Storm Surge Forecasting for the Caribbean and Intra-Americas

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Storm Surge and Wave Forecasting
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Operational Storm Surge Basins
for the Sea, Lake, and Overland Surges from Hurricanes
(SLOSH) Model
Updated: May 04, 2010
SPLASH

• **Special Program to List Amplitudes of Surges from Hurricanes**
  
  • Predecessor to SLOSH
  • Intended for simple storms
    • Didn’t allow for sudden changes in track
    • No rapid intensification
  • Intended to display surge at the coast – no inundation
  • Restricted to rectangular grids
Las Tunas, Cuba (North Coast Province 11)

CAT 1 ~ 1-3 FT
CAT 2 ~ 3-5 FT
CAT 3 ~ 5-7 FT
CAT 4 ~ 7-9 FT
CAT 5 ~ 9-11 FT
...IKE WEAKENS A LITTLE AS IT APPROACHES EASTERN CUBA...

AT 5 PM EDT...2100 UTC...THE GOVERNMENT OF CUBA HAS ISSUED A HURRICANE WARNING FOR THE PROVINCE OF MATANZAS. A HURRICANE WARNING IS NOW IN EFFECT FOR THE CUBAN PROVINCES OF GUANTANAMO...SANTIAGO DE CUBA...HOLGUIN...LAS TUNAS AND GRANMA...CAMAGUEY...CIEGO DE AVILA...VILLA CLARA...SANCTI SPIRITUS...CIENFUEGOS...AND MATANZAS. A HURRICANE WARNING MEANS THAT HURRICANE CONDITIONS ARE EXPECTED WITHIN THE WARNING AREA WITHIN THE NEXT 24 HOURS. PREPARATIONS TO PROTECT LIFE AND PROPERTY SHOULD BE RUSHED TO COMPLETION.

AT 5 PM EDT...2100 UTC...THE GOVERNMENT OF CUBA HAS ISSUED A HURRICANE WATCH FOR THE PROVINCES OF PINAR DEL RIO AND THE ISLE OF YOUTH. A HURRICANE WATCH IS NOW IN EFFECT FOR THE CUBAN PROVINCES OF LA HABANA...CIUDAD DE HABANA...PINAR DEL RIO...AND THE ISLE OF YOUTH. A HURRICANE WATCH MEANS THAT HURRICANE CONDITIONS ARE POSSIBLE WITHIN THE WATCH AREA...GENERALLY WITHIN 36 HOURS.

...AT 500 PM EDT...2100Z...THE CENTER OF HURRICANE IKE WAS LOCATED NEAR LATITUDE 21.1 NORTH...LONGITUDE 74.6 WEST OR ABOUT 90 MILES...145 KM...WEST OF GREAT INAGUA ISLAND AND ABOUT 75 MILES...120 KM...NORTH-NORTHEAST OF GUANTANAMO CUBA.

...MAXIMUM SUSTAINED WINDS HAVE DECREASED TO NEAR 120 MPH...195 KM/HR...WITH HIGHER GUSTS. IKE IS A CATEGORY THREE HURRICANE ON THE SAFFIR-SIMPSON SCALE. FLUCTUATIONS IN STRENGTH ARE POSSIBLE TONIGHT BUT IKE IS EXPECTED TO REMAIN A MAJOR HURRICANE AS IT APPROACHES EASTERN CUBA. IKE IS EXPECTED TO WEAKEN AS IT MOVES OVER EASTERN AND CENTRAL CUBA ON MONDAY.

...STORM SURGE FLOODING OF 9 TO 12 FEET ABOVE NORMAL TIDE LEVELS...ALONG WITH LARGE AND DANGEROUS BATTERING WAVES...CAN BE EXPECTED WITHIN THE WARNING AREA IN AREAS OF ONSHORE WINDS.

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Current Experimentation

- Partnership with Florida International University
- Testing ability to build necessary databases to run FIU’s CEST model
- Future tests to determine relative importance of surge versus waves and feasibility of developing a coupled wave/surge model