Supplementary Materials: Reliability of extreme significant wave height estimation from satellite altimetry and in situ measurements in the coastal zone

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1. Contents

2. Figures

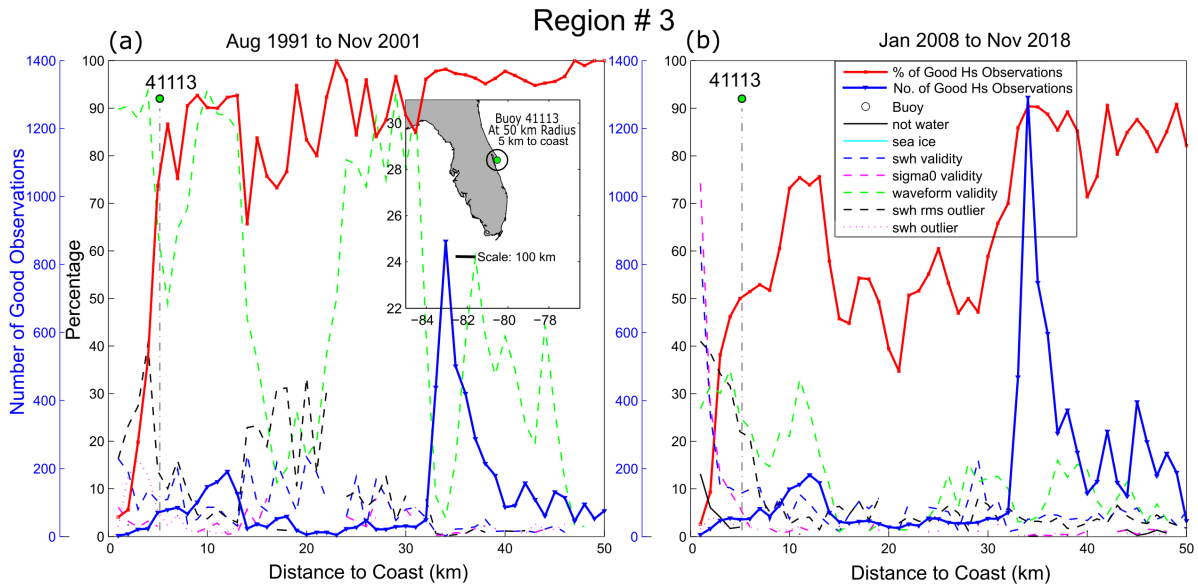

Figure S1. Total number of observations per 1 km bin, and proportion of data associated with good quality and rejection flags, as a function of distance to the coast, for region #3. The (**a**) first 10 years and (**b**) last 10 years of the CCI L2P satellite record are shown.

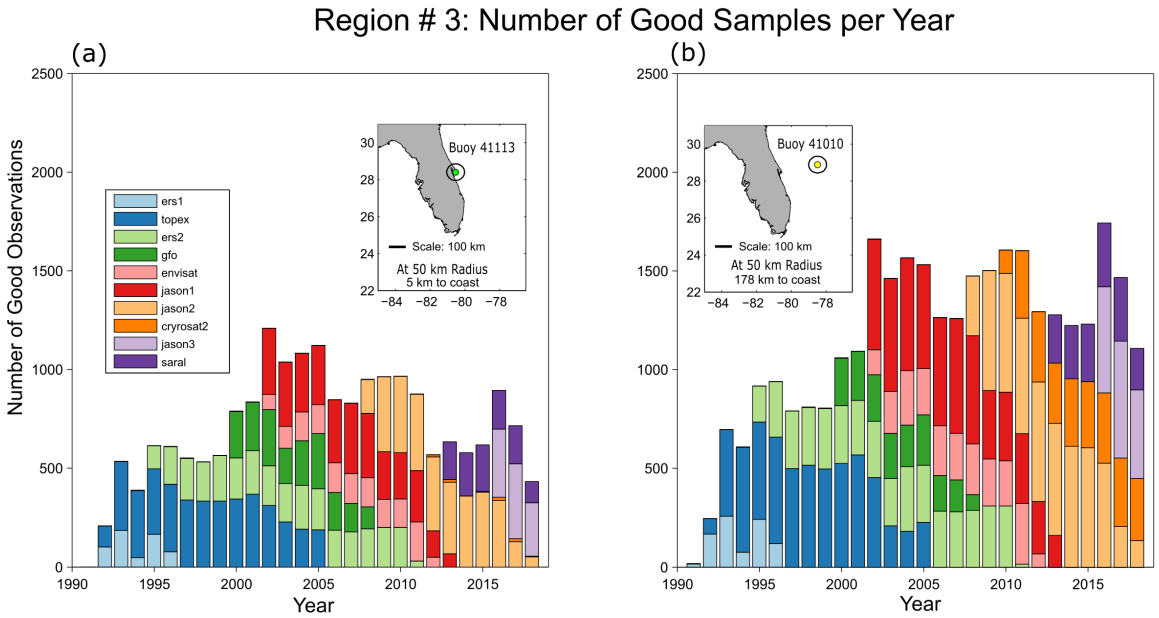

Figure S2. Total number of good (qual_flag = 3) Hs observations per year in region #1, (**a**) at nearshore buoy 41113 and (**b**) offshore buoy 41010 based upon a 50 km sampling radius around each buoy.

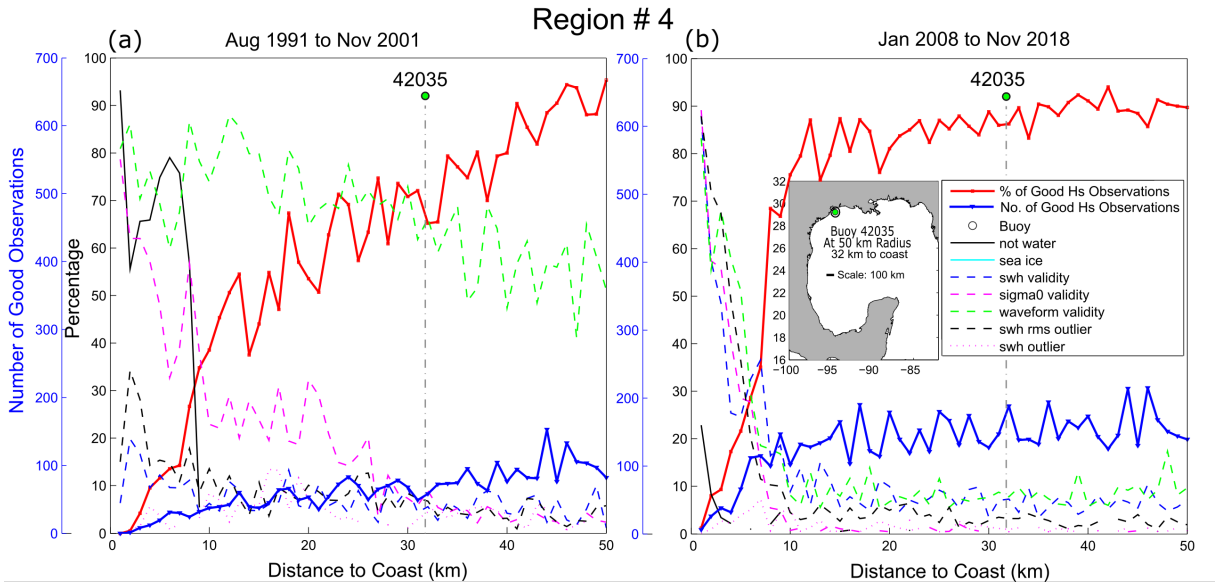

Figure S3. Same as S1 for region #4.

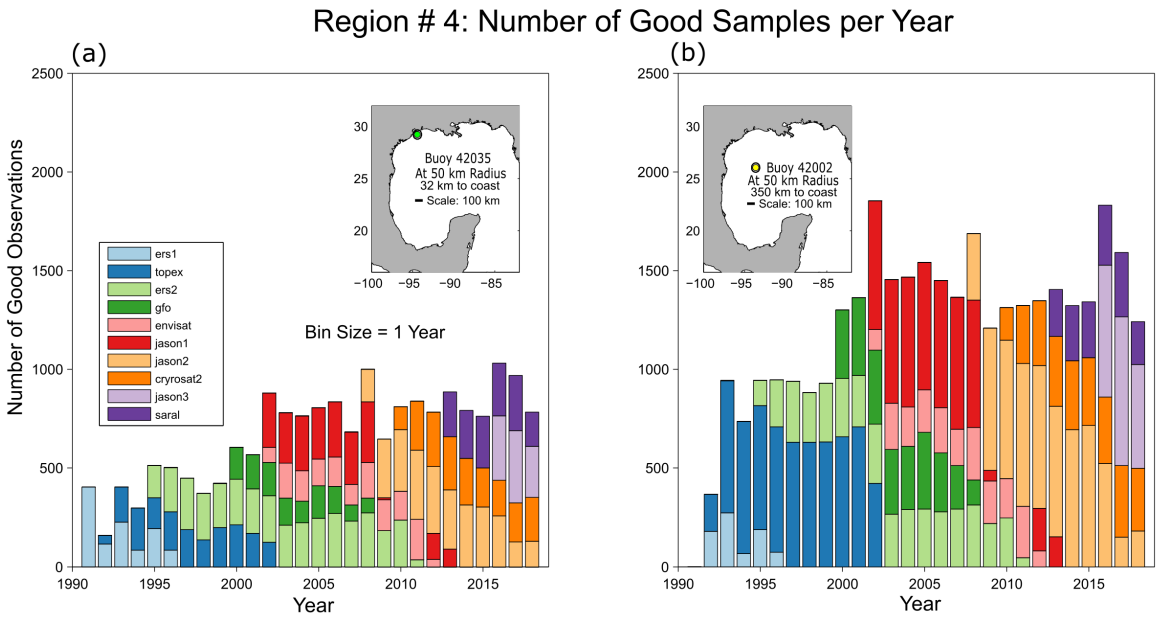

Figure S4. Same as S2 for region #4.

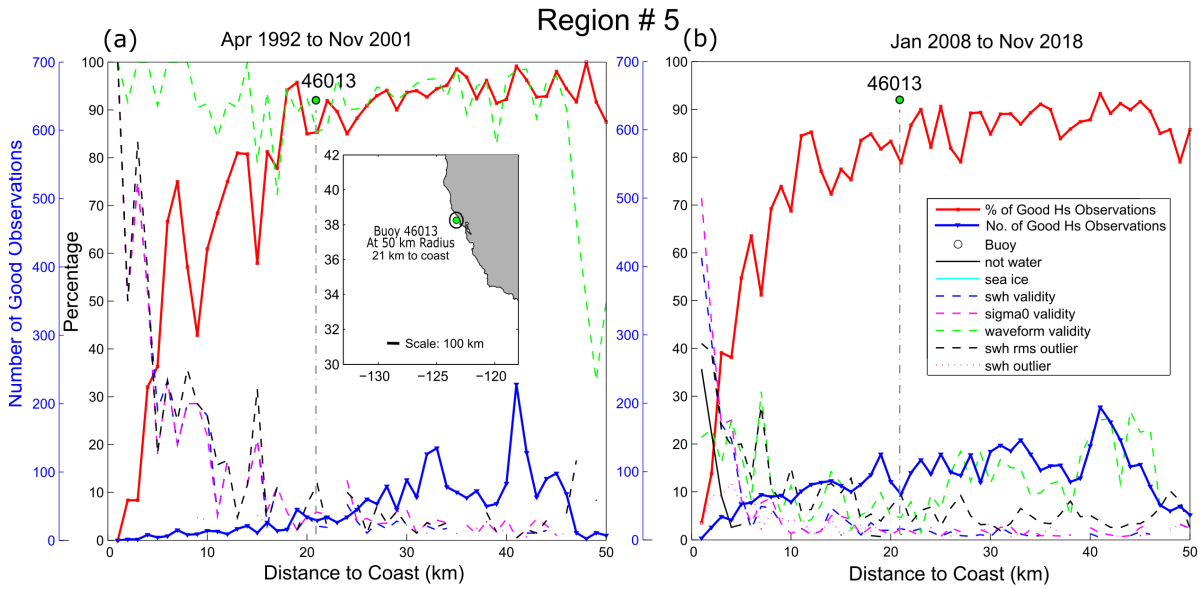

Figure S5. Same as S1 for region #5.

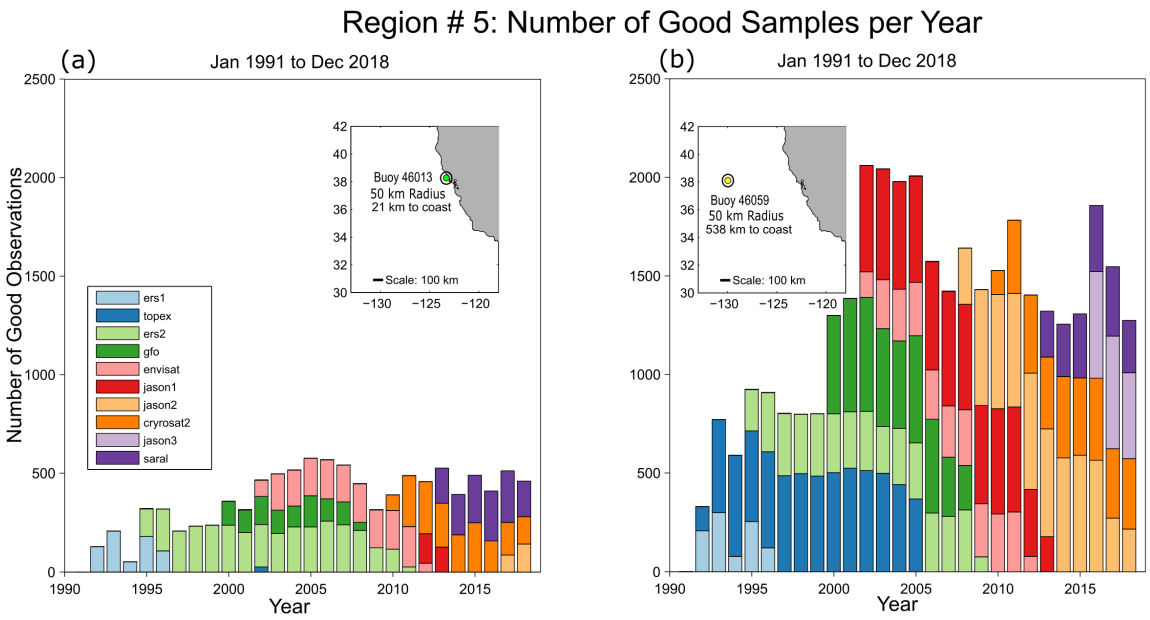

Figure S6. Same as S2 for region #5.

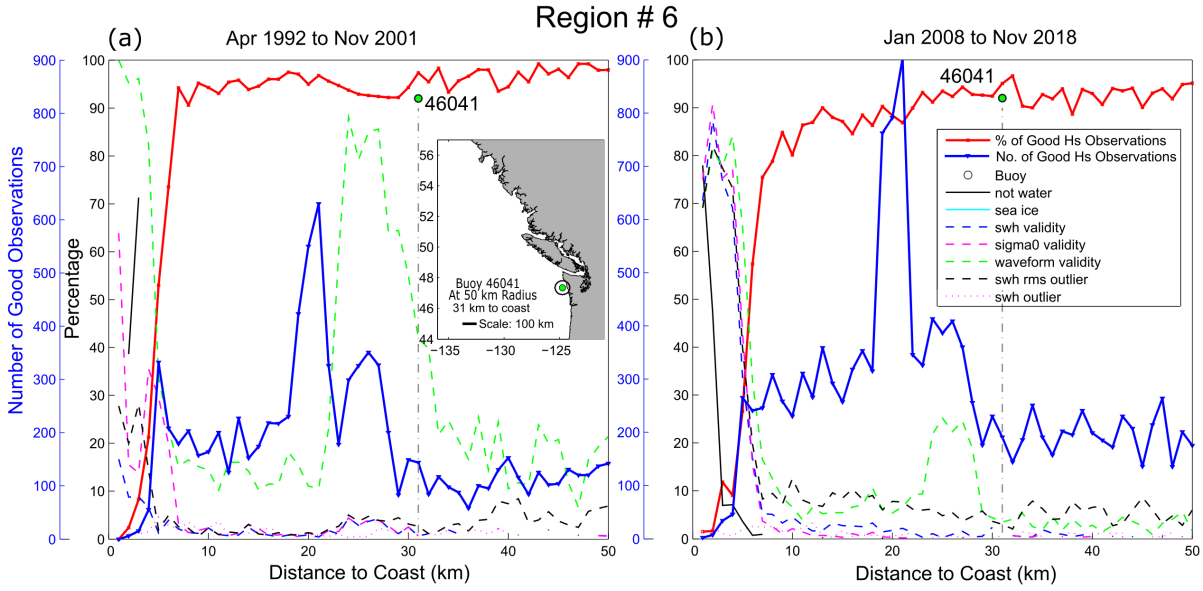

Figure S7. Same as S1 for region #6.

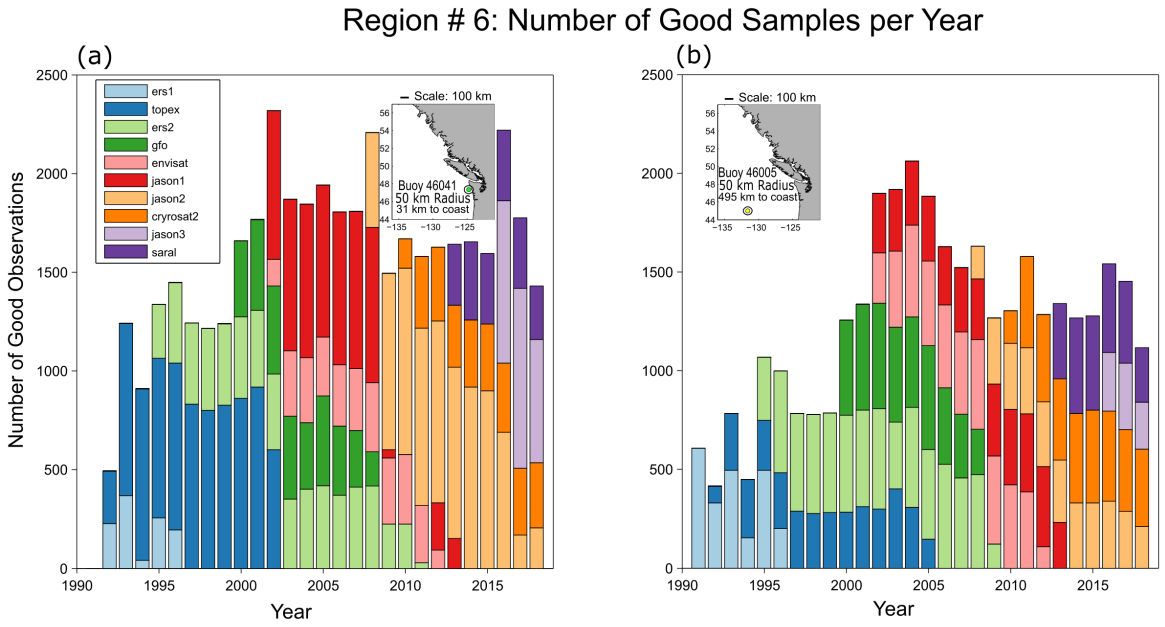

Figure S8. Same as S2 for region #6.

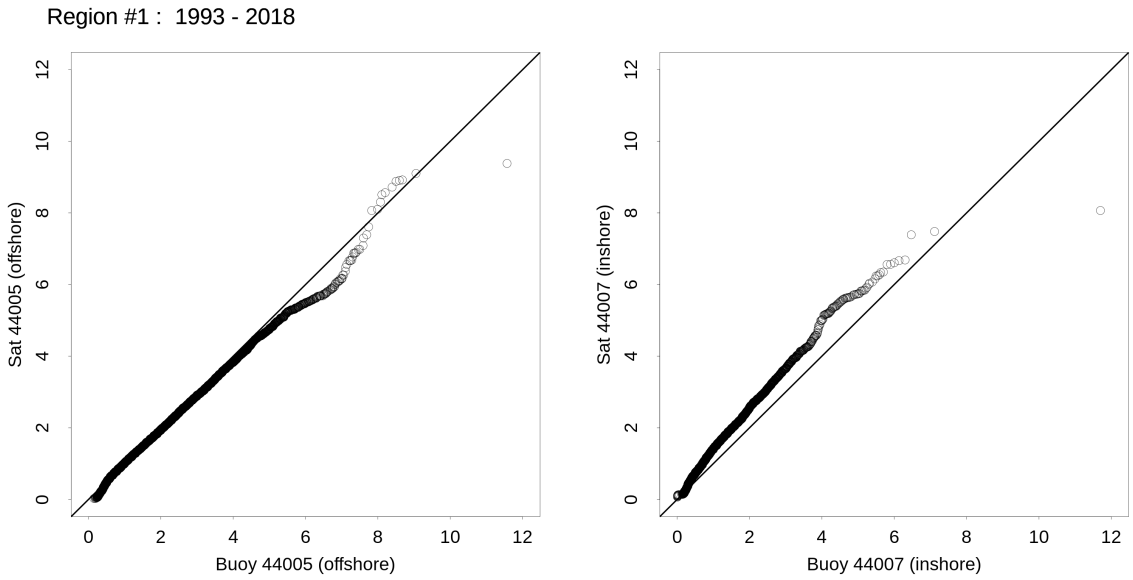

Figure S9. Quantile-quantile plots comparing buoy data with satellite in region #1, at (**a**) 44005 (offshore) and (**b**) 44007 (nearshore). Satellite data is sampled at a radius of 50 km around the buoy location.

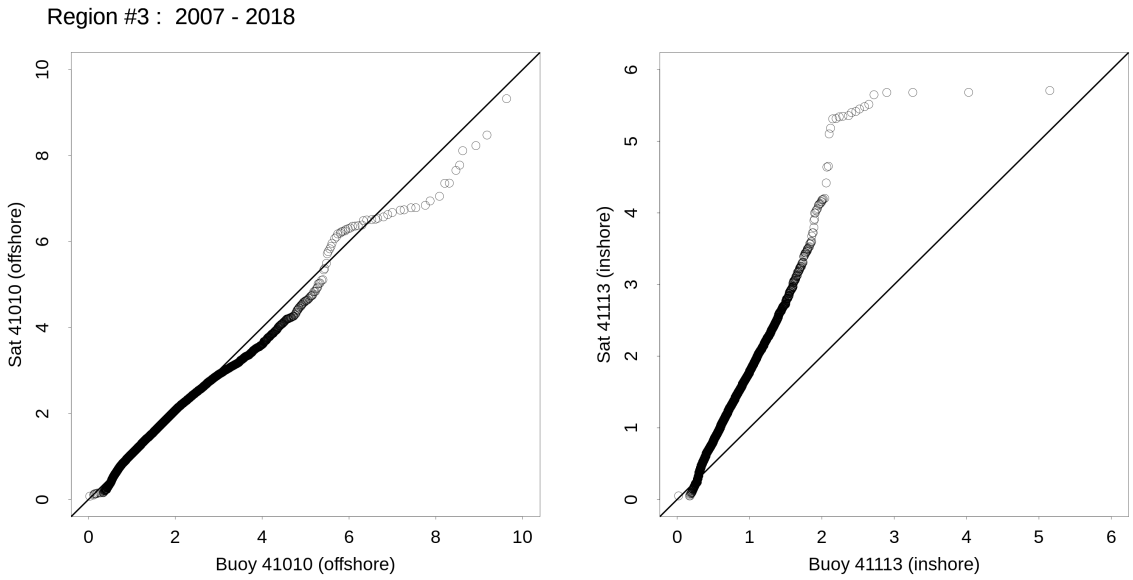

Figure S10. Quantile-quantile plots comparing buoy data with satellite in region #2, at (**a**) 41010 (offshore) and (**b**) 41113 (nearshore). Satellite data is sampled at a radius of 50 km around the buoy location.

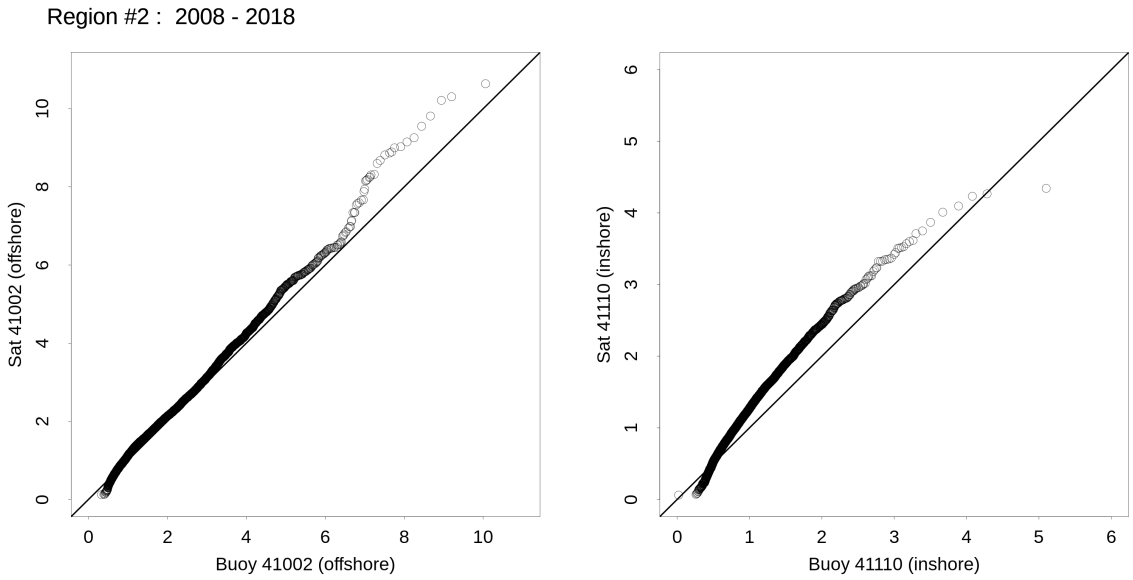

Figure S11. Quantile-quantile plots comparing buoy data with satellite in region #3, at (**a**) 41002 (offshore) and (**b**) 41110 (nearshore). Satellite data is sampled at a radius of 50 km around the buoy location.

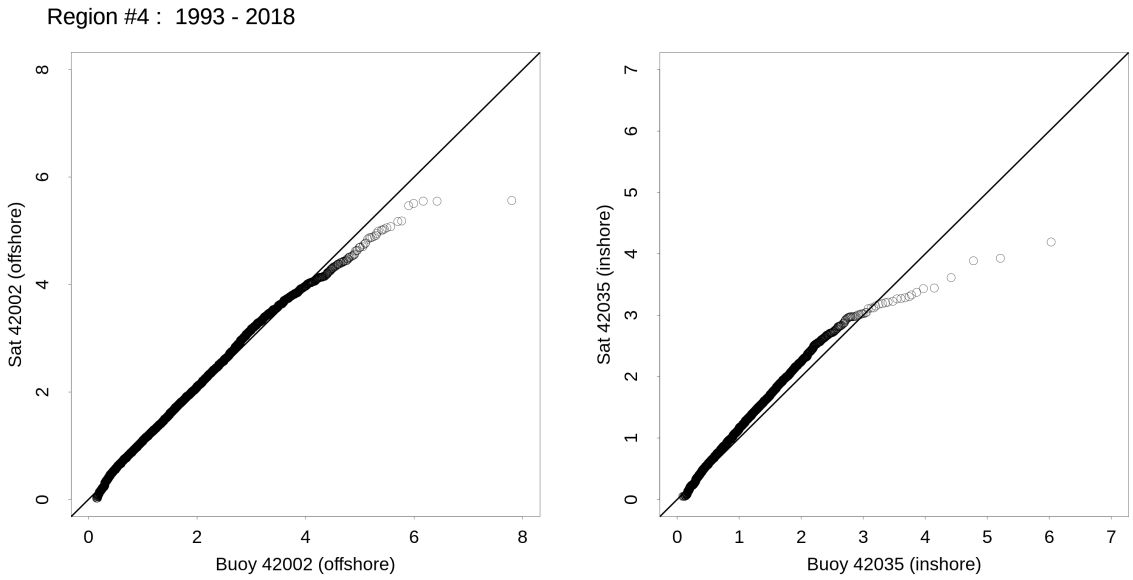

Figure S12. Quantile-quantile plots comparing buoy data with satellite in region #4, at (**a**) 42002 (offshore) and (**b**) 42035 (nearshore). Satellite data is sampled at a radius of 50 km around the buoy location.

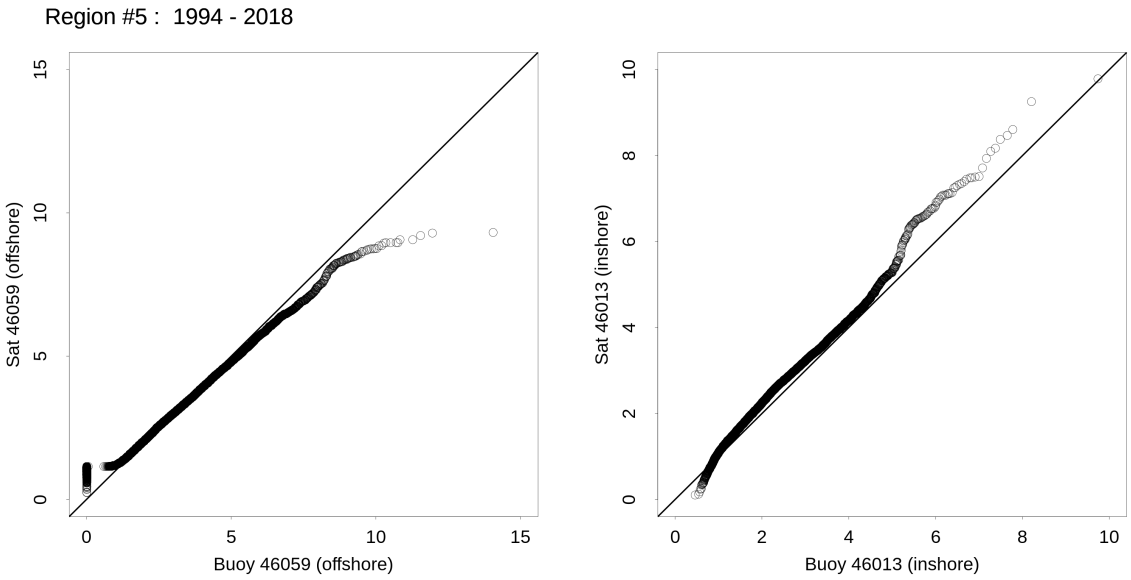

Figure S13. Quantile-quantile plots comparing buoy data with satellite in region #5, at (**a**) 46059 (offshore) and (**b**) 46013 (nearshore). Satellite data is sampled at a radius of 50 km around the buoy location.

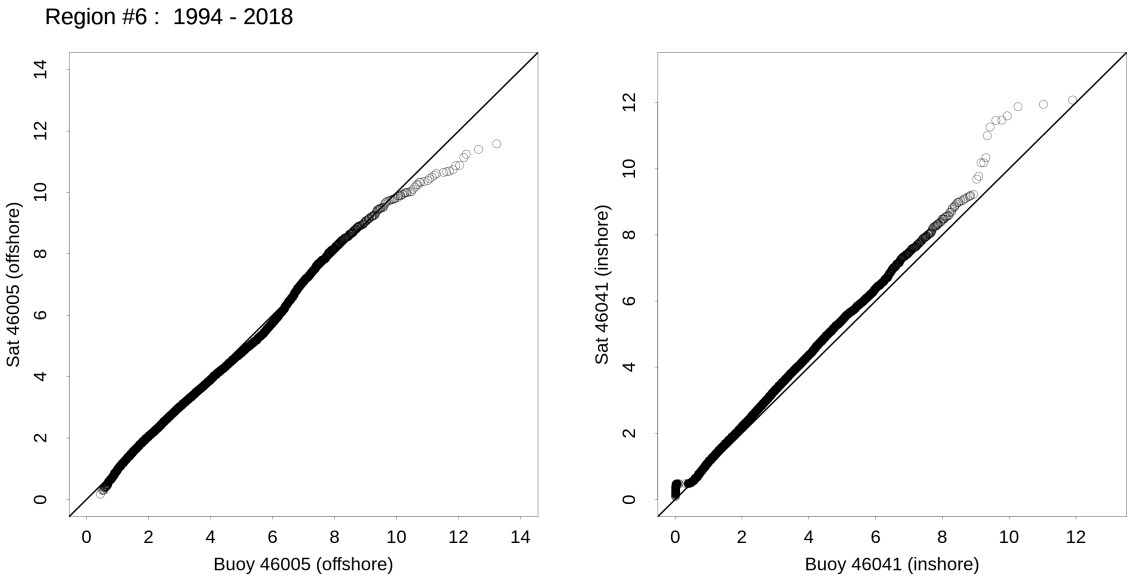

Figure S14. Quantile-quantile plots comparing buoy data with satellite in region #6, at (**a**) 46005 (offshore) and (**b**) 46041 (nearshore). Satellite data is sampled at a radius of 50 km around the buoy location.

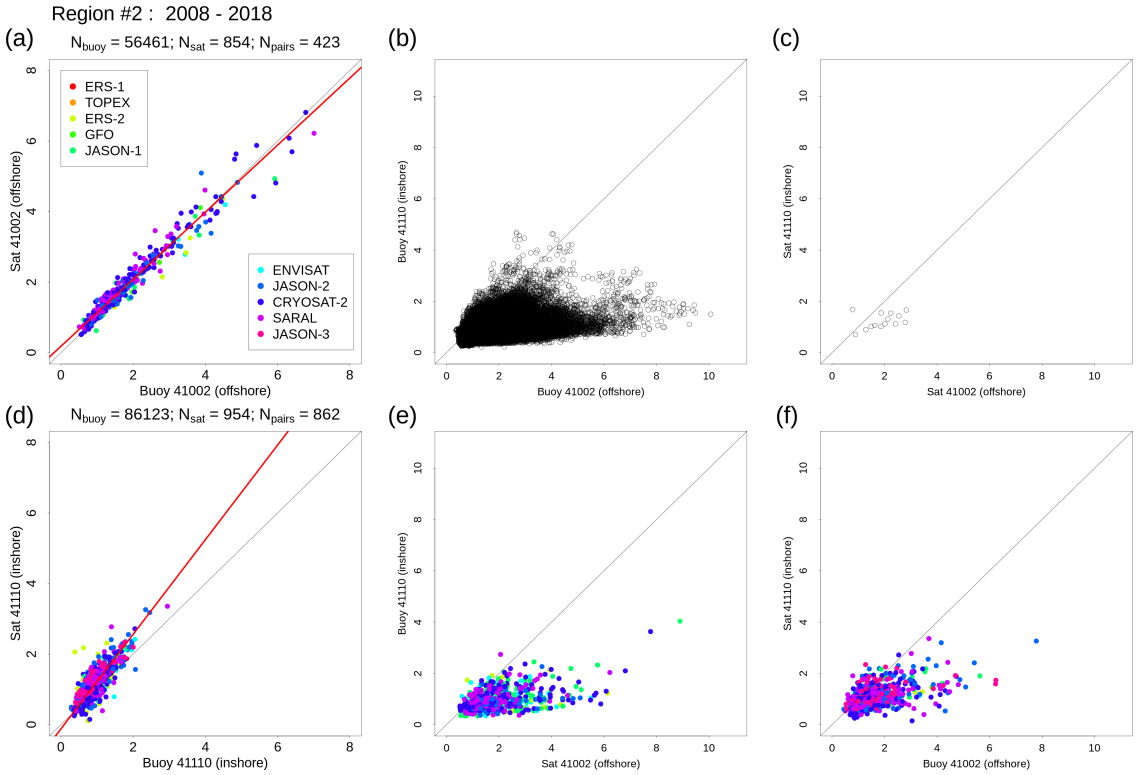

Figure S15. Scatter plots showing pairwise 1-hourly observations in region #2, at 41002 (offshore) and 41110 (nearshore) for combinations of source data and locations. Satellite data is sampled at a radius of 50 km around the buoy location. (**a**) and (**d**) show CCI L2P vs buoys 41002 and 41110 respectively. Red lines show the fit of linear major-axis regression models to the entire data set. (**b,c,e,f**) show comparisons of the remaining combinations of source data and location. Colouring by mission is applied to selected panels where this makes sense.

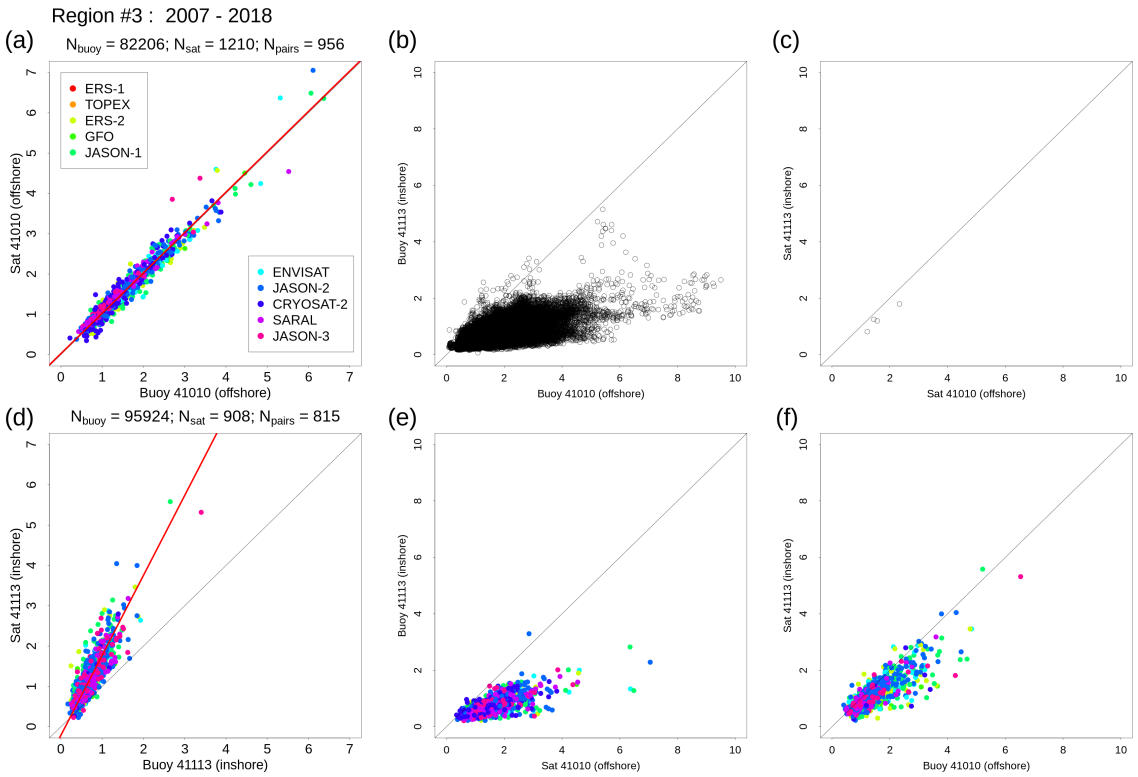

Figure S16. Scatter plots showing pairwise 1-hourly observations in region #3, at 41010 (offshore) and 41113 (nearshore) for combinations of source data and locations. Satellite data is sampled at a radius of 50 km around the buoy location. (**a**) and (**d**) show CCI L2P vs buoys 41010 and 41113 respectively. Red lines (**a,b**) show the fit of linear major-axis regression models to the entire data set. (**b,c,e,f**) show comparisons of the remaining combinations of source data and location. Colouring by mission is applied to selected panels where this makes sense.

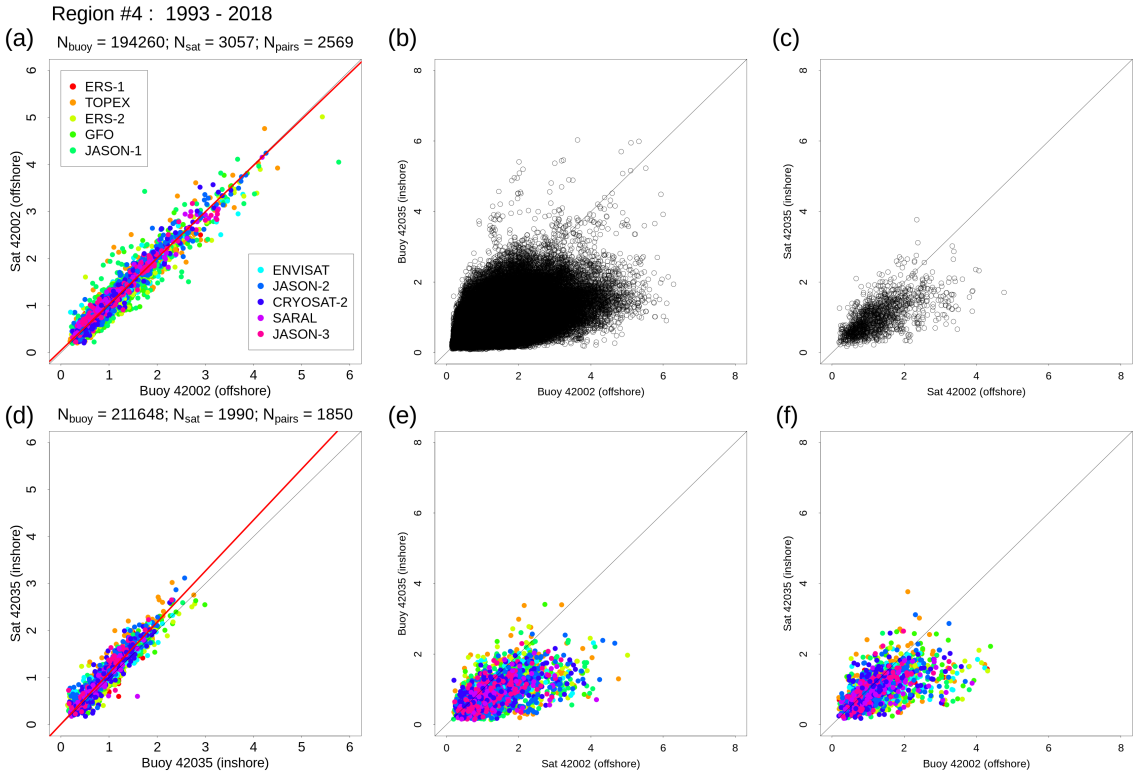

Figure S17. Scatter plots showing pairwise 1-hourly observations in region #4, at 42002 (offshore) and 42035 (nearshore) for combinations of source data and locations. Satellite data is sampled at a radius of 50 km around the buoy location. (**a**) and (**d**) show CCI L2P vs buoys 42002 and 42035 respectively. Red lines show the fit of linear major-axis regression models to the entire data set. (**b,c,e,f**) show comparisons of the remaining combinations of source data and location. Colouring by mission is applied to selected panels where this makes sense.

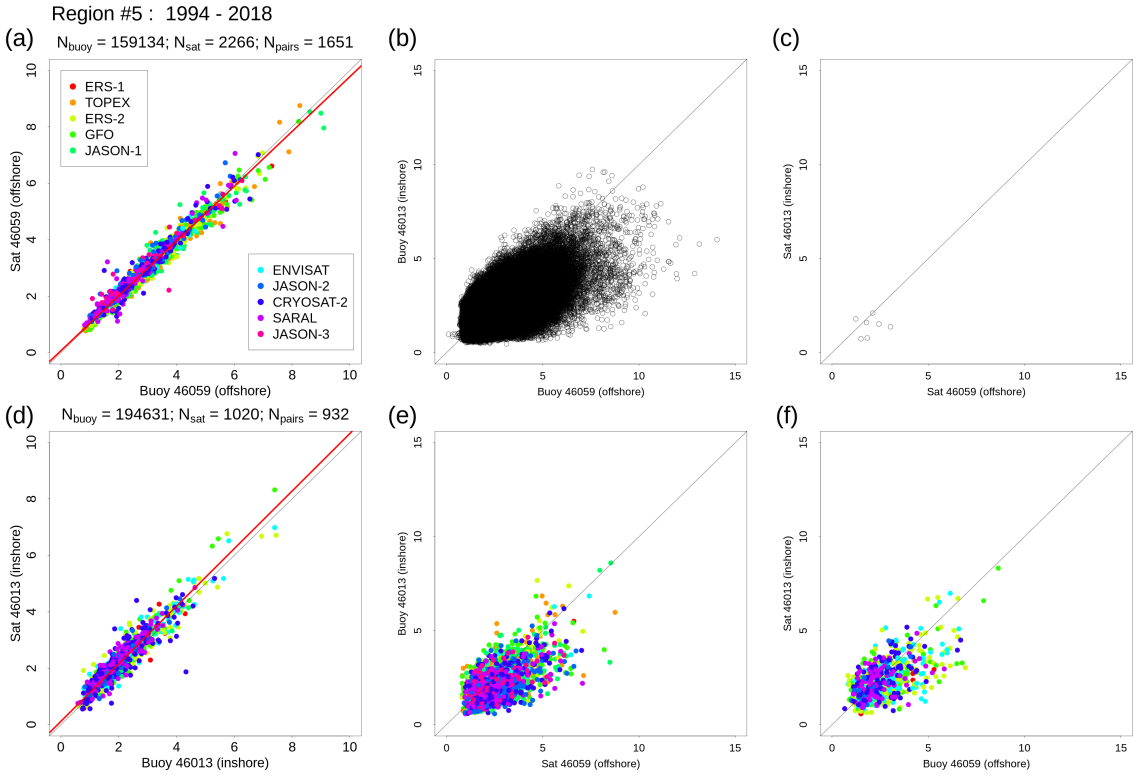

Figure S18. Scatter plots showing pairwise 1-hourly observations in region #5, at 46059 (offshore) and 46013 (nearshore) for combinations of source data and locations. Satellite data is sampled at a radius of 50 km around the buoy location. (**a**) and (**d**) show CCI L2P vs buoys 46059 and 46013 respectively. Red lines show the fit of linear major-axis regression models to the entire data set. (**b,c,e,f**) show comparisons of the remaining combinations of source data and location. Colouring by mission is applied to selected panels where this makes sense.