FLOODS

To identify □ood moments in Malawi Landsat imagery was studied (1984-2017). Floods were clearly evidenced in 9 dates. For the clearest and most representative layers the mNDWI (modi□ed Normalized Difference Water Index) was calculated. The index mNDWI (McFeeters 1996; Xu 2006) for Landsat bands is calculated as follows: (b2GREEN-b7MIRSWIR/b2GREEN+b7MIRSWIR). In this variation of the index the higher values are the wettest. A threshold was applied to the mNDWI to separate □ood from non-□ood or water from non-water pixels.

The resulting layers were aggregated and the □nal stretched from 0-10, where 0 are the pixels where no □ood is expected while pixels with 10 are where most frequent □ood has been evidenced and therefore expected. The largest □ood was observed in 2015, as the scenes were cloudy the □ood extent was manually interpreted from several scenes. The evidenced □ood dates are: 29 Feb. 1988 low □ood, 19 march 1989, 17 march 1997, Feb 1998, March 1999 low □ood, 2001 since February 16 until end of April, 2007 17 February since early Feb., 2008 Feb. medium □ood, 2015 January ◆ March. The water bodies in this layer are not represented and have a value of 0 like the rest of land where □ood is absent.