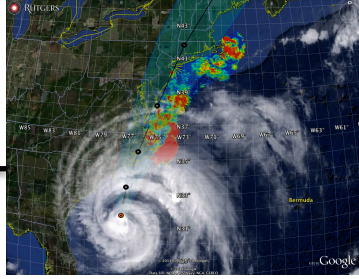
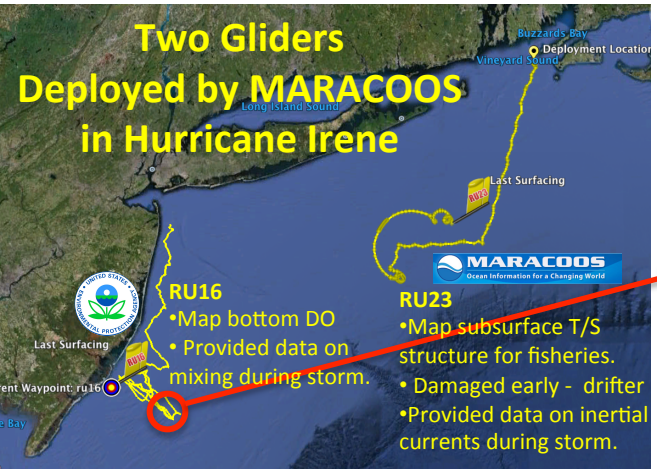
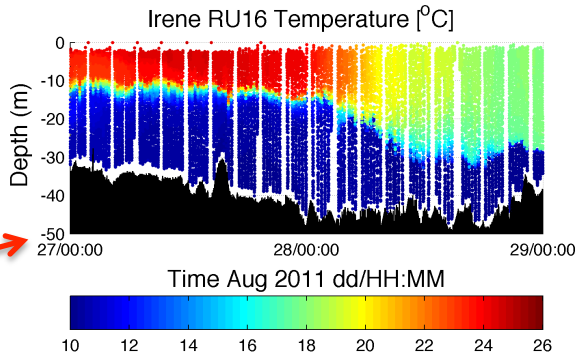
Hurricane Irene



New Technology – Hurricane Gliders



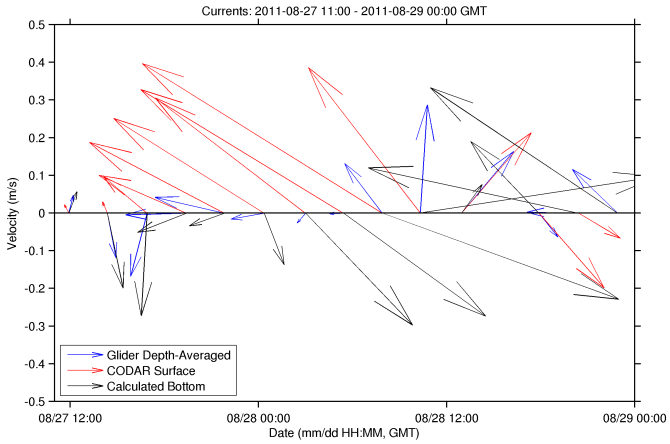


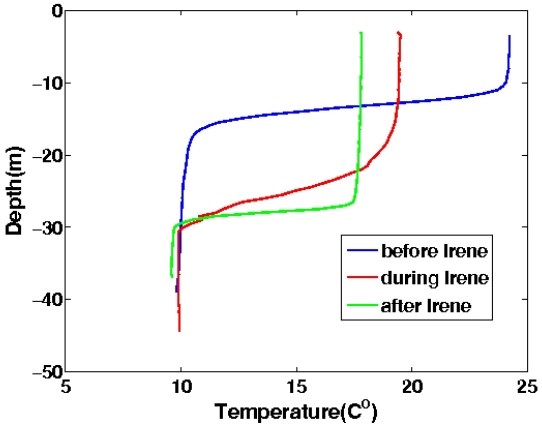
November 2011

MARACOOS glider offshore captures strong wind and inertial response

EPA glider nearshore captures mixing and surface cooling event

New Science – Ocean Modeling Challenges



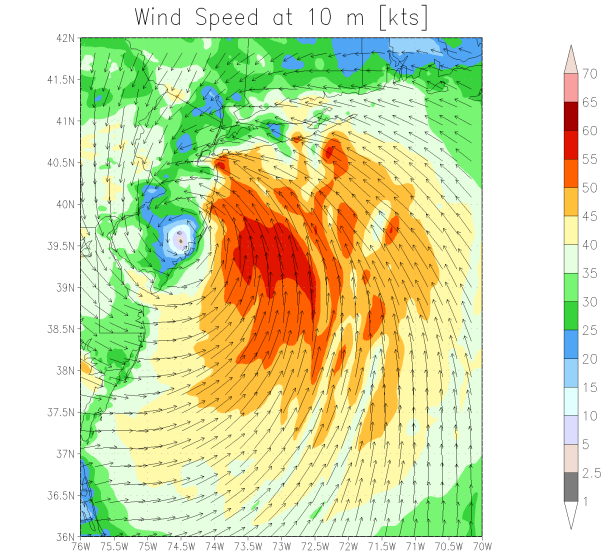


Glider Depth Averaged,
CODAR Surface &
Calculated Bottom Currents

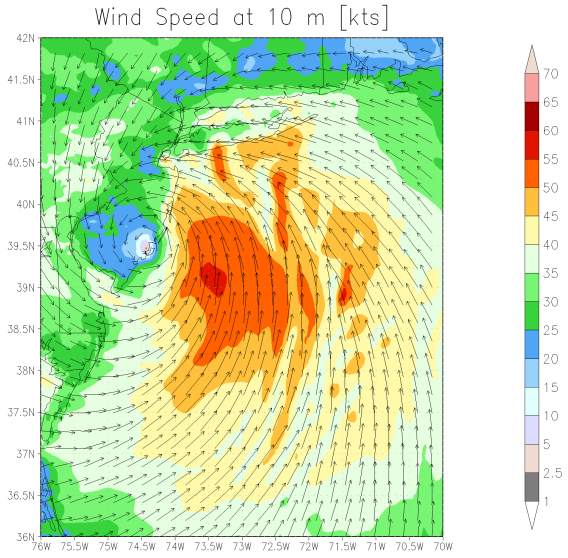
Mixing occurs rapidly when bottom currents accelerate, cooling the surface layer

Existing ocean models have difficulty reproducing the observed mixing and cooling of the surface layer

Impacts on Atmospheric Forecasts



Warm SST



Cool SST

Warm pre-storm operational SST overpredicts Irene intensity

Cool SST based on glider data reduces Irene intensity to observed