2 September 2016

Hypoxic waters have been observed intermittently at the surface at our Hoodsport mooring in addition to the Twanoh mooring—consistent with the strong southerly winds and upwelling conditions we've been seeing over the past few days. At Hoodsport water is consistently hypoxic between 10 and 30 m, with the recently-arriving and more oxygenated late-summer intrusion water below that. There have been no reports of a fish kill thus far.

29 August 2016

The seasonal flushing of Hood Canal with relatively higher oxygen waters has begun recently, as indicated by the increase in oxygen at depth at the Hoodsport ORCA buoy. These waters are expected to continue to fill the basin, flushing out and mixing with the older hypoxic waters, as typically occurs during late summer-early fall. However, we still see very low (~1mg/L) oxygen waters between about 10-20 m at both Hoodsport and Twanoh. If strong southerly winds blow, there still could be a fish kill if it occurs before the flushing is complete.

4 August 2016

Hypoxia, or oxygen concentrations below 2 mg/L, is evident in lower Hood Canal again this year, with concentrations around 1.0 mg/L between 20 and 30 m at Hoodsport, and hypoxic to the sea-bed. Concentrations are even lower at Twanoh below 10 m, and again hypoxic to the sea-bed.

Fish kills were observed earlier this summer in early July by the Skokomish Tribe and Washington Sea Grant, some of the earliest we have seen in recent years.

Also an unrelated cocolithophore bloom occurred in the mainstem of the Canal and Dabob Bay, <u>visible</u> from space due to the reflectance of the cocoliths on these plankton.

Will there be another fish kill event? It's possible. The oxygen is very low in concentration. But it is pretty deep now, around 10-20 m below the surface. However, if southern winds blow, the deeper waters typically upwell, meaning these low oxygen waters would extend up to the surface. Many factors are involved, but several of the key ingredients are in place for another fish kill event. Continue to watch the ORCA buoy data that we are monitoring in near real-time.