



Contribution ID: 40

Type: Oral Presentation

## Monitoring land-cover changes using satellite imagery

*Tuesday, 9 July 2013 11:50 (20 minutes)*

### Abstract content <br> &nbsp; (Max 300 words)

Several regions around the World are currently undergoing rapid, wide-ranging changes in land cover due to human activities and natural events. These changes can have significant effects on regional and even global climate change. In this paper the focus is on urbanization in South Africa. Two major factors drive urbanisation: population expansion and the wider range of employment opportunities in urban areas. We employ a post-classification approach to detect land cover changes on a specific area from a time series of satellite images. Variance in spatial resolution and radiometric resolution between images was taken into account using radiometric normalization and geometric registration. We then used a maximum likelihood classifier to distinguish between the different land use classes. We are able to quantify the proportions of each land use class for every image and monitor the change over time. This information highlights the physical growth rate of a specific urban area caused by urbanization and it will allow environmental experts to diagnose the effects of these changes.

### Apply to be<br> considered for a student <br> &nbsp; award (Yes / No)?

yes

### Level for award<br>&nbsp;(Hons, MSc, <br> &nbsp; PhD)?

Hons

### Main supervisor (name and email)<br>and his / her institution

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### Would you like to <br> submit a short paper <br> for the Conference <br> Pro-ceedings (Yes / No)?

no

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