**Suggested topics:**

Remote Sensing Applications

**Paper title:**

Change Detection of Mangrove Forests in West and Central Africa with Landsat Imagery

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**Presenters Preference between oral and poster presentation:**

Poster presentation

**Asbtract**

Mangroves are distributed along the coastal wetlands of tropical and subtropical regions throughout the world. They provide various ecological and socioeconomic services for human, including coastal protection, water filtration, the attraction of tourists and the provision of building material, and they also serve as habitats for a variety of coastal wildlife species. The dramatic decline of mangroves in West and Central Africa during the last half century due to the conversion of mangrove forests to agricultural lands and urbanization has caused environmental issues including habitat loss, reduction of biodiversity, and increased coastal erosion. This study aims to investigate the changes of mangrove forests over 19 countries over West and Central Africa, from Mauritania in the north to Angola in the south, using Landsat imageries during the periods of 1988 to 2014. The data was processed through five main steps: (1) data pre-processing including geometric and atmospheric corrections and image normalization; (2) image classification using the decision tree algorithm; (3) accuracy assessment for the classification results, (4) chaging detection analysis. From the classification results, during 1988 to 2014, about 10%-20% decreses of mangrove forest area in countries of West and Central Africa have been clearly detected. Hence, freely available Landsat imagery provides adequate monitoring and change detection for mangrove forests.

**Keywords:**

Mangrove forest, remote sensing, Landsat data, change detection