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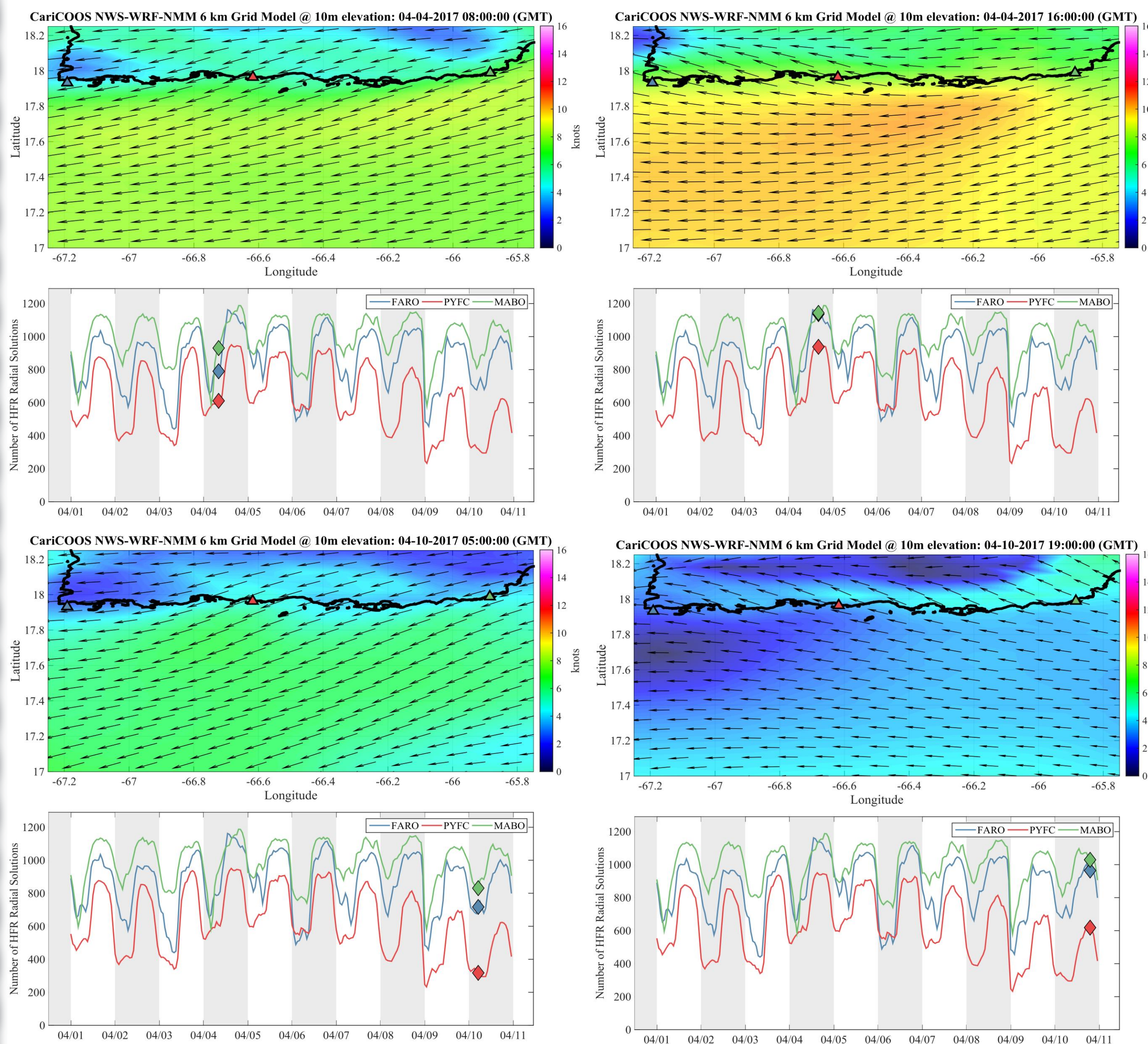
HFR Regional Statistics and Analysis

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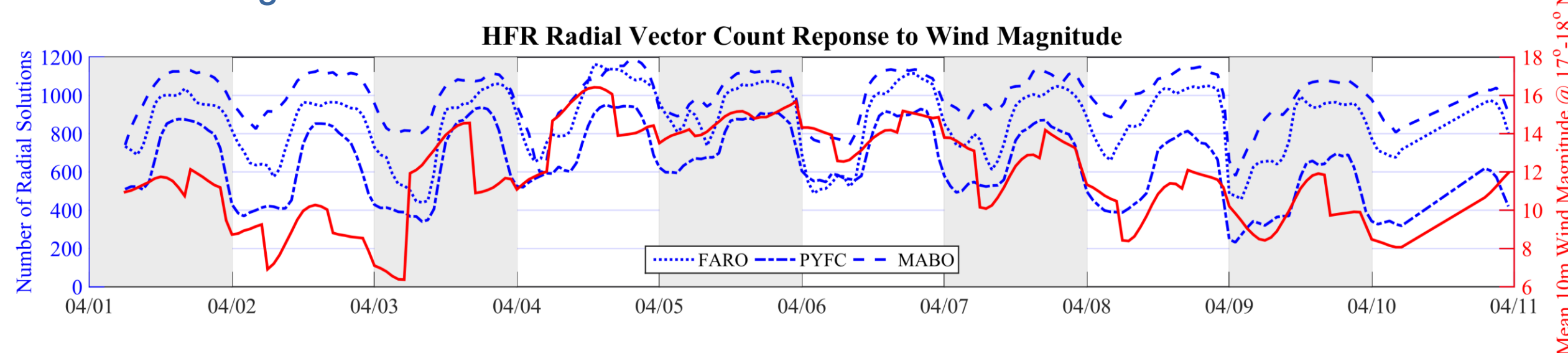


Radial Vector Count and Sea State

Radial coverage is dependent on sea surface roughness, which is a function of wind stress and sea state. By examining HF radial coverage at different wave and wind conditions, it was found that the radial coverage diminishes as the wind speed decreases (~ 6 knots) and/or it blows from a northeasterly/easterly direction, due to lack of signal return. This relationship is evident in the 5MHz HFR sites located in southern Puerto Rico.

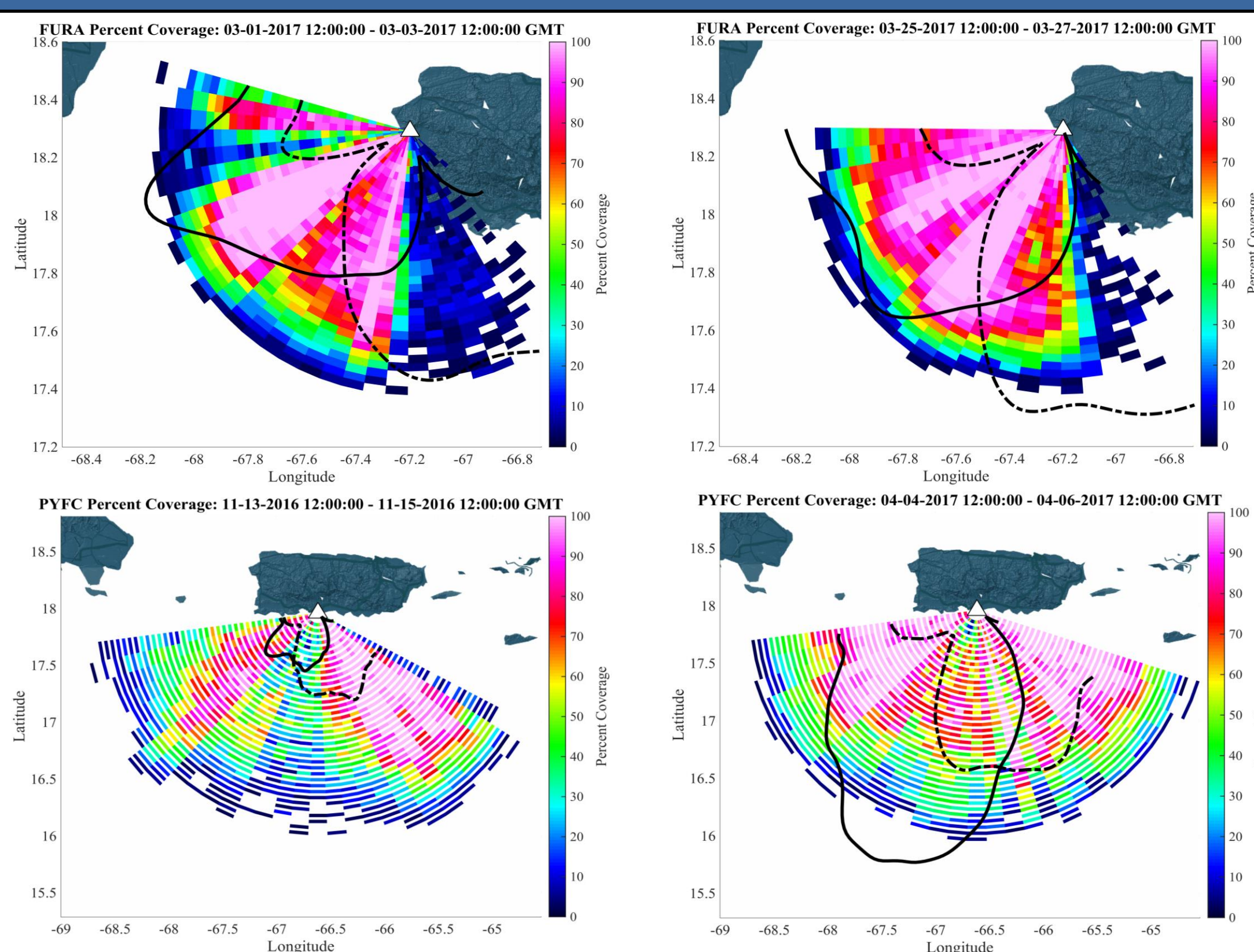


[Above] WRF 10m wind velocities and HFR radial solution time series. Drops in radial coverage are closely linked to wind magnitude.



[Above] Mean wind speed compared with radial solution count. Vector fluctuations are most noticeable at PYFC station.

Antenna Pattern Measurements

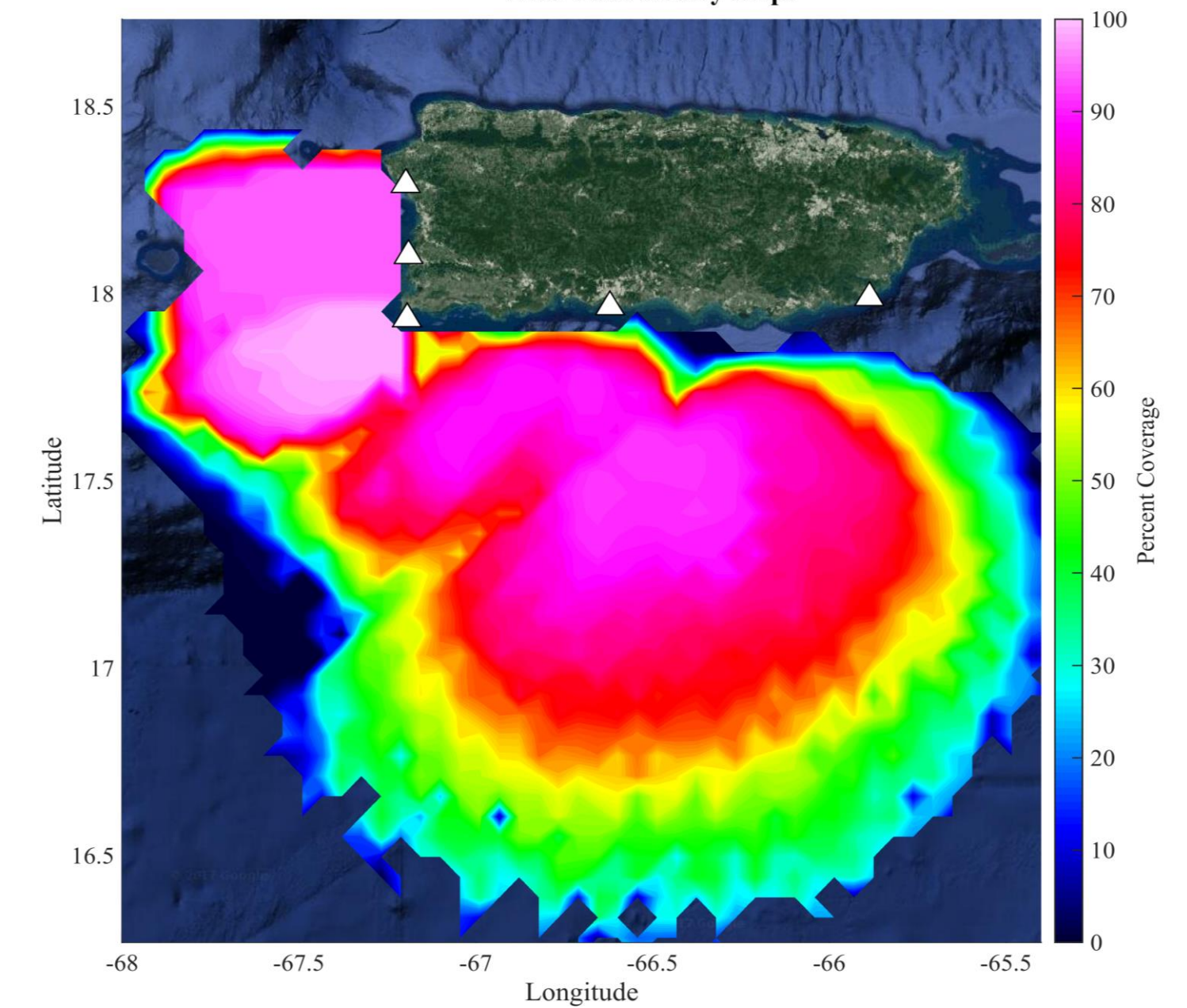


[Top]. PYFC radial coverage before and after APM calibration processed on Jan. 27th, 2017. [Bottom] FURA radial coverage before and after APM on Mar. 10th, 2017.

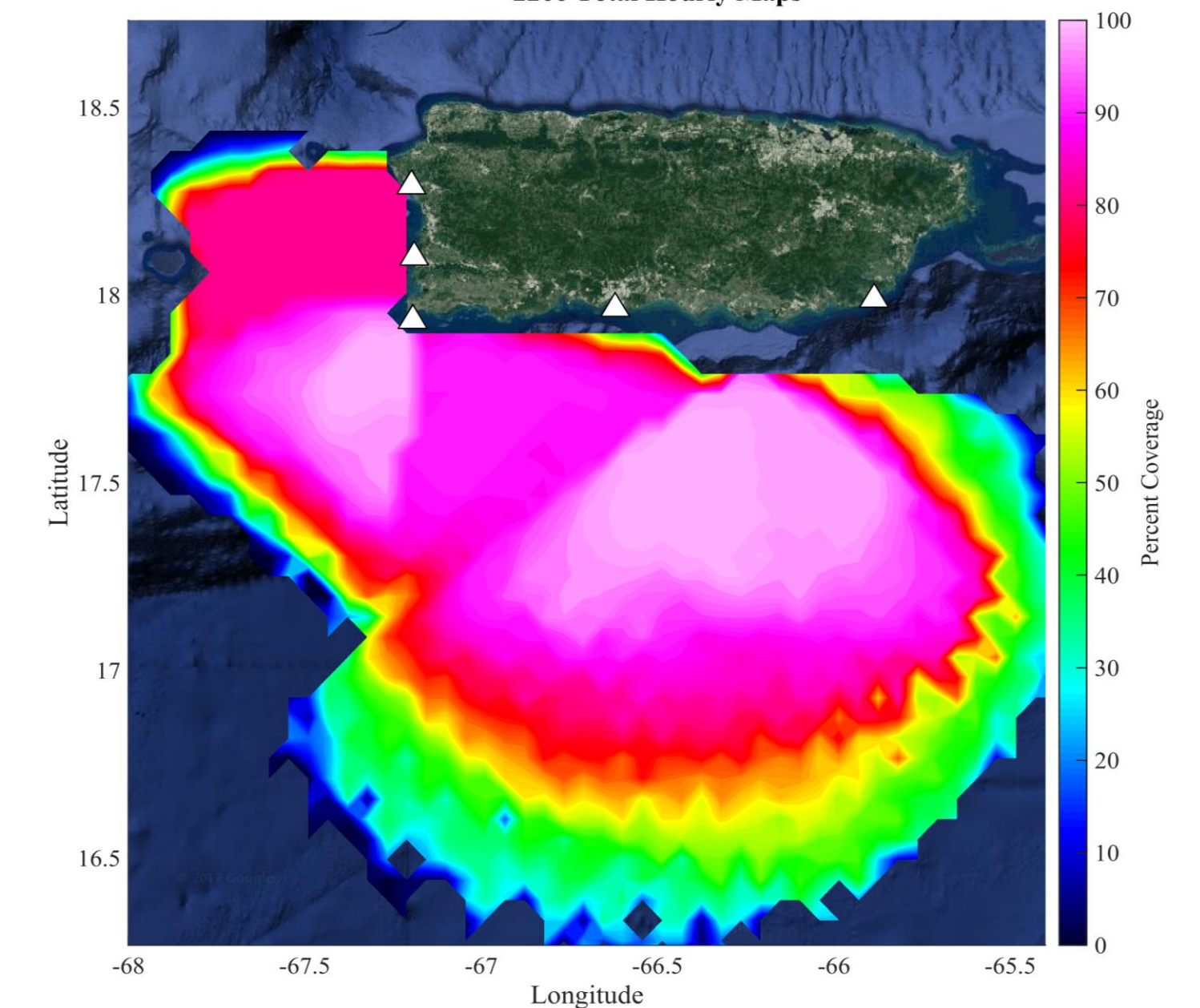
Seasonal Total Coverage: 2016-2017

[Below] Seasonal percent coverage for 2016-2017. Lower coverage during the Spring off the southwest coast was most likely due to external interference and antenna malfunctions in the Fall.

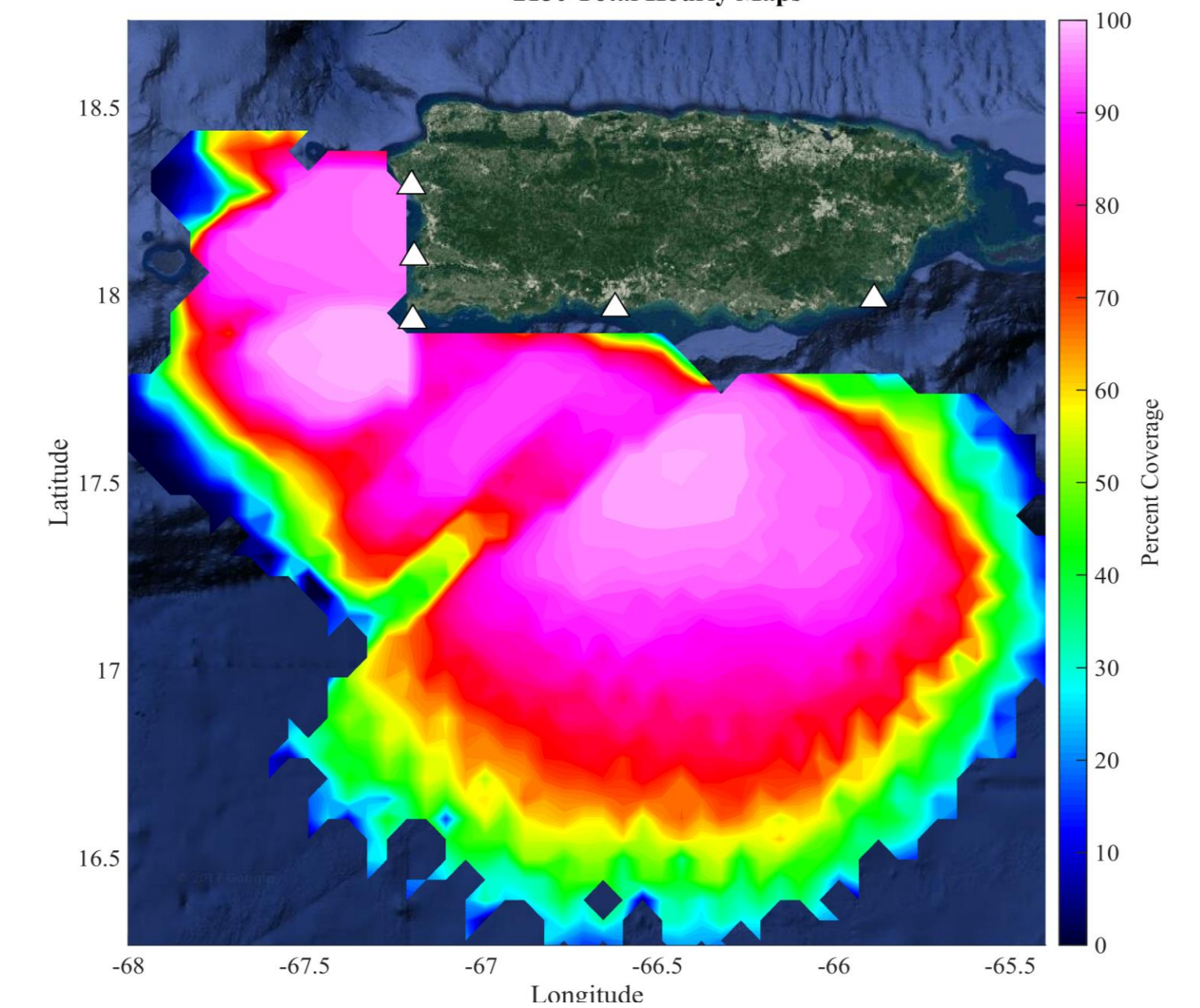
Regional Percent Coverage: 03-01-2016 00:00:00 - 05-31-2016 23:00:00 (GMT)
2208 Total Hourly Maps



Regional Percent Coverage: 06-01-2016 00:00:00 - 08-31-2016 23:00:00 (GMT)
2206 Total Hourly Maps



Regional Percent Coverage: 09-01-2016 00:00:00 - 11-30-2016 23:00:00 (GMT)
2150 Total Hourly Maps



Regional Percent Coverage: 12-01-2016 00:00:00 - 02-28-2017 23:00:00 (GMT)
2160 Total Hourly Maps

