Effect of Global Warming on the Reproductive Success of Whales

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**ABSTRACT**

During the past few decades, there has been a potentially irreversible and rapid climatic change taking place all around the Earth due to the emission of huge amounts of green house gases triggered by the human activities. This average increase in the temperature of Earth has caused global warming. It has been found out that since 1991, about 93% of the energy has been absorbed by the water bodies which include the sea and the ocean. This has caused an increase in the temperature of the water. Increase in the temperature of water has affected the reproductive success of marine mammals such as Southern Right whales.

The calving success of the whales have been studied by using methods such as photo identification of the Southern Right whales annually from 1971 onwards that flock together from the Peninsula Valdes of Argentina between months of June and December. Mathematical methods are also involved, which calculates the annual deviation from the expected calf output for a certain whale population, with the help of a model which is devised to observe the calving histories of the females.

Interannual variations are observed to be around 4 – 5 years between the receptive and the resting stage of the female whales. The interannual variation becomes 5 years due to late abortions or failure in early lactation. Both these are related to the summer feeding during pregnancy which affects reproductive success directly. It was found out there was positive and negative correlation of whale breeding success with increase in temperature in the Pacific and South Georgia respectively, though both these anomalies show a high degree of periodicity.

**Keywords :** Anomaly, Calving, Interannual, Temperature, Whale