

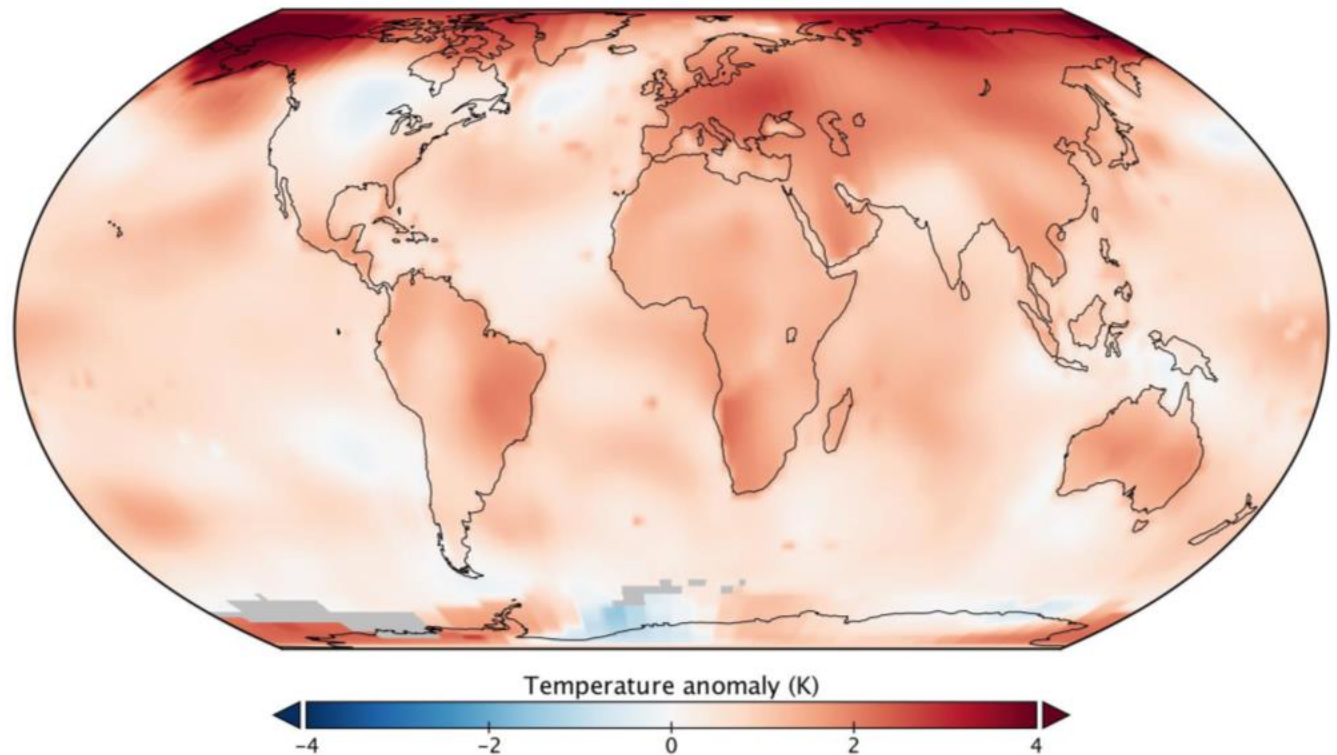
NASA 2019 Global Temperature

2019:

0.98°C/1.8°F
above 1951-80
average

2nd Warmest
year of NASA
GISTEMP record

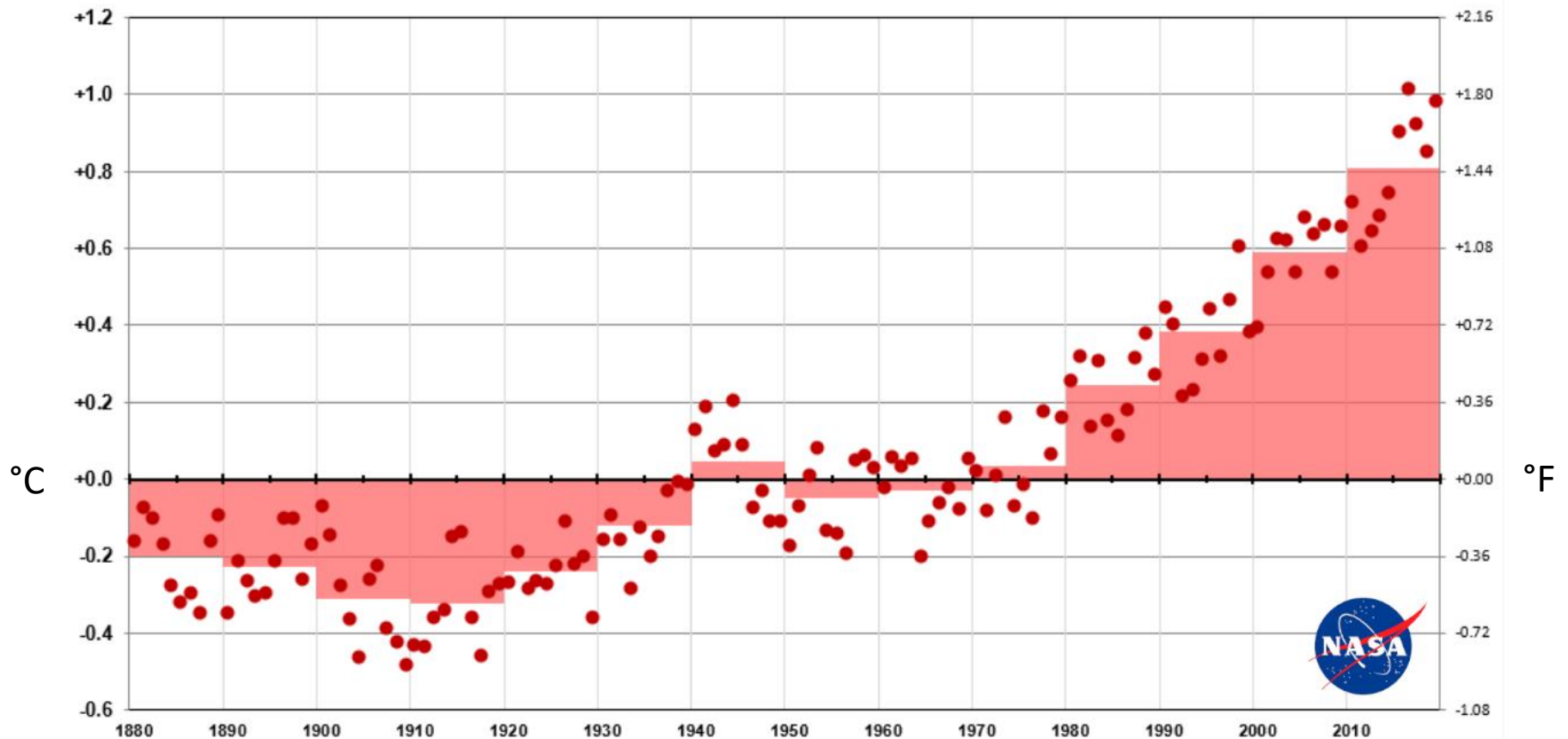
GISTEMP Annual Mean 2019
Baseline 1950-1981



Global Temperature Time Series

NASA GISTEMP

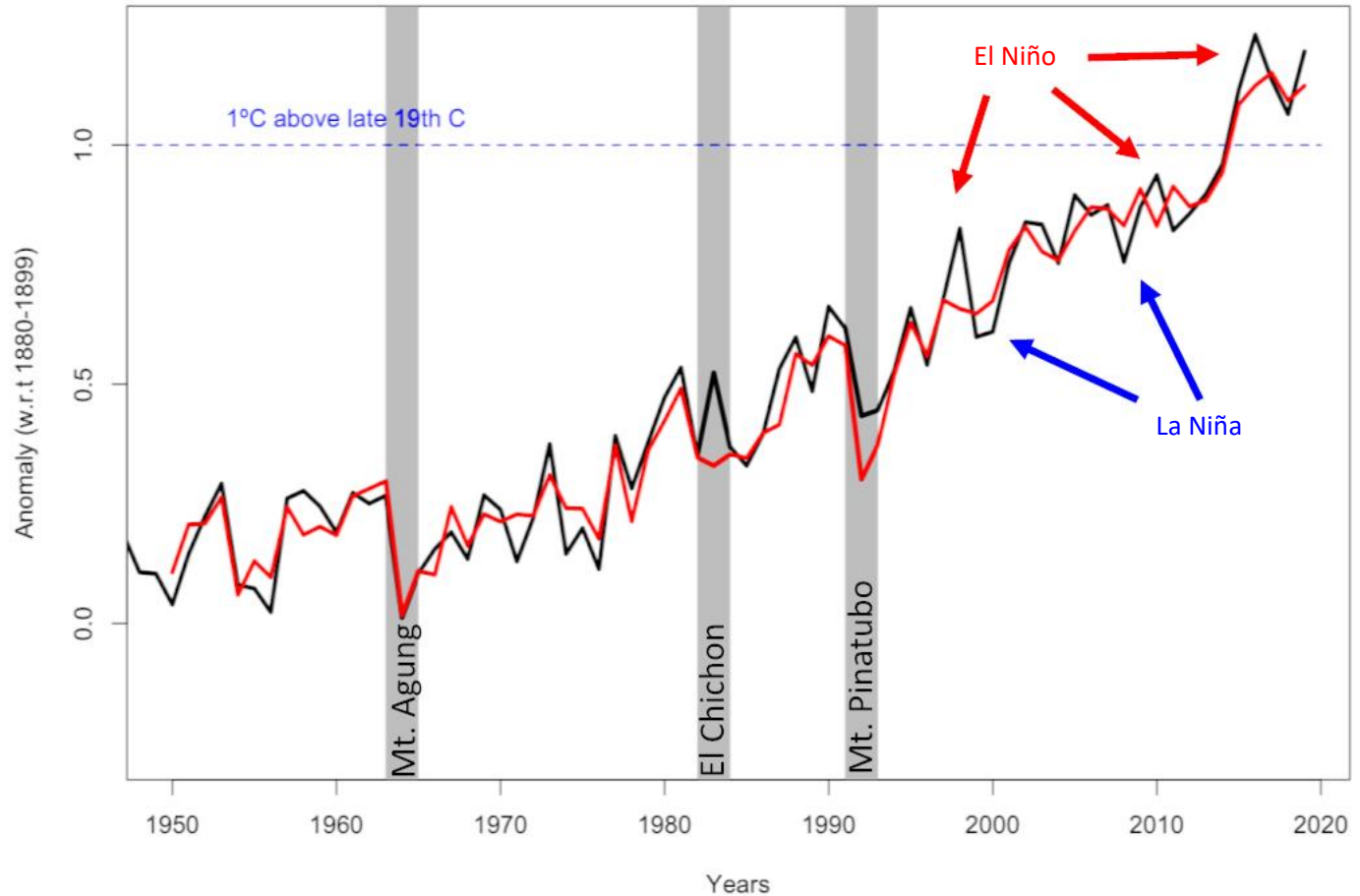
Annual Global Temperature: Difference From 1951-80 Average



Impact of ENSO on NASA analysis

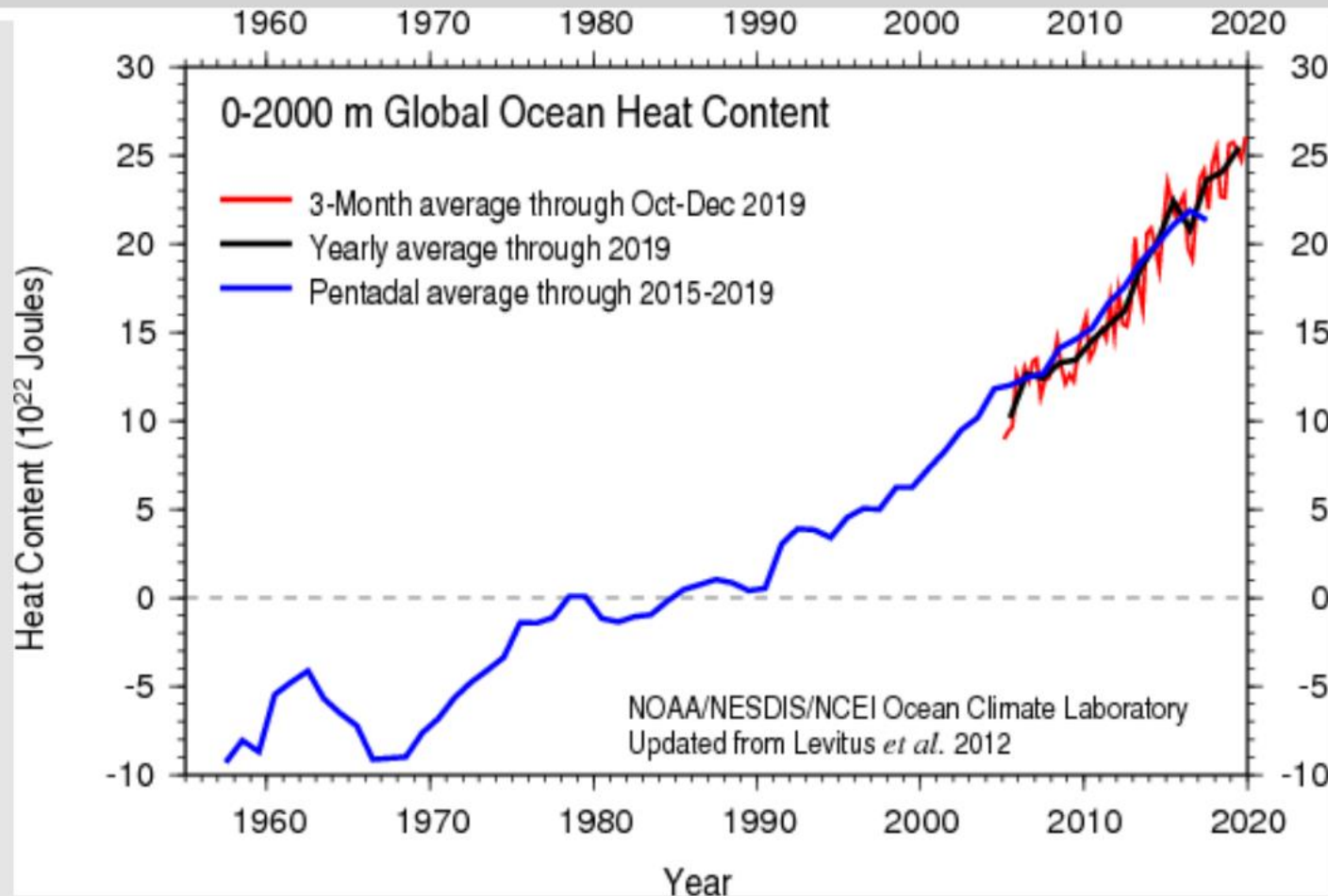
Maximum correlation to annual mean is Feb-Mar ENSO index

ENSO contribution to specific years:
2015: 0.03°C
2016: 0.11°C
2017: -0.01°C
2018: -0.03°C
2019: 0.07°C



Ocean Heat Content (NOAA/NCEI)

from surface to 2000m depth



Upper ocean heat content was the largest on record

