

Arabian Sea, an Archeological View

by Potluri Rao In Seattle ©2018 (CC BY 4.0)

The Arabian Sea climate is regulated by a variety of factors called the Milankovitch Cycles, based on Earth's rotation around the Sun. For 20,000 years Indian monsoon winds have blown during summer from the Arabian Sea to the Bay of Bengal. For the next 20,000 years, monsoon winds blow during winter from the Bay of Bengal to the Arabian Sea. The cycle of 41,000 years repeated for millions of years. During the transition, there is a global drought for hundreds of years that forces people all over the globe to rearrange. The last recorded global drought occurred around 2,200 BCE and lasted for 200 years. Human history of that time period is a testimony to the fact. Empires collapsed, and the center of gravity of political structures was relocated.

During the summer monsoon, northwest India was fertile land, and southeast India was wasteland. During the winter monsoon, southeast India was fertile land, and northwest India was wasteland. The bottom part of India, with the Nilgiri Hills, is not a part of the monsoon winds. It gets moist air from the Indian Ocean, not the Arabian Sea. It has perpetual rainwater.

The Baloch, Aravalli, and Satpura ridges are perpendicular to the monsoon path. One side of a ridge traps rainwater and the other side is in a rain shadow. Depending on the direction, one side of a ridge is fertile land and the other side is wastelands. Highlands on both sides of a ridge are always wet. Only the vast lowlands alternated between fertile lands and wastelands. People who lived along the ridges moved from one side to the other and ratcheted from one ridge to the next. Only the Homo Erectus and Homo Sapiens who discovered the magical ridges with rainwater survived. Migration to Asia was dictated by the monsoon winds and the perpendicular ridges.

Himalayan snow cover: There is a well-established inverse relationship between the extent of snow cover over the Himalayas and summer monsoon rainfall. A larger snowpack leads to less intense summer monsoons, as the delayed warming of the land surface weakens the temperature gradient that drives the monsoon.

Arctic sea ice decline: The rapid warming of the Arctic, known as "Arctic Amplification," affects global atmospheric circulation. Some studies have linked Arctic sea ice melt to changes in the jet stream and an increase in extreme rainfall events during the monsoon.