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Investigating decadal variability and trends in the Pacific Decadal Oscillation

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Climate indices are of great value to Earth scientists for their ability to characterize important climate features and distill complex spatio-temporal variability into more simple forms. The Pacific Decadal Oscillation (PDO), distinguished by its sudden cold-warm phase shifts, is mainly portrayed as a natural mode of variability, and has been shown to closely relate to the variability of many biological, atmospheric, physical and hydrologic systems. In this study, we investigate the possibility of a human signature on the PDO that is aliased to its definition. We use PDO time-series obtained from three observational datasets to take into account observational uncertainties as well as results derived from historical and future simulations performed with various CMIP3 climate models.