



# Maintaining Threat Awareness During This Tropical Storm and Hurricane Season (2017)

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**AAPA**



**American Association  
of Port Authorities**



# Overview



Tropical Storm and Hurricane Season Outlook



The State of Tropical Storm Forecast Science



Best Sources of Information To Make Decisions

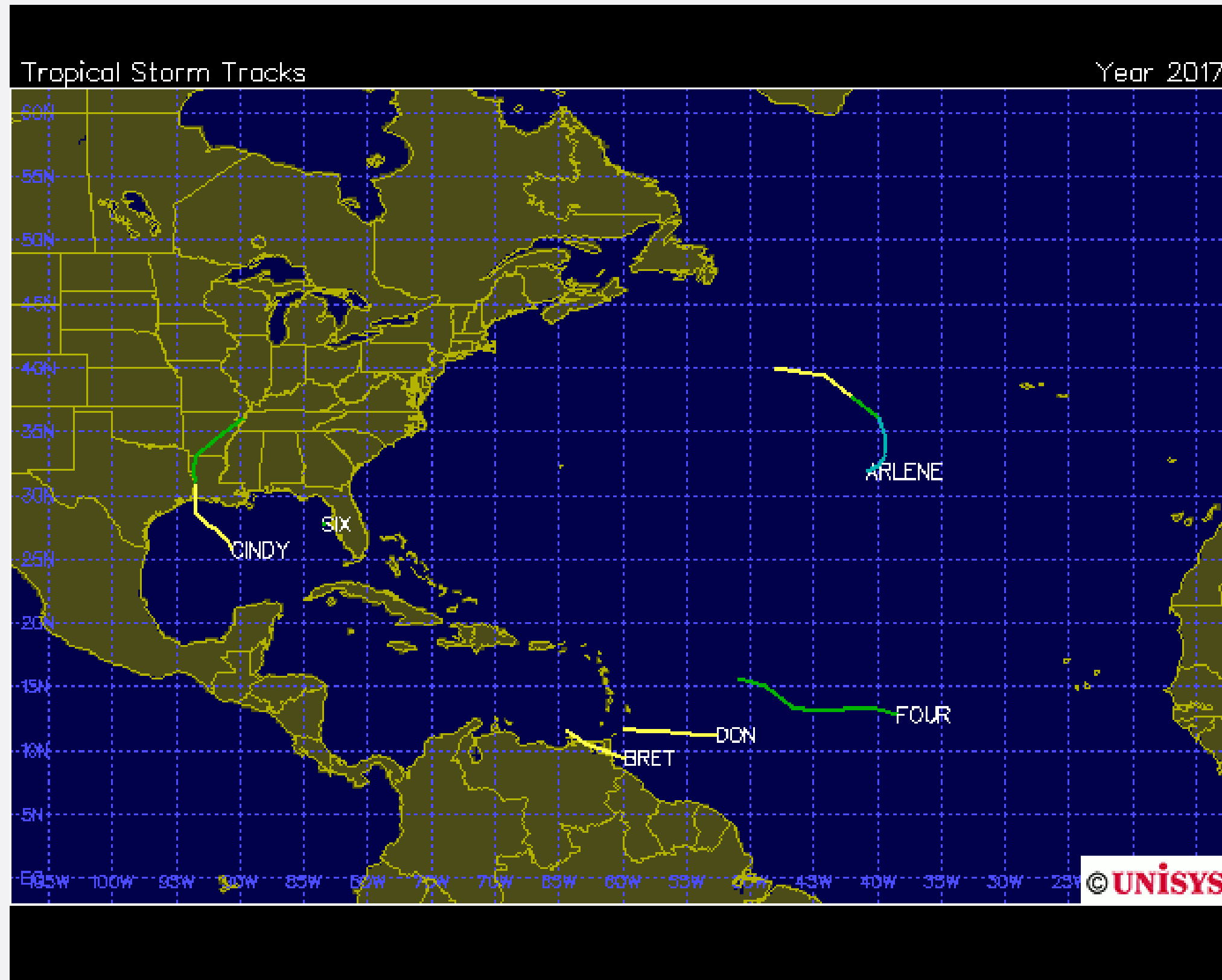


Prepare, Response and Recovery Plans



# Tropical Storm and Hurricane Season Outlook

## 2017 Storms Thus Far



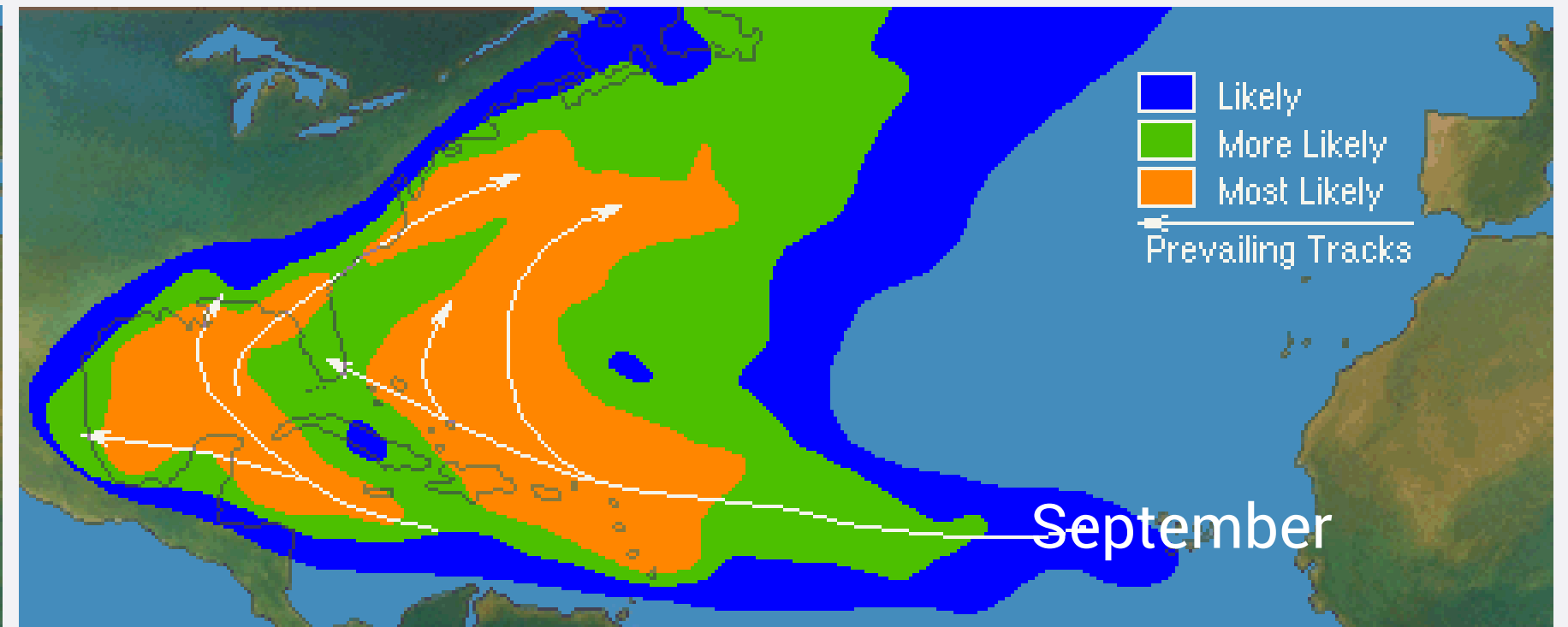
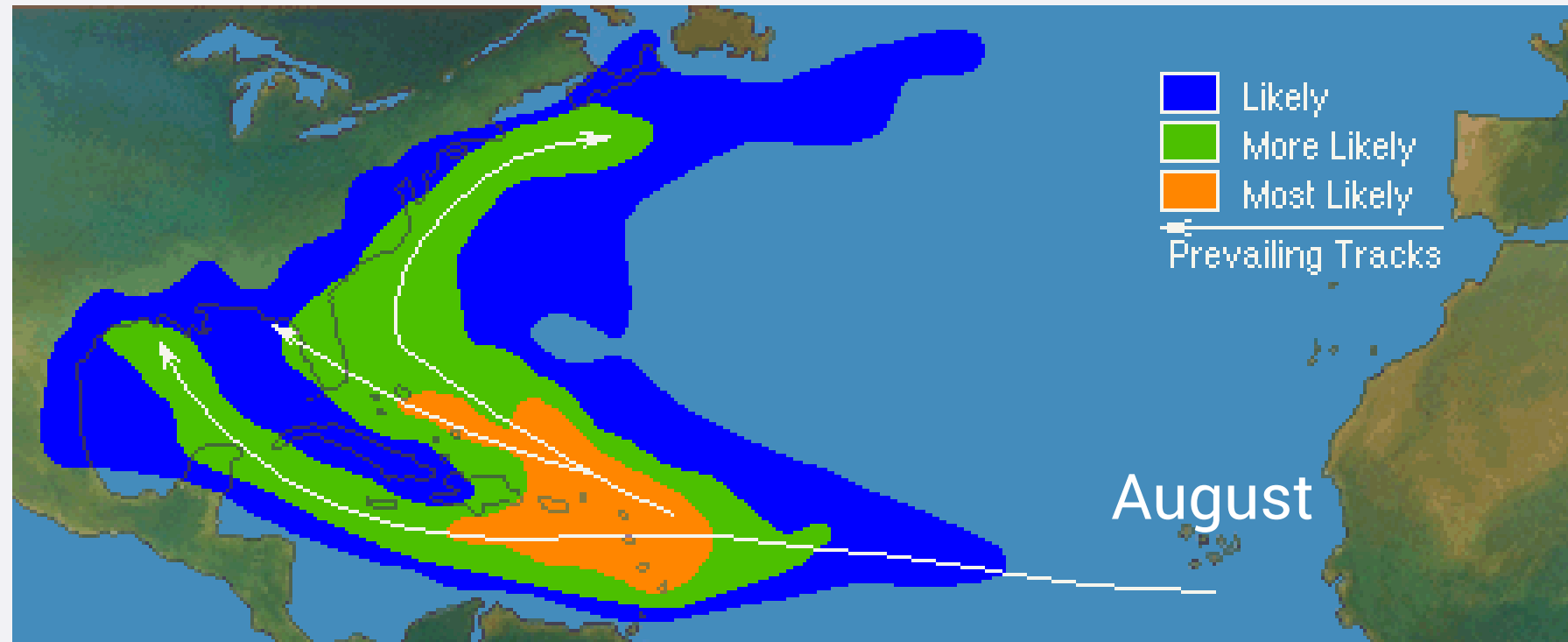
Tropical Storms = Winds  
39 MPH or higher

Hurricane Winds = 74  
MPH or higher

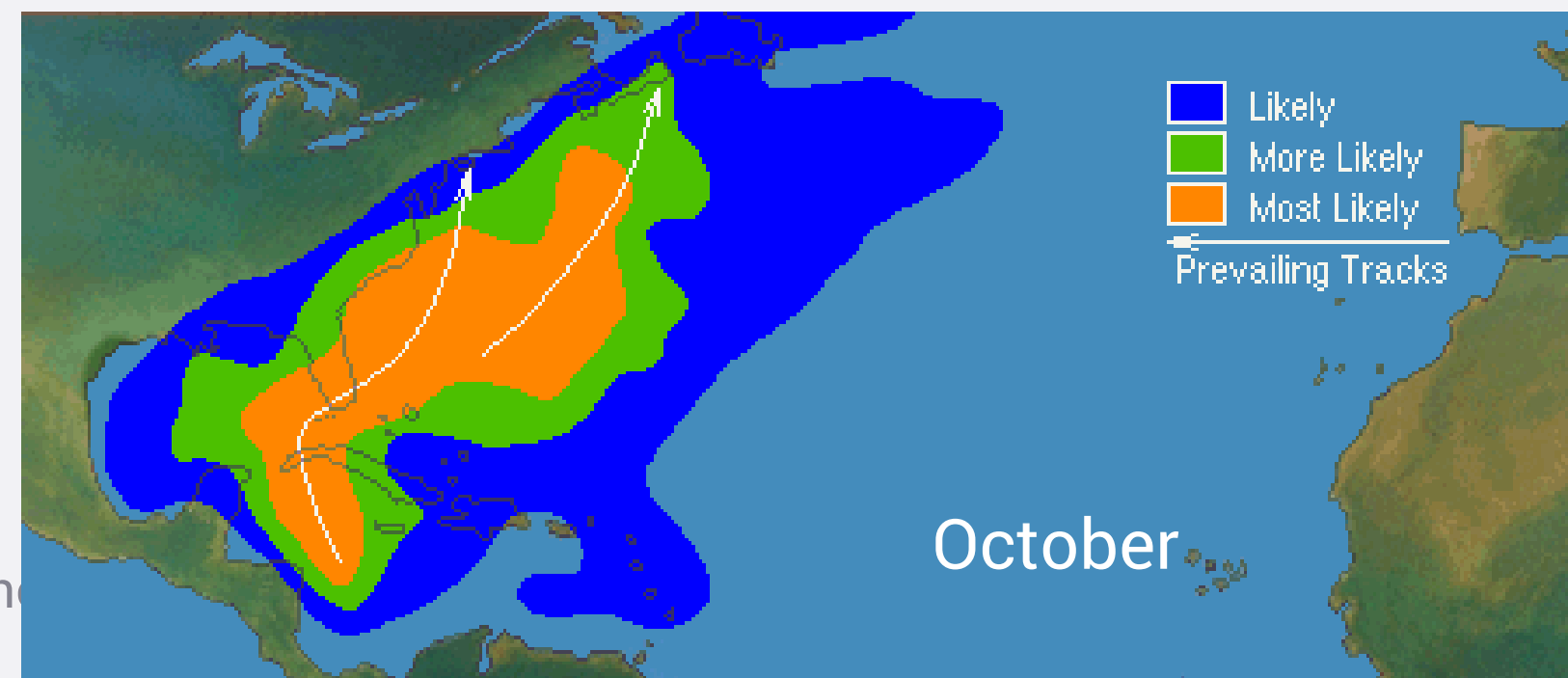
Major Hurricane – 111  
or higher

# Tropical Storm and Hurricane Season Outlook

## Historical Tracks—National Hurricane Center (US)



Moving into a period of highest activity



# Tropical Storm and Hurricane Season Outlook

## 2017 Forecasts—National Hurricane Center (US)

- 11 to 17 named storms in 2017 (Tropical Storm Level or higher)
  - 5 to 9 could become hurricanes
  - 2 to 4 major hurricanes
- An average season produces:
  - 12 named storms
  - 6 become hurricanes
  - 3 become major hurricanes

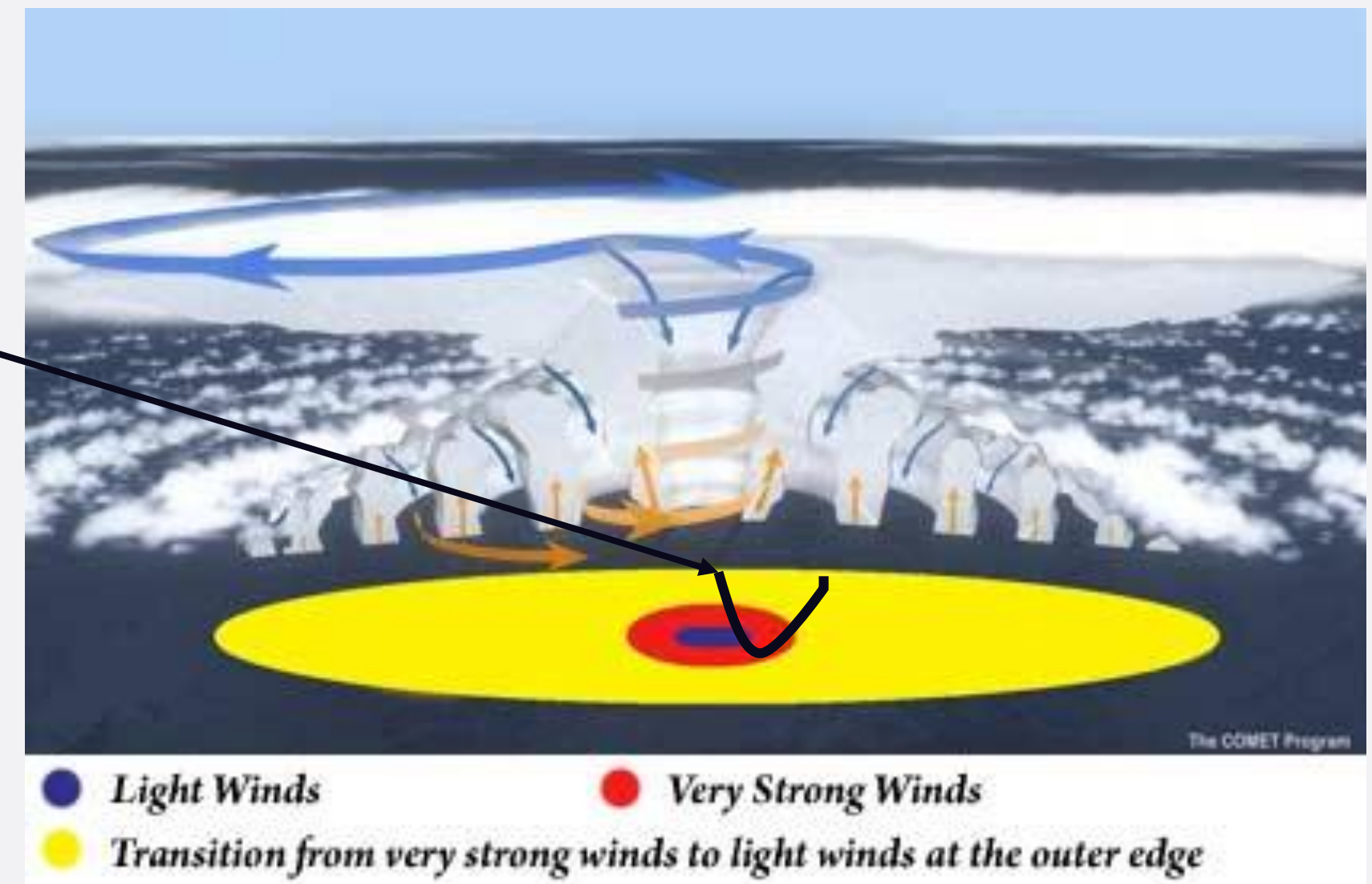
# The Tropical Storm Science

## How Accurate Are Forecasts?

### Forecast Errors for The Atlantic Basin (2012-2016)

Forecast Period	12 Hours	24 Hours	36 Hours	48 Hours	72 Hours	96 Hours	120 Hours
Track (Miles)	25.2	39.7	53.8	70.7	96.6	148.4	195.9
Intensity (MPH)	5.8	9.0	11.3	13	14.5	15.8	16.4

- Scientific Improvements continue in Tropical Storm Forecasting
- Eastern sides of storm are the most intense
- “Eye wall” most damaging winds—20 to 50 mile wide zone
- Forecast error at 48 hours could mean the difference between 100 MPH and 50 MPH winds
- Better to take a risk management approach to decisions



# Best General Sources Of Information to Make Decisions

- <http://www.nhc.noaa.gov/>
- <http://www.nhc.noaa.gov/gtwo.php?basin=atlc&fdays=5>
- <http://www.nhc.noaa.gov/marine/offshores.php>

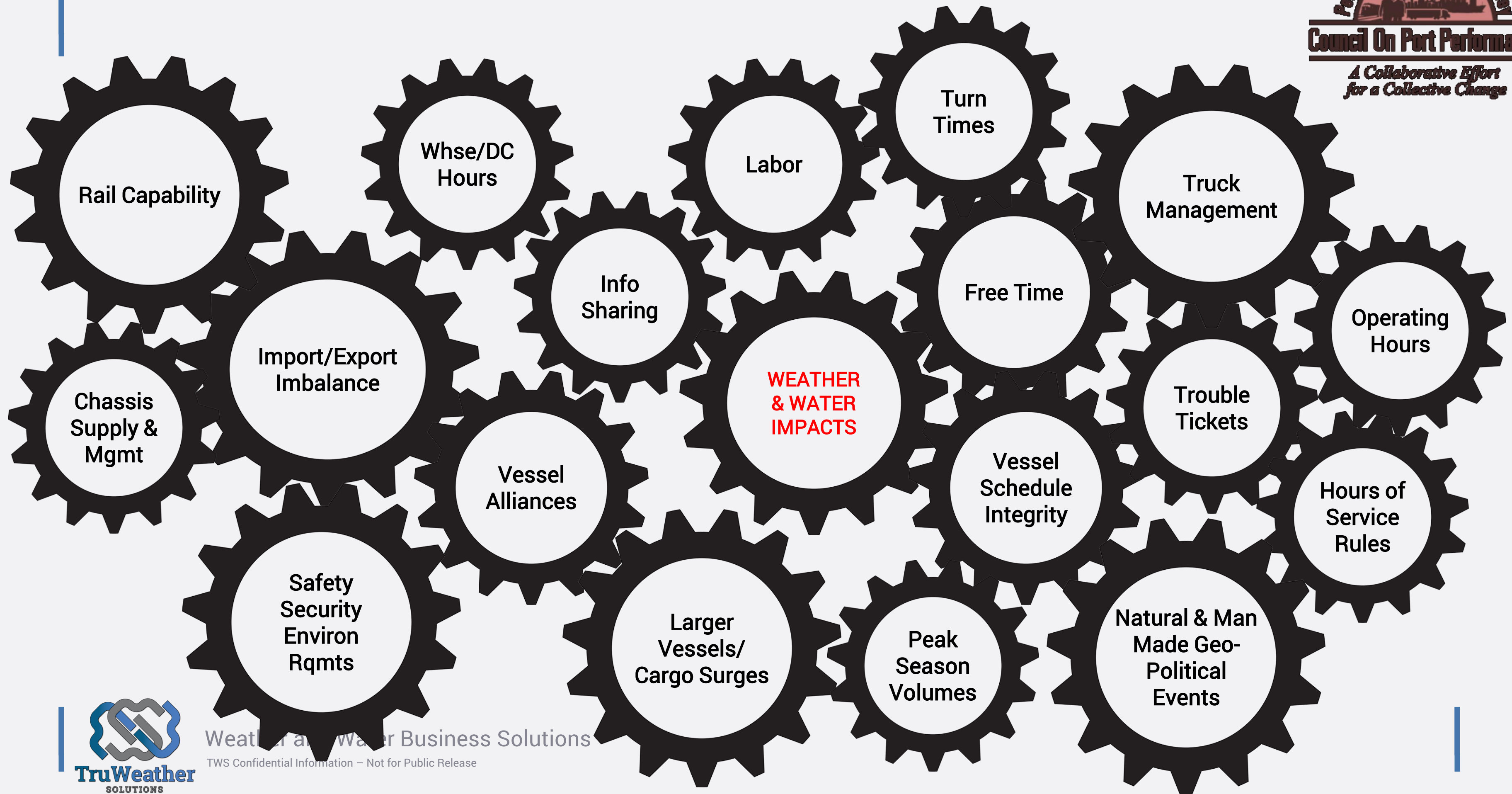


# Prepare, Response and Recovery Plans

- Minimize impact to personnel, property and profits
  - Understand key thresholds for every port function/stakeholder
    - Wind, Crosswinds, Waves, Currents, Precip, Storm Surge, Lightning
  - Severe Weather Playbook
    - Gracefully shut down impacted functions as storm progresses
    - Instruct stakeholders on recommended actions
    - Alert messaging system to communicate risks and actions
    - Communication of your pain points
- Reduce impacts 40% or more with well orchestrated Preparation, Response and Recovery plan and execution



# Weather Plans Grease the Gears of an Efficient and Reliable Port





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productivity



port  
efficiency



tenant  
satisfaction



revenue



innovation



「thank you.」



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