

Article	Place	Water body surface (Km ²)	Satellite	Studied period	Image number	Atmospheric correction	Classification	Cover (ha or %)	Seasonal coverage (the highest cover)	Index	range NDVI	Seasonal variability of NDVI (highest NDVI)	Water quality parameters
Shekede 2008	Lake Chivero, Zimbabwe, South Africa	26.32	Landsat-2	1976	1	Level 1 TOA	-	967	-	NDVI	0-0.86 (0.35)	-	-
			Landsat-5	1989	1			863			0-0.82 (0.51)		
				2000	1			806			0-0.61 (0.3)		
Cavalli et al 2009	Winam Gulf, Lake Victoria, Kenya, Oriental Africa	1400	Landsat 7 ETM+	1999, 2001	2	Level 2 BOA (6S)	Minimum Distance algorithm and spectral unmixing	500 - 3000	May > Aug > Jul, 2005; Jan>Jun>Dec, 2006	-	-	-	Field sampling and Remote sensed data (Chl-a, CDOM and TSS)
			ASTER	2002 - 2006	4	N/A							
			MERIS (WQ data)	2001	1	Level 2 BOA							
Kiage et al 2011	Winam Gulf, Lake Victoria, Kenya, Oriental Africa	1400	MODIS	2001-2005	11	Level-1B BOA	-	5000-12000	-	NDVI	>0.1	-	-
				2006-2007				25000-35000					
				2008-2009				15000-20000					
				2010				35306					
Dube 2014	Lake Mutirikwi, Zimbabwe, South Africa	910	Landsat	1984, 1995, 2001, 2011	4	Level 2 BOA (FLAASH)		N/A	-	NDVI	0-0.32	-	-
Robles et al 2015	Lake Columbus, Mississippi, USA	12.08	Landsat-5	2005, 2006	5	N/A	-	-	-	NDVI	0.8 - 0.96	Jul, Sep	-
	Lake Aberdeen, Mississippi, USA	9.67											
Dube et al 2017	Lake Chivero, Zimbabwe, Africa	61	Landsat- 7, 8	2015	2	Level 2 BOA (FLAASH)	Discriminant analysis	N/A	-	-	-	-	-
Dube et al 2017a	Lake Manyame, Zimbabwe, Africa	81	Landsat- 8	N/A	N/A	Level 2 BOA (FLAASH)	(Partial Least Squares) - Discriminant Analysis	N/A	-	-	-	-	-
	Lake Chivero, Zimbabwe, Africa	61					N/A	N/A	-	-	-	-	-
Dube et al 2018	Lake Chivero, Zimbabwe, Africa	61	Landsat 1- 8	1973 - 2014	7	Level 2 BOA (FLAASH)	Discriminant analysis	0-590	-	-	-	-	-
Ongore 2018	Winam Gulf, Lake Victoria, Kenya, Oriental Africa	1920	Landsat-7	2014	9	Level 1 TOA	Jeffries Matusita distance spectral angle and Bray Curtis similarity	6000	Sep	NDVI	N/A	N/A	-
			Landsat-7, 8	2015	12			4000	Oct				
			Landsat-8	2016	12			10000	Oct				
			Sentinel-2	2017	12			10000	Jan				
Thamaga & Dube 2018	Greater Letaba river, South Africa	N/A	Landsat-8, Sentinel-2	2017	N/A	Level 2 BOA (DOS)	Discriminant Analysis, Maximum likelihood classifier	N/A	-	NDVI, NDWI, EVI, SRI, SAVI, GI, GNDVI, Cigreen, ARVI, RVI, TVI, OSAVI, RDVI, VGI, NGI, and DVI (combined use)	N/A	N/A	-
Mukaronwiro et al 2019	various water bodies, Rwanda, East African	N/A	Landsat-8	2016	3	Level 2 BOA (FLAASH)	Random Forest, Support Vector Machine	3-40% depending on water body	-	-	-	-	-
Thamaga & Dube 2019	Greater Letaba river, South Africa	N/A	Sentinel-2	2017	9	Level 2 BOA (DOS)	Linear Discriminant Analysis	28% (dry) -68% (wet)	Oct	NDVI, NDWI, EVI, SRI, SAVI, GI, GNDVI, Cigreen, ARVI, RVI, TVI, OSAVI, RDVI, VGI, NGI, DVI (combined use)	N/A	N/A	-
Ghoussein et al 2019	Al kabir river, Lebanon	0.4	Sentinel-2	2015	5	Level 2 BOA (Sen2Cor)	-	1.9	oct	FVC	N/A	-	-
				2016	18			3.8	Sep				
				2017	19			3.8	oct				
				2018	34			10.5	aug				
Asmare et al 2020	North Eastern Lake Tana, Ethiopia	3032	Landsat 8 OLI	2013	1	Level 2 BOA	Decision tree; maximum likelihood classifier	112.1	-	-	-	-	-
				2015	1			168.7					
				2017	1			1512					
				2015				278.3	feb				
Dersseh et al 2020	Lake Tana, Ethiopia	3156	Sentinel-2	2016	N/A	Level 1 TOA	Random Forest	613.6	oct	NDVI	0.27-0.47	N/A	-
				2017				1108.7	sep				
				2018				2036.5	dec				
				2019				2504.5	dec				
Worqlul et al 2020	North Eastern Lake Tana, Ethiopia	N/A	PlanetScope MODIS (WQdata)	2017 - 2018	12	N/A	Maximum likelihood classifier	300-1600	Apr	-	-	-	Remotely sensed Water temperature, turbidity, lake level
Singh et al 2020	98 water bodies, South Africa	15573	Landsat-8, Sentinel-2	2013, from 2015-2019	275	Level 1 TOA	Random Forest	41800 (2013)	N/A	MNDWI, NDVI, LSWI, GARI, NDAVI (combined use)	N/A	N/A	-
Baretheur 2020	Bellandur Lake, India	1.25	Sentinel-2, WorldView 02	2002 - 2019	31	Level 1 TOA	maximum likelihood classifier	N/A	N/A	-	-	-	-
	Varthur, India	1						N/A	N/A				
Al-lami et al 2021	Tigris River, Iraq	N/A	Landsat 8 OLI	2016	1	N/A	-	N/A	N/A	CI Green, EVI, NDVI, MSAVI2, SAVI, DVI, ARVI, MSI (in order of accuracy)	0.39-0.47	N/A	N/A
Mukaronwiro et al 2021	Rwanda, East African	N/A	Landsat	1989	N/A	Level 2 BOA (FLAASH)	Random Forest	50000	N/A	-	-	-	-
				2002				83000					
				2017				49000					
Djihouessi 2021	Lake Nokoué, Benin, Africa	150	Sentinel-2	2016 - 2017	N/A	N/A	-	25-976	Dec	NDVI	0.3-0.9	Dec	Filed data temperature, pH, salinity, dissolved oxygen, transparency, nutrients, and Chl-a
Kleinschroth et al 2021	20 reservoirs around the world	149 - 152800	Landsat	1984-2018	N/A	N/A	-	18-514	N/A	NDVI	>0.3	N/A	-
This study	North Eastern Lake Tana, Ethiopia	N/A	Sentinel-2	2020	12	Level 2 BOA (Sen2Cor)	-	< 18	Jan, Nov	NDVI	0.6-0.95	Oct	Remote sensng: TSM, Chl-a; Field data: Air Temperature