

FIG. 1 These figures show (a) what the QuikSCAT satellite looks like and (b) how the SeaWinds dish rotates with two beams to take measurements and how wide each swath is.

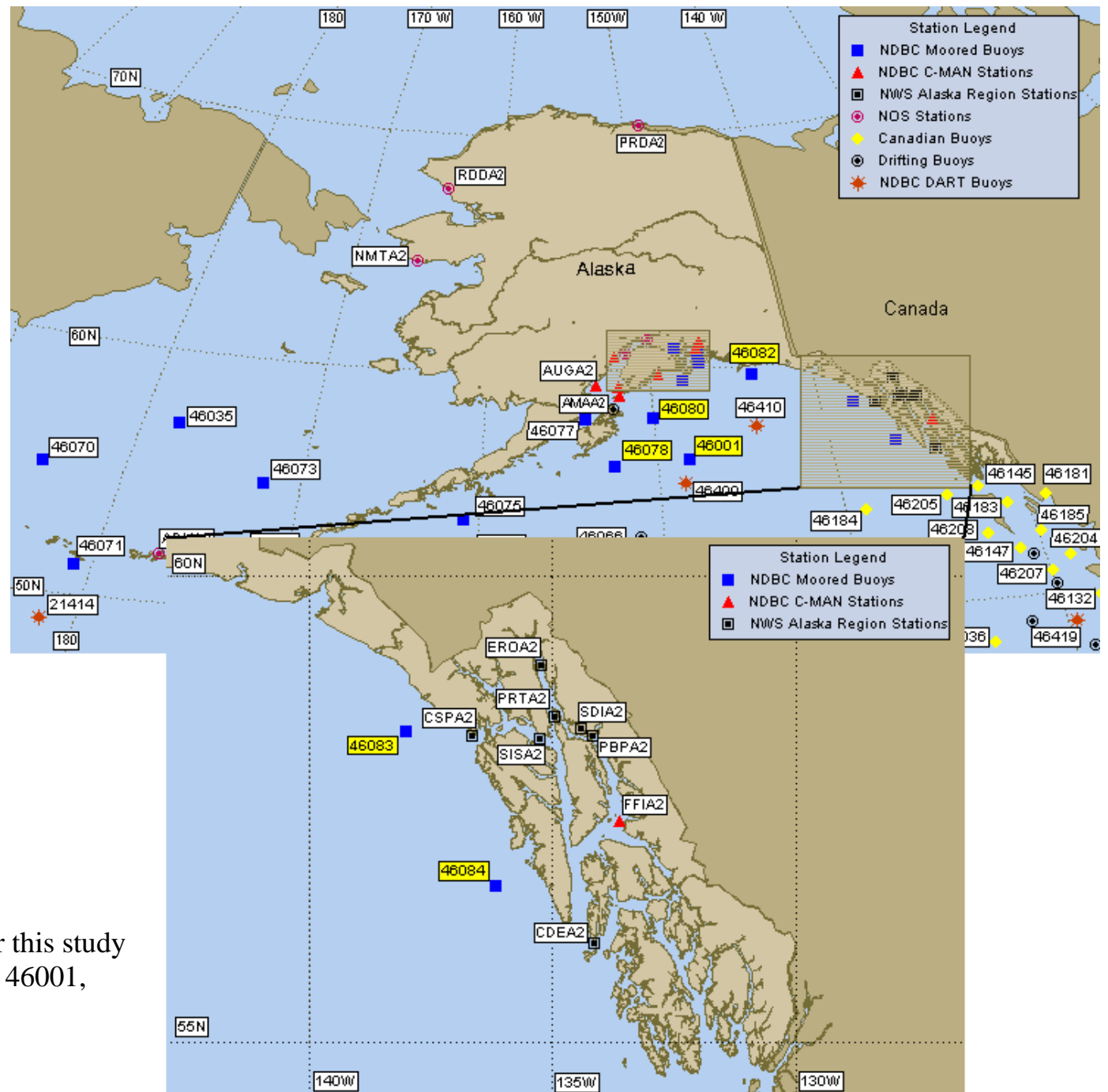


FIG. 2 The six selected buoys for this study are highlighted in yellow: 46078, 46001, 46080, 46082, 46083, and 46084.

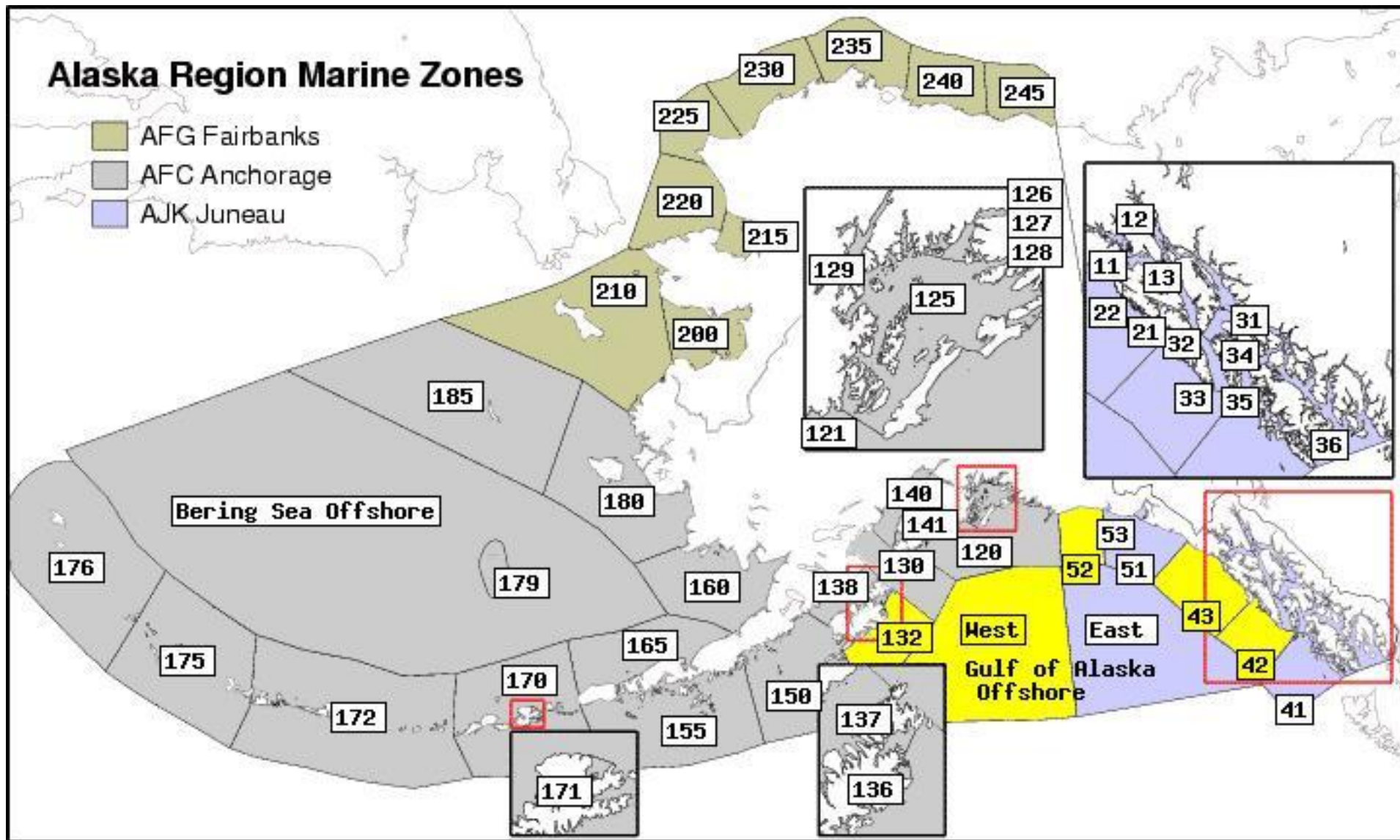
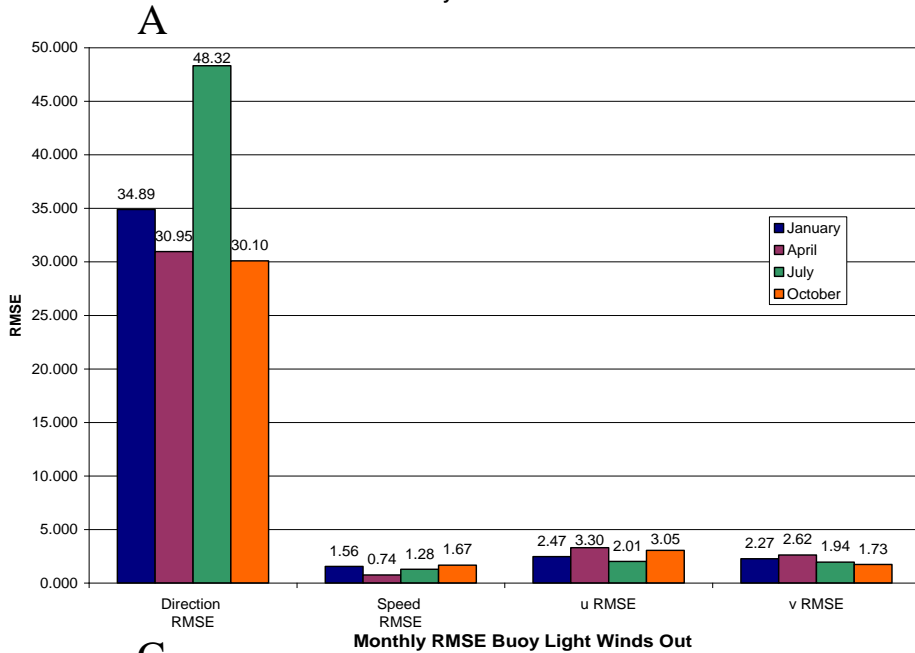
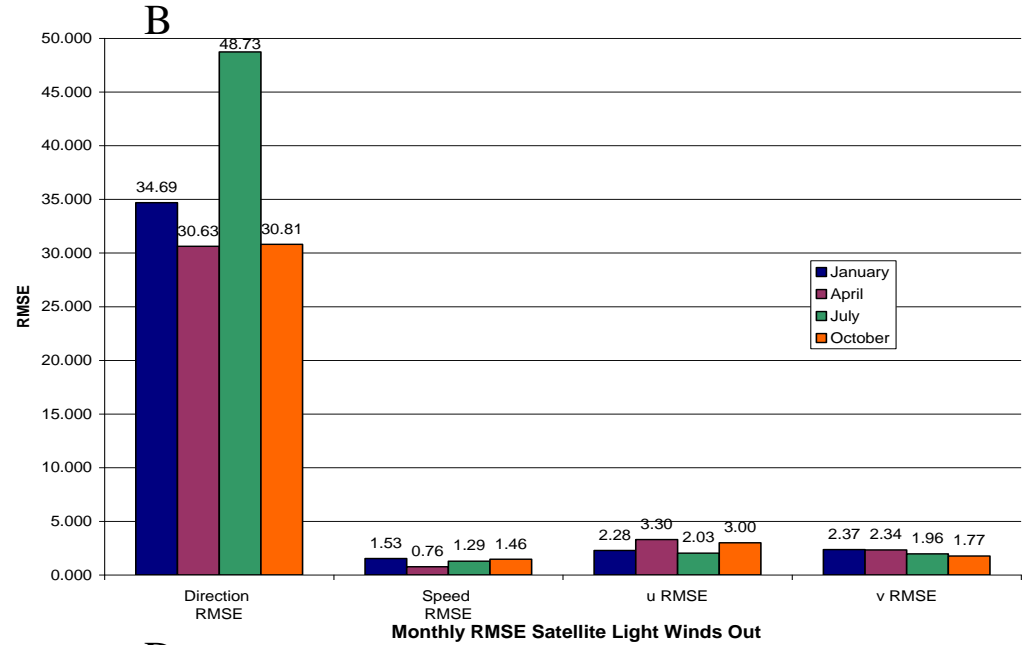


FIG. 3 The marine zones in which the chosen buoys are located. Buoy 46078 and 46080 are located in Anchorage zone 132 and 46001 is in the West half of the Gulf of Alaska Offshore. Buoy 46082, 46083, and 46084 are located in Juneau zones 52, 43, 42 respectively.

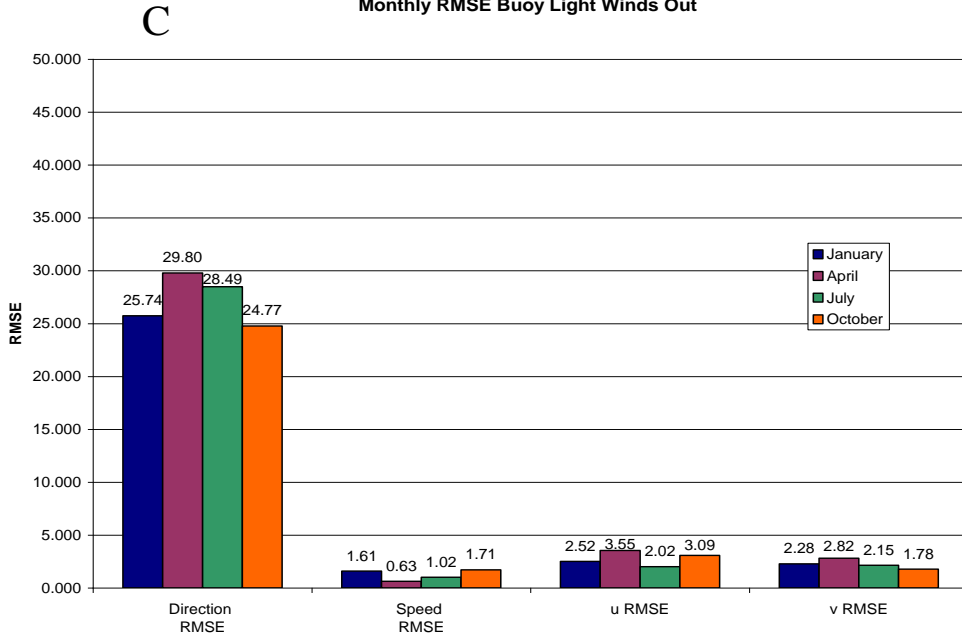
Monthly RMSE with all data



Monthly RMSE without Rain flagged data



Monthly RMSE Buoy Light Winds Out



Monthly RMSE Satellite Light Winds Out

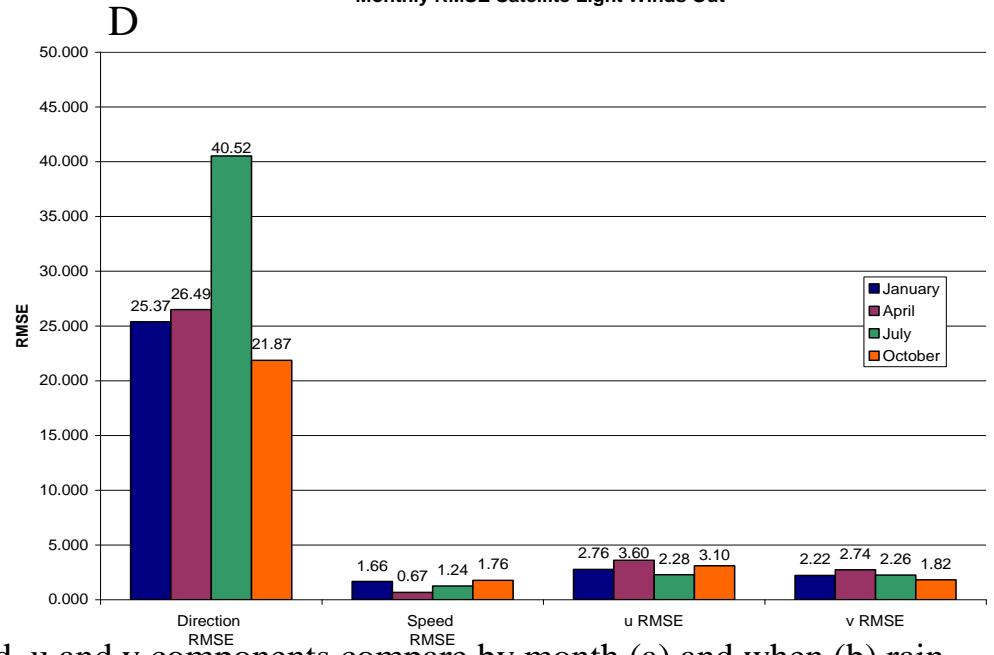


Fig. 4 Bar graphs of how the RMSE for wind direction, speed, u and v components compare by month (a) and when (b) rain flagged data is taken out, (c) when light buoy winds are taken out, and (d) when light satellite winds are taken out.

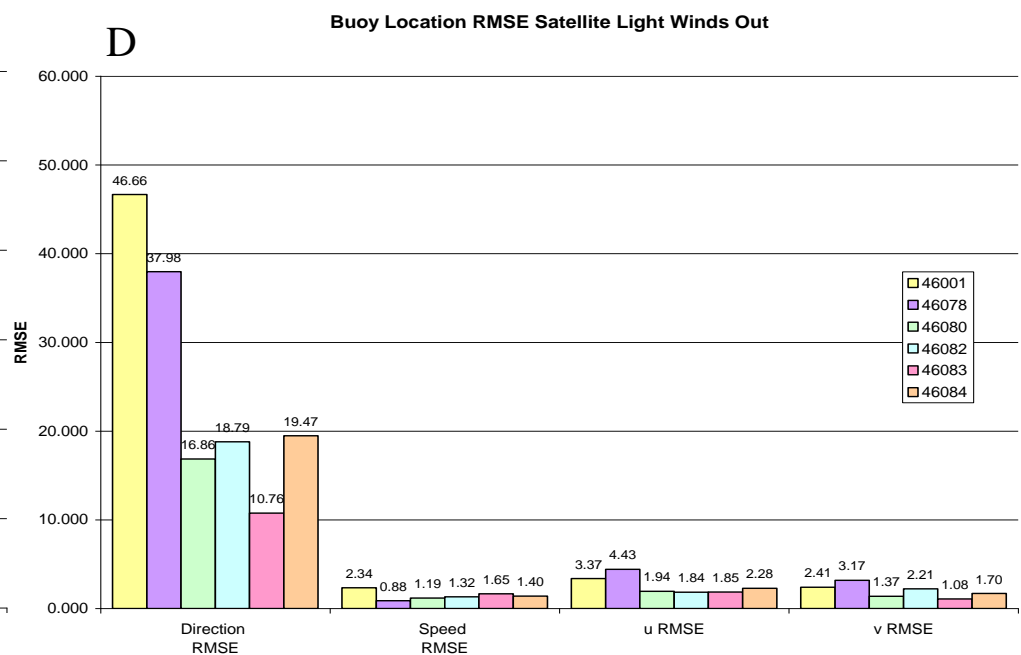
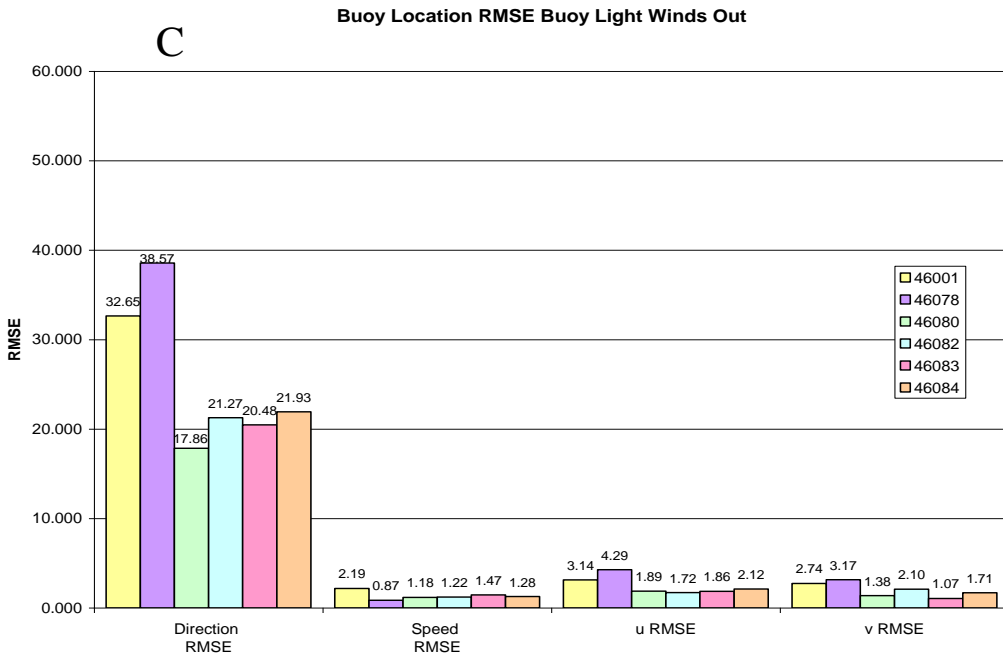
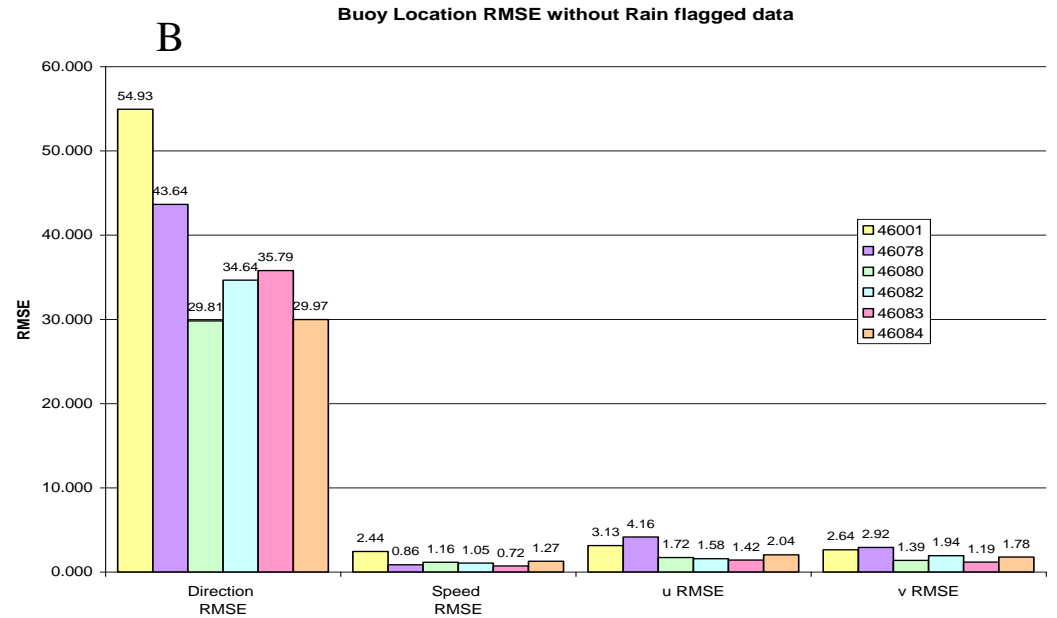
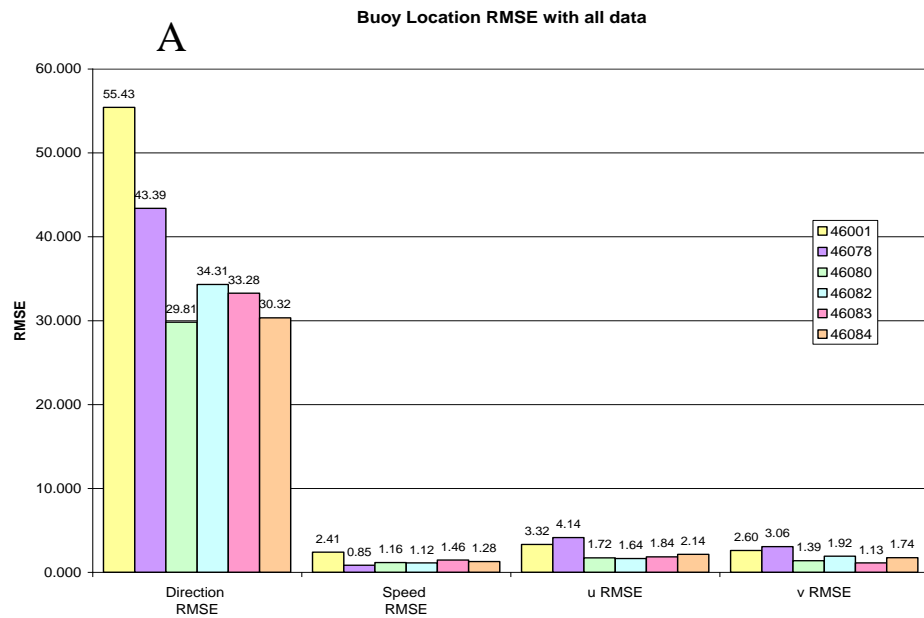
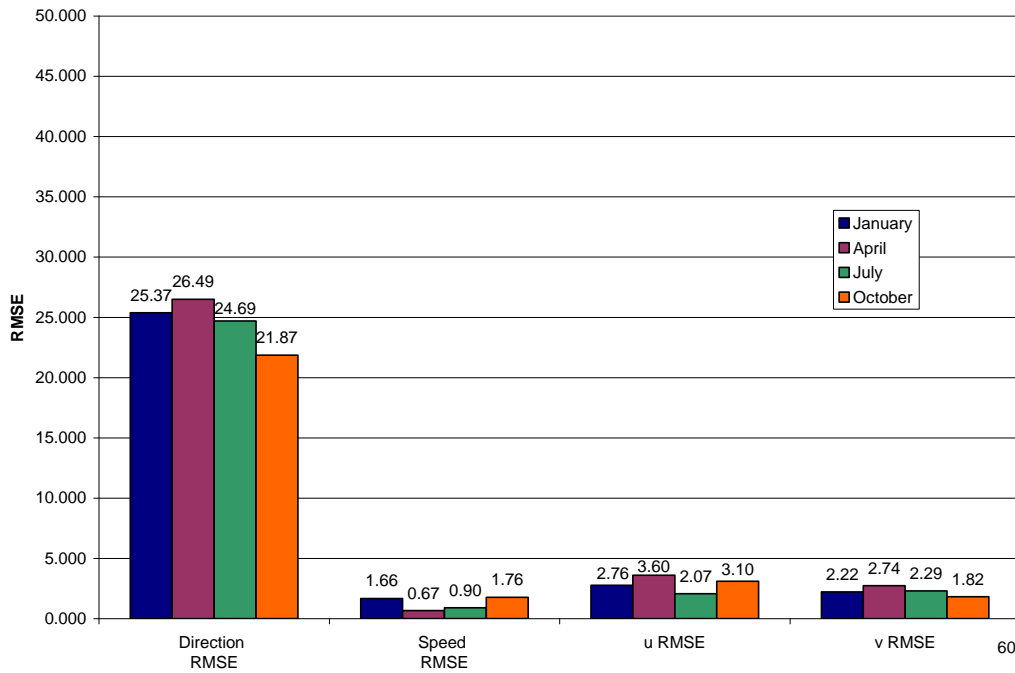


Fig. 5 Bar graphs of how the RMSE for wind direction, speed, u and v components compare by buoy location (a) and when (b) rain flagged data is taken out, (c) when light buoy winds are taken out, and (d) when light satellite winds are taken out.

Monthly RMSE All Light Out

A



Buoy Location RMSE All Light Out

B

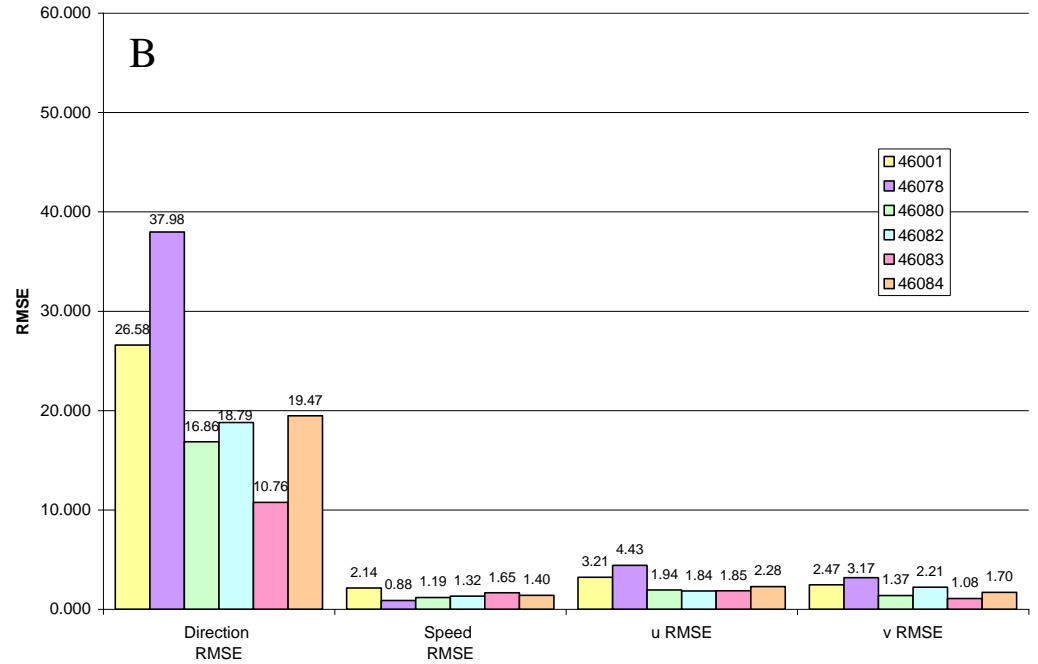


Fig. 6 Bar graphs of how the RMSE for wind direction, speed, u and v components compare by (a) month and (b) buoy location when all the light winds are taken out.

Buoy Location Bias

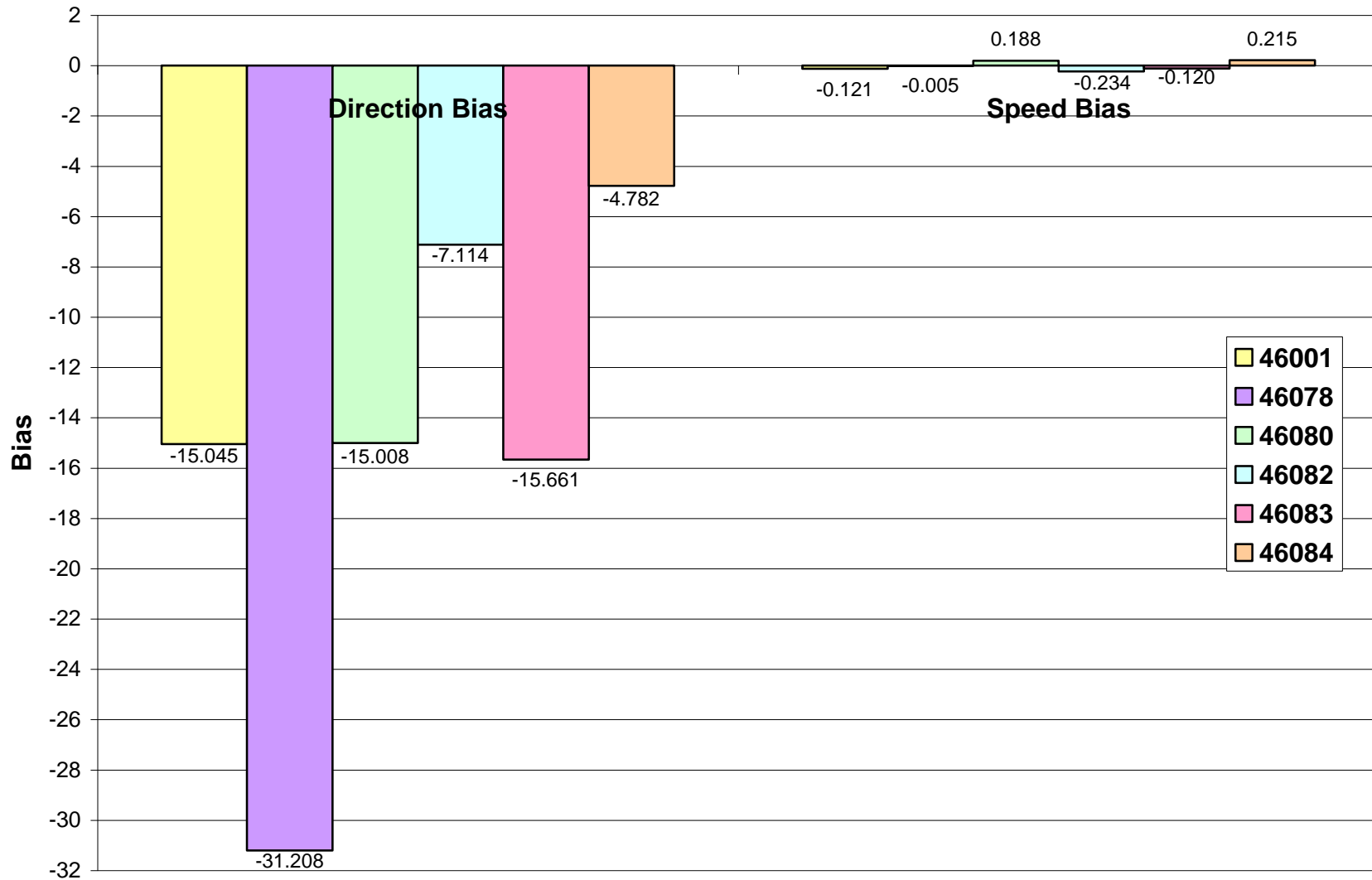


Fig. 7 Bar graph of how the biases for wind direction and wind speed compare by buoy location from the original data set. A negative bias for wind direction means that the satellite had a more veered direction. A positive bias in wind speed means that the satellite overestimated the wind speed and a negative bias means that the satellite underestimated the wind speed.

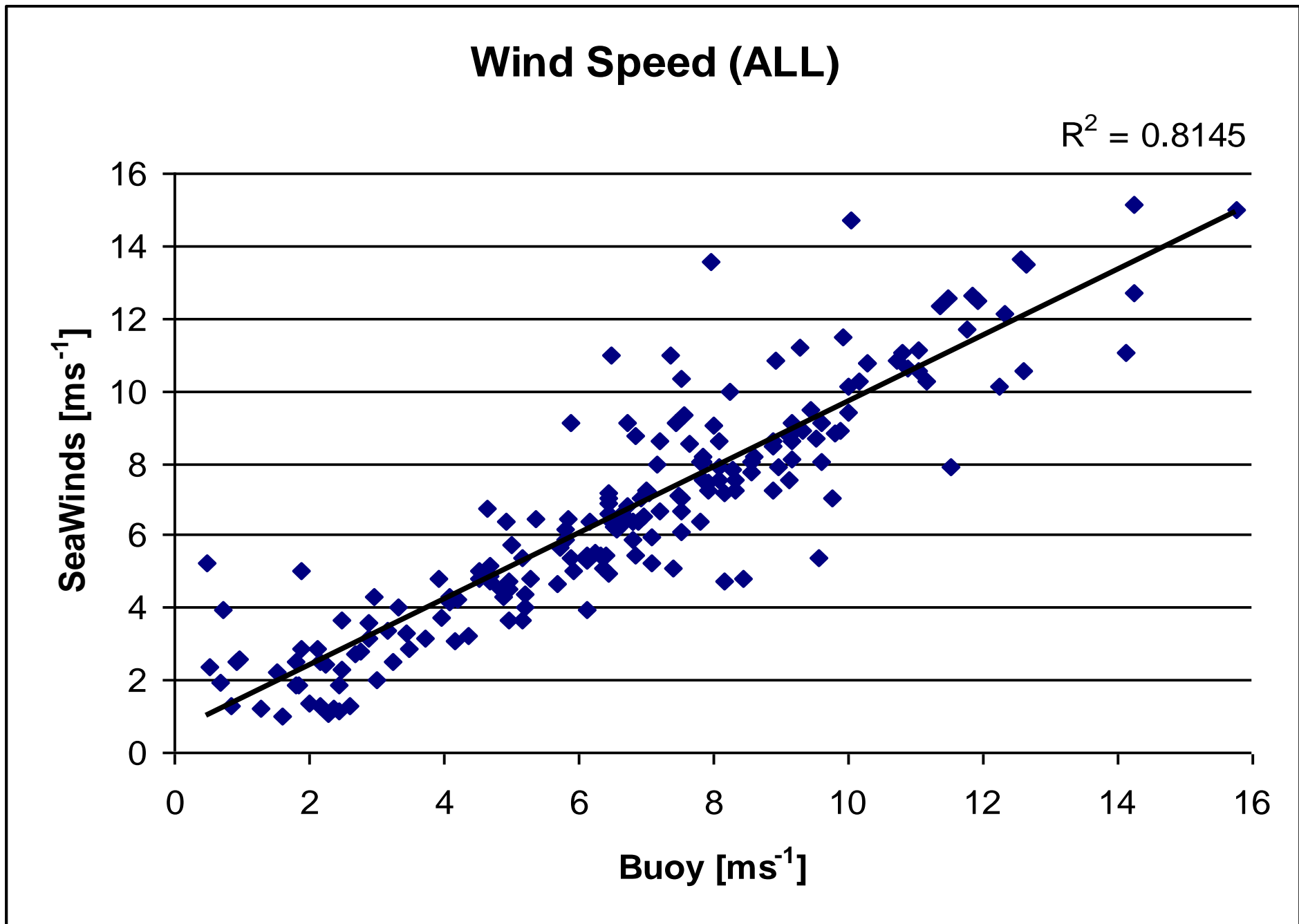


FIG. 8 Plot of all the wind speed data in this study, comparing the SeaWinds values to buoy measurements.