

Poyang Hu (Jiangxi Province, P. R. of China) Area Variations between January 2004 and June 2006 Using ENVISAT Low and Medium Resolution Time Series

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Abstract

Poyang Hu, one of the most regularly flooded areas in China, can be considered as a key hydrological element in flood control and reduction within the middle Changjiang basin. This area was selected as a major test site of the Flood DRAGON Project, part of the MOST-ESA DRAGON Programme. Over two and half years, water extent was monitored based on sixty-four ENVISAT low and medium resolution ASAR and MERIS FR images. It's the first time that such an amount of ENVISAT data was used in monitoring inland lake water extent variations. This original integration approach involves: lake surface variation analysis, yearly submersion time estimation, and a spatial recognition of three major hydrological sub-systems. The results highlight the great potential of ENVISAT, and more largely Earth Observation Medium Resolution data, for large inland water body monitoring and management. This approach can be applied worldwide in the context of global climate change.

Keywords

Poyang Hu, floods, submersion time, ENVISAT, ASAR, WSM, MERIS FR, earth observation time series, hydrological dynamics.
