Nxtra by Airtel Climate-Related Physical Risk Assessment Report Aligning with TCFD Recommendations

About the Report

This document outlines Nxtra by Airtel's methodology and findings from its climate-related physical risk assessment, conducted to evaluate vulnerabilities across its data center operations. The analysis adheres to the Task Force on Climate-related Financial Disclosures (TCFD) framework, focusing on acute and chronic risks under IPCC scenarios SSP2-4.5 and SSP5-8.5. The report integrates geospatial tools, historical climate data, and site-level assessments to prioritize and strengthen adaptation measures and resilience planning.

About the Company

Nxtra by Airtel is a leading force in India's digital infrastructure landscape, offering a secure, scalable, and sustainable platform of 14+ hyperscale/core and 120+ edge data centers across 7 major markets and 65 cities. This interconnected network empowers enterprises—spanning global and domestic corporate, government and PSUs, cloud and OTT providers, ISPs, and IXs—to build differentiated, future-ready IT architectures that enhance performance and user experience. Designed to support long-term strategic growth, Nxtra by Airtel's state-of-the-art campuses offer vertical and horizontal scalability to accommodate data centers, NDR/DR sites, availability zones, service PoPs, and edge nodes—all seamlessly integrated with Airtel's on-net telecom infrastructure, geo-redundant fiber, and dense domestic and global connectivity.

With 20+ years of experience in managing critical infrastructure and AI-embedded tools ensuring 24/7 uptime, Nxtra delivers unmatched reliability and operational excellence. Aligned with India's digital and AI mission, we are doubling our power capacity from 220 MW to 450 MW in the next three years. Committed to sustainability, our facilities run on renewable energy and are built to green building standards—positioning Nxtra as the preferred, converged ICT partner in the digital era.

Reporting Boundary

Operational Coverage: All existing and upcoming hyperscale/core data centers across India

Risk Categories

Acute Risks: Cyclones, floods, extreme precipitation etc.

Chronic Risks: Temperature rise, water stress, sea-level rise etc.

Data Sources: IPCC projections, IMD historical records, geospatial risk-mapping tools etc.

Climate Scenario Analysis

Scenario Definitions:

Scenario	Description	Temperature Projection (2100)	Key Characteristics
SSP2-4.5	Intermediate emissions pathway with moderate mitigation efforts.	~2.7°C rise	Gradual transition to renewables; increased policy focus on adaptation.
SSP5-8.5	High-emissions pathway with limited mitigation.	~4.4°C rise	Accelerated fossil fuel dependence; extreme weather frequency doubles by 2050.

Risk Assessment Methodology:

As part of our proactive approach to managing climate-related risks, we undertook a detailed scenario analysis leveraging historical and projected climate data and conducted site visits to identify existing mitigation strategies across our datacenter portfolio. The findings from this assessment revealed that the majority of our locations have already implemented robust mitigation measures to address potential climate-related hazards.

Key Components of the Assessment:

Scenario Analysis – Utilizing historical climate data and scientific projections, we developed scenarios to predict potential climate-related risks relevant to our locations, including extreme weather events and long-term climate changes. This analysis aligned with global climate models and scenarios outlined by IPCC.

Site Visits – On-site evaluations of sample sites were conducted to assess the current state of adaptation strategies in place. These visits provided valuable insights into the effectiveness of existing measures and identified areas for potential enhancement.

Risk Quantification – The assessment involved quantifying the potential impacts of climate-related hazards on our datacenter operations, including economic and infrastructure resilience. This step is crucial for informing strategic investment decisions aimed at enhancing climate resilience.

Hazard Identification:

Acute Risks: Mapped flood zones, cyclone trajectories, and precipitation trends using geospatial tools.

Chronic Risks: Analyzed temperature projections, drought likelihood, and sea-level rise.

Risk Mitigation and Resilience Measures

We have devised **customized mitigation blueprints** and have currently implemented **multi-layered resilience strategies** across most of our data center portfolio to address identified climate risks, prioritizing:

Infrastructure Hardening: Elevation of critical equipment, flood barriers, cyclone-resistant roofing for coastal facilities.

Energy Resilience: Increase in renewable energy adoption, reducing dependency on grid power during extreme weather, providing backup power with lower emissions than diesel generators.

Water Security: Rainwater harvesting systems and water recycling measures; cooling optimization solutions, reducing water consumption.

EBITDA Protection: Predictive maintenance algorithms minimizing downtime costs from acute events

Conclusion:

Nxtra's climate risk assessment underscores the financial and operational necessity of proactive adaptation. By aligning with TCFD and IPCC guidelines, the company aims to minimize EBITDA volatility while advancing its carbon emission goals. Future efforts will expand renewable energy partnerships and AI-driven climate modeling to enhance predictive accuracy.