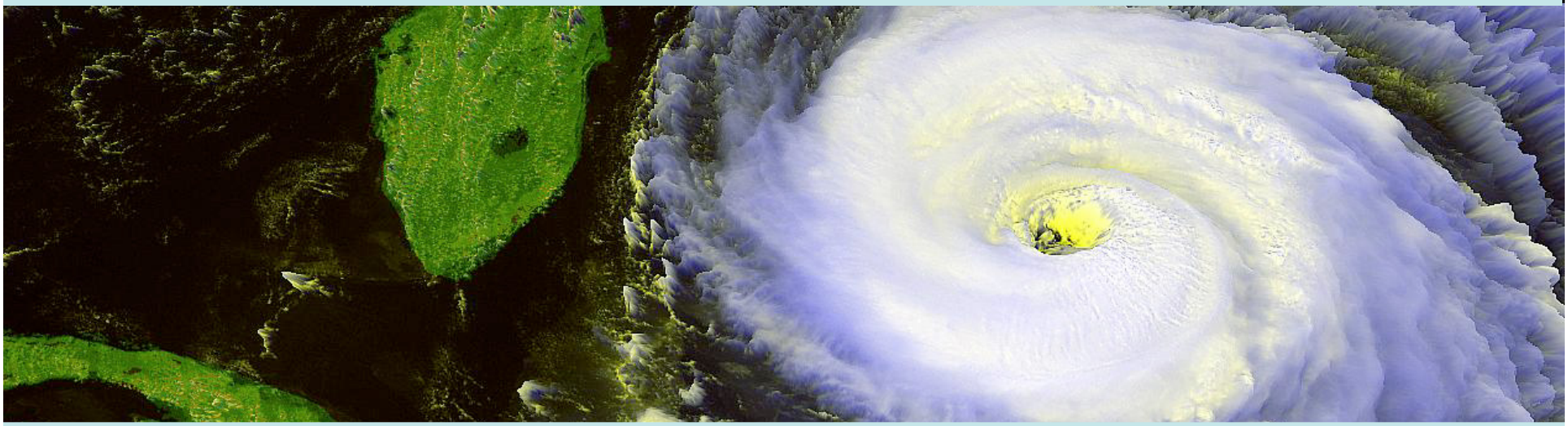
# The Joint Hurricane Testbed (JHT):

## *Transitioning research into operations*

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# Joint Hurricane Testbed (JHT) *since 2001*

- Testbed: Means for testing something in development
- 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

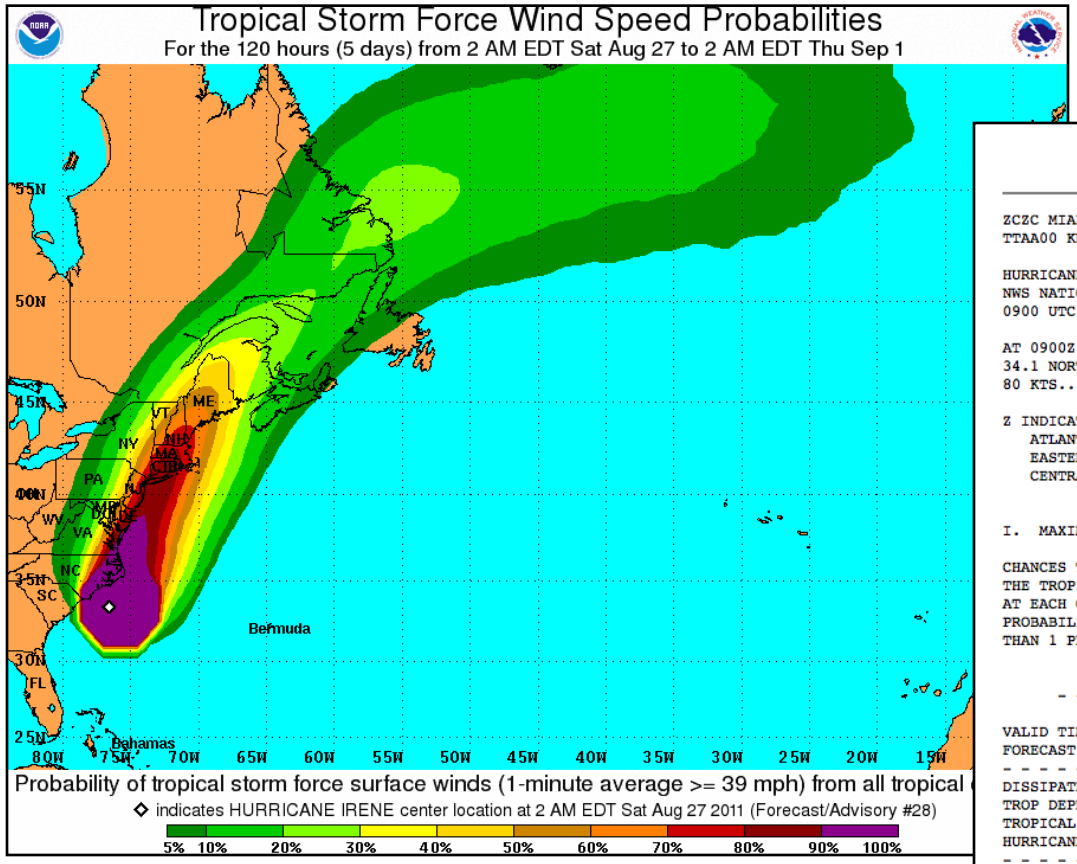
**Number of projects supported: 74**

- 60 completed
  - 39.5 accepted for operational implementation
  - 6 projects completed but rejected
  - 9.5 projects completed but pending further investigation (decisions deferred)
  - *14 projects are underway*

# JHT: Project Highlight

- *Improvements in Deterministic & Probabilistic TC Surface Wind Predictions* by Mark DeMaria and John Knaff (CIRA)
  - *Project Goals:* Provide surface wind probabilities product to NHC hurricane forecasters
    - Provide scheme for wind probabilities in real-time
    - Incorporate storm-specific measures of track uncertainty
    - Develop training material and NWS product
  - Worked with NHC points of contacts during testing phase
  - Deployed product and is now part of the NHC operational suite of products

# NHC Wind Speed Probability product




Graphical product

Text product

**Hurricane IRENE**

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ZCZC MIAPWSAT4 ALL
TTAA00 KNHC DDHHMM

HURRICANE IRENE WIND SPEED PROBABILITIES NUMBER  28
NWS NATIONAL HURRICANE CENTER MIAMI FL       AL092011
0900 UTC SAT AUG 27 2011

AT 0900Z THE CENTER OF HURRICANE IRENE WAS LOCATED NEAR LATITUDE
34.1 NORTH...LONGITUDE 76.5 WEST WITH MAXIMUM SUSTAINED WINDS NEAR
80 KTS...90 MPH...150 KM/H.

Z INDICATES COORDINATED UNIVERSAL TIME (GREENWICH)
   ATLANTIC STANDARD TIME (AST)...SUBTRACT 4 HOURS FROM Z TIME
   EASTERN  DAYLIGHT TIME (EDT)...SUBTRACT 4 HOURS FROM Z TIME
   CENTRAL  DAYLIGHT TIME (CDT)...SUBTRACT 5 HOURS FROM Z TIME


I.  MAXIMUM WIND SPEED (INTENSITY) PROBABILITY TABLE

CHANCES THAT THE MAXIMUM SUSTAINED (1-MINUTE AVERAGE) WIND SPEED OF
THE TROPICAL CYCLONE WILL BE WITHIN ANY OF THE FOLLOWING CATEGORIES
AT EACH OFFICIAL FORECAST TIME DURING THE NEXT 5 DAYS.
PROBABILITIES ARE GIVEN IN PERCENT.  X INDICATES PROBABILITIES LESS
THAN 1 PERCENT.


      - - - MAXIMUM WIND SPEED (INTENSITY) PROBABILITIES - - -

VALID TIME   18Z SAT 06Z SUN 18Z SUN 06Z MON 06Z TUE 06Z WED 06Z THU
FORECAST HOUR   12      24      36      48      72      96     120
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
DISSIPATED       X       1       1       7      33      37      43
TROP DEPRESSION  X       9       5      24      18      20      23
TROPICAL STORM  24      46      57      59      42      37      31
HURRICANE       76      44      37      10       7       5       3
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
HUR CAT 1       67      37      32       9       6       5       2
HUR CAT 2        7       6       4       1       1       1       X
HUR CAT 3        2       2       1       X       X       X       X
HUR CAT 4        X       X       X       X       X       X       X
HUR CAT 5        X       X       X       X       X       X       X
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
FCST MAX WIND  75KT    70KT    65KT    50KT    40KT    40KT    35KT


II. WIND SPEED PROBABILITY TABLE FOR SPECIFIC LOCATIONS
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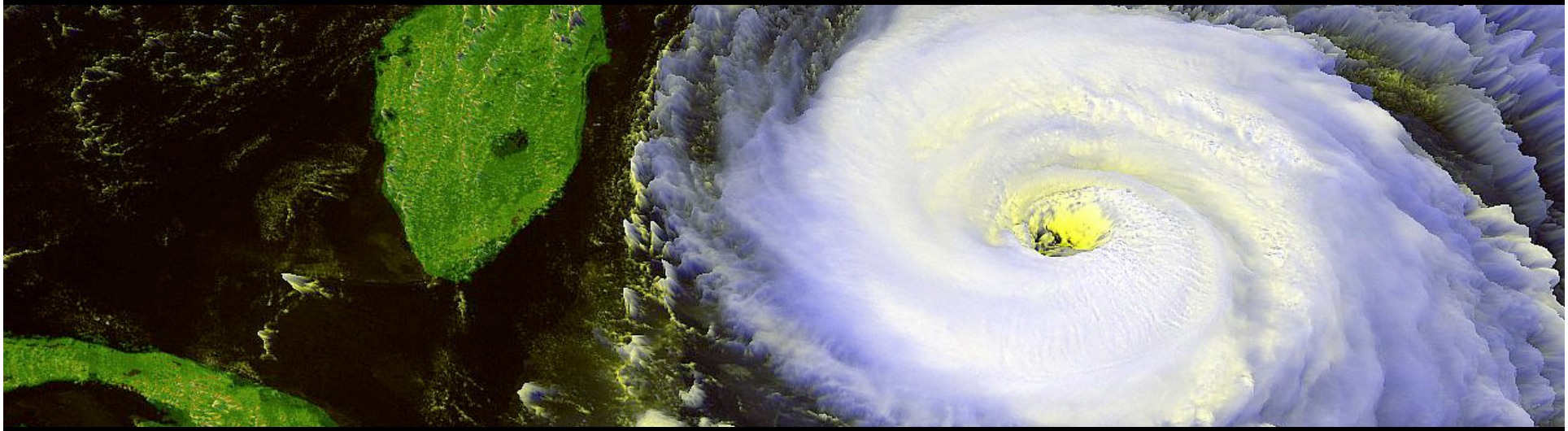
- JHT serves as a model for other testbeds
  - Long history of success
- Highly competitive forum for researchers
  - transition their latest advancements into operations
- JHT Web site for additional info (www.nhc.noaa.gov/jht)

# Thank You

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