

Supplementary Materials

Global Land Cover Maps (2003 & 2015) were downloaded from the European space Agency Land cover products and masked to the extent of Ghana. By default, the ESA land cover map has 23 land cover classes. The maps were simplified by merging similar land cover classes. The final land cover maps used in further analysis have 7 land cover classes. The table below shows the actual and revised land cover classes.

Table S1. Historical land cover maps of the study area.

ESA ID	ESA Land Cover Class	Revised Class
10	Cropland (Rainfed)	Arable Land
20	Cropland (Irrigated)	
30	Mosaic cropland	
11	Herbaceous cover	Shrub/Herb Cover
100	Mosaic tree and shrub (>50%) / herbaceous cover (<50%)	
110	Mosaic herbaceous cover (>50%) / tree and shrub (<50%)	
120	Shrubland	
122	Shrubland deciduous	
153	Sparse Herbaceous Cover (<15%)	
180	Shrub/Herb Cover (Flooded)	
40	Mosaic natural vegetation (tree/herb. cover) (>50%) /cropland (<50%)	Forest
50	Tree Cover (Broadleaved)herbaceous cover) (>50%) / cropland (<50%)	
60	Tree Cover (Broadleaved)(herbaceous cover) (>50%) / cropland (<50%)	
62	Tree Cover (Broadleaved)(herbaceous cover) (>50%) / cropland (<50%)	
150	Sparse Tree Vegetation	
160	Tree Cover (flooded)	
170	Tree Cover (flooded)	
130	Grassland	Grassland
190	Urban Areas	Urban Areas
200	Bare Areas	Bare Areas
201	Bare Areas (Consolidated)	
202	Bare Areas (Unconsolidated)	
210	Water Bodies	Water Bodies