

AMAZON 2012

PROTECTED AREAS and INDIGENOUS TERRITORIES

The area of AMAZON shown on this map covers approximately 7.8 million km², a region shared by eight countries plus Guyane Française and occupied by 33 million inhabitants, including 385 indigenous peoples.

A biome of enormous socioenvironmental diversity, the Amazon rainforest plays a strategic role in the tropical environment of South America and the climate of the entire planet.

The populations who live and work in Amazon have many different interests and their interpretations of the region's present and visions of its future have frequently turned into a dispute over paradigms. These distinct viewpoints have produced different levels of analyses and scenarios, based on the regional, national or international perspectives adopted.

The **AMAZON 2012** map – also available in digital format at www.raisg.socioambiental.org – contains information that has been updated and corrected since the map's first publication by RAISG in 2009.

This map has two clear aims: first, to overcome the fragmented visions commonly held of the Amazon; and second, to promote initiatives and integrated processes at regional, national and international levels that help consolidate the region's Protected Natural Areas (PNAs) and Indigenous Territories (ITs), which together make up around 45% of its area. Both objectives are an important part of the solution for the conservation and sustainable use of Amazonian ecosystems.

This enhanced version of the map results from an ongoing collaborative effort among research centers – principally from the civil society of the Amazon countries – to systemize, update and integrate their databases within the scope of RAISG.

This joint effort is founded on a common agenda for the thematic analyses and the development of protocols for the shared and decentralized management of information, comparable to a long-term effort to assemble a 'jigsaw puzzle.'

In order to produce a map representation that is cartographically and numerically equivalent among the different countries, the specifications of each were taken into account to arrive at a single common set of captions. Likewise the international borders were adjusted to fit a single base and thereby avoid information gaps or overlays. The Protected Natural Areas were classified on the basis of a single attribute common to all of them regarding the type of use permitted, where as the Indigenous Territories were classified according to both the unique nomenclature of each country and the degree (or absence) of official recognition.

Note: We have chosen to maintain the names of the countries in the original language in all versions of the map.

[Deforestation 2000-2010]

Information on deforestation in the Amazon is fragmented, outdated and is based on several sources, methodologies and resolution, both spatial and temporal, and also it is not always available.

RAISG has initiated an evaluation process of deforestation in the Amazon which allow the review of the issue in an integrated manner at the regional level, under appropriate methodology and resolution (spatial and temporal).

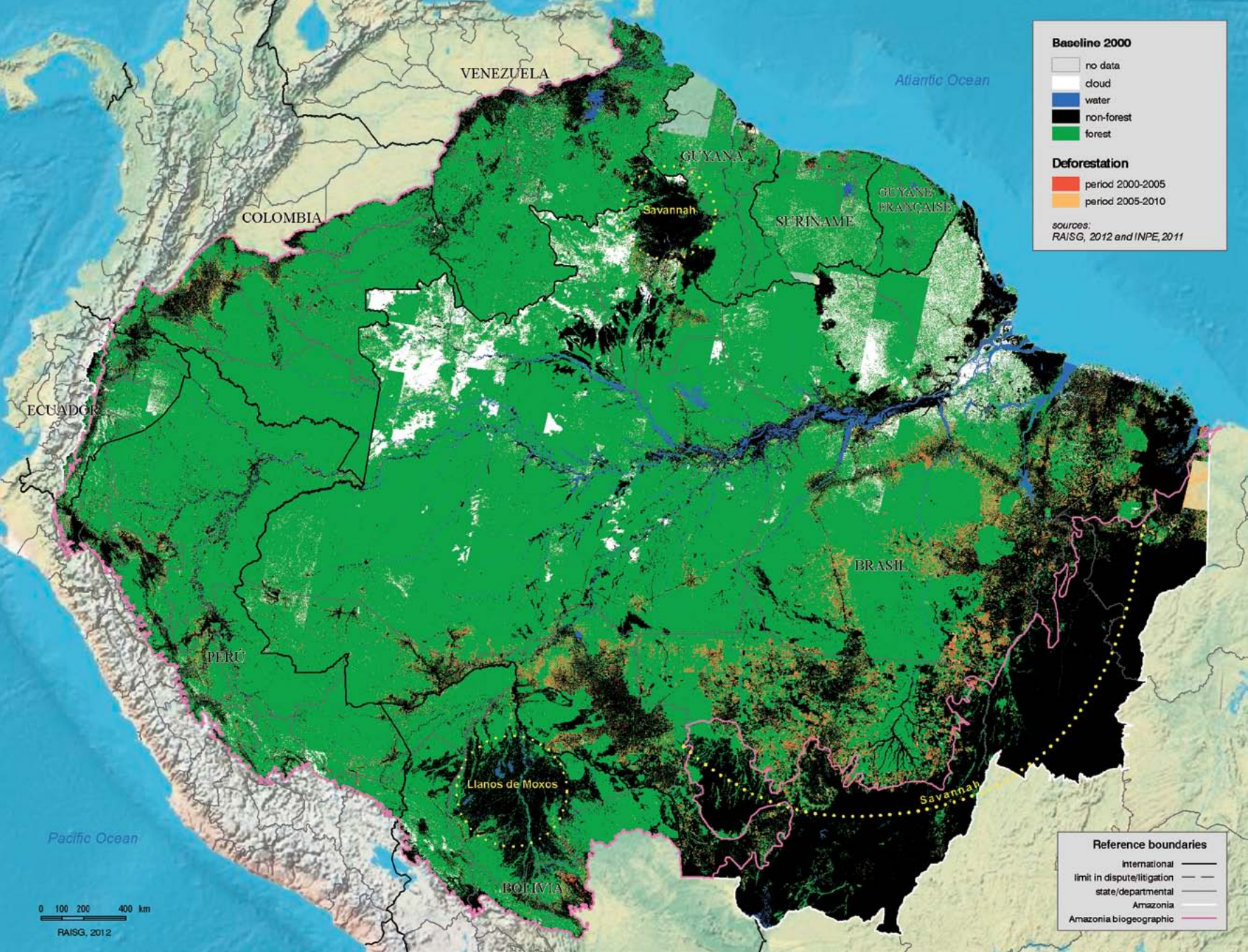
The publication **AMAZON 2012** presents the preliminary results of this evaluation conducted by RAISG for the Andean Amazon (Colombia, Ecuador, Peru and Bolivia) and Guyanas (Venezuela, Suriname, Guyana, French Guiana). The data cover the 2000-2005 and 2005-2010 period, and they were obtained by the Spectral Mixture Analysis method in combination with an algorithm called decision tree. For the Brazilian Amazon, it was used deforestation data from Prodes (Satellite Monitoring of the Brazilian Amazon Project), published by INPE (National Institute for Space Research) in 2011, covering the 2000-2010 period.

The year 2000 was considered a baseline, from which 2005 and 2010 scenes were analyzed as to assess forest loss. On the map below there may be seen large extensions of non-forested areas in 2000, which include, in addition to areas deforested until 2000, originally non-forested large areas, such as the seasonally flooded savannas of Llanos de Moxos, in Bolivia, and a large extension of savanna (cerrado) throughout the southeastern Brazilian Amazon, besides savanna enclaves large areas, such as the "Lavrado" in the state of Roraima, northern Brazil.

The forest area present in the Amazon in 2000 corresponded to 68.8% of the entire region (5,357,001 km²).

For the 2000-2010 period, the forest surface decreased by 4.5% (approximately 240,000 km²), equivalent to almost half of the Colombian Amazon. Such deforestation mostly took place in the southern part of the Brazilian Amazon, in the region known as "arc of deforestation". The forest loss on the assessed area was higher during the 2000-2005 period (163,020 km², 3% of the existing forest in 2000) compared to 2005-2010 (76,922 km², 1.4%). This trend is consistent with that indicated by FAO (2010), who reported a decrease in the forest loss for the 2005-2010 period compared to 2000-2005.

Deforestation in Amazonia in the periods 2000-20005 and 2005-2010



Country	Forest in 2000		Deforestation 2000-2005		Deforestation 2005-2010		Deforestation 2000-2010		% of total
	(km²)	(%)	(km²)	(%)	(km²)	(%)	(km²)	(%)	
Bolivia	307,123	64.1	4,187	1.4	3,494	1.1	7,682	2.5	3.2
Brazil	3,110,668	62.1	138,804	4.5	54,181	1.7	192,985	6.2	80.4
Colombia	428,498	88.7	5,170	1.2	6,816	1.6	11,986	2.8	5.0
Ecuador	88,361	76.0	1,171	1.3	965	1.1	2,136	2.4	0.9
Guyana	140,411	65.3	1,800	1.3	1,498	1.1	3,298	2.3	1.4
Guyane Française	79,916	92.4	210	0.3	293	0.4	503	0.6	0.2
Peru	700,738	89.5	7,365	1.1	7,674	1.1	14,974	2.1	6.2
Suriname	130,719	79.8	938	0.7	191	0.1	1,130	0.9	0.5
Venezuela	370,567	81.6	3,375	0.9	1,820	0.5	5,195	1.4	2.2
Total	5,357,001	68.8	163,020	3.0	76,922	1.4	239,942	4.5	100.0

* Estimated.

Amazon and human population	Bolivia	Brasil	Colombia	Ecuador	Guyana	Guyane Française	Perú	Suriname	Venezuela	total Amazon
	% of the national total	% of the national total	% of the national total	% of the national total	% of the national total	% of the national total	% of the national total	% of the national total	% of the national total	% of the Amazon total
Total population (nº of inhabitants)	8,274,325	191,480,630	42,090,502	14,483,409	751,000	208,171	28,220,764	492,829	27,150,095	313,151,815
Amazon population (nº of inhabitants)	1,233,727	28,654,836	1,210,549	2,901,814	751,000	208,171	3,675,292	492,829	1,716,984	33,682,702
Total area of the country (km²)	1,098,581	8,514,876	1,141,748	749,041	214,969	86,504	1,285,215	163,820	916,445	13,671,199
Amazon area of the country (km²)	479,264	5,006,316	483,164	116,284	214,969	86,504	782,820	163,820	453,915	7,787,056
% of total Pan-Amazon within the country	6.2%	64.3%	6.2%	1.5%	2.8%	1.1%	10.1%	2.1%	5.6%	57.0%

Compiled data on Protected Natural Areas and Indigenous Territories in the Amazon region¹⁰ (Information up to date as of 23 February 2012)

INDIRECT USE	area by category (km²) deducting areas superimposed on another more restrictive category ¹¹																			
	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country				
National	39,390	8.2%	316,987	6.3%	81,842	16.0%	30,285	26.0%	6,840	3.1%	23,592	27.3%	78,069	10.0%	20,401	12.5%	171,145	37.7%	768,261	9.9%
State/Departmental	-	-	129,460	2.6%	-	-	-	-	-	-	2,618	3.0%	-	-	-	-	-	-	132,078	1.7%
total	39,390	8.2%	446,356	8.9%	81,842	16.0%	30,285	26.0%	6,840	3.1%	26,210	30.3%	78,069	10.0%	20,401	12.5%	171,145	37.7%	900,338	11.6%

DIRECT USE	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country
National	35,324	7.4%	270,075	5.4%	-	-	-	-	-	-	35,584	41.1%	56,387	7.2%	5,646	3.4%	-	-	403,016	5.2%
State/Departmental	60,201	12.6%	272,758	5.4%	-	-	-	-	-	-	21,983	2.8%	-	-	-	-	-	-	354,942	4.6%
total	95,525	19.9%	542,833	10.8%	-	-	-	-	-	-	35,584	41.1%	78,370	10.0%	5,646	3.4%	-	-	757,958	9.7%

TRANSITORY USE	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country
National	-	-	377,895	78.2%	-	-	-	-	-	-	-	-	34,079	4.4%	-	-	-	-	411,974	5.3%
State/Departmental	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
total	-	-	377,895	78.2%	-	-	-	-	-	-	-	-	34,079	4.4%	-	-	-	-	411,974	5.3%

DIRECT/INDIRECT USE	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country	area	% of the Amazon region of the country
National	437	0.1%	-	-	-	-	-	-	3,717	1.7%	-	-	-	-	-	-	-	-	4,154	0.1%
State/Departmental	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
total	437	0.1%	-	-	-	-	-	-	3,717	1.7%	-	-	-	-	-	-	-	-	4,154	0.1%
total for Amazon/country	136,362	28.2%	989,189	19.8%	81,842	16.9%	30,285	26.0%	10,357	4.8%	61,794	71.4%	190,518	24.3%	26,047	15.9%	171,145	37.7%	1,696,529	21.8%

Indigenous Territories in Amazon (km²) ¹⁰	Bolivia	Brasil	Colombia	Ecuador	Guyana	Guyane Française	Perú	Suriname	Venezuela	total Amazon										
	% of the Amazon region of the country	% of the Amazon region of the country	% of the Amazon region of the country	% of the Amazon region of the country	% of the Amazon region of the country	% of the Amazon region of the country	% of the Amazon region of the country	% of the Amazon region of the country	% of the Amazon region of the country	% of the Amazon region of the country										
Indigenous Territories officially recognized	80,564	26.5%	1,111,034	22.2%	257,973	53.4%	-	-	-	1,641,117	21.1%									
Areas of traditional occupation and use, not officially recognized	46,223	-	-	-	66,803	57.4%	-	-	-	435,406	5.6%									
Territorial Reservations	-	-	-	-	-	-	28,127	3.6%	-	28,127	0.4%									
Proposed Territorial Reservations	-	-	-	-	-	-	39,762	5.1%	-	39,762	0.5%									
total for Amazon/country	126,786	26.5%	1,111,034	22.2%	257,973	53.4%	66,803	57.4%	31,671	14.7%	7,068	8.2%	106,585	13.6%	-	-	-	-	1,641,117	21.1%

Protected Natural Areas and Indigenous Territories in Amazon (km²) - Summary	Bolivia	Brasil	Colombia	Ecuador	Guyana	Guyane Française	Perú	Suriname	Venezuela	total Amazon										
	% of the Amazon region of the country	% of the Amazon region of the country	% of the Amazon region of the country	% of the Amazon region of the country	% of the Amazon region of the country	% of the Amazon region of the country	% of the Amazon region of the country	% of the Amazon region of the country	% of the Amazon region of the country	% of the Amazon region of the country										
Protected Natural Areas	136,362	28.2%	989,189	19.8%	81,842	16.9%	30,285	26.0%	10,357	4.8%	61,794	71.4%	190,518	24.3%	26,047	15.9%	171,145	37.7%	1,696,529	21.8%
Indigenous Territories	126,786	26.5%	1,111,034	22.2%	257,973	53.4%	66,803	57.4%	31,671	14.7%	7,068	8.2%	106,585	13.6%	49,637	30.3%	305,961	67.4%	2,144,412	27.5%
Overlap of PNAs and ITs	41,898	8.7%	77,732	1.6%	30,453	6.3%	13,381	11.5%	997	0.5%	6,289	7.3%	13,127	1.7%	1,828	1.1%	152,488	33.6%	336,365	4.3%
Areas with no overlap	220,240	46.0%	2,022,491	40.4%	309,352	64.0%	83,707	72.0%	41,031	19.1%	62,573	72.3%	364,870	46.6%	73,858	45.1%	324,618	71.5%	3,502,750	45.0%

¹⁰ The total area of each country considers the continental landmass, not marine areas. The same applies to the PNAs in Brazil. The surface area of the PNAs and ITs located partially in Amazon were calculated with the exclusion of the zones not forming part of the latter region. Area dimensions were calculated using the Geographic Information System, taking into account the boundary irregularities, as explained in the text "The geographic limits of Amazon".
¹¹ The calculated area excludes overlapping between categories, using the following hierarchical order: national indirect use; national direct use; state direct use; national direct/indirect use; transitory use. The calculations in this section of table do not exclude overlaps with indigenous lands.
¹² The calculations for PNAs in Brazil do not include areas from the APA (Environmental Protection Area) category.
¹³ The figure for the Forestry Reserve, assigned to transitory use, does not refer to the original area but to the current area, including subtractions made to the reserve after its creation. It is not included in the total for PNAs in Colombia.
¹⁴ Does not include Protected Woodlands, since these do not form part of Ecuador's National System of Protected Areas (SNAP).
¹⁵ The calculated area in this section of the table does not exclude overlaps with PNAs.

Differences in the information on PNAs and ITs in Amazon: 2009 to 2012

Since the first version of this map, published in March 2009 with data from 2008, the institutions belonging to the Amazon Geo-referenced Socio-environmental Information Network (RAISG) in its Spanish and Portuguese abbreviations), continued to revise and update the cartographic data base for Amazon's Indigenous Territories (ITs) and Protected Natural Areas (PNAs), leading to modification to this 2012 version. Below these modifications are illustrated with some examples and a summary of the main alterations during this period.

- Revision of the IT and PNA cartographic database**
 - Permanent revision of the database
 - In part the changes result from the revision and/or cartographic adjustment of the boundaries of the areas. The databases systemized in 2009 were corrected, revised and complemented through a continuous process of searching for better information. These changes generated relatively insignificant differences in terms of surface area and relate to adjustments of the polygons to new databases or the revision of the same.
 - In Ecuador this new version includes the intangible zone of Cuyabeno-Imuya, extending across 4,344 km², and a revision of the intangible core zone of the Yasuni Park and Tagari Taromnema Land. The secondary information available on the IL was verified, favoring the most recent data, the primary information obtained in the field and the official data released by the Under-Secretariat of Land and Agrarian Reform, which signified an overall reduction of 9,968 km².
 - Revision of database procedures
 - In Peru some requests for land titles and expansions of communal lands were eliminated since they lack appropriate ongoing technical input.
 - In Bolivia the highland ITs (known as 'ayllus') were eliminated due to a lack of adequate information on them. These are not included in the Amazonian boundary used by RAISG, which is also why they were not considered in the compiled data table.
- Incorporation of new ITs and PNAs**
 - Addition of information (with the inclusion of areas that already existed in 2009)
 - As a result of the continuous revision of the databases, new areas were included that had been decreed in 2009 but without information available on them at the time of the earlier publication, as in the case of the ITs in Suriname.
 - In Bolivia it was considered important to include the municipal PNAs with a surface area of or above 100 km², resulting in an overall increase of 21,253 km².
 - In Peru the database included Regional Conservation Areas (RCAs) due to their importance in terms of land size.
 - In Brazil PNAs from the EPA category (Environmental Protection Area) were included that had not appeared in the 2009 version of the map. These areas total 232,799 km², but have not been included in the calculations for the compiled data table due to their low level of restrictions on use and occupation.
 - Newly recognized ITs and creation of new PNAs
 - The process of recognizing ITs continues in all the Amazon countries, which explains the addition of extensions and new ITs whose limits have been defined over the last three years. In Brazil one IT was extended and six new lands were recognized.
 - In Peru the georeferenced data generated by different institutions was replaced by information recently obtained from the field, which allowed the surface area covered by these territories to be adjusted.
 - Similarly new PNAs created during the period were incorporated. In Colombia the Yaijoje Apaporis Natural National Park, a core area of traditional management of the land of the Macuna, Tarimuca, Lituama, Cabyvan, Barazono, Yujup Macu and Yuaina indigenous peoples, was created in October 2008. It is the third largest park within the Natural National Parks system. For the first time a reservation area was requested by traditional indigenous authorities to form a Natural National Park in its entirety.

SOURCES
Bolivia: – Roads, settlements and political boundaries: National Statistics Institute (INE), 2001; Community Homelands: Vice-Ministry of Lands, 2007; National Protected Areas: Ministry of Sustainable Development (MDS), 2005; State and Municipal Protected Areas: Ministry of the Environment and Water (MMAEA), 2009 – Santa Cruz Autonomous Departmental Government, 2010; Population: INE, 2001 CENSUS; Indigenous population: elaborated by RAISG based on INE, 2001 CENSUS