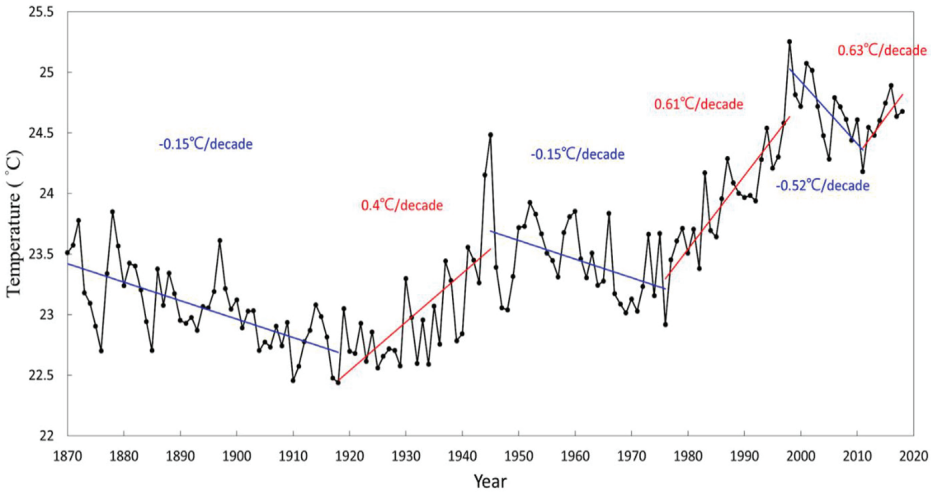
SEA SURFACE TEMPERATURE AND SEA LEVEL

The regional sea surface temperature (SST) and sea level changes associated with global warming pose critical challenges for marine ecosystems and marine and coastal industries. For example, observational data for the Taiwan Strait indicate a long-term trend of increasing SSTs over the past century. After the decadal stalling of SST increase during the global warming hiatus from 1998 to 2012, SST has resumed the warming trend. From 2012 to 2018, the warming trend was approximately 0.63°C per decade, and this rate is projected to continue to increase until the end of this century (Yamanaka et al., 2021) (Figure).

Regarding sea level, the average annual rise around Taiwan's surrounding waters was 2.2 millimeters from 1993 to 2015 (Lan et al., 2017), a rise that will persist throughout this century. The sea level will rise by approximately 0.4 meters by the end of this century under the low-emissions scenario and approximately 0.8 meters under the very high-emissions scenario

(source: https://sealevel.nasa.gov/ipcc-ar6-sea-level-projection-tool).



Figure

Time series of annual mean sea temperatures in the Taiwan Strait from 1870 to 2020. Trends for different periods are indicated. (Lee et al., 2021)

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