

Supplementary Material

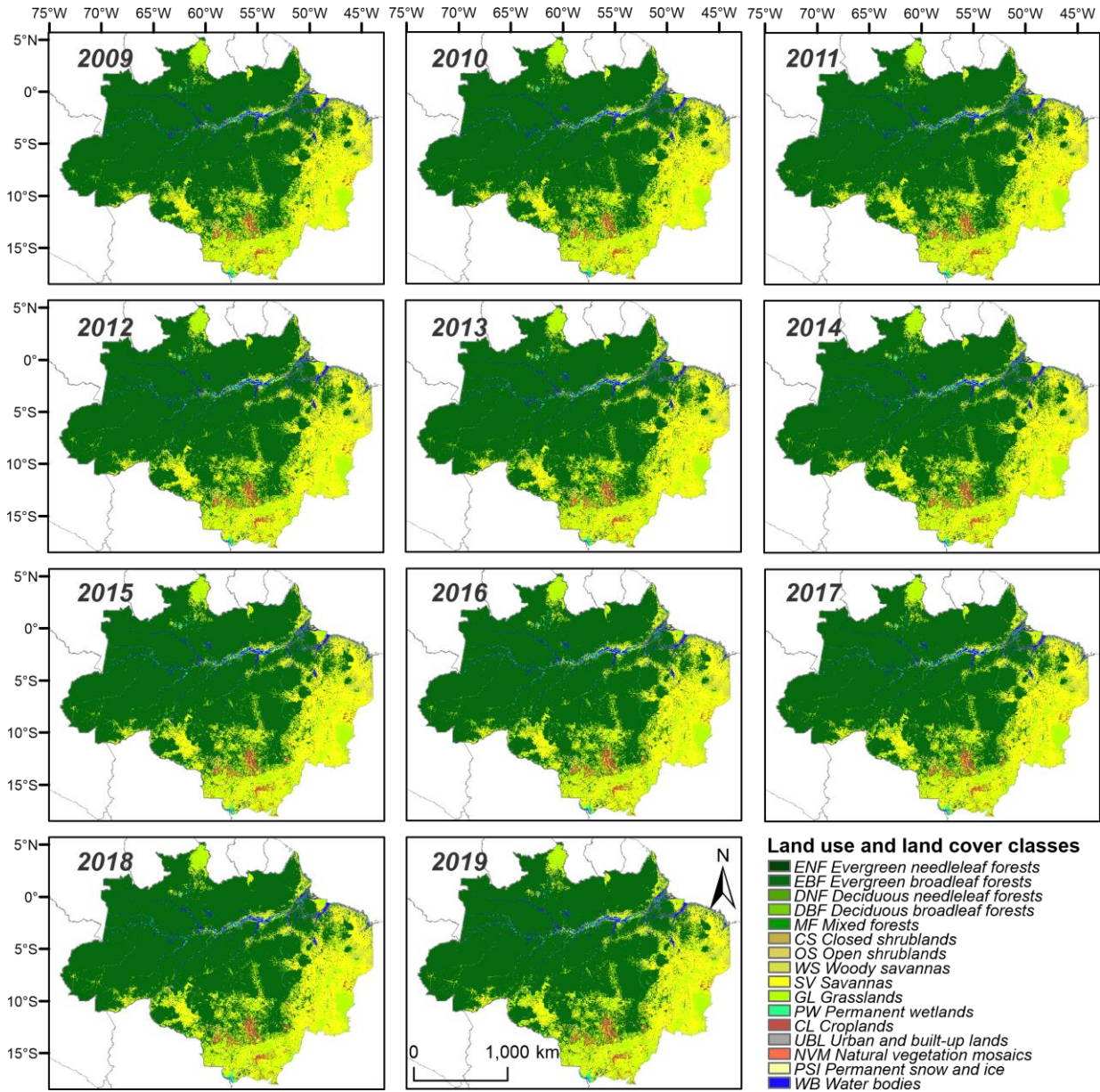


Figure S1. Land use and land cover classes in the BLA between 2009-2019.

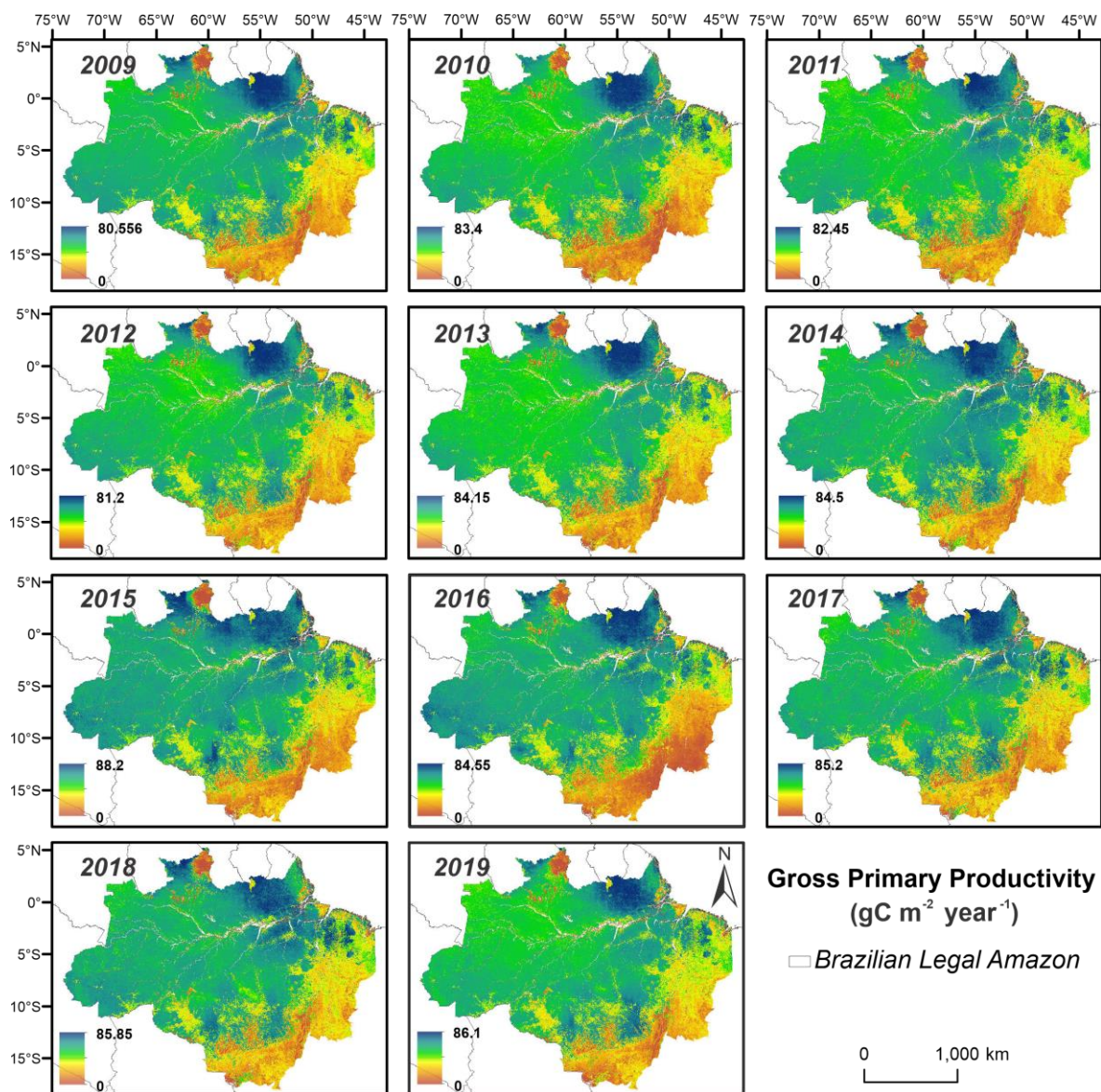


Figure S2. Annual median of gross primary production (gC m⁻² year⁻¹) in the BLA between 2009 to 2019.

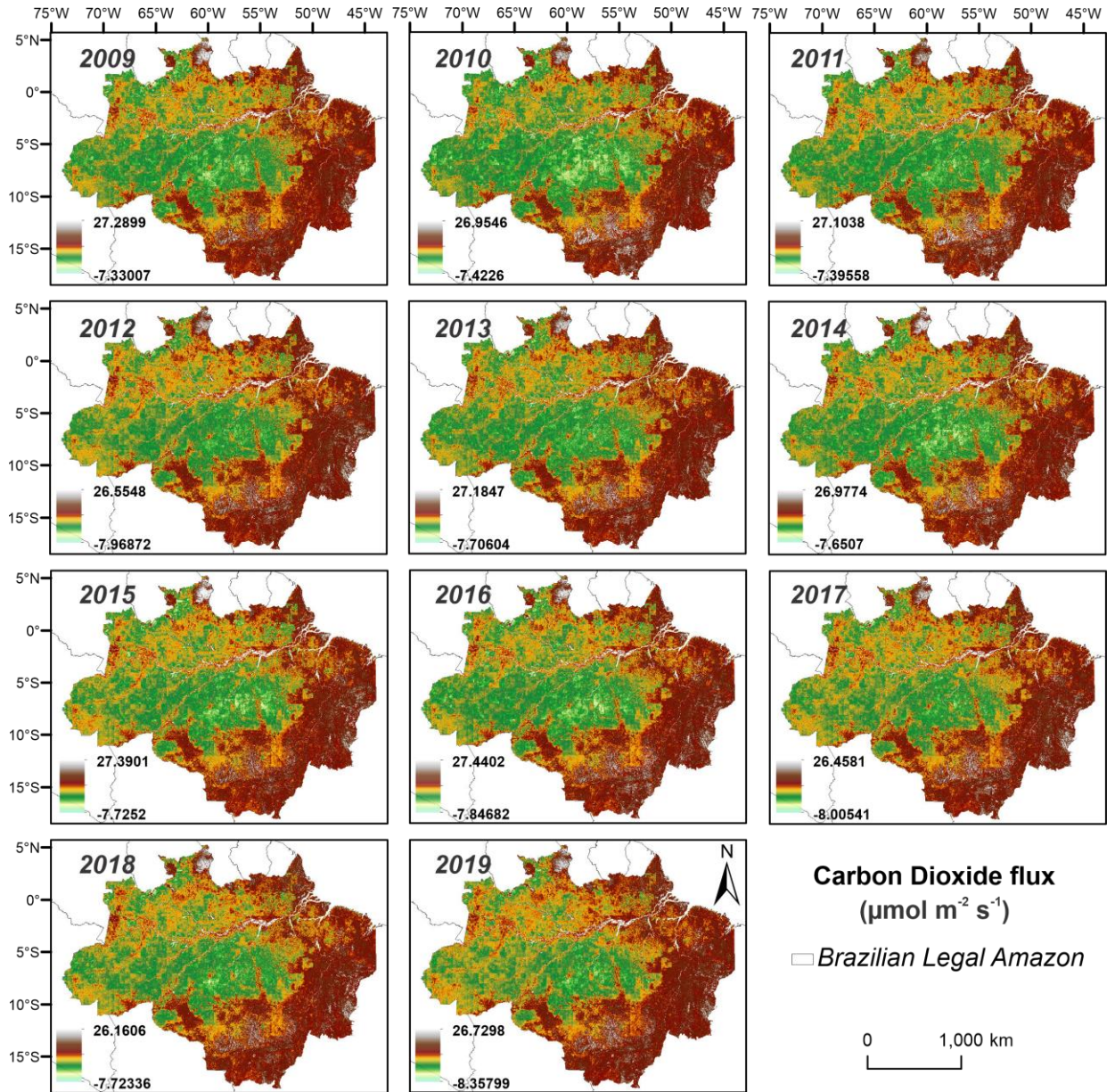


Figure S3. Annual median of carbon dioxide fluxes ($\mu\text{mol m}^{-2} \text{s}^{-1}$) in the BLA between 2009 to 2019.

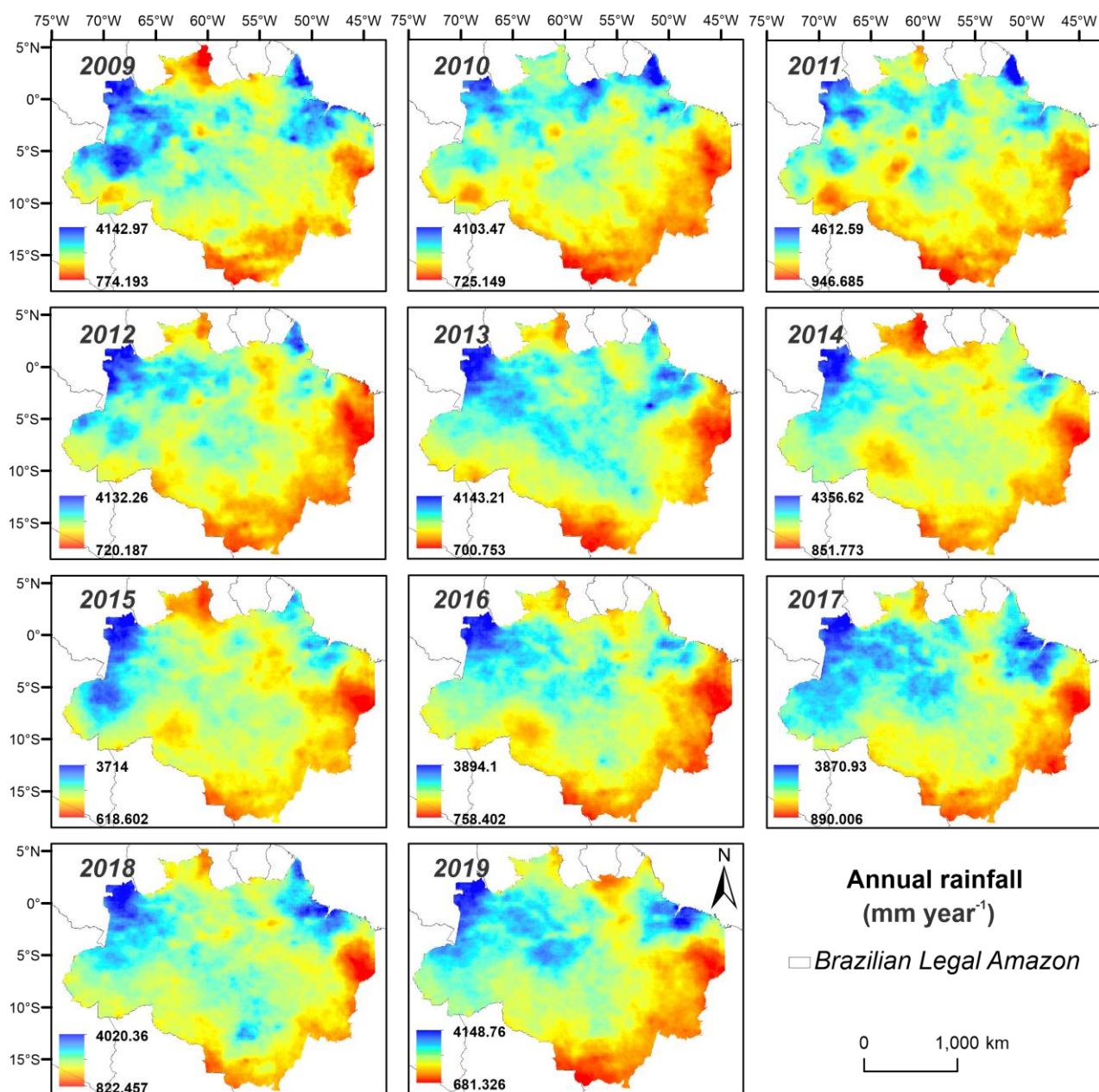


Figure S4. Accumulated rainfall (mm year⁻¹) retrieved from CHIRPS data of the Legal Amazon from 2009 to 2019.

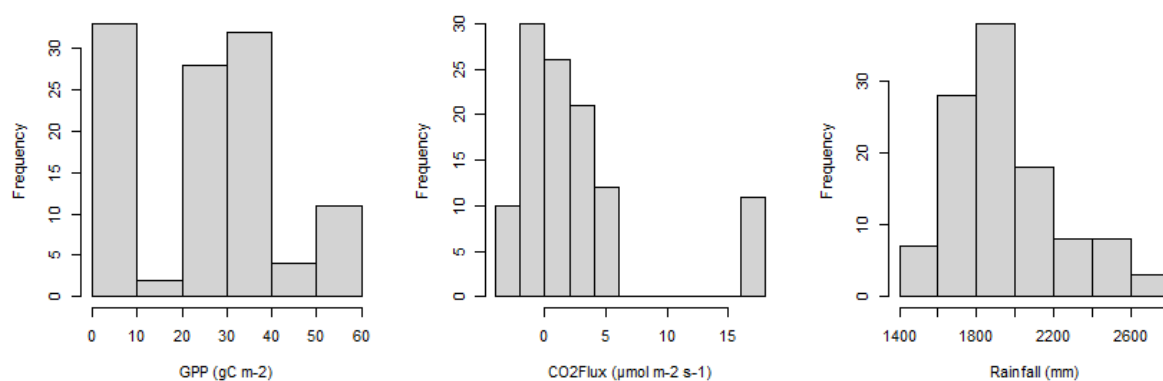


Figure S5. Histogram of the distribution frequency of GPP, CO₂Flux and Rainfall data.

Table S1. Median values for the variables GPP, CO₂Flux and Rainfall, for each use and land cover in the Legal Amazon from 2009 to 2019.

Classes	GPP (gC m ⁻²)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
EBF¹	51.53	51.98	51.78	51.53	50.23	53.88	55.20	54.50	53.48	55.43	52.45
DBF	34.63	33.38	38.55	33.15	36.58	37.43	30.90	22.90	36.05	39.20	38.75
MF	32,65	29.00	30.43	34.33	32.93	28.95	28.95	22.35	36.23	35.80	35.23
WSV	40.15	36.63	39.70	38.08	41.73	39.68	39.25	35.53	42.50	43.10	41.93
SV	33.30	31.28	31.13	30.88	30.43	32.78	28.00	23.53	31.30	35.90	36.00
GL	26.43	29.15	28.23	23.60	22.60	26.80	23.70	16.25	25.48	29.30	31.25
PW	0.45	0.60	0.65	0.65	0.60	0.73	0.55	0.43	0.65	0.65	0.65
CL	22.85	19.05	21.63	21.65	20.68	22.35	21.00	16.88	22.78	23.00	24.03
UBL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Classes	CO ₂ Flux (μmol m ⁻² s ⁻¹)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
EBF	-2.95	-3.55	-3.07	-2.88	-1.44	-3.55	-3.23	-3.17	-3.13	-3.47	-3.50
DBF	-0.28	0.05	-0.07	0.09	-0.16	-0.13	0.06	0.04	-0.17	-0.07	0.03
MF	-0.39	0.11	-0.14	-0.22	-0.48	-0.06	-0.43	-0.09	-0.28	-0.53	-0.39
WSV	-0.89	-0.54	-0.97	-0.51	-0.48	-0.98	-0.44	-0.57	-0.31	-0.74	-0.72
SV	0.13	0.57	0.22	0.69	0.31	-0.08	0.38	0.61	0.15	0.11	0.01
GL	3.74	2.47	2.13	2.51	2.69	3.70	2.55	2.72	2.76	2.98	2.85
PW	0.42	1.00	0.93	0.97	0.43	1.00	0.74	0.76	0.72	0.67	0.43
CL	3.32	4.93	3.63	3.24	3.07	3.69	2.98	3.47	3.57	3.13	3.45
UBL	5.19	5.69	5.98	5.63	5.91	5.80	5.87	5.97	5.84	5.87	5.66
WB	15.69	17.28	16.09	16.41	16.93	15.85	15.04	15.44	15.25	15.66	15.44
Classes	Rainfall (mm)										
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
EBF	2,402	2,360	2,507	2,569	2,792	2,446	2,163	2,430	2,581	2,435	2,522
DBF	1,750	1,475	1,740	1,491	1,941	1,940	1,546	1,660	1,784	1,903	1,554
MF	1,769	1,528	1,780	1,677	2,016	1,910	1,643	1,716	1,819	1,978	1,598
WSV	2,129	1,810	2,182	1,788	2,023	2,109	1,706	1,764	1,852	1,880	1,846
SV	1,767	1,584	1,677	1,771	1,983	1,763	1,530	1,716	1,831	1,854	1,562
GL	2,091	1,808	2,018	1,798	1,848	1,680	1,533	1,605	1,749	1,856	1,758
PW	2,025	1,702	2,098	1,765	2,005	1,976	1,707	1,806	1,826	2,051	1,959
CL	1,785	1,527	1,897	1,682	1,815	1,942	1,563	1,688	1,884	2,074	1,658
UBL	1,935	1,830	2,061	1,885	2,046	1,999	1,605	1,679	1,999	2,057	2,120
WB	2,378	1,976	2,318	1,944	2,453	2,395	1,895	2,292	2,446	2,170	2,310

¹ Evergreen Broadleaf Forests (EBF), Deciduous Broadleaf Forests (DBF), Mixed Forests (MF), Woody Savannas (WSV), Savannas (SV), Grasslands (GL), Permanent Wetlands (PW), Croplands (CL), Urban and Built-up Lands (UBL) and Water Bodies (WB).

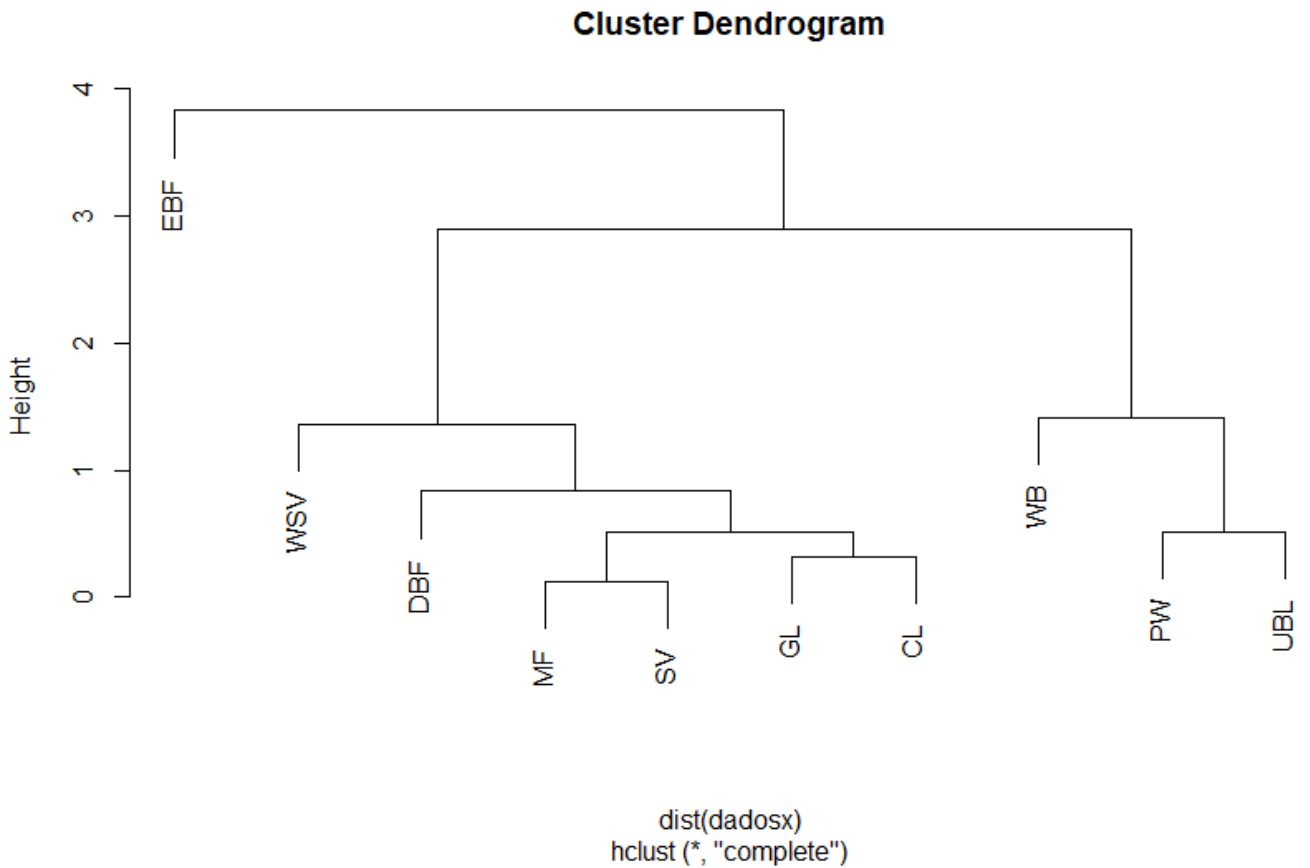


Figure S6. Cluster analysis for Evergreen Broadleaf Forests (EBF), Deciduous Broadleaf Forests (DBF), Mixed Forests (MF), Woody Savannas (WSV), Savannas (SV), Grasslands (GL), Permanent Wetlands (PW), Croplands (CL), Urban and Built-up Lands (UBL) and Water Bodies (WB) classes.