

Shanghai Jiao Tong University

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**Reconstructing geophysical changes in the coastal environment in recent decades, and constructing scenarios of possible future change: The CoastDat philosophy**

Using dynamical models of regional atmospheric and oceanic dynamics, as well as homogeneous analyses and scenarios of large-scale atmospheric variability, descriptions with stationary accuracy across decades of years have been constructed. These descriptions allow the assessment of risks of marine weather, and changes thereof in recent years as well as in possible futures. The concept is sketched, and the range of different applications is illustrated with examples. First efforts for implementing the concept for Chinese marginal seas have been made.