HUNTING THE EARTH'S MAGNETIC FIELD

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Earth is unique among terrestrial planets in that it has a strong magnetic field that has persisted at least for the last several billion years. The geomagnetic field is at first glance simple, resembling that of a bar magnet located at the heart of the planet. On closer inspection, we find that it is not at all simple but is ever changing. Variations in the magnetic field may occur on rather short time scales, rendering navigational charts obsolete within a few decades, as well as on longer time scales. As a result, the north and south magnetic poles have reversed many times in the past. The temporal behavior of the field has been recorded by various geological materials, including deep sea sediments and crystalline or hard rock basement. The recovery and interpretation of such records is one of the exciting accomplishments of the Ocean Drilling Program. Dr. Tauxe sailed as a paleomagnetist on DSDP Leg 73 and ODP Leg 108.