# Hyperspectral Change Detection Dataset

This dataset can be used to perform change detection techniques in multitemporal hyperspectral images.

It includes two different hyperspectral scenes from the AVIRIS sensor:

- The Santa Barbara scene, taken on the years 2013 and 2014 with the AVIRIS sensor over the Santa Barbara region (California) whose spatial dimensions are 984 x 740 pixels and includes 224 spectral bands.
- The Bay Area scene, taken on the years 2013 and 2015 with the AVIRIS sensor surrounding the city of Patterson (California) whose spatial dimensions are 600 x 500 pixels and includes 224 spectral bands.

## Dataset description

| | Santa Barbara | | Bay Area | | |---|---|---|---|---| | | Absolute | Percentage | Absolute | Percentage | Changed Pixels | 52134 | 7.16% | 38425 | 12.81% | Unchanged Pixels | 80418 | 11.04% | 34211 | 11.40% | Unknown Pixels | 595608 | 81.80% | 227364 | 75.79% | Total | 728160 | 100.00% | 300000 | 100.00% |

It also includes a hyperspectral scene from the HYPERION sensor:

- The Hermiston city scene, taken on the years 2004 and 2007 with the HYPERION sensor over the Hermiston City area (Oregon) whose spatial dimensions are 390 x 200 pixels and includes 242 spectral bands. 5 types of changes related with crop transitions are identified in this scene.

## Dataset description

**Hermiston City**

| Class of change | Number of samples |
|---|---|
| Type 1 | 5558 |
| Type 2 | 1331 |
| Type 3 | 79 |
| Type 4 | 1557 |
| Type 5 | 1461 |
| Total | 9986 |

The format and dimensions of the files can be checked in the readme file of each scene.

## License

## INFORMACIÓN

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Licenza

## DESCARGAR

Repositorio Gitlab

Descargar de Gitlab

## PUBLICACIÓNS

*Stacked autoencoders for multiclass change detection in hyperspectral images*
International Geoscience and Remote Sensing Symposium IGARSS 2018, 2018

*GPU Framework for Change Detection in Multitemporal Hyperspectral Images*
10th International Symposium on High-Level Parallel Programming and Applications, 2017