

## Supplementary Materials

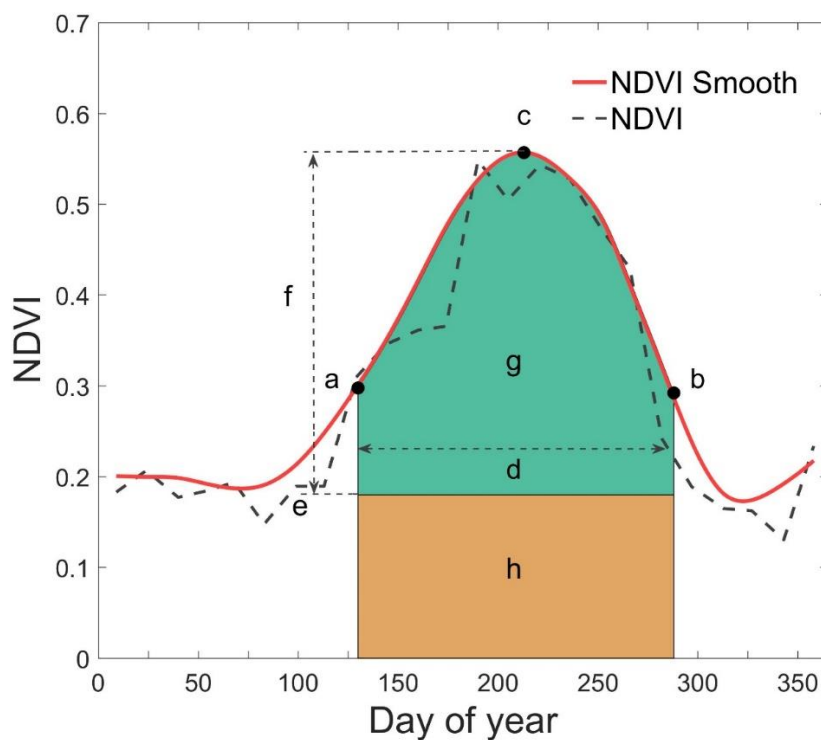


Figure S1. The calculation process of NDVI (large/small) integrals. a and b represent the points of the onset and the end of vegetation growing season, respectively; c displays the point with the largest NDVI value; d displays the seasonal length and e means the base level; f displays the seasonal amplitude; g and h are the accumulation of chlorophyll in vegetation during the growing season.

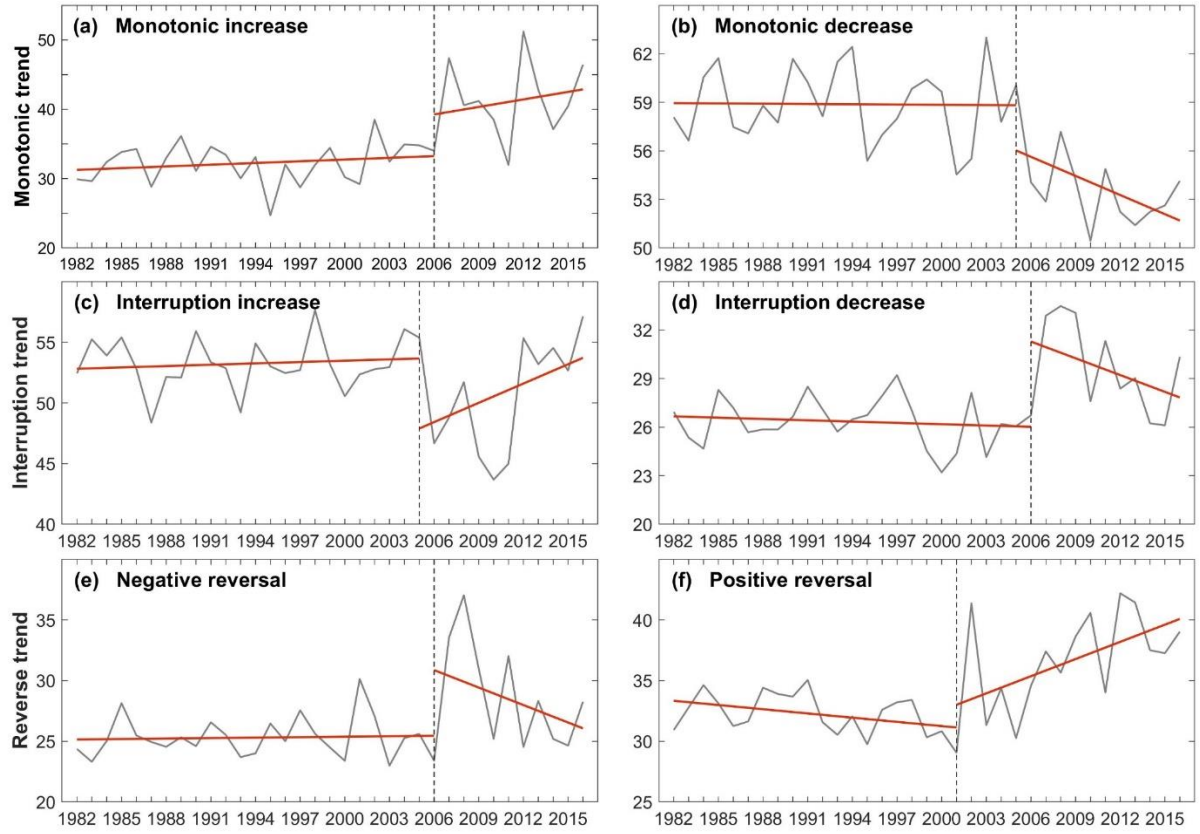


Figure S2. Examples of six trend shifts based on NDVI large integral. **(a)-(b)**: monotonic trend; **(c)-(d)**: interruption trend; **(e)-(f)**: reverse trend. The grey represents the NDVI large integral time series and the red line indicate that the fitted trend for each segment. The dotted vertical line indicates the year of the detected breakpoint.

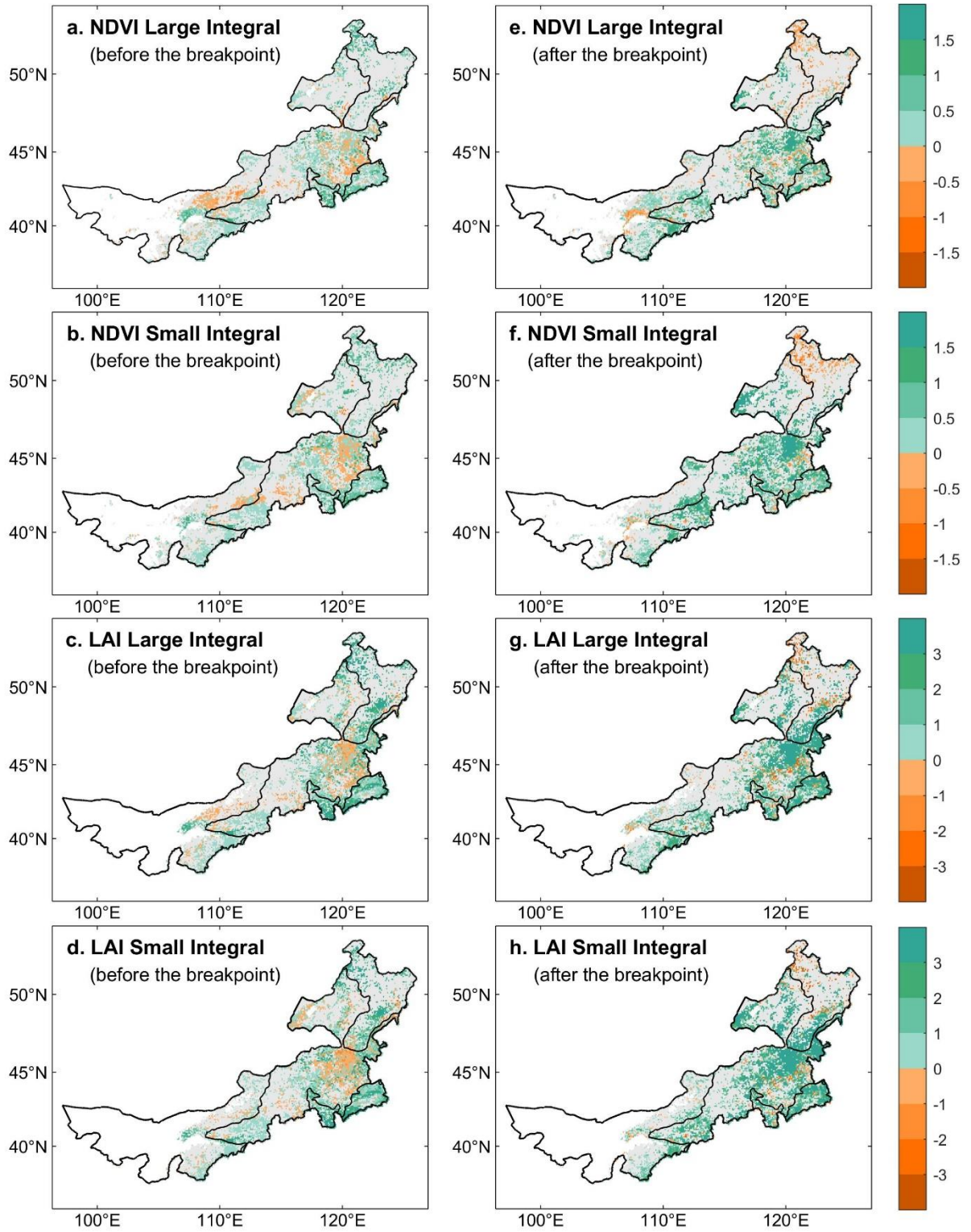


Figure S3. Spatial distribution of trends before and after the breakpoints, (a)-(d) shows the trends of NDVI/LAI integrals before the breakpoints, (e)-(h) shows the trends of NDVI/LAI integrals after the breakpoints. Pixels with no breakpoint are reported in grey while white areas indicate regions with no data (i.e., non-vegetated areas or missing data).

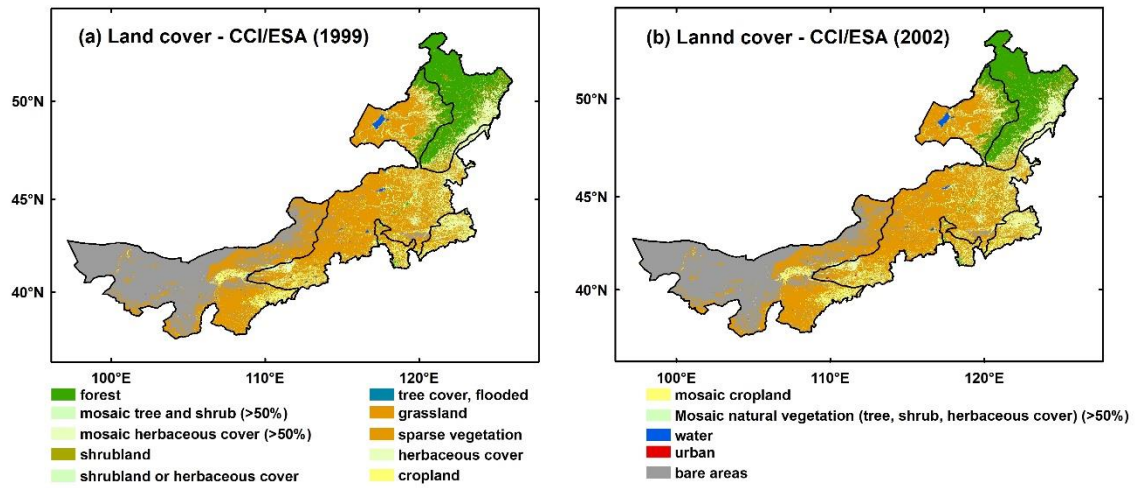


Figure S4. Land cover map provided by ESA-CCI. (a) Land cover in 1999. (b) Land cover in 2002.