Satellite Change Detection Report

Analysis Summary

Report Generated	2025-07-09 02:14:37
Analysis ID	3865efe2-9bd5-4d1a-bb3e-c10fded8d8da
Location (Lat, Lon)	19.076000, 72.877700
Before Date	2021-01-01
After Date	2024-01-01
Model Used	Lightweight Siamese U-Net
Change Threshold	0.3
Change Percentage	57.1%
Changed Area	14.964 km²
Total Area Analyzed	26.214 km²
Number of Change Regions	1888

Change Detection Results

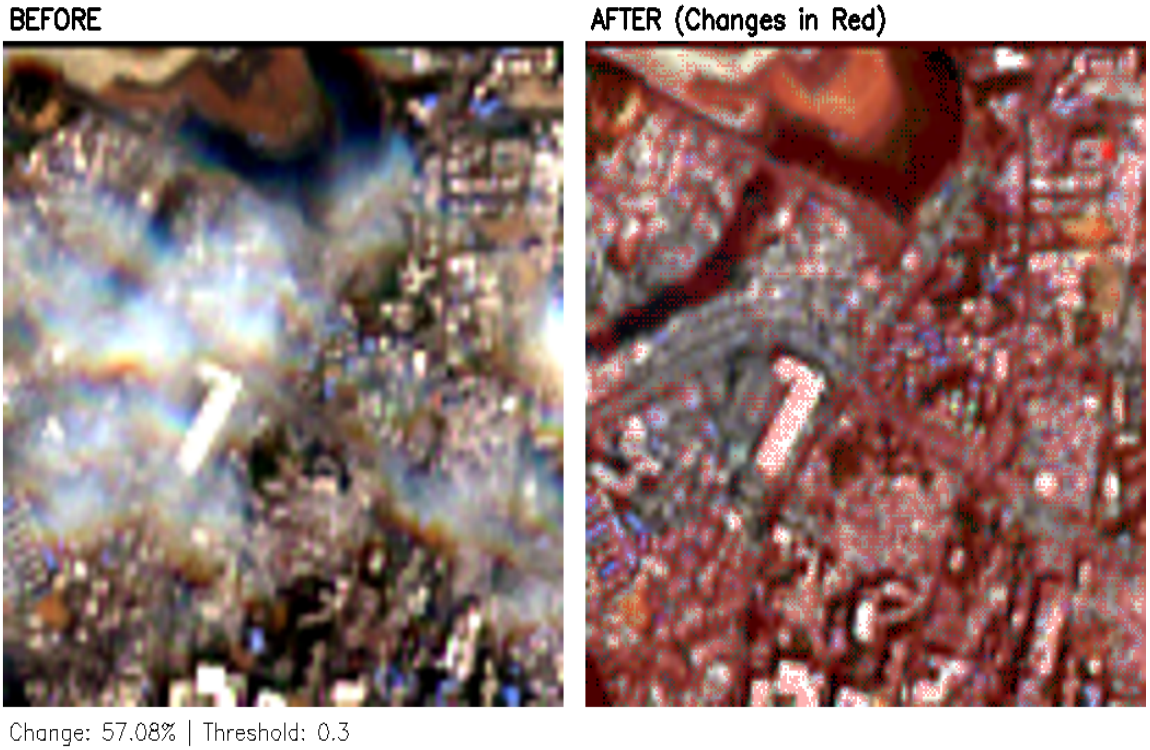

Figure 1: Before/After comparison with change detection overlay

Change Probability Heatmap

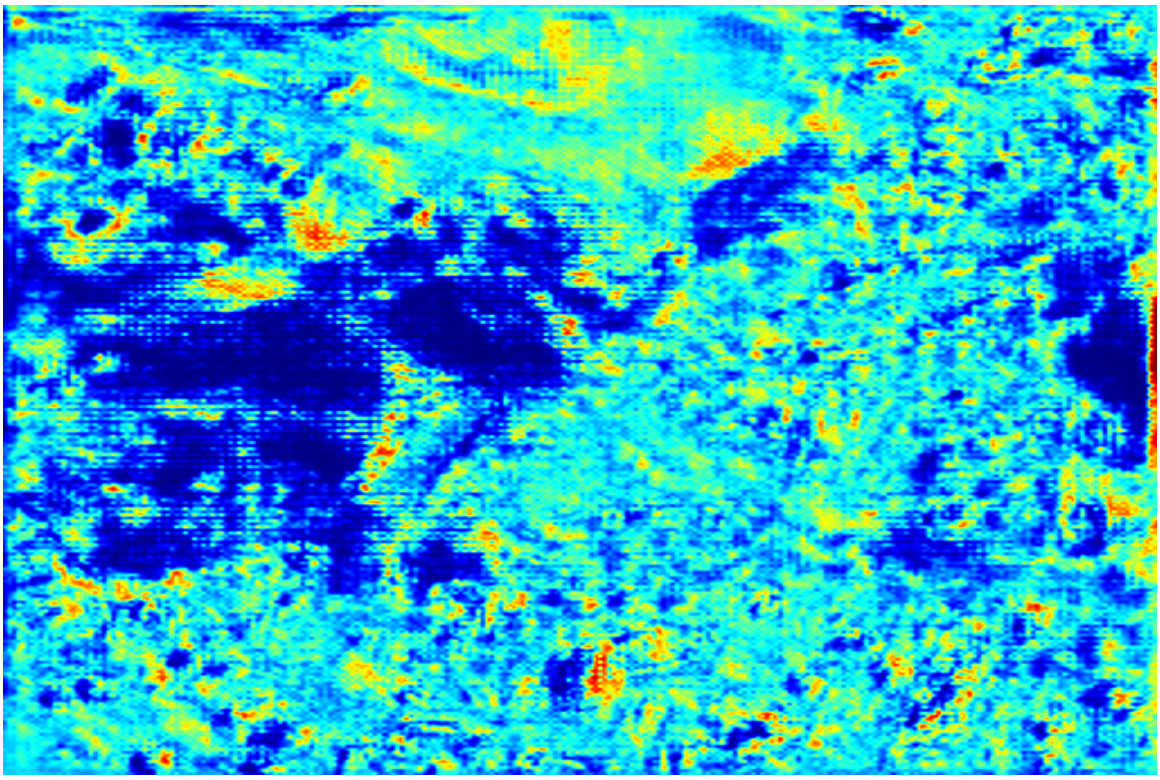

Figure 2: Change probability heatmap showing likelihood of change in each area

Technical Details

This analysis was performed using a Lightweight Siamese U-Net neural network model specifically designed for satellite change detection. The model analyzes differences between two time periods using Sentinel-2 satellite imagery at 10-meter resolution. **Analysis Parameters:**
• Satellite Data: Sentinel-2 Surface Reflectance (10m bands)
• Processing: Raw satellite data with minimal atmospheric correction
• Change Threshold: 0.3 (0.0 = no change, 1.0 = maximum change)
• Area of Interest: 1km × 1km centered on the specified coordinates
Results Interpretation:
• Areas highlighted in red show detected changes between the two dates
• Change percentage indicates the proportion of the analyzed area that changed
• The heatmap shows probability of change, with warmer colors indicating higher confidence

Disclaimer: This analysis is based on satellite imagery and automated detection algorithms. Results should be verified with ground truth data for critical applications. The analysis covers environmental and land use changes visible at 10-meter resolution. Generated by Satellite Change Detection Platform | Report ID: 3865efe2-9bd5-4d1a-bb3e-c10fded8d8da