



## **Frontal wave development over the North Pacific Ocean**

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A case study of frontal wave development off the West Coast of the United States is presented. The secondary cyclone develops at a "col" point on the tail of a cold front trailing behind a mature midlatitude cyclone in the Gulf of Alaska. The study uses ECMWF and MM5 model analyses, satellite imagery, scatterometer and radiometer measurements. It reveals mesoscale features in the satellite measurements that are not captured by the models. The extent to which these features are crucial to the accurate forecasting of the frontal wave are discussed. This case is compared to other frontal waves documented over the North Atlantic Ocean and over the Southern Ocean.