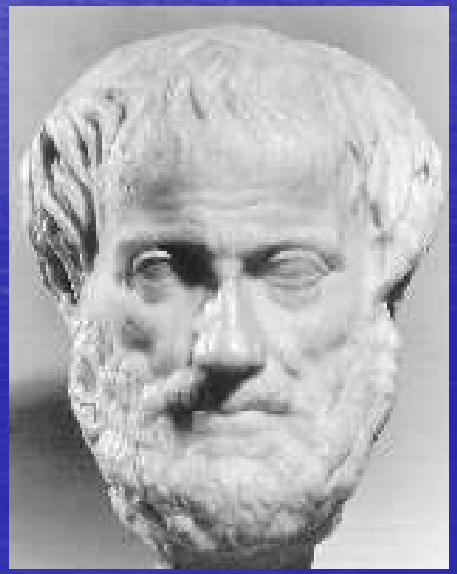
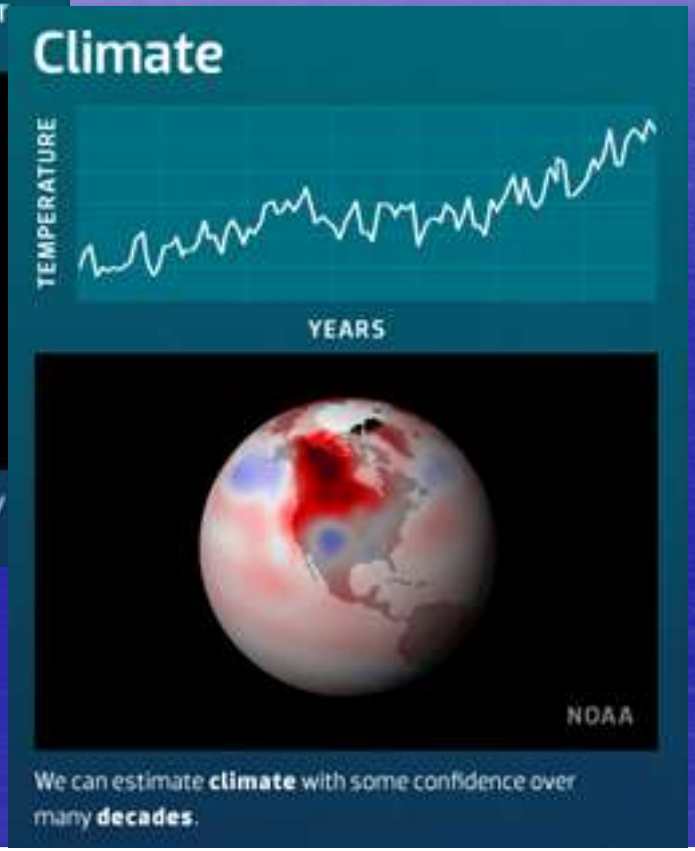
Meteorology-A Brief History

- First discussed by Aristotle, 340 B.C.
  - *Meteorologica* - summarized meteorological knowledge to date

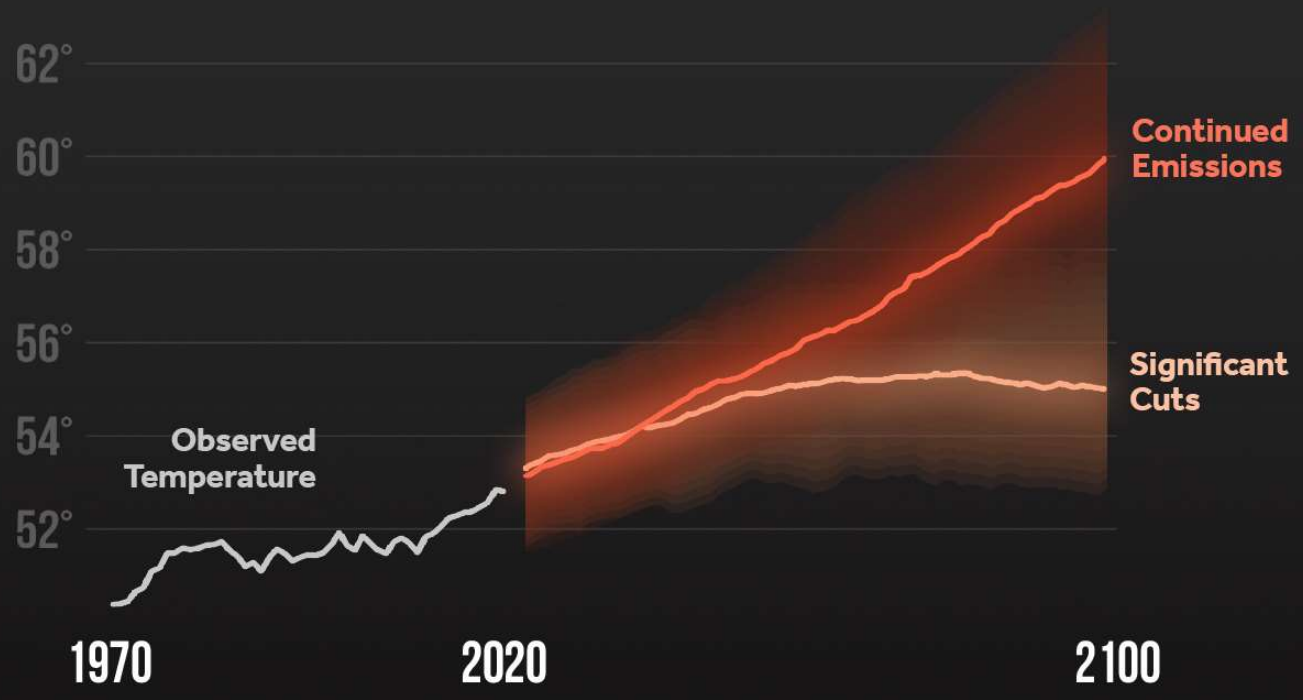


"Climate is what we expect, weather is what we get."-Mark Twain



BOSTON

FUTURE WARMING CHOICES

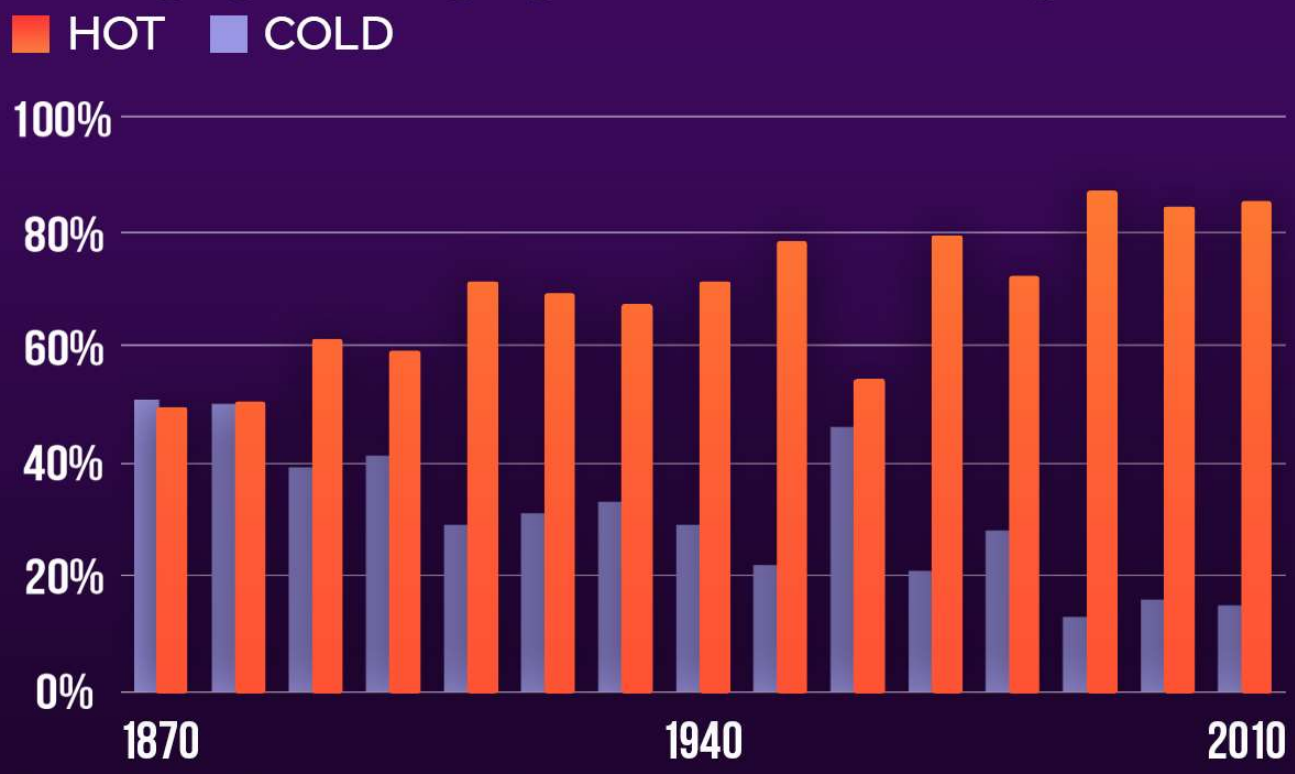


Projections of annual average temperature (°F) under significant emissions cuts (SSP1-2.6) or continued emissions (SSP3-7.0)
Source: CMIP6

CLIMATE CENTRAL

BOSTON

RECORDS SET BY DECADE



% maximum & minimum daily temperature records by decade for POR through 2018
Source: RCC-ACIS.org

CLIMATE CENTRAL

LONGER GROWING SEASON= LONGER ALLERGY SEASON

Consecutive days above freezing

Days between the annual last and first minimum temperature occurrence of 32°F or lower
Source: RCC-ACIS.org

CLIMATE CENTRAL

SHORTER COLD SNAPS

CONSECUTIVE WINTER DAYS BELOW NORMAL

Maximum number of consecutive days each winter (Dec, Jan, Feb) with average temperatures below the local NOAA/NCEI 1991-2020 winter normal.
Source: RCC-ACIS.org. Produced 1/25/2022.

CLIMATE CENTRAL

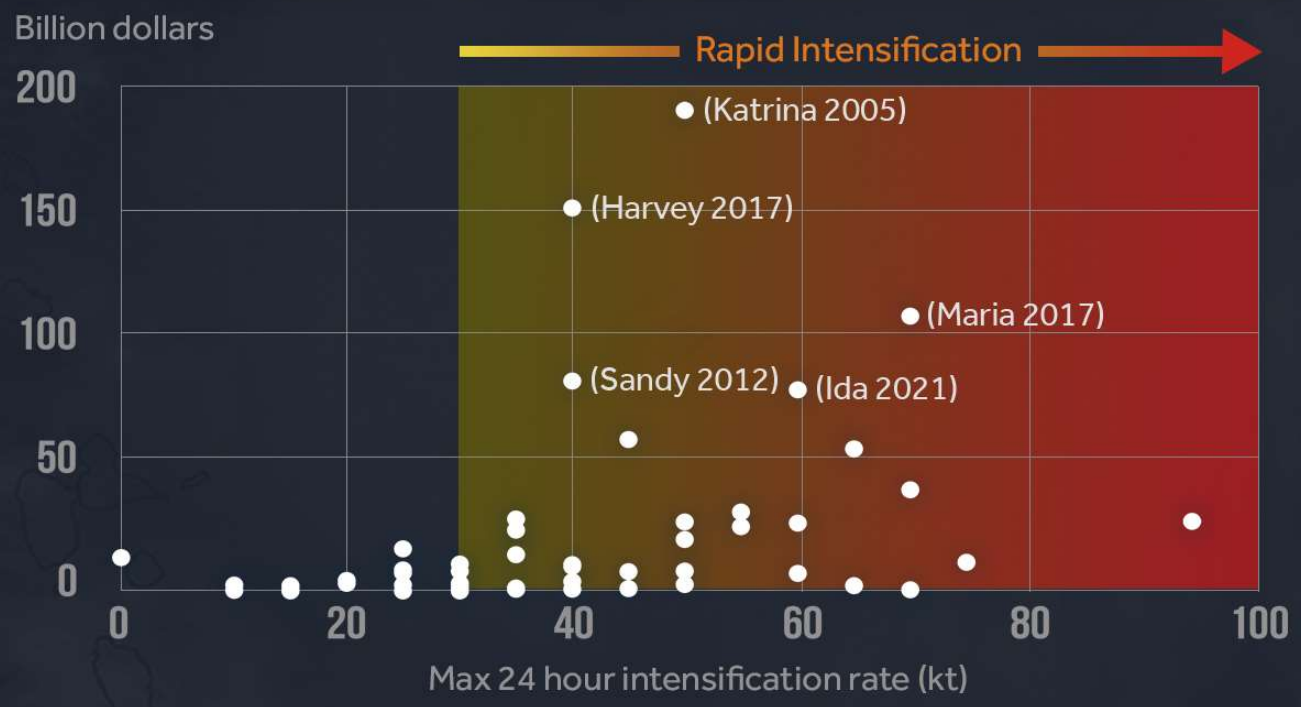
DAILY DELUGE

RAIN ON THE WETTEST DAY EACH YEAR

Amount of precipitation on the wettest calendar day observed each year
Source: RCC-ACIS.org

CLIMATE CENTRAL

STRONGER STORMS, HIGHER COST

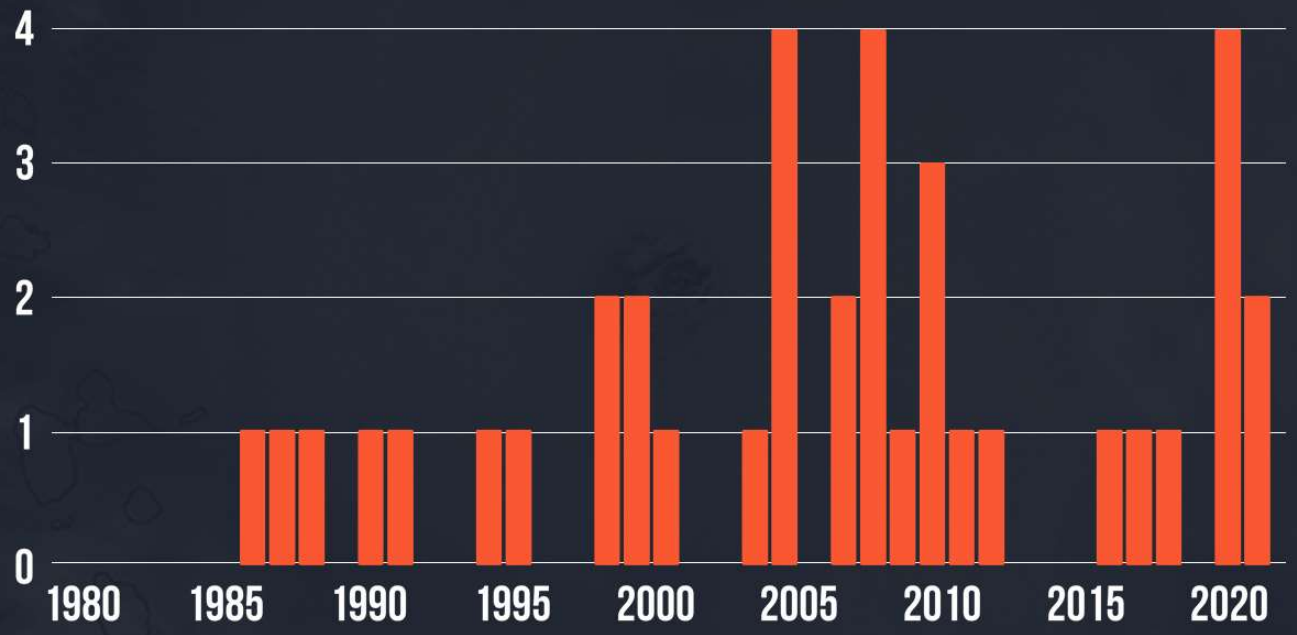


Cost and rapid intensification rate for tropical cyclones from 1980-2021 that caused at least $1 billion in damage in the U.S.
Source: NOAA/NCEI and Phil Klotzbach, Colorado State University; HURDAT 2 data

CLIMATE CENTRAL

EXTREMELY STRONGER, FASTER

Atlantic Tropical Cyclones Intensifying at least 50 kts in 24 hours



Atlantic named storms intensifying at least 50 knots in 24 hours
Source: Phil Klotzbach, Colorado State University; HURDAT 2 data

CLIMATE CENTRAL