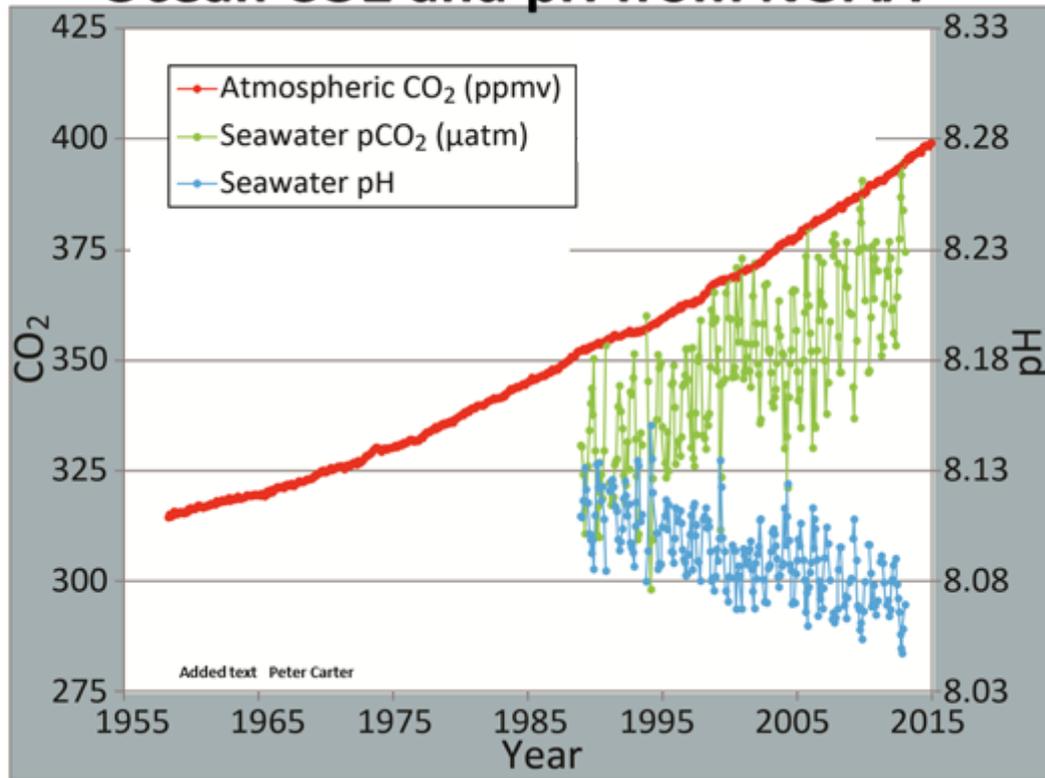


**Alaska Ocean
Acidification Network**

What is Ocean Acidification?



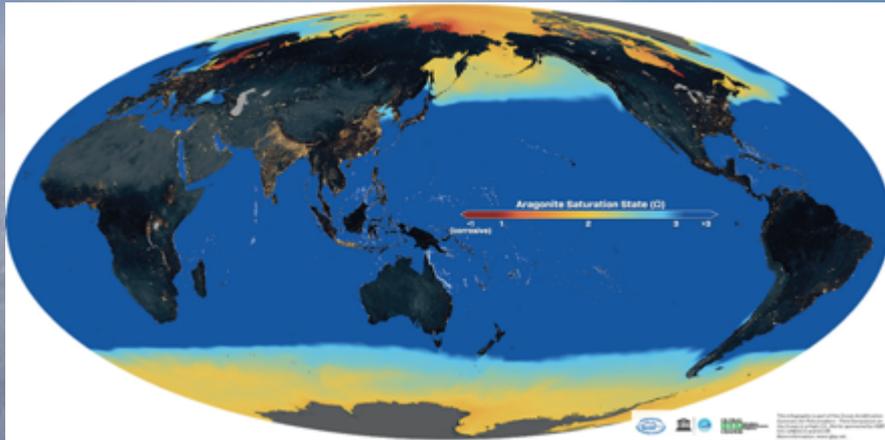
Ocean CO₂ and pH from NOAA



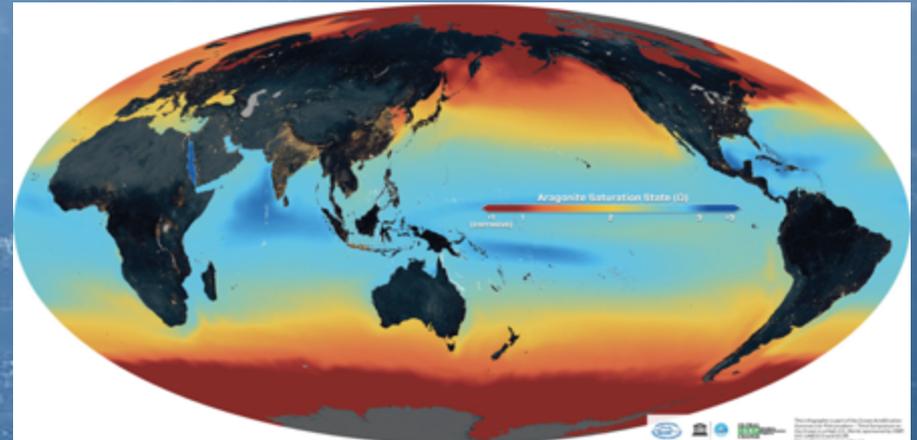
CO₂ released is
by the ocean.



Alaska waters are more susceptible

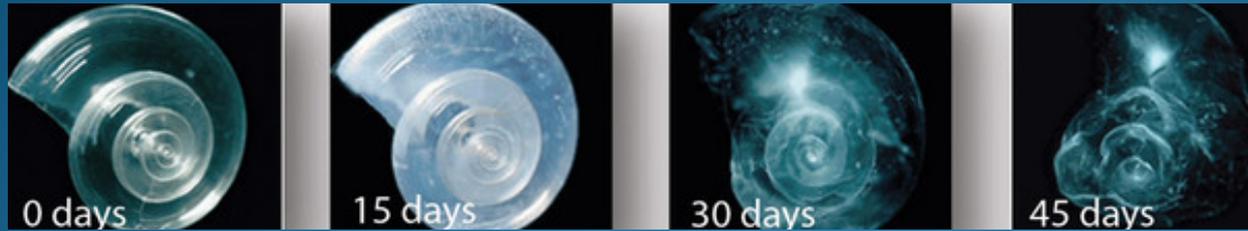


Pre-industrial



2100

Why is this a problem?



Orr et al., 2005. National Geographic Images



- Corrosive water disrupts shell building
- Can dissolve shells
- Likely winners and losers

Alaska Ocean Acidification Network

Alaska Ocean Acidification Network

About the Network | About OA | Monitoring | Biological Impacts | Data | Resources & Links | Find an Expert

Alaska Ocean Acidification Network

Community based water sampling for OA is taking off in Southeast Alaska
Five communities are now taking weekly water samples for OA, with three more expected to join this fall.

News feed

- August 29, 2018 [A monitoring update from Wiley Evans on the M/V Columbia](#)
- August 24, 2018 [Read the latest from NOAA's Arctic Saildrone blog](#)
- July 30, 2018 [Version 6 of the Surface Ocean CO2 Atlas \(SOCAT\) now available](#)

[News archive »](#)

Video

Nemo on Acid

This real-time sketch summarizes the effects of OA on the brains of some fish. Pro-

Scientist Interview

Jennifer Newby is a fisheries biologist for NOAA's Alaska Fisheries Science Center in Kodiak who is working on crab response to ocean acidification through the Shellfish Assessment Program.

Q: How did you get into

Engage with communities to expand understanding

Identify information needs and monitoring priorities

Share best practices

Promote data sharing

Alaskans want information

Is it happening now, and where?

What species might be affected?

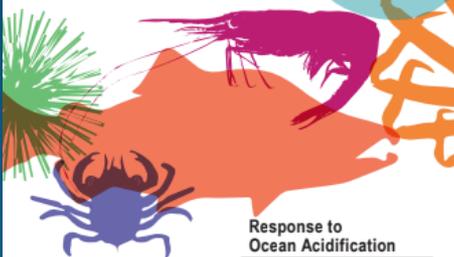
Will this impact subsistence?

How might this affect my long term business plan?

When do we need to worry?



Network Resources



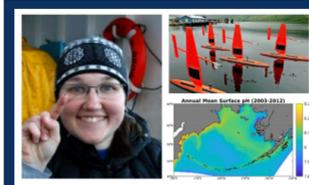
Response to Ocean Acidification

Resident marine species		Response to Ocean Acidification			
		Calcification	Growth	Reproduction	Survival
Red king crab	Embryo	U	U	U	—
	Larvae	▲	U	U	▼
	Juvenile	—	▼	U	U
	Adult	▲	U	U	U
Pink salmon*		N/A	▼	▼	U
Dungeness crab*		U	▼	—	▼
Blue king crab	Juvenile	▲	▼	U	▼
Golden king crab	Juvenile		▼		▼
Tanner crab	Embryo				▼
	Larvae	▼			▼
	Juvenile	▼	▼		▼
	Adult	▼			▼
Snow crab	Embryo				—
	Larvae	—			—
	Adult	▼			—
Pacific Cod	Larvae		▲	▲	▼
Northern rock sole*		N/A		U	▼
Walleye pollock*		N/A	—	U	—
Northern shrimp*		U	▼	U	▼
Pteropod**	Juvenile, Adult	▼			▼
	Larvae		▼		▼
Dungeness crab	Adult		▼		▼
Pinto abalone			▼		▼
Baltic clam*		▼	▼	▼	▼
Common cockle*		▼	U	U	U
Red sea urchin*		U	U	▼	U

Latest news on ocean acidification in Alaska [View this email in your browser](#)

Alaska Ocean Acidification Network

February e-News



Webinar: Ocean acidification in the Bering Sea

On Tuesday, Feb. 16, NOAA scientist Jessica Cross will give a presentation looking back at the last ten years of OA research in the Bering Sea and highlight new cutting-edge biogeochemical modeling, forecasting, and projection efforts that have dramatically improved our capacity to understand Alaskan OA from a large-scale perspective just in the past year.

[Register for the webinar](#)



Interview: Kris Holderied

Kris Holderied, the director of NOAA's Kasliana Bay Lab, recently joined the OA Network's executive committee and has been pivotal in advancing the understanding of OA and HABs in Kachemak Bay.

[Read the interview](#)



Now available: Updates from 18 Alaska OA researchers

On January 29, Alaska ocean acidification researchers provided 5-minute updates on their activities, results and plans. Check the recorded session to hear the latest emerging science.

[Watch the recording](#)



Community Sampling for Ocean Acidification

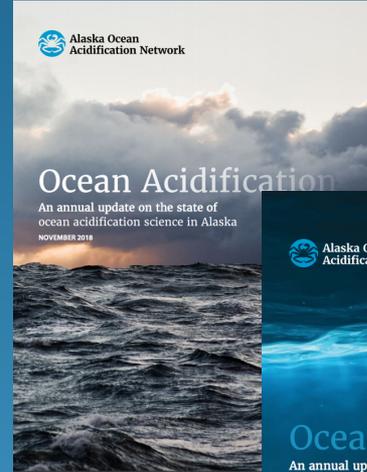
Community Sampling for Ocean Acidification in Alaska

Alaska Ocean Acidification Network

Ocean Acidification

An annual update on the state of ocean acidification science in Alaska

NOVEMBER 2018

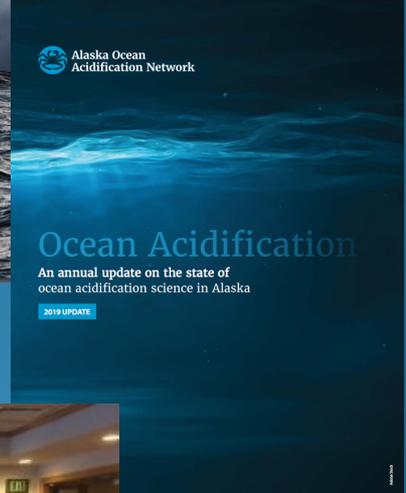


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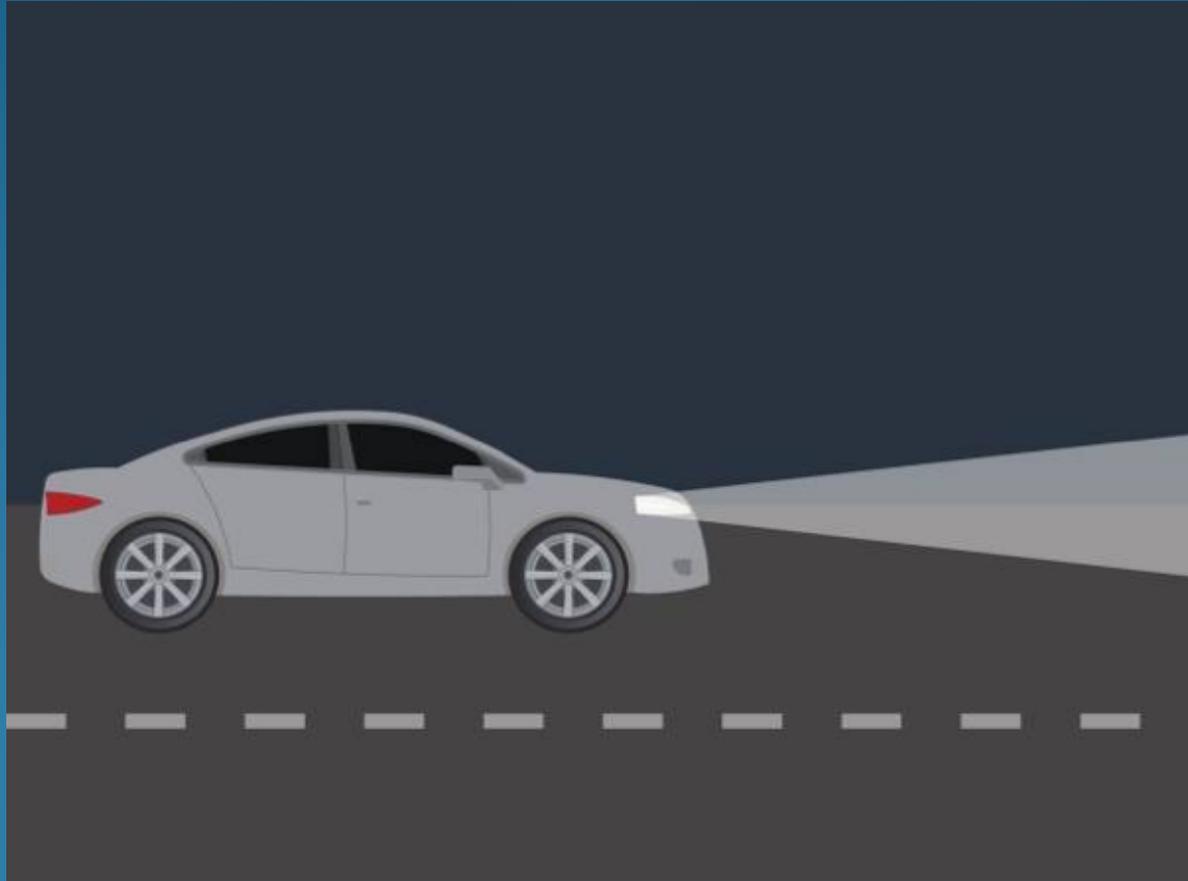
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2019 UPDATE




Headlights on a car





Alaska Ocean Acidification Network

Find information

Ask questions

Get involved

<http://www.aos.org/alaska-ocean-acidification-network/>

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