INDIA NEWS

History of Cyclones in Bay of Bengal: Deadliest among Them Killed 3,00,000

By Chris Dolce and Brian Donegan · 02 May 2019 · TWC India

As Tropical Cyclone Fani moves into northeastern India and Bangladesh this week, it's a reminder of the tragic history of tropical cyclones in the Bay of Bengal, including one that killed hundreds of thousands of people.

On Nov. 11, 1970, the Great Bhola Cyclone moved into East Pakistan, now known as Bangladesh, and produced devastating storm-surge flooding. The maximum storm surge was estimated at nearly 35 feet high, roaring over the flat, low-lying region and producing massive destruction.

Warnings were issued by Pakistan's meteorological service, but not many people sought shelter and others lacked a nearby shelter or had no way of reaching one, according to NOAA's Hurricane Research Division.

The combination of storm surge and a lack of evacuation resulted in a massive death toll, estimated to be 300,000 to 500,000 people. This makes it the deadliest known tropical cyclone in history. Over 45 percent of the population of 167,000 in the city of Tazumuddin was killed, according to the University of Rhode Island.

Sadly, this isn't the only tropical cyclone that has resulted in a large death toll in Bangladesh. According to the Bangladesh Meteorological Department, 10 tropical cyclones since 1876 have caused 5,000 or more deaths. Four of those cyclones killed 100,000 or more. Most recently, Cyclone Gorky killed nearly 140,000 in 1991.

Bangladesh isn't the only country with a deadly history of tropical cyclones in the Bay of Bengal.

The northeastern coast of India is prone to storm surge. This list from Weather Underground shows that India has seen several tropical cyclones originating in the Bay of

Bengal that resulted in some extremely high death tolls.

The deadliest tropical cyclone to hit India in the last few decades was the 1999 Odisha Cyclone, which struck northeastern India in the state of Odisha as a Category 4-equivalent storm with 155-mph winds on Oct. 29, 1999.

That cyclone, which had been at Category 5-equivalent strength with 160-mph winds and a 912-millibar central pressure shortly before landfall, pushed a storm surge of 26 feet (8 meters) onto the northeastern Indian coast. The storm stalled just inland, dumping torrential rainfall on portions of India already saturated from the landfall of Category 4-equivalent Tropical Cyclone 04B just 12 days earlier.

The 1999 Odisha Cyclone killed 9,658 people and caused $2.5 billion in damages (1999 dollars). It was India's most expensive and fourth-deadliest tropical cyclone in the past 100 years, according to Bob Henson, meteorologist and climate blogger at Weather Underground.

Cyclone Nargis in 2008 devastated the southern delta region of Myanmar, southeast of Bangladesh, with extreme storm-surge flooding. More than 130,000 people were killed.

For perspective, the deadliest hurricane in U.S. history was the 1900 Galveston hurricane, which killed an estimated 8,000 people. Hurricane Katrina, the third-deadliest hurricane in U.S. history, was directly responsible for 1,200 fatalities.

Several factors make the Bangladesh coast and portions of the Myanmar and India coasts vulnerable to storm surge.

- These areas with the high death tolls are low in elevation and have high populations because of agriculture in the region. This puts many people at risk if they do not follow warnings to protect themselves or if sufficient shelter is not available.

- The northern end of the Bay of Bengal is shallow and narrow. This creates a funnel for the huge surge from strong tropical cyclones moving north or northeastward into the low-lying land areas.

- High astronomical tides significantly add to height of the surge if the cyclone is making landfall during high tide. According the Bangladesh Meteorological Department, this was the case in both the 1970 and 1991 cyclones.

- Areas along the coast have many small inlets that water is forced into by landfalling tropical cyclones, which causes flooding of adjacent land areas.

Given the rise in sea levels expected with climate change, these locations' vulnerability to flooding will likely only get worse. One tiny island involved in a dispute between India and

Bangladesh disappeared in 2010 due to rising water, the Guardian reported. Another island nearby was submerged by water in 1996, forcing residents to evacuate to the mainland.

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