

Updated Land Use and Land Cover Information Improves Biomass Burning Emission Estimates

Supplementary Materials

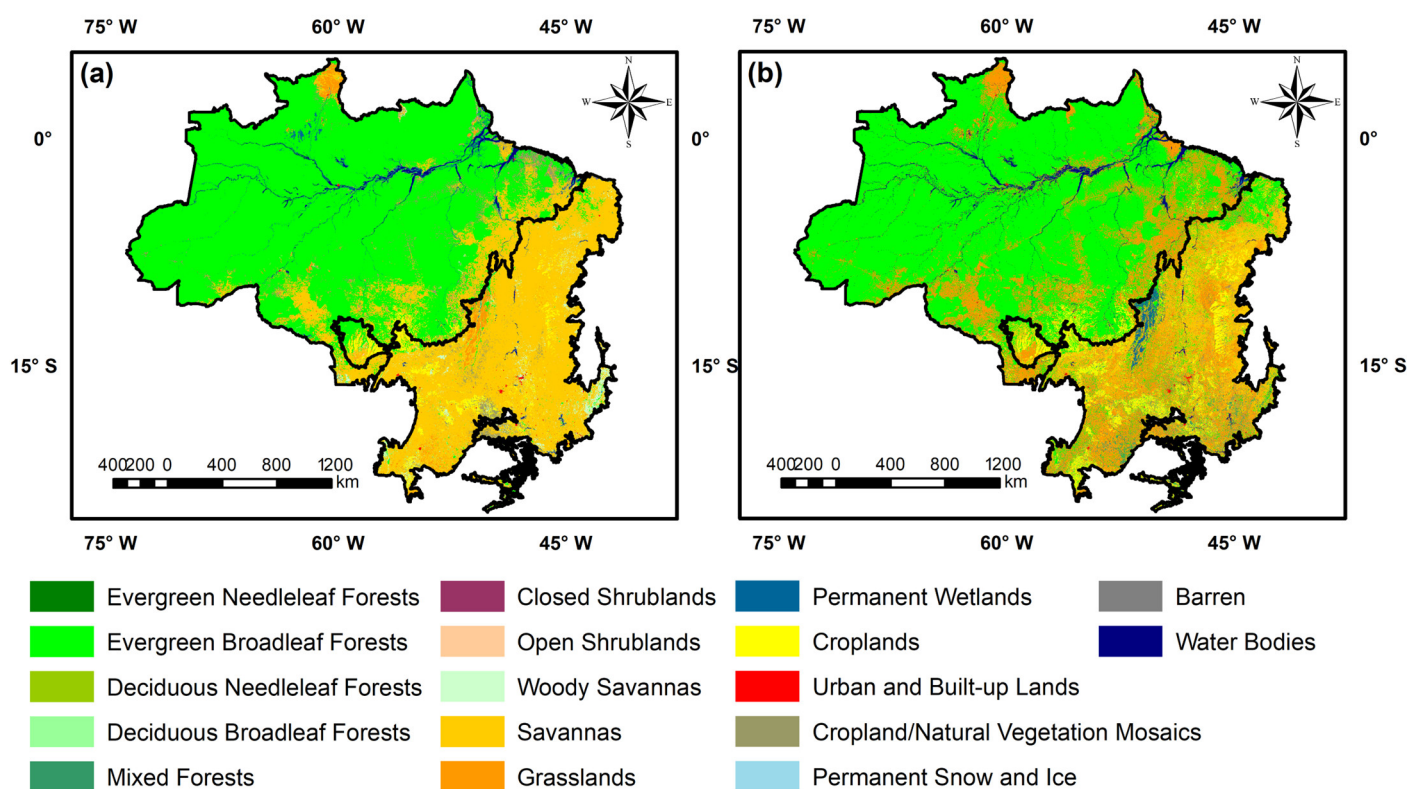


Figure S1. Land use and land cover (LULC) in the Amazon and Cerrado biomes for the year 2020 considering the old (a— MCD12Q1 collection 5.1, year 2013) and new (b—MapBiomas collection 6.0, year 2020) LULC information implemented on PREP-CHEM-SRC. The MapBiomas original LULC classes were reclassified to match the IGBP classification scheme.

Table S1. Difference in the annual and total PM_{2.5} emitted from biomass burning (Gg) in the Amazon biome per LULC during the 2002-2020 time series when comparing the estimates obtained with the new (MapBiomass collection 6.0) and old (MCD12Q1 collection 5.1) LULC information. The forest-related class comprises the evergreen needleleaf forest, evergreen broadleaf forest, deciduous needleleaf forest, deciduous broadleaf forest, mixed forest, and the cropland/natural vegetation mosaic LULC classes. The savanna-related class comprises the closed shrubland, open shrubland, woody savanna, savanna, and grassland LULC classes. The croplands class is represented by the cropland LULC class. The other class comprises the permanent wetlands LULC class.

LULC	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2002-2020
Forest-related	-530	-583	-699	-887	-509	-76	-86	-175	-60	-22	-116	-37	-120	-204	-188	-244	-162	-305	-272	-5276
Savanna-related	524	553	626	864	498	45	71	168	49	20	106	30	103	177	172	224	150	281	241	4903
Croplands	10	30	72	21	12	28	15	5	14	4	12	7	16	24	17	20	10	24	30	372
Others	-4	0	1	1	0	3	0	2	-3	-2	-1	0	1	3	0	0	1	0	1	0

Table S2. Difference in the annual and total PM_{2.5} emitted from biomass burning (Gg) in the Cerrado biome per LULC during the 2002-2020 time series when comparing the estimates obtained with the new (MapBiomass collection 6.0) and old (MCD12Q1 collection 5.1) LULC information. The forest-related class comprises the evergreen needleleaf forest, evergreen broadleaf forest, deciduous needleleaf forest, deciduous broad-leaf forest, mixed forest, and the cropland/natural vegetation mosaic LULC classes. The savanna-related class comprises the closed shrub-land, open shrubland, woody savanna, savanna, and grassland LULC classes. The croplands class is represented by the cropland LULC class. The other class comprises the permanent wetlands LULC class.

LULC	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2002-2020
Forest-related	86	85	77	109	51	226	71	37	150	41	118	50	76	117	109	116	36	55	66	1676
Savanna-related	-146	-148	-144	-173	-86	-405	-124	-53	-360	-92	-222	-96	-145	-196	-199	-236	-77	-164	-151	-3216
Croplands	17	22	33	17	13	44	23	10	65	22	31	23	28	28	25	47	23	45	44	559
Others	43	41	34	47	22	135	30	5	145	29	72	23	42	51	65	73	19	64	42	981