SCRIPT

Me, Rine and James have been working on this interactive dashboard that query ERDDAP datasets (meaning if you have new data added it will be showed by the same dashboard). As CMAR has instruments that measures temperature and DO data, it is possible to visualize this information by selecting any of the stations around Nova Scotia.

This interactive visualization is important because it correlate these two variables enabling stakeholders to go through all the information we have in that specific county.

Recently, we saw the news about a ‘super chill’ event that occurred in Nova Scotia in March 2019 where Canada's Cooke confirms that it has lost about 10,000 Atlantic salmon due to this event at its Kelly Cove Salmon site off the coast of Coffin Island, in Nova Scotia. The closest station we had CMAR data from that period of time is Mahone Bay - Flat island at Lunenberg County. As we can see here (Rine could you Zoom in please) February and March are the coldest months of the year for seawater temperatures in Atlantic Canada and salmon should keep an eye on their stocks in the meantime.

Usually, Nova Scotia's marine waters stay above freezing temperatures but it possible to see that the temperature for this station at the same period of the ‘super chill’ event it less than -0.7 C which freezes fish blood leading to death.

If dissolved oxygen levels are low enough to negatively affect organisms’ behavior, physiology, immunology, and growth, it’s called hypoxia. We can see this event happening at Hourglass Lake at Digby County.

For example, the dissolved oxygen level for adult salmons is 6 mg/L, and the minimum is 4 mg/L. For salmon eggs, dissolved oxygen levels below 11 mg/L will delay their hatching, and below 8 mg/L will impair their growth and lower their survival rates. Whenever dissolved oxygen falls below 6 mg/L the vast majority of salmon eggs will die.

Using the sensor strings available around Nova Scotia, it is possible to identify when these events may have occurred. It may also be helpful to optimize and maintain healthy fish living in the farms during infrequent events such as ‘super chill’.