



## **Okavango Wetland Phenology studied with MODIS Operational Products and ENVISAT ASAR Wetness Product**

**M. Doubková**, A. Bartsch, C. Pathe, D. Sabel, and W. Wagner

Institute of Photogrammetry and Remote Sensing, Vienna University of Technology, Vienna,  
Austria

To be able to predict possible effects of projects regulating the water flow to the Okavango delta basin, it's necessary to understand the spatio-temporal evolution of the soil-water-vegetation interactions.

The vegetation within the Okavango floodplain is dependent on local source of precipitation as well as on external inflow from the upper Okavango River. While precipitation inundates the area of the wetlands in November to March, the more important flood wave comes from the Angola highlands in September, five to six months after the end of the rainy season.

Here, an approach using easy accessible data sets is introduced that differentiates between phenologies of vegetation responding to the flood wave and vegetation responding to the precipitation patterns. The changing extent of the Okavango Delta wet area is derived from the ENVISAT ASAR GM data applying a threshold of absolute backscatter values. The phenologies as monitored by MODIS operational products (MYD13A2) and (MOD12Q2) are then studied separately at areas with varying wetness duration as defined by ENVISAT ASAR GM data.

With this work we demonstrate the ability of ENVISAT ASAR Global Mode to monitor dynamics of wetland areas and access the capability of MODIS operational product to distinguish different phenologies in the Okavango river basin. This work advances monitoring of wetlands in semiarid regions and may support the surface water man-

agement.