

Arabian Sea, an Archeological View

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

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

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

The Baloch, Aravalli, and Satpura ridges are perpendicular to the monsoon path. One side of a ridge taps rainwater and the other side is in rain shadow. Depending on the direction, one side of a ridge is fertile lands 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 snow pack 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.