

A Study of Nivar Cyclone and Its Impact in the Coastal and North Interior in Tamil Nadu, Pondicherry and Karaikal

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ABSTRACT

This Paper discussed an overview of the Cyclone Nivar, 2020 in over coastal and north interior Tamil Nadu, Pondicherry and Karaikal. The cyclone is mainly raised from the North East monsoon period of December. The cyclonic storm Nivar has crossed the coast near Pondicherry, triggering heavy winds and rainfall activity in the neighboring areas. Nivar will cross the coast near Pondicherry with a wind speed of 120-130 kmph, gusting up to 145 kmph. "Very severe cyclonic Storm NIVAR: Center lies over Land. Crossed coast near Pondicherry during 2330 of 25th Nov-0230 IST of 26th Nov," This study is analyzed the Nivar cyclone affected areas, Cyclone damage details, by Nivar. The study is descriptive in nature and is based on secondary data. The cyclone details were collected from various reports, research paper from SSRN, Google Scholar internet sources and News Paper.

Keywords: Nivar, cyclone, North East monsoon, Agriculture damages, and road ways damages, Tamil Nadu, Pondicherry and Karaikal.

INTRODUCTION

Historically, November has always been a month for the formation of cyclones, especially in the Bay of Bengal. In the last 129 years, 123 cyclones have formed in the Bay of Bengal in the month of November out of a total 524 cyclones — a staggering 23.5 percent¹Nivar is the third cyclone to hit Indian coasts this year, preceded by Amphan and Nisarga²The cyclone crossed the coast on November 26 between Tamil Nadu and Puducherry, causing damage in 18 districts including Cuddalore, Ariyalur, Chengalpattu, Chennai and Tiruvannamalai³.The state government has estimated that around 9,687 hectares of agricultural and horticultural crops had been damaged by the storm, including 5,950 hectares of matured paddy crop in districts like Cuddalore, Kancheepuram, Chengalpattu and Tiruvannamalai⁴.

OBJECTIVES OF THE STUDY

1. To study the Agriculture damages
2. To study the road ways damages
3. To study the Biological damages

METHODOLOGY

The study is descriptive in nature and is based on secondary data. The data are collected from various reports, research paper from SSRN, Google Scholar internet sources and News Paper.

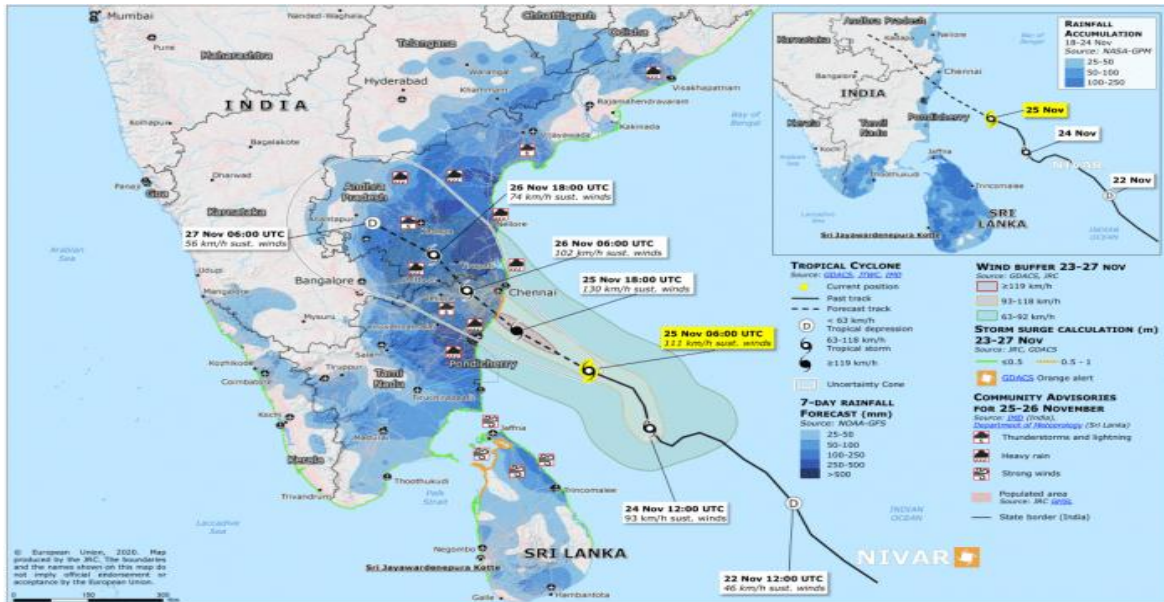
CYCLONE NIVAR

Cyclone Nivar, (pronounced Nivaar, meaning atmosphere)⁵Nivar originated from a disturbance in the Intertropical Convergence Zone. The disturbance gradually organized and on November 23, both the Joint Typhoon Warning Center (JTWC) and the India Meteorological Department (IMD) reported that a tropical depression had formed⁶ Government officials called the approaching Cyclone Nivar a "very severe cyclonic storm" which will bring high winds and flooding that will destroy homes⁷.

NIVAR CYCLONE AFFECTED AREAS

The districts of Pudukkottai, Nagapattinam, Cuddalore, Villupuram, Thanjavur, Chengalpet, Ariyalur, Perambalur, Kallakurichi, Tiruvannamalai, and Tiruvallur in state ar on alert. Within the neighbouring UT, Poducherry and Karaikal are on alert. The regions of coastal Andhra Pradesh, south interior Karnataka, Rayalseema, South Chattisgarh, and South Odisha are seemingly to be affected.

Image 1:Emergency Response Coordination Centre (ERCC) – DG ECHO Daily Map



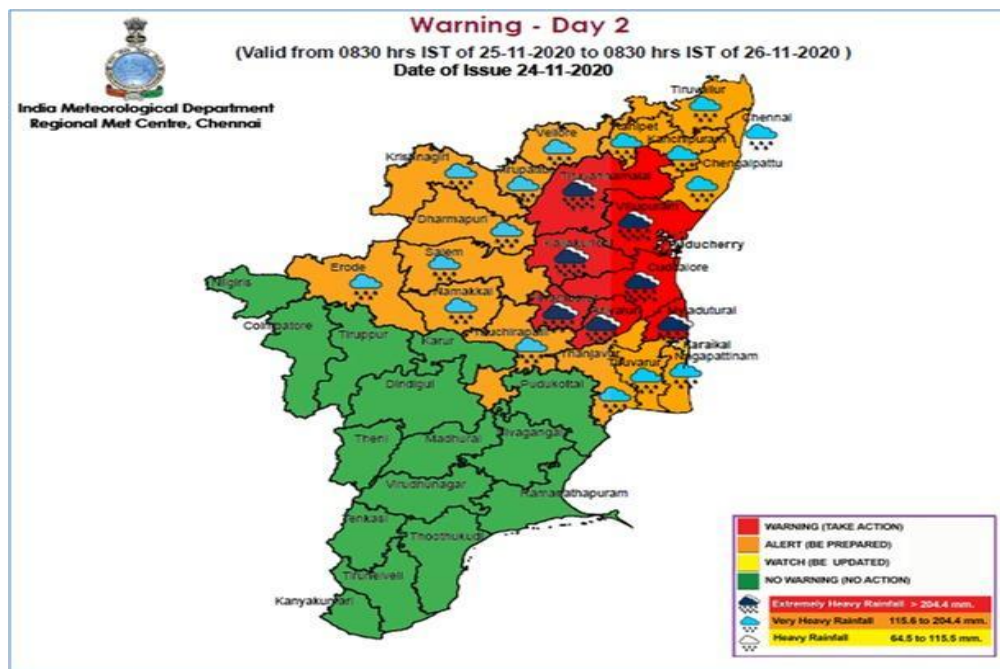
Source: <https://reliefweb.int>

Image 2: Maps of Cyclone –Forecast maps



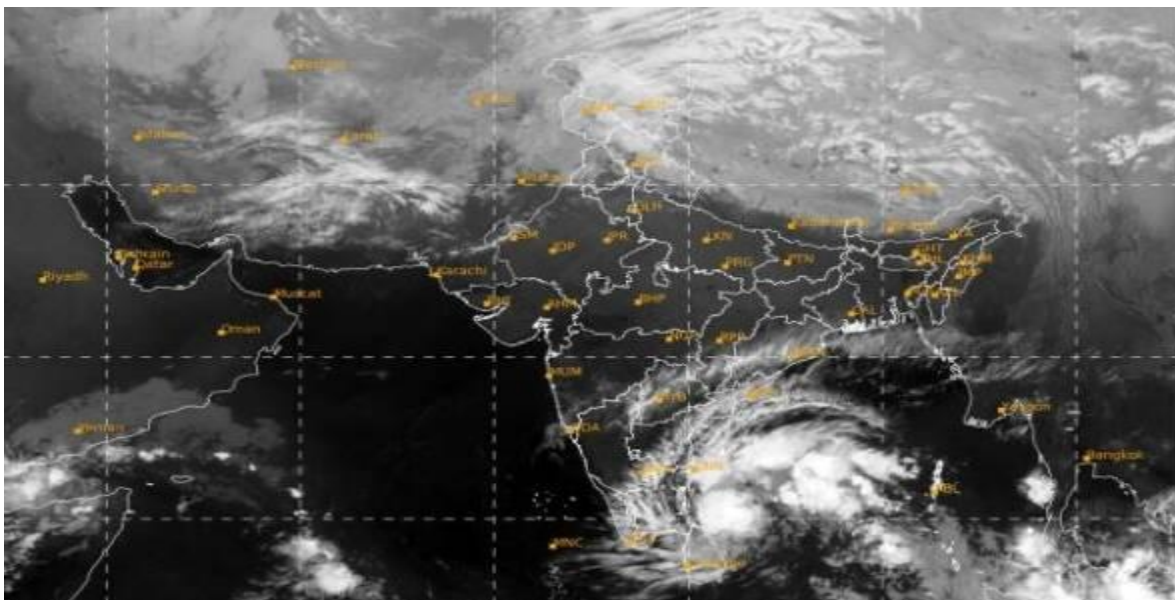
Source: <https://en.somoynews.tv>

Image 3: Maps of Nivarcyclone-Warning maps



Source: <https://www.newindianexpress.com/>

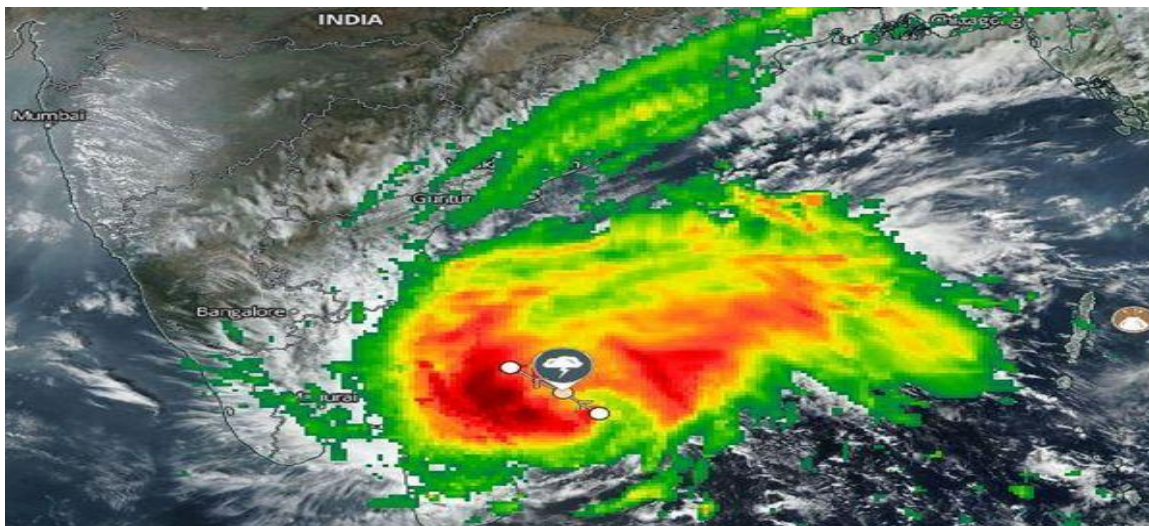
Image 4: Satellite image of Cyclone Nivar



Source: IMD

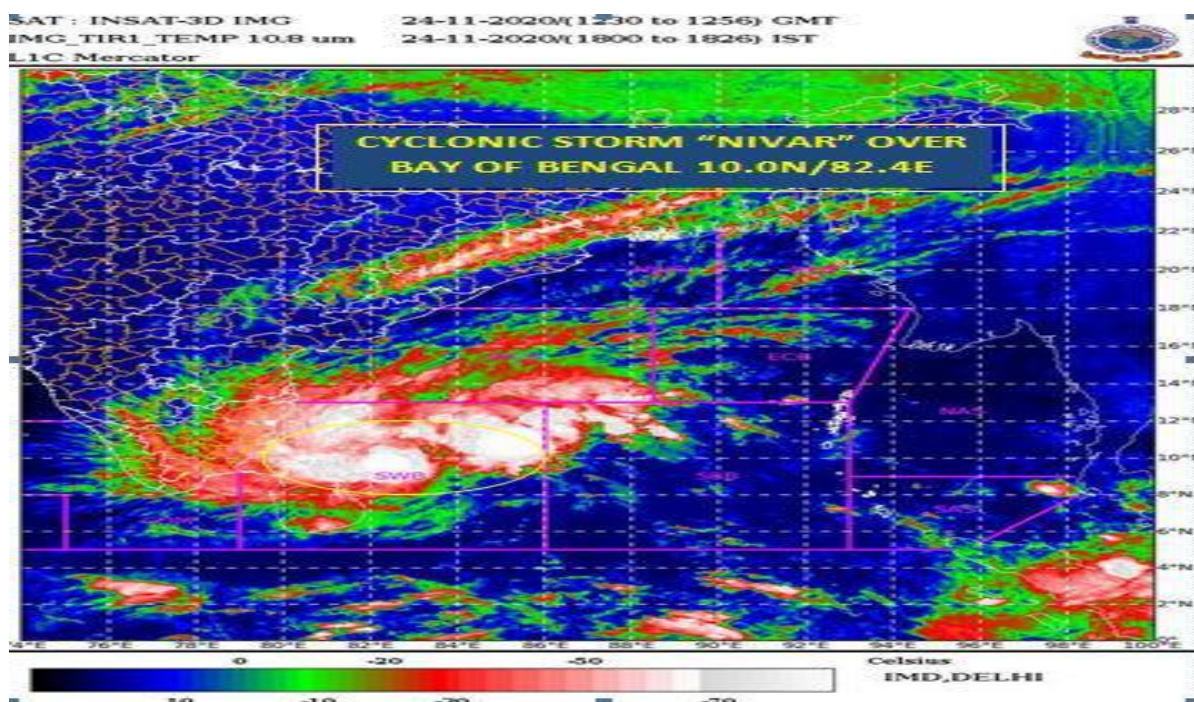
“It is expected to hit Tamil Nadu coast on Wednesday afternoon. The projected track indicates its landwards crossing between Karaikal and Mamallapuram near Pondicherry as a severe cyclonic storm (100 to 110 km/ hr gusting to 120 km/hr)⁸

Image 5: Satellite image of Cyclone Nivar from NASA



Source: <https://www.timesnownews.com>

Image 6: Satellite image of Cyclone Nivar from IMD India



Source: IMD

Cyclone Nivar crossed Tamil Nadu and Pondicherry coast between 11.30 pm and 2.30 am as a very severe cyclonic storm^{4,9}. The cyclonic storm Nivar has crossed the coast near Pondicherry, triggering heavy winds and rainfall activity in the neighboring areas. It brought very heavy rainfall in Pondicherry (237 mm), Tamil Nadu's Cuddalore town (237 mm), and state capital Chennai¹⁰

VERY HEAVY RAINFALL WARNINGS

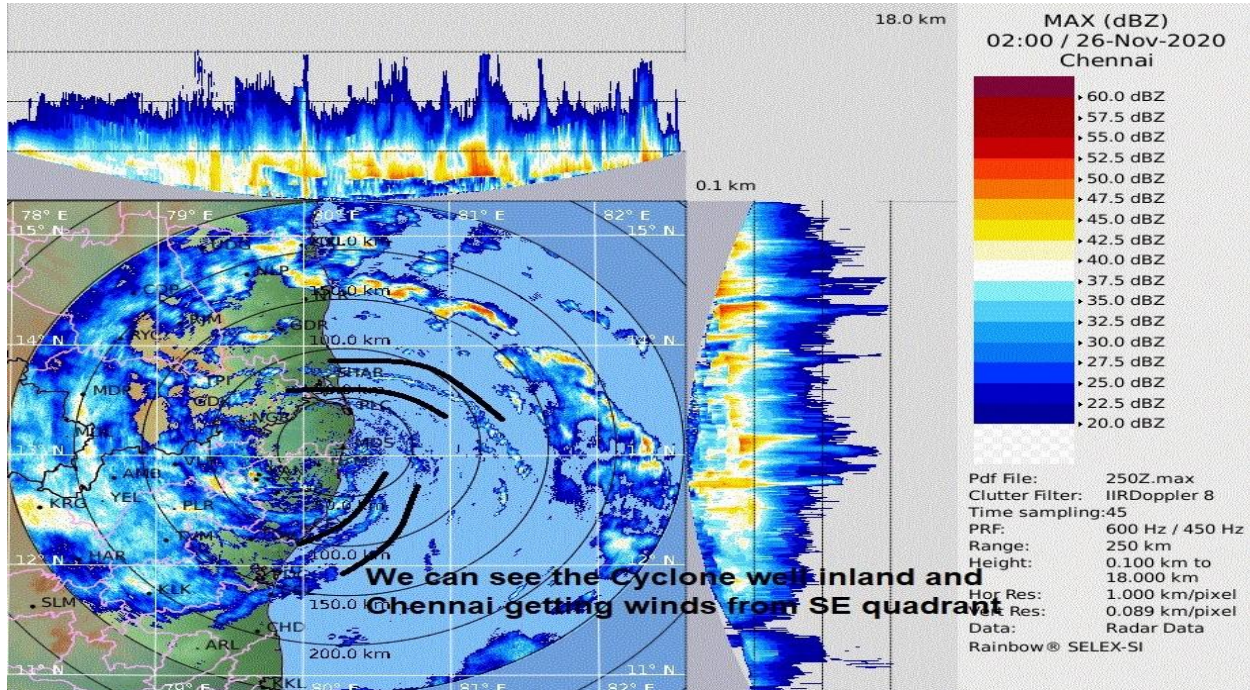
Rainfall Under its influence, the rainfall activity is likely to increase over south peninsular India from 23rd November onwards with fairly widespread to widespread rainfall/thunderstorm activity over Tamil Nadu, Pondicherry & Karaikal during 24th to 26th November and over south Coastal Andhra Pradesh, Rayalaseema & Telangana during 25th to 26th November, 2020. Isolated extremely heavy rainfall activity is also very likely over Tamil Nadu & Pondicherry during 24th & 25th and over south Coastal Andhra Pradesh & Rayalaseema on 25th & 26th and over Telangana on 26th November, 2020¹¹

Table 1: Rainfall Warnings

Sub-Divisions	23 Nov 2020*	24 Nov 2020*	25 Nov 2020*	26 Nov 2020*
Coastal Andhra Pradesh	Rainfall at isolated places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at most places with isolated heavy to very heavy with extremely heavy falls	Rainfall at most places with isolated heavy to very heavy with extremely heavy falls
Tamilnadu, Puducherry & Karaikal	Rainfall at many places with heavy rainfall at isolated places	Rainfall at most places with heavy to very heavy rainfall with extremely heavy falls at isolated places	Rainfall at most places with heavy to very heavy rainfall at a few places and extremely heavy falls at isolated places	Rainfall at many places with heavy rainfall at isolated places
South Interior Karnataka	Rainfall at isolated places	Rainfall at a few places	Rainfall at a few places with heavy rainfall at isolated places	Rainfall at a few places
Rayalaseema	Rainfall at isolated places	Rainfall at many places with isolated heavy falls	Rainfall at most places with heavy to very heavy rainfall with extremely heavy falls at isolated places	Rainfall at most places with heavy to very heavy rainfall with extremely heavy falls at isolated places
Telangana	DRY	Rainfall at isolated places	Rainfall at a few places with isolated heavy falls	Rainfall at most places with heavy to very heavy rainfall with extremely heavy falls at isolated places

Source: <https://newsstation.media/>

Image7: Rainfall from Cyclone Nivar



Source: <https://www.tamilnaduweatherman.in>

During landfall that started at 11.30 p.m. on Wednesday night and lasted till 2.30 a.m. on Thursday, Nivar dumped extremely heavy rainfall in the coastal areas. Tambaram, a southwestern suburb of Chennai, recorded the highest rainfall at 31 cm, followed by Puducherry at 30 cm, Cuddalore, 27 cm, and Chidambaram 13 cm. In Chennai city, Nungambakkam recorded 11 cm, and Poonamallee and Taramani 10 cm each till 6.30 a.m.¹²

PRECAUTIONARY MEASURES

Over two lakh people were evacuated in the coastal districts to safety and accommodated at 3,085 relief camps. There were 921 permanent medical camps and 234 mobile medical camps and relief centres in various districts, including Nagapattinam, Cuddalore and Villupuram districts. Food, water and all other essentials including masks to help prevent coronavirus have been made available to them in the relief centres¹³ Life came to a standstill as electricity supply was interrupted in several parts of Chennai and other districts as hundreds of trees and electricity poles were uprooted¹⁴

CYCLONE DAMAGE DETAILS IN TAMIL NADU

“Cyclone Nivar damaged agriculture and horticulture crops on 16,500 hectares. But cyclone Burevi caused more damage. As per preliminary estimates, standing crops on about 1.5 lakh hectares have been inundated¹⁵ the cyclone felled about 400 trees. On crop loss, the data said that nearly 14 acres of banana trees were damaged; 331 acres of groundnut and 245 hectare of paddy¹⁶

Image 8: Nivar cyclone damages



Sources: <https://www.dw.com/><https://www.newindianexpress.com/>
<https://www.freepressjournal.in/><https://www.thehindu.com/>

Image 9: Agricultures Damaged by Cyclone Nivar



Sources: <https://www.newindianexpress.com/>



Source: <https://timesofindia.indiatimes.com>



Sources: <https://tamil.krishijagran.com/>



Source: <https://krishijagran.com/>

The affected areas include regions from Kanchipuram (750 ha), Thiruvallur (2,225 ha), Cuddalore (1,335 ha), Villupuram (1,205 ha), Tiruvannamalai (958 ha), Chengalpattu (2,760 ha), and Ranipet (235 ha)

CONCLUSION

Since December 2015, Chennai residents have lived in worry of a monsoon disabling life as they understand it. For the residents of Northern Province, it had been the memory of Cyclone Thane; for the Cauvery delta region, that worry was elicited when Cyclone Gaja; and for southern province, it had been Cyclone Ockhi that placed the worry in people's minds. Over the previous couple of years, Tamil Nadu has suffered a lot from the assault of weather systems.

In distinction, last week's Cyclone Nivar appeared so much less harmful. Nivar that created landfall close to Marakkanam within the early hours of November 26 did leave elements of the State beneath water, inflicting injury to lives and property. However the impact was minimized not solely attributable to the means the storm blew however conjointly as a result of government agencies and disaster management groups were higher ready.

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