

## Dataset Title

Satellite-based daily water extents in Poyang Lake region, China, 2000–2011

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## Data relevant to:

Wang, J., Sheng, Y., Tong, T.D., 2014. Monitoring decadal lake dynamics across the Yangtze Basin downstream of Three Gorges Dam. *Remote Sensing of Environment*, 152: 251–269. doi:10.1016/j.rse.2014.06.004.

## Data Overview

This dataset provides GIS vector layers of daily water extents in the Poyang Lake region (about 28.3–29.7°N, 115.8–116.8°E) from 2000 to 2011. Water extents in the lake region were mapped from high-quality images selected from the MODIS Terra daily surface reflectance imagery (MOD 09). The mapping frequency was aimed to be at least 1 daily snapshot out of every 10 days. All water extents provided here (a total number of 494 snapshots) have gone through quality control by rigorous human inspection and correction. Please refer to Wang et al. (2014) for detailed mapping methodology and quality assurance.

## Data Format:

All layers are stored as feature classes (polygons) in the format of ESRI geodatabase (.gdb). We here define the complete Poyang Lake region as four sub-regions:

- A02: Main Poyang (*Main\_Poyang.gdb*), the major region for Poyang Lake with water outflow freely connected to the Yangtze River;
- B07: Junshan Reservoir (*Junshan.gdb*),
- B18: Central Poyang (*Central\_Poyang.gdb*), and
- B46: Chenjia Reservoir (*Chenjia.gdb*)

Different from the major Poyang (region A02), Junshan, Central Poyang, and Chenjia (regions B07, B18, and B46, respectively) are part of Lake Poyang in natural but presently gated/isolated as artificial reservoirs. “A02”, “B07”, “B18”, and “B46” are index numbers assigned to individual lake regions as further documented in Wang et al. (2014).

Each lake region geodatabase includes:

- (i) *A02\_lake\_region* – a spatial mask that defines the targeted lake region (in this example *A02*), and
- (ii) *A02\_year\_mo\_da* – the water extent mapped in this lake region on a specific date: the number “*year*” indicating the year, “*mo*” the month, and “*da*” the date.

Each daily feature class is under the MODIS sinusoidal projection (unit: meter) with two major attributes:

- AREA (double): area in square kilometers
- IMG\_SOURCE (string): the mapping source image (from MOD 09) with the acquisition date indicated by the string “*year\_month\_date*”.