

RAINCHNNAI

FUTURES CONTRACT

Completing India's Monsoon Risk
Management Cycle With RAINMUMBAI.

SEBI - Regulated

IMD Data-Driven

Knowledge Partner : IIT Bombay



FAQs

(Frequently Asked Questions)

(Questions related to RAINCHNNAI)

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Background

1. What is meant by weather derivatives?

Weather derivatives are financial instruments that can be used by organizations or individuals as part of a risk management strategy to reduce risk associated with adverse or unexpected weather conditions. A weather derivative has an underlying measure such as rainfall, temperature, humidity, or snowfall.

2. What is rainfall-based derivative?

It is a type of weather derivative and financial instrument whose payoff depends on actual rainfall recorded at a defined location during a specific period.

3. How rainfall is defined on any particular day?

Rainfall for any given day is defined as the total cumulative rainfall measured during the 24-hour period ending at 8:30 am on that day. For instance, the rainfall for September 5, 2026 is the accumulated rainfall recorded from 8:30 am on September 4, 2026 up to 8:30 am on September 5, 2026.

Rainfall is measured using rain gauges or automatic weather stations (AWS) installed at specific locations; therefore, rainfall represents the precipitation recorded at that exact location. For example, “rainfall at Meenambakkam Station or rainfall over Meenambakkam Station” refers to the measurement captured by the Meenambakkam rain gauge installed at Meenambakkam station of Indian meteorological department (IMD) or any other exchange specified agency.

The standard unit of rainfall measurement is millimetres (mm), which basically represents the depth of water collected in the gauge.

Note: Even if a portion of the 24-hour period falls on the previous calendar day, the entire 8:30 am–to–8:30 am measurement is attributed to the current day’s rainfall value as per IMD standards.

4. Why are weather derivatives needed in India?

The northeast monsoon is a critical determinant of India’s macroeconomic performance, accounting for nearly 25-30% of annual rainfall between September & December. Monsoon outcomes significantly influence economic planning, policy decisions, and business expectations. Increasing weather variability—especially in rainfall—has emerged as a key risk factor affecting multiple sectors such as agriculture, power, construction, logistics, tourism, and insurance.

Currently, weather risk mitigation in India primarily relies on insurance products (e.g., crop and motor insurance) and government support mechanisms. However, these solutions have limited coverage, involve complex procedures, and often require administrative intervention to assess losses. Insurance payouts are triggered only when predefined thresholds are breached, while government relief is largely confined to catastrophic events and to the agricultural sector. As a result, most corporates and non-farm participants remain inadequately protected against weather-related financial risks.

Weather derivatives can address these gaps by offering a market-driven, transparent, and faster risk management solution. Based on objective and verified weather data, they enable farmers, businesses, and institutions to freely hedge weather risks without the need for loss assessment or government intervention, making them a complementary and more effective financial instrument for India’s evolving climate risk landscape.

5. What are the benefits of weather derivatives?

Effective Hedging - Weather derivatives help businesses hedge against financial losses caused by adverse or unexpected weather conditions (e.g., drought, excess rainfall, extreme temperatures). This stabilizes earnings and reduces weather related risk exposure.

Improved Earnings and Cost Stability - By offsetting weather driven revenue shortfalls or cost overruns, weather derivatives reduce volatility in cash flows, supporting more predictable financial performance.

Better Budgeting and Forecasting - They enable firms to plan budgets more accurately by transferring weather uncertainty to the market, improving financial planning and liquidity management.

Enhanced Risk Management - Weather derivatives form part of an integrated risk management framework, helping organizations identify, quantify, and mitigate weather related operational and financial risks.

Price and Market Stability - By reducing uncertainty for weather dependent sectors (such as agriculture, energy, and utilities), they contribute to more stable commodity prices and supply planning.

Encouragement of Investment - Lower exposure to weather variability makes weather sensitive sectors more attractive to investors, supporting long term investment and growth.

Improved Decision Making and Resource Allocation - Market based pricing of weather risk provides valuable signals for operational decisions, such as crop selection, planting schedules, inventory planning, and capacity utilization.

Global Connect

6. Are weather derivatives widely used globally, and how does India's move compare?

Yes, Weather derivatives are already traded and widely used in several international markets, through both regulated exchanges and over-the-counter (OTC) markets and are commonly linked to parameters such as temperature, rainfall, and snowfall. They are most prominently traded on the Chicago Mercantile Exchange (CME Group) where they offer standardized futures and options contracts based mainly on temperature based indices (Heating Degree Days and Cooling Degree Days), for multiple cities across the U.S., Europe, Japan and parts of Asia.

India's introduction of such instruments marks an important step in aligning with global practices in weather risk management.

7. How does RAINCHNNAI compare to CME weather futures in the US?

The CME's HDD (Heating Degree Days) and CDD (Cooling Degree Days) futures — introduced in the US in 1997 — are based on temperature deviations in major American cities. RAINCHNNAI like RAINMUMBAI adapts this proven concept for India's monsoon-driven climate risk, using rainfall deviation (CDR) instead of temperature deviation, and targeting sectors where rainfall — not temperature — is the primary economic driver.

8. Why is the introduction of weather derivatives significant for India's financial ecosystem?

Weather derivatives provide a structured mechanism for businesses to manage financial risks arising from unpredictable weather conditions. As climate variability increases, such instruments can play a critical role in improving risk resilience, stabilising revenues, and enabling better financial planning across sectors.



#TradeRain on RAINCHNNAI

9. What exactly is RAINCHNNAI?

Weather derivatives provide a market-based mechanism through which participants can potentially manage financial exposure arising from rainfall variability.

RAINMUMBAI was introduced as India's first exchange-traded weather futures contract; RAINCHENNAI represents the proposed expansion of this concept to another major rainfall geography and pattern in India which is retreating monsoon season. It is also SEBI-approved weather futures contract, listed on NCDEX. It is based on the Cumulative Deviation Rainfall (CDR) — a daily measure of how much Chennai's actual monsoon rainfall deviates from its 50-year historical average (Long Period Average or LPA of 998.25 mm). Contracts are available for each of the four monsoon months: September, October, November, December.

10. Is RAINCHNNAI insurance?

No. RAINCHNNAI is fundamentally different from insurance. Insurance requires proof of loss (e.g., a government declaration of flood or drought) and covers physical damage. RAINCHNNAI settles purely on actual IMD rainfall data — no declaration of loss is required. It hedges volume, income, and operational risk, not physical damage. Think of it as a complement to, not a replacement for, insurance coverage.

11. How does RAINCHNNAI differ from existing crop insurance schemes like PMFBY or WBCIS?

PMFBY (Pradhan Mantri Fasal Bima Yojana) and Weather Based Crop Insurance Scheme (WBCIS) cover physical crop damage and require administrative loss assessment. They address damage, not income volatility.

RAINCHNNAI hedges against revenue and volume impact caused by rainfall deviation — even when there is no physical crop loss. It is also exchange-traded, transparent, instantly liquid, and requires no government intervention for settlement.

12. Where does the rainfall data come from? Can I trust it?

The settlement data is sourced exclusively from IMD's surface rainfall observations at two base stations — Meenambakkam and Nungambakkam — both in Chennai. These are manually recorded by IMD officials using calibrated, standardised instruments and have 97–100% data availability.

Surface observations are preferred over automated AWS data for their superior governance, historical continuity, and reduced equipment noise. It is the same data used for national weather advisories and is fully trustworthy.

13. Can the data be manipulated?

No, it is the same data used for national weather advisories.

14. Does RAINCHNNAI predict or guarantee specific rainfall outcomes?

Absolutely not. RAINCHNNAI does not predict weather. The product settles on actual IMD-recorded rainfall data. Its purpose is risk management — allowing participants to hedge their financial exposure to rainfall variability, not to speculate on weather forecasts. NCDEX does not promise any specific settlement outcome.

15. Who should BUY RAINCHNNAI contracts?

Buyers are entities negatively impacted by adverse rainfall conditions. In a drought (deficit rainfall) scenario: farmers and FPOs facing yield loss, agri-processors worried about raw material shortages, banks with agri-loan exposure facing higher

NPA's, and power distributors facing higher spot market procurement costs. In an excess rainfall scenario: construction companies facing project delays, beach resorts and outdoor tourism operators, and airlines facing operational disruptions.

16. Who should SELL RAINCHNNAI contracts?

Sellers are entities that benefit from, or are neutral to, the weather condition being hedged. In excess rainfall: hydropower generators benefiting from higher water inflow, water-intensive industries like cement and beverages. In deficit rainfall: solar power producers benefiting from more sunshine, outdoor event organizers, and financial institutions acting as market makers and providing liquidity.

17. Can retail investors participate in RAINCHNNAI?

Yes. RAINCHNNAI is accessible to retail participants through registered commodity members on NCDEX, similar to how retail investors trade commodity futures. Corporate employees, stockbrokers, small business owners, and other individuals with weather-linked income or business exposure may participate. As always, participants should consult their financial advisor to assess whether the product suits their risk profile.

18. Is RAINCHNNAI purely for hedgers, or can it be used for speculation?

RAINCHNNAI is designed primarily as a risk management (hedging) instrument for entities with genuine weather-linked economic exposure. However, like all exchange-traded futures contracts, it can also be accessed by market participants — including financial institutions and proprietary traders — who act as liquidity providers and market makers. Speculation without underlying exposure carries its own risks and should be approached with caution.

19. Why was Chennai chosen as the next city after pilot city Mumbai?

Chennai was selected based on four key criteria:

I.Strong data backbone — IMD's Chennai observatories at Nungambakkam and Meenambakkam offer 97–100% data availability;

II.High rainfall concentration and value at risk — The Northeast Monsoon contributes about 30% of annual rainfall across India and especially concentrated in Southern part of India; Chennai is especially dependent on this season, receiving approximately 68–70% of its annual rainfall during the September–December i.e majority in Northeast Monsoon window. This concentration creates material weather-linked exposure for manufacturing, automotive, IT, port, logistics and services sectors across southern part of India.

III.High variability and hedging relevance — Chennai's short, intense Northeast Monsoon window, including exposure to heavy-rainfall and cyclone-related events, can cause significant deviations from normal rainfall, supporting meaningful price discovery and weather-risk hedging

20. How is it different from Monsoon Index?

Monsoon Index pooled data from many sources, was based on actual rainfall data and hence couldn't be negative. Further, it did not have futures contract.

RAINCHNNAI is not an index, as it is location specific with data source being IMD only. It has Futures contract.

21. How is RAINCHNNAI different from RAINMUMBAI?

RAINMUMBAI	RAINCHNNAI
Based on Mumbai's Southwest Monsoon rainfall exposure	Based on Chennai's Northeast Monsoon rainfall exposure.
India's first rainfall futures contract; Mumbai; June–September; seasonal LPA 2,206.7 mm.	Completing India's monsoon risk management cycle. Chennai; September–December; working seasonal LPA 998.25 mm.

Both use the underlying concept of cumulative rainfall deviation and cash settlement.

22. Can RAINMUMBAI and RAINCHNNAI be used together?

Potentially, yes.

Since the two contracts represent different rainfall geographies and seasons, participants with exposure across both cities or across different rainfall-sensitive businesses could potentially use the two contracts as part of a broader weather-risk management strategy.

METHODOLOGY AND CONTRACT DETAILS

23. What is the contract launch calendar for weather derivatives?

NCDEX has launched four futures contract under Chennai Rainfall with expiry at the end each monsoon season month i.e. September, October, November, December.

24. How does the CDR index work?

The CDR (Cumulative Deviation Rainfall) index starts at the Chennai Monsoon Season LPA of 998.25 mm on Day Zero. Each day, IMD's actual rainfall reading is compared to the historical daily LPA for that date. The difference (deviation) is added to or subtracted from the running CDR spot value. If Chennai receives more rain than normal, the spot rises; if less, it falls. The spot is updated daily at approximately 9:15 AM using IMD surface data from the Meenambakkam and Nungambakkam weather stations.

25. What is the lot size and how are profits/losses calculated?

The multiplier is Rs. 50 per millimetre (mm) of rainfall deviation. Each 1 mm movement in the CDR spot equals Rs. 50 per lot. Maximum order size is 50 lots per trade. For example, if a company shorts 38 lots at starting spot of 998.25 and the CDR spot falls by 259 mm (a 10% rainfall deficit), the P&L from futures would be approximately Rs. 19.7 lakh —**How is the contract settled?**

RAINCHNNAI contracts are cash-settled. No physical delivery is involved. On the expiry day (the calendar day immediate after the last trading day of expiry month), the Final Settlement Price (FSP) equals the CDR spot value as published by NCDEX. All open positions are automatically closed and cash-settled on a T+2 basis at the FSP. There is no tender obligation, no warehousing, and no delivery complexity.

26. What is the minimum margin requirement?

The minimum initial margin is 10% of the contract value. The daily price limit (DPL) starts at 6%, with an enhanced slab of an additional 3% (aggregate DPL of 9%) if the initial limit is breached, after a 15-minute cooling-off period during which trading continues within the previous slab.

27. What trading hours apply to RAINCHNNAI?

Trading is available Monday through Friday, from 10:00 AM to 11:30 PM / 11:55 PM IST (as notified by NCDEX from time to time). NCDEX reserves the right to vary trading hours with due notice.

28. What is the position limit for participants?

Member-wise position limit: 4,00,000 lots or 20% of the market-wide open interest, whichever is higher. Client-wise position limit: 40,000 lots or 5% of the market-wide open interest, whichever is higher. Additional special margins may be imposed by SEBI or the Exchange in cases of unusual price movement or volatility.

29. What is Long Period Average (LPA) or Normal?

Long Period Average (LPA) refers to IMD's climatological normal computed over a 50-year reference period (currently 1971–2020). LPA is calculated separately for each station/location and also for each day which denotes the expected or climatologically normal rainfall for each calendar day at that location, expressed in millimeters.

For example, the LPA for 1 June at IMD Meenambakkam is derived by averaging the rainfall recorded on 1 June for each year from 1971, 1972, ... up to 2020. This approach ensures consistency in long term climate comparison.

30. What happens if rainfall exactly matches the Long Period Average (LPA)?

If actual rainfall matches the LPA exactly, the net deviation becomes zero. In such a scenario, the spot value remains unchanged from the applicable anchor level, and gains or losses on the contract depend on the participant's entry price relative to the Final Settlement Price.

31. What determines the futures price during the trading period?

The futures price reflects:

- Market expectations of rainfall deviation from LPA
- Updated weather forecasts from meteorological agencies
- Progress of actual rainfall during the contract month
- Demand and supply of risk among market participants
- Prices are discovered through normal exchange-based trading mechanisms.

32. Is daily rainfall volatility expected to impact futures prices?

Yes. As new rainfall data and updated forecasts become available, market participants may reassess expectations, which can lead to price movements in futures contracts. However, settlement depends only on the final cumulative deviation at expiry, not on intraday spot changes.

33. What is the delivery logic of the contract?

The contract is cash settled contract. The rainfall-based derivative is a purely cash-settled contract. There is no physical delivery, storage, transportation, or quality-related obligation involved at any stage of the contract lifecycle.

34. What happens on contract expiry if it is a holiday?

NCDEX has defined rules for holiday-adjusted expiry. For example, if the last calendar day of September (September 30) is a holiday, the Last Trading Day shifts to the business day immediately preceding the last calendar day,. Seven specific scenarios covering various holiday combinations are defined in the Spot methodology document available on NCDEX website to ensure clear, unambiguous settlement.

35. What are the costs applicable for trading in this contract?

Particulars	Amount
Exchange delivery charges	Not Applicable
Other delivery charges	Not Applicable
CTT	Applicable
Transaction charges	The transaction charges will be applicable at flat rate of Rs. 5.80 per lakh of trade as per the NCDEX Circular No. NCDEX/TRADING-042/2024 dated September 27, 2024.
RMF	As per circular no. NCCL/FINANCE-003/2021, dated March 09 2021, Risk Management Fee at Rs. 5 per lakh on the value of every fresh overnight open interest position created in contracts shall be applicable.
Delivery default penalty	Not Applicable, Cash Settled Contract.

36. Where can I access RAINCHNNAI and get more information?

The following key information is available on www.ncdex.com.

- Detailed Methodology for Chennai Rainfall Spot Calculation
- Real time daily cumulative rainfall data, updated at 15 minute intervals, sourced from Automatic Weather Station (AWS) data
- External links to reputed meteorological agencies providing weather forecasts for Chennai

Daily Long Period Average (LPA) rainfall values, for reference and comparison

RAIN DOESN'T HAVE TO BE PREDICTABLE TO BE MANAGEABLE.

RAINCHNNAI

Futures Contract

Trade Rain. Manage Risk.



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