Deep Learning Inspired Change Detection Report

Executive Summary

The Deep Learning Inspired method processed satellite imagery and detected 200,487 pixels of change across 207 distinct regions, representing 21.37% of the total image area. Processing completed in 0.490 seconds. The average confidence score for detected changes was 0.402.

Method Description

This method incorporates deep learning-inspired techniques including feature extraction using convolutional operations, multi-level analysis, and confidence scoring. It applies learned patterns and statistical modeling to identify changes while providing confidence estimates for each detection. The approach balances computational efficiency with the sophisticated pattern recognition capabilities inspired by neural network architectures.

Results Summary

Metric	Value
Total Change Pixels	200,487
Number of Change Regions	207
Total Change Area	200487.00 sq units
Processing Time	0.490 seconds
Image Dimensions	1024 x 916
Average Confidence	0.402

Change Statistics

Region Size Analysis:

- Largest region: 17,973 pixels
- Smallest region: 100 pixels
- Average region size: 907 pixels
- Median region size: 288 pixels

Top 5 Largest Change Regions:

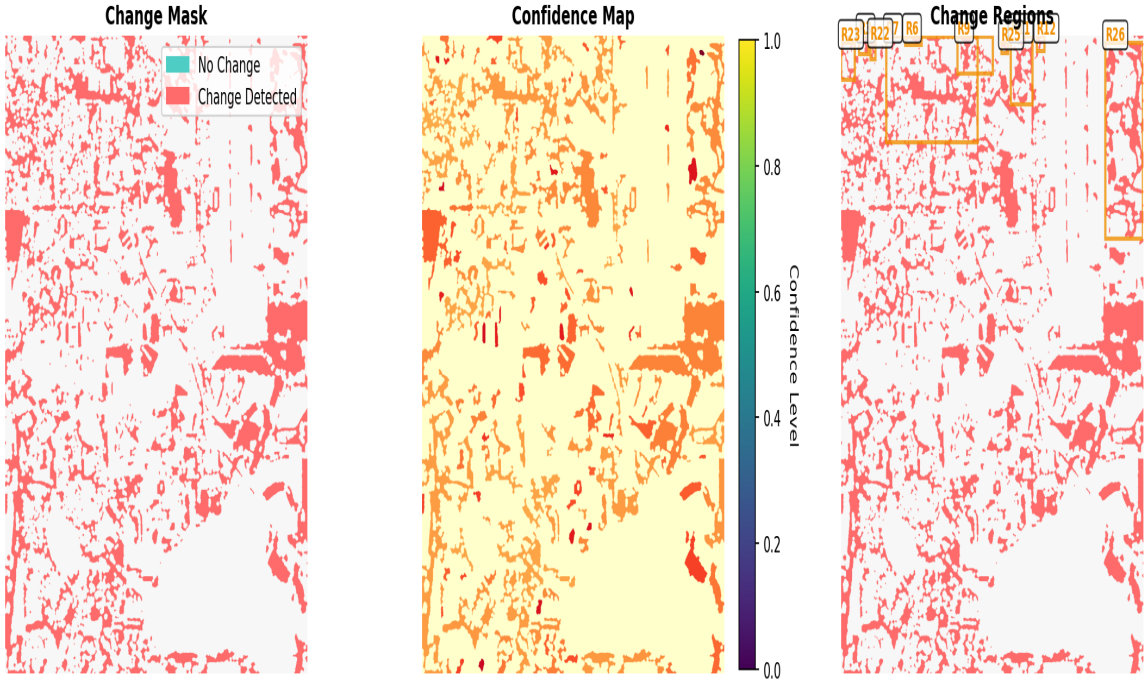
Region ID	Area (pixels)	Confidence	Center (x, y)
354	17,973	0.386	(818, 497)
470	13,324	0.330	(51, 783)
26	9,877	0.373	(873, 173)
7	9,484	0.342	(290, 92)
156	6,172	0.381	(494, 246)

Technical Details

Parameter	Value
Implementation	Deep Learning Inspired
Version	1.0
Timestamp	2025-08-24 19:51:15
Input Image 1	orlando2010.png
Input Image 2	orlando2023.png
normalization	histogram_equalization
filtering	bilateral
threshold_methods	['otsu', 'percentile_95']
morphology_kernels	[(3, 3), (7, 7)]
min_area	100
confidence_factors	['intensity', 'shape_compactness']

Visualizations

Deep Learning Inspired - Change Detection Results



Report generated on 2025-08-24 19:51:17