

A satellite image of a hurricane, showing a clear eye and spiral cloud bands, set against a dark blue background. The image is overlaid with a white grid.

Seasonal Hurricane Forecasting

What you can and can't do with it

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A satellite image of Earth from space, showing the curvature of the planet and the atmosphere. The image is overlaid with a white grid.

Outline

- Current forecast methodology
- Forecast verification
- Caveats
- Longer-range products that may be useful
- Conclusions

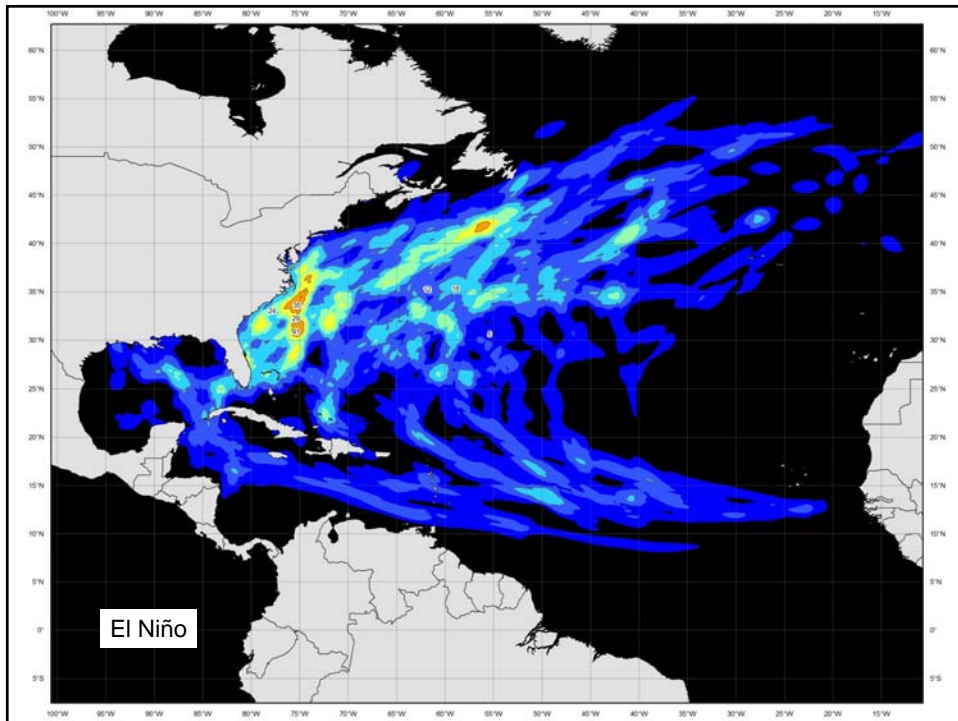
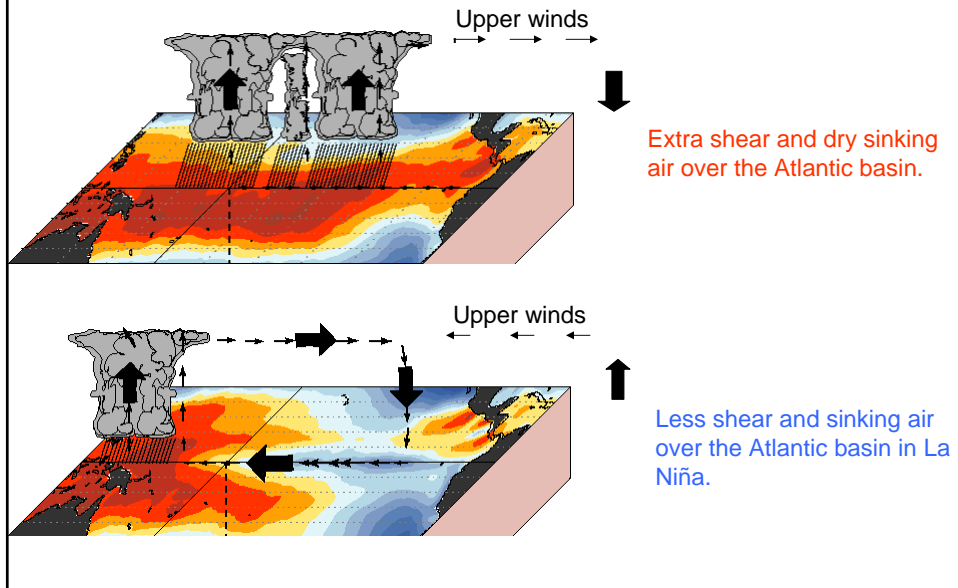
Short history of NOAA seasonal hurricane forecasting

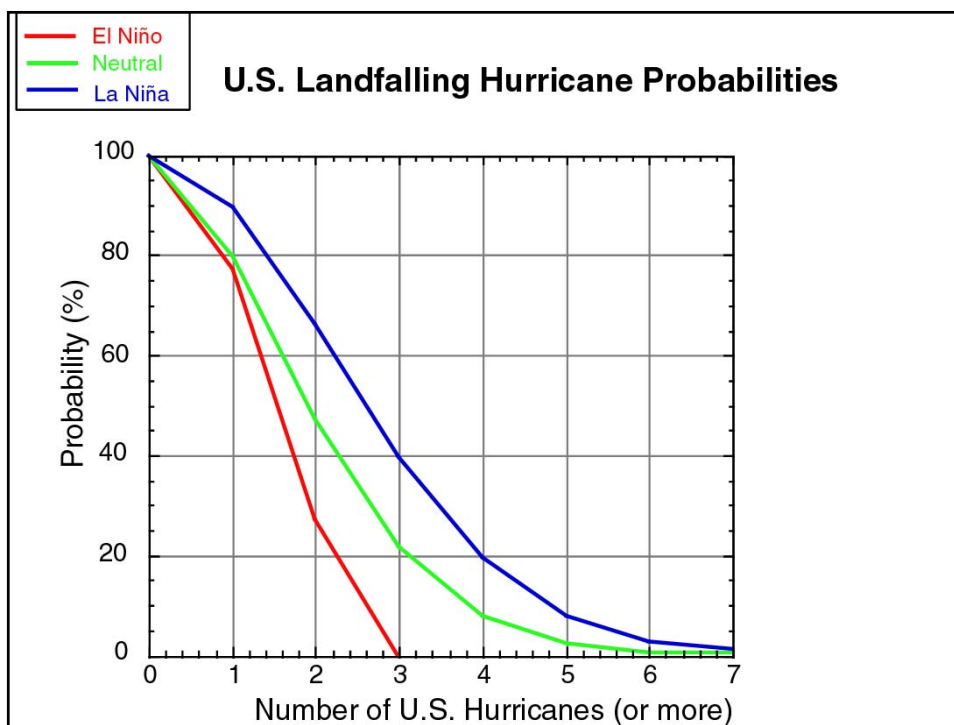
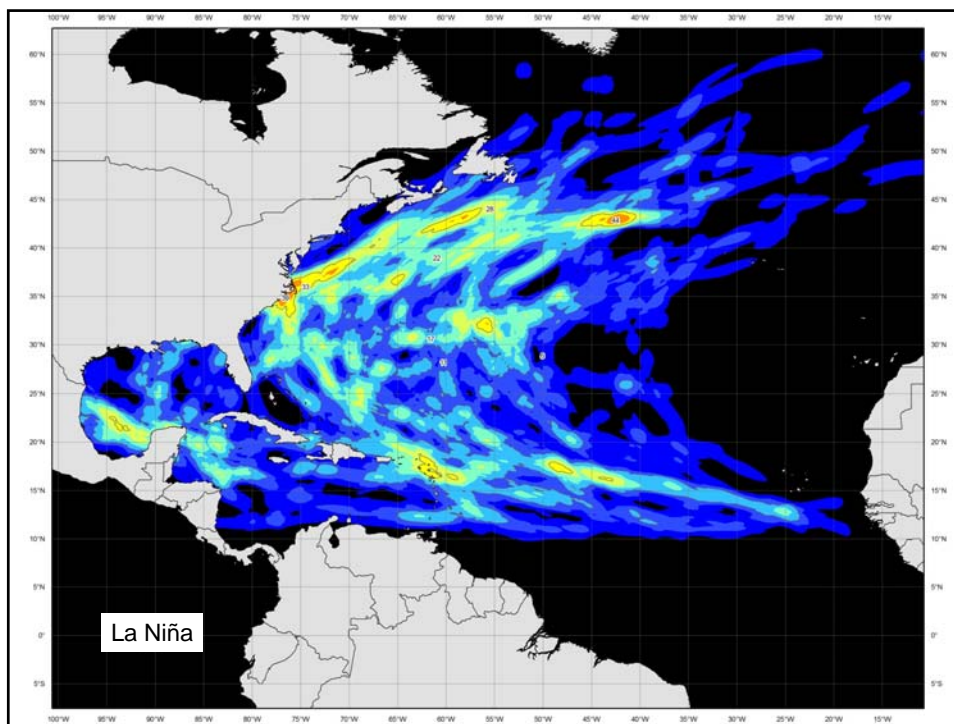
- The Climate Prediction Center (CPC) began issuing Atlantic seasonal hurricane forecasts after the Gray 1997 forecast bust.
- Seasonal outlooks issued in late May and early August.
- Collaborative effort between the CPC, National Hurricane Center, Hurricane Research Division and now GFDL.
- Outlooks are a qualitative combination of statistical and dynamical tools.

NOAA Forecast Methodology

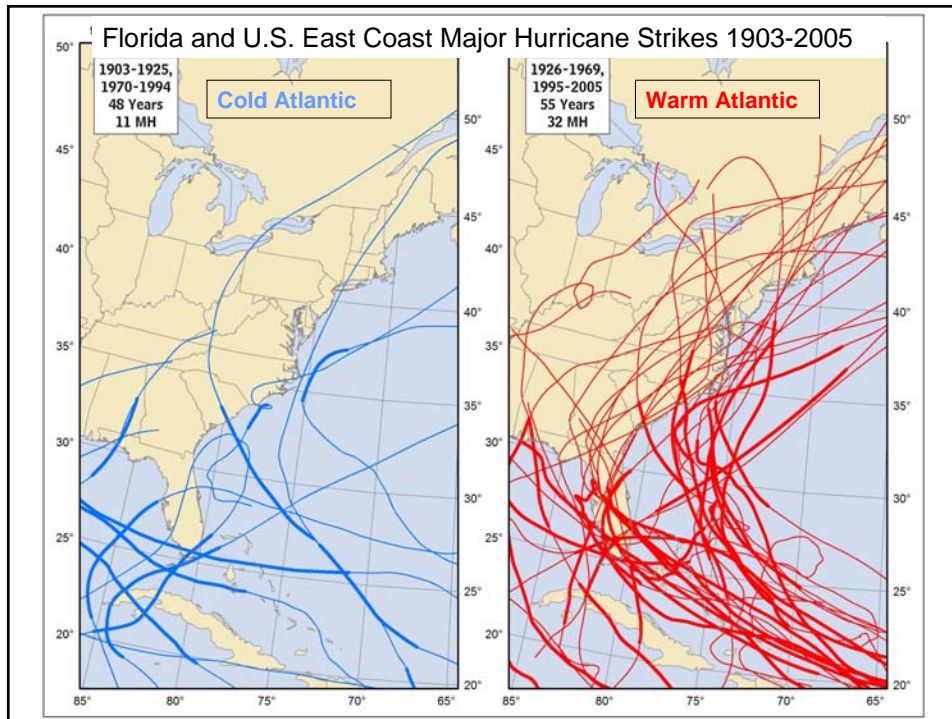
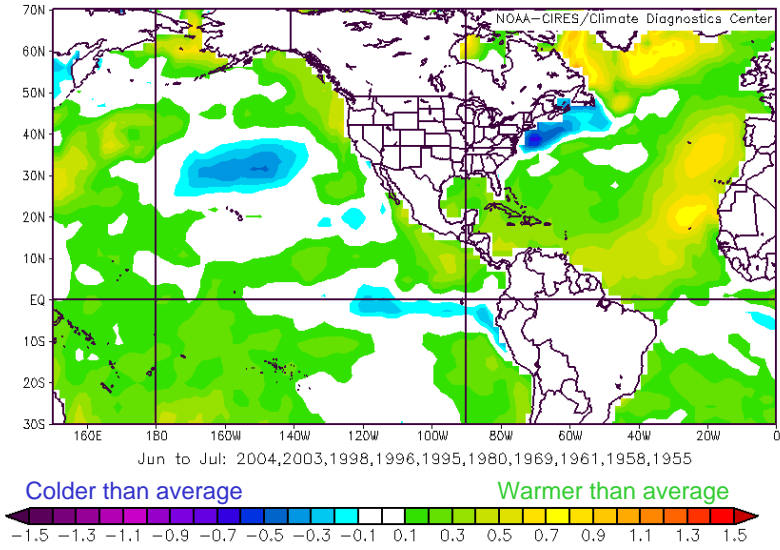
- 1) Assess states of the ocean and atmosphere.
- 2) Use model forecasts for El Niño/Atlantic SSTs and incorporate any analog techniques and dynamical model forecasts of TCs.
- 3) Predict range of overall activity and probabilities of above-, near-, and below-average seasons.
- 4) Qualitative/Quantitative process.
- 5) **No forecast of hurricane landfalls, just the total seasonal activity for the entire basin.**

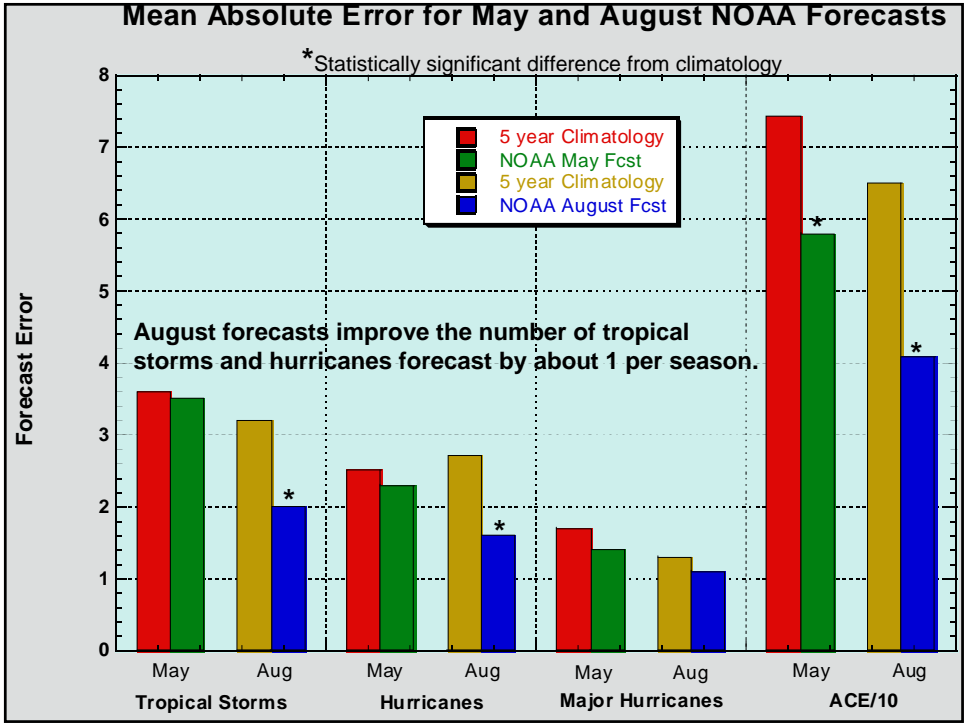
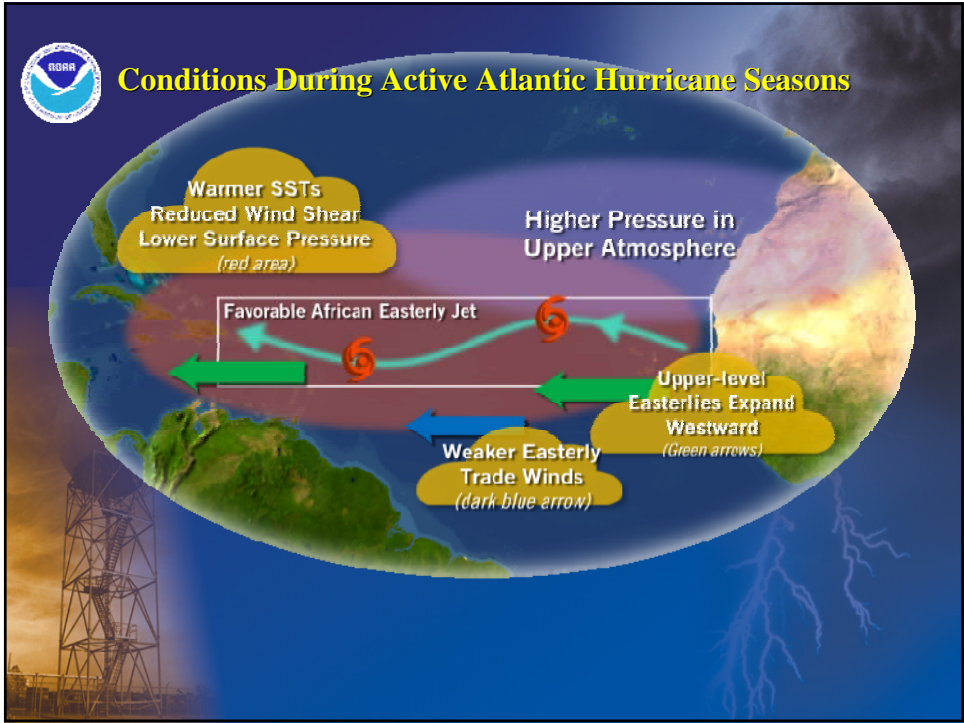
El Niño versus La Niña

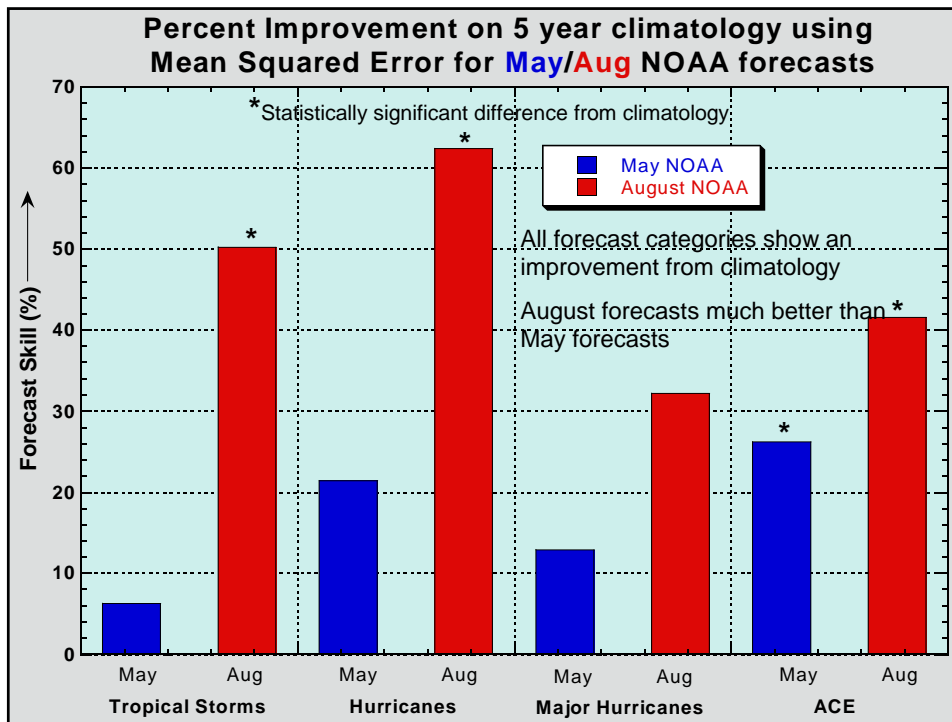




June-July SST anomalies during 10 active hurricane seasons







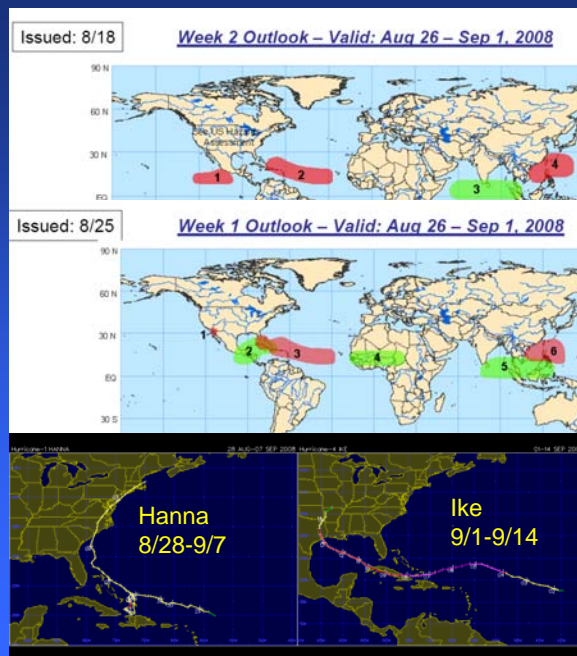
Seasonal hurricane outlooks

- Seasonal outlooks are for the entire basin.
- NOAA does not issue a landfall forecast, because there is very little useful skill.
- Overall skill is quite small in May, but significantly better than climatology in August.
- 1 August update issued because ~90% of the remaining seasonal activity is after that date.

Why issue a seasonal hurricane outlook then?

- One of the top questions NOAA gets in the offseason is “What’s the season going to be like?”
- Large amount of media coverage makes it ideal to get the preparedness/awareness message out, even if most people can’t use the forecast.
- Gets people thinking about the upcoming hurricane season/activity.
- Specialized users (reinsurance companies, offshore interests etc.)

www.cpc.ncep.noaa.gov/products/precip/CWlink/ghazards/ghaz.shtml



Product Example

Issued once per week
around 4 pm Mon.

Putting Seasonal Forecasts in Perspective

If a perfect seasonal forecast predicts:

7 Named Storms

4 Hurricanes

1 Major Hurricane

Long-term Average = 11, 6, and 2

Do you think it is going to be a bad year?

