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October 11, 2018

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SENIOR CITIZENS OF KODIAK, INC.

302 Erskine Avenue, Kodiak, AK 99615

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E-mail: scokinc@ak.net

October 1, 2018

Mayor Pat Branson and City Council
City of Kodiak
710 Mill Bay Road Room 114
Kodiak, Alaska 99615

Dear Mayor Branson and City Council members:

On behalf of the Senior Citizens of Kodiak, Inc, (SCOK) and the over 2,000 seniors living on Kodiak Island, I would like to thank you and the City Council for their continued support of our agency's important programs which allow people 60 and older on Kodiak Island to live independently as long as possible.

SCOK has been providing these important home and community based services since 1973-for 45 years. We have just completed an on site review for achieving our fourth national accreditation and plan on holding a community celebration sometime in November to acknowledge this achievement of which only five other senior centers in the country have achieved.

We appreciate the support for these home and community based programs of which the Kodiak Area Transit System (KATS) is most important. In most communities, the transportation issue is a huge one for seniors who can no longer drive or who need handicapped accessible transportation. KATS fills that service need.

Again, thank you to the City of Kodiak for supporting seniors in all their much needed programs. And as the senior population in Kodiak grows at least 10% a year, we know how important all these programs are in maintaining seniors in our community.

Sincerely,

David Blacketer, Vice President
Board of Directors

Dear City of Kodiak Council + City Manager
Mike Tvenge,

I just wanted to say Thank You so much
for your recent gift to the Red Cross
of Alaska, and helping us provide
our Kodiak neighbors, Red Cross
Services. Without the generous support
of the City of Kodiak, we at the
Red Cross in Alaska would not be
able to provide our life-saving mission.
We value the partnership that we
have with the City of Kodiak, and
value your continued support of our
organization and mission. Again,
thank you so much for your generous gift
and I look forward to meeting you in
person on my next visit to Kodiak.

Best,
Melanie Leydon
Regional Pilatory Officer 2



Kodiak Island Borough
710 Mill Bay Road, Rm. 234
Kodiak, AK 99615
907.486.9310



City of Kodiak
710 Mill Bay Road, Rm. 220
Kodiak, AK 99615
907.486.8636

September 28, 2018

Alaska Department of Fish & Game
Alaska Board of Fisheries
P.O. Box 115526
1255 W. 8th Street
Juneau, AK 99811-5526

Dear Chairman Jensen and members of the Board of Fish:

The Kodiak Island Borough and City of Kodiak represent the Nation's largest Coast Guard Base, nearly 14,000 residents and 298 local commercial salmon permit holders in the Kodiak Archipelago. Additionally, the Kodiak Island Borough represents seven rural villages. As the second largest fishing port for landings in the nation and with the largest fleet in Alaska, Kodiak, its local governments, and its residents are dependent on abundant, sustainable fisheries for economic health and cultural wellbeing. Salmon and salmon fisheries are vital to the community, and the enhancement projects conducted by the Kodiak Regional Aquaculture Association (KRAA) play an integral role in the continued sustainability and health of our salmon resources. The Kodiak Island Borough and City of Kodiak wish to commit its support to KRAA and the enhancement and research projects it operates.

For over 35 years KRAA has been involved in salmon fisheries, research, monitoring, rehabilitation, and enhancement. During that time, KRAA has not put their efforts solely into programs for commercial production. In the early years of the Association, in partnership with ADF&G, numerous rehabilitation projects were conducted in the Archipelago, and today, KRAA conducts limnology and water sampling in Kodiak sockeye salmon nursery lakes to monitor system health and productivity. In addition, KRAA has developed projects and returns that provide important subsistence resources directly to villages such as Larson Bay, Ouzinkie, and Port Lions. KRAA's sport fish programs also create opportunities for local residents and help generate tourism dollars as they create king salmon and rainbow trout opportunities (in partnership with ADF&G Sport fish) on the Kodiak Road System and contribute thousands of coho to the road system and nearby waters.

The programs that benefit Kodiak's local subsistence and sport fisheries are financed in part through partnerships, but the majority of expenses for those programs are paid for by KRAA, and, by association, by the commercial fishermen of Kodiak. Meanwhile, as a long-term average, KRAA generates over \$3 million in ex-vessel value annually for Kodiak's commercial fishery, and a recent draft study by The McDowell Group has identified that from 2012-2017 the value of KRAA salmon returns has averaged approximately \$7 million annually. That contribution provides a stabilizing force for the salmon fishery and the local economy. In fact, KRAA's Board of Directors had the foresight to recognize that the disastrous 2016 pink salmon season could lead to shortfalls in 2018 and decided to forgo pink salmon cost recovery this year. As a result, Kodiak commercial salmon fishermen were able to put over 3.2 million fish in their nets with a preliminary estimation of \$4.5 million in ex-vessel value. Combined for all species, KRAA's contribution to the commercial salmon fisheries of Kodiak in 2018 has a preliminary estimated value of \$6.5 million. This is a critical contribution in a year in which naturally producing stocks did poorly, and in many cases the hatchery production made a difference between losing money and breaking even or even profiting in 2018.

In addition to ex-vessel value, KRAA's contribution to the commercial salmon fishery contributes even greater economic output and activity through first wholesale value and beyond. KRAA supports stable production and jobs for processors and processing workers and those monies flow out through the community and generate ongoing economic activity. The Association goes beyond the salmon it produces by providing direct employment for up to 45 people per year with payroll figures in excess of \$1.8 million. In addition, KRAA spent over \$750,000 with local vendors and well over \$1 million within the state of Alaska in 2017.

The programs and hatcheries of the Kodiak Regional Aquaculture Association were developed by and with the oversight of ADF&G. These programs have been tailored to this region to fit the needs and interests of its residents and fishing community. The Kodiak Island Borough and City of Kodiak lend KRAA full support and would encourage the Board of Fish to take no action that would limit production or inhibit the ability of KRAA to meet the established goals for the Kodiak Island Borough, City of Kodiak, or the Kodiak Management Area. The Kodiak Island Borough and City of Kodiak believe the existing permitting process allows for sufficient regulatory oversight and review by ADF&G and would encourage the Board of Fish to familiarize itself with the supporting science and the individual programs of each region before considering action that could have unintended negative consequences for a given region.

Sincerely,



Daniel A. Rohrer, Mayor
Kodiak Island Borough



Pat Branson, Mayor
City of Kodiak



Kodiak Island Borough
710 Mill Bay Road, Rm. 234
Kodiak, AK 99615
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October 1, 2018

Mr. Chris Oliver, Assistant Administrator
NOAA Fisheries
1315 East-West Highway
Silver Spring, MD 20910

Via email: chris.w.oliver@noaa.gov

Re: Gulf of Alaska Surveys

Dear Mr. Oliver,

The City of Kodiak and the Kodiak Island Borough have become aware of the potential loss of federal groundfish surveys that support groundfish stock assessments and the model outputs that determine acceptable biological catches for Gulf of Alaska groundfish fisheries. Kodiak's economy is largely dependent on our diverse fisheries with the majority of the seafood industry economic activity derived from groundfish¹. The near year-round operation of the groundfish fleet fills critical gaps in economic activity allowing multiple processors to operate year-round, utilizing our residential work force. With this local, skilled work force, processors are able to support diverse fisheries such as salmon, crab, herring, rockfish, black cod and halibut. Groundfish deliveries represent 60% of the fish that crosses Kodiak's docks annually.

Access to resources that allow near year-round production is the basis for the permanent residential processing work force that has existed for several generations. Kodiak's social fabric, culture, economy and character, is in large part, determined by our diverse population.

Over the past several years, declines in allowable fishery harvests have directly impacted the ability of local government to serve residents and maintain infrastructure on which our fisheries economy depends. Recently we have seen an 80% reduction in Pacific cod quotas, a 20% reduction for pollock, and a 25% reduction for arrowtooth flounder. These reductions combined with lower halibut quotas, a commercial fishery disaster for pink salmon in 2016 (and as a consequence low pink returns in 2018), mean fewer landings, less income for residents, and lower tax revenues to support governmental operations of the community.

It is our understanding that the RV Oscar Dyson has shipyard / mechanical issues, and in fact that it will not be ready for Gulf surveys in February of 2019 nor throughout the summer. We rely on this vessel for midwater acoustic-trawl surveys, and this year we lost at least three weeks due to mechanical failures. The North Pacific Fishery Management Council will likely get public

¹ McDowell Group, Economic Impact of the Seafood Industry on the Kodiak Island Borough (May 2016) p.6

Mr. Chris Oliver, Assistant Administrator
NOAA fisheries
October 1, 2018
Page 2 of 2

requests in October to weigh in as a Council and send a letter to NOAA HQ explaining how important it is to Gulf survey data needs to use an alternate vessel for the survey. We understand there is potential to move the Dyson sister ship (Shimada) that normally surveys the Pacific coast to survey the Gulf. We hope RV Shimada will be made available as a replacement vessel, if necessary, and that this contingency plan can be guaranteed by NOAA HQ.

We continue to see erosion of the survey capacity in our region, despite assurances that this is a NOAA priority, and despite that at-sea surveys are our most critical data source, especially given the recent climate change impact on fishery resources. Historically, as you know, there have been five charter boats for bottom trawl surveys: two in the Bering Sea shelf (annually) and either three in the Gulf (odd years), or two in the Aleutian Islands and one for the Bering Sea slope (even years). Recently, only four boats were able to be funded, and AFSC reports they are undertaking planning for either a three or four boat scenario for the foreseeable future. The recent North Pacific Science and Statistical sub-committee meeting minutes note the value of trawl bottom trawl surveys and the maintenance of indispensable data that contribute substantially to the understanding and management of fish populations, fisheries, and the communities that are dependent upon those fisheries. It is these data that allow us to fish to optimum yield and that directly support our Nation's largest fisheries and seafood production. Discontinuation or diminishment of the research that provides these datasets would leave a significant gap in the science needed to support sustainable and successful fisheries management in the North Pacific. Recent rapid changes in environmental conditions that affect fish abundance and distribution, and thus our ability to harvest and process these groundfish species, accentuate the need to maintain current effort levels, if not increase them².

Kodiak has consistently ranked third or fourth in the nation based on the volume of seafood that crosses our docks. As a coastal community, the seafood industry is the centerpiece and focal point of our economy. We ask that NOAA leadership provide a replacement vessel for the RV Oscar Dyson for the hydro-acoustic surveys for the 2019 survey cycle and that funding be provided for the normal five charter boats needed for the bottom trawl surveys in the North Pacific now and into the foreseeable future.

Thank you for considering our comments on this critical issue. It is our hope that you will maintain the vessels and funding for these essential groundfish surveys to the benefit of Alaska and the Nation's commercial fisheries.

Sincerely,



Daniel A. Rohrer, Mayor
Kodiak Island Borough



Pat Branson, Mayor
City of Kodiak

C: Rear Admiral Nancy Hann, Deputy Director for Operations, OMAO
Troy Frost, Deputy Director for Marine Operations, OMAO
Cisco Werner, NMFS Chief Science Advisor
Jim Balsiger, Regional Administrator, AKRO
Jeremy Rusin, Deputy Science Director, AFSC

² Report of NPFMC SSC Sub-committee meeting with AFSC on Trawl Survey Options and Priorities, September 10, 2018, NPFMC council agenda item B-1, page 1

Climate Change and Alaskan Fisheries



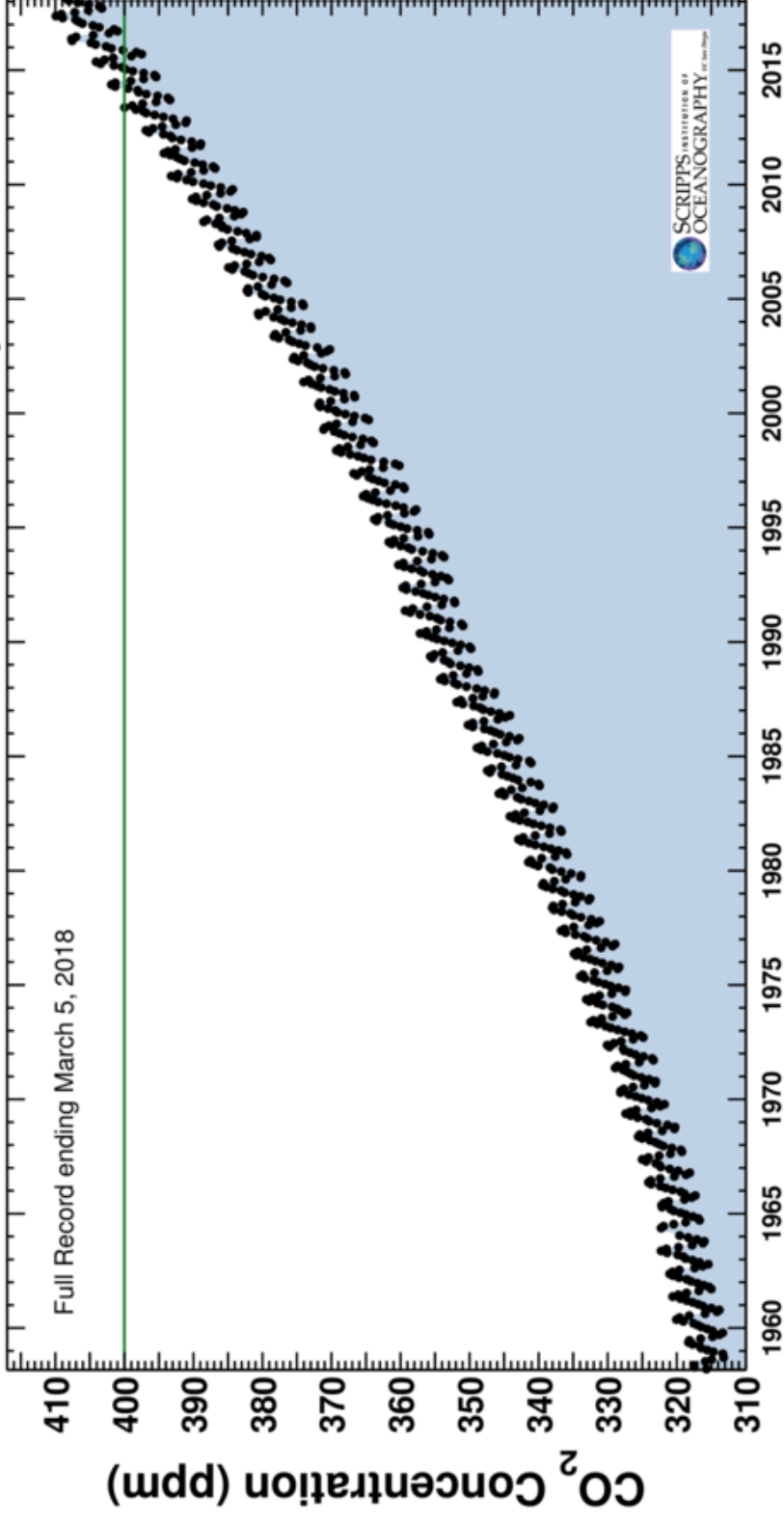
Mike Litzow
UAF Fisheries Department
Kodiak Seafood and Marine Science Center



Atmospheric carbon dioxide: 1958-present

Latest CO₂ reading
March 02, 2018
408.67 ppm

Carbon dioxide concentration at Mauna Loa Observatory

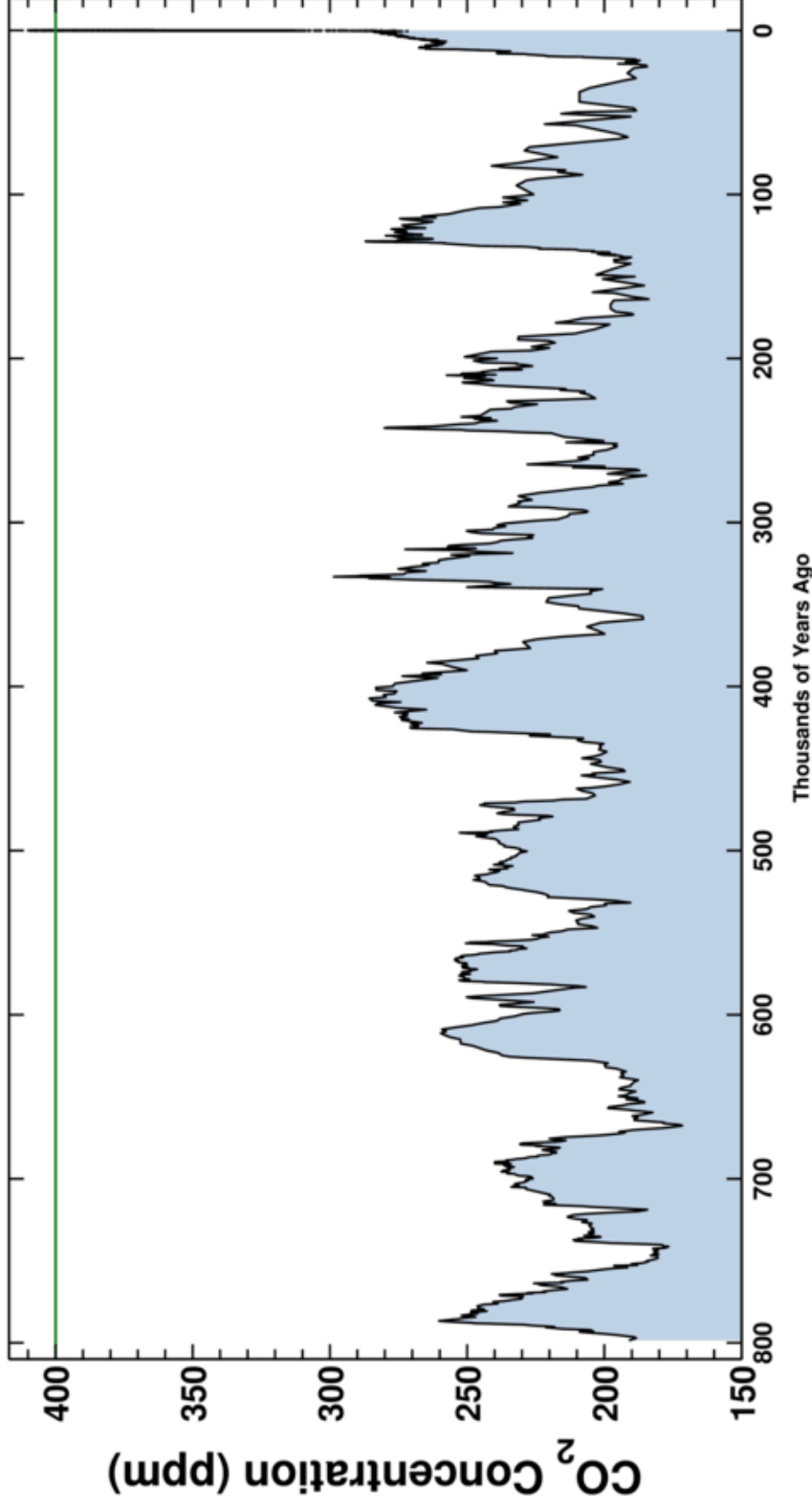


Atmospheric carbon dioxide: last 800,000 years

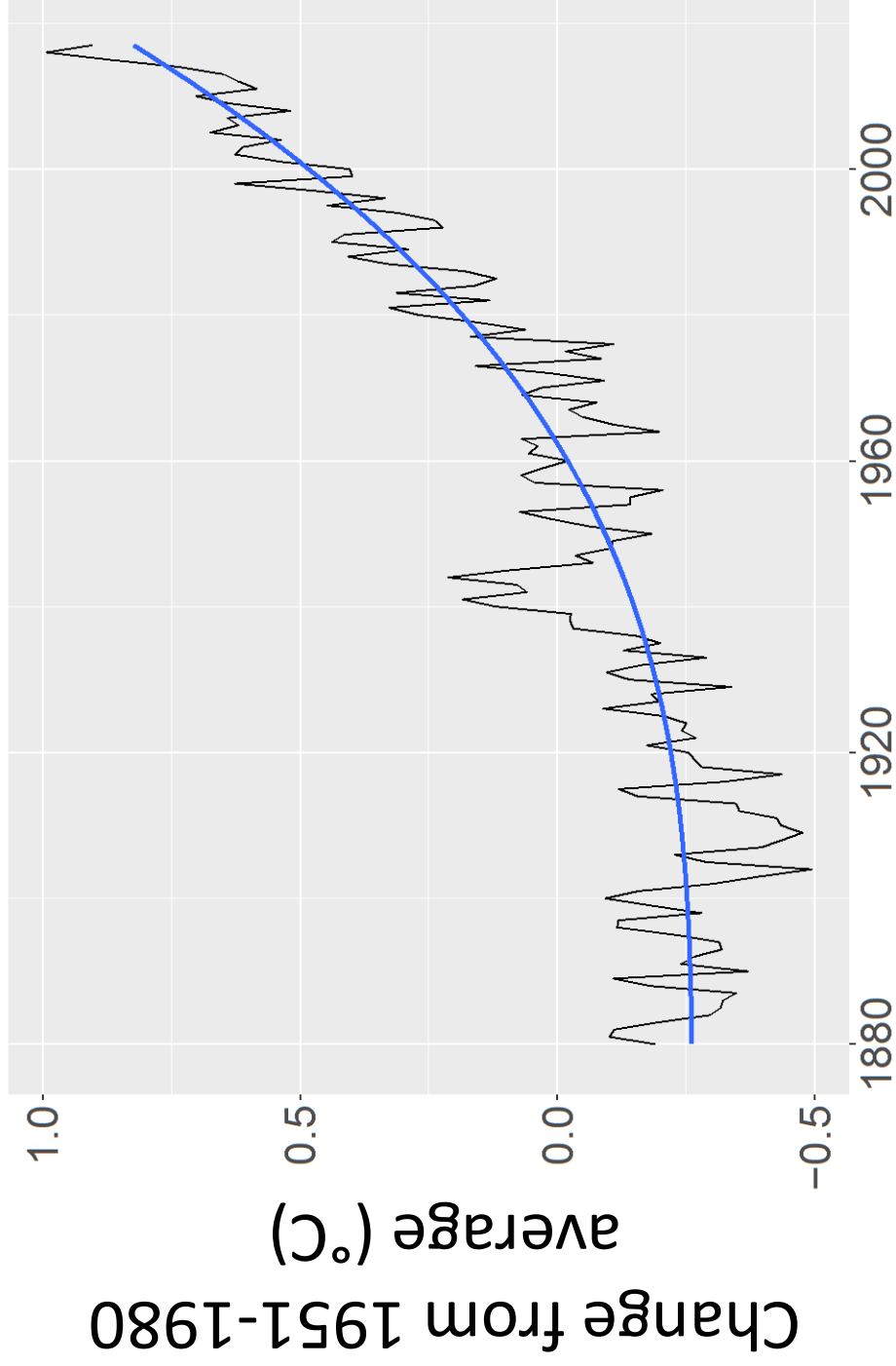
Latest CO₂ reading
March 02, 2018

408.67 ppm

Ice-core data before 1958. Mauna Loa data after 1958.

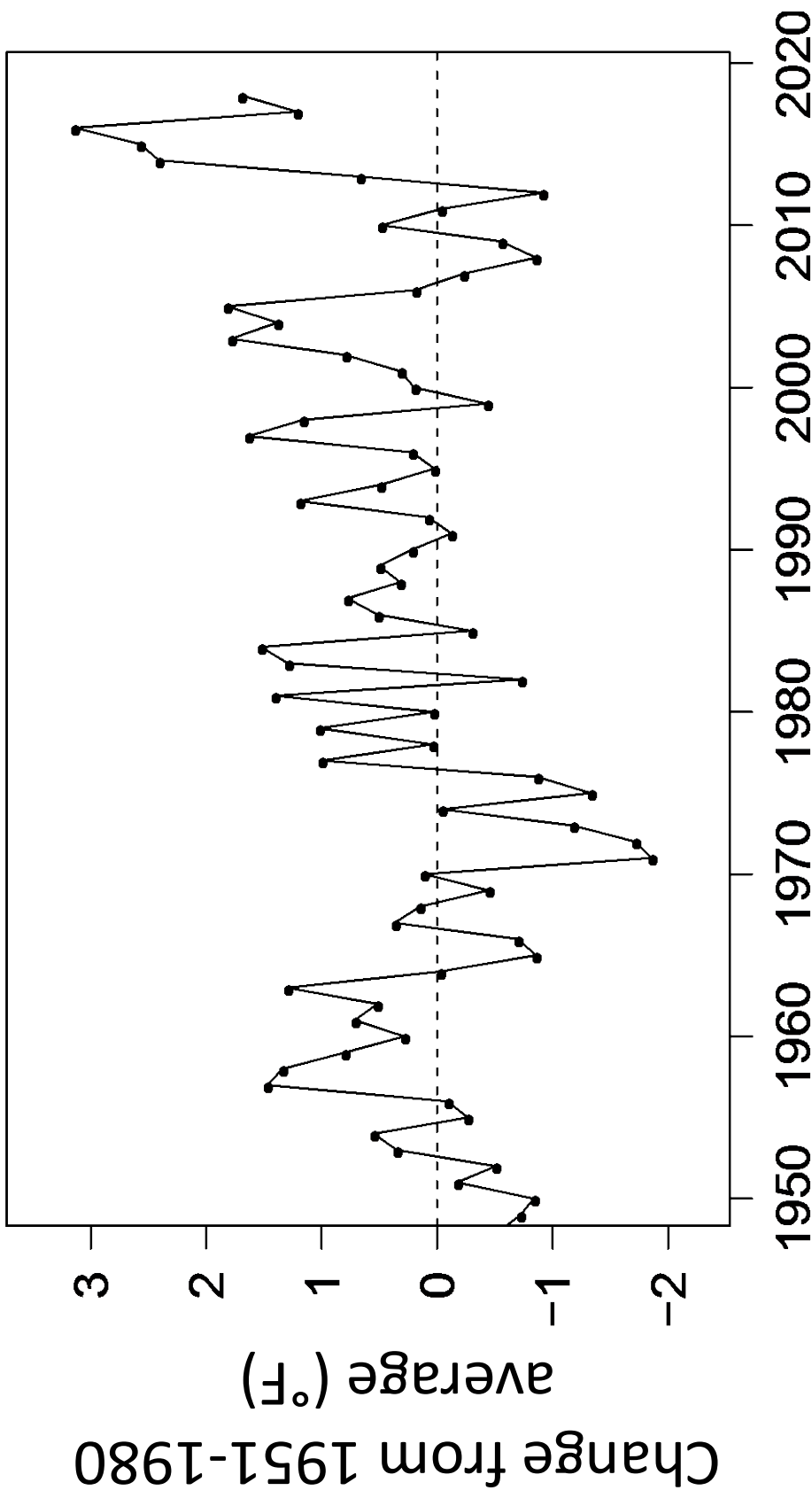


Global land and sea temperature 1880-2017



Source: NASA

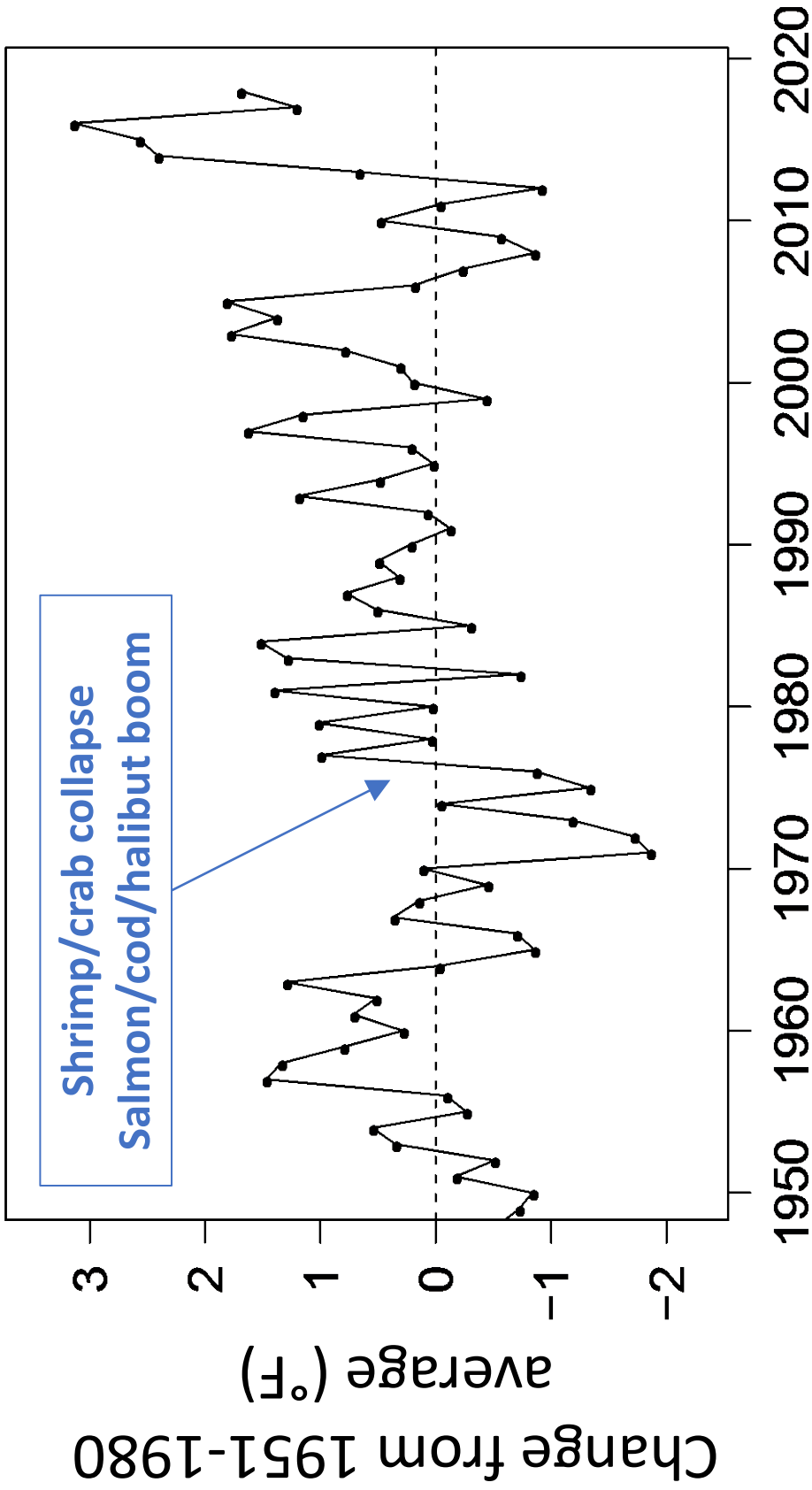
Gulf of Alaska surface temperature 1950-2018



Source: NOAA

Gulf of Alaska surface temperature

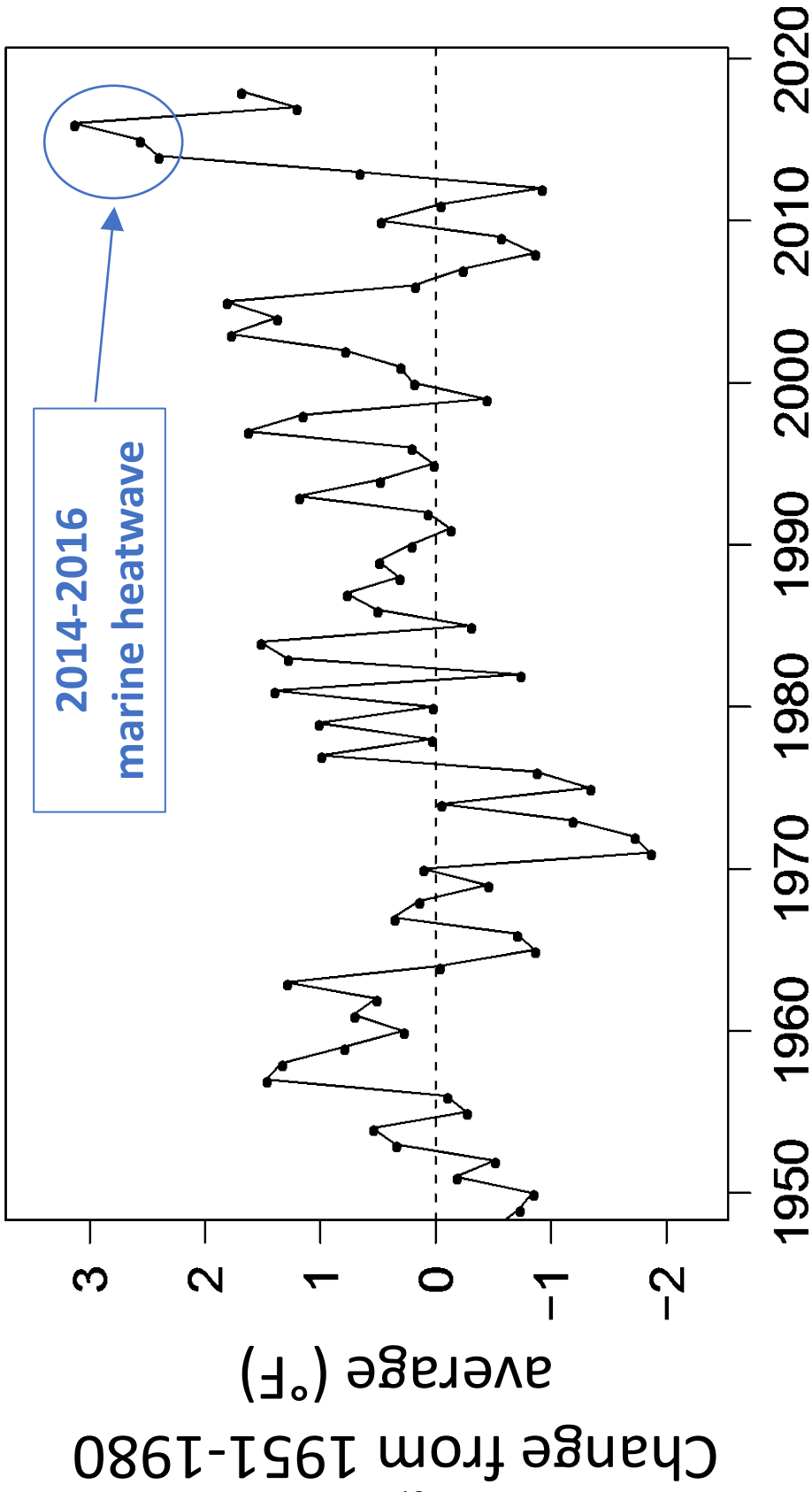
1950-2018



Source: NOAA

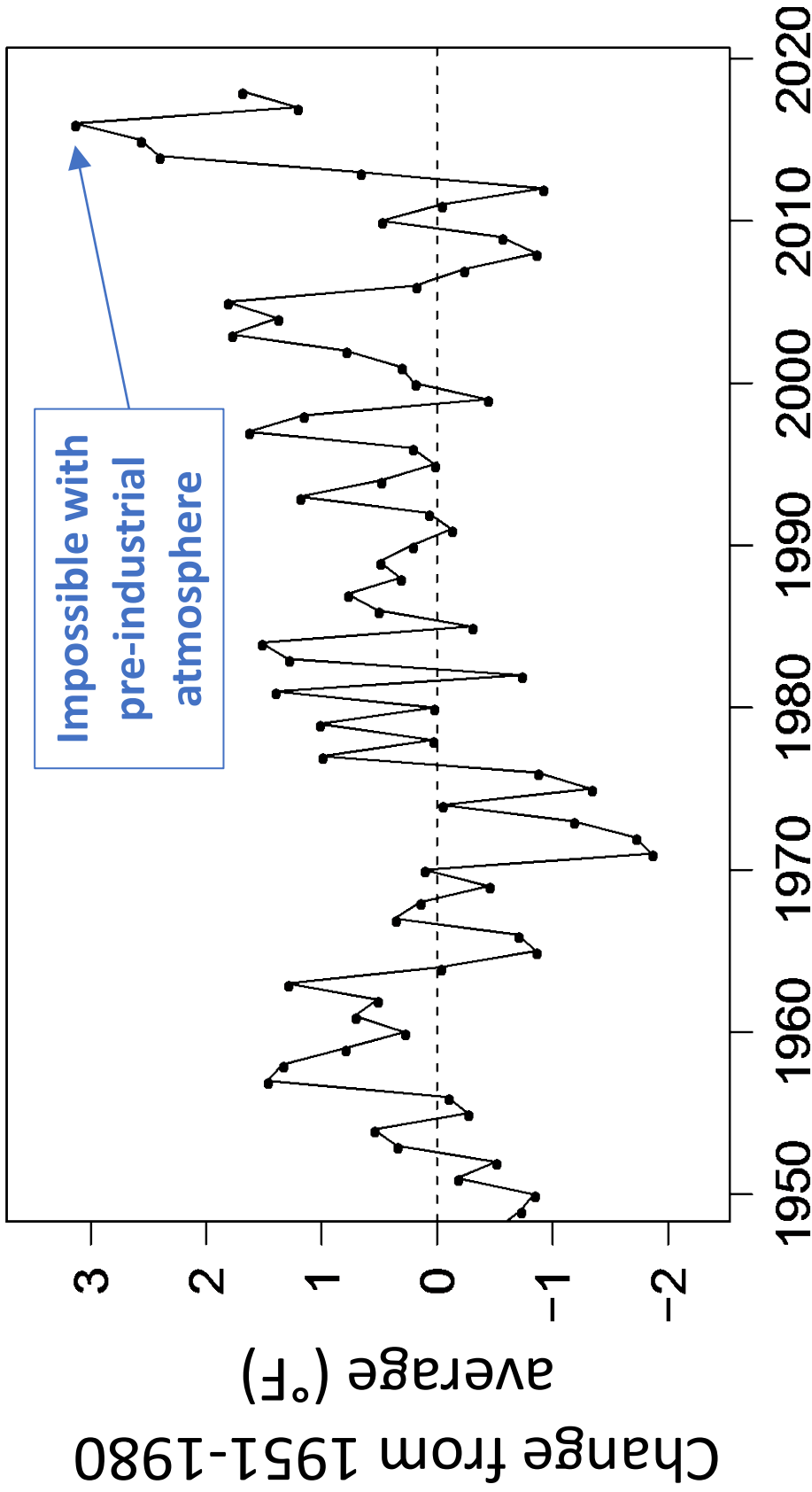
Gulf of Alaska surface temperature

1950-2018



Source: NOAA

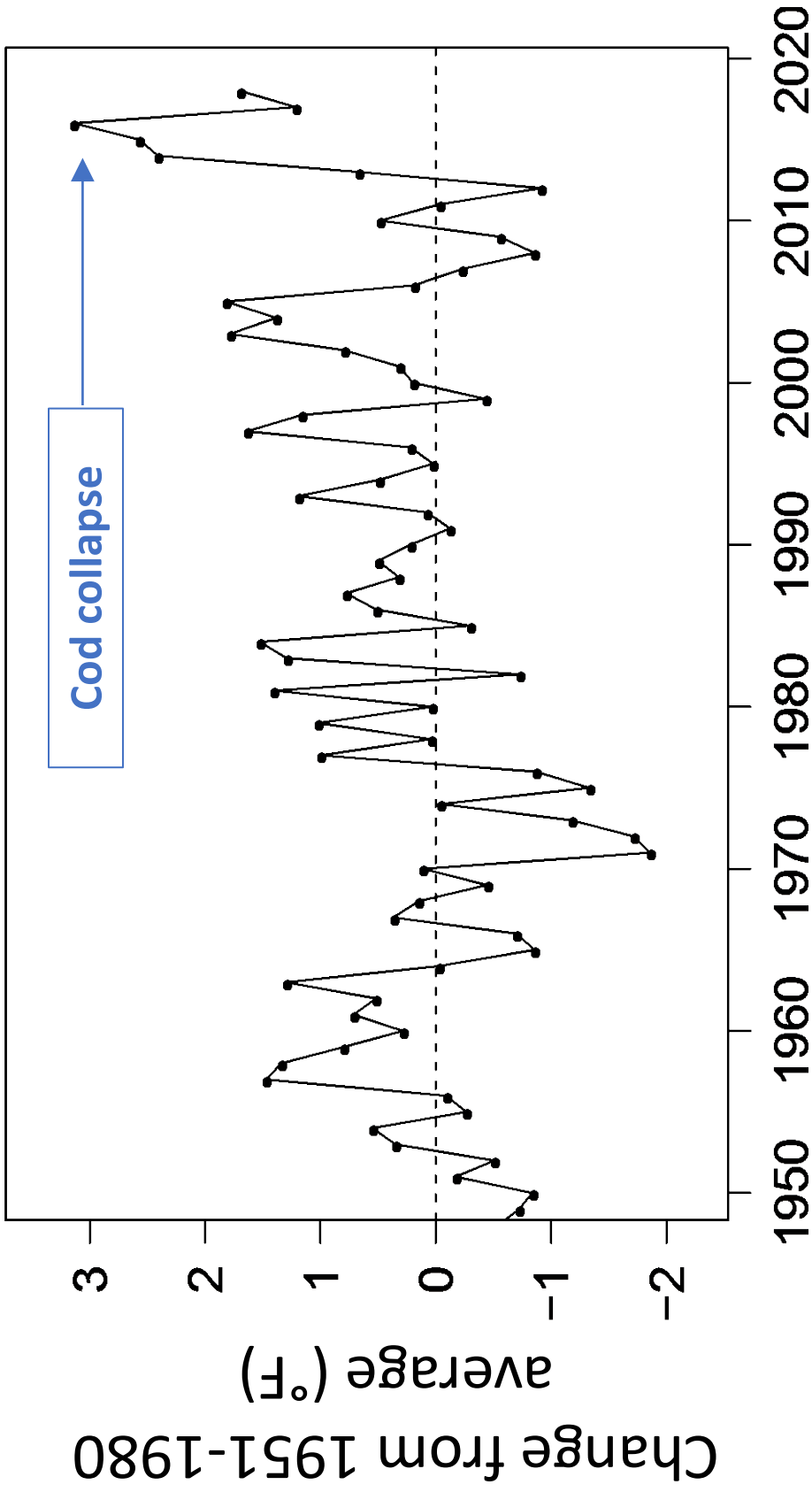
Gulf of Alaska surface temperature 1950-2018



Source: NOAA

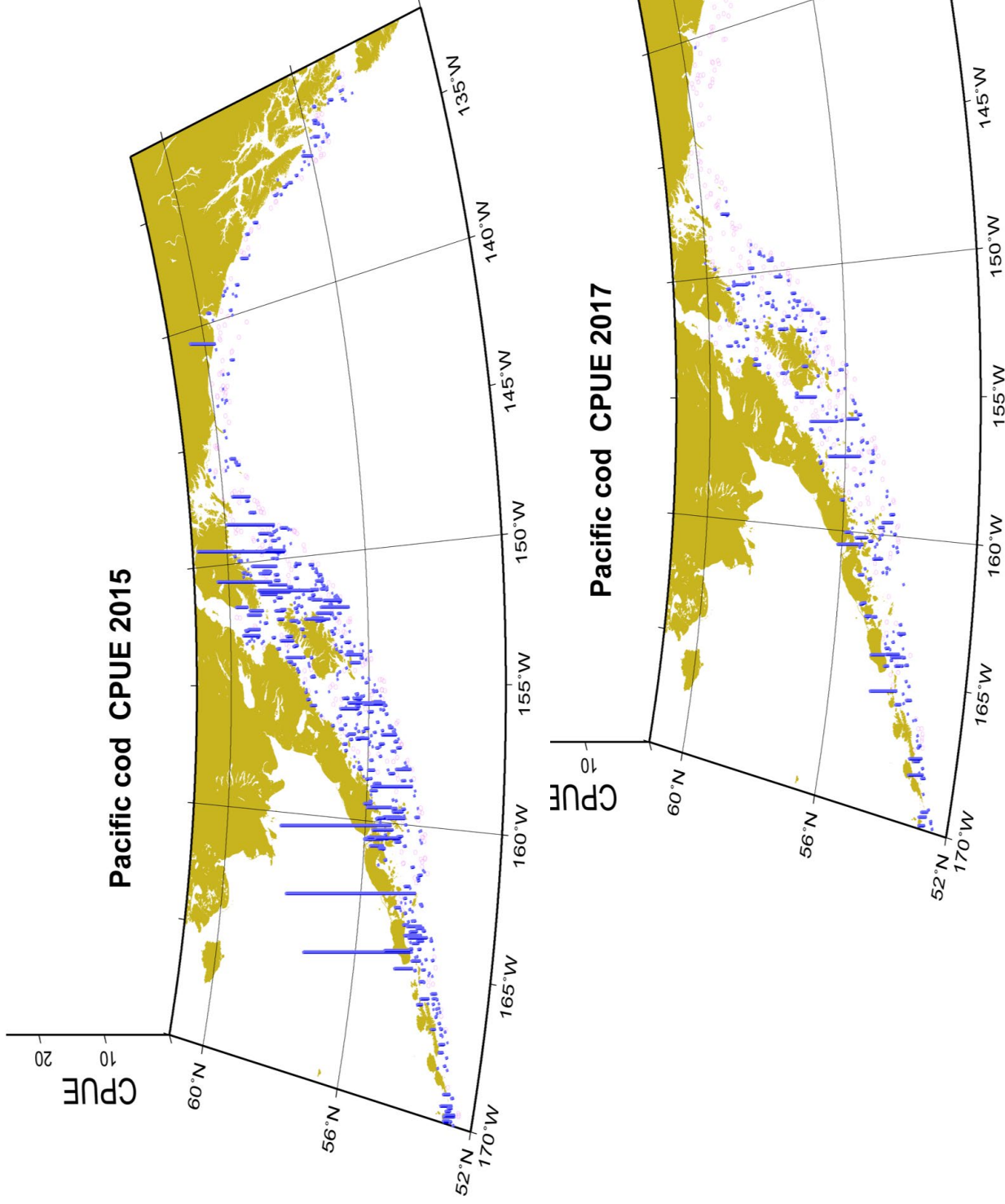
Gulf of Alaska surface temperature

1950-2018



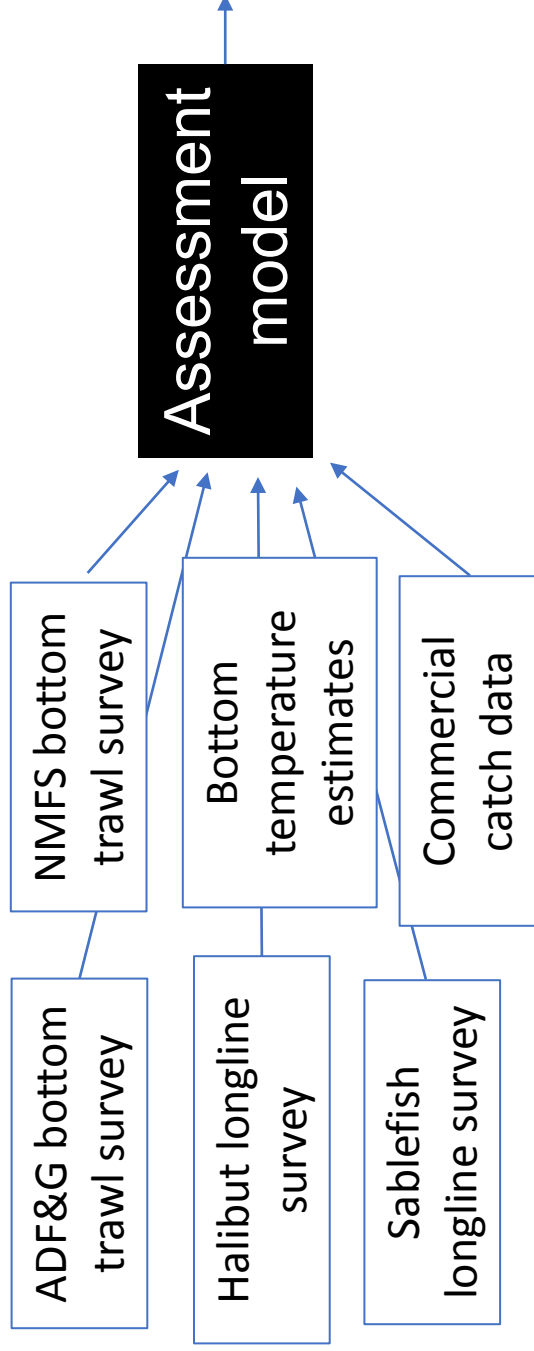
Source: NOAA

Change can be fast

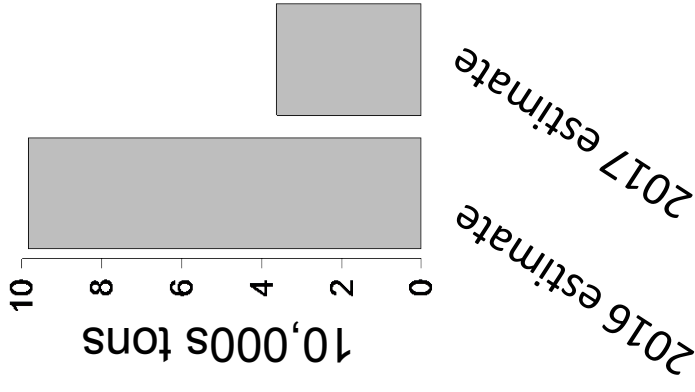


How do we know the stock collapsed?

Data Sources

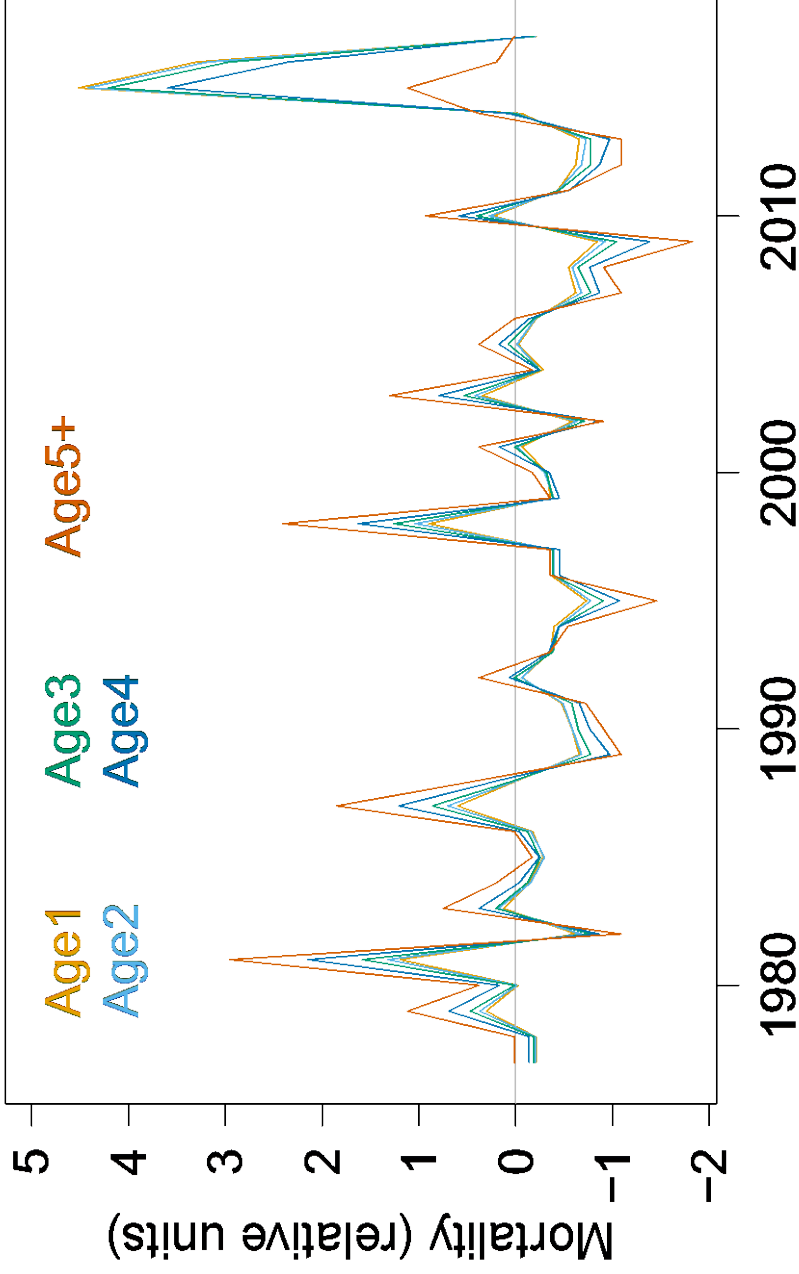


Stock estimate
(Female spawning biomass)



Why did the stock collapse?

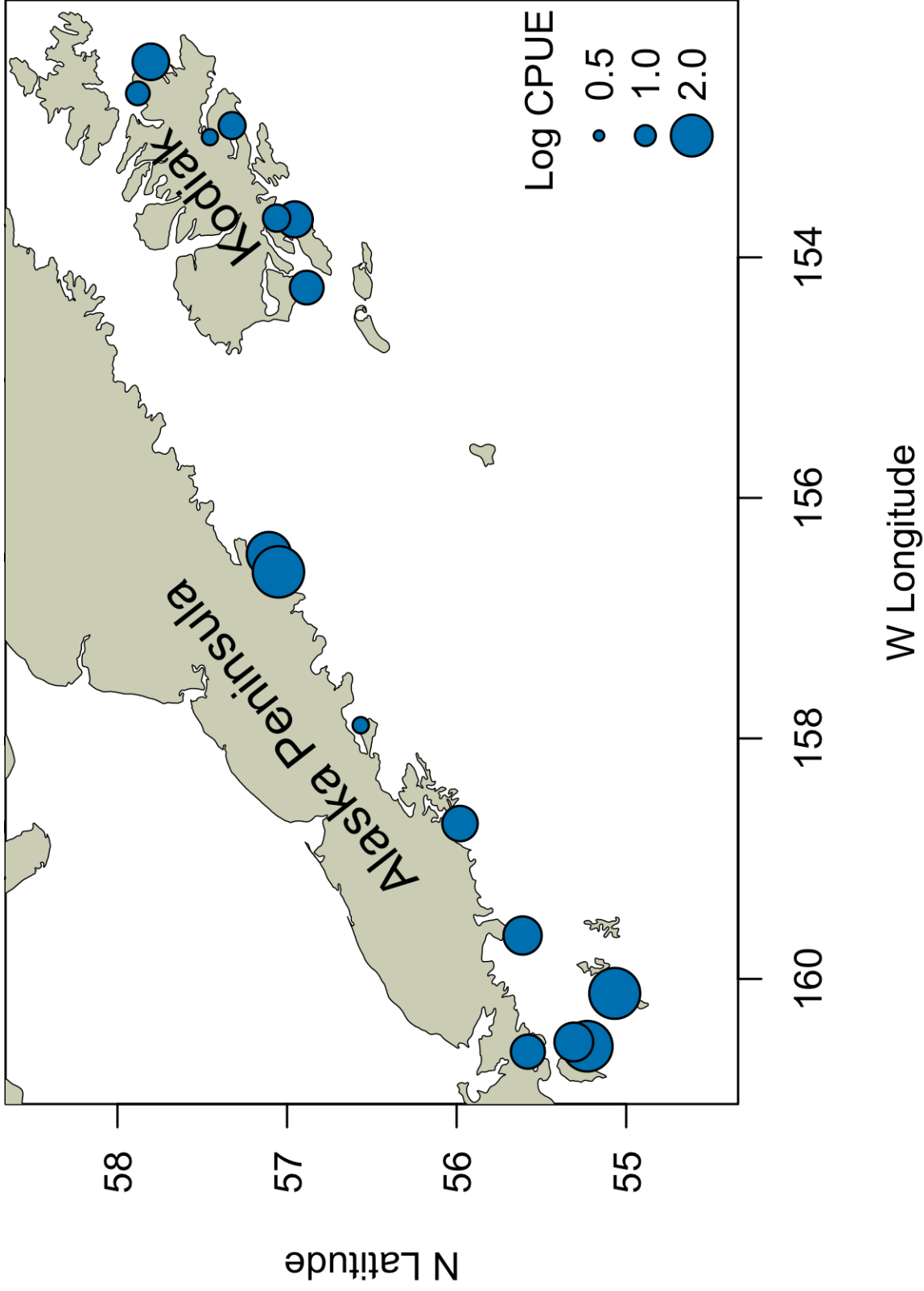
Estimated natural mortality over time



Source: Barbeaux et al., 2017 GOA P. cod assessment

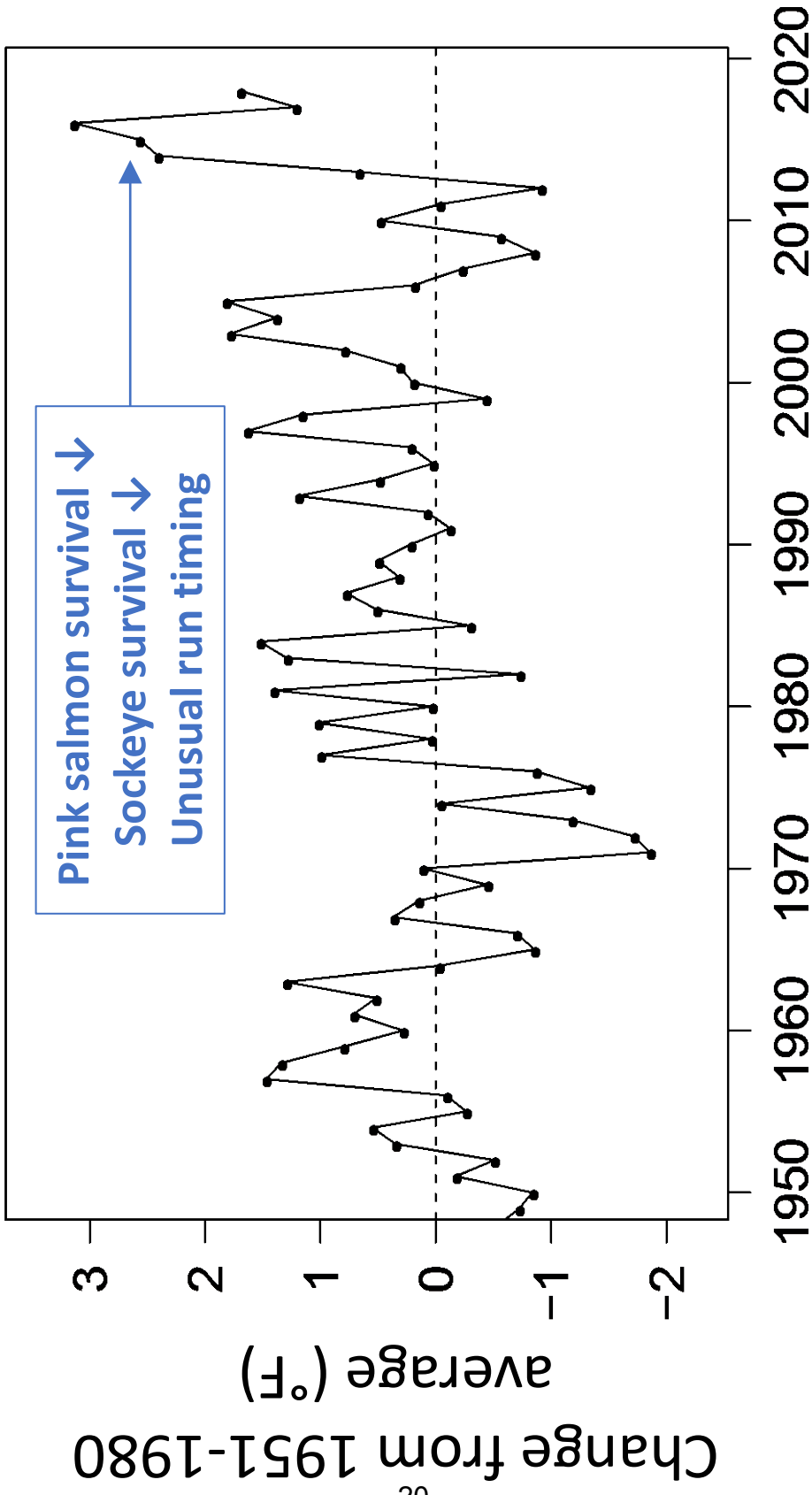
2018 UAF Beach Seine Survey

Age-0 Pacific cod abundance – Catch per unit effort



Gulf of Alaska surface temperature

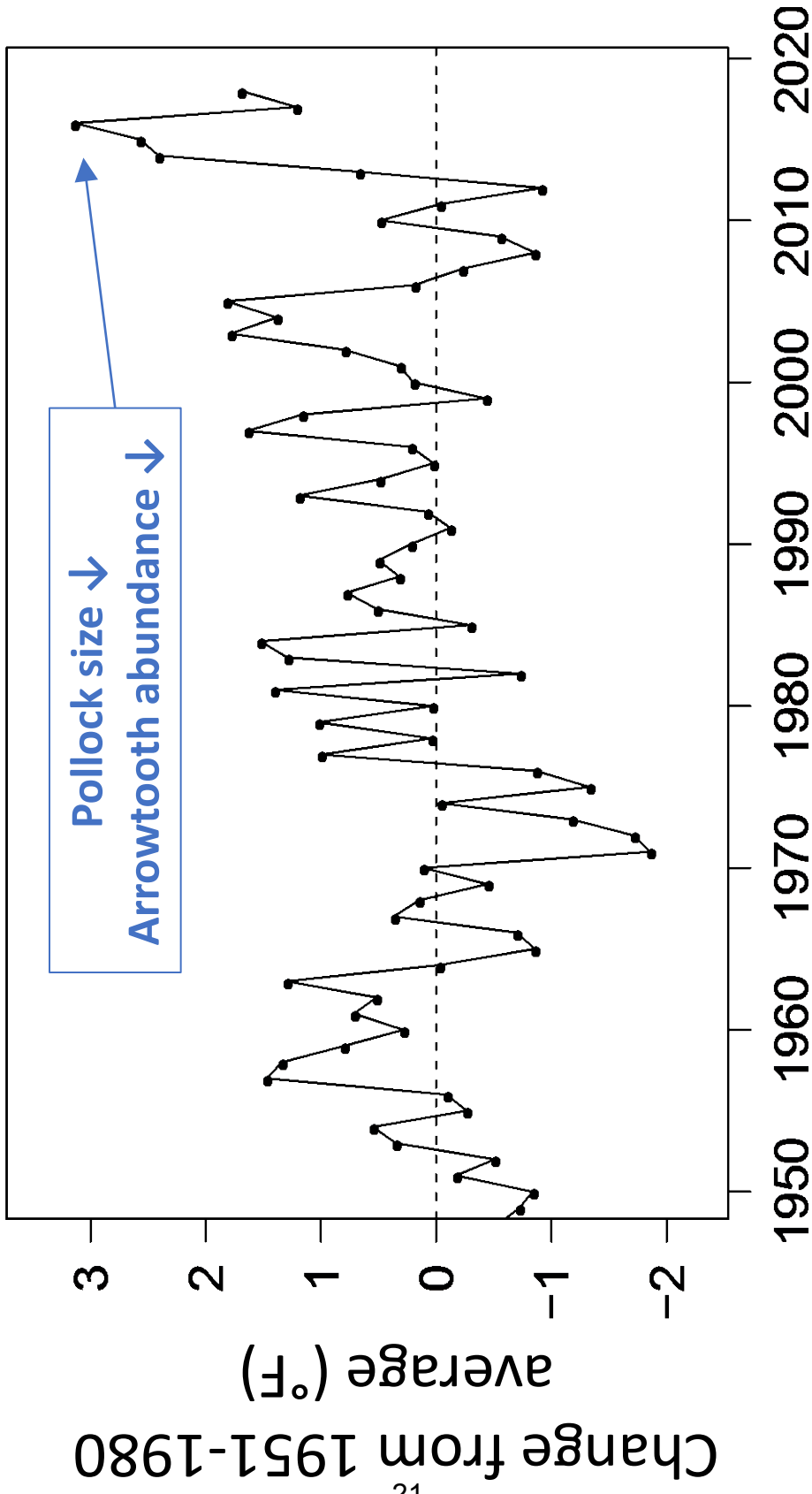
1950-2018



Source: NOAA

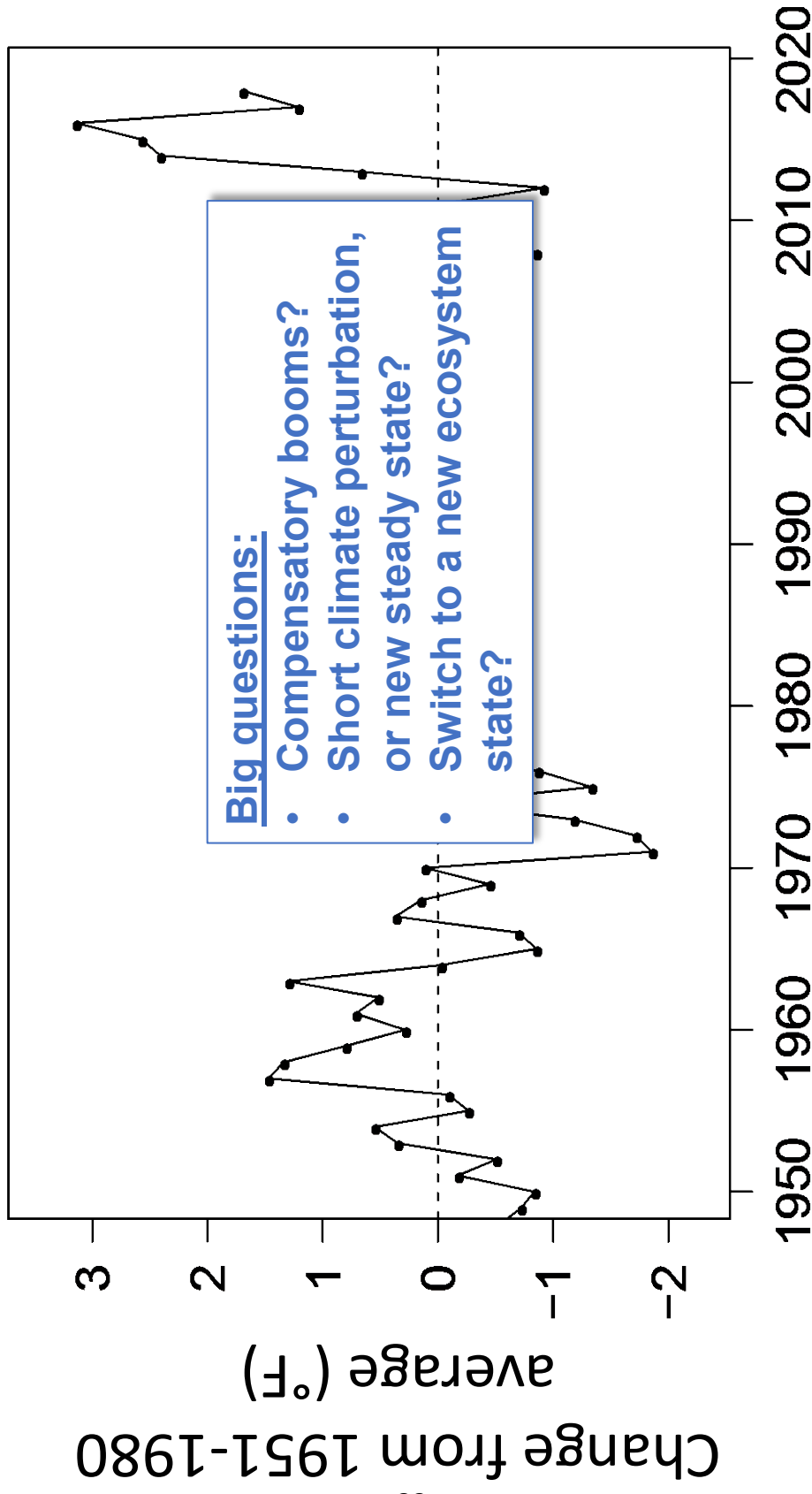
Gulf of Alaska surface temperature

1950-2018

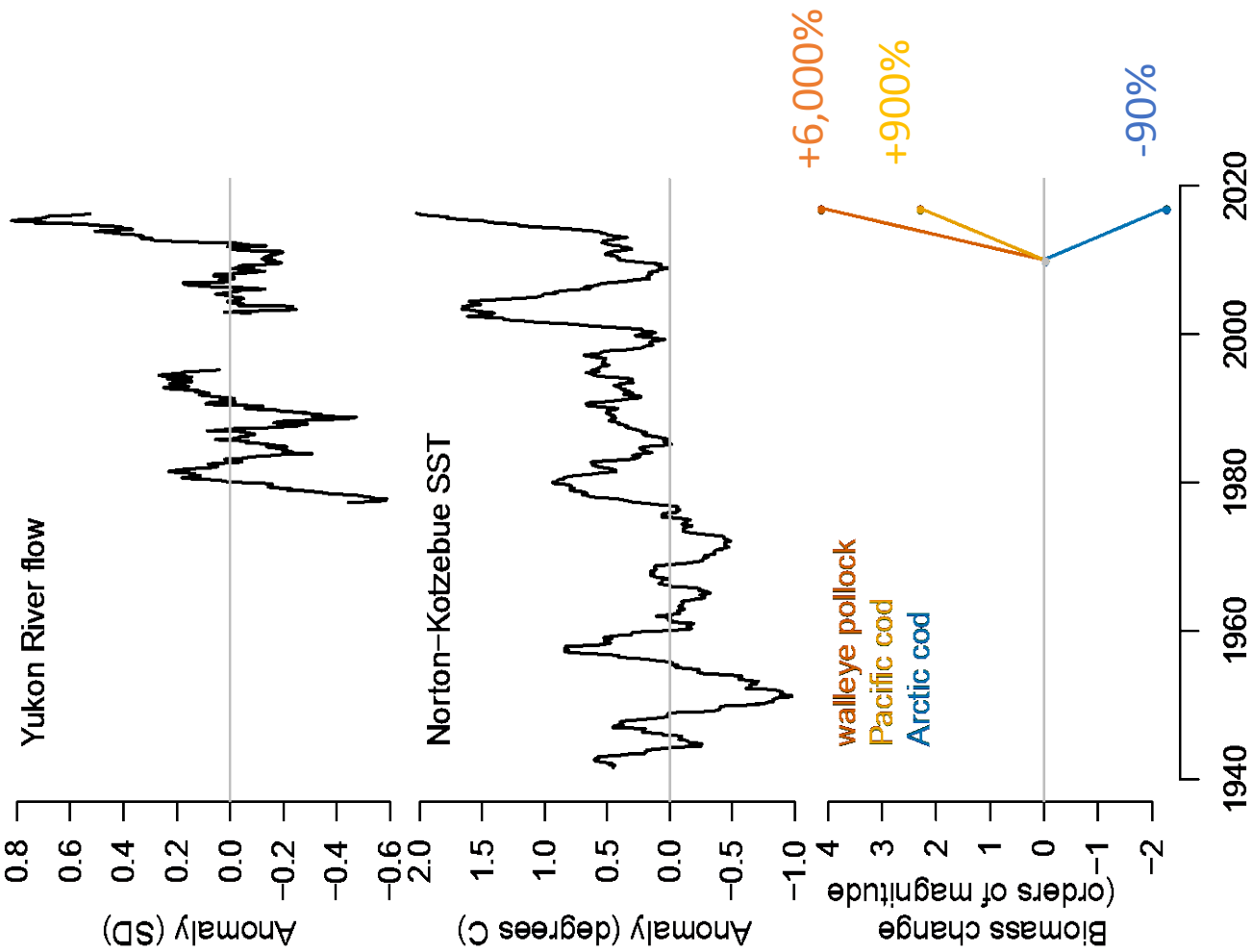
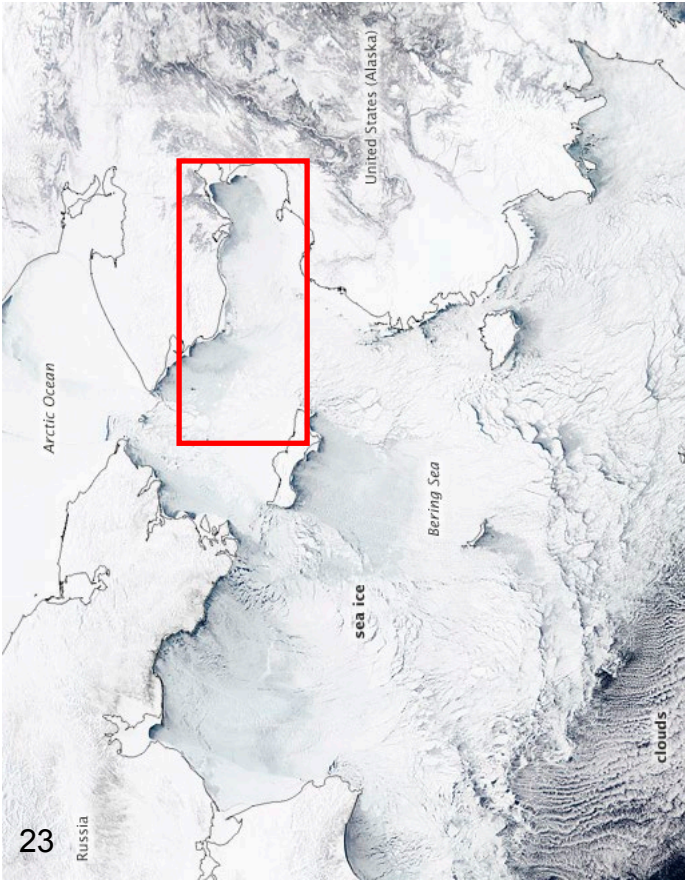


Source: NOAA

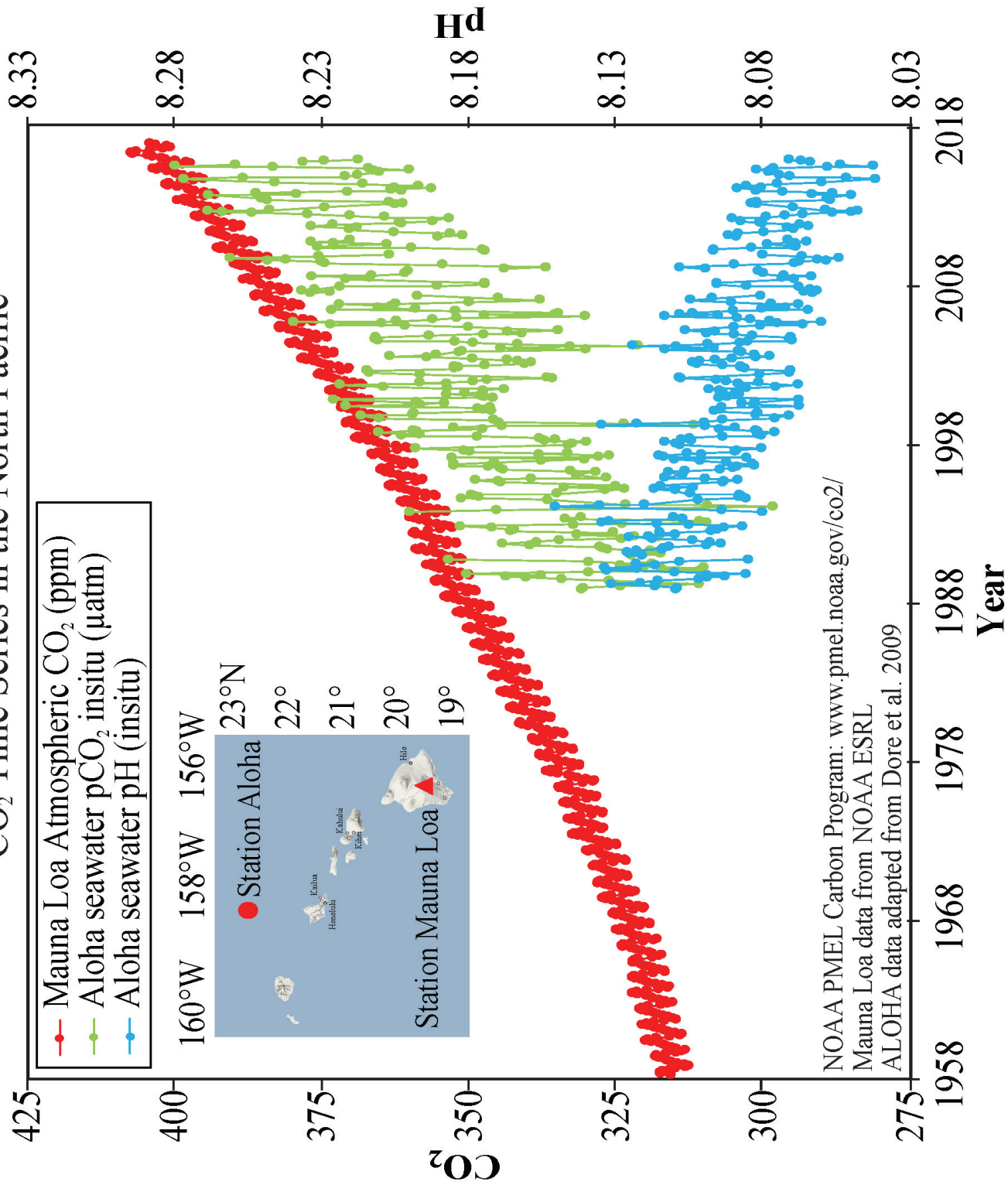
Gulf of Alaska surface temperature 1950-2018



Northern Bering Sea climate changes and range extensions

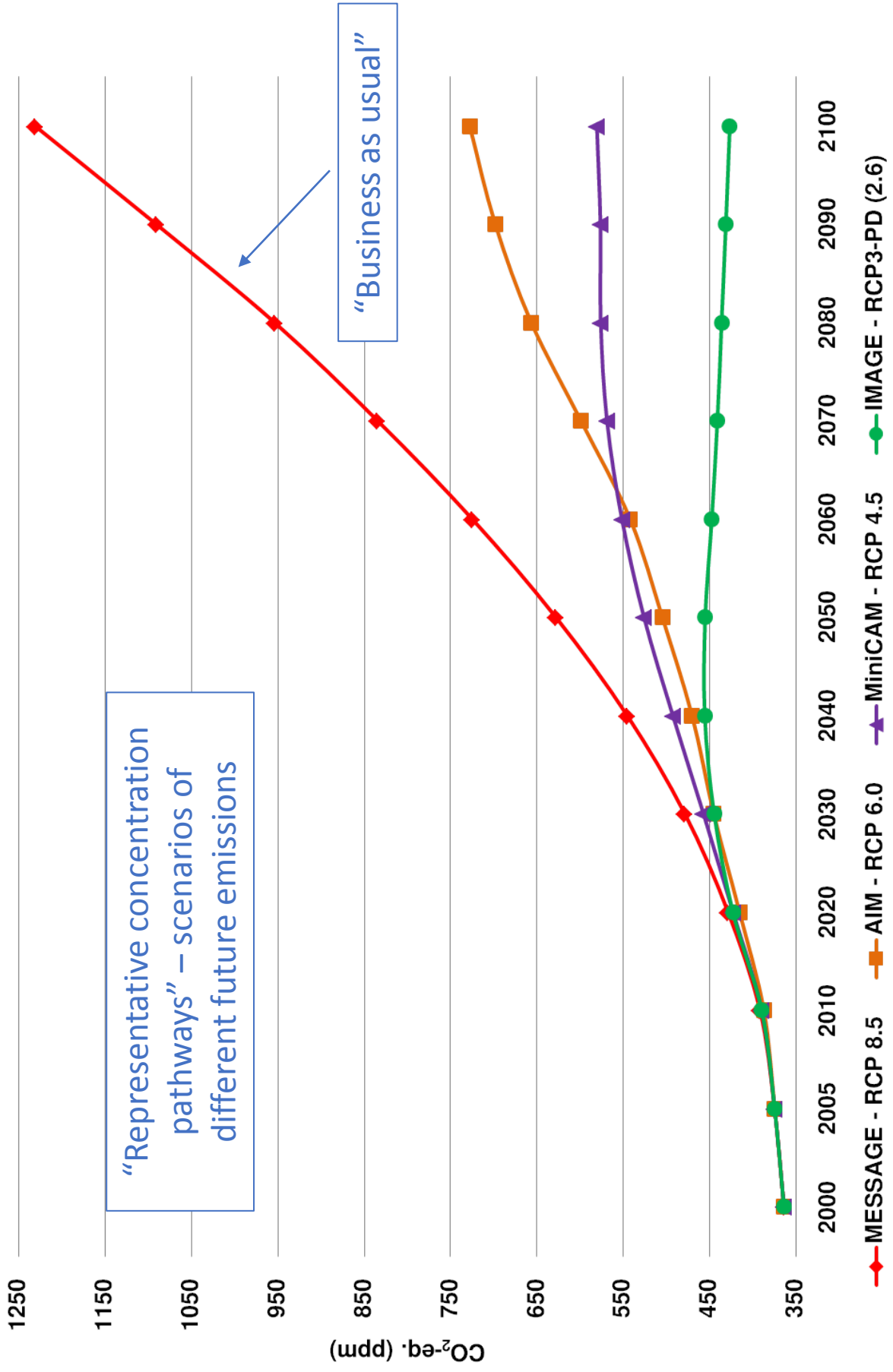


CO₂ Time Series in the North Pacific

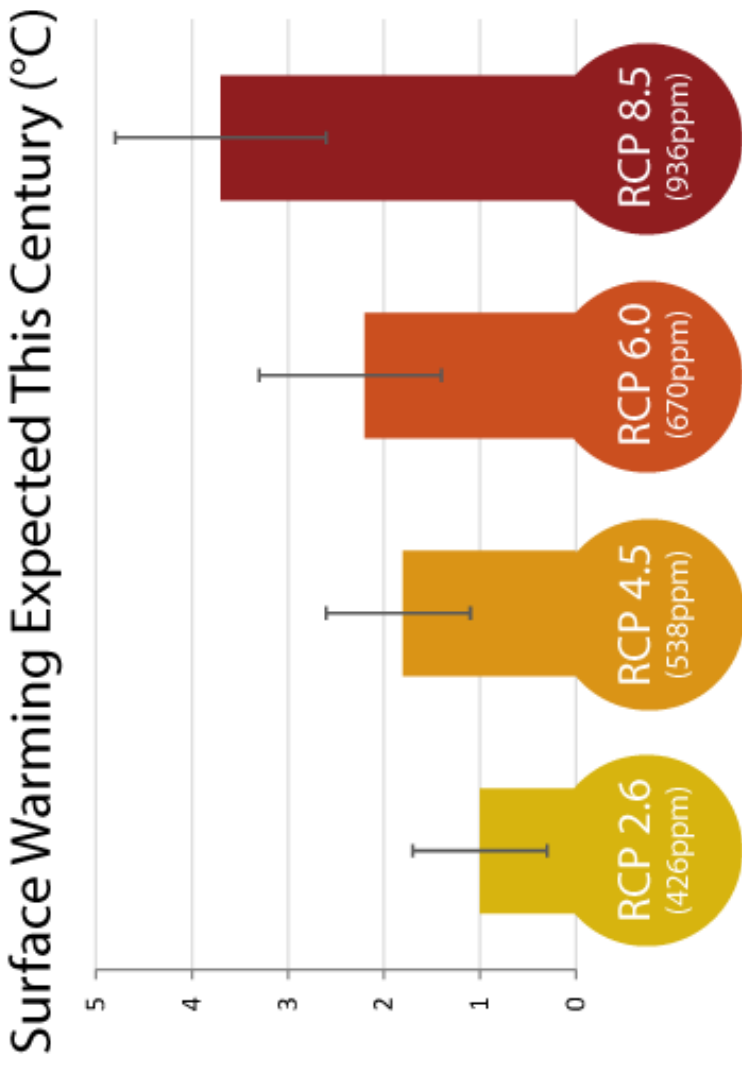


NOAA PMEL Carbon Program: www.pmel.noaa.gov/co2/
 Mauna Loa data from NOAA ESRL
 ALOHA data adapted from Dore et al. 2009

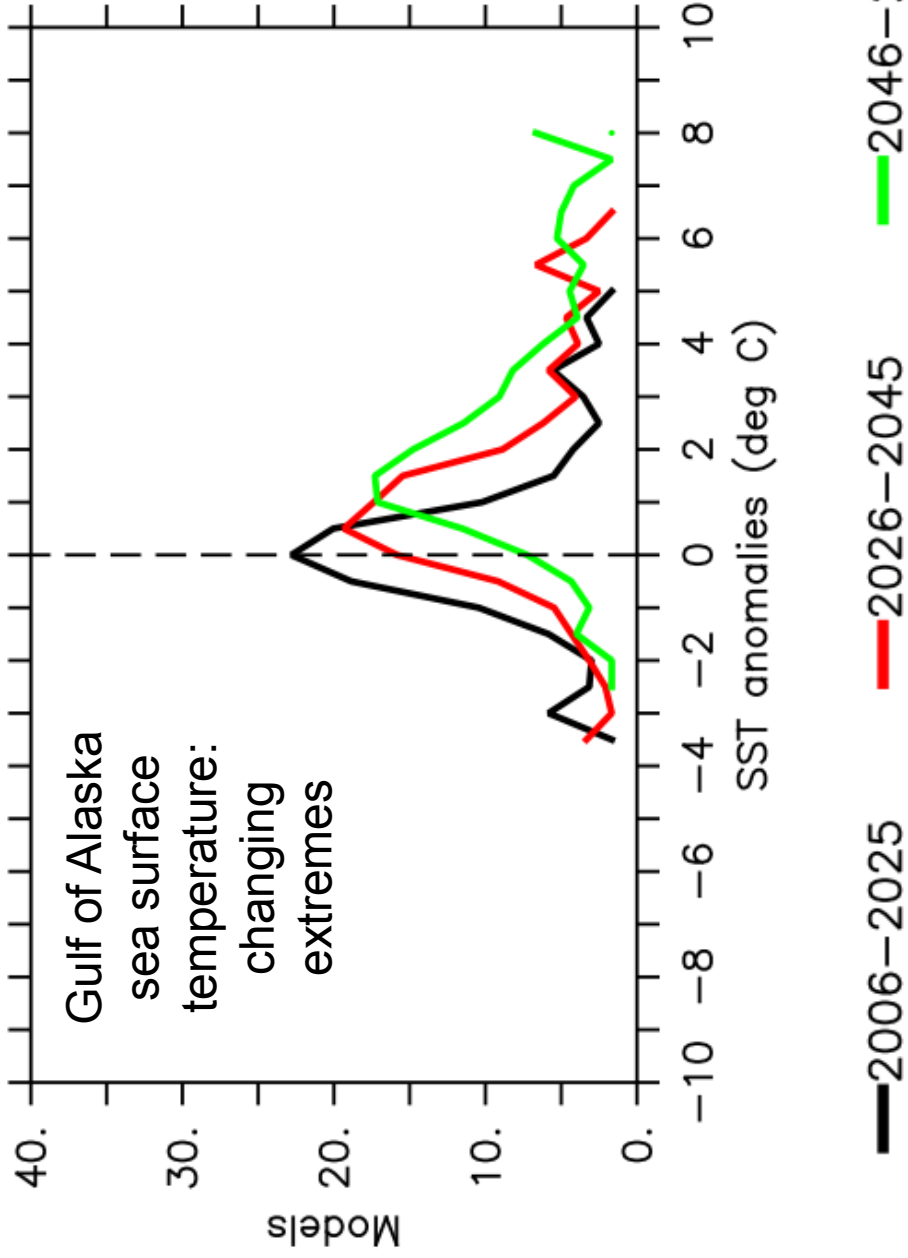
Carbon emissions drive fisheries outcomes



Carbon emissions drive fisheries outcomes



Temperature variability is expected to continue *increasing* (strong scientific certainty)





Conclusions

- **Present-day effects of global warming**
 - Pacific cod crash
 - Poor/volatile salmon returns
- **Short-term future (< 5 years)**
 - Elevated chance of a switch to a new ecosystem state
 - Little ability to predict year-to-year temperature
- **Longer term (now and future decades)**
 - Increasing frequency and severity of temperature shocks (high scientific certainty)
 - Increasing ocean acidification (high scientific certainty)
 - Increasing volatility in fisheries (high scientific certainty)