

# Optimization of coral reef restoration projects to optimize wave energy dissipation Part II: Results

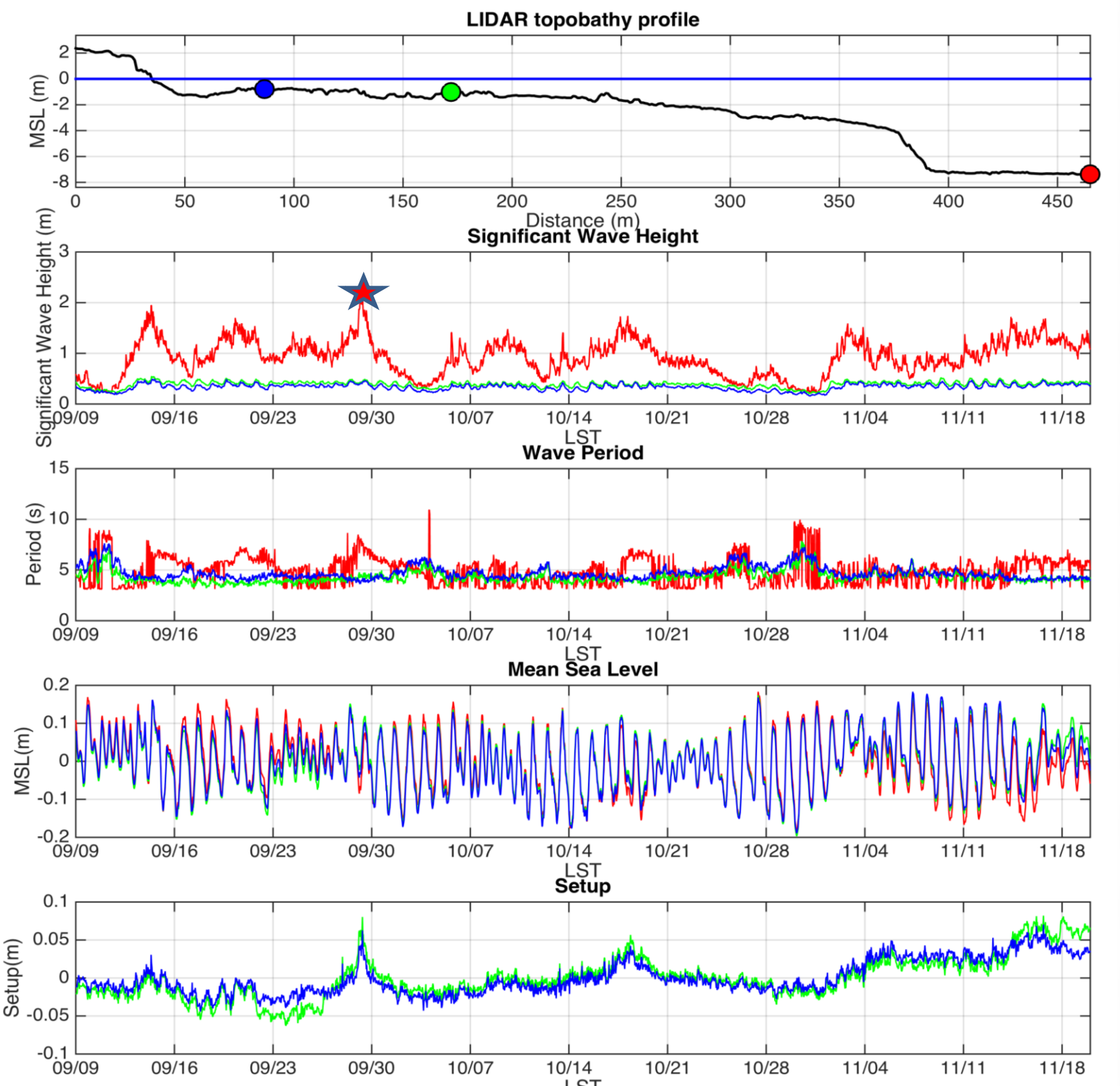
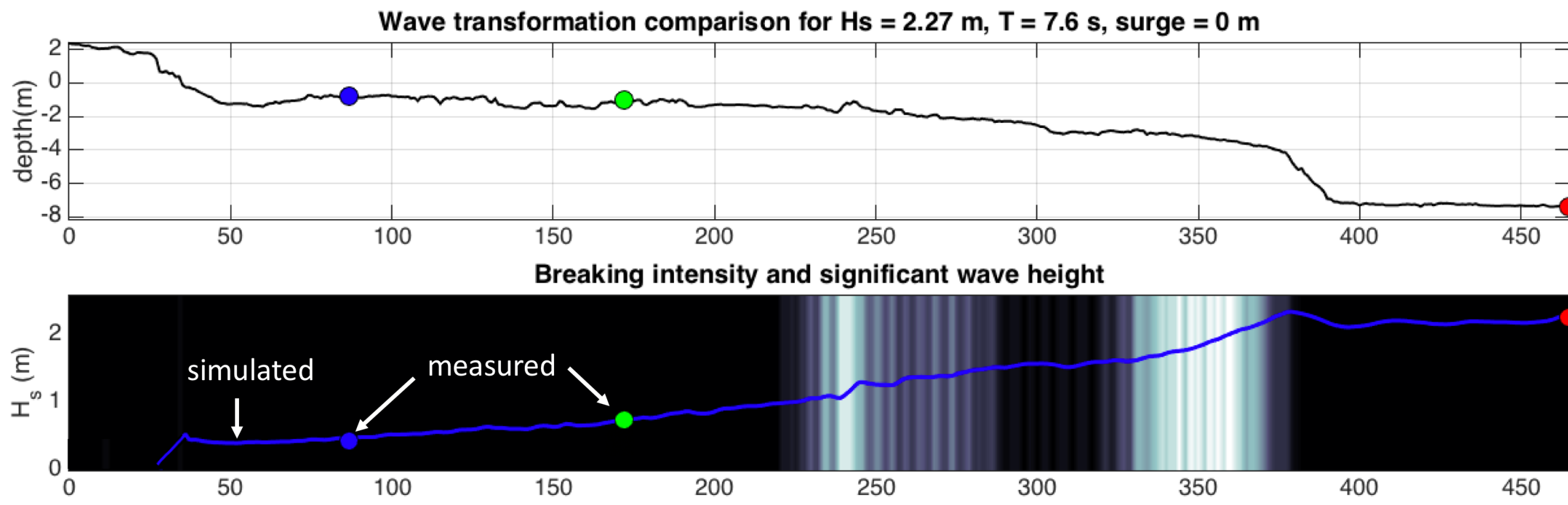
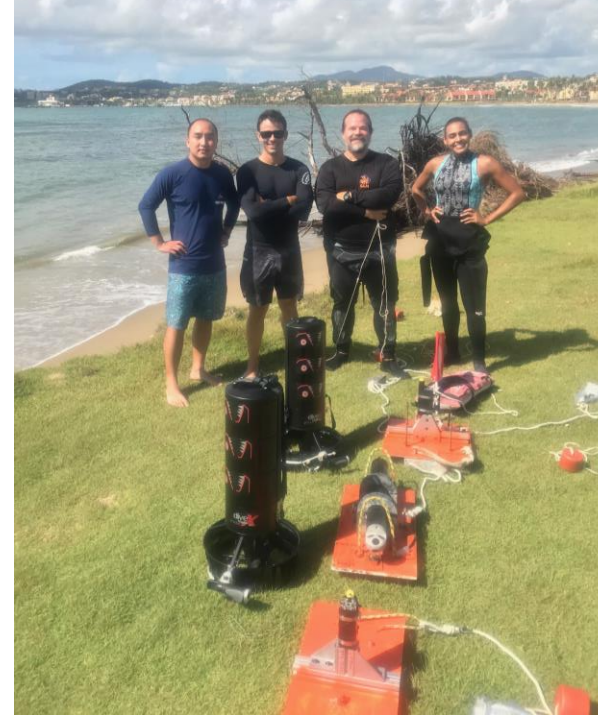
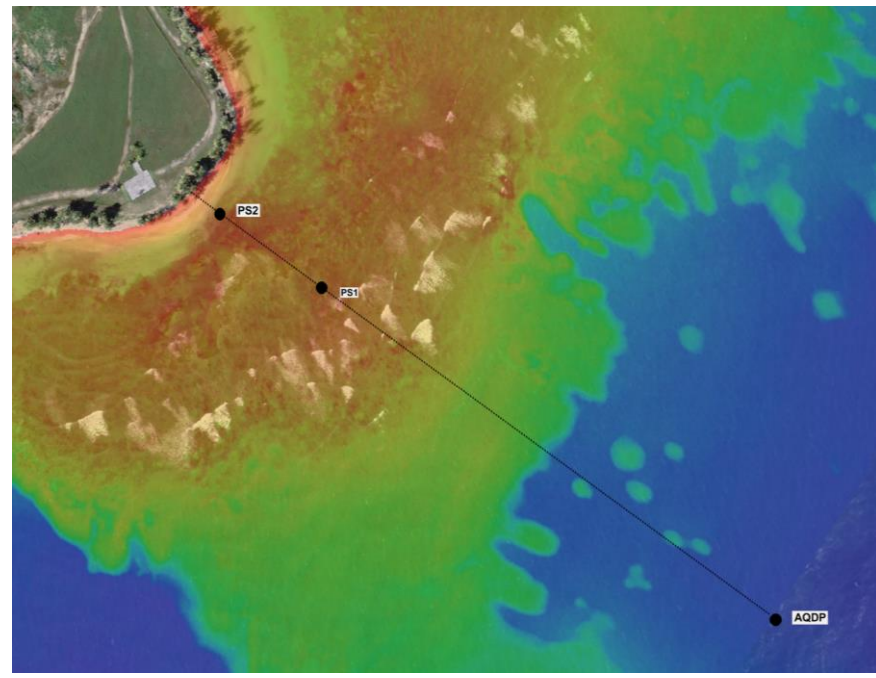
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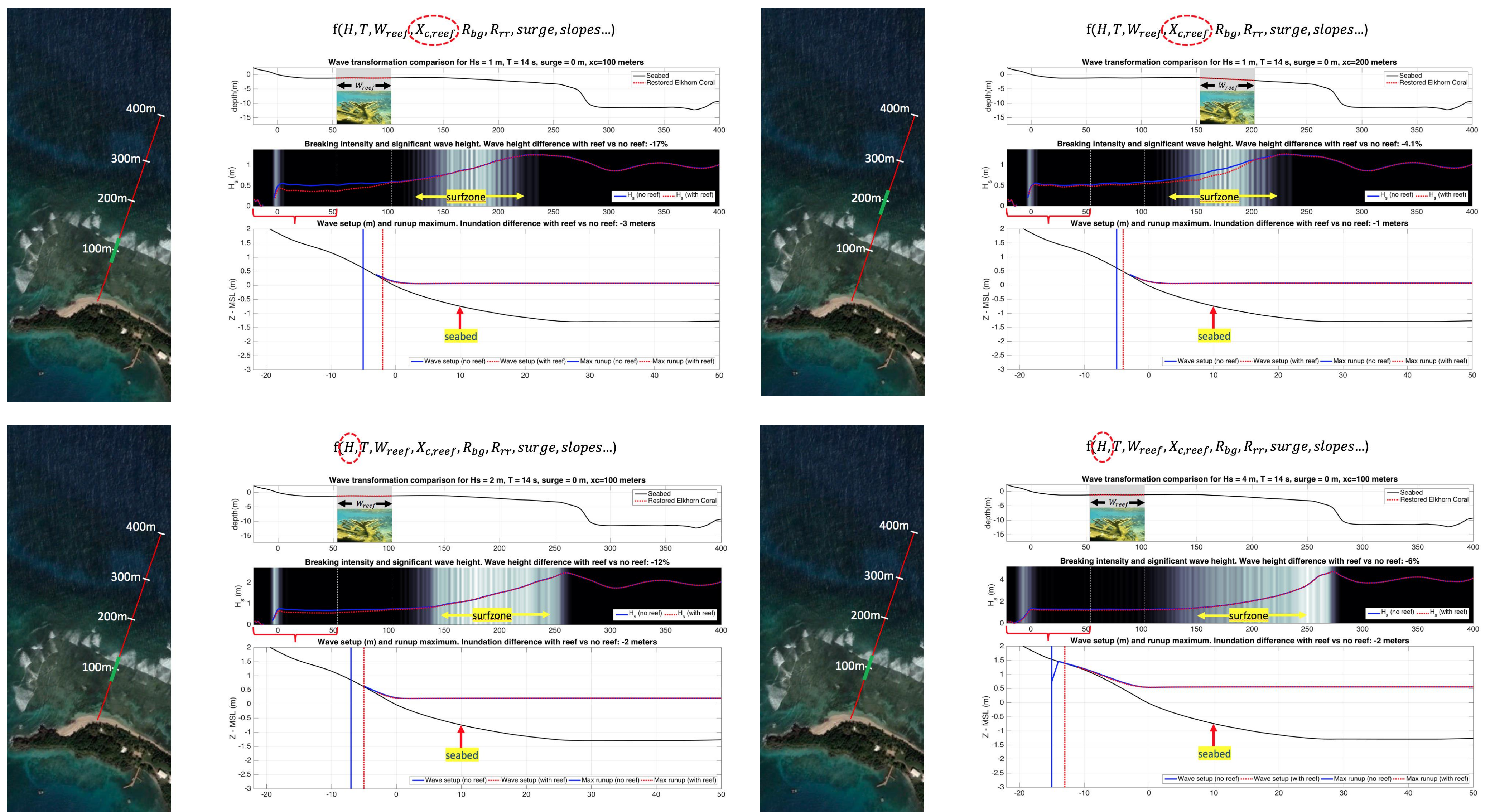
## MODEL CALIBRATION

### Field validation experiments:

- April 2019 – May 2019 @ Palomino
- September 2019 – December 2019 @ Palmas del Mar (shown)

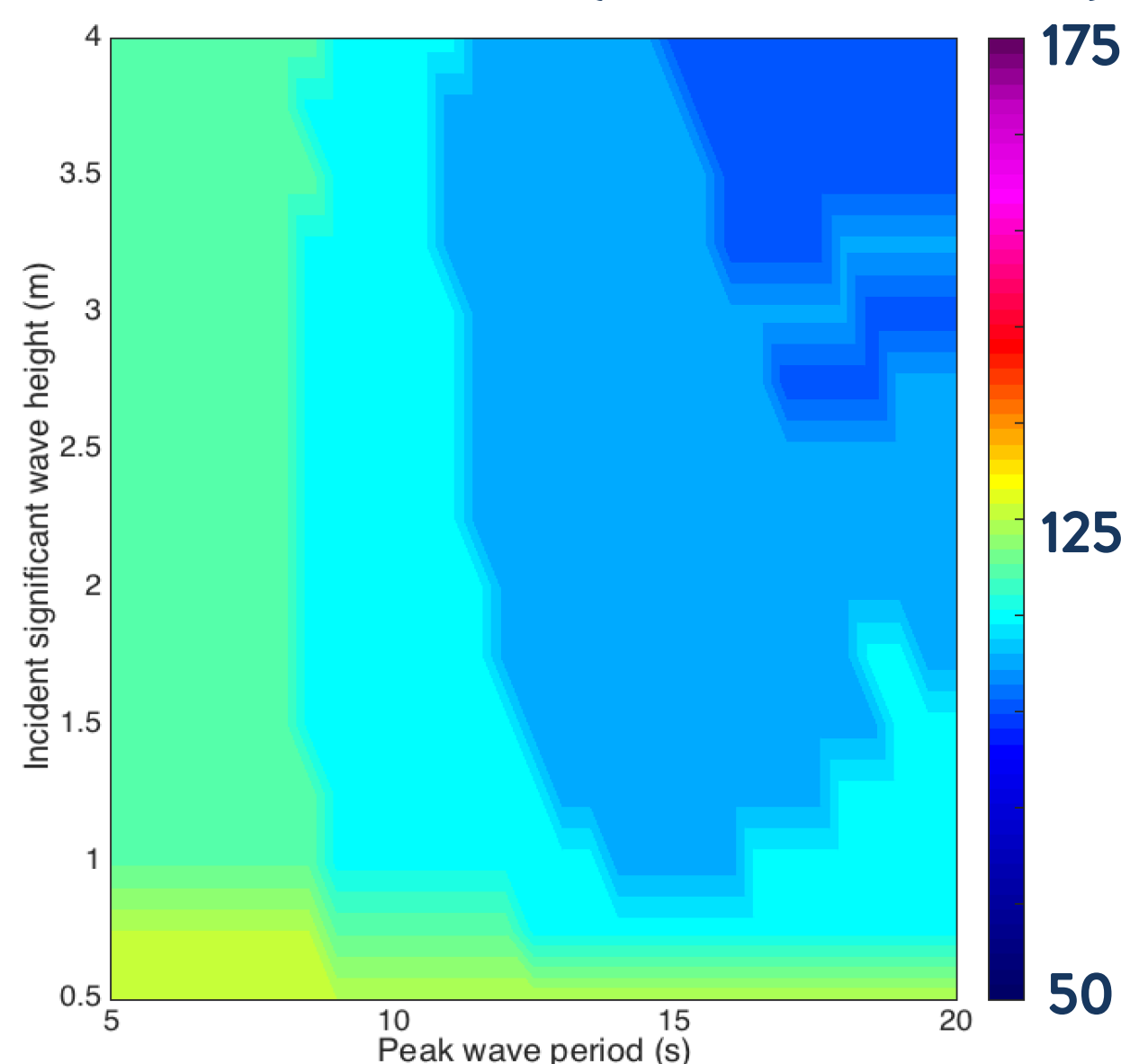


## RESULTS – ENHANCED DISSIPATION HIGHLY DEPENDENT ON REEF LOCATION AND INCIDENT WAVES

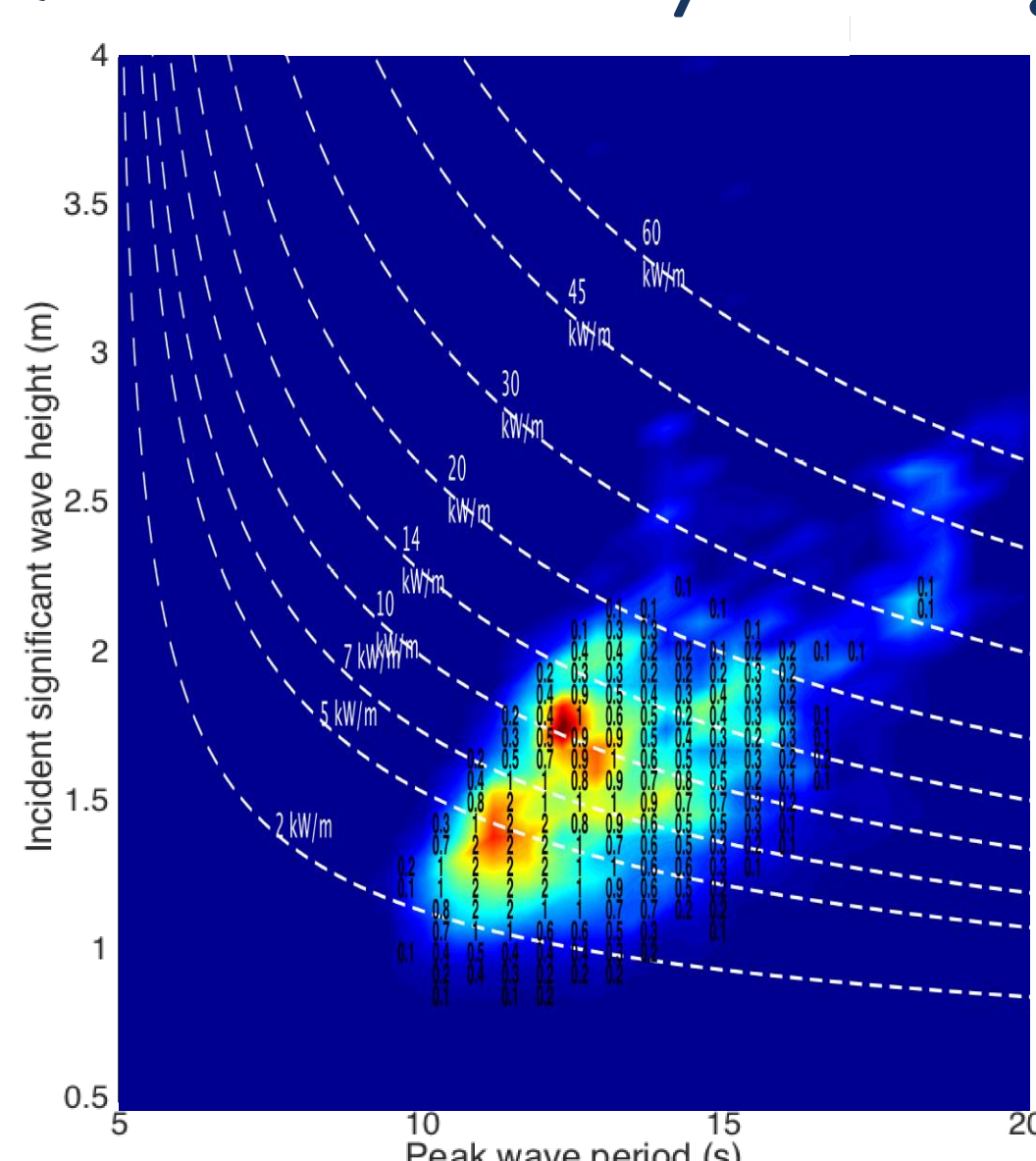


## HOW TO DESIGN A REEF RESTORATION PROJECT IF ENERGY DISSIPATION IS MAIN DESIGN CRITERION?

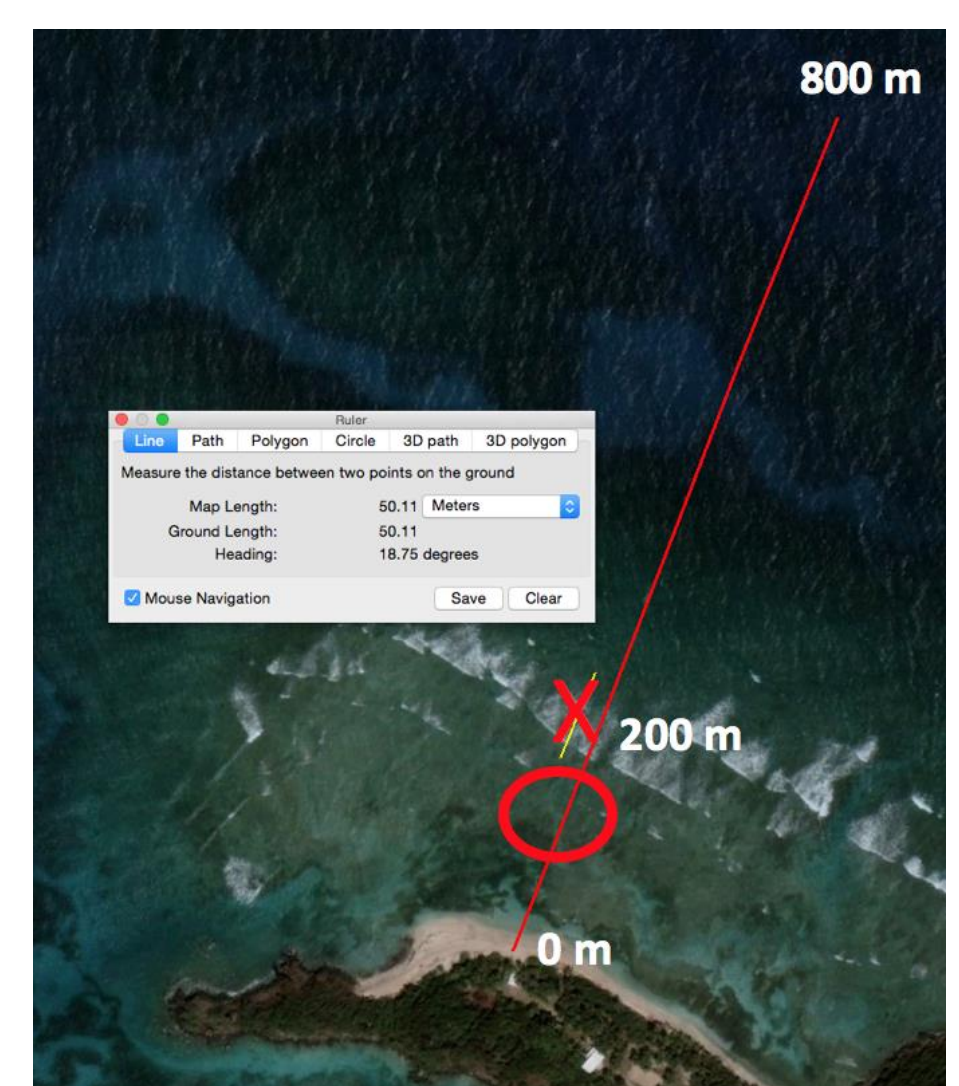
Sea state dependence on optimal reef location centroid (meters from shore)



Sea state occurrence probability (DNER / CAOSE 40 yr. climatology)



Optimal reef configuration?



**BUT! Need to take into account coral reef survival & growth rates in “optimal location” vs “location of natural occurrence”**

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