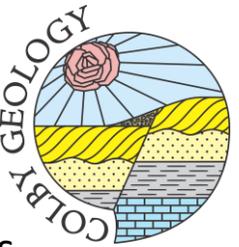


Analyzing motu morphometrics on coral atolls in the context of local wave climate

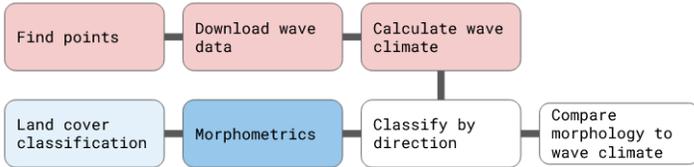
Bentley Meyer, Colby College Waterville Maine, United States.

Faith M. Johnson, Civil, Construction, and Environmental Engineering Department, North Carolina State University Raleigh North Carolina, United States.

Alejandra C. Ortiz, Geology Department, Colby College Waterville Maine, United States.



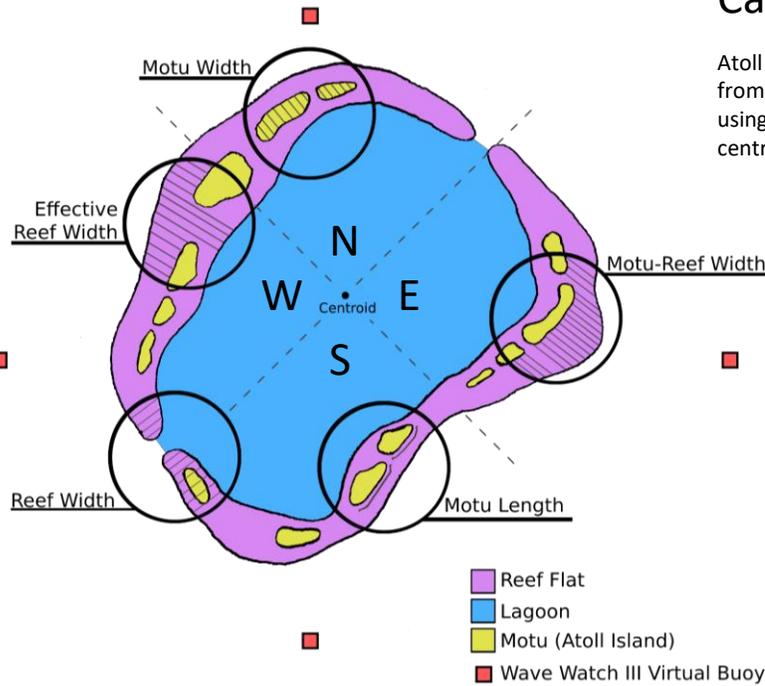
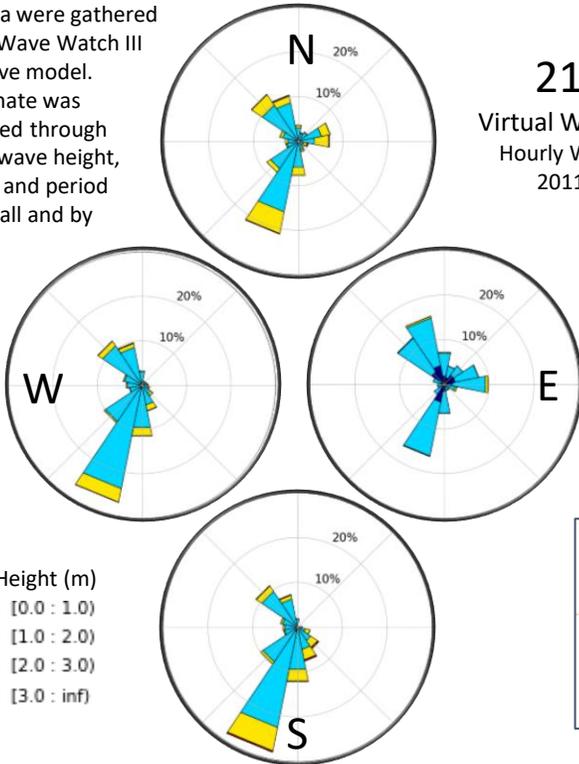
Methods



Calculating Wave Climate

Wave Data were gathered from the Wave Watch III global wave model. Wave climate was represented through trends in wave height, direction, and period both overall and by season.

2103 Virtual Wave Buoys
Hourly WWIII data
2011-2019



Wave climate analyzed at
446 sites
41 metrics per virtual buoy

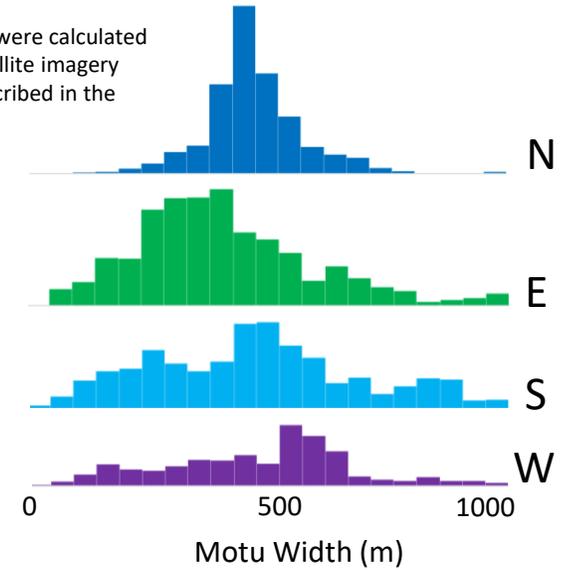
Morphometrics calculated at
87 atolls
Up to 72 metrics per atoll



Atoll Database. Yellow: No Data, Green: Wave Data, Blue: Wave Data and Morphometric Data

Calculating Atoll Morphometrics

Atoll morphometrics were calculated from categorized satellite imagery using the metrics described in the central figure.



Comparing Morph. to Wave Climate

