

forest formation	2.3. Rocky outcrop		A geological mass that emerges on the earth's surface and occupies considerable expanses of rocky materials of different sizes. This category includes scars left by eruptive processes, lahars, and sand fields. In the Galápagos biome, it encompasses areas of old and recent lava. In the Andes biome, this category is generally found above 4000 meters above sea level, where the subalpine, alpine, and nival altitudinal zones are characterized by low or no vegetation.	OX	O	https://drive.google.com/file/d/1234567890/view/usp=sharing	https://drive.google.com/file/d/1234567890/view/usp=sharing	https://drive.google.com/file/d/1234567890/view/usp=sharing
	2.4. Other non forest formation	Amazon	In the lower amazon region, it corresponds to areas with natural vegetation predominantly consisting of shrub formations and grasslands. These occur in small patches in places where, due to environmental conditions, tree cover is not predominant. This class includes areas with highly specialized flora, not mapped in other classes, such as those dominated by bamboo in the Amazon.	WS, FB	GNM, GM, GSec, Ap	https://drive.google.com/file/d/1234567890/view/usp=sharing	https://drive.google.com/file/d/1234567890/view/usp=sharing	https://drive.google.com/file/d/1234567890/view/usp=sharing
		Andes	In the upper amazon region, it corresponds to non-forest natural coverage with vegetation that is a mixture of grasslands and shrublands. These occur in small patches with highly specialized flora, as seen in the case of the Sumaco Volcano paramo and on plateaus and slopes of sandstone outcrops in sub-Andean mountain ranges (2000-2400 m in altitude). The latter feature a mix of sclerophyllous herbaceous plants such as bromeliads and orchids growing on the ground, along with sclerophyllous shrublands with abundant epiphytes and hemi-epiphytes. Among them, there is a diversity of ferns and herbaceous species. It may also include: Montane evergreen forest on sandstone plateaus in the Cordillera del Cóndor.	WS	GNM, GM, GSec, Ap	https://drive.google.com/file/d/1234567890/view/usp=sharing	https://drive.google.com/file/d/1234567890/view/usp=sharing	https://drive.google.com/file/d/1234567890/view/usp=sharing
			Areas of vegetation composed of native species, predominantly non-arboreal woody plants that do not exceed 6 meters in height. This cover is primarily constituted by Andean tropical shrublands that grow above the tree line (approximately 3000-3500 m in elevation) and become more open and sparsely covered as they ascend in altitude. Paramo shrublands are especially present in paramos that are not frequently burned. The cover may also include semi-deciduous shrublands in dry valleys and pioneer and successional vegetation that occurs in river valleys in anthropized areas.	WS	GNM, GM, GSec, Ap	https://drive.google.com/file/d/1234567890/view/usp=sharing	https://drive.google.com/file/d/1234567890/view/usp=sharing	https://drive.google.com/file/d/1234567890/view/usp=sharing
		Equatorial dry forest	Areas of vegetation primarily composed of deciduous shrub species and desert shrublands. It is characterized by a combination of warm and extremely dry conditions, with an average annual precipitation of less than 60 mm, mainly restricted to the margin of the Ecuadorian coast. It includes predominantly low, spiny shrublands with widely spaced low trees, featuring genera characteristic of the tropical Pacific coast such as Bursera, Acacia, Prosopis, Capparis, and Parkinsonia. When dry periods are more prolonged, and there is greater water stress, columnar cactus species like Armatocereus cartwrightianus, Neoraimondia spp., represent the tallest stratum. The soils are sandy-clayey and dry.	WS	GNM, GM, GSec, Ap	https://drive.google.com/file/d/1234567890/view/usp=sharing	https://drive.google.com/file/d/1234567890/view/usp=sharing	https://drive.google.com/file/d/1234567890/view/usp=sharing
	Galapagos	Areas of deciduous shrublands with the presence of abundant cactus species, typically distributed in the lowlands of the islands.	WS	GNM, GM, GSec, Ap	https://drive.google.com/file/d/1234567890/view/usp=sharing	https://drive.google.com/file/d/1234567890/view/usp=sharing	https://drive.google.com/file/d/1234567890/view/usp=sharing	
3. Agricultural and livestock area	3.3. Silviculture		Forest areas formed anthropogenically with one or different native or introduced timber species of the same age, exhibiting homogeneous spacing, subject to silvicultural management, and dedicated to various purposes such as timber production, protection, soil recovery, or recreation. Pine forests of the Pátula spp and Radiata spp species have been established for reforestation and timber exploitation purposes.	FPB, FPC, FPM	FM	https://drive.google.com/file/d/1234567890/view/usp=sharing	https://drive.google.com/file/d/1234567890/view/usp=sharing	https://drive.google.com/file/d/1234567890/view/usp=sharing
	3.5. Mosaic of cropland and pasture		Areas where natural coverage has been modified, eliminated, or replaced by other types of vegetation for agricultural and livestock use. These areas contain groups of cultivated species for the production of food, fibers, or pastures and are in mosaic patterns, making them difficult to individualize. Exceptionally, they may be associated with fallow areas or natural successional vegetation.	OP, OCA, OCP, OCM, OF	Ac	https://drive.google.com/file/d/1234567890/view/usp=sharing	https://drive.google.com/file/d/1234567890/view/usp=sharing	https://drive.google.com/file/d/1234567890/view/usp=sharing
4. Non-vegetated area	4.1. Mining		Surface areas for the extraction of stone or mineral materials, with clear soil exposure. There is no distinction regarding whether it is industrial or artisanal, legal or illegal, metallic, or non-metallic. The majority of these activities are alluvial, and it does not involve mining in underground mines. Mining has been mapped in the Amazon biome and partially in the Andes biome.	OQ	O	https://drive.google.com/file/d/1234567890/view/usp=sharing	https://drive.google.com/file/d/1234567890/view/usp=sharing	https://drive.google.com/file/d/1234567890/view/usp=sharing
	4.2. Other non vegetated areas		Areas with little or no vegetation, which can be of natural or anthropogenic origin, not mapped in other classes. This may include exposed rock, transition areas between crops, roads and highways, airstrips, industrial yards, and recently deforested areas. It includes infrastructure areas: human settlement areas associated with large and small urban centers (towns) with built environment infrastructure such as road networks, railways, and associated lands, as well as other artificialized areas such as oil extraction facilities, hydroelectric plants, military bases, airports, port areas, and unconventional airstrips in rural areas. It also considers peripheral areas that are gradually being included in a process of urbanization for residential and/or industrial purposes. This category includes river or oceanic beaches and dunes: mineral deposits on the shores of the sea or in rivers, formed by sediments that create sandy surfaces on nearly flat terrain. In the Galápagos biome, it may include arid zones (deciduous herbaceous cover and deciduous herbaceous cover at altitude) due to their spectral signature resembling areas with very little vegetation.	OX, OB	O, S	https://drive.google.com/file/d/1234567890/view/usp=sharing	https://drive.google.com/file/d/1234567890/view/usp=sharing	https://drive.google.com/file/d/1234567890/view/usp=sharing
5. Water body	5.1. River, lake or ocean		Extension of natural or artificial surface water. It includes rivers, lakes, reservoirs, and other bodies of water.	IRP, IRS, IL, ID, IP, XO	A, Res	https://drive.google.com/file/d/1234567890/view/usp=sharing	https://drive.google.com/file/d/1234567890/view/usp=sharing	https://drive.google.com/file/d/1234567890/view/usp=sharing
	5.2. Glacier		Area of permanent ice cover or ice mass located in the Andean summits, formed through the accumulation, compaction, and recrystallization of snow.	N/A	O	https://drive.google.com/file/d/1234567890/view/usp=sharing	https://drive.google.com/file/d/1234567890/view/usp=sharing	https://drive.google.com/file/d/1234567890/view/usp=sharing
	5.3 Aquaculture		Artificially created surface water areas dedicated to productive activities, such as saltwater pools for captive shrimp farming or freshwater pools for fish farming.	N/A	Res	https://drive.google.com/file/d/1234567890/view/usp=sharing	https://drive.google.com/file/d/1234567890/view/usp=sharing	https://drive.google.com/file/d/1234567890/view/usp=sharing
6. Not observed			Areas that have not been able to be identified in their classes due to the presence of clouds, cloud shadows, atmospheric noise, or satellite image quality issues.	90	NO	https://drive.google.com/file/d/1234567890/view/usp=sharing	https://drive.google.com/file/d/1234567890/view/usp=sharing	https://drive.google.com/file/d/1234567890/view/usp=sharing

* FAO, 2012. Manual for integrated field data collection. Rome: FAO. p.10-12

**IPCC, 2006. 2006 IPCC Guidelines.