

Joint Hurricane Testbed

Transitioning from Research to Operations

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Joint Hurricane Testbed is funded by the US Weather Research Program in NOAA/OAR's Office of Weather and Air Quality.

Joint Hurricane Testbed (JHT) *since 2001*

- Bridge hurricane research and operations
- Began in 2001 under the USWRP
- **Mission:** successfully transfer new technology, research results and observational advances from research groups to operational centers
- Testing is done at NHC or EMC

JHT: The Process

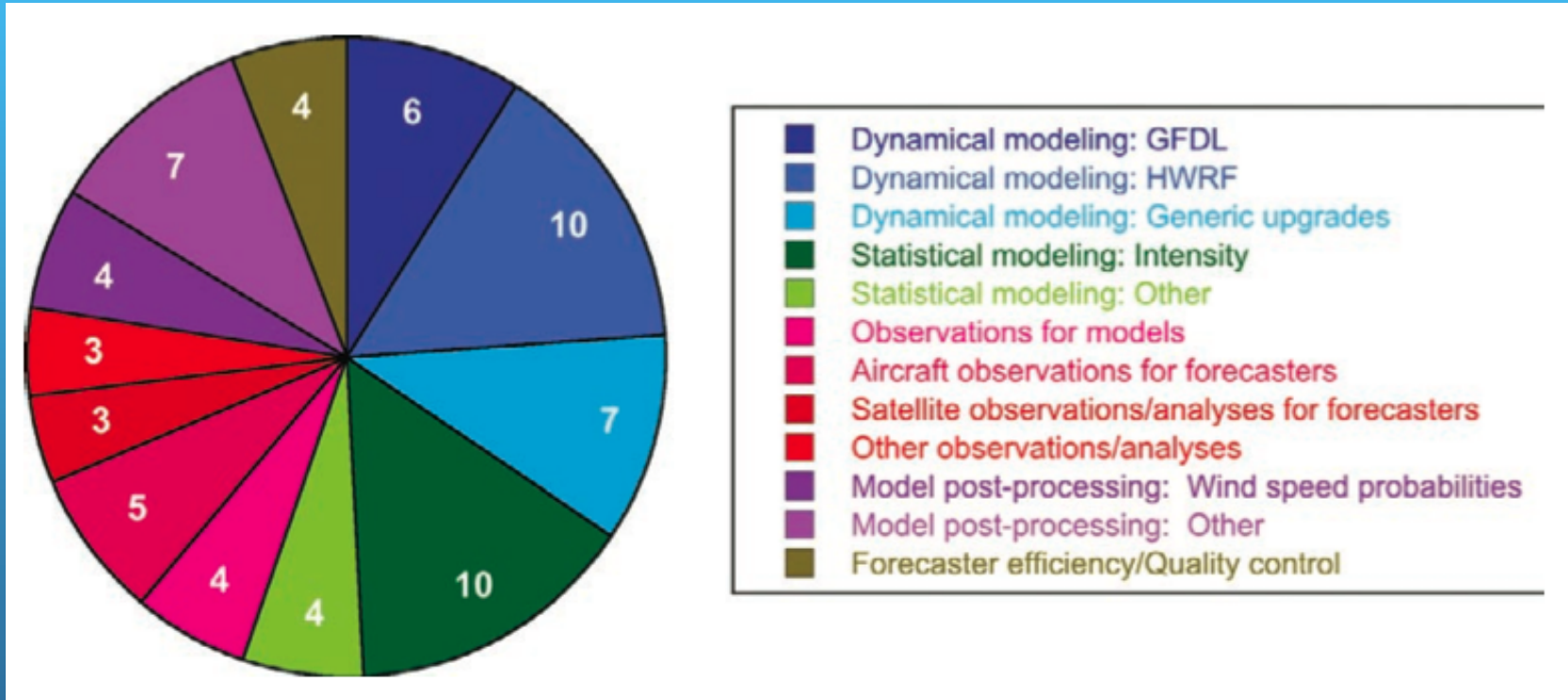
- Call for Proposals - drafted and disseminated (bi-annually)
- Principal Investigators apply for funding through NOAA
- 7 member Steering Committee rates all proposals
- Funded projects are tested during 1 or 2 hurricane seasons in conjunction with NHC/EMC points of contact
- At the project's end, each are evaluated by NHC/EMC staff
- Implementation of successful projects are then carried out by NHC/EMC staff/PIs

JHT: The statistics

- Number of projects supported: 74
 - 62 completed
 - 39.5 accepted for operational implementation
 - 6 projects completed but rejected
 - 9.5 projects completed but pending further investigation (decisions deferred)
 - 12 projects started in fall 2011
- Implementation
 - 35.5 projects implemented: (including 4 5th round projects)
 - 10 numerical modeling related projects implemented by EMC/NCO:
 - 24.5 projects implemented by NHC:
 - 4 projects accepted but not yet fully implemented by NHC:

JHT first five rounds

62 projects by topic area



Rappaport et al. 2012 - The Joint Hurricane Test Bed, It's first decade of tropical cyclone research-to-operations activities reviewed, BAMS, March issue.

Distribution of JHT Funds 2001 - 2010

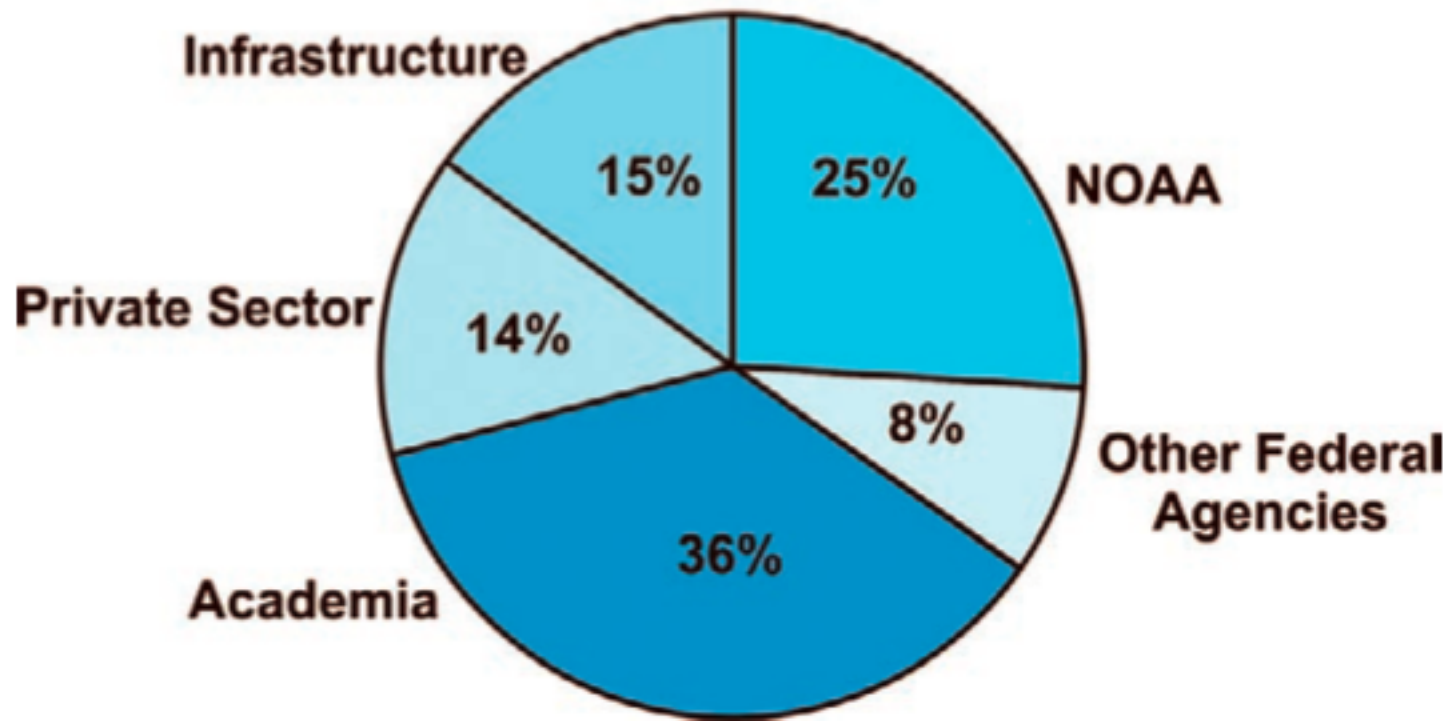
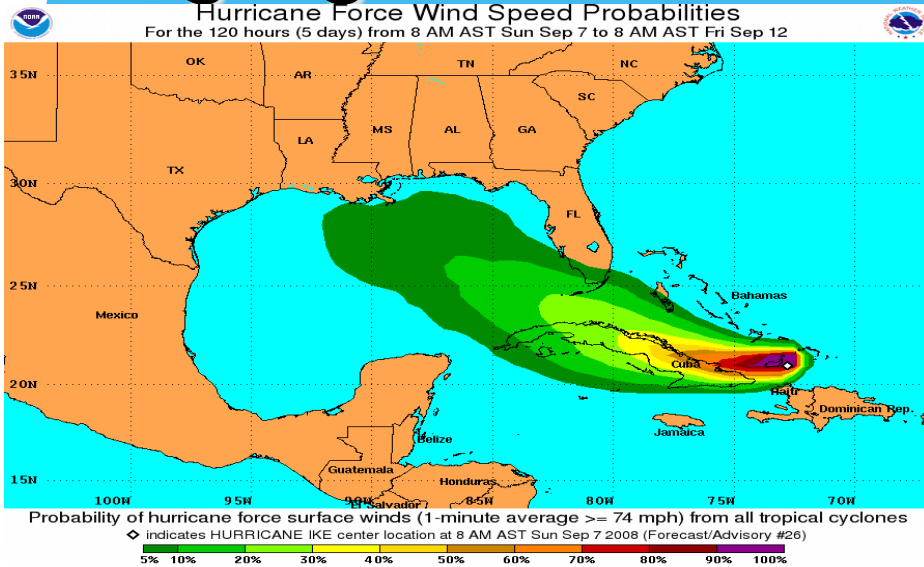


Figure from Rappaport et al. 2012

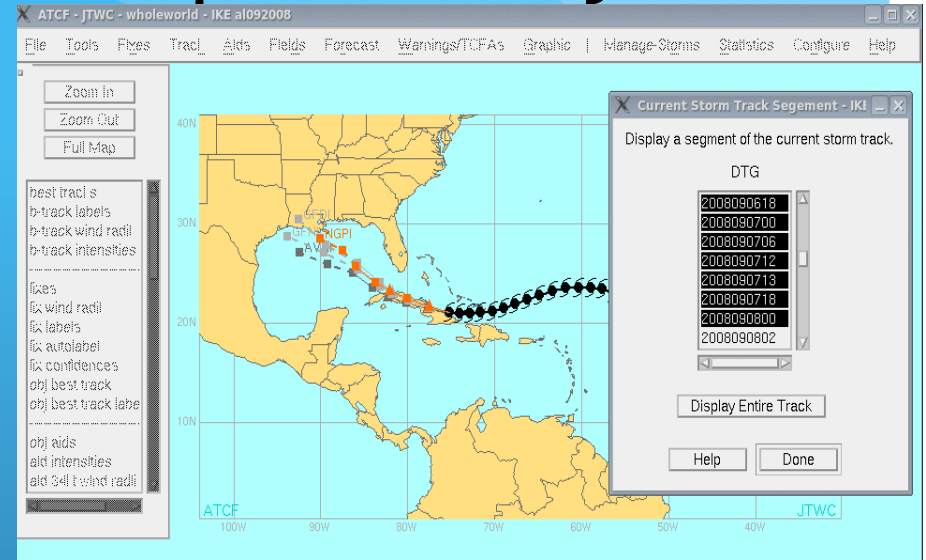
2011-2012 Major JHT Activities - 5th round

- **February – August 2011**
 - Testing of 5th round (2009-2011) projects
- **August 2011**
 - 9 Projects completed (5th Rd)
 - JHT final evaluation/report on 5th round projects (through December)
 - Decision on acceptance for implementation (NHC and EMC Directors)
 - **4 criteria for acceptance**
 - *Forecast or Analysis Benefit*
 - *Efficiency*
 - *Compatibility*
 - *Sustainability*
- **March 2012**
 - Final decision made

Highlights of 5th Round Completed Projects

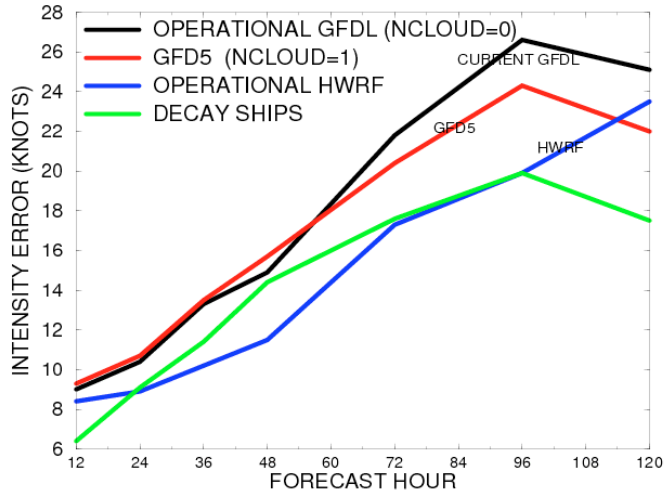


Improved Wind Probabilities – DeMaria/Knaff

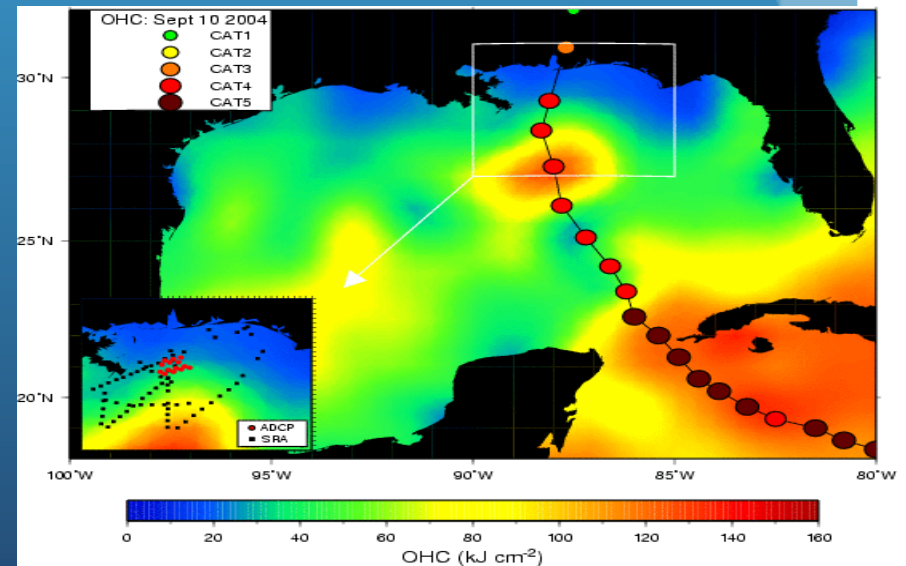


Enhanced ATCF - Sampson

2011 ATLANTIC HURRICANE SEASON (SEPTEMBER 12th)
NUMBER OF CASES: (163, 149, 124, 93, 74, 53)



HWRF-GFDN coupled model- Ginis



Ocean Model Parameterizations - Shay

2011-2012 Major JHT Activities - 6th round

- 6th round funding recommendation
 - Steering committee review proposals - Complete Feb 2011
 - Rank and select proposals for funding
 - Work with Grants Office to fund selected projects
 - Find Point of contacts among NHC forecasters and support staff
 - Work with PIs to setup timelines for their projects
- 6th round Projects (12) began Aug-Sept 2011

Primary Area of Focus	# of Projects
Improvements to dynamical models (for track, intensity, and precipitation forecasts)	3
Statistical intensity forecast guidance	4
Enhancements to observed data, assimilation	4
Tropical cyclone structure/wind/wave distribution	1
Total	12

Upcoming in 2012

- **Decision on 5th round projects**
 - Final reports for 5th round projects
 - POC feedback
 - JHT final review/reports to NHC Director for acceptance
- **Test and evaluation**
 - Prepare real-time testing & evaluation for 6th round projects
 - Set up necessary software code and data flow
- **Implement newly accepted projects (NHC)**
- **Draft and publish 7th round announcement**
 - **Funding Opportunity (summer 2012)**
- **Review and recommend pre-applications**

JHT Web site: for additional info



The screenshot shows the National Hurricane Center (NHC) website for the Joint Hurricane Testbed (JHT). The browser address bar displays www.nhc.noaa.gov/jht. The page header includes the NOAA logo, the text "National Weather Service National Hurricane Center", and a "weather.gov" link. A navigation menu contains "Home", "News", "Organization", "Search", "NWS", "All NOAA", and "Go".

The main content area features a banner for the "USWRP Joint Hurricane Testbed" with a satellite image of a hurricane. Below the banner is the "JHT Overview" section, which includes a navigation bar with links: "Overview", "Current Projects", "Past Projects", "Admin Presentations", "Highlights", "Staff", and "Committee".

The "Mission Statement" section states: "The mission of the Joint Hurricane Testbed is to transfer more rapidly and smoothly new technology, research results, and observational advances of the United States Weather Research Program (USWRP), its sponsoring agencies, the academic community and other groups into improved tropical cyclone analysis and prediction at operational centers."

The "News" section lists three items:

- 20 March 2012: 2012 IHC presentations posted for 2011-2013 projects
- 1 November 2011: Press Release on new 2011 funded JHT projects
- 30 September 2011: New JHT projects (Round 6, FY11-13) announced

A link for "View News Archive" is provided.

The "Main Activities" section lists three bullet points:

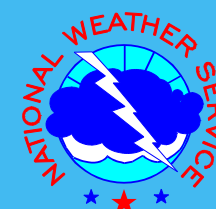
- Identify new techniques, models, observing systems, etc. with potential for improving forecast guidance, via an announcement of opportunity and a proposal, review, and funding process.
- Establish and maintain an infrastructure to facilitate the modification and transfer of research applications into the operational computing, communication, and display environment.
- Complete tests in a quasi-operational environment of tools, techniques, etc. provided by funded researchers, with metrics for scientific performance, ease-of-use, and time constraints.
- Prepare documentation, training, and performance evaluations of successfully transferred products to facilitate use and support in operations.

A footer note states: "Please see the [Joint Hurricane Testbed Terms of Reference](#) (PDF) for more background information."

The left sidebar contains a "Local forecast by 'City, St' or 'ZIP'" search box and a "Go" button. Below this are sections for "Alternate Formats" (Text, Mobile, Email, RSS, About Alternates), "Cyclone Forecasts" (Latest Advisory, Past Advisories, Audio/Podcasts, About Advisories), "Marine Forecasts" (Atlantic & E Pacific, Gridded Marine, About Marine), "Tools & Data" (Satellite, Radar, Analysis Tools, Aircraft Recon, GIS Datasets, Data Archive), "Development" (Experimental Research, Forecast Accuracy), "Outreach & Education" (Prepare, Resources, Storm Surge, About Cyclones, Cyclone Names, Wind Scale, Most Extreme, Forecast Models, Breakpoints, Glossary | Acronyms, Frequent Questions), "Our Organization" (About NHC, Mission | Staff, Visitors | Virtual Tour, Library Branch, NCEP | Newsletter), and "Contact Us" (Comments). At the bottom of the sidebar are social media links for Facebook and Twitter.

A vertical banner on the right side of the page reads "National Weather Service - Since 1870".

Thank you



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