

Displacement Report

Lucknow 2020-2025





Introduction

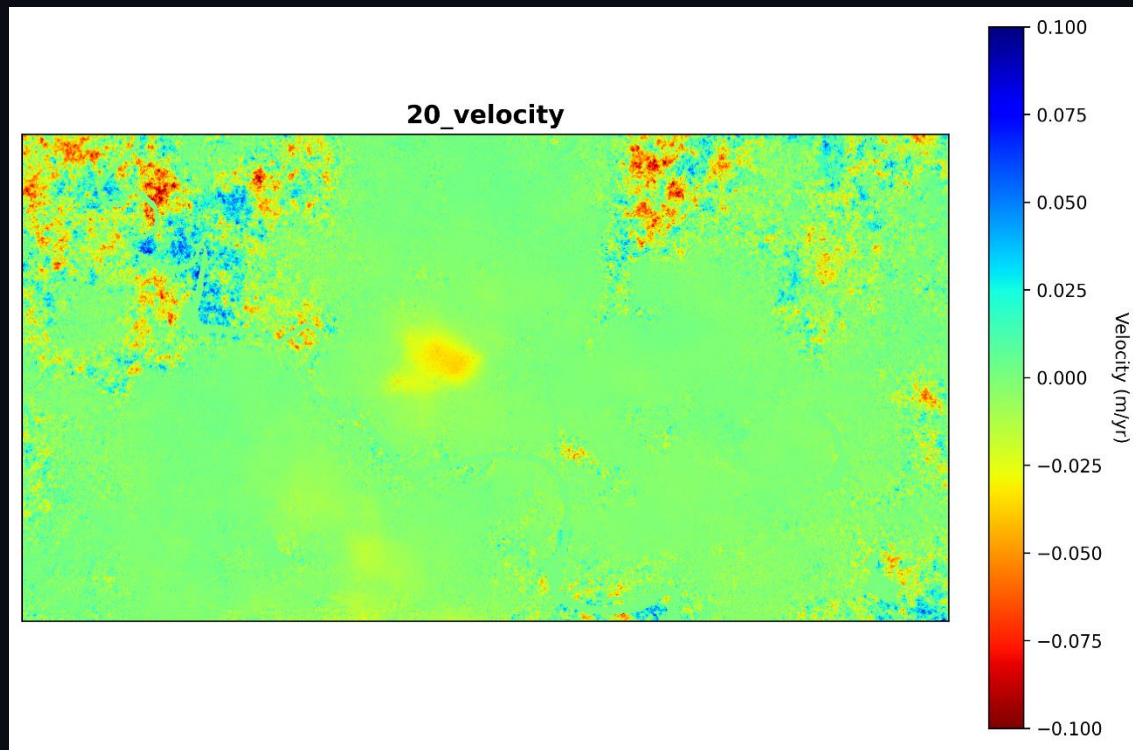
This presentation provides a detailed analysis of regional displacement over time using InSAR velocity maps. It covers annual displacement data from 2020 to 2025, illustrating key changes and trends. The maps use a consistent reference point and jet color scheme for clear visualization of ground movements.



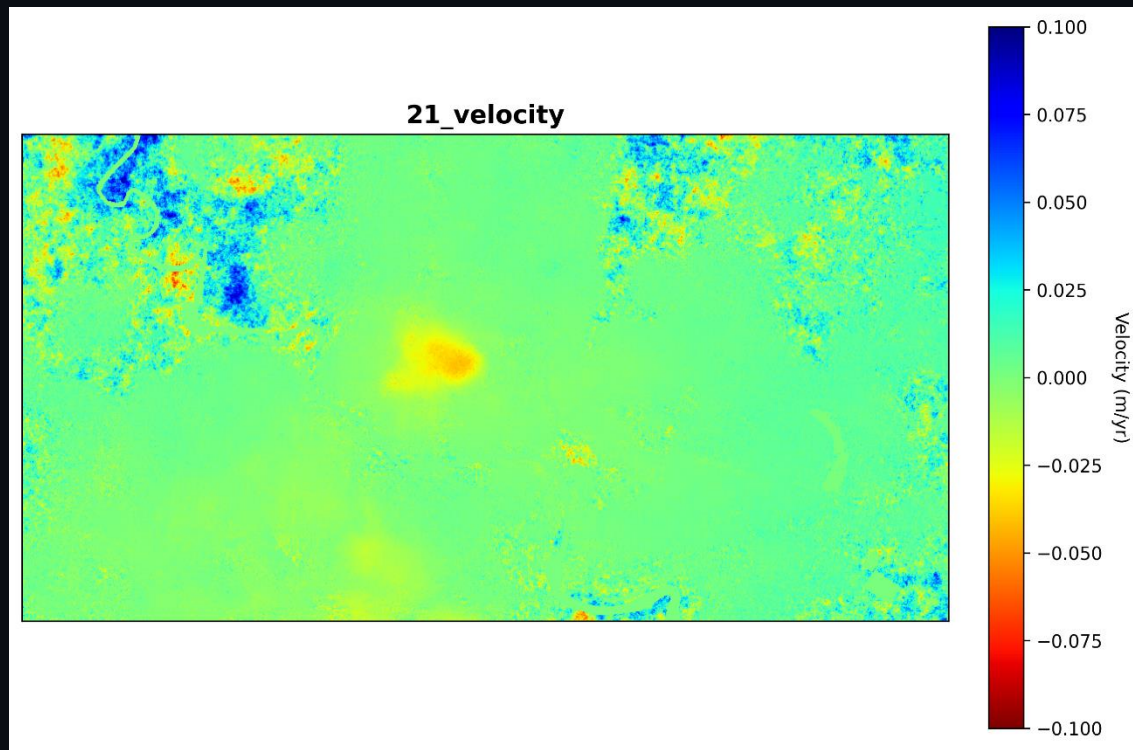
01

Velocity Maps

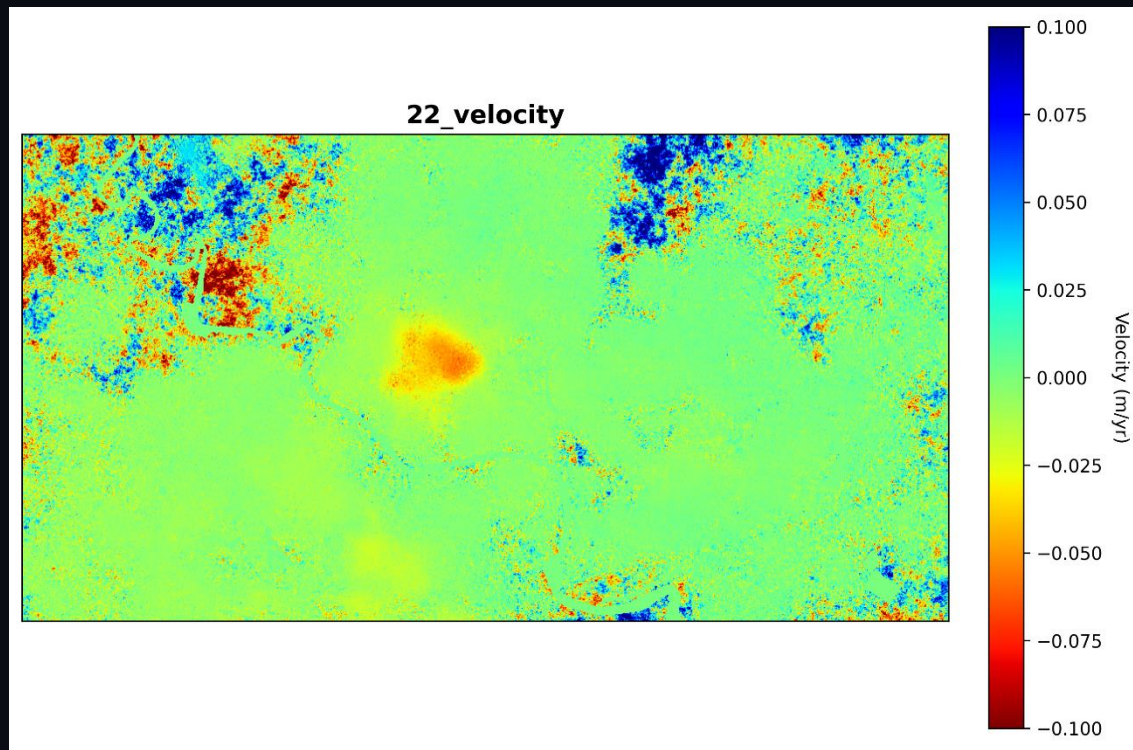
2020 Velocity Map



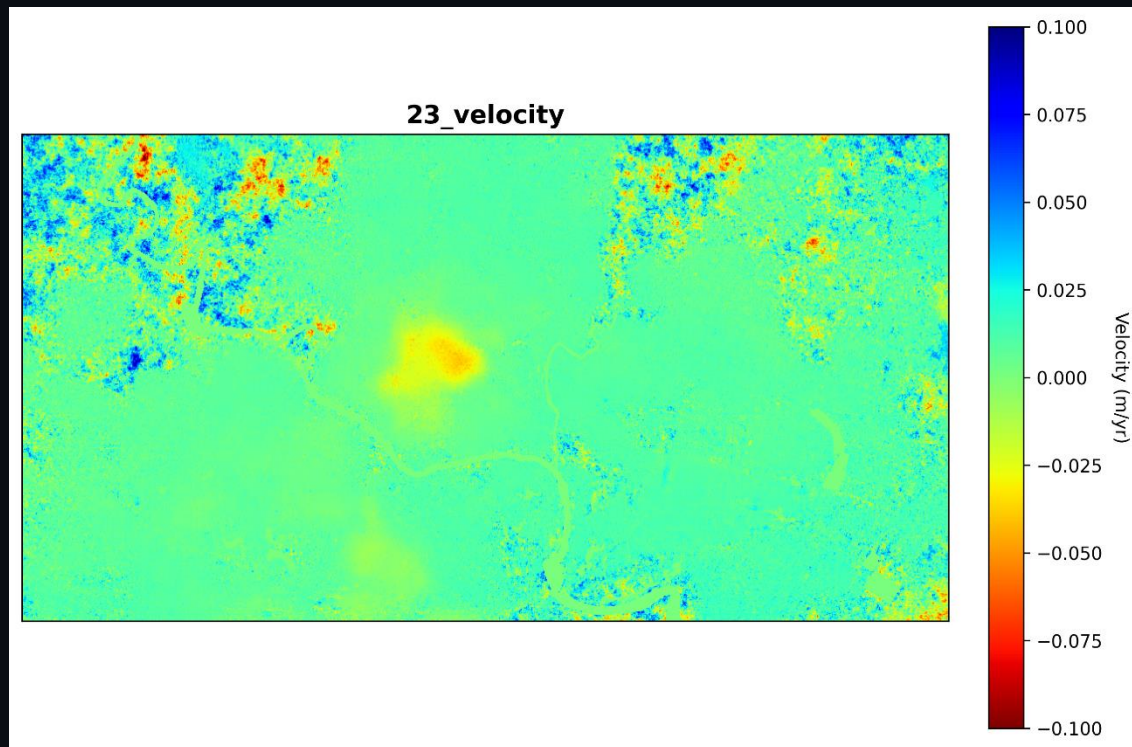
2021 Velocity Map



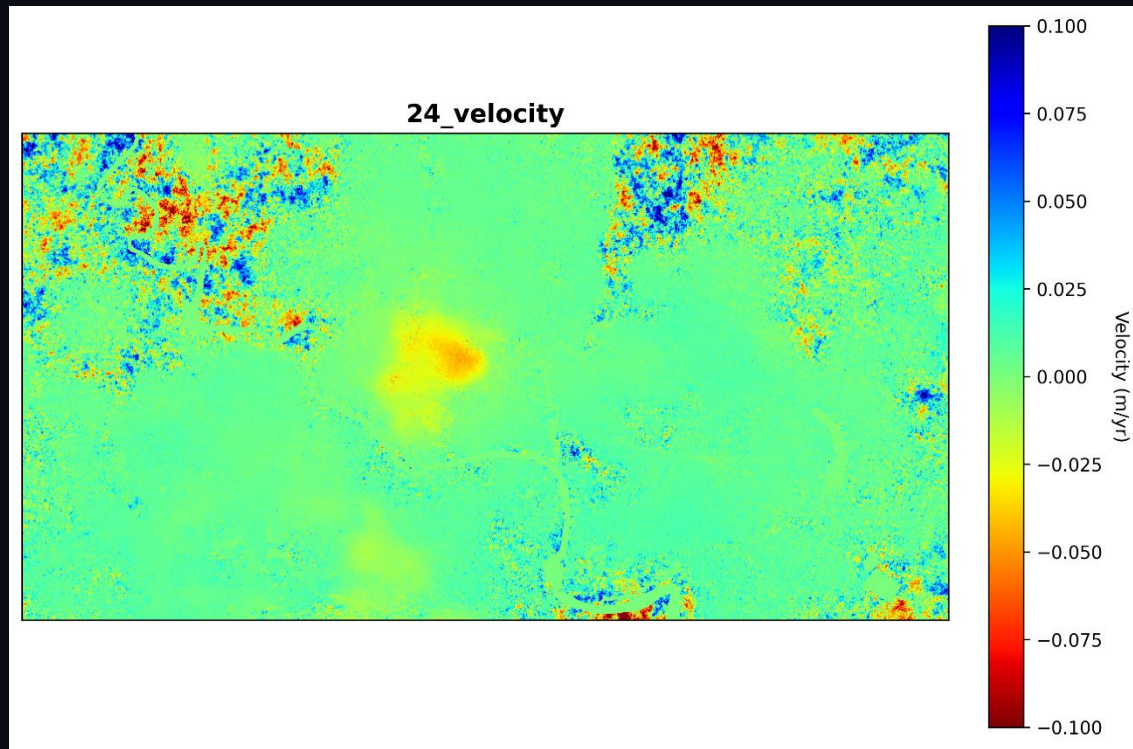
2022 Velocity Map



2023 Velocity Map

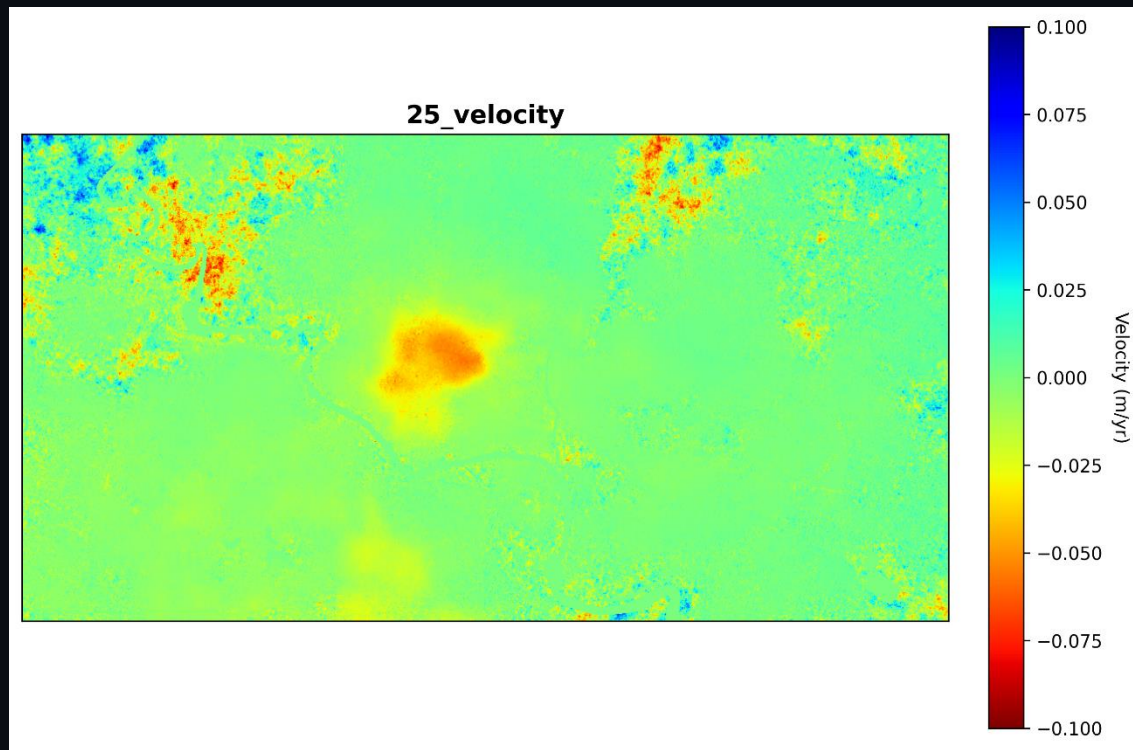


2024 Velocity Map

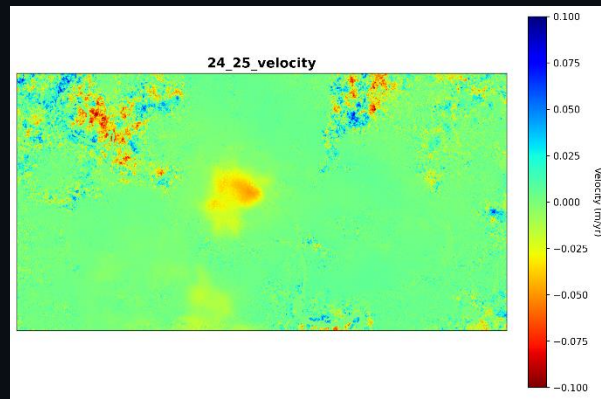
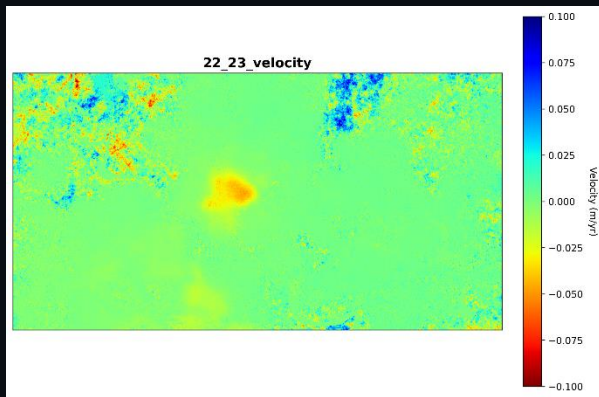
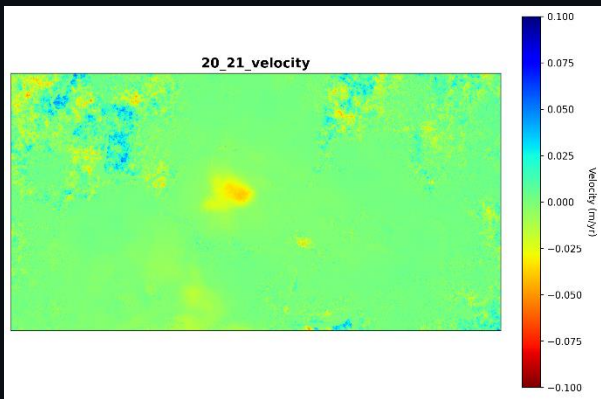




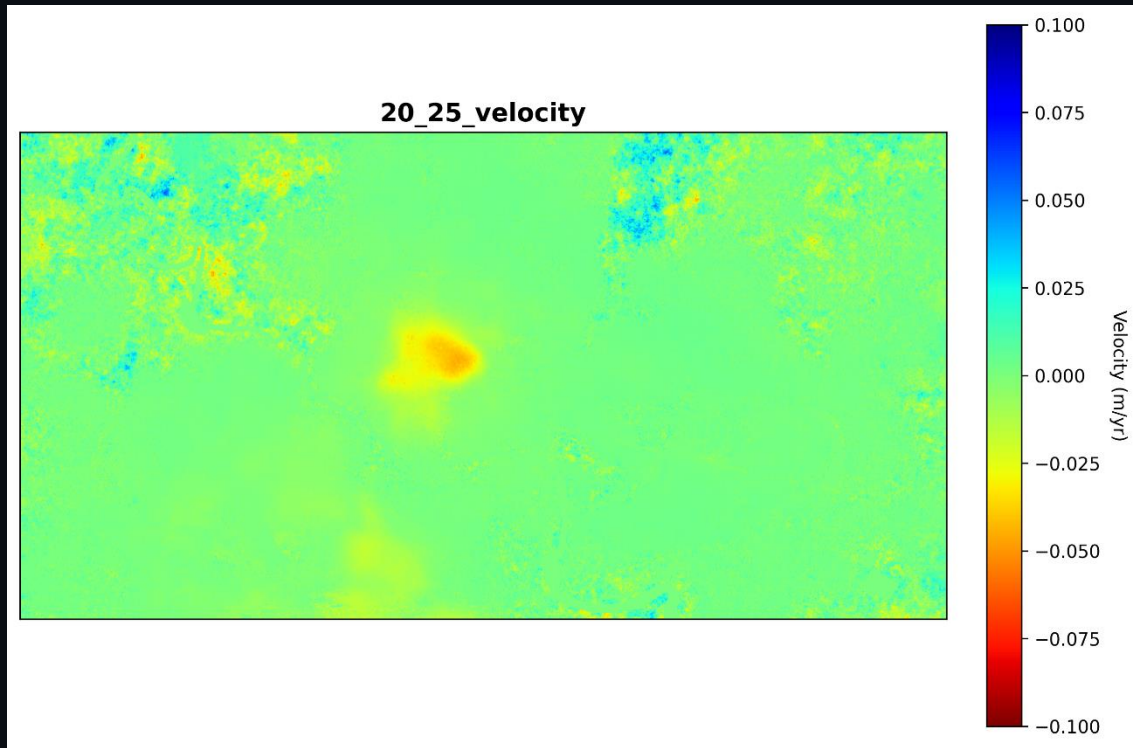
2025 Velocity Map



2020-25 Biannual Velocity Maps



2020-25 Mean Velocity Map





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Supplementary Analyses

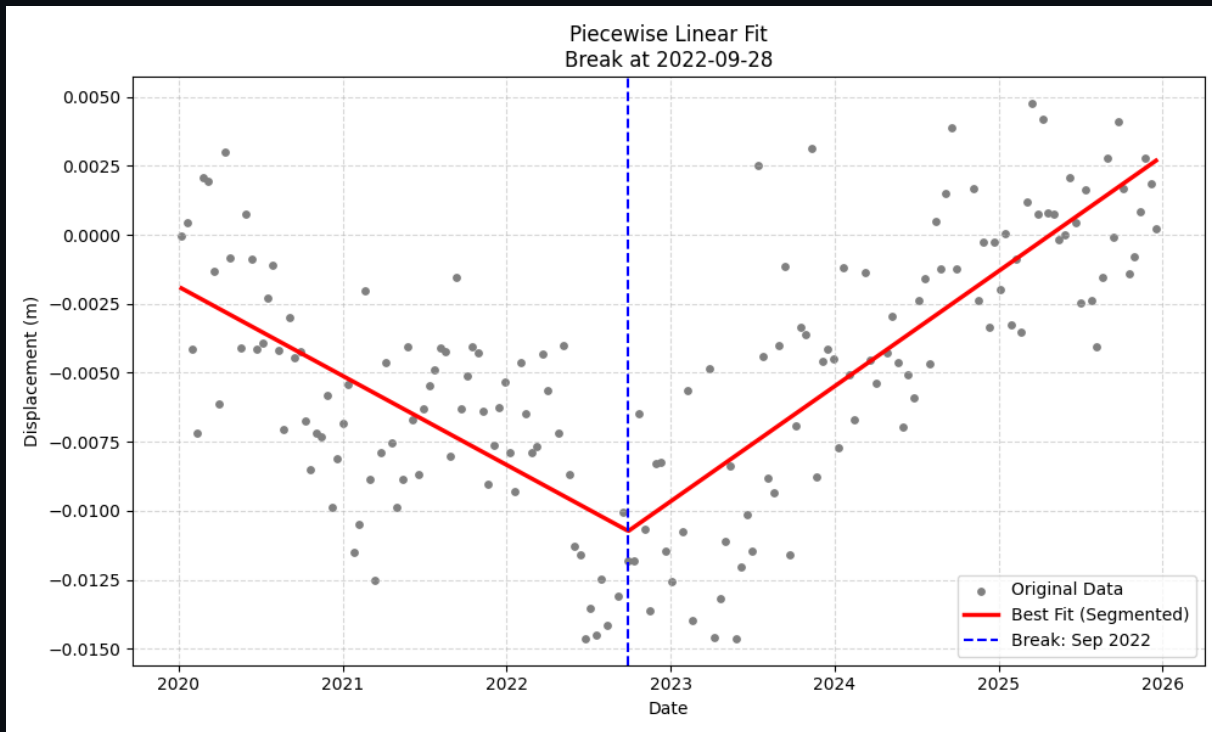
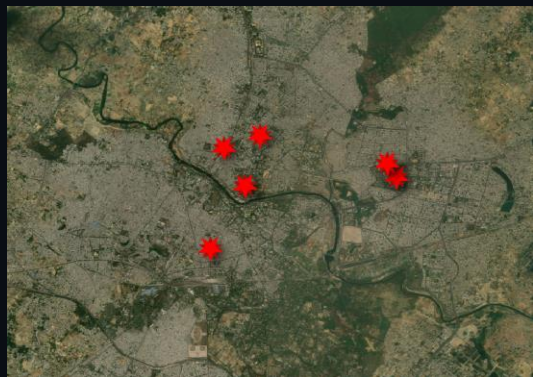
Time Series for Selected Points

These slide features time series graphs for specific selected points on the velocity maps. These graphs provide detailed temporal displacement trends, enabling precise monitoring of ground movement dynamics. The time series help in identifying consistent deformation patterns and support informed decision-making for risk management and urban planning.

lat26.8732_lon80.9886

Velocity 1: -3.22 mm/yr

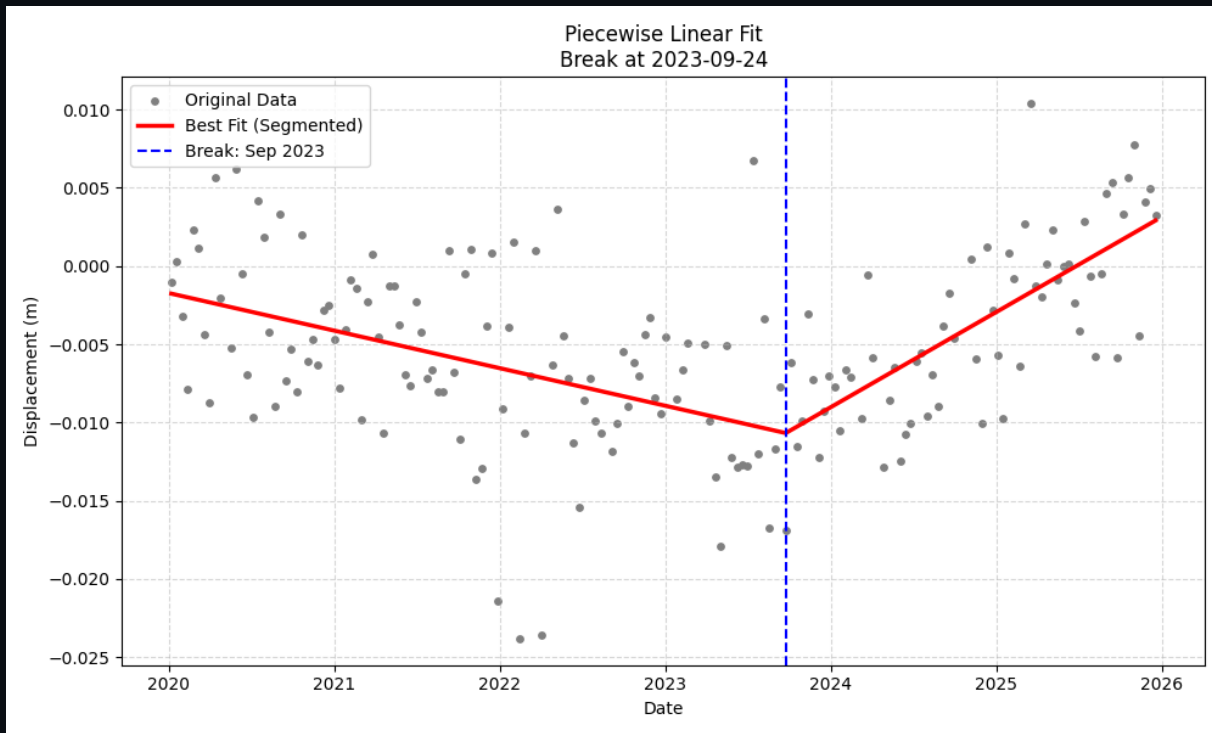
Velocity 2: 4.17 mm/yr



lat26.8682_lon80.9920

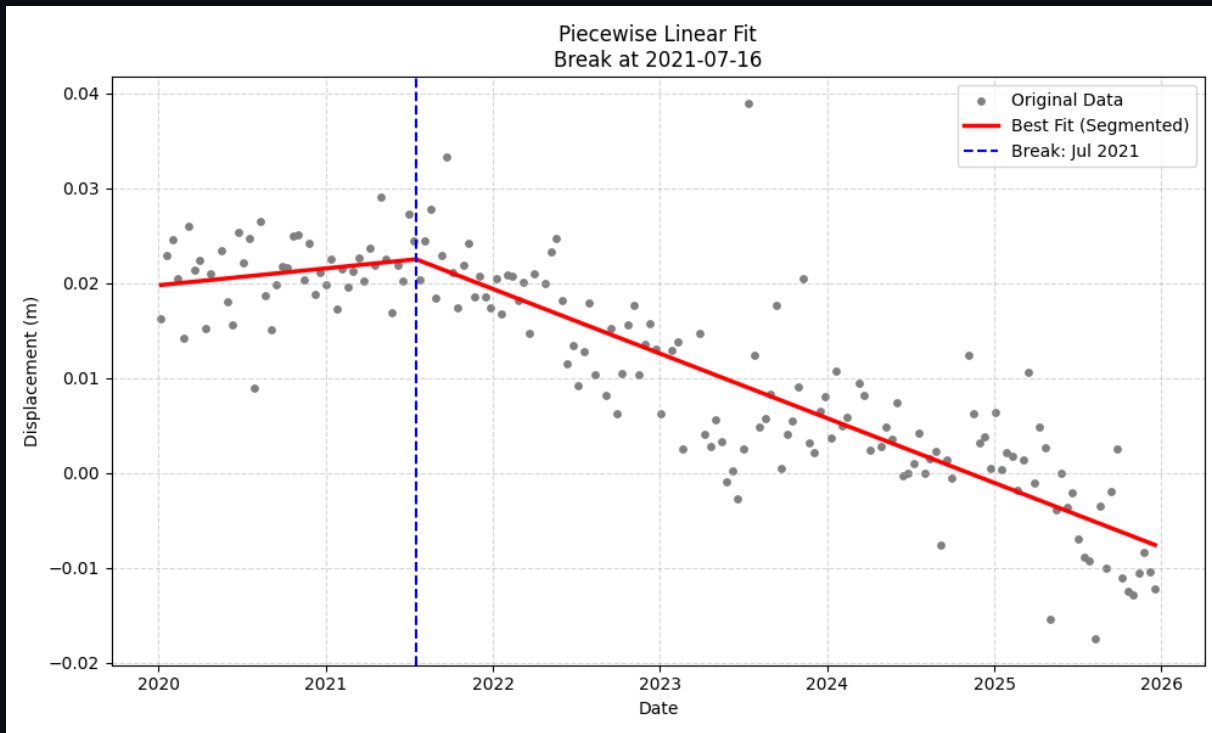
Velocity 1: -2.40 mm/yr

Velocity 2: 6.08 mm/yr



lat26.8652_lon80.9367

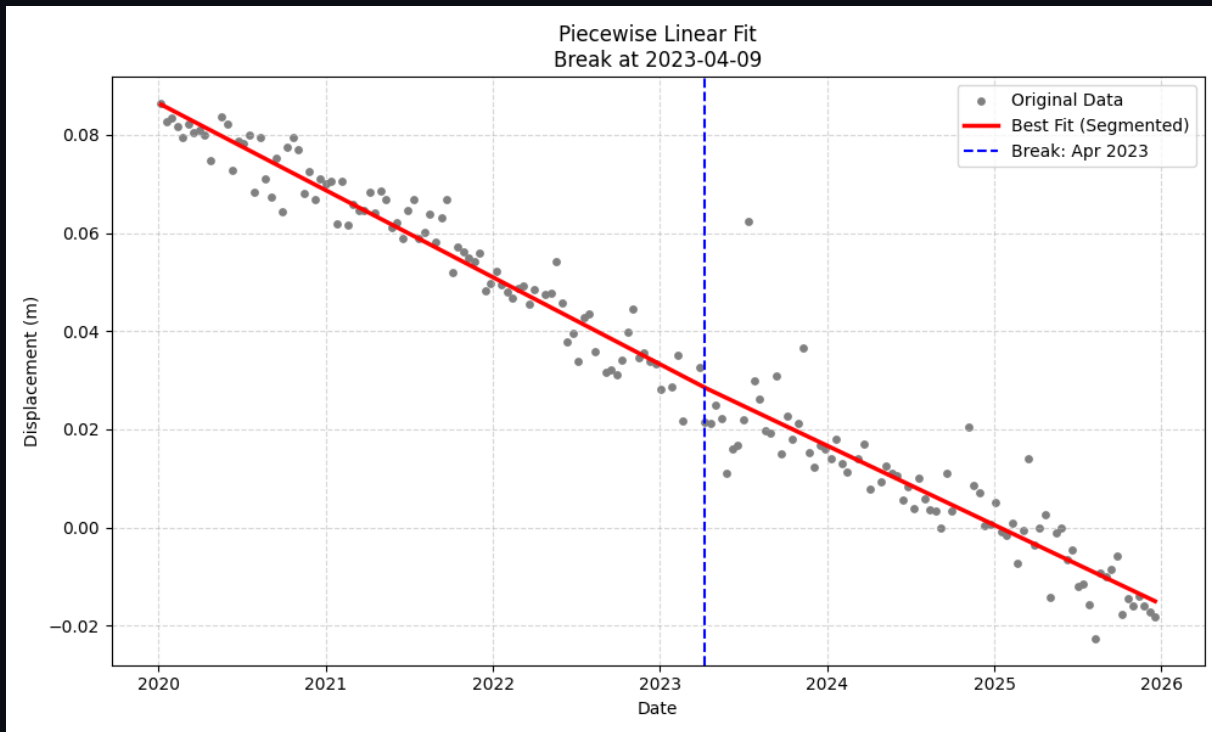
Velocity 1: 1.78 mm/yr
Velocity 2: -6.81 mm/yr



lat26.8423_lon80.9242

Velocity 1: -17.72 mm/yr

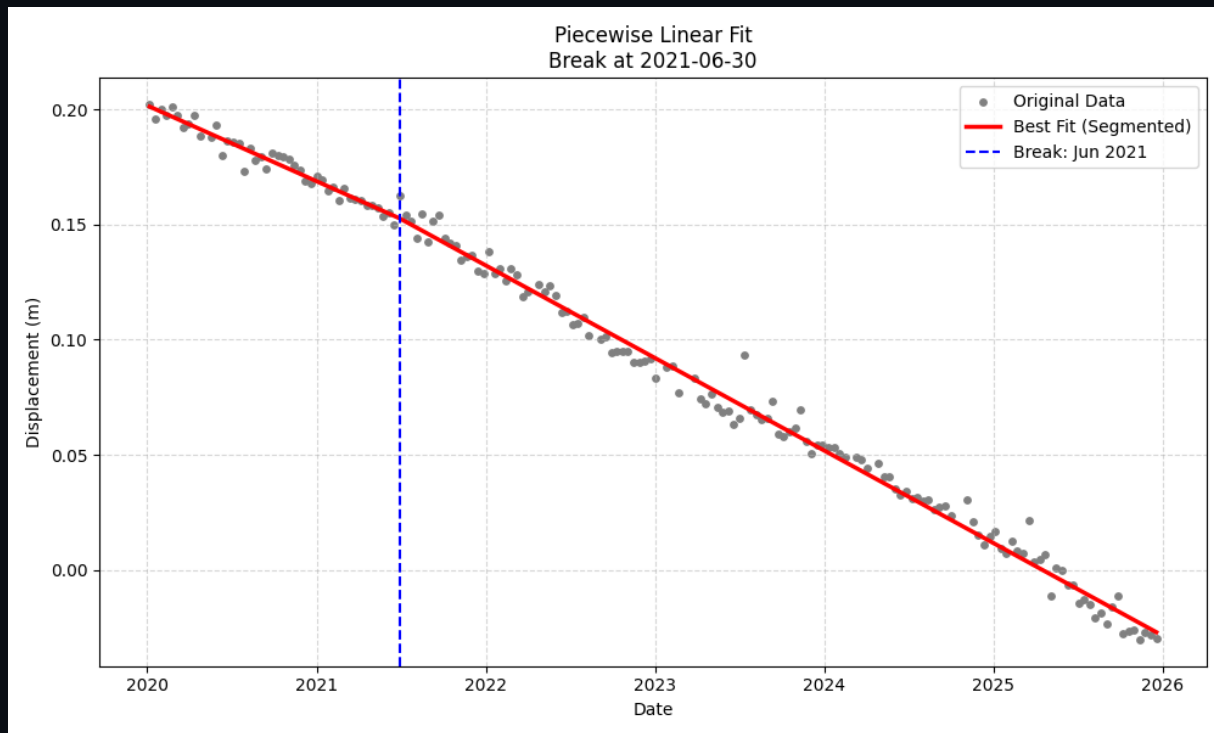
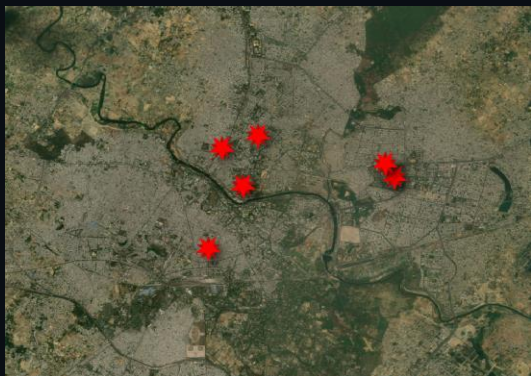
Velocity 2: -16.15 mm/yr



lat26.8835_lon80.9423

Velocity 1: -32.88 mm/yr

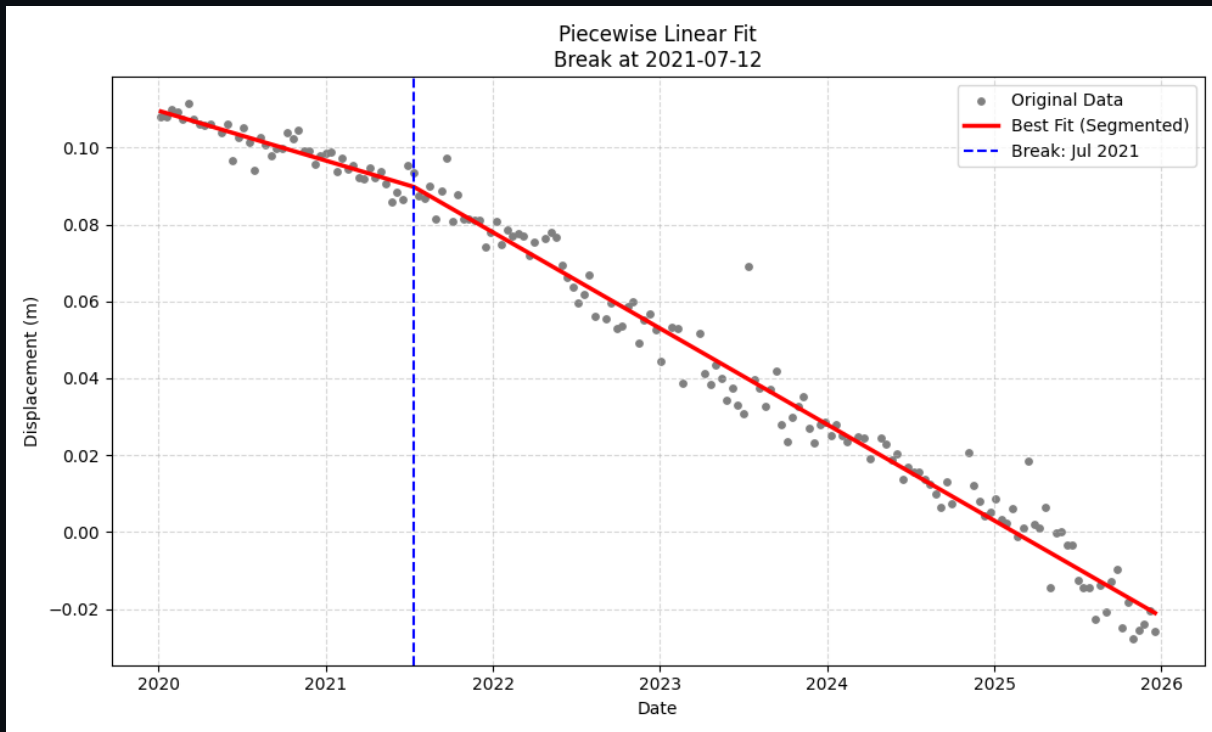
Velocity 2: -40.23 mm/yr



lat26.8789_lon80.9291

Velocity 1: -12.96 mm/yr

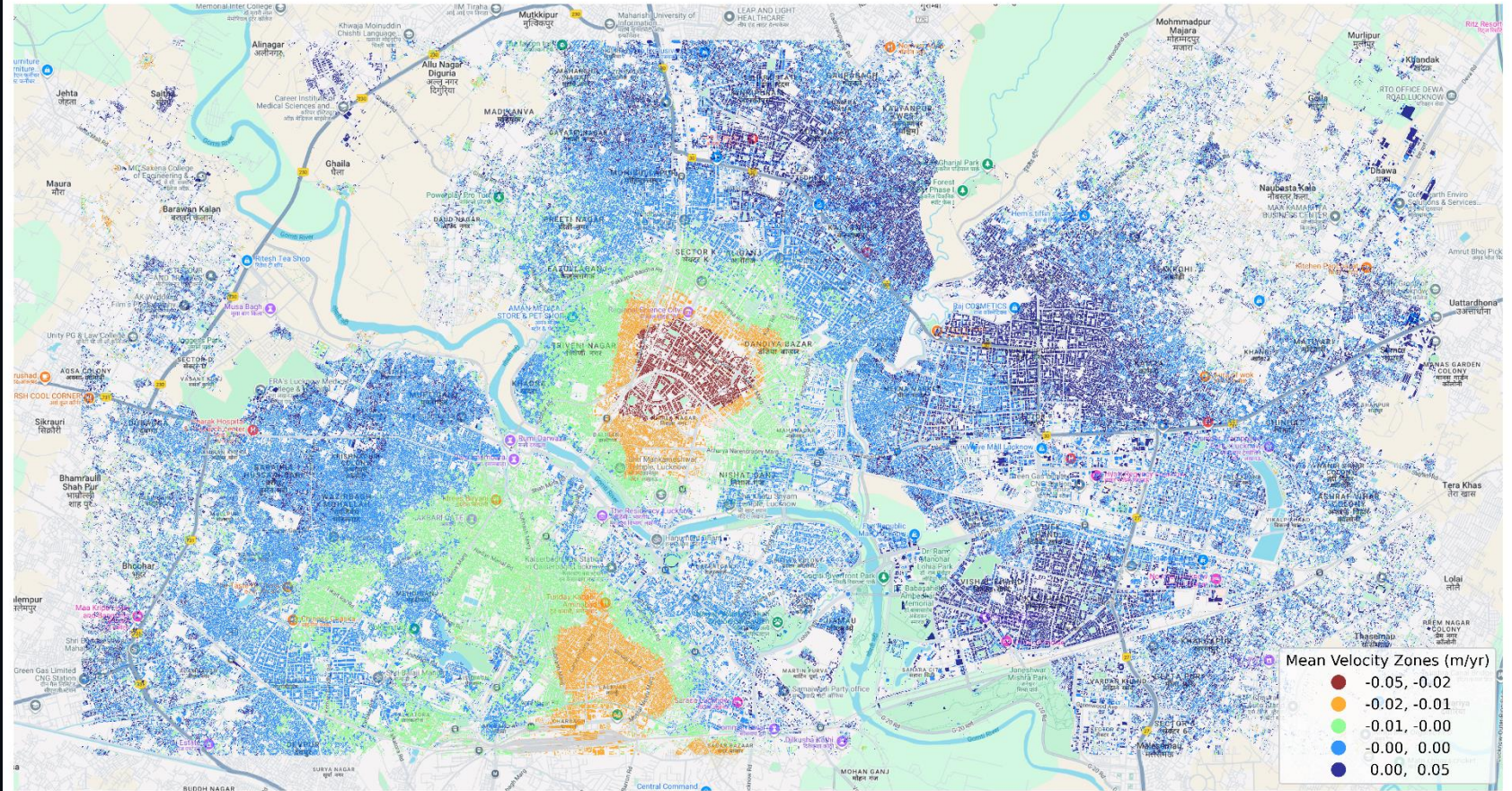
Velocity 2: -25.00 mm/yr



Buildings Overlay with Zonal Statistics

The maps include overlays of buildings shapefiles, enhancing spatial context. Zonal statistics are used to evaluate displacement impacts on infrastructure, showing areas of structural vulnerability. This integration aids in assessing potential risks and planning mitigation strategies for critical transportation and structural assets.

Building Velocity Zones (Negative=Red/Subsidence)

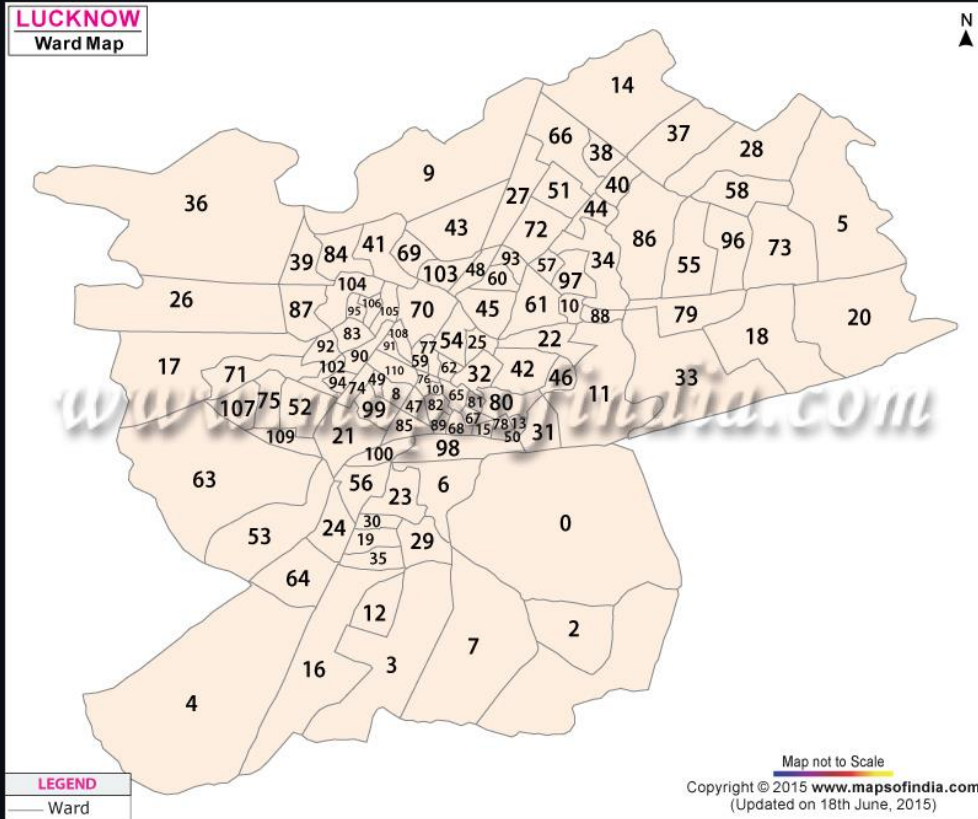




</innovation_pipeline>

Lucknow Municipal Boundary and Ward Map

This slide presents the official Lucknow municipal boundary along with ward divisions. It provides essential administrative context for the displacement analysis, supporting local governance in monitoring and managing land movement within defined political boundaries. The map facilitates targeted responses based on ward-level data insights.



Credits: mapsofindia.com

WARD MAP

Thank_
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