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Satellite altimetry over wetlands: what can be achieved?

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Satellite altimetry is widely used to retrieve heights over inland water. However, work over wetlands has been more constrained in scope, often utilising multi-sensor data and considerable manual processing to extract water heights. This paper presents results from a global examination of altimetry over wetlands. Using an expert system to retrack the individual echoes and extract the signal from open water amongst the complex echo shapes returned from composite land/water targets, data from ERS-2, Envisat, Topex and Jason-1 are being analysed to determine the extent to which automated techniques can be employed to derive information on water levels from global wetlands .

This paper presents results obtained over the initial selection of wetlands, including the Okavango delta and the Sudd marshes, and demonstrates the considerable potential of this approach to measure and monitor water levels in wetlands globally.