# Detailed SST structures of the North Pacific climatic regime shift in the 1920s and 1940s based on 1-degree SST data compiled from COADS and the Kobe collection

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Using COADS and the recently digitized Kobe collection, a monthly SST dataset on a 1-degree longitude and latitude grid is produced. The gridded data are used to examine regime shifts in the 1920s and 1940s over the North Pacific. These shifts are two of three major regime shifts in the 20th century along with the 1970s regime shift, but detailed SST distributions have not hitherto been known. The SST difference from one regime to another shows that large amplitudes in the SST warming associated with the 1940s regime shift are limited to the subarctic front and subtropical front in all seasons. For the 1920s regime shift, the subarctic front exhibits substantial SST cooling in the warm season, with much weaker signatures in the cold season. These results show that the subarctic and subtropical front play central roles for the 1940s regime shifts and possibly in the 1920s regime shift, consistent with the well known changes of these fronts in the 1970s regime shift.