

# Update on the ocean climate of the Northeast Pacific

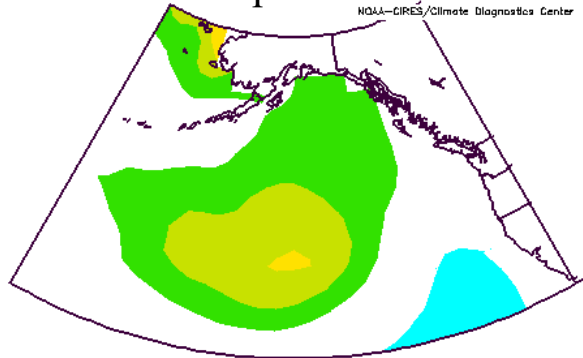
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(NOAA)

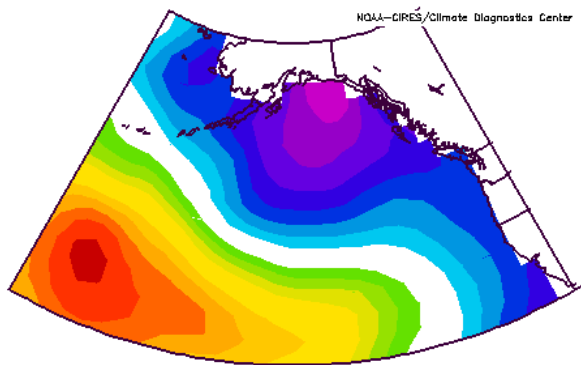
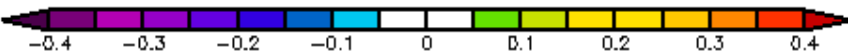
# SST anomalies: early ocean period

## Bristol Bay sockeye salmon

June-September



10 years with highest survival rates

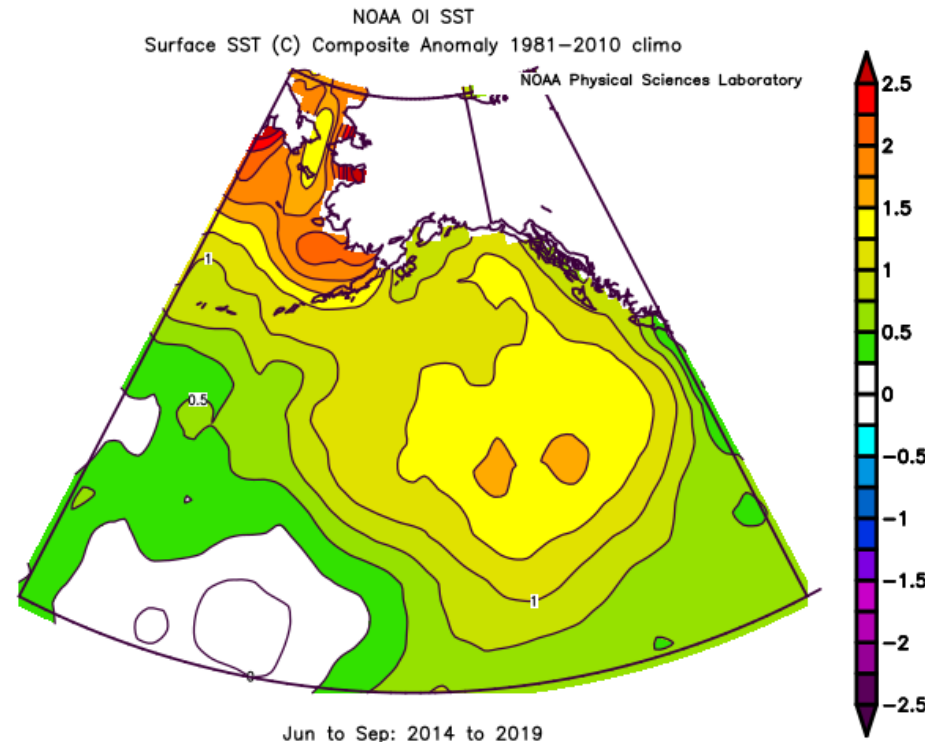


10 years with lowest survival rates

An analysis of a “recruits per spawner” for 1960-1996 index for Bristol Bay sockeye shows that low productivity years tended to coincide with colder than average June-Sept SSTs in the eastern Bering Sea and Gulf of Alaska

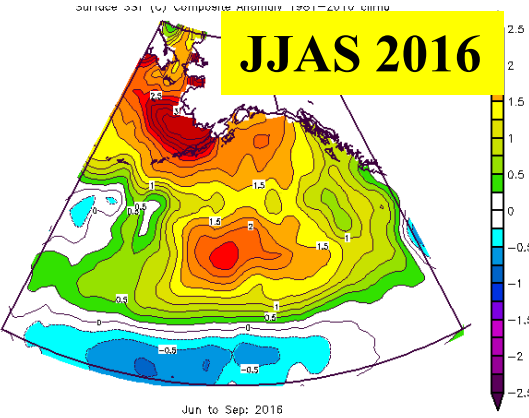
# 2014-2019 June-September SST anomalies

Ocean entry periods of exceptional Bristol Bay sockeye returns are notable for very warm summertime SSTs in the Eastern Bering Sea

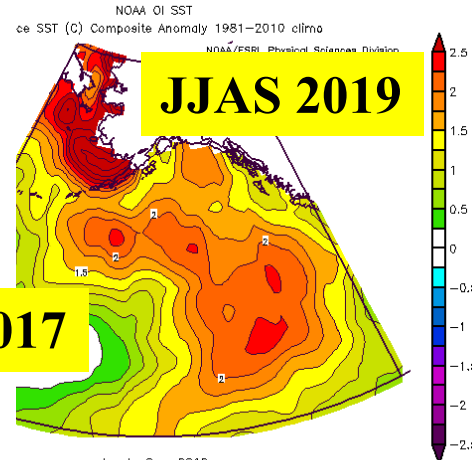


# SST anomalies: early ocean period

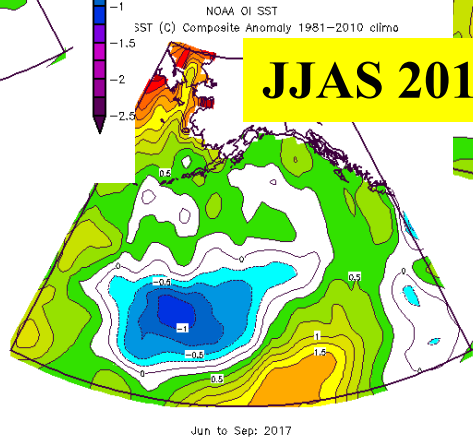
**JJAS 2016**



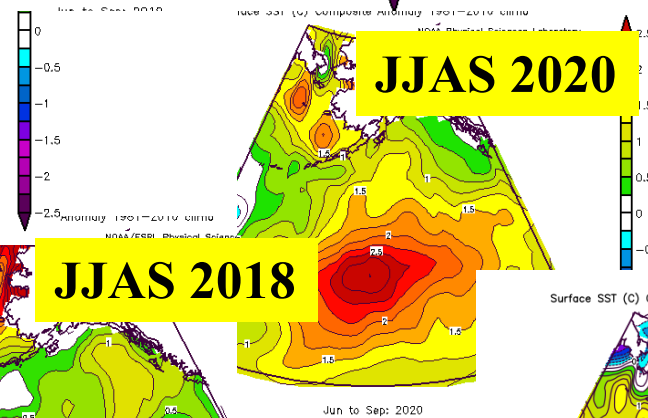
**JJAS 2019**



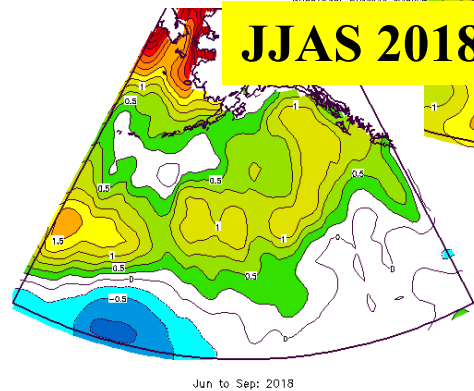
**JJAS 2017**



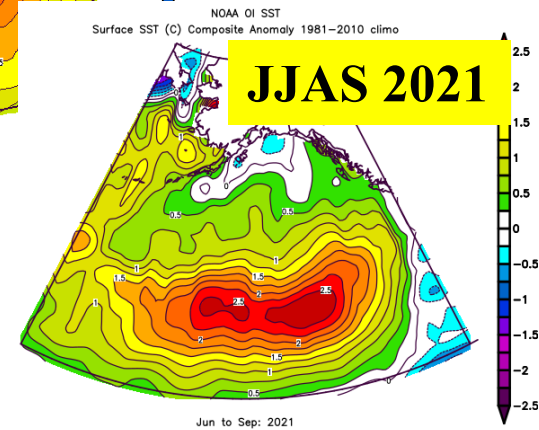
**JJAS 2020**



**JJAS 2018**

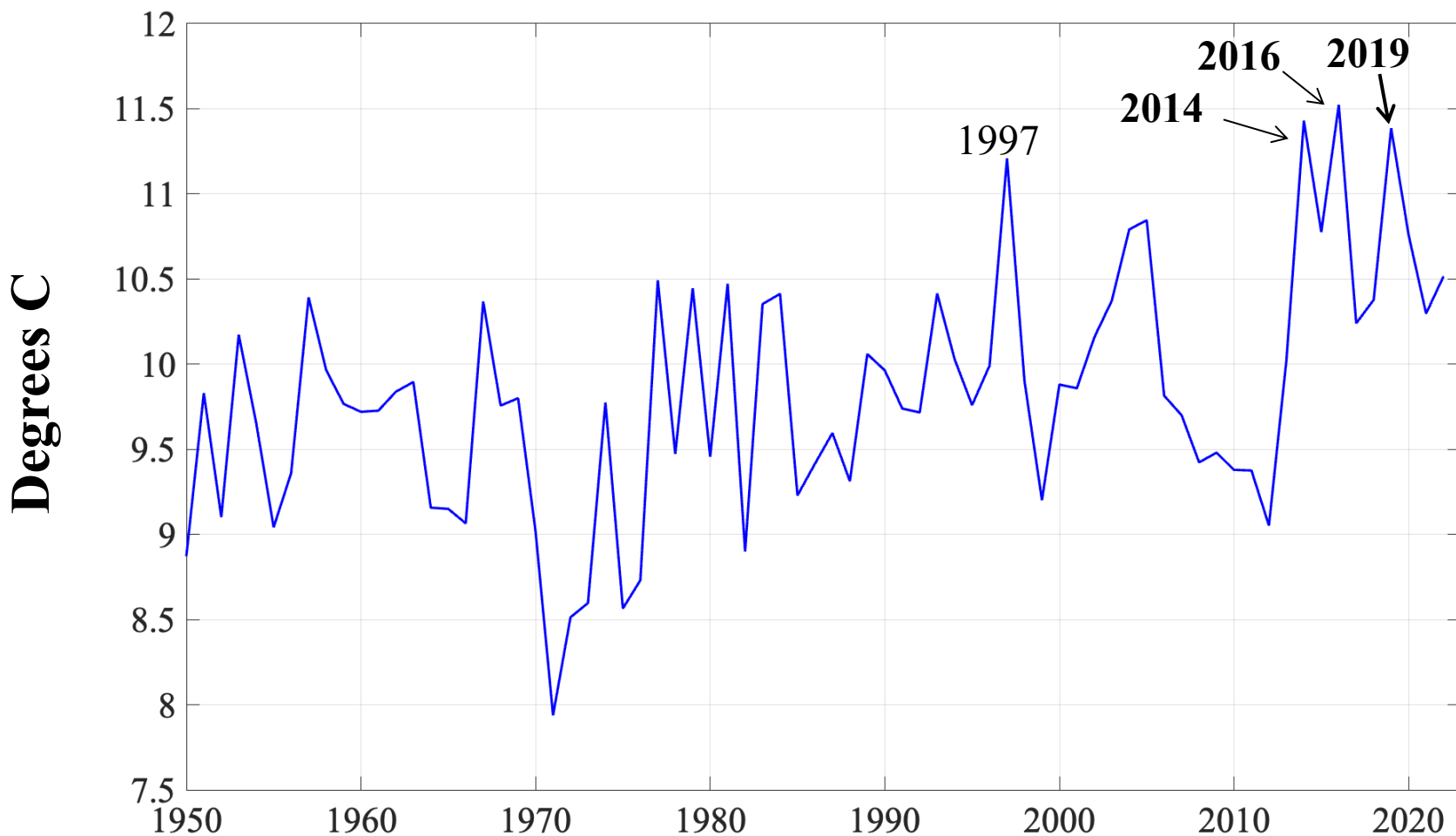


**JJAS 2021**



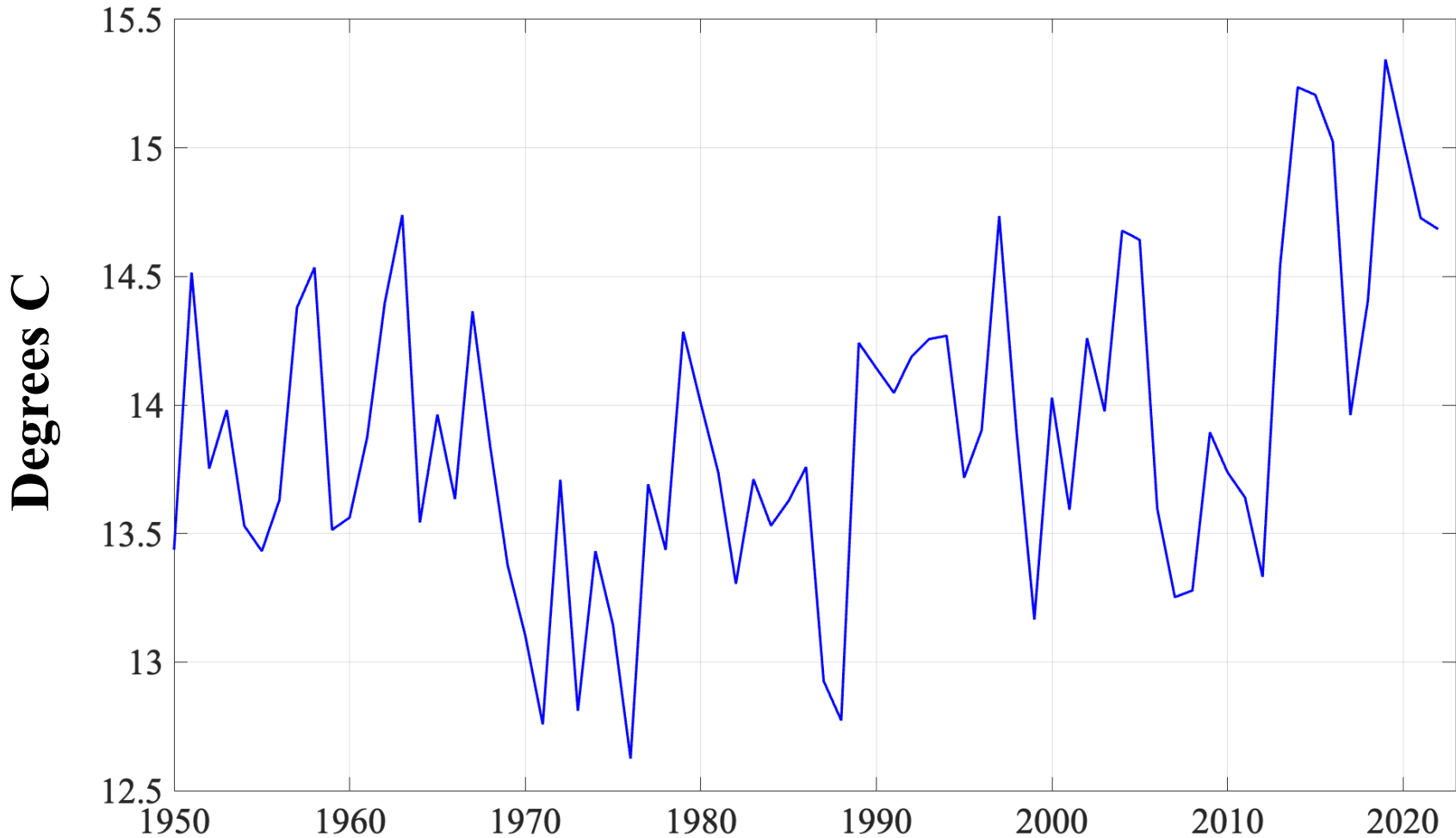
2020-2021 summers were warm in the Eastern Bering Sea, but not nearly as warm as 2016, 2018, or 2019

# June-September Eastern Bering Sea SST: 1950-2022

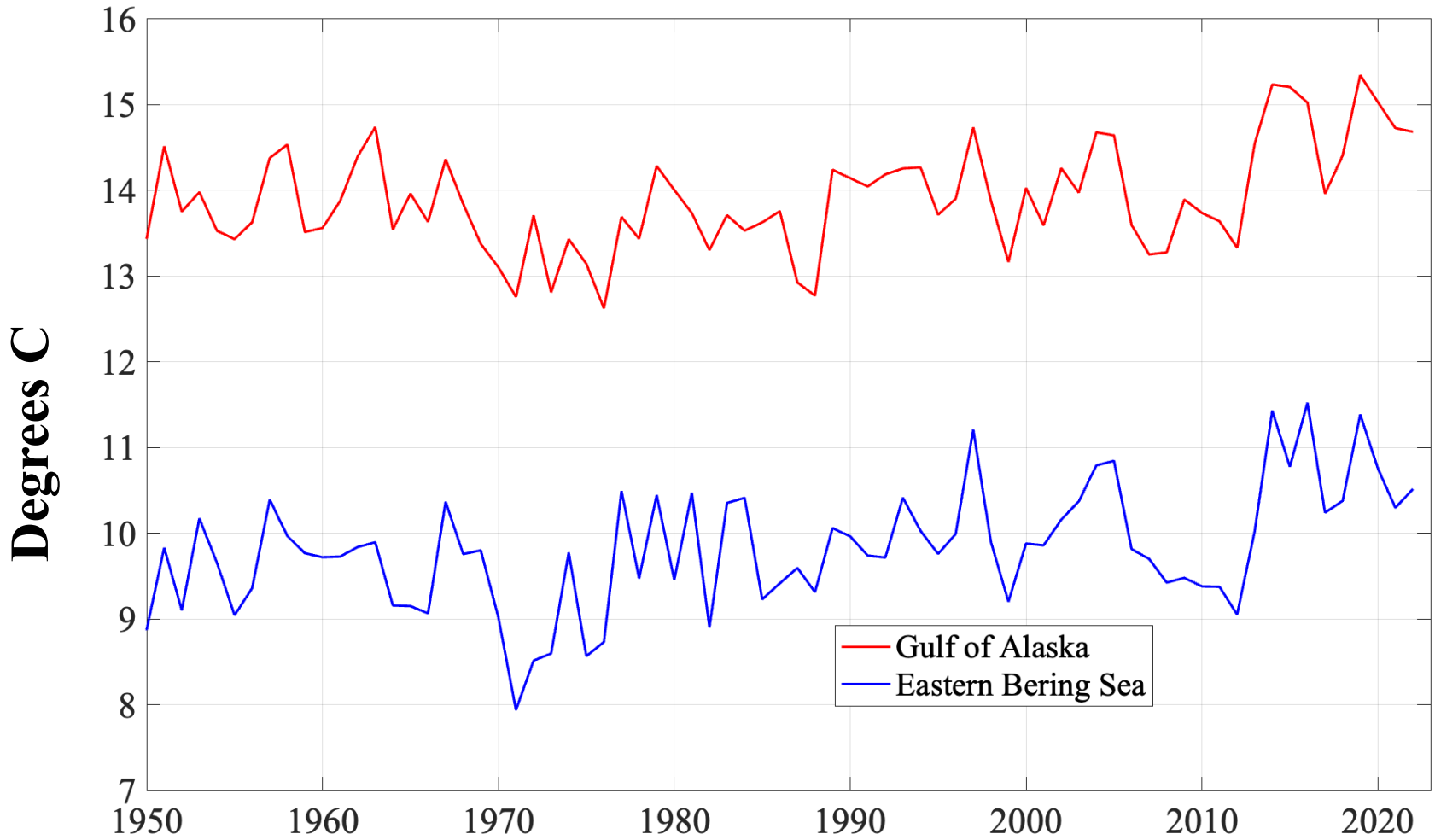


Eastern Bering Sea summer SSTs were exceptionally warm in 2014, 2016, and 2019

# June-September Gulf of Alaska SST: 1950-2022

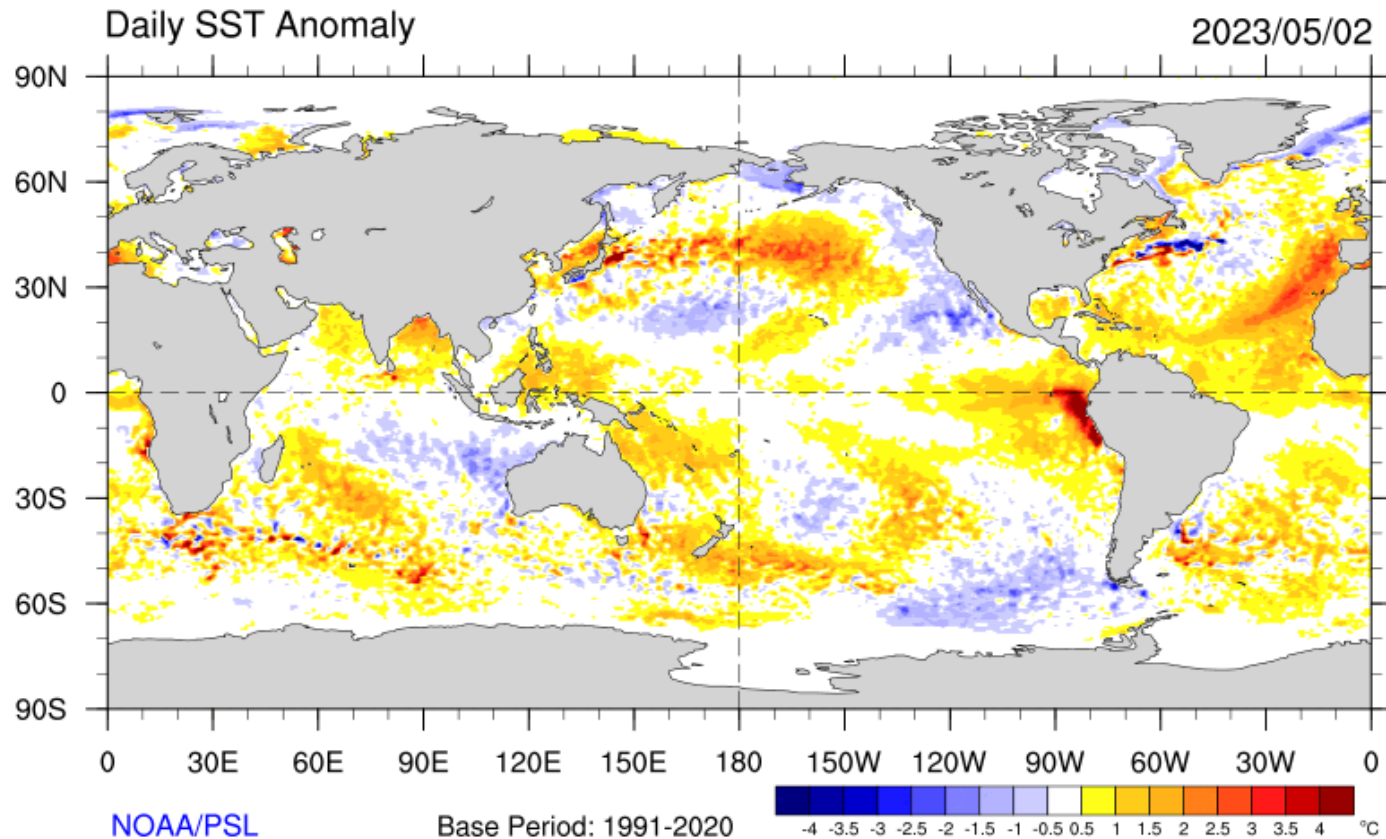


Gulf of Alaska summer SSTs were exceptionally warm in 2014, 2015, 2016, 2019, 2020 and 2021



Keep in mind that the Eastern Bering Sea is always much cooler than the Gulf of Alaska

# Northeast Pacific/Bering Sea now colder than average!



La Niña in the tropics and a negative (cold) PDO for the past 3 years, shifting to early signs of El Niño



# IRI Multi-Model Probability Forecast for Temperature for May-June-July 2023, Issued April 2023

