interpreted as an indicator for deep water formation, which is also tied to seasonal ice free surface waters.

The advection of Atlantic Water to the north can be traced also by the distribution of chalk fragments in the sediments. Chalk rocks occur only as far north as 59°N. Therefore, findings of chalk fragments in Norwegian Sea and Fram Strait sediments can be explained only by ice-rafting in a northward direction. In contrast to the Barents Sea ice sheet, the Fennoscandian ice sheet had a large extension throughout the Weichselian, allowing iceberg production in the source areas of the chalk fragments also prior to 23 ka.

The first advance of Atlantic Water occurred approximately 24 ka. Therefore, it seems likely that this advance is closely tied to the initial build-up of the Barents Sea ice sheet. The second advance took place at approximately 17 ka. This event is possibly a hint for a two-step glaciation of the Barents Sea indicating that the ice sheet reached its greatest extension not before 17 ka.

CORAL GROWTH IN RECENT REEFS OF THE RED SEA

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Radiographs of coral slices of *Porites* show distinct patterns of high density/low density bands which each represent one year of coral growth. Most of the corals we have collected have an age of 4 to 9 years. According to Aharon (1991), *Porites* colonies reach their maximum growth rate at an age of approximately 10 years, indicating that the corals we sampled were still in an "adolescent" stage. We can also postulate that growth rates for older colonies are slightly higher than those outlined below.

The growth rates of corals have average values of 3-7 mm/yr; only few specimens of *Porites* gathered from the shore reef north of Queseir and Aqaba show a more rapid growth rate of 8-10 mm/yr. These values tend to be slightly lower than those published as growth rates for *Porites* spp. from the Pacific realm (between 7 and 14 mm/yr).

If we compare previously available values from samples taken from Aqaba, we find a great deal of evidence pointing at lower coral growth rates in the northern Red Sea than in the Pacific. This sparse amount of data also documents a relative slowing of growth rate with increasing depth. At this time we are preparing comparative studies on corals from the Comoro Islands (Indian Ocean). Our investigations at Aqaba in November 1991 and off the Egyptian coast in February 1992 provided us with more data to stabilize these trends.

Our investigations will be expanded to include some additional coral species. In addition we plan to try to quantify bio-erosion, as well as sediment export from the reef into the deep sea.

Objectives for future studies are:

- Extension of studies into the central Red Sea
- Seasonal changes in scleractinian biomineralization
- Comparison of phosphate affected and unaffected areas
- Measurement of (bio-) erosion rates
- Core sampling in the reef body to the Pleistocene basement
- Growth rate determination of other main reef-building corals
- Development of standardized research methods in order to compare the results on a global scale to the Caribbean and the Pacific
- Comparison of recent reefs and coral growth rates with fossil reef units formed during late Quaternary high stand sea-levels (e.g., Eemian, 125 ka)