

# **Relationships between QuikSCAT Satellite Sea Surface Winds and Sea Surface Temperatures Off California and Northern Baja**

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Abstract**

QuikSCAT is an earth observing satellite that measures ten-meter wind speeds and wind direction over the sea surface. It is used to investigate sea surface wind patterns off the coastal waters of Southern California. A restricted data set is used with pixels approximately twelve kilometers by six kilometers. This small scale data set presents fine resolution of the winds. Wind driven coastal upwelling is expected where the wind blows parallel to the coast, heading from north to south, with the coast on the left, facing downwind. According to QuikSCAT data analysis, faster wind speeds will cause colder sea surface temperatures in the water. Mean QuikSCAT winds are compared to satellite derived sea surface temperatures for June 2001. Coldest sea surface temperatures are along the Central California coast where the sea surface winds are fastest in speed with a wind direction parallel to the coast. Warmest sea surface temperatures are in the Southern California Bight region where the coastal winds are both weakest and blowing across the coast due east. Cooler sea surface temperatures are along Northern Baja California, where wind speeds increase modestly and realign parallel to the coast.