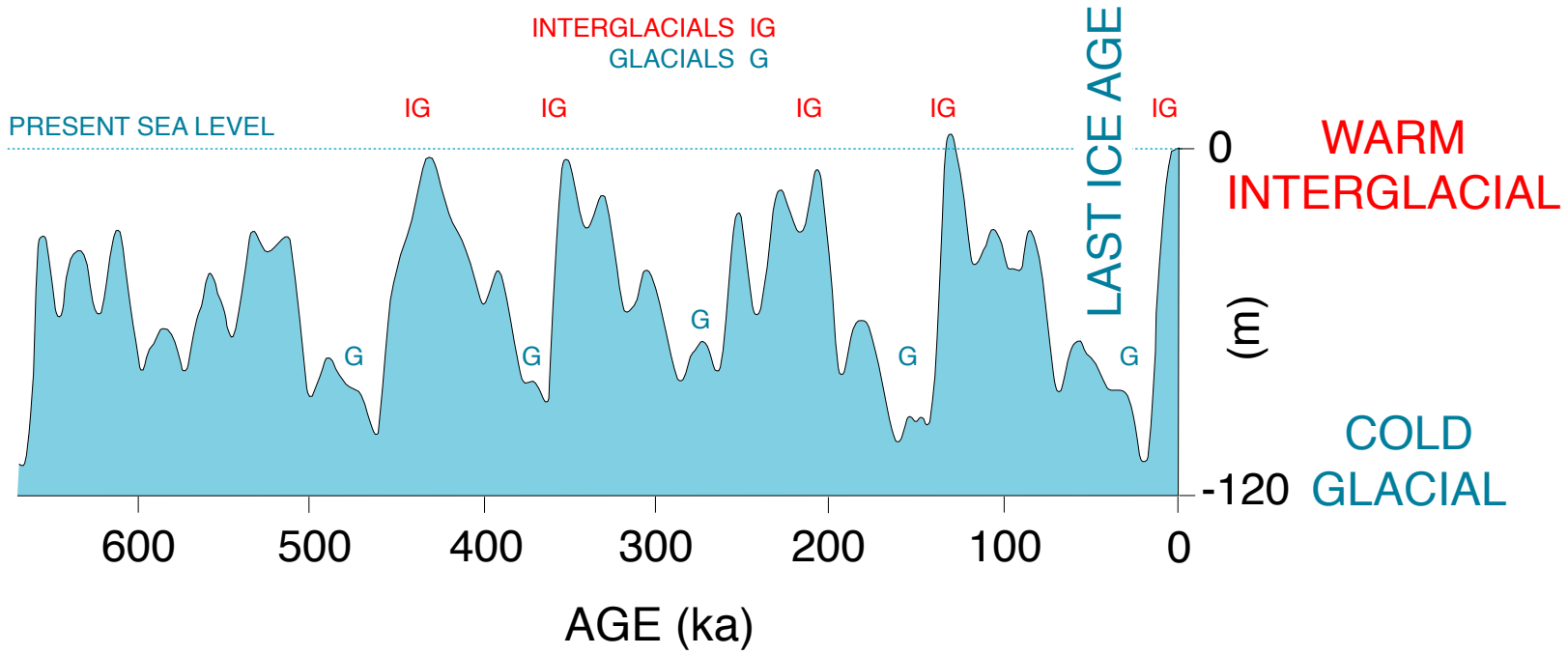
A HISTORY OF CLIMATE CHANGE AND SEA-LEVEL FLUCTUATIONS FROM THE MARINE FOSSIL RECORD



Variations in oxygen-isotope ratios in fossil marine foraminifera from deep-sea cores record glacial/interglacial climatic cycles, and serve as a proxy for sea-level fluctuations. Age data from emergent Pleistocene shorelines throughout the world support this climatic and sea-level record. San Francisco Bay and other shallow bays throughout the world exist only during brief interglacial sea-level highstands, which occur only about every 100,000 years. During the periodic sea-level lowstands, the present shallow bays of the world do not exist, their sites being exposed as dry land. Obviously, San Francisco Bay is a very ephemeral geologic feature. Most of the time there is no bay in the San Francisco Bay area. NOTE: ka = 1.000 years.