

Science for a Weather-Ready Nation

7TH SYMPOSIUM ON POLICY & SOCIO-ECONOMIC RESEARCH
AMS 2012

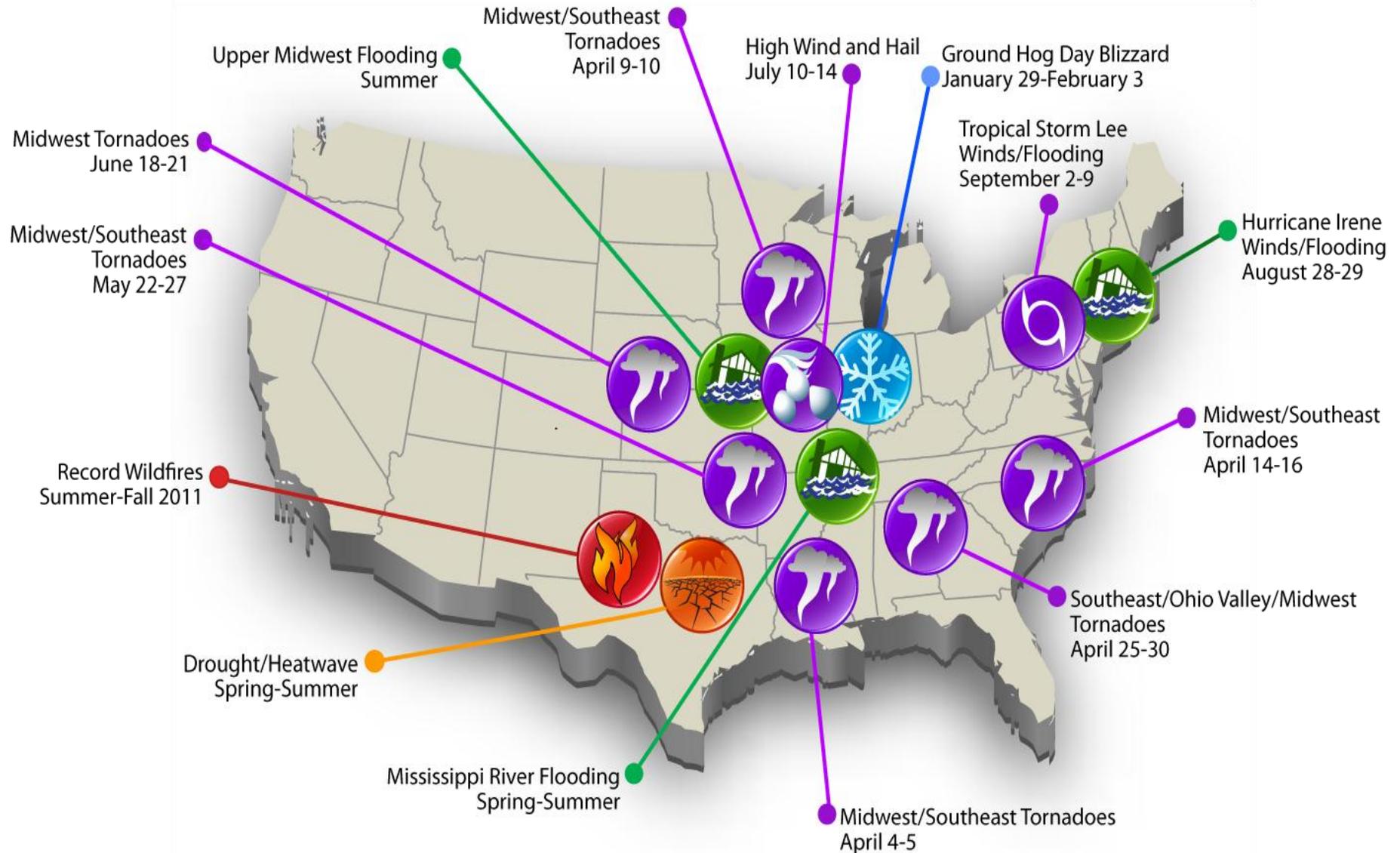


Jane Lubchenco, Ph.D.

**Under Secretary of Commerce for Oceans and Atmosphere & NOAA Administrator
National Oceanic and Atmospheric Administration | NOAA**

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Top Fourteen U.S. Weather and Climate Disasters 2011



Environmental Intelligence Across the Weather-Climate Continuum

National
& Global



Drought Monitor
—
Agriculture



Monthly State of the Climate Reports
—
Decision Makers



Annual State of the Climate Reports
—
Decision Makers



National Climate Assessment
—
Decision Makers

Regional



Hurricane Tracks
—
Emergency Planners



Heat Wave Prediction
—
Public Health Officials



Drought Outlook
—
Agriculture



Climate Normals
—
Construction, Infrastructure, Agriculture

Local



Tornado Warnings
—
General Public, Most sectors



Heating & Cooling Degree Days
—
Energy Sector



Temperature & Precipitation Outlooks
—
Agriculture



Extreme Detection & Attribution
—
Insurance

Weekly

Monthly

Seasonal – Annual

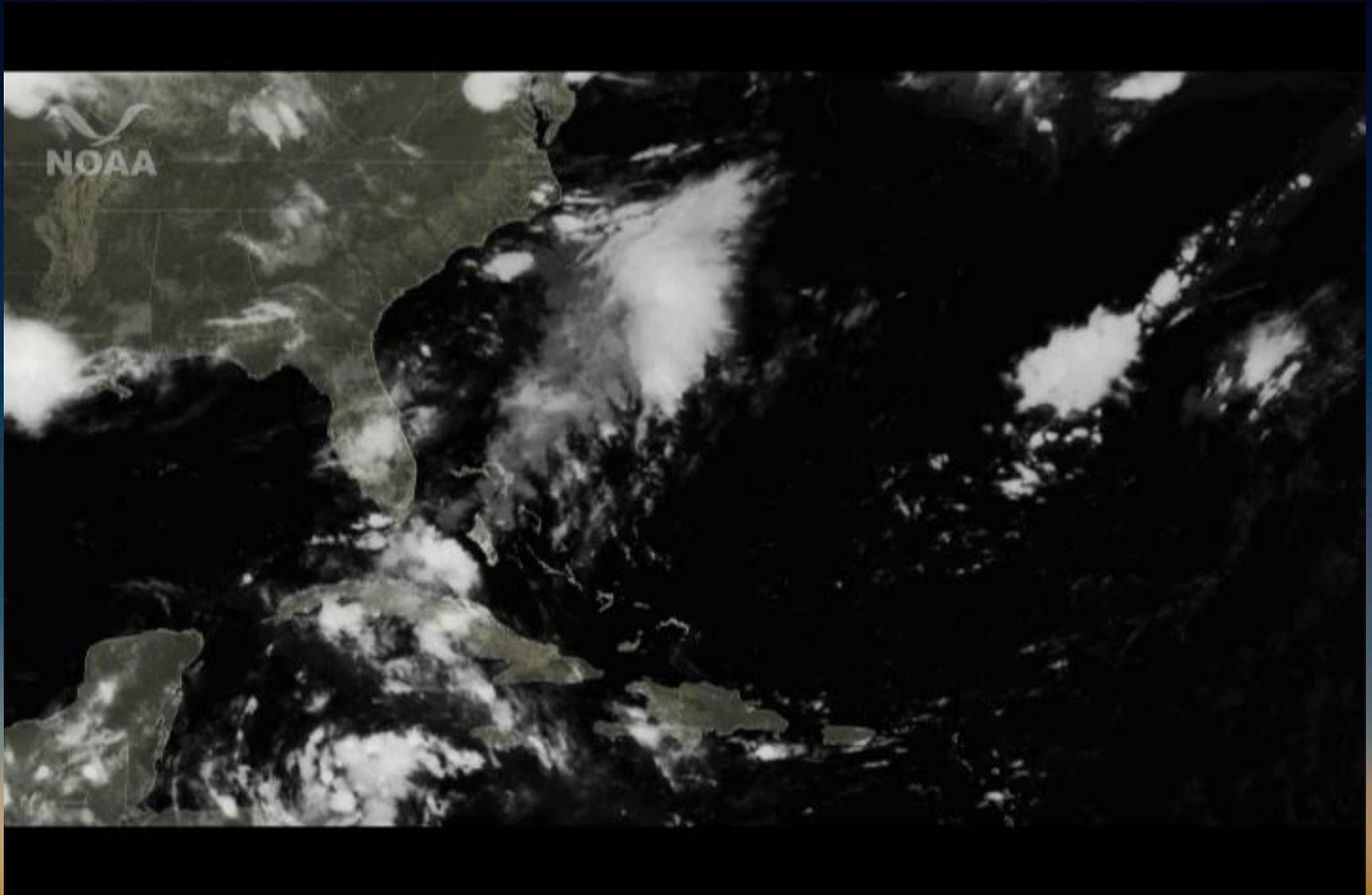
Decadal

Spring-Summer Floods

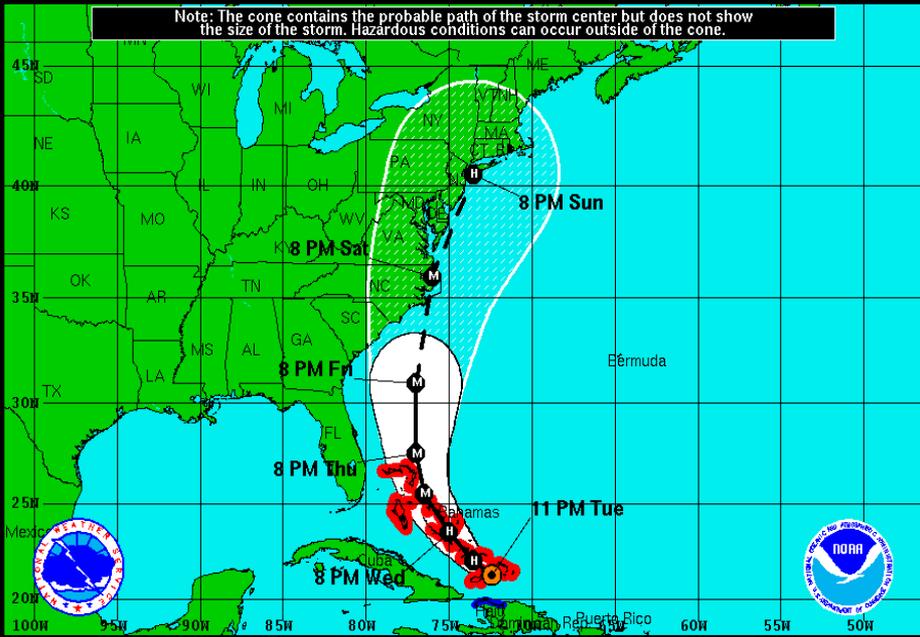
SEASONAL TIMESCALE



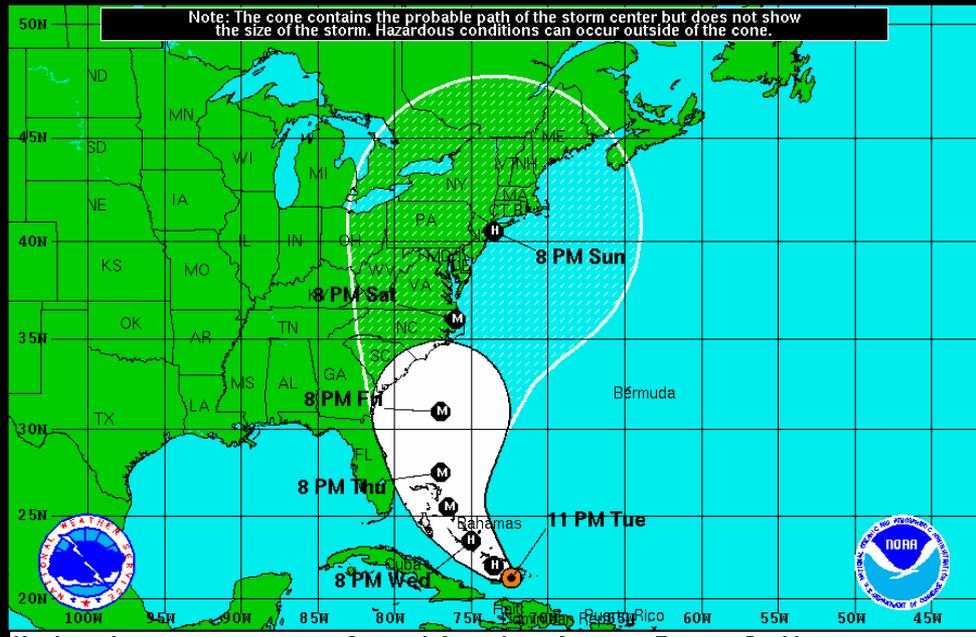
Need for More R&D



10 Years of Hurricane Forecast Improvement



Hurricane Irene Tuesday August 23, 2011 11 PM EDT Advisory 15 NWS National Hurricane Center	Current Information: Center Location 21.3 N 72.4 W Max Sustained Wind 90 mph Movement WNW at 9 mph	Forecast Positions: ● Tropical Cyclone ○ Post-Tropical Sustained Winds: D < 39 mph S 39-73 mph H 74-110 mph M > 110mph
Potential Track Area: ☐ Day 1-3 ☐ Day 4-5	Watches: ■ Hurricane ■ Trop.Storm	Warnings: ■ Hurricane ■ Trop.Storm



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2011 Irene Forecast

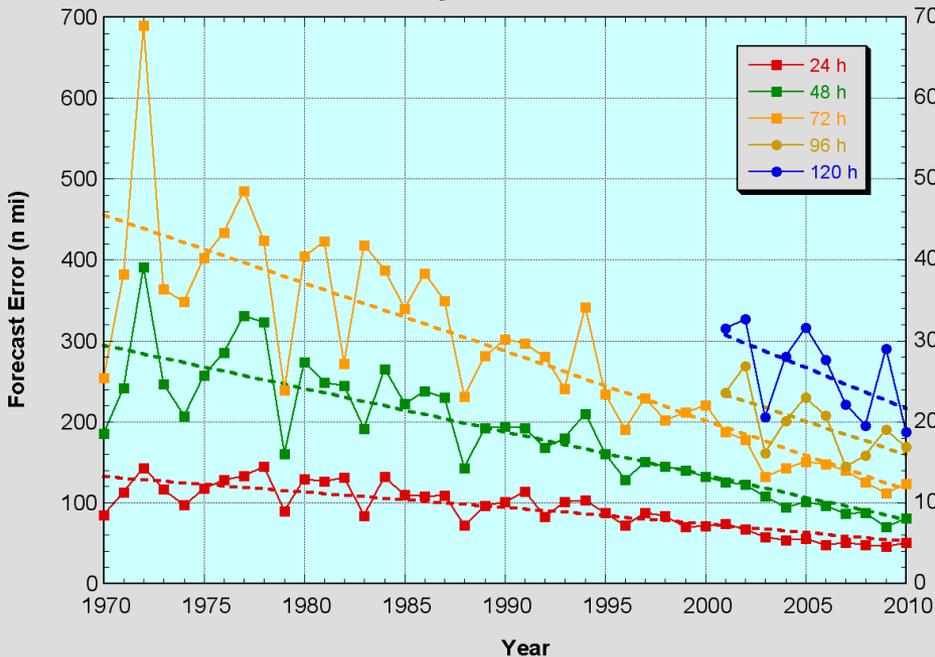
Irene "2001" Forecast

Need for More R&D

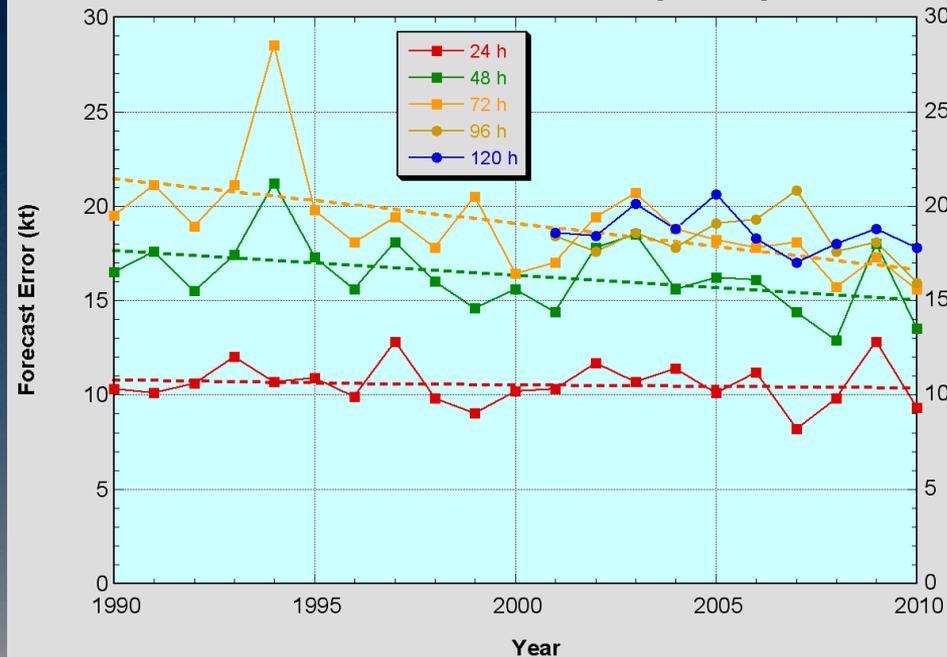
TRACK

INTENSITY

NHC Official Annual Average Track Errors
Atlantic Basin Tropical Storms and Hurricanes

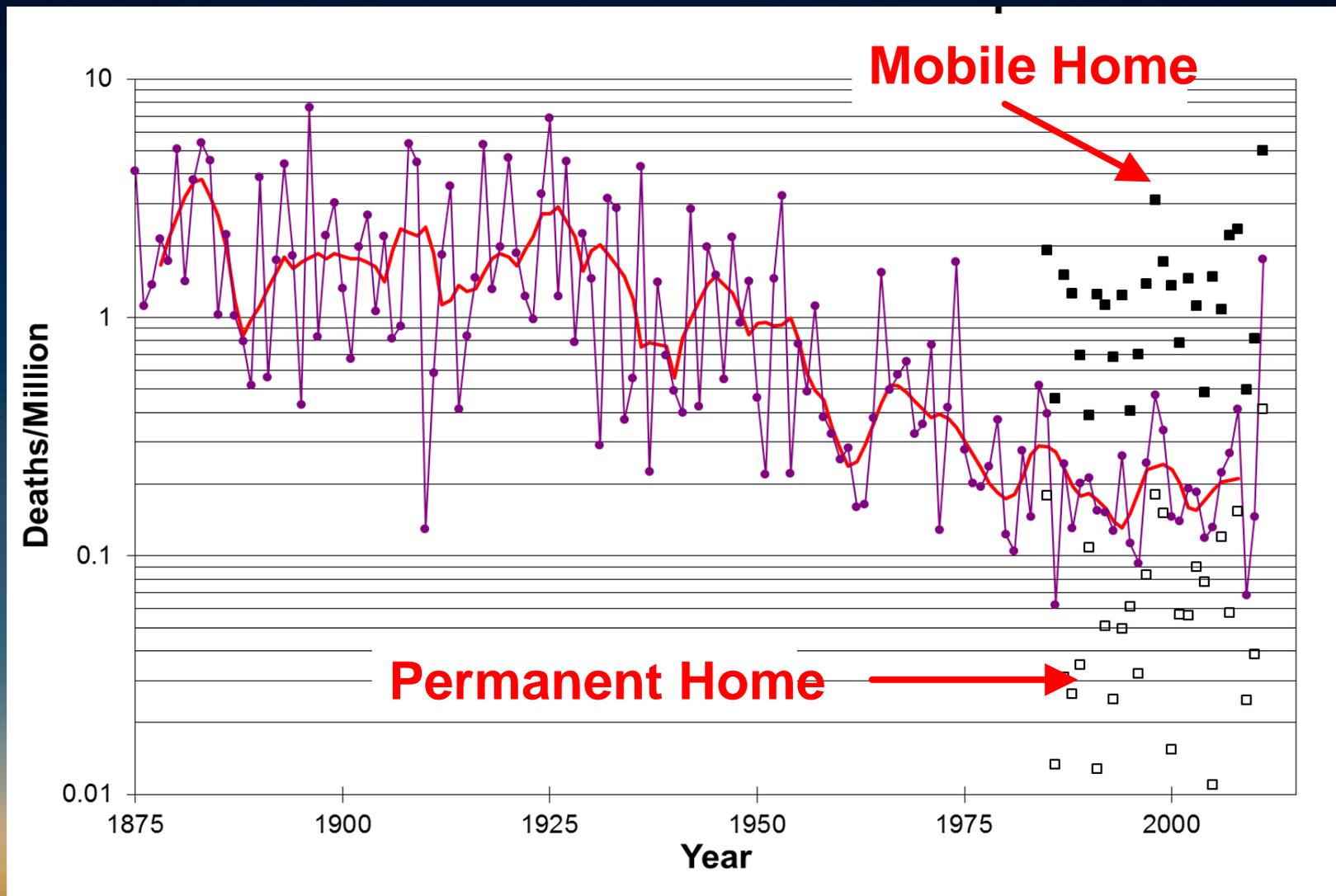


NHC Official Annual Average Intensity Errors
Eastern North Pacific Basin Tropical Cyclones



Hurricane Forecast Improvement Program (HFIP)

Tornadoes



Service Assessments

SELECTED FINDINGS

Joplin, MO—May 22

1 EF-5 tornado

158 deaths; >1,000 injuries



S.E. U.S.—April 25-28

122 tornadoes including 11 EF-4 & 4 EF-5

316 deaths; >2,400 injuries

Another warning/siren? Ignore this one too?

Am I in the warning area?

How dangerous is it? (warning language)

Can I get official warnings via twitter,

FaceBook, or other social media?

www.nws.noaa.gov/os/assessments

Weather-Ready Nation

www.nws.noaa.gov/com/weatherreadynation

VISION

Society is prepared for and responds to weather-dependent events

READY • RESPONSIVE • RESILIENT

National Dialogue

WEATHER-READY NATION



- Improve public understanding of increasing vulnerability to extreme weather
- Stimulate discussion with public, partners, and stakeholders on solutions for reducing impacts

Evaluate opportunities for improving:

- User-driven impact-based forecasts/warnings
- Integrating social and natural sciences into services
- Service delivery across the weather enterprise
- Community planning and impacts mitigation

Meeting the Nation's Needs

WEATHER-READY NATION

To better prepare the Nation, NOAA must:

- ☉ Effectively communicate risk and forecast confidence levels
- ☉ Develop more effective and meaningful products and services to society
- ☉ Provide more efficient delivery of products and services in a technologically changing world

Coastal Environment Impact Decision Support Services

FEMA

US Coast Guard

US Army Corps of Engineers

US Geological Survey

EPA

State agencies

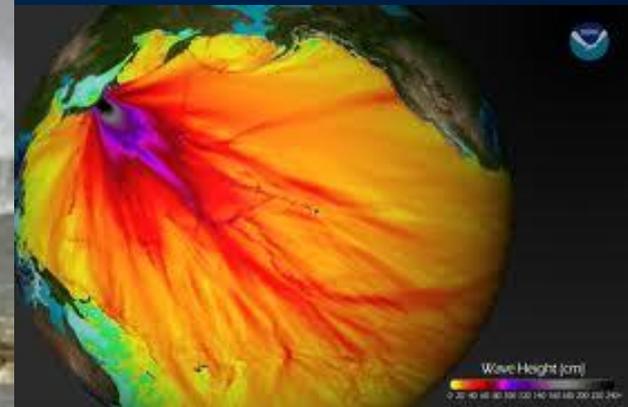
Local agencies

National and local media

PILOT PROJECT
WFO New Orleans, LA

BUILD A LITTLE | TEST A LITTLE | FIELD A LITTLE

Social Science Projects



Risk communication
Economic valuation



Weather-Ready Nation



PEOPLE • PARTNERSHIPS • DIALOGUE

Integrating natural & social sciences into services

UPCOMING DIALOGUES

13-15 December 2011

Weather Ready Nation – A Vital Conversation (held in Norman)

23 January 2012

AMS Town Hall to report on Norman Workshop outcomes to the community

29 February – 3 March 2012

Severe Weather Season “Rollout” coupled to National Severe Weather Awareness Week

1-3 March 2012

National Severe Weather Workshop in Norman

10-12 April 2012

AMS Washington Forum “Towards a Weather, Water, and Climate Ready Nation”

24-26 April 2012

Workshop on Social and Physical Sciences



**Ready
Responsive
Resilient**