Surface Marine Heatwave Prediction Skill in the Canadian Seasonal to Inter-annual Prediction System (CanSIPS)

Environment Canada produces seasonal forecasts of sea surface temperature (SST) based on CanSIPS, which currently includes 20 ensemble members from each of two coupled atmosphere-ocean-land models. We show that CanSIPS monthly marine heatwave predictions outperform the North American Multimodel Ensemble (NMME) as a whole, over large areas of the global ocean and across a range of lead times. In particular, both CanSIPSv2.1 and CanSIPSv3 exhibit greater skill over much of the Eastern Equatorial Pacific at 6.5 month lead time, highlighting skill in the representation of ENSO events. CanSIPSv3 exhibits greater skill compared to CanSIPSv2.1 in the Western Equatorial Pacific. We will also present plans for further development of Canadian marine heat wave prediction capability

Elise Olson and Bill Merryfield; Canadian Centre for Climate Modelling and Analysis/Environment and Climate Change Canada