

# Snowball Earth and Emergence of Metazoa

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The occurrence of curious geological evidences in Neoproterozoic strata is one of the most mysterious things in the Earth's history. Snowball Earth hypothesis proposed by Hoffman et al. (1998) attracted attention as a hypothesis which explains all the four problems: low-latitude glacial deposits, carbonates covering glacial deposits (cap carbonates), fluctuating isotope composition of cap carbonates, deposition of banded iron-formations. However, there are still some alternative hypotheses. In the present contribution, the current situation of researches aiming for testing these hypotheses and future problems will be discussed.

The examination of the latitudinal distributions of Neoproterozoic glacial deposits is one of the critical tests between the snowball Earth and the low-latitude glaciation proposed by Williams (1993). The stratigraphical correlation of Neoproterozoic glacial deposits with their radiometric dating world provides critical evidence. Characteristic depositional sequences in the cap carbonates in Namibia, Canada, and Brazil can also be used for global correlation. New geological evidences and geochemical data on the cap carbonates in Namibia will be presented and discussed.

It has been noted that the appearance of Ediacaran fauna followed soon after the final Neoproterozoic glaciation. Recent stratigraphic and paleontological studies have shown that diversity of Ediacaran fauna increased with the warming the climate. Occurrence and morphological characteristics of Ediacaran fossils in Namibia and White Sea, Russia will be discussed.