# 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 0.305 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	0.305 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

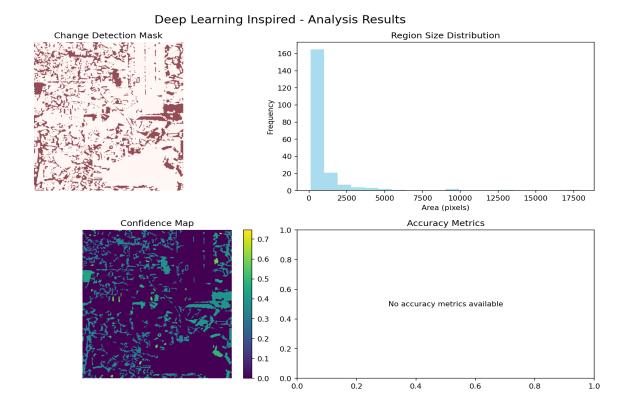
## **Top 5 Largest Change Regions:**

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 19:04:36	
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**



Report generated on 2025-08-24 19:04:38