



# The IUCN Red List of Ecosystems: A New Tool to Inform Protected Area Management and Monitor Effectiveness. (Dialogue: “The value of IUCN’s Red Lists in protected area planning and monitoring”)

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The Red List of Ecosystems (RLE) is a new IUCN knowledge product

As its analogous for species, this tool measures the risk of threat, in this case the ecosystem's risk of collapse over different temporal frameworks, considering both distribution and function

Its applications include the global, continental, regional and national/local levels, specially in order to provide robust data to policy-makers at these scales, incorporating different thematic scales

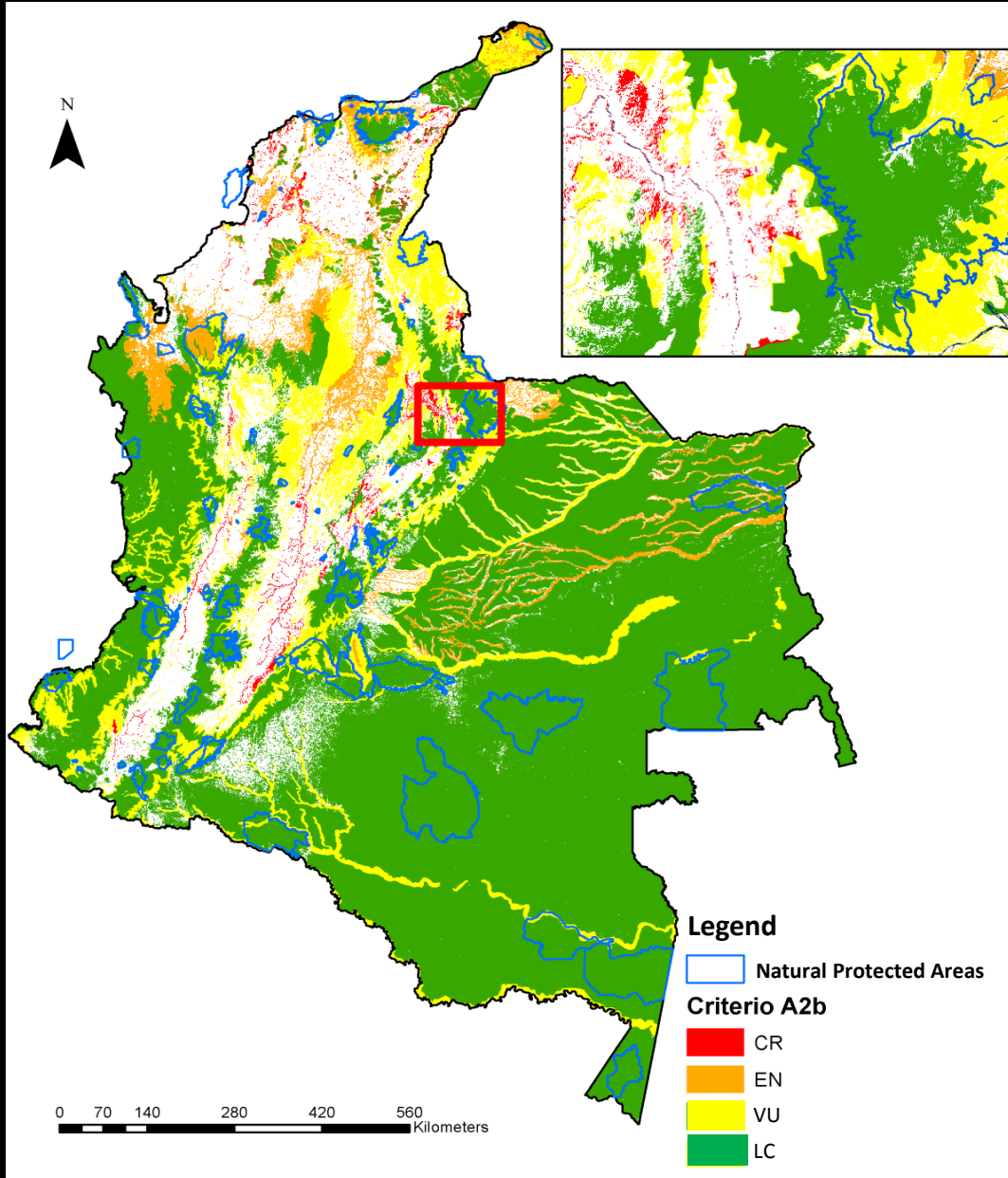
The Red List of Ecosystems integrate very large amounts of data (mainly quantitative), and combined with other conservation strategies could be used to guide more efficiently processes of monitoring biological diversity, as well as the of ecological services associated with the assessed ecosystems.

The Natural Protected Areas are intrinsically a conservation strategy with impact over global, regional, national and local levels. The measurement of their effectiveness is a desirable product at any time, everywhere.

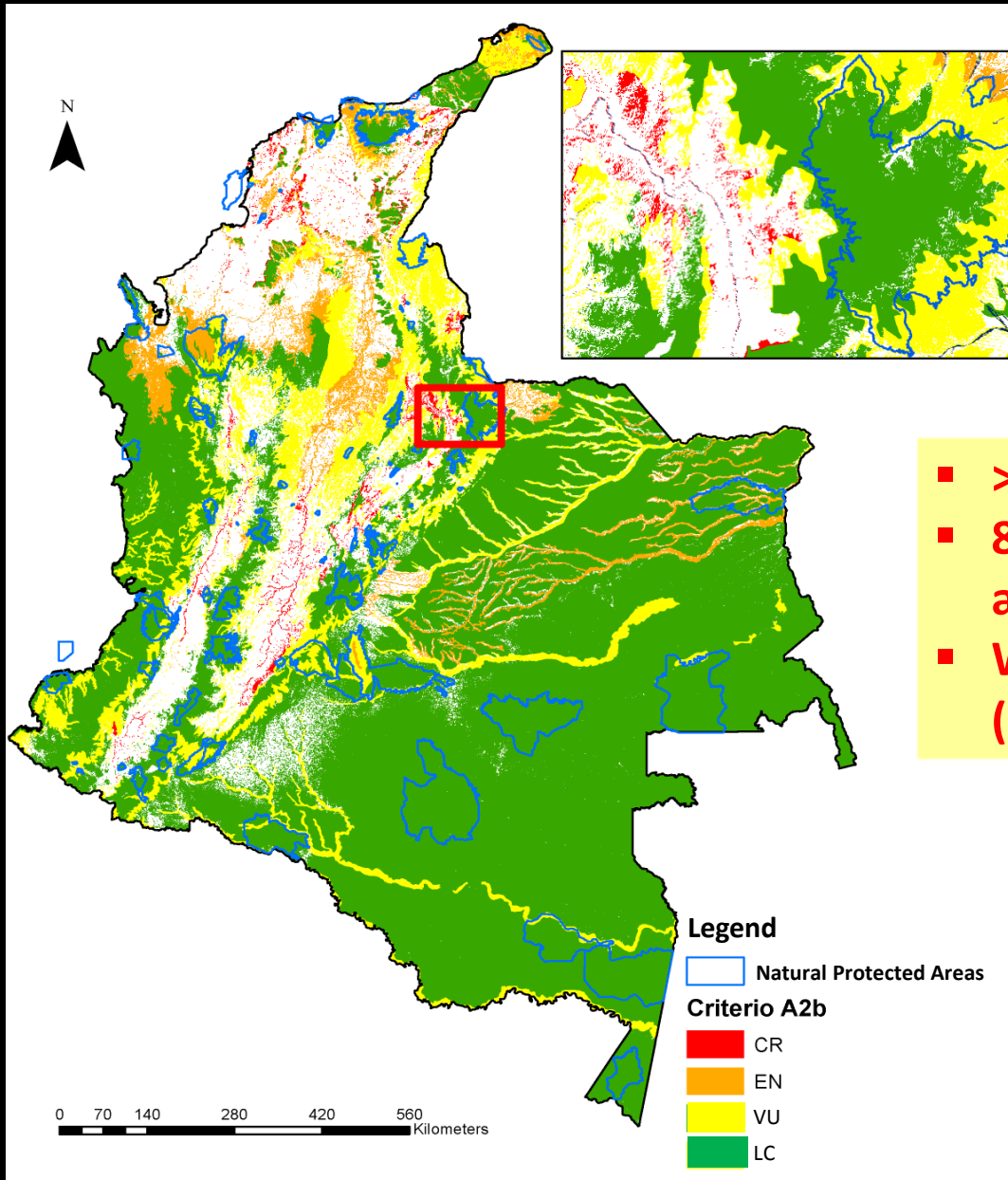
In the same way, gap analyses are required in order to identify where new Natural Protected Areas are desirable or need attention.

We are presenting some outcomes of the application of the RLE methodology and three gap analyses at the national level as a way to highlight how powerful this approach could be for the conservation and monitoring process.

# Colombian Red List of Ecosystems



# Colombian Red List of Ecosystems



- **> 1,140,000 km<sup>2</sup>**
- **80 ecosystem types identified and assessed**
- **White areas: transformed areas (31% at national level)**

# Colombian Red List of Ecosystems

## Critically Endangered ecosystems

Andean dry forest

Andean and subandean deciduous and spiny shrublands

Andean and upper Andean xerophytic shrublands

Forest Highlands Cundiboyacense

Wetlands and swamps of the Altiplano

Deciduous forests of the dissected plains and hills (I)

Dry forests, shrublands and cacti of the plains

Deciduous forests of the rolling plains

Deciduous forests of the dissected plains and hills (II)

Dry ecosystems and Andean ecosystems are in the top of not so good news

# Colombian Red List of Ecosystems

## NPA representation

	# Ecosystems	Original extension (sq km)	Current extension (sq km)	Protected extension (sq km)	Current protection (%)
CR	10	69,773	3,705	56	1.5
EN	12	114,583	29,180	3,530	12.1
VU	14	205,867	96,711	12,944	13.4
LC	44	750,570	656,872	84,795	12.9
	80	1,140,792	786,468	10,1325	12.9

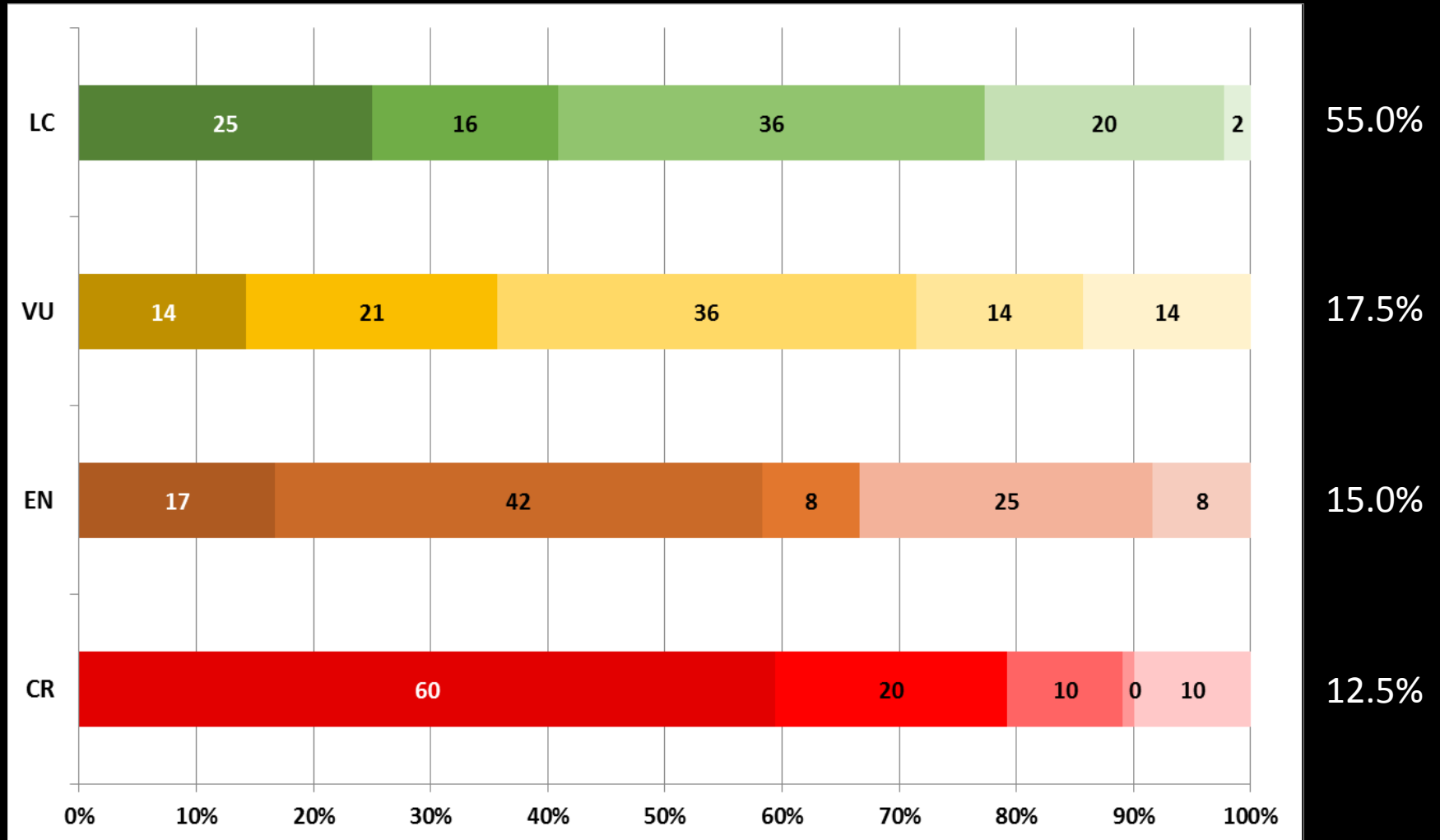
Under criteria A1-3, B1 & C3



# Colombian Red List of Ecosystems

## NPA representation

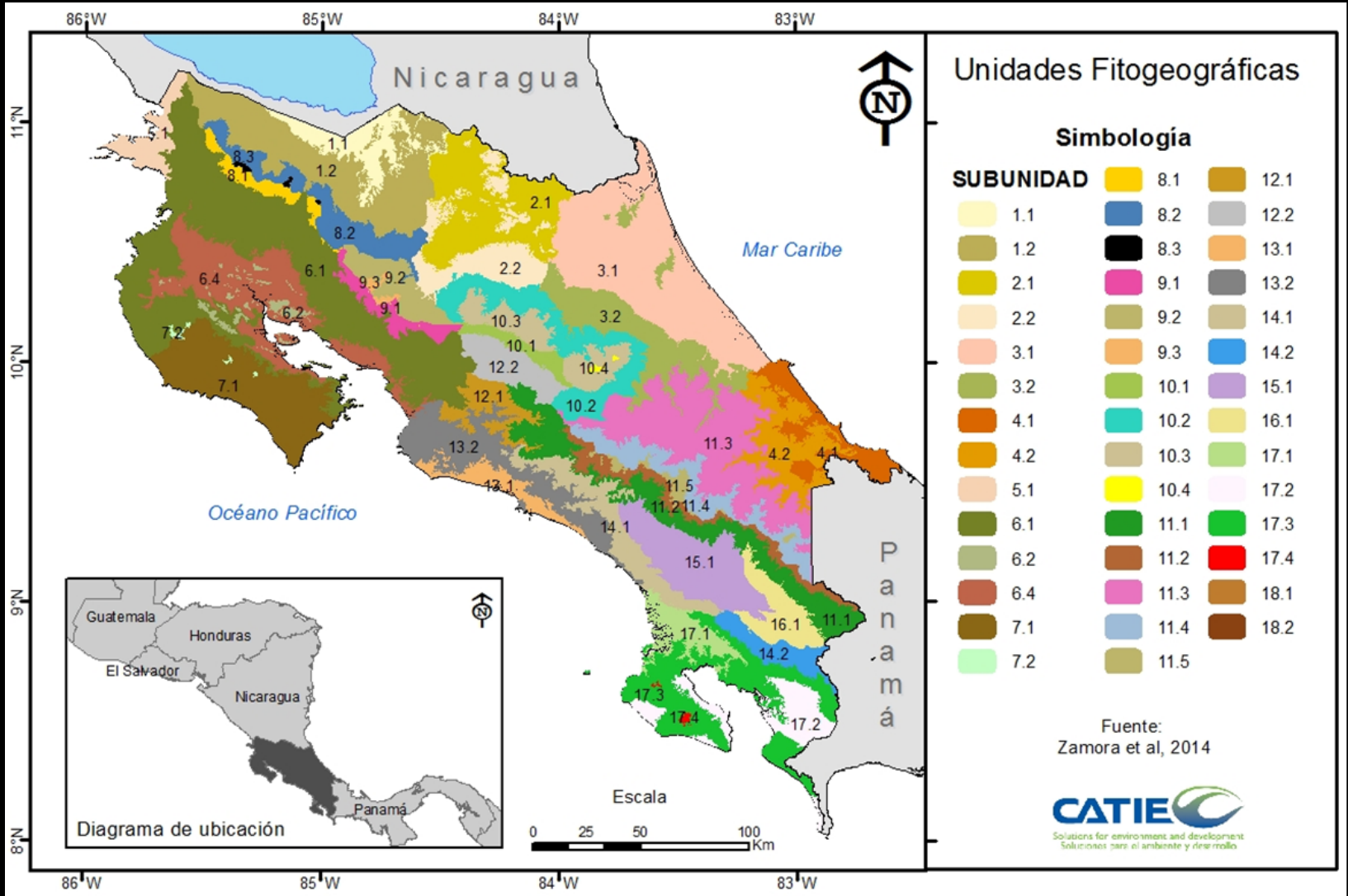
Presence in NPA: Absent, <5%, <5% X < 25%, <25% X < 50%, >50%



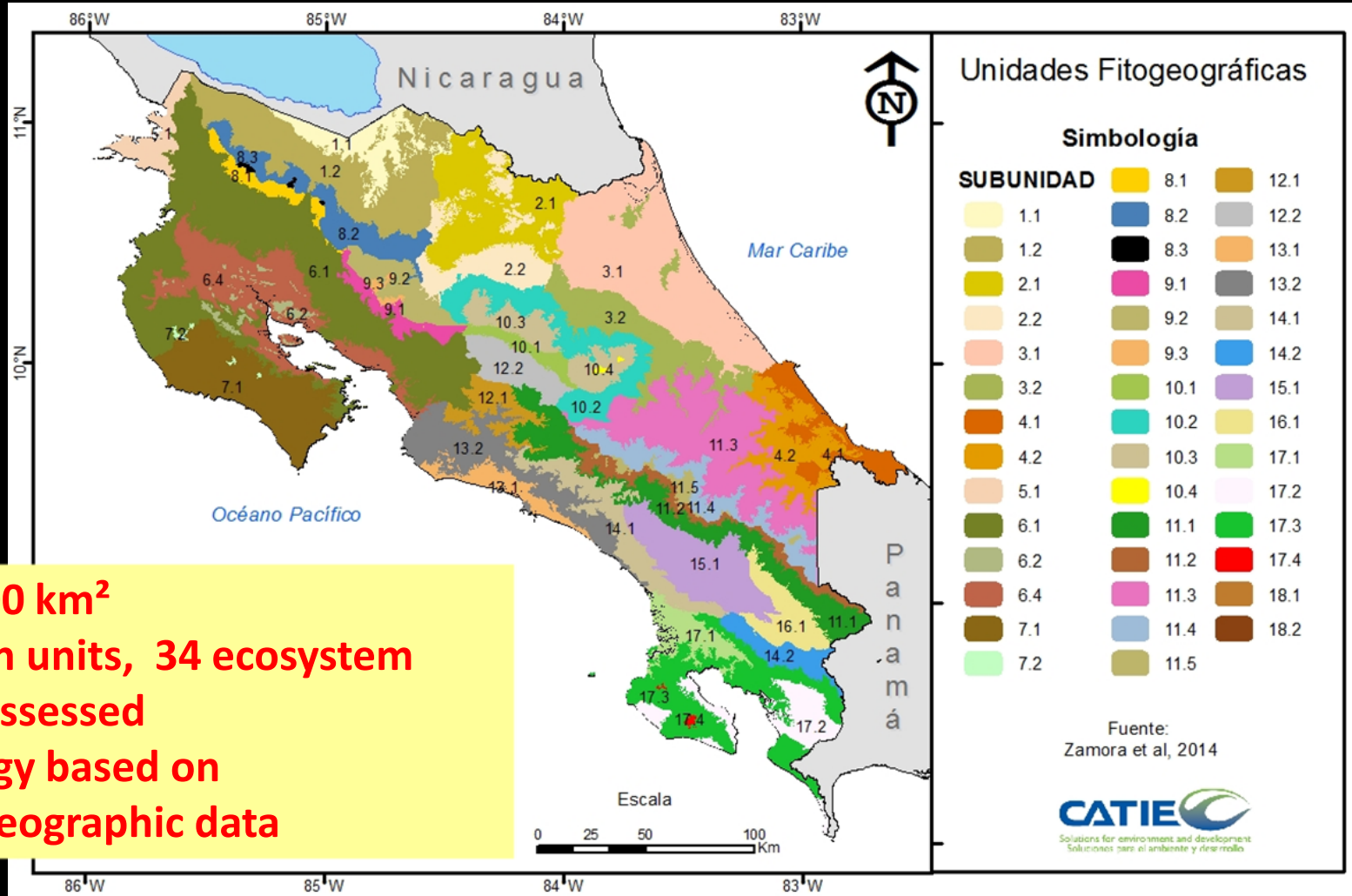
# Colombian Red List of Ecosystems NPA representation

- Critically Endangered ecosystems are mostly absent in NPA
- Almost 60% of Endangered ecosystems have < than 5% of their extension protected
- ~ 40% of Vulnerable and Least Concern ecosystems have < 5% of their extension in NPA
- Only 10 ecosystems (12.5%) have more than 50% of their extension in NPA
- Dry ecosystems and savannas are, mainly, the least represented in NPA, with less than 5% of each one protected

# Costa Rican Red List of Ecosystems

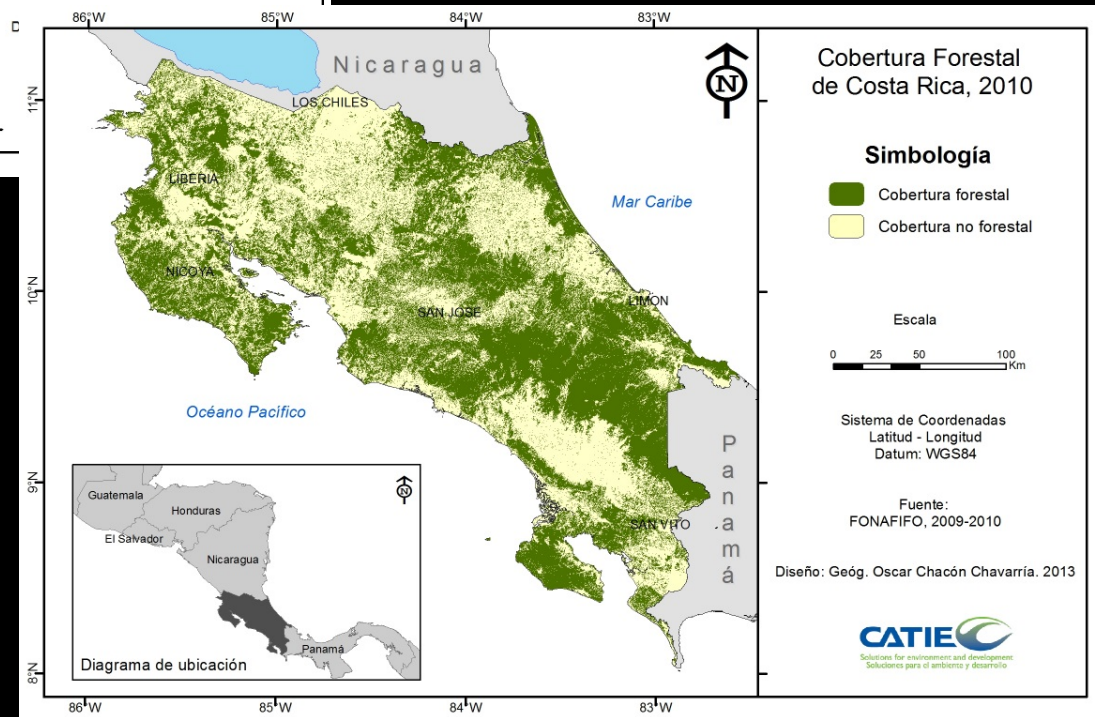
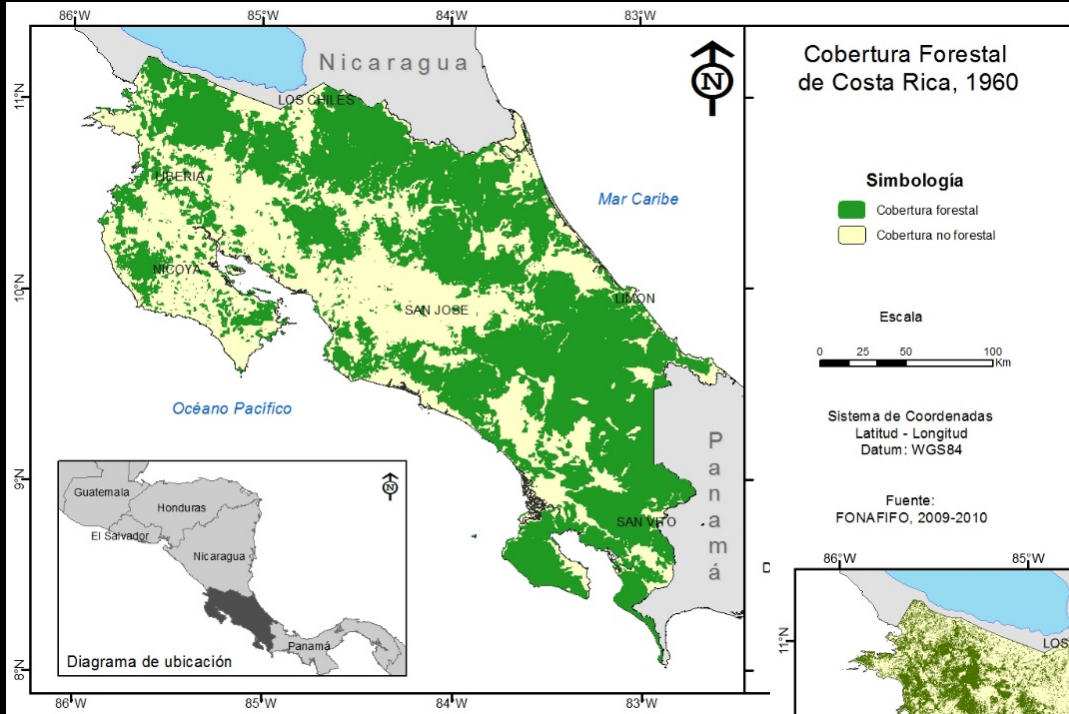


# Costa Rican Red List of Ecosystems



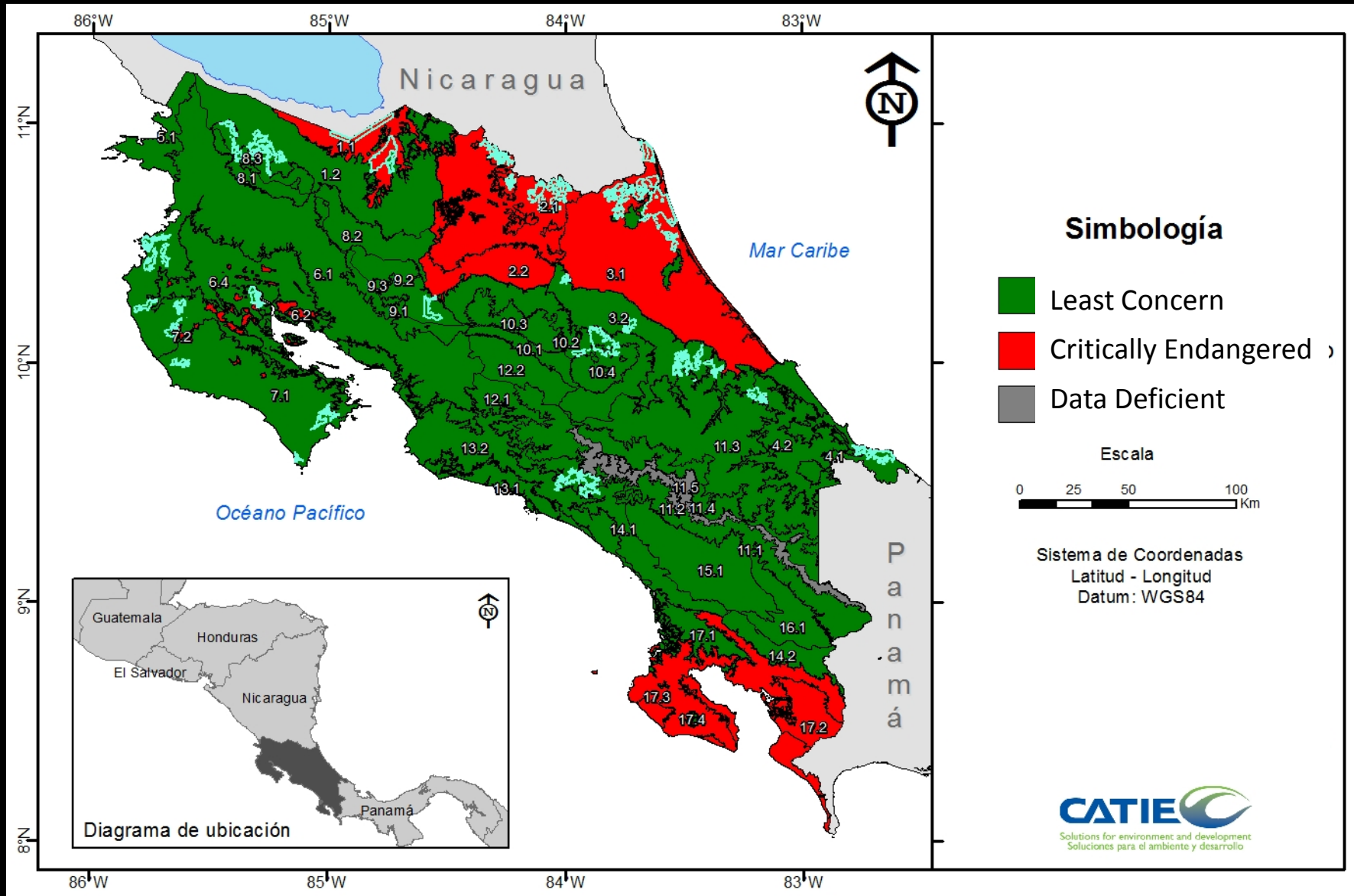
- ~ 51,100 km<sup>2</sup>
- 18 main units, 34 ecosystem types assessed
- Typology based on phytogeographic data

# Costa Rican Red List of Ecosystems



Criteria A1, A2, B2

# Costa Rican Red List of Ecosystems



# Costa Rican Red List of Ecosystems

Codigo	Nombre de la subunidad	Criterio		
		A1	B1	B2
1.1	Bosque siempreverde estacional de tierras anegadas de las llanuras de Guatuso			x
1.2	Bosque siempreverde estacional de tierras elevadas de las llanuras de Guatuso	x		
2.1	Bosque siempreverde de tierras anegadas de las llanuras de San Carlos			x
2.2	Bosque siempreverde de tierras elevadas de las llanuras de San Carlos			x
3.1	Bosque siempreverde de tierras anegadas de las llanuras de Tortuguero			x
6.2	Bosque semideciduo kárstico del Valle de Tempisque-Peninsula de Nicoya			x
7.2	Bosque siempreverde subnuboso a nuboso de la Península de Nicoya			x
8.1	Bosque siempreverde estacional de la Vertiente Pacífica de la Cordillera de Guanacaste	x		
8.2	Bosque siempreverde de la Vertiente Caribe de la Cordillera de Guanacaste	x		
9.2	Bosque siempreverde de la Vertiente Caribe de la Cordillera de Tilarán	x		
14.2	Bosque siempreverde estacional subnuboso a nuboso de la Cordillera o Fila Costeña Sur	x		
15.1	Bosque semideciuo estacional del Valle de El Genera	x		
16.1	Bosque siempreverde estacional del Valle de Coto Brus	x		
17.1	Bosque mixto anegado estacional del humedal Térraba-Sierpe		x	
17.2	Bosque siempreverde estacional aluvional de la región de Golfo Dulce-Punta Burica			x
17.3	Bosque siempreverde estacional de tierras elevadas de la Península de Osa-Punta Burica e Isla del Caño			x

- 9 CR

- 2 EN

- 4 VU

# Costa Rican Red List of Ecosystems

Focused only on **Critically Endangered** ecosystems

Subunidad	Vegetación total		Vegetación en AAPP			Vegetación fuera de AAPP		
	Km2	Ha	Km2	Ha	%	Km2	Ha	%
1.1	101.36	10138.95	25.63	2564.19	25.29	75.73	7574.76	74.71
2.1	1070.28	107033.03	413.89	41389.74	38.67	656.39	65643.30	61.33
2.2	643.02	64304.18	144.99	14499.20	22.55	498.03	49804.98	77.45
3.1	1470.46	147097.59	762.80	76282.84	51.86	707.66	70814.75	48.14
6.2	168.91	16890.41	31.90	3190.29	18.89	137.01	13700.11	81.11
7.2	25.96	2595.87	5.05	505.19	19.46	20.91	2090.68	80.54
17.2	265.09	26511.00	93.64	9364.16	35.32	171.45	17146.84	64.68
17.3	1470.05	147005.92	931.98	93197.52	63.40	538.07	53808.40	36.60

This is a very different situation to Colombia



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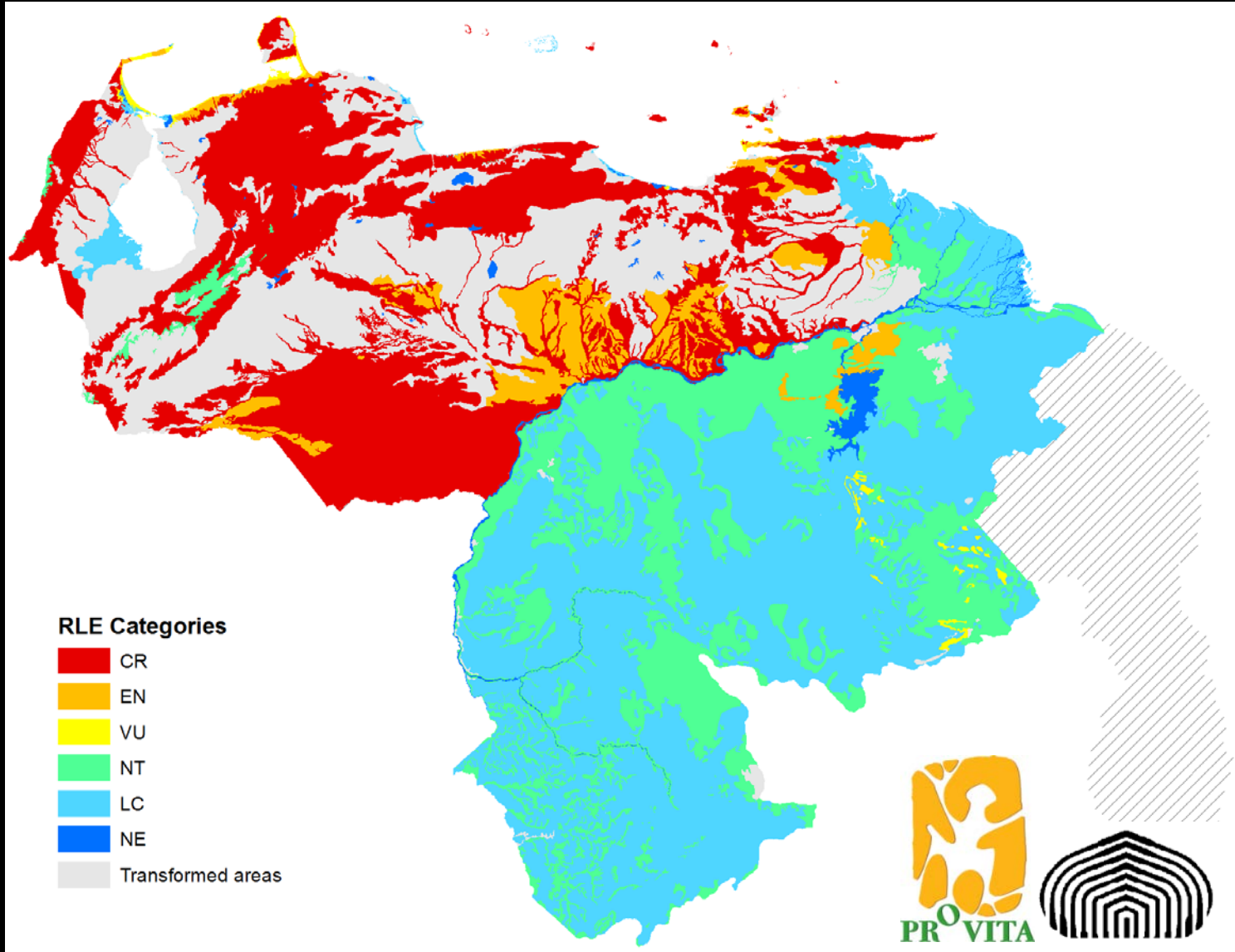
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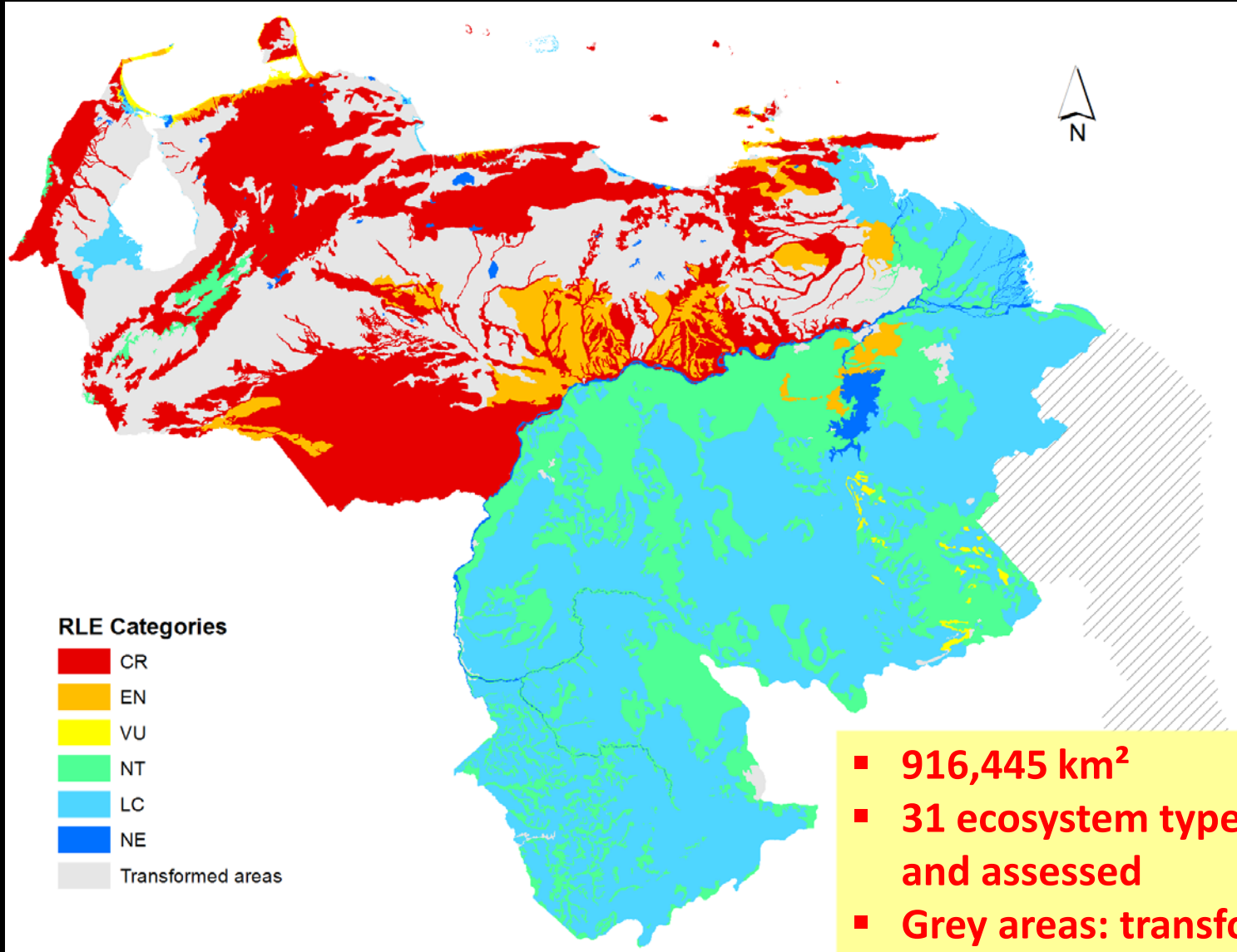
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Deciduous forests and cloud forest are the least protected of Critically endangered ecosystems

# Venezuelan Red List of Ecosystems



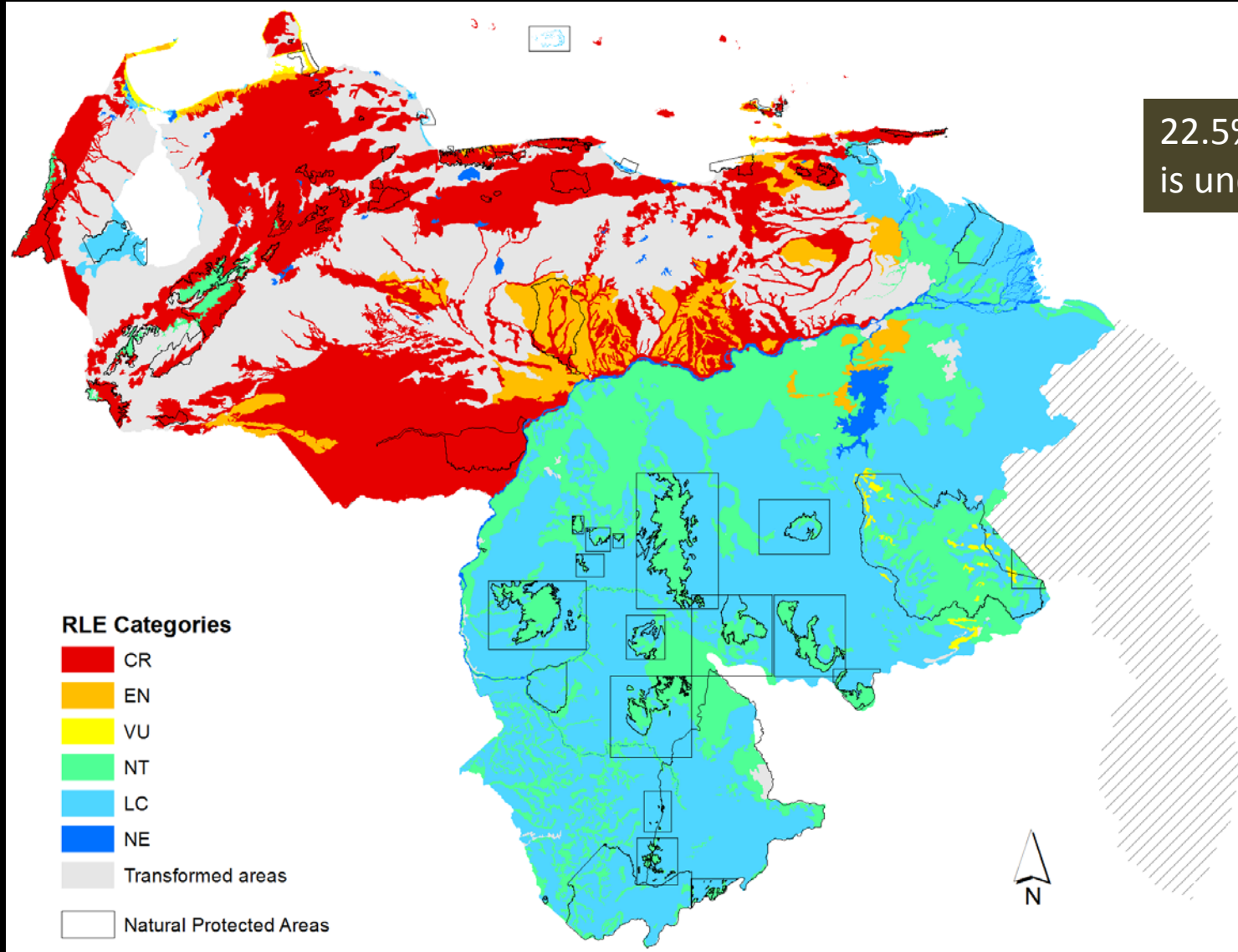
# Venezuelan Red List of Ecosystems



- **916,445 km<sup>2</sup>**
- **31 ecosystem types identified and assessed**
- **Grey areas: transformed areas (30% at national level)**

# Venezuelan Red List of Ecosystems

## Natural Protected Areas



22.5% of the country is under protection

# Venezuelan Red List of Ecosystems

## Natural Protected Areas

Category	# ecosystems	Current extension (sq km)	Protected areas (%)
<b>CR</b>	9	208,760	22.8
<b>EN</b>	3	39,959	4.4
<b>VU</b>	4	101,218	11.0
<b>NT</b>	7	224,292	24.5
<b>LC</b>	8	145,936	15.9
	30	720,165	15.1

# Venezuelan Red List of Ecosystems

## Natural Protected Areas

Absent from NPA or with an extension < 5% protected

Ecological unit	Category of risk	Current extension (sq km)	Protected area (%)
Deciduous forests (North)	CR	20,568	0.0
Riparian forests (North)	CR	53,089	0.0
Open savanna (North)	CR	44,485	0.0
Deciduous forest (Guyana Shield)	EN	4,029	0.0
Deciduous shrublands	CR	10,281	2.1
Spiny shrublands	CR	19,616	3.4

# Venezuelan Red List of Ecosystems

## Natural Protected Areas

- Critically Endangered ecosystems are all in the north of the country
- More than 44% of Critically Endangered ecosystems have > than 10% of their extension protected, and 11% have more than 50% in NPA
- 29% of all ecosystems have more than 50% under protection
- Dry ecosystems and savannas are the least represented in NPA, with less than 5% of each one protected
- Only Guyanan riparian forests are absent from NPA in the Venezuelan Guyana Shield



# Red List of Ecosystems and Natural Protected Areas

- Combined analysis of RLE and NPA are useful to identify:
  - Ecosystems at risk even though they are protected, i.e., give us alerts about management practices. Practices need to be evaluated
  - Which are the ecosystems under higher collapse risk and what is their extension within NPA
- It is necessary to include a temporal scale in the analyses: has the risk of collapse changed over time?, i.e., is it easy to relate ecosystems and their condition of protection?

# Red List of Ecosystems and Natural Protected Areas

- These analyses at the national level provide very useful information for local practitioners, and help them to adjust policies and management approaches for NPA.
- In a continental or global level, these analyses would provide information about global processes related to biodiversity conservation, which allow for an integrated view of the estatus of ecosystem diversity

# Red List of Ecosystems and Natural Protected Areas

Thanks for coming so early on Saturday 😊

National RLE are part of the results of the  
project From Alaska to Patagonia: Red List of  
Continental Ecosystems