MAPBIOMAS VENEZUELA

LEGEND DESCRIPTION - MAPBIOMAS VENEZUELA COLLECTION 1.0

Level 1	Level 2	Region	Description	Classification FAO (2012)	USGS (1976)	Corine (2018)	IPCC	Google Earth	Landsat Natural Color (RGB: 321)	Landsat False Color Image (RGB: 453)	Landscape
1. Forest	1.1. Forest formation	North / Amazon	Natural formation dominated by tree elements, generally with vertical stratification and the presence of various forms of growth according to the stratum: terrestrial herbs, vascular and non-vascular epiphytes, shrubs, and lianas. It has at least one continuous canopy stratum. These forest communities include evergreen, semi-deciduous, and deciduous species. They can be found in a wide variety of landscapes such as plains, plateaus, foothills, terraces, hills, ridges, mountains, and valleys	FEP, FEM, FEY, FDP, FSM, FDY, FSP, FSM, FSY	4 Forest Land	3.1. Forests	NMF	https://drive.google.com/file/d/1lI0kVLzpVp9YUt-HbcvgP8kF-ff6TOMc/view?usp=drive_link	https://drive.google.com/file/d/1rr_9d2er-MkRPDJucjvF73ADHvzH8v6p/view?usp=drive_link	https://drive.google.com/file/d/1lq4DyiFGu-LK3j5nW9Fme9DOu4DUkIDI/view?usp=drive_link	P(3).jpg
	1.2. Wooded savanna	North	Formation dominated by grasses, in addition to other herbaceous components. Generally, it presents low and twisted tree and/or shrub individuals with adaptations to fire. The most common woody elements in savannas are the chaparro (Curatella americana), the corkwood (Bowdichia virgilioides), and the manteco (Byrsonima crassifolia). Although there is great heterogeneity in savannas, where other woody species dominate, isolated tree clusters known as 'mata' can also be found, and occasionally isolated or grouped palms in various types of palm groves. The wooded savanna interrupts a more or less continuous and dominant matrix of often xeromorphic herbaceous plants, commonly known as savanna.	WG	3 Rangeland 33 Mixed Rangeland	3.2. Scrub and/or herbaceous associations	NMF	https://drive.google.com/file/d/1TbmkcMnsUGD_aySdcqnn13-l0uiQtzZF/view?usp=drive_link	https://drive.google.com/file/d/1RdAYo78vhkTemjYhYMUiUAyWaiJLwhWe/view?usp=drive_link	https://drive.google.com/file/d/199PcoEdq3aPNFTAZvB5mfC5ULkEG3CzN/view?usp=drive_link	P(4).jpg
	1.3. Mangrove	North / Amazon	Forest restricted to coastal and estuarine deltaic areas, composed of halophytic trees. It is distributed in coastal zones, located in tidal influence areas and in brackish coastal lagoons. The four main constituent species of this type of forest are: red mangrove (Rhizophora mangle), black mangrove (Avicennia germinans), white mangrove (Laguncularia racemosa), and buttonwood mangrove (Conocarpus erectus).	FEP, FEM	6 Wetland 61 Forested Wetland	3.1. Forests 4.2. Marine wetlands	NMF	https://drive.google.com/file/d/1QBdplgnnS4GND5uLopr4JlSq7CqgA2Z5/view?usp=drive_link	https://drive.google.com/file/d/1RL1jr0VmhQ02IwWv5cOeSQD17CQ5sd-h/view?usp=drive_link	https://drive.google.com/file/d/1tziQY-be4n3Rr7KFXGbVeKDeOItcc2X2/view?usp=drive_link	P(5).jpg
	1.4. Wetland forest	North / Amazon	Forest formation subject to a regime of permanent or seasonal, intra- or inter-annual flooding. Topographically, it is associated with river floodplains, depressions, marshy environments, or deltas, and alluvial plains affected by sedimentation and changes in river course.	FEP, FEM, FEY, WW	6 Wetland 61 Forested Wetland	3.1. Forests 4.1. Inland wetlands	NMF	https://drive.google.com/file/d/15knmJD5NbIbWNwIfaP_GqE-uXk50I-6A/view?usp=drive_link	https://drive.google.com/file/d/1k9Klodqw6EE6Yw9hmNwFPnNMwDvSHL-5/view?usp=drive_link	https://drive.google.com/file/d/1y9OEIwyS8Ir9r3xnkos2yWGhpbTanUIA/view?usp=drive_link	P(6).jpg
2. Non forest natural format	2.1. Flooded grassland/shrubland	North / Amazon	Formations in which herbaceous and/or shrub-like growth forms can dominate. These communities are subject to a regime of permanent or seasonal, intra- and inter-annual flooding. Topographically, these communities are associated with river floodplains, depressions, marshy environments, deltas, and alluvial plains affected by sedimentation and changes in river courses. It includes floodable savanna communities in Los Llanos. This class also encompasses aquatic vegetation communities and even floating vegetation, savannas with palms, and broad-leaved herbaceous vegetation over swamps.	WW, OM	6 Wetland 62 Non forested Wetland	3.2. Scrub and/or herbaceous associations 4.1. Inland wetlands	NMG, W	https://drive.google.com/file/d/1iXefYbMX1Aq31xFw8_vqmCVJE5Cy3Zfp/view?usp=drive_link	https://drive.google.com/file/d/1k7CFlZRh8YmUin3TsQhJhDy3Y5kRjXNB/view?usp=drive_link	https://drive.google.com/file/d/1y2cHviWZvigjtWIrJFGmwLFFiB9WclOl/view?usp=drive_link	P(11).jpg
	2.2. Grassland	North / Amazon	It encompasses a wide variety of predominantly herbaceous formations. Savannas are primarily distributed in Los Llanos. These are communities characterized by a more or less dense and continuous herbaceous stratum dominated by grasses, often of the feather grass (Trachypogon spicatus) type, as well as other similar habit species belonging to the genera Axonopus, Panicum, and Paspalum. In the Andes, it includes paramo grasslands with rosette-like, stemless growth forms, graminoid plants, tussock vegetation of lower vascular plants, among others. These communities are mainly present in the high-altitude altimontane zone (3000 to 4000 meters above sea level). In the Amazon, it can include: open savannas, wooded savannas, shrubby savannas, savannas with palms and chaparrals, secondary open savannas, and other secondary herbaceous communities. Although open savannas were separated from wooded savannas in northern Venezuela, in the Amazon, they are part of this single class.	OG, WG	3 Rangeland 31 Herbaceous Rangeland	3.2. Scrub and/or herbaceous associations	NMG	https://drive.google.com/file/d/18bqmzEuVs3DHrZ0murOsRGhCm3WyIxwE/view?usp=drive_link	https://drive.google.com/file/d/1SxC-LNFTL_I1LW1lw57zdkacSuFtO4Ax/view?usp=drive_link	https://drive.google.com/file/d/1zZoYacRiUgBqcT3rMJyRteYbN_8Qg-EH/view?usp=drive_link	P(12).jpg
	2.3. Rocky outcrop	North / Amazon	Rocks naturally exposed on the Earth's surface or the exposure of lithological material as a result of landslides. In the Andes, this corresponds mainly to the high Andean altitudinal zone (4000 to 4600 meters above sea level), where vegetation cover is very scarce or absent. These are communities characterized by rosette-like growth forms and cushion plants adapted to paramo environments, and patches of tussock vegetation of lower vascular plants may be present. In the subnival altitudinal zone at elevations above 4600 meters above sea level, vegetation cover is absent. In the Amazon, occasionally with partial coverage of saxicolous vegetation (that which grows on rocky outcrops, rock walls, or hillside debris) or rupicolous vegetation (grows in rock crevices and fissures), which constitute highly specialized communities that grow on rocky substrates.	OX	7 Barren Land 74 Bare Exposed Rock	3.3. Open spaces with little or no vegetation	RO	https://drive.google.com/file/d/1cPVFeGbWeDkXquEw5jvTaX2dE3NRoh6O/view?usp=drive_link	https://drive.google.com/file/d/1Qq7755UjC33IVJnPCAEKkzCGBBR5vyf3/view?usp=drive_link	https://drive.google.com/file/d/1nwg5249nRkYq9p4kW5wJaLmwQoOgNncT/view?usp=drive_link	P(29).jpg
	2.4. Hypersaline tidal flat	North	Coastal lagoon formed by detrital sediments on coastal areas, bays, and estuaries. It is characterized by its concave and shallow topography. Generally, it exhibits high rates of evaporation. The salinity and depth of the water sheet depend on freshwater currents, precipitation, and the type of connection with tides.	OX	7 Barren Land 71 Dry Salt Flats.	3.3. Open spaces with little or no vegetation	SE	https://drive.google.com/file/d/1VjznCE7YxNd1rkqIBP7zccUkLPk1mWVV/view?usp=drive_link	https://drive.google.com/file/d/1dhqoCtXg8X5c2lT9oQEcqYbnNnNXzyCA/view?usp=drive_link	https://drive.google.com/file/d/14-5SjPWnyDT-bjReXjzRPBfQr33kkzvr/view?usp=drive_link	P(32).jpg
	2.5. Xerophytic grassland/shrubland	North	Formation composed of often succulent, creeping herbaceous plants and/or low, sparsely covered shrublands.	OG,WS	3 Rangeland 31 Herbaceous Rangeland 32 Shrub and Brush Rangeland 33 Mixed Rangeland	3.2. Scrub and/or herbaceous associations	NMG	https://drive.google.com/file/d/1HLAwU7FuIBbZYFDkVblKAlXCtvZaCASC/view?usp=drive_link	https://drive.google.com/file/d/1mBOpaCsWs3fBVbcWoS68mFnNKEZc9EF6/view?usp=drive_link	https://drive.google.com/file/d/1YU9C8JGWZUBp3PW7YNnQhnrnAHdMACN-/view?usp=drive_link	P(50).jpg
	2.6. Other non-forest natural formations	North / Amazon	It is composed of a variety of shrub communities dominated by woody individuals that branch from the base. Generally, with heights of less than 5 meters and an irregular canopy. It may include armed species in communities of cardonales (cactus communities) and thorn scrub in coastal areas. In the Venezuelan Andes, it includes rosette-like, caulescent (stemmed), and shrubby growth forms (paramo shrubland). It is a transitional community found in the high-altitude altimontane zone (3000 to 4000 meters above sea level). In the Amazon, it consists of vegetation typical of tepuis (tabletop mountains), shrublands, and herbaceous plants with particular growth forms such as broad-leaved, tubiform, rosette-like, and shrubby plants growing on rocks, sand, and peat. These communities exhibit high diversity and endemism.	OG,WS, WG	3 Rangeland 31 Herbaceous Rangeland 32 Shrub and Brush Rangeland 33 Mixed Rangeland	3.2. Scrub and/or herbaceous associations	NMG	https://drive.google.com/file/d/1E4Sc-pFVBmlvetXOIw-uOyeA1S83c-fd/view?usp=drive_link	https://drive.google.com/file/d/1wGwF-kTdFD5NITutfMPGUXN-ZGlkvBez/view?usp=drive_link	https://drive.google.com/file/d/1cf0ps0RrCQX3JAD8D68W6IHLn-brWLu_/view?usp=drive_link	P(13)_Norte.jpg
3. Farming	3.1. Pasture	Amazon	Pasture area where natural vegetative cover has been altered or replaced through the cultivation of grasses and legumes used for livestock feed.	OP	2 Agricultural Land 21 Cropland and Pasture	2.3. Pastures	P	https://drive.google.com/file/d/1LIq47xcvcqgmSybqEzIiaCd9opo21Yav/view?usp=drive_link	https://drive.google.com/file/d/1CHV9MF3G_LHMymbsMOKOy5ptwgiKgRfB/view?usp=drive_link	https://drive.google.com/file/d/1UPe7zKnCEZE1NkQNOebv9GkPJ_bg1BIK/view?usp=drive_link	P(15).jpg
	3.2. Cropland	Amazon	Cultivation of plants with the purpose of harvesting various organs, which can include fruits, leaves, stems, roots, tubers, etc. It encompasses a wide variety of production systems, ranging from extensive to intensive, rainfed crops, irrigated crops, and "conucos" (small-scale subsistence farming). In the Amazon, it includes the conucos of indigenous peoples in which it is common the production of items such as: yam (Dioscorea spp.), corn (Zea mays), cassava (Manihot esculenta), banana (Musa spp.), among others.	OCA, OCP, OCM	2 Agricultural Land 21 Cropland and Pasture	2.1. Arable land 2.2. Permanent crops 2.4. Heterogeneous agricultural areas	AC, PC, SC	https://drive.google.com/file/d/1p81iwaIGRieUDtW0JHUbop3FcnmbYQIc/view?usp=drive_link	https://drive.google.com/file/d/1W5DiPjuVh6cktYyTmuiTiMOVIf3FX2lb/view?usp=drive_link	https://drive.google.com/file/d/1zhRZbywaPHUtb8UVGxCkon_nidHcJdVE/view?usp=drive_link	P(18).jpg
	3.3. Forest plantation	North	Monospecific cultivation of standing trees, generally pine species (Pinus spp.) or eucalyptus species (Eucalyptus spp.), for the production of sawn timber, wood chips, or pulp for papermaking. This class can also include oil palm (Elaeis guineensis) and coconut (Cocos nucifera) cultivation.	FPC, FPM	4 Forest Land 42 Evergreen Forest Land	2.2. Permanent crops	MF	https://drive.google.com/file/d/1oVcISiUECXHsPM_8t8VAYUB-Uc6Gpz2r/view?usp=drive_link	https://drive.google.com/file/d/1oVcISiUECXHsPM_8t8VAYUB-Uc6Gpz2r/view?usp=drive_link	https://drive.google.com/file/d/1Z5bgGTKVk7kdxKnayXCLQmeKiXkV_7IH/view?usp=drive_link	P(9).jpg
	3.4. Cropland/pasture	North / Amazon	It encompasses pasture cultivation and agriculture, which includes a wide variety of plant crops in a diverse range of production systems. It is not possible to distinguish the boundaries between pastures and agriculture.	OP, OCA, OCP, OCM	2 Agricultural Land 21 Cropland and Pasture	2.1. Arable land 2.2. Permanent crops 2.3. Pastures 2.4. Heterogeneous agricultural areas	AC, PC, SC, P	https://drive.google.com/file/d/18_xDbq06ZoY6RapuYOaoQEaWbRQp66MC/view?usp=drive_link	https://drive.google.com/file/d/13NEZRz5r-DklfLXDJILG3eJ37FbyL5m2/view?usp=drive_link	https://drive.google.com/file/d/1vbh3BKj0z0ADKEPs5x6QjBG_0OT-Ok5Q/view?usp=drive_link	P(21).jpg
4. Non vegetated area	4.1. Beach, dune or sand	North	Sandy plains in coastal areas, accumulation areas in river floodplains, and the edges of bodies of water. It also includes dunes, which consist of rounded or elongated accumulations of sand of aeolian origin. Sometimes it includes natural bare soils, often in arid areas.	OX	7 Barren Land 72 Beaches 73 Sandy Areas other than Beaches	3.3. Open spaces with little or no vegetation	NMD, SE	https://drive.google.com/file/d/1HwTJ_nIKnJAQ3AAYZ3oBSc0-JSxbp833/view?usp=drive_link	https://drive.google.com/file/d/1ldBWX_XGNDwCWfzxyQ5X0mos5_D5PkET/view?usp=drive_link	https://drive.google.com/file/d/1k6xh7aLLVeipHC1abDhGTLsamyWSomd8/view?usp=drive_link	P(23).jpg
	4.2. Urban	North / Amazon	Area of human settlement with built environment infrastructure, including buildings and roadways. It also encompasses urban peripheries that are in constant expansion. In the Amazon, it includes indigenous communities.	OB	1 Urban or Built-up Land 11 Residential 12 Commercial and Services 13 Industrial.	1.1. Urban fabric	S	https://drive.google.com/file/d/116s7zS2fRTNJZup7ivz4W5tjHjnLhrCd/view?usp=drive_link	https://drive.google.com/file/d/1tcP_8LwZQJI8uPIlTIrIjXOo-9hjAcWV/view?usp=drive_link	https://drive.google.com/file/d/1mcWG2BGLJsATzBBcsltuJcjt_olKCNzx/view?usp=drive_link	P(24).jpg
	4.3. Mining	North / Amazon	Areas for mineral extraction, typically involving soil removal and exposure of lithological material. It includes various types of industrial mining. In northern Venezuela, it mainly involves the extraction of non-metallic minerals. In the Amazon, there are typically operations for metallic minerals, primarily gold. This includes artisanal, riverbank, or illegal extraction that results in the loss of vegetative cover, as well as soil removal and erosion.	OQ	7 Barren Land 75 Strip MinPs. Quarries, and Gravel Pits	1.3. Mine, dump and construction sites	M	https://drive.google.com/file/d/1lBTgAiGVgPX04wEXWNGIBpboA7-Ntb3Q/view?usp=drive_link	https://drive.google.com/file/d/1mmg2rhnNgXl7L6i5LvLzqWpDQdASckIR/view?usp=drive_link	https://drive.google.com/file/d/1kB3DuDu5YmigEFQmek6iVrt4DE7MJZb_/view?usp=drive_link	P(30).jpg
	4.4. Other non vegetated areas	North / Amazon	Areas devoid of vegetative cover, composed of various infrastructures such as industrial yards, ports, airports, dams, aerodromes, major roadways, and other non-urban infrastructures. This collection also includes salt flats, although this coverage corresponds to non-metallic mining.	OB, OX	1 Urban or Built-up Land 13 Industrial 14 Transportation, Communications, and Utilities 15 Industrial and Commercial Complexes.	1.2. Industrial, commercial and transport units	S	https://drive.google.com/file/d/1oIFcXC5dIgWWSVopvkb3Q7y-kkW1Ru_Q/view?usp=drive_link	https://drive.google.com/file/d/1xVJ4hALBYK9CyZcfQ4dGOLzDdeyvfR3t/view?usp=drive_link	https://drive.google.com/file/d/1qNVUgi_uDtPGmFvO4qu1aQ_LM7r0WYLS/view?usp=drive_link	P(25).jpg
5. Water	5.1. River, lake or ocean	North / Amazon	An expanse covered by natural or artificial surface water. It includes rivers, lakes, reservoirs, and other bodies of water. It also encompasses coastal-marine areas.	IRP, IRS, IL, ID, IP, XO	5 Water 51 Streams and Canals 52 Lakes 53 Reservoirs 54 Bays and Estuaries.	5.1. Inland waters 5.2. Marine waters	W	https://drive.google.com/file/d/1KhyI2EQUVOReuYzVimC6mc7psNLcnqF/view?usp=drive_link	https://drive.google.com/file/d/1tpcqgeF8Ttq5kMHhQMsFts2Jf6jDj_WY/view?usp=drive_link	https://drive.google.com/file/d/19vbLkLsxGaayoFigGGk0yAEouU1OFxoE/view?usp=drive_link	P(33).jpg
	5.2. Aquaculture	North	Infrastructure consisting of artificial ponds for the cultivation of fish, shrimp, and other aquatic invertebrates.		1 Urban or Built-up Land 17 Other Urban or Built-up Land			https://drive.google.com/file/d/1QIqSFqCcjVkWQXDHbfZ_LXPFn4aW4PmQ/view?usp=drive_link	https://drive.google.com/file/d/1YxG4lL8SiKbmn25wcVd_4U2dXr2k3aeq/view?usp=drive_link	https://drive.google.com/file/d/1pVyl3jaFsckgMfrb5jHZp0kmMUL7-iNT/view?usp=drive_link	P(31).jpg
6. Not observed	Not observed	North / Amazon	No data	90			NOA	X		X	X