

SFMR Performance During the 2005 Hurricane Season

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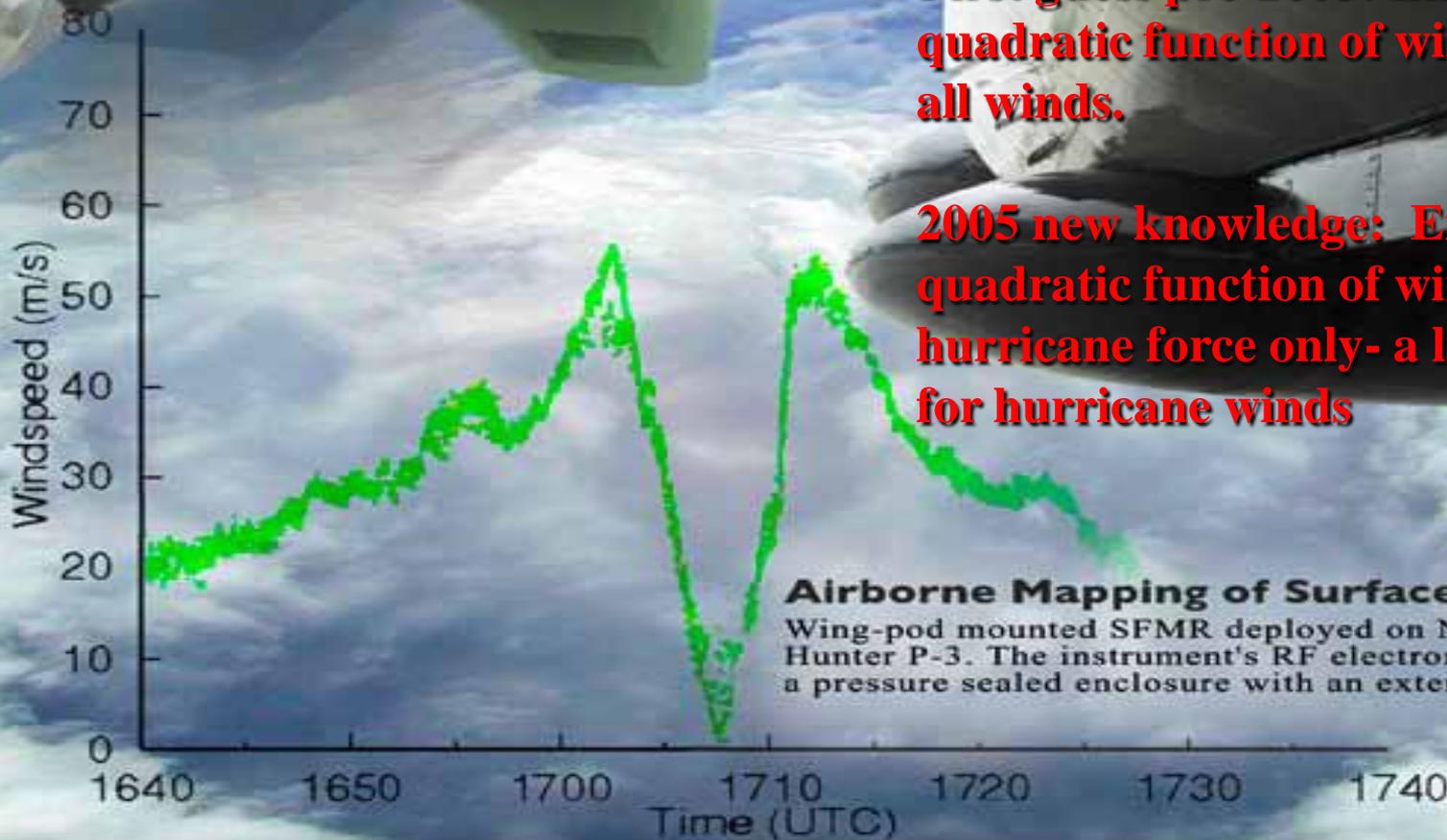
STEPPED FREQUENCY MICROWAVE RADIOMETER

Impacts National Hurricane Center forecast during the 2004 hurricane season

SFMR measures C-band microwave emission from foam (air bubbles in the ocean)

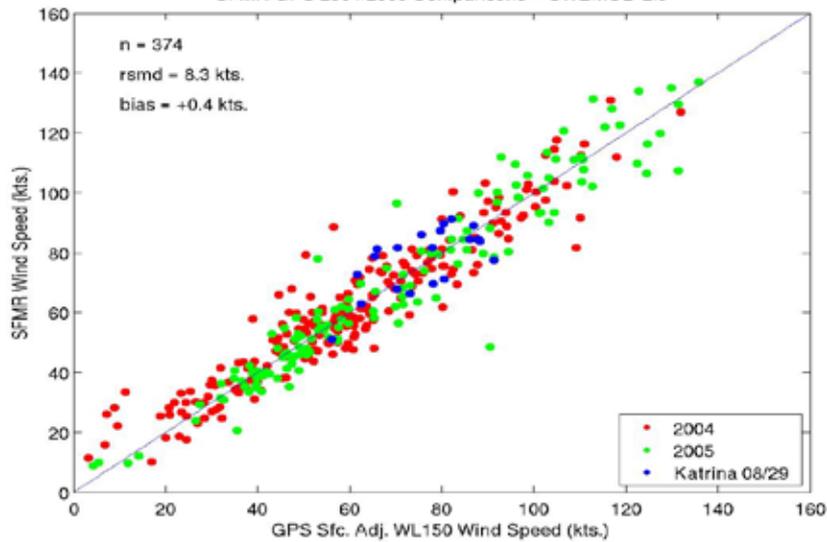
First guess pre-2005: Emissivity a quadratic function of wind speed for all winds.

2005 new knowledge: Emissivity a quadratic function of wind up to hurricane force only- a linear function for hurricane winds

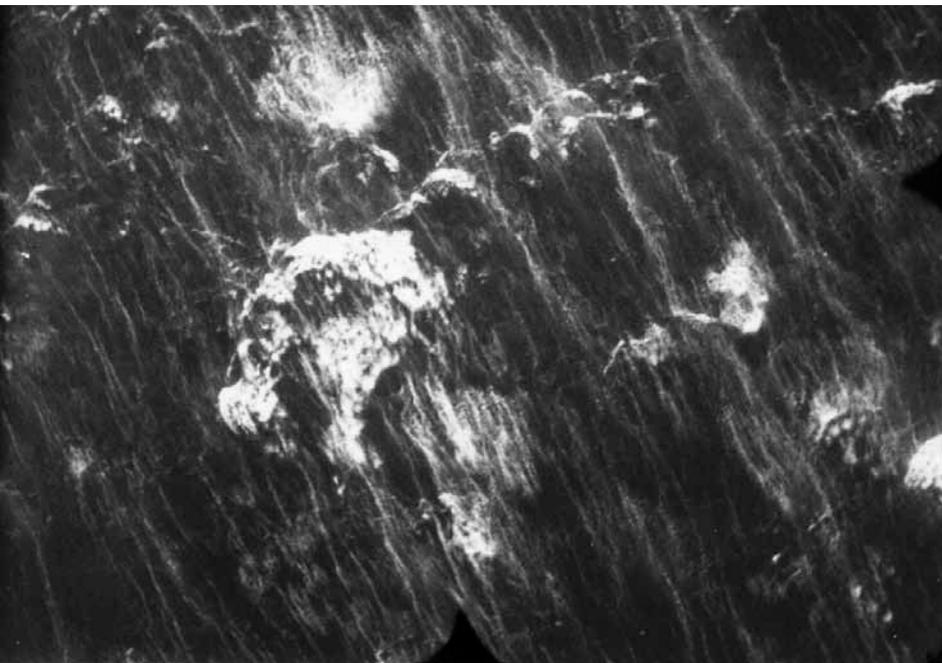


Airborne Mapping of Surface Wind Speed

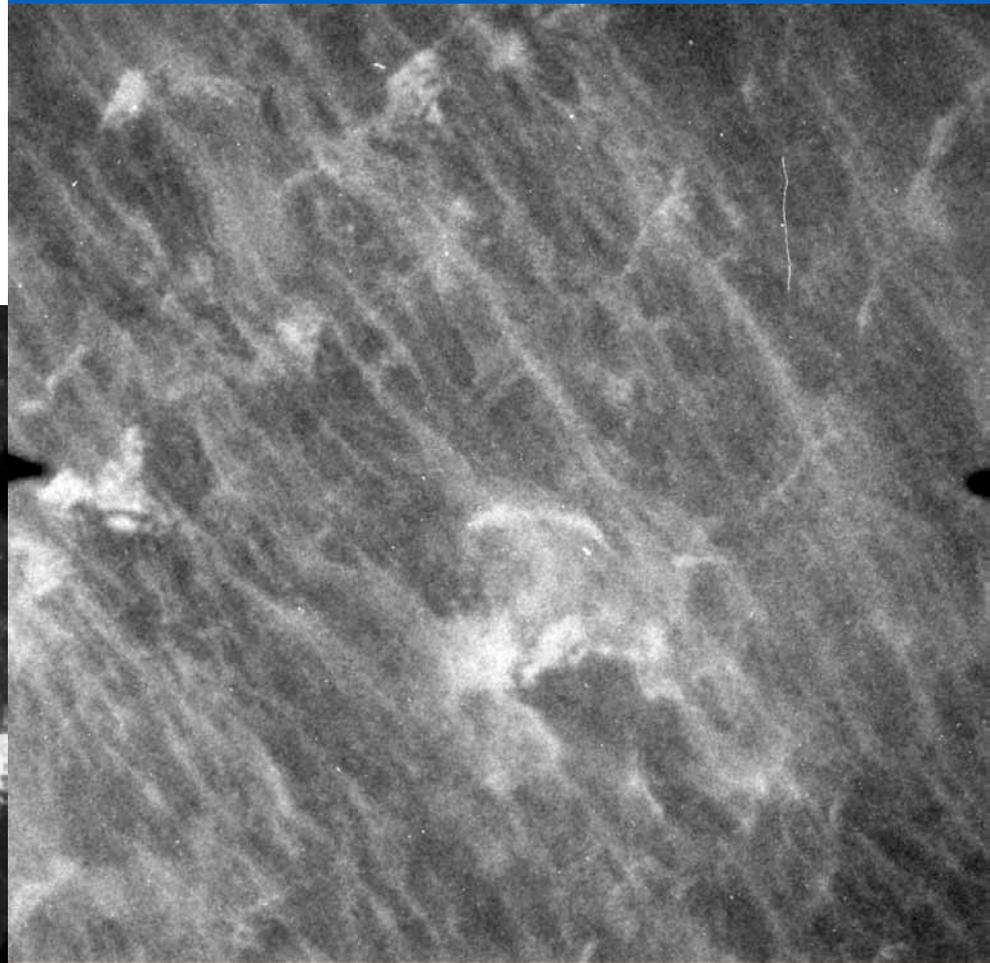
Wing-pod mounted SFMR deployed on NOAA's Hurricane Hunter P-3. The instrument's RF electronics are housed in a pressure sealed enclosure with an external antenna.



Ocean Surface Whitecaps and Foam Streaks in Hurricane Winds



200 m
Wind speed ~28m/s



200 m
Wind Speed ~ 46 m/s