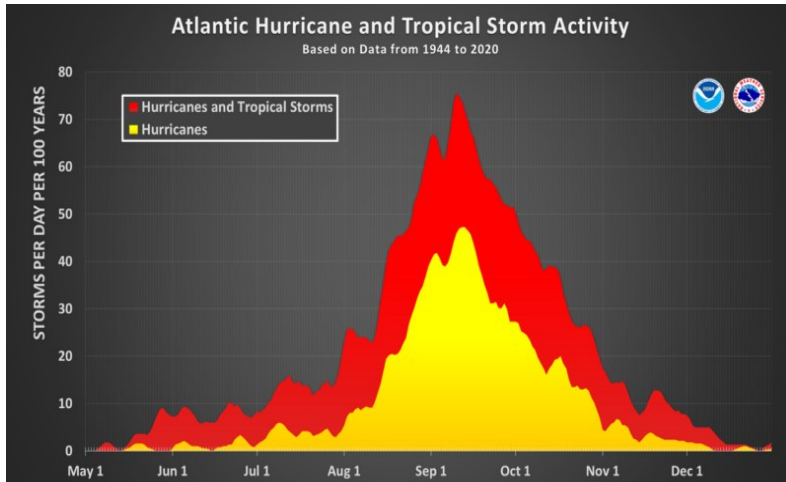


## Climate Science and Policy for Nonscientists

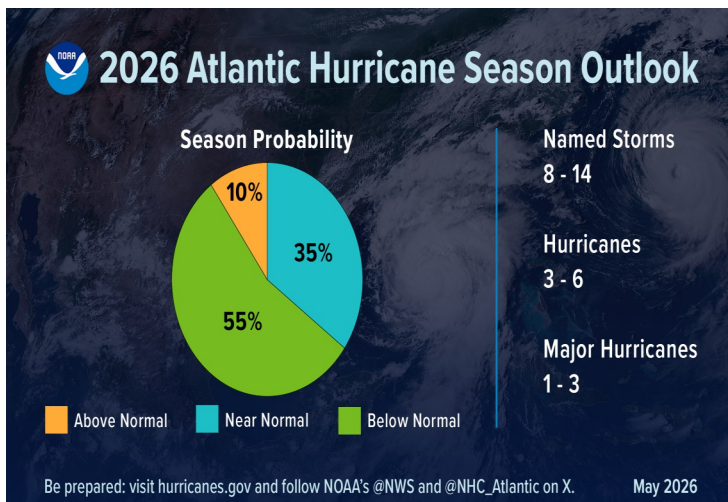
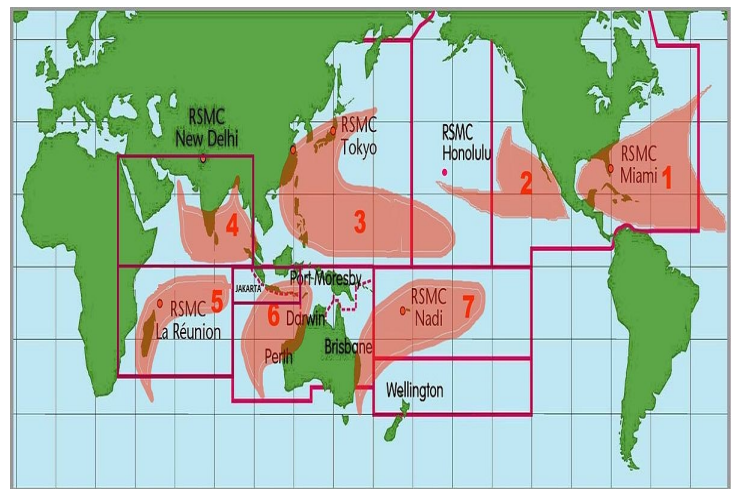
One Picture is Worth a Thousand Words.



### HURRICANE SEASON + EL NINO

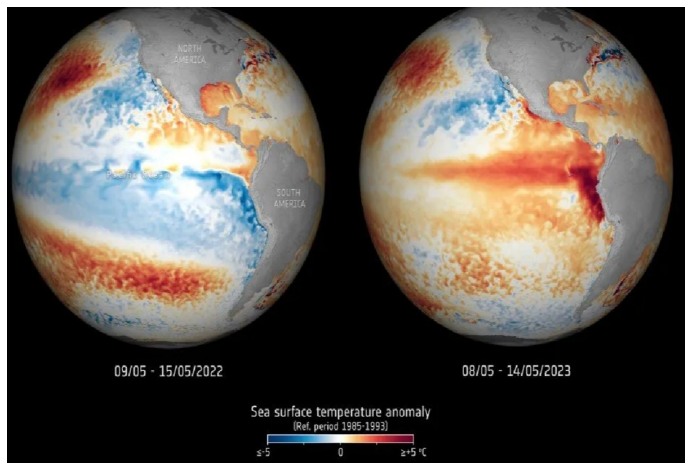
Hurricane season (June-November) has begun, although typically activity does not ramp up until August with maximum storm frequency occurring in early September.

Worldwide there are seven hurricane basins that scientists follow separately, and where storm frequency and intensity do not significantly correlate. In the US the focus is primarily on the North Atlantic Basin (NAB), where the frequency and intensity of hurricanes have remained essentially unchanged over the last forty years with significant year-to-year variability. The worldwide frequency and intensity has also remained essentially unchanged. (See CliSciPol Science Topic: Hurricanes).

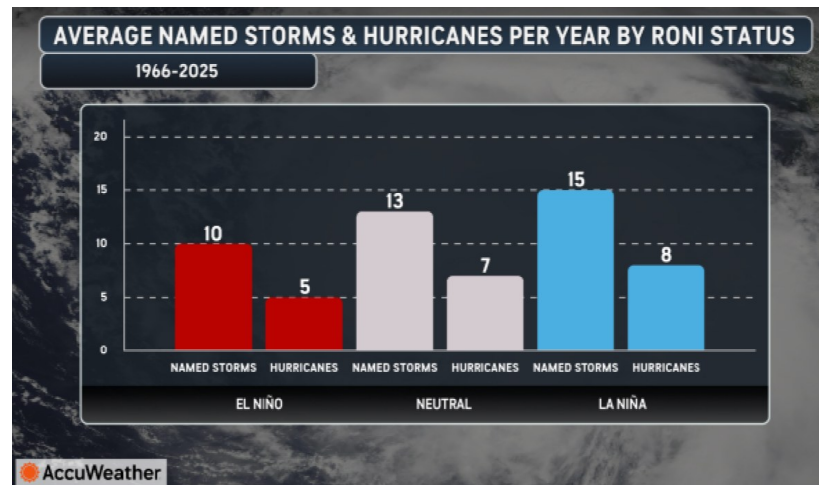
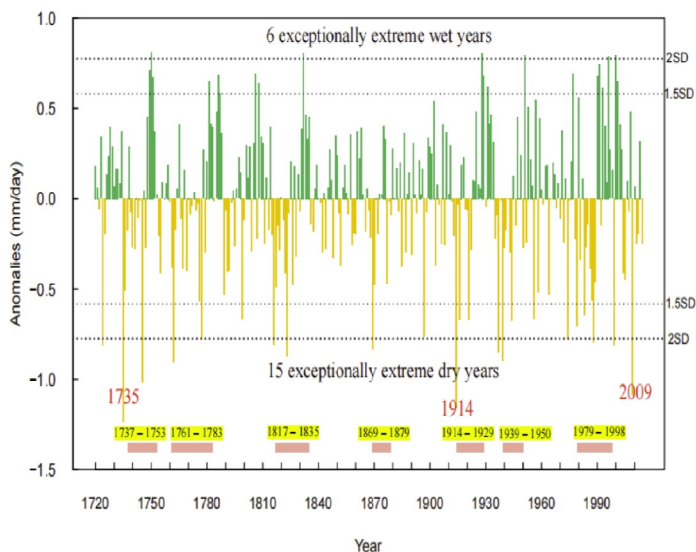


Every May the US government publishes a prediction of NAB hurricane frequency for the coming season. Scientists still have significant difficulty with hurricane prediction. The prediction of a below normal season is made with only a 55% confidence level, and a 10% possibility of an above normal season is acknowledged. On average two hurricanes per year landfall on the US of which one is a major hurricane. Scientists can not predict in advance where hurricanes will form or what their paths will be, so they do not predict the number of landfalling hurricanes.

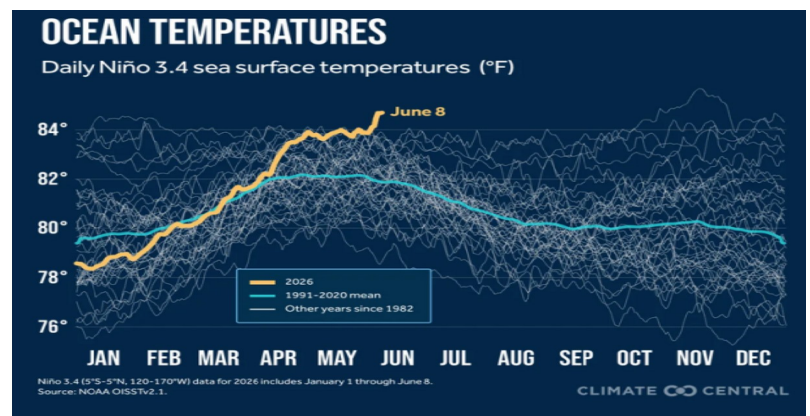
Part of the prediction problem is that the El Nino/La Nina cycle significantly affects NAB tropical storm activity, and this cycle is unpredictable. NAB activity is lowest during an El Nino and highest during a La Nina.



Ocean temperatures are now rising, which indicates the arrival of an El Nino with some scientists predicting a “super” El Nino. This, in turn, suggests a below-average NAB hurricane season. Active storms in the NAB can be followed on a daily basis at the National Hurricane Center website. ([nhc.noaa.gov](http://nhc.noaa.gov)).



During an El Nino the surface of the Pacific Ocean West of Peru and Ecuador is unusually warm. (Image right side). Then during a La Nina the surface is unusually cold. (Image left side).



A chart showing ocean temperatures for the region of the Pacific Ocean where El Niño occurs. (Climate Central)

## Precipitation and Drought

Studies of climate that go back before the existence of scientific measuring instruments must rely on proxy data, which usually means that the geographical scope of the study is limited to the region from which the proxy data has been assembled. For example, a recent study reported on rain and drought on the Tibetan Plateau over 300 years from 1720 to 2020. Rain and drought are notoriously variable from year to year, and this study shows such variability, but does not show any apparent trend, and hence no climate change.



## 7. Global precipitation

Many scientists predict that rising temperatures will result in more water evaporating into the air, which, in turn, will result in an increase in clouds and precipitation. The IPCC says that precipitation over land has “likely” (between 66 and 90% probability) increased, but gives no specific quantification. (AR6 WGI p.22) But much of the data, such as appears here, shows no significant upward trend in world precipitation.

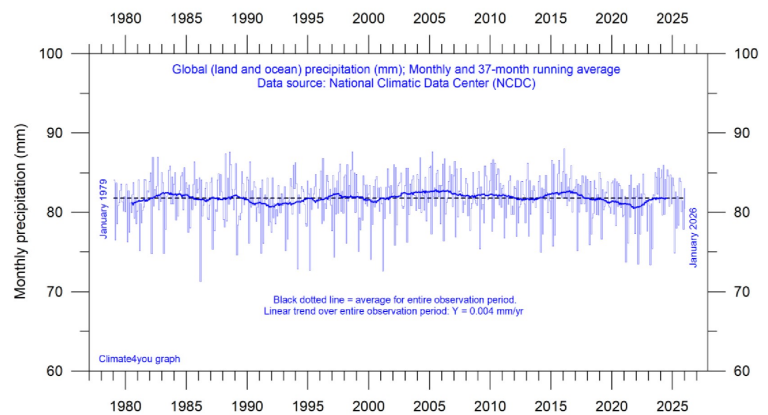
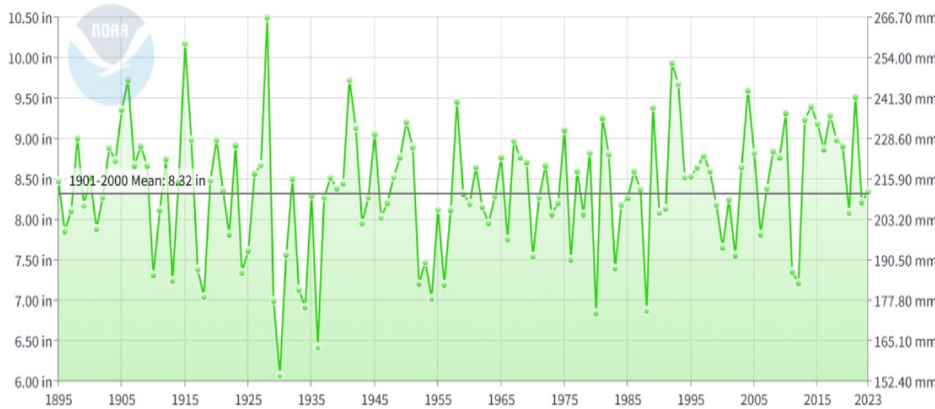


Figure 9: Global precipitation 1979 - 2026.

### Contiguous U.S. Precipitation June-August

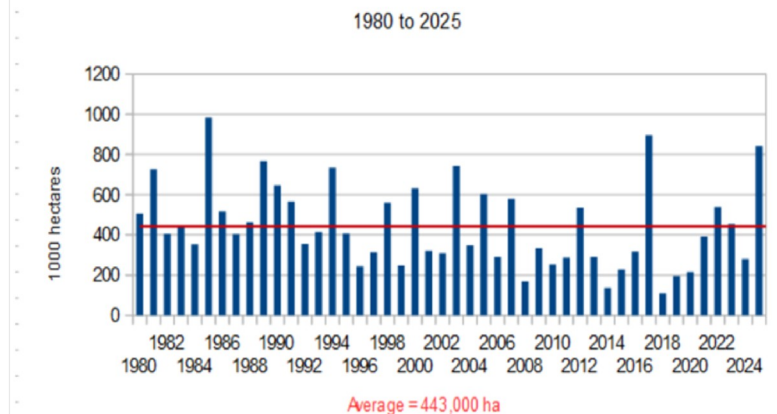


And US precipitation shows no upward trend since 1895, and hence no climate change. Again there is large year-to-year variability.

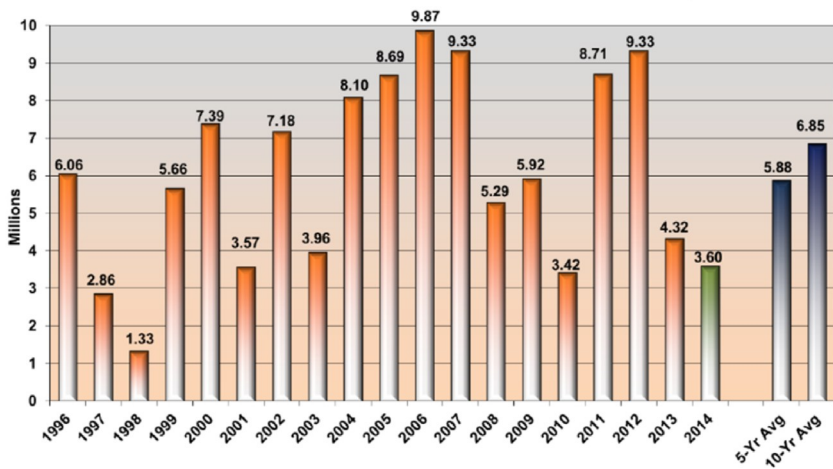
## Wildfire Area Burned Update

The data on area burned during the year 2025 is becoming available for different parts of the world. Many scientists predict that, as world temperatures rise, wildfires will increase and will burn ever larger areas. But the new data for 2025 tends to contradict these predictions. In the Mediterranean Region 2025 was unusually high, but the trend line for the 45 years since 1980 is still flat..

### Wildfire Area - Mediterranean Region (Portugal, Spain, France, Italy & Greece)

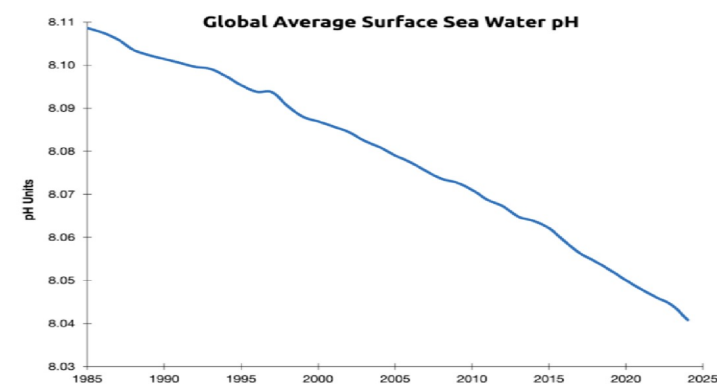
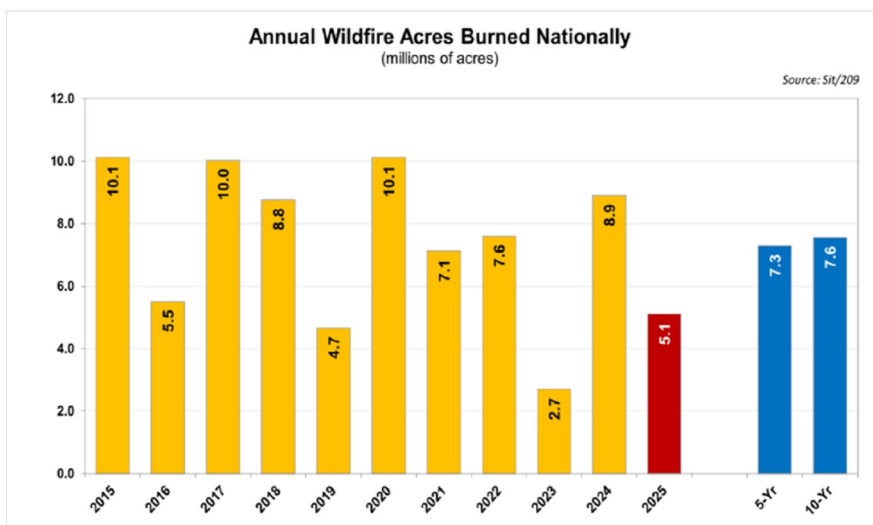


### Annual Number of Acres Nationally



For the US there was a rising trend from 1996 to 2007 but then a declining trend through 2014.

The US data from 2015 through 2025 shows a declining trend, and there are relatively low numbers for 2023 and 2025. (And see CliSciPol Science Topic: Wildfires).



Global average surface seawater pH, 1985–2024. (Data:

EU Copernicus Marine Service. Graphic: Dana

The oceans are buffered solutions, so the decline in pH is not linear as atmospheric CO<sub>2</sub> concentrations increase. If CO<sub>2</sub> concentration doubled from 425 ppm today to 850 ppm, the further decline in pH would be negligible, and the pH would remain alkaline and nowhere near the acidity of rain water, which has a pH of roughly 5.4 and is harmless to humans. The IPCC concludes only that pH has declined over the last 40 years, and will continue to decline, but provides no quantification of the decline. (AR6 WGI p.74)

## Alarmism and Ocean pH

One technique that alarmist journalists use is shown here. This graph from a recent article suggests a dramatic decline in ocean pH. But this appearance is created by the choice of the numbering on the vertical axis. The pH where the vertical axis intersects the horizontal axis is not zero but 8.03. The decline shown is from 8.11 to 8.03, or 0.08, a decline of only 1% over the 40 year period.

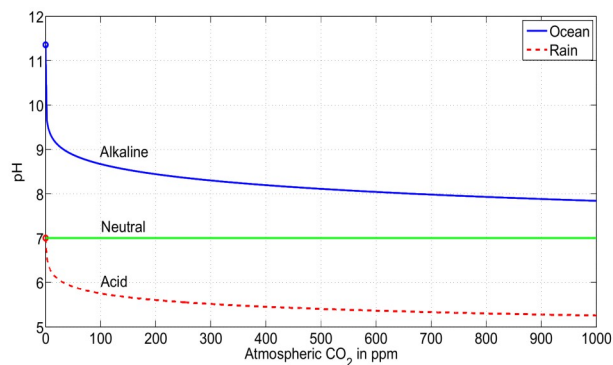


Figure 1: pH of ocean water and rain water versus concentration of CO<sub>2</sub> in the atmosphere. Calculated with (20); Ocean alkalinity  $[A] = 2.3 \times 10^{-3}$  M. Rain alkalinity  $[A] = 0$ . Temperature  $T = 25$  C.

## Politics

“The whole aim of practical politics is to keep the populace alarmed (and hence clamorous to be led to safety) by menacing it with an endless series of hobgoblins, all of them imaginary.”



H. L. Menken

Many generations ago the American journalist, essayist, satirist, and cultural critic H. L. Menken (1880-1956) commented upon the use of alarmism in politics.

## Alarmism with a Real Concern

Headlines of a recent CNN article announced “Rising seas will swallow New Orleans. People need to start relocating now.” This is another example of media alarmism, but there is reason for serious concern in New Orleans. As discussed in the May 2026 newsletter, sinking river deltas are a problem worldwide.

## SEA LEVEL RISE

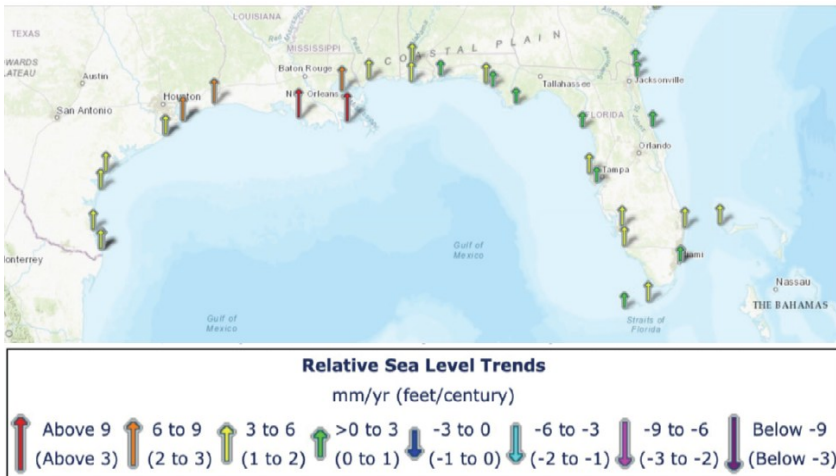
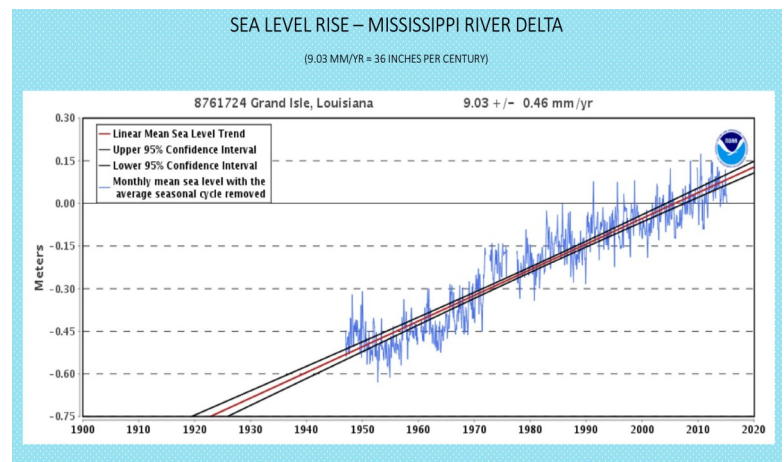


Figure 13. Relative change in sea level at various tide gauge stations along the southeastern US coastline (NOAA). These values essentially provide the net change when considering changes in land elevation as well as sea elevation.

New Orleans, located in the Mississippi River delta, is an example of a city with a real sea level rise problem. Due to the sinking the relative rise in the delta is much greater than anywhere else along the US South and Southeast coast. In 1718 New Orleans arguably never should have been founded where it was. In 1721 it was described as a “malarious wet thicket of willows and dwarf palmettos, infested by serpents and alligators,” and even then levees were being built to protect against flooding.

The sea level rise facing the Mississippi delta has been very steady at a rate of 36 inches per century. New Orleans is not in danger of being imminently “swallowed,” and people do not need to start “relocating now,” but obviously local government and residents need to do some serious long range planning. And the same applies to Charleston. (See CliSciPol Policy Topic: Coastal Cities Exposure)



All citations are to the Intergovernmental Panel on Climate Change’s publication, Climate Change 2021 The Physical Science Basis, the first part (WGI) of the Sixth Assessment Report (AR6).

