**El Niño, the blob, and ocean conditions**

Nate Mantua

Southwest Fisheries Science Center, National Marine Fisheries Service, National Oceanographic and Atmospheric Administration, 110 Shaffer Road, Santa Cruz, CA 95060, USA

Record high sea surface temperature (SST) anomalies developed during the winter of 2014 in the Gulf of Alaska, while record high SST anomalies developed in spring 2014 off Baja and southern California. By fall 2014 these broad patches, or *blobs*, of unusually warm waters merged and the entire northeast Pacific Ocean reached record high SST anomaly levels. Early in 2015 the climate of the tropical Pacific experienced the rapid development of what is now recognized as one of the 3 strongest El Niño events on record, and record high SSTs remained in the northeast Pacific Ocean throughout 2015. Analyses of historical ocean temperature and atmospheric sea level pressure records indicate that warm extremes in California Current System (CCS) and Gulf of Alaska (GoA) are often, but not always, dynamically linked, and that tropical El Niño events are only sometimes involved in these mid-latitude ocean extremes. A number of studies indicate that the initial development of the Gulf of Alaska blob (in fall 2013/winter 2014) was likely related to unusual climate anomalies in the tropical Pacific that are quite unlike those associated with El Niño. In contrast, the evolution of persistence of the warm blobs in fall 2014/winter 2015 were likely due, in part, to influences of the then weak tropical El Niño on North Pacific wind patterns. Because of the ongoing El Niño event and its expected influences on mid-latitude wind and ocean currents, the northeast Pacific Ocean is likely to remain exceptionally warm within a few hundred kilometers of the Pacific coast of North America (at least) into summer 2016.