



EFFECT OF SEVERE TROPICAL CYCLONE OVER ANDAMAN AND NICOBAR ISLANDS: PERSPECTIVE OF GEOGRAPHICAL STUDY

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ABSTRACT

Tropical cyclone the generic name for intense, rotating vortices of air that sustains themselves on the energy that is released when water condensed cloud are known by different names in different parts of the world including hurricane, typhoons and cyclones. This article describes the energy transformation that occurs in tropical cyclone and how these transformation results in such destructive weather systems. The environmental condition necessary for the development of tropical cyclones are then describes. Maps of the globe tropical cyclone tracks by satellites images of conditions suitable for these storms. Finally the types of damage and impacts caused by these significant weather systems in coastal area are described. These including strong winds.

INTRODUCTION

Tropical cyclones are the most severe storm system in the tropical. According to National Hurricane Center« a tropical cyclone is a rotating, organized system of clouds and thunderstorms that originates over tropical or subtropical waters and have clouds low level circulation «. Tropical cyclone are categorized into tropical depression Tropical Storm. Tropical cyclone one of the operational for genesis is the presence of a closed low circlation . Tropical cyclone are among the destructive natural disasters having huge social-economic and encouragemental influences on the earth.

Cyclones are center of low pressure surrounded by closed isobars having increasing pressure outward and closed air circulation form outside towards the central low in such a way that air blow inward in anticlockwise in the northern hemisphere and clockwise in southern hemisphere. They in shape from circular elliptical to 'V' shape. Cyclones developed in the region lying between the tropics of cancer and Capricorn called tropical cyclones. The weather conditions of low latitudes mainly rainfall regimes are largely controlled by tropical cyclones. Size of tropical cyclones varies considerably. On an average their diameter range between 80km and 300 km. Tropical cyclone more vigorous over the ocean but become weak while moving over land.



PURPOSE

The purpose of the presented research paper is as follows.

1. A detail Of tropical cyclones
2. Impact of recent tropical cyclones
3. Role of tropical cyclones in Precipitation Over tropical region
4. Post cyclone effect over wind blowing region

METHODS

Mainly the data in the presented research paper is obtained through secondary sources, in which published and Non published research, books, government and non-government organizations, research papers, magazines, newspapers, etc. have been obtained.

STUDYAREA

Andaman and Nicobar group of islands is an archipelago of 572 islands, covering an area 8249 Sq. Km, spread over about 780 km from North to South in the south eastern part of Bay of Bengal. Of these, only 37 are permanently inhabited. The islands extends from 6 degree to 14 degree north latitudes and from 92 degree to 94 degree east longitudes. The Andaman are separated from the Nicobar group by a channel ten degree channel. The highest point is located in North Andaman island saddle peak 732m. The important islands from economic point of view are north and middle Andaman district, south Andaman district long island, Neil island, Havelock island, Little Andaman, Car Nicobar, katchal, Anxieties, Terressa and Great Nicobar.

CYCLONE BREWING IN BAY OF BENGAL ANDAMAN AND NICOBAR ISLANDS TO GET HEAVY RAINS

IMPACT OF TROPICAL CYCLONES IN ANDAMAN AND NICOBAR ISLANDS

Cyclone Asani

The year first cyclone Asani May 7-11, 2022 is brewing over southeast bay of Bangalore and is expected to bring heavy rains to Andaman and Nicobar islands. It's is pretty genesis track and forecast the IMD said low pressure area firmed overs southeast Bay of Bengal. The low pressure are is likely in intensity into a well marked low with squally winds gusting 55-65 kmph to 75 kmph over Andaman and Nicobar islands

The weather system is expected to turn into a cyclonic storm. IMD Director General said therefore it is Likely more nearly north east towards and reach near Bangladesh and Myanmar coasts. Once the system intensifies into a cyclone it will be name Asani , a name suggested by Sri Lanka.

The department has advised fisherman not to venture into central parts of southeast Bay of Bengal. The IMD has issued a advisory for regulation of off shore activities and suspension of off shore activities.



IMPACTS

The cyclone is expected to cause localised flooding of roads. Inundation and water logging in low lying areas in Andaman and Nicobar islands. The weather office has recommended total suspension of fishing and tourism activities in Andaman and Nicobar islands **Cyclone Lehar**

Very severe cyclones storm Lehar has a tropical cyclones that primarily affected the Andaman and Nicobar islands. Lehar was the second most intense tropical cyclone of 2013. Formed on 19 November 2013 wind speed 140km/h Lehar gradually intensified further into a very severe cyclonic storm.

Lehar made its first landfall south of port Blair, Andaman and Nicobar islands early on 25 Nousey, however it maintained strength. The cyclone strengthened further and developed strong radial outflow compensating the moderate vertical wind shear in the region.

Preliminary damage assessment for cyclone Lehar

Disaster	DAMAGED HOUSES	INFRASTRUCTURES	PLANTATION(ha)	AGRICULTURE(ha)	FOREST(ha)	SANDY BEACHES(ha)
Flood inundation	12	117	15	6	20	–
Escap Run-off	17	26	3	5	12	3
Land slide	15	19	11	–	8.5	–
Gale winds	36	9	16	3	6	-
Storm	35	15	9	–	7	2.3
Total	115	186	54	14	53.5	5.3

IMPACTS

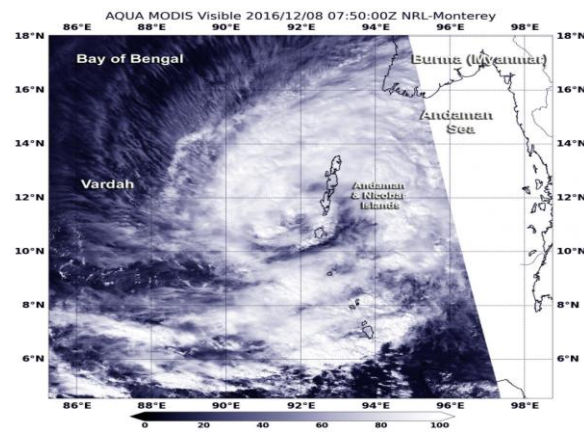
The cyclone affected the Andaman Islands with heavy rain and gusts. It caused flooding, landslides, road blockage, uprooting of trees and damage to building. Over two dozen fisherman were missing, and 2000 people on Little Andaman and 1500 on Havelock island evacuated. Mayabunder and Portbalir recorded heavy rainfall of 243 mm and 293 mm respectively in 24 hours as the cyclone made landfall. Four flights originating from Chennai bound to Portbalir were cancelled due to the cyclone on 25 November while 110km/h winds hit the island.

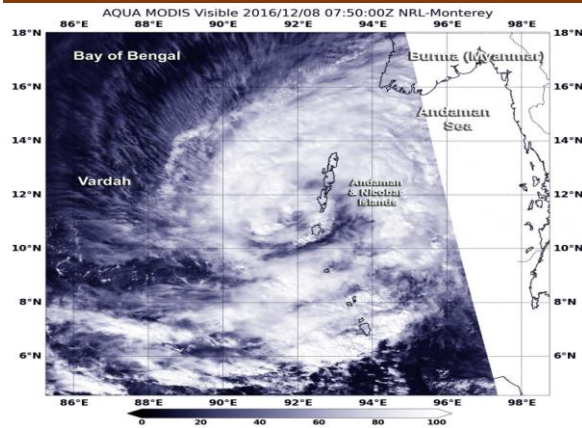
Cyclone Vardah

The Bay of Bengal developed a depression about 320 Kmart southeast of Vishakapatnam on December 6 and issued a bulletin. Starting that Andaman and Nicobar archipelago would be lashed by heavy rainfall in the next two days. It also mentioned in the release that the storm is likely to intensify into a deep depression during next 24 hrs and into a cyclones storm in subsequent 24 hrs. As NASA a Aqua satellite passed over the Bay of Bengal on December it saw Vardah spinning near Andaman Islands on December 8, 2016.

The tropical cyclone 0.5B was the renamed Vardah which conruined moving away from the Andaman and Nicobar islands. The name of sever cyclonic storm 'Vardah ' has been given by Pakistan which means 'redrose '

As per report the name of cyclones in the Indian ocean region are decided by member countries India, Sri Lanka, Bangladesh, Thailand, Myanmar, Maldives, Oman.





IMPACTS

The Andaman and Nicobar islands hit by torrential rains and witnessed flood like situation in since December 5 . The incessant rainfall triggered a fear of tropical cyclone Vardah in the region.⁸

The Havelock and Neil islands in Andaman and Nicobar Islands received incessant rainfall were 2376 tourist were stranded due to deep depression formed over Bay of Bengal when later intensified into cyclones storm Vardah. these two islands in Andaman are famous for tourists attraction and have been the worst hit. Havelock has been lashed by over 300mm of rain since the depression developed.

After request from the Andaman and Nicobar Disaster Management the Indian Army pressed info service a fleet of six Indian Navy Ships, Three Coast Guard Vessels. The tourists were evacuated to Portblair.

Cyclone Phailin

Extremely severe cyclonic storm Phailin was most intense tropical cyclone to make landfall in India. The system was first noted as a tropical depression on October 4, 2013 with the Gulf of Thailand over the next few days it moved westward within an area of low to moderate vertical wind shear, it moved out of the western pacific base on October 6. It emerged into the Andaman sea during the next day and moved westward northwest. Development before the system was named Phailin on October9. After developed into a cyclonic storm and passed over the Andaman and Nicobar Islands into the Bay of Bengal.

Impact

On October 8, the IMD warned the Andaman and Nicobar Islands that squally to gale-force wind speeds would be recorded over the islands and surrounding sea areas during the next two days.They also warned that heavy to very heavy rainfall would occur over the islands while some damage to thatched huts, power and communication lines was expected.These



warnings were continued until October 11, when the IMD noted that no further adverse weather, would occur over the Andaman and Nicobar Islands. Within the islands the Directorate of Health Services opened a Medical Camp in Rangat, while the Deputy Commissioner, Police and Fire Services all ensured there were no casualties. Between October 8–10, rainfall totals of 734 mm (28.9 in) and 434 mm (17.1 in) were recorded in Mayabunder and on the Long Island

Cyclone Yaas

A low pressure area formed over central parts of south Bay of Bengal on March 15 is likely to intensify into a cyclonic storm near Andaman and Nicobar Islands by March 21, the India Meteorological Department (IMD) said. Rainfall warnings have been issued over south Andaman sea and Andaman and Nicobar Islands between March 18 and 22, and wind warnings have been issued from March 16 to 23. The IMD has suggested total suspension of fishing and tourism activities from March 19 to 22, and suspension of off-shore activities from March 20 to 22.

On March 18, light to moderate rainfall/thundershower at most places with heavy rainfall at isolated places is very likely over south Andaman Sea, while on March 19, very heavy rainfall is also predicted at isolated places over south Andaman Sea. On March 20 and 21, light to moderate rainfall/thundershower are expected at most places with heavy to very heavy rainfall at a few places and extremely heavy rainfall at isolated places over Andaman and Nicobar Islands. On March 22, light to moderate rainfall/thundershower at most places with heavy to extremely heavy rainfall at isolated places very likely over Andaman Islands.

The low pressure area is likely to move east-northeastwards and become a well marked low pressure area over the southeast Bay of Bengal and adjoining south Andaman Sea around March 19 morning. After that, it is likely to move north-northwestwards along and off Andaman and Nicobar Islands and intensify into a depression by March 20 morning, and into a cyclonic storm on March 21. It would continue to move north-northwestwards till March 22, and then move north-northeastwards and reach near Bangladesh and adjoining north Myanmar coast by morning of March 23, IMD said.

Fishermen have been advised not to venture into central parts of south Bay of Bengal and adjoining Equatorial Indian Ocean on March 16, and into southeast Bay of Bengal and Andaman Sea area areas during March 17 and 18. They have also been advised not to venture into southeast Bay of Bengal from March 19 to 21, and into Andaman Sea and along and off Andaman and Nicobar Islands from March 19 to 22. Fishermen have been advised not to venture into east central Bay of Bengal from March 21 to 23, and into northeast Bay of Bengal on March 22 and 23.

IMPACTS

The IMD has said that impact from the depression could include localised flooding of roads, inundation and water logging in low lying areas, possible damage to vulnerable structures, localised landslides/mudslides and damage to crops.



CONCLUSION

Cyclones are the natural calamities That strike as violent strong and grievous weather conditions caused by the disturbance in the atmosphere. They lead to great devastation. The effect of a cyclone is terrible as it destroys everything in its wake people are left homeless and helpless. Tropical cyclone can produce a coastal storm surge a huge volume of water driven ashore at high speed and with immense force that can wash away structure in its path and cause significant damage to coastal environment.

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