

Abstract:

A Terrestrial Theory of Ice Ages,

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The direct cause of Pleistocene glaciation of the Northern Hemisphere is explained on the basis of an ice - free Arctic Ocean. This would provide the initial precipitation and would effect changes in atmospheric and oceanic circulation that would further enhance glacial growth. The lowering of sea level associated with glacial growth would finally cause the Arctic to freeze over terminating glacial conditions. Glacial-interglacial oscillations are thus dependent on the state of the Arctic Ocean which is in turn regulated by sea level position. The initiation of the glacial epoch is explained by the displacement of The geographic poles from an open ocean environment to their present thermally isolated locations in the Arctic Ocean and Antarctica, respectively.

Consideration of the heat budget of the Arctic Basin gives theoretical support to the maintenance of an ice-free Arctic Ocean from the inflow of the warmer North Atlantic. Further support is also given by new data dealing with the glaciation of Siberia and Northern Canada, seismicity of glaciated regions, geoid measurements, studies of thermal gradients and submarine terraces.

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