

IAF EARTH OBSERVATION SYMPOSIUM (B1)  
Interactive Presentations - IAF EARTH OBSERVATION SYMPOSIUM (IP)

Author: Mrs. Manna Khan  
University of North Dakota, United States

THE PAST AND PRESENT HISTORY OF EARTH SCIENCE APPLICATIONS USING THE NASA  
DATABASE REGARDING BANGLADESH TROPICAL CYCLONE FORECAST ADVANCEMENT

**Abstract**

Throughout Earth's history, most of the natural hazards have occurred induced by the Earth processes. When the devastation from a natural hazard threat to humans and the environment; such events are known as natural disasters. Bangladesh faces many natural hazards due to its unique geographic location. Coastal Bangladesh suffers from frequent tropical cyclones, which cause many casualties, loss of crops, environmental degradation, property, and infrastructure damages. Cyclones are atmospheric hazards and one of the most common hazards in Bangladesh. The funnel-shaped northern part of the Bay of Bengal strengthens the storm surge during cyclones affecting thousands of people in the coastal areas. It usually occurs in early summer (April-May) or the late rainy season (October-November), which originated from low atmospheric pressures over the Bay of Bengal. (Irin Hossain, 2020). This study looks at the applied Earth Science history using the NASA database related to Bangladesh tropical cyclones observation system; what NASA database used in the Earth Science applications to study tropical cyclones and related hazards; and how effective the NASA database was to monitor tropical cyclones. The source of this study is based on Journal articles, news articles, government documents, private documents, books, videos, and other online resources. The initial findings from this study, the cyclones monitoring system in Bangladesh had begun long before the colonization era. Over the past decades, the cyclone monitoring system has advanced greatly. Currently, the Bangladesh Metrological Department (BMD) can forecast the tropical cyclones precisely in advance by utilizing NASA and other databases; thus, these data records are applied in Earth Science application to help inform, monitor, and reduce human casualties. To comprehend, the hazards of tropical cyclones and related catastrophes, this study needs to continue.