

valuable town land; while the land from which the sea recedes is in the main a sandy swamp of little intrinsic value.

The foreshore is a plateau of land and water, varying from wide sandy wastes, such as the Shoeburyness sands, to lengths of coast-line which the tide barely leaves. The sea is nibbling on many fronts, but there are comparatively few spots on the British coast where, at the present time, there is marked recession. In the Persian Gulf, blown sand from the desert comes down in such volumes that it is shoaling the Gulf. The vast sand travel along the north-east coast of Brazil is overwhelming, as the sea for several miles from shore is laden with sand in suspension. Movements of sand such as these are almost beyond human control, and any obstruction placed in their way is quickly obliterated.

The most striking record of both accretion and erosion is that of Madras harbour. Along the eastern coast-line of the Indian peninsula, under the impact of the north-east and south-west monsoons respectively, sand had travelled up and down the coast-line almost harmlessly from time immemorial. The Indian Government in 1876 determined to construct an enclosed harbour at Madras. Careful observations were made of the volume of sand travel, and it was estimated that it would take 180 years for the travelling sand to fill a triangular area between the coast-line and a breakwater running out 1200 yards from the shore. No sooner, however, were the works commenced than it became obvious that the above estimate of sand travel was completely unreliable. The wave-borne sand, travelling up from the south, was about sixty times greater in volume than the corresponding amount brought down by the north-east monsoons. The original estimate of sand in motion was 243,000 tons per annum; a second estimate in 1904 was 550,000 tons per annum. The accumulation at the present time shows that about 1,000,000 tons per annum travel along the coast-line. Low-water line between 1876 and 1912 has crept seawards for a distance of 2500 feet (fig. 35A). In 1881 a terrific cyclone wrecked the harbour works, then nearly completed, but a somewhat similarly outlined harbour has since been carried out on altered lines. For a distance of more than 3 miles severe