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17

Nature-based solutions in the NDCs of Latin American and Caribbean countries: classification of commitments for climate action





European Commission

Directorate-General for International Partnerships
Regional Operations Unit: Continental Latin America and the Caribbean
Rue de la Loi 41 – B-1049 Brussels
Telefax: + 32 (0)2 299 64 07
E-mail: info@euroclimaplus.org

Internet

www.euroclimaplus.org

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classification of commitments for climate action

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Authors:

Mauricio Luna Rodríguez (GIZ)
Rodrigo Villate Rivera (GIZ)

Contact:

Pilar.RomanGalan@giz.de

Editing:

Maria Fernanda Contreras del Valle
David Wedemeyer (GIZ), Simone Köppel (GIZ)

Translation:

Mark Nash

Design:

Paula Cruz
Producciones La Pecera

Cover image:

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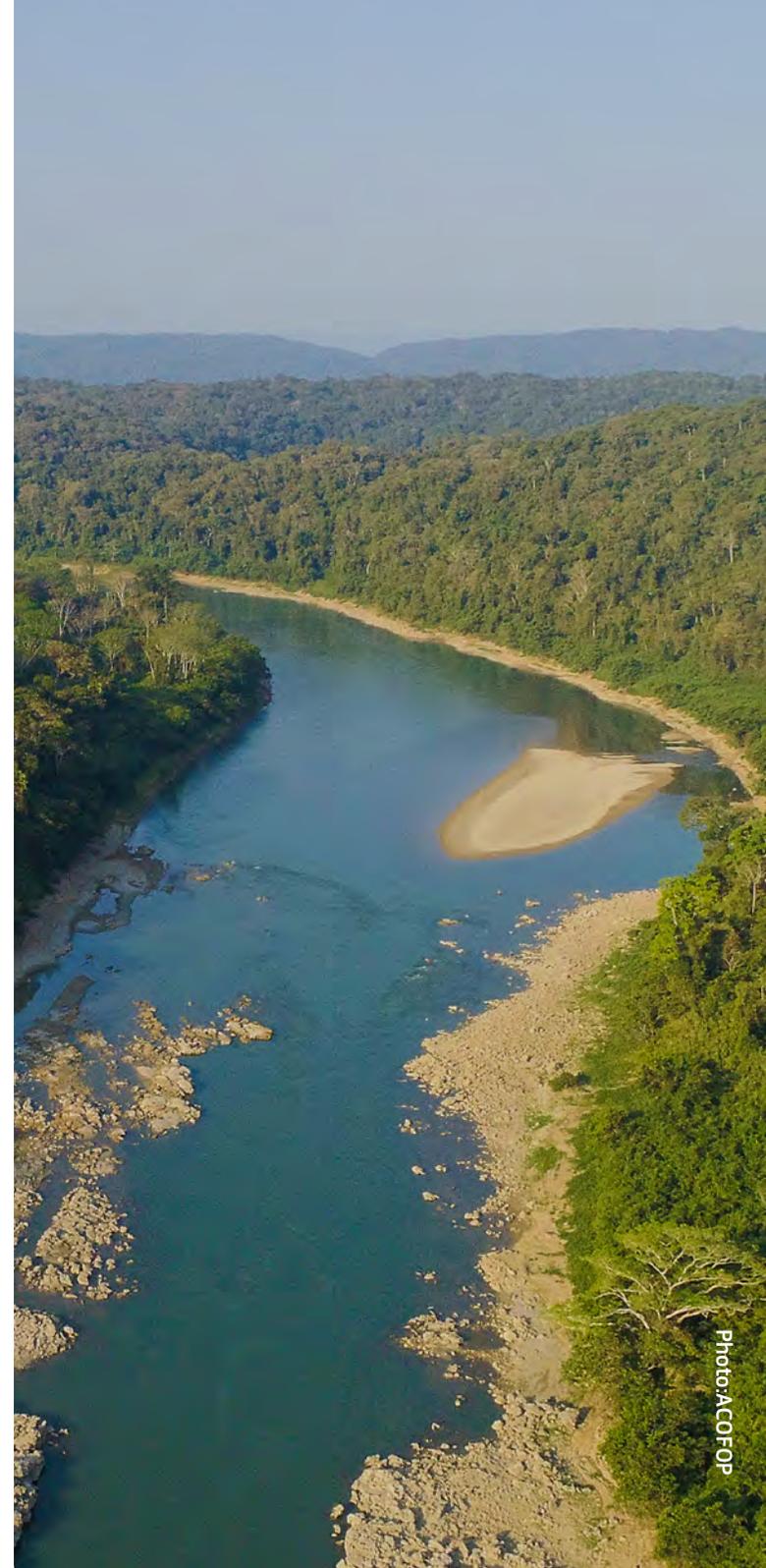
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ABBREVIATIONS AND ACRONYMS

AECID	Agencia Española de Cooperación Internacional para el Desarrollo (Spanish Agency for International Development Cooperation)	IUCN	International Union for Conservation of Nature
AFD	Agence Française de Développement (French Development Agency)	NAMA	Nationally Appropriate Mitigation Actions
CDB	Convention on Biological Diversity	NbS	Nature-based Solutions
COP	Conference of the Parties	NBSAP	National Biodiversity Strategies and Action Plans
EbA	Ecosystem-based Adaptation	NCS	Natural Climate Solutions
EbM	Ecosystem-based Mitigation	NDC	Nationally Determined Contributions
ECLAC	United Nations Economic Commission for Latin America and the Caribbean	PEDRR	Partnership for Environment and Disaster Risk Reduction
ECO-DRR	Ecosystem-based Disaster Risk Reduction	Ramsar	Ramsar Convention, also known as “The Convention on Wetlands,” is an intergovernmental environmental treaty established in 1971 by UNESCO
EF	Expertise France	REDD	Reducing Emissions from Deforestation and forest Degradation
FBE	Forests, Biodiversity and Ecosystems (EUROCLIMA+ Programme)	SDG	Sustainable Development Goal
FEBA	Friends of Ecosystem-based Adaptation	Sendai Framework	Sendai Framework for Disaster Risk Reduction
FIIAPP	International and Ibero-American Foundation for Administration and Public Policies	UN	United Nations
GHG	Greenhouse gas	UNCCD	United Nations Convention to Combat Desertification
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH	UNEP	United Nations Environment Programme
IPBES	Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services	UNFCCC	United Nations Framework Convention on Climate Change
IPCC	Intergovernmental Panel on Climate Change	WRI	World Resources Institute
		WWAP	World Water Assessment Programme
		WWF	World Wide Fund For Nature

INTRODUCTION

The Nature-based Solutions (NbS) approach has gained momentum in recent years in response to diverse social challenges (Cohen-Shacham et al., 2016). This umbrella concept was coined by the World Bank (MacKinnon, 2008) and further developed by the IUCN (2009, 2016, 2020). It is an approach that brings together numerous established and innovative concepts based on the multiple services that ecosystems provide society and people (Seddon et al., 2020b). This approach incorporates actions for the protection, management and restoration of natural ecosystems, as well as novel measures for the use of “natural infrastructures” and specific actions to combat climate change and its effects (Cohen-Shacham et al., 2019). Moreover, this approach has been promoted by development banks and private sector stakeholders at the regional and international level (Marsters et al., 2021; Oliver et al., 2021; Ozment et al., 2021; World Bank, 2022; WEF, 2022). Recently, the United Nations Environment Assembly approved the first definition of NbS at the multilateral level (UNEP, 2022).



However, NbS have also received criticism, mainly from civil society stakeholders, indigenous peoples and some countries (Schneider, 2021; Seddon, 2022). Thus, it is necessary to address these concerns with a view to improving our understanding of the potential contributions to different development agendas. Similarly, it is important to highlight the contributions of NbS to international agreements such as the Sustainable Development Goals (SDGs), the United Nations Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity (CBD), the United Nations Convention to Combat Desertification (UNCCD), as well as the **Sendai Framework for Disaster Risk Reduction** and the **Ramsar Convention** on wetlands.

In their broadest sense, **NbS focus on the benefits that ecosystems provide people** in the face of social challenges such as food and water security, economic and social development, health, disaster risk reduction and biodiversity loss, as well as climate change mitigation and adaptation (IUCN, 2020). This analysis focuses on the classification of the climate commitments (in NDCs) of the Latin American and Caribbean countries that are part of the EUROCLIMA+ Programme. The measures analyzed facilitate and propose the use of nature to respond directly to the challenges of climate variability and change, and are conceptualized in this study as “NbS for climate action.” In response to criticism of the NbS approach, the analysis assesses the potential benefits for biodiversity of the commitments, as well as the involvement of marginalized groups, as fundamental requirements for these measures to be sustainable and equitable (Boyland, et al., 2022; Donatti et al., 2022).

Commitments with an **NbS** approach have become increasingly relevant in the area of **climate action** and have been widely incorporated in the NDCs of countries at the global level (Seddon et al., 2020a; WWF, 2021). However, there are some questions concerning the definition and methods (Lo, Qi & Jang, 2022) that limit a common understanding among *public policy makers, project implementers* and *financiers* about what constitutes NbS for climate action. **The objective of this analysis is to contribute to a common understanding on the types of NbS for climate action with a novel classification system that allows for the identification and categorization of the contributions with an NbS approach in the updated NDCs.** The classification assesses the potential benefits for biodiversity and the participation of vulnerable groups as fundamental requirements for the implementation of robust and sustainable NbS over time.

This document consists of the following parts: 1) a section covering the key concepts related to NbS for climate action and the NDC improvement process under the Paris Agreement; 2) the methodological approach and classification of commitments with an NbS approach in the updated NDCs; 3) and, finally, a segment with the results of the classification of the commitments incorporating the NbS approach in the 16 NDCs of the countries that participate in the EUROCLIMA+ Programme that, as of June 2022, had updated their NDCs under the United Nations Framework Convention on Climate Change (UNFCCC, 2022).

This working paper was prepared by GIZ regional advisors on climate change within the framework of the EUROCLIMA+ Programme, a programme that supports countries in the formulation and implementation of their NDCs. The analysis of the NbS approach allows for a better understanding of their climate commitments, as well as connections with other development agendas, especially the CBD and its implementation strategies known as National Biodiversity Strategies and Action Plans (NBSAPs).

The EUROCLIMA+ Programme is financed by the European Union and co-financed by the German federal government through the Federal Ministry for Economic Cooperation and Development (BMZ), as well as by the governments of France and Spain through the Ministry of Foreign Affairs, European Union and Cooperation.

The Programme's mission is to reduce the impacts of climate change in 18 countries in Latin America and the Caribbean by promoting mitigation, adaptation, resilience and climate investments. Programme actions are implemented according to the spirit of "Team Europe" under the cooperative efforts of seven agencies: the Spanish Agency for International Development Cooperation (AECID), the AFD Group: French Development Agency (AFD)/ Expertise France (EF), the United Nations Economic Commission for Latin America and the Caribbean (ECLAC), the International and Ibero-American Foundation for Administration and Public Policies (FIIAPP), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and the UN Environment Programme.



Photo: AIDER



1. KEY CONCEPTS

1.1 The Paris Agreement and updated NDCs

Under the Paris Agreement, the signatory countries (the Parties) are required to communicate their **Nationally Determined Contributions (NDCs)** every 5 years to the United Nations Framework Convention on Climate Change (UNFCCC, 2015). To ensure progress over time, the Agreement states that **each successive NDC should demonstrate progress with respect to previous commitments** (see **Figure 1**). Each successive NDC should demonstrate progress in terms of increasing its scope, reducing emissions and/or increasing GHG absorption capacity. The incorporation of adaptation actions, greater clarity of commitments, the promotion of synergies between mitigation and adaptation actions, the inclusion of new ecosystems, economic sectors and social groups also represents an increase in the ambition of climate commitments. This mechanism provides a great opportunity for countries to strengthen the sustainable management of ecosystems for climate action in the short, medium and long term (for example, in the successive updates of their NDCs to be presented in 2025).

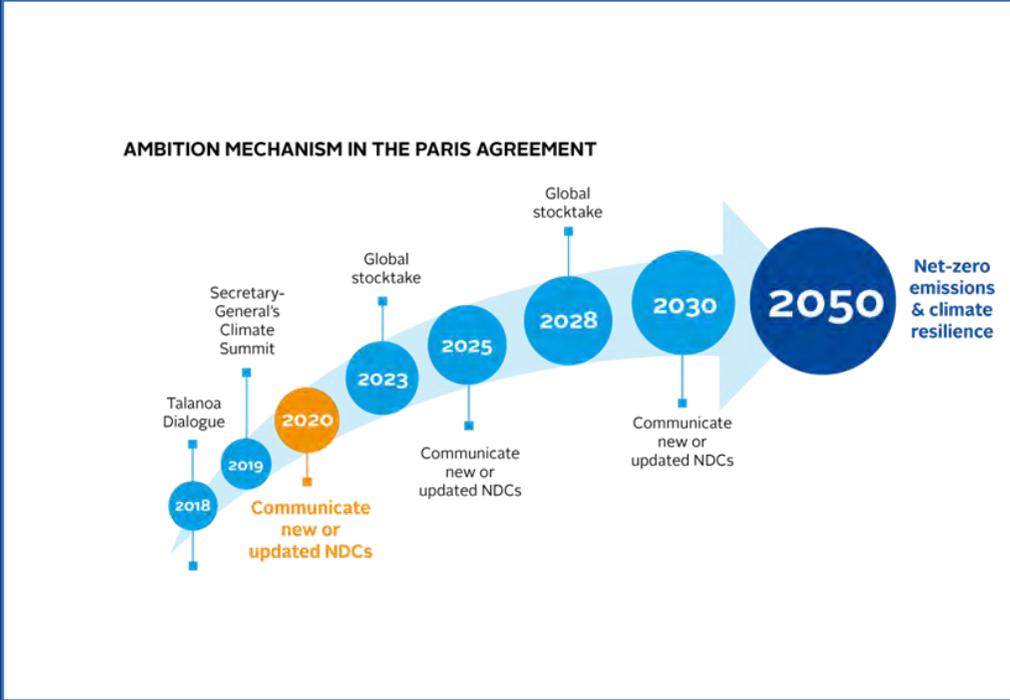


Figure 1: Ambition mechanism in the Paris Agreement (WRI, 2017).

It is important to note that in the most recent NDC updates, originally scheduled for 2020 and later extended to 2021 due to the pandemic, most countries have included an NbS approach to climate action as part of their commitments, which represents an advance over earlier commitments (see **Figure 2**).

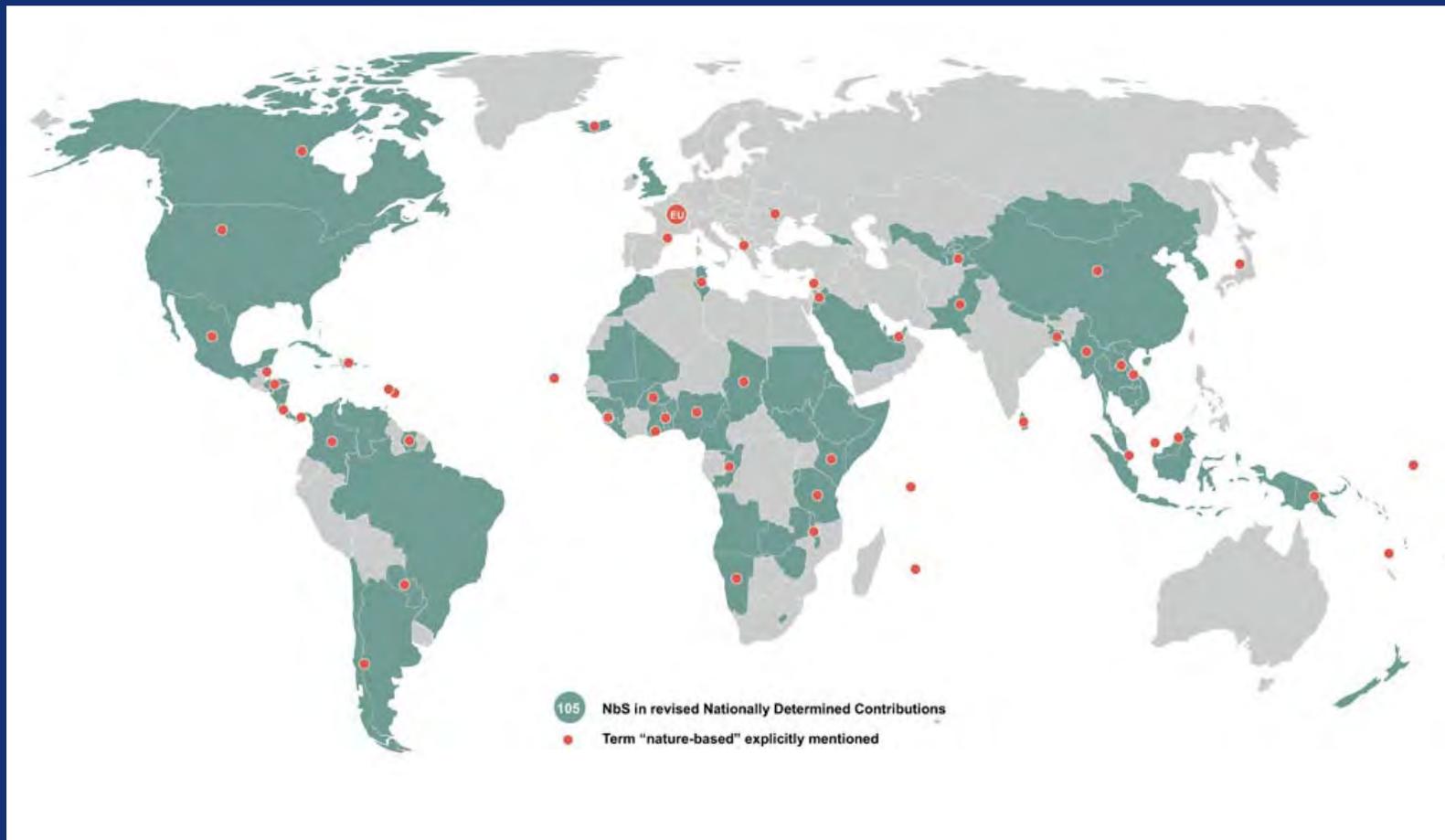


Figure 2: NbS approaches in NDC updates (Nature-Based Solutions Initiative, 2022).



1.2 Definition of NbS

NbS is an umbrella approach that contributes to mitigating diverse social challenges, including water and food security, the health and well-being of people, economic development, disaster risk reduction, climate change and biodiversity loss, among others (see **Figure 3**).



Figure 3: Social challenges addressed by NbS (IUCN, 2020).

Since the NbS concept addresses broad societal goals, it differs from traditional ecosystem and biodiversity conservation approaches that protect nature for its intrinsic value. (Seddon et al., 2020b). Thus, **grounded on conservation norms, it has a broader scope and relevance to respond to different social challenges** (see **Figure 4**).



Figure 4: The NbS approach broadens the scope and relevance of conservation actions to address other social challenges (IUCN, 2020).



Photo: Pronatura

This study is based on the most widely accepted definitions of NbS (IUCN, 2016; UNEP; 2022). According to the recent definition approved by the United Nations Environment Assembly, NbS are “actions to protect, conserve, restore, sustainably use and manage natural or modified terrestrial, freshwater, coastal and marine ecosystems, which address social, economic and environmental challenges effectively and adaptively, while simultaneously providing human well-being, ecosystem services and resilience and biodiversity benefits” (UNEP, 2022, p.2). In contrast to conventional interventions, such as human-built gray infrastructure, NbS are distinguished by their capacity to conserve and add value to natural capital, biodiversity and ecosystem services, while increasing their resilience (Lieuw-Kie-Song & Pérez-Cirera, 2020).

1.3 NbS approaches

NbS incorporate other established and recently developed approaches that can be used to address multiple social challenges using ecosystem services. These approaches can be classified into five categories, as described in **Table 1**.

NbS categories	Examples
A. Ecosystem-based approaches to address climate challenges	
1. Issue-specific ecosystem-related approaches	<ul style="list-style-type: none"> • Ecosystem-based Adaptation (EbA) • Ecosystem-based Mitigation (EbM) • Ecosystem-based disaster risk reduction (Eco-DRR)¹
B. Other ecosystem-based approaches that address climate and non-climate challenges	
2. Ecosystem restoration approaches	<ul style="list-style-type: none"> • Ecological restoration • Ecological engineering • Landscape restoration • Biological corridors and ecological connectivity
3. Infrastructure-related approaches	<ul style="list-style-type: none"> • Natural infrastructure • Green infrastructure • Blue infrastructure • Hybrid infrastructure
4. Ecosystem-based management approaches	<ul style="list-style-type: none"> • Integrated management of terrestrial ecosystems • Integrated management of coastal and maritime zones • Integrated management of water resources
5. Ecosystem-based conservation and protection approaches	<ul style="list-style-type: none"> • Other Effective Area-based Conservation Measures (OECMs) • Management of Protected Areas (MPA)

Table 1: Categories of NbS approaches. Source: adapted from Cohen-Shacham et al. (2016).

¹ Although this approach addresses climate (ex. floods, droughts) and non-climate (ex. earthquakes and tsunamis) disasters, it is widely used to prevent disasters caused by climate impacts (PEDRR, 2020).



1.4 Which approaches are not NbS?

Other noteworthy concepts, related to NbS, are “**nature-derived solutions**” and “**nature-inspired solutions**” (see **Figure 5**). Some examples of nature-derived solutions are wind and solar energy, which help satisfy energy demands with low carbon emissions using renewable sources (IUCN, 2020). Nature-inspired solutions, on the other hand, include the design and production of materials and structures that use biological processes as a model; for example, buildings inspired by termite mounds, which reduce the use of air conditioning thanks to their design (Biomimicry Institute, 2021). “Nature-derived solutions” and “nature-inspired solutions” are **not based on the proper functioning and integrity of ecosystems and do not provide direct biodiversity benefits**, so they **cannot be characterized as NbS** according to the conceptualization used in this study. However, they can play a role in a comprehensive climate action strategy, providing other benefits when combined with NbS.



Figure 5: Nature-based, nature-derived and nature-inspired solutions (IUCN, 2020).



Based on this conceptualization, **the following actions cannot be characterized as NbS either** (this is not an exhaustive list) (GIZ, 2020):

- Monocultures in agriculture, forestry or in urban planning.
- Pollution abatement measures that do not actively promote biological diversity and ecological connectivity.
- Reforestation with species that are not suitable for the area, or ecosystems that naturally do not have forest cover, or the conversion of natural forests into forest plantations.
- Bioenergy with Carbon Capture and Storage (BECCS).
- Genetic engineering of agricultural crops, trees or algae to produce raw materials and fuels or to store CO₂.
- Introduction of exotic or potentially invasive species.
- Technological approaches, such as the fertilization of oceans.
- Ex-situ genetic resources.





Photo: ACEAA



1.5 NbS for climate action

For the purpose of this analysis, we use the following definition of NbS for climate action: *measures aimed at conserving, protecting, restoring and sustainably managing natural or modified ecosystems, to mitigate, adapt to, or reduce the risks associated with climate change, while simultaneously providing human well-being and biodiversity benefits.*

NbS approaches for climate action

It is important to mention three NbS approaches that directly address climate change: Ecosystem-based Mitigation (EbM); Ecosystem-based Adaptation (EbA); and Ecosystem-based Disaster Risk Reduction (Eco-DRR).

Ecosystem-based Mitigation (EbM): defined as the use of ecosystems for carbon sequestration and storage aimed at reducing GHG emissions (Doswald & Osti, 2011). EbM emerged as an approach to address the causes of climate change arising from the degradation of natural carbon reservoirs and to increase natural GHG sinks such as forests, mangroves and peatlands, among others (Locatelli et al., 2011; Donatti et al., 2022).

The benefits of this approach are on a global scale and provide medium- and long-term effects (Locatelli et al., 2011). EbM emphasizes the importance of forest, agricultural, grassland and wetland ecosystems (Griscom et al., 2017; Girardin et al., 2021), as well as marine and coastal ecosystems (mangroves, peatlands, coastal marshes and kelp forests and beds) for climate change mitigation (CBD, 2010). Some examples of actions with an EbM approach within the framework of the EUROCLIMA+ Programme include: community forest management and monitoring in the Cuyamel-Catacamas river basin in Honduras², and reforestation by small and medium agricultural producers in El Salvador, aimed at selling carbon credits in the voluntary market³.

In the English-language literature, a related concept that has gained strength recently is Natural Climate Solutions, or NCS (see **Table 2**). Under the leadership of some conservation NGOs, especially from North America,

² For more details, see the *Solución Verde: Monitoreo Forestal Comunitario y su Articulación con el Sistema Nacional de Monitoreo y Gestión Forestal para fortalecer la toma de decisiones en Honduras*

³ For more details, see the *Solución Verde: Reforestación y venta de bonos de carbono en el mercado voluntario para alcanzar las NDC de El Salvador*

and other institutions with an interest in carbon markets, these organizations have generated a number of studies that have provided greater visibility in global forums to NbS/NCS for mitigation. For example, some studies estimate that NCS could provide up to a third of the mitigation required by 2030 to meet the Paris Agreement target of limiting the increase in global average temperatures to well below 2°C compared to pre-industrial levels (Griscom et al., 2017).

However, the emphasis on mitigation through nature (especially tropical forests in the Global South and above other ecosystem services), as well as projects to offset emissions from large global emitters, has received diverse criticism (De Haldevang, 2022; Qi et al., 2021). In this analysis, the original term EbM is preferred, taking into account the multiple benefits that nature offers beyond just carbon sequestration (Donatti et al., 2022).

Ecosystem-based Adaptation (EbA): defined as the use of biodiversity and ecosystem services as part of an overall adaptation strategy to help people adapt to the adverse effects of climate change (CBD, 2009). EbA benefits are usually seen at the local level and the actions address the characteristics and needs of local contexts (Vignola et al., 2015). Another related concept is *Nature-based Climate Solutions for Adaptation* (Lo, Qi & Jang, 2022), however, for the purposes of this analysis, we use the term EbA, which has been used for several years with wide acceptance in the international community (CBD, 2010). Some examples on the ground are the protection of water recharge areas, soil conservation and the restoration of forests with species that are more tolerant to climate change (Doswald & Osti, 2011; Vignola et al., 2015). EUROCLIMA+ has supported the implementation of various projects with EbA measures, for example: raising awareness, capacity building and conservation actions to promote the ecosystem services provided by forests, especially their protection and

sustainable use to address droughts in the Gran Chaco region⁴; preparing vulnerability assessments and designing adaptation measures based on indigenous knowledge in the Bolivian Amazon⁵; and the strengthening of multilevel and multisectoral governance mechanisms for the incorporation of EbA measures in Mexico and Brazil⁶.

Ecosystem-based Disaster Risk Reduction (Eco-DRR): defined as the protection, sustainable management and restoration of ecosystems to provide services that reduce the risk of disasters due to natural phenomena by reducing threats and improving the resilience of livelihoods (PEDRR, 2020). It should be noted that Eco-DRR actions can respond to both climate (ex. landslides that result from extreme rainfall) and non-climate (ex. landslides that result from earthquakes) threats.

Examples of this type of action include: the restoration of wetlands to provide protection from hurricane storm surges and rising sea levels (Temmerman et al., 2013) and the conservation of mountain slopes to prevent landslides due to extreme rainfall and impacts on infrastructure and human settlements (Moos et al., 2018). Within EUROCLIMA+, some measures are the protection and restoration of mangroves in Izabal, Guatemala⁷ to protect coastal areas from rising sea levels and storm surge; and the reforestation of riparian

zones with native species in municipalities in the State of Colima, Mexico, to mitigate the impacts of floods, which also provides microclimate regulation benefits, supporting sustainable production and strengthening the resilience of communities⁸.

One of the important characteristics of NbS measures for climate action is that they can simultaneously provide benefits for mitigation, adaptation and biodiversity, as well as reducing the risk of disasters associated with climate events. For example, agroforestry crops offer mitigation benefits through carbon sequestration provided by trees in ecologically diverse systems. At the same time, they deliver adaptation benefits by promoting the conservation and increase of forest cover in areas prone to extreme droughts or floods⁹. Another example of NbS synergies for climate action is watershed restoration, which provides direct mitigation benefits by sequestering carbon and improving water capture while strengthening resilience¹⁰. Water resources are also crucial for hydroelectric reservoirs (a nature-derived solution), improving the stability of energy production (WWAP, 2018).

4 For more details, see the *Soluciones Verdes: Gobernanza climática en el Gran Chaco Americano: desarrollo de capacidades y exploración participativa de escenarios futuros; Gestión colectiva del agua en el semiárido chaqueño: pilotos demostrativos de opciones tecnológicas para agua de consumo, producción y sustentabilidad de los bosques*

5 For more details, see the *Solución Verde: Importancia del conocimiento indígena en la evaluación de la vulnerabilidad y definición de acciones climáticas locales, en Bolivia*

6 For more details, see the *Solución Verde: Gobernanza robusta: mejorando la coordinación vertical y horizontal para la integración de la Adaptación basada en Ecosistemas (AbE) en México y Brasil*

7 For more details, see the *Solución Verde: Primer corredor biológico binacional Honduras y Guatemala: convergencia de naturaleza y desarrollo comunitario*

8 For more details, see the *Solución Verde: Soluciones para la adaptación de productores agrícolas en Colima, México: reforestación raparúa*

9 See, for example, the *Solución Verde: Monitoreo Forestal Comunitario y su Articulación con el Sistema Nacional de Monitoreo y Gestión Forestal para fortalecer la toma de decisiones en Honduras; Soluciones para la adaptación de productores agrícolas en Colima, México: reforestación raparúa*

10 See, for example, the *Solución Verde: Crianza del agua de lluvia: aporte de técnicas ancestrales a políticas públicas de adaptación al cambio climático en Perú y Costa Rica*

NbS for climate action can also provide other associated benefits, apart from their contribution to mitigation and adaptation targets. For example, forest management provides various products for local consumption, allows for recreational activities, contributes to water filtration, maintains soil fertility and provides habitats for pollinators and other taxonomic groups (Pörtner et al., 2021). These multiple climate and non-climate benefits make NbS a cost-effective option in the long term, compared to other gray engineering options for climate action (Reguero et al., 2018).



Photo: ACEA

Approach	Definition	Methods
<i>Nature-based Solutions</i>	Measures to protect, conserve, restore and sustainably use and manage terrestrial, freshwater, coastal and marine ecosystems, whether natural or modified, to address social, economic and environmental challenges in an effective and adaptive manner, simultaneously providing human well-being, ecosystem services, improved resilience and biodiversity benefits (UNEP, 2022).	IUCN Global Standard for Nature-based Solutions (IUCN, 2020).
<i>Ecosystem-based Mitigation</i>	Use of ecosystems for carbon sequestration and storage to reduce GHG emissions (Doswald & Osti, 2011).	There is no specific method proposed.
<i>Ecosystem-based Adaptation</i>	Using biodiversity and ecosystem services as part of an overall adaptation strategy to help people adapt to the adverse effects of climate change (CBD, 2009).	EbA adaptation standard (FEBA, 2017).
<i>Ecosystem-based Disaster Risk Reduction</i>	Protection, sustainable management and restoration of ecosystems to provide services that reduce the risk of human disasters due to natural phenomena (PEDRR, 2020).	There is no specific method proposed.
<i>Other related emerging concepts</i>		
<i>Natural Climate Solutions / Nature-based Climate Solutions for Adaptation</i>	A subset of emerging NbS concepts that focus on reducing GHG emissions (Griscom et al., 2017) and adaptation to climate change (Lo, Qi & Jang, 2022) through nature.	There is no specific method proposed.
<i>Classification of NbS for climate action used in this study</i>		
<i>Nature-based Solutions for Climate Action</i>	Measures aimed at conserving, protecting, restoring and sustainably managing natural or modified ecosystems to mitigate, adapt or reduce the risks associated with climate change, while simultaneously providing human well-being and biodiversity benefits.	A methodology for the identification and classification of NbS for climate action in climate policies using six categories presented in this technical document.

Table 2: Summary of the main NbS-related approaches for climate action, their definitions and methods.

With the key concepts presented, the methodology for classifying commitments with an NbS approach in the countries' updated NDCs is detailed below.



2. METHOD FOR CLASSIFYING NBS FOR CLIMATE ACTION

In order to examine NbS approaches in the updated NDCs in Latin America and the Caribbean, we adopted a mixed approach using qualitative and quantitative methods. Based on a literature review and interviews with international experts and NDC policymakers in the region, an initial categorization of the NbS was elaborated for the FBE projects of the EUROCLIMA+ Programme. Subsequently, this typology was modified to identify and classify NbS-focused commitments in NDCs. This process allowed us to refine the method and develop the **NbS classification system** in this study. Before classifying the commitments with the NbS approach, a general description of the NDC document is required.

2.1 NDC general assessment

The analysis of the NDCs began with a general assessment of the NDCs in relation to: **a) their connection with other international conventions;** and **b) explicit reference to an NbS approach in the NDC.** The first variable addressed by the analysis is whether the commitments in the NDC are directly linked to other international instruments, such as the SDGs and other international conventions and agreements like the CBD, UNCCD, the Sendai Framework and Ramsar. Subsequently, we identify whether NbS/ EbA/EbM/Eco-DRR approaches are mentioned explicitly in the general description or specific commitments in the NDC.



Photo: ACEA

2.2 Identification of NbS in the NDC

The Paris Agreement does not provide specific guidelines for the presentation of NDCs, and there are significant differences in the way countries present their commitments to the UNFCCC. To facilitate the identification of contributions with a NbS approach, the analysis starts with a general question and a series of keywords:

What commitments does the country present in its NDCs related to “conservation”, “protection”, “restoration” or “sustainable management” / “sustainable use” of “ecosystems” / “nature”, or are they related to keywords such as: “NbS”, “EbA”, “EbM”, “EcoDRR”, “forests”, “reforestation”, “forestation”, [combating] “deforestation”, “forests”, “REDD”, “water”, “basins”, “marine”, “coastal”, “marine-coastal”, “mangrove”, “blue carbon”, “natural areas”, “protected areas”, “biological corridors”, “biodiversity”, “NAMA”, “agriculture” “livestock”, “soil”?

2.3 Classification of climate commitments with a NbS approach

After identifying the climate commitments with an NbS approach, they are classified in **six categories** with their respective variables, as summarized in **Table 3:**

Categories	Variables
a) Contribution to climate action	<ul style="list-style-type: none"> • Mitigation using nature • Adaptation using nature • Enabling conditions (for climate action using nature)
b) Classification of the type of NbS measures	<ul style="list-style-type: none"> • Types of enabling conditions • Types of actions on the ground for mitigation and/or adaptation
c) Relevant development sectors	Agriculture; Biodiversity; Energy; Forests; Waste management; Water; Industry; Infrastructure/Transport; Tourism; Health; Fisheries; Land/Marine Planning; and Multisectoral.
d) Ecosystems with potential for implementation	Agroecosystems; Urban areas; Freshwater; Forests; Marine-Coastal; Grasslands; and Multiple.
e) Result in a net gain to biodiversity and ecosystem integrity	Net gains are expected; Net gains are not expected; Unable to determine with the available data.
f) Reference to marginalized groups in relation to nature	No reference; Weak reference; Strong reference.

Table 3: Classification of commitments with an NbS approach for climate action.

The **classification** of categories is detailed below with examples of commitments with an NbS approach identified in the NDCs of the countries in the region:

a) **Contribution to climate action**

The classification makes it possible to identify commitments that contribute to generating the **enabling conditions** to implement NbS, as well as **actions on the ground** for climate change adaptation and mitigation, based on the following questions:

- **Enabling conditions:** Does it aim at generating the framework conditions for the sustainable use of nature for climate action?
- **Mitigation:** Does it aim at reducing emissions or increasing GHG sinks using nature?
- **Adaptation:** Does it aim at improving resilience using nature?

Once their overall contribution to climate action has been determined, the commitments are classified according to the type of contribution.

b) **Classification of the types of measures with a NbS approach**

As shown in **Tables 4 and 5**, the **enabling conditions are classified according to the following types:** *Strengthening of public policies; Financial instruments; Capacity building; Information systems &*

technologies; Spatial management instruments (terrestrial/marine); and Research & studies (Biagini et al., 2014; Luna & Pérez, 2019). **Mitigation and/or adaptation actions on the ground are classified according to the following types:** *Conservation/Protection; Restoration; Sustainable management; Combination of the above; Creation of artificial ecosystems; and Combination of artificial and natural ecosystems* (Chausson et al., 2020).

Enabling conditions
i. Strengthening of public policies
ii. Financial instruments
iii. Capacity building
iv. Information systems & technologies
v. Spatial management instruments
vi. Research & studies

Table 4: Types of enabling condition commitments with an NbS approach.

Actions on the ground
i. Conservation/protection of ecosystems
ii. Restoration of ecosystems
iii. Sustainable management of ecosystems
iv. Combination of the above: <ul style="list-style-type: none"> • Protection/Restoration • Protection/Management • Restoration/Management
v. Creation/transformation of ecosystems
vi. Combination of artificial and natural ecosystems

Table 5: Types of actions on the ground commitments with an NbS approach.



These types of **enabling conditions** and **actions on the ground** form the core of the NbS commitment categorization system. **Tables 6 and 7** (below) provide a description and examples in the region's updated NDCs.

Type of enabling condition	Description	Examples in LAC region NDCs
<i>i. Strengthening of public policies</i>	Creation or revision of public policies, legislation, institutions, and/or governance structures in response to climate change that support the use of ecosystems.	NDCs in Argentina: Establish processes and design tools for the mainstreaming of ecosystem-based adaptation in the National Adaptation Plan (NAP), response plans, policies and measures under the framework of the National Climate Change Cabinet (GNCC).
<i>ii. Financial instruments</i>	Financing mechanisms, instruments or strategies and insurance programmes, including microfinancing mechanisms, post-disaster emergency funds, payment for ecosystem services and economic incentives that support the use of ecosystems.	NDCs in Costa Rica: By 2030, Costa Rica will have implemented and improved their Payment for Ecosystem Services programme to include other services and ecosystems not currently included, among them, as a priority, soils, peatlands and other ecosystems with great potential for carbon sequestration. The programme also plans on identifying and increasing sources of financing.
<i>iii. Capacity building</i>	Awareness, education, information sharing campaigns and the strengthening of individual and institutional capacities in civil society, the private sector and the public sector for climate action through ecosystems.	NDCs in Paraguay: Strengthen the capacities of the National System of Protected Wilderness Areas (SINASIP) to address the impacts of climate change, with emphasis on the conservation of threatened species.
<i>iv. Information systems and technologies</i>	Systems and methods for gathering and sharing information relevant to ecosystem management for climate action.	NDCs in Cuba: Strengthen monitoring, surveillance and early warning systems to systematically assess the status and quality of coastal zones and monitor water, droughts, forests, and human, animal, and plants health.
<i>v. Spatial management instruments</i>	Territorial, coastal and marine planning, ecosystem restoration tools, risk management plans based on geospatial data.	NDCs in Colombia: 135 Water Catchment Basin Planning and Management Plans (POMCA) created and/or revised to address climate variability and change.
<i>vi. Research & studies</i>	Research and analysis initiatives that contribute to climate change adaptation and mitigation through ecosystems.	NDCs in Chile: Studies to assess the co-benefits provided by different marine ecosystems in marine protected areas for climate change mitigation and adaptation and the implementation of actions to enhance these co-benefits.

Table 6: Types of enabling conditions, descriptions and examples in LAC region NDCs (adapted from Luna, 2022).

Type of action on the ground	Description	Examples in LAC region NDCs
<i>a. Conservation/protection of ecosystems</i>	Protection of natural and semi-natural terrestrial, marine and freshwater ecosystems.	NDCs in Argentina: Strengthen and expand the National System of Protected Areas in coordination with the provinces through the Federal System of Protected Areas.
<i>b. Restoration of ecosystems</i>	Active or passive restoration measures for natural or semi-natural ecosystems.	NDCs in Honduras: By 2030, Honduras commits to implement the “conservation and functional restoration of the rural landscape” reaching 1.3 million hectares of forest in the process of restoration.
<i>c. Sustainable management of ecosystems</i>	Management of natural or semi-natural ecosystems (other than restoration or protection), including sustainable forestry, agriculture, and fisheries management, as well as ecosystem-based fire control strategies.	NDCs in Argentina: Sustainable and resilient management of agroecosystems that contribute to ensuring food security in the face of climate change impacts.
<i>d. Combination of the above</i> -Protection/restoration - Protection/Management - Restoration/Management	The combination of one or more approaches in natural or semi-natural ecosystems, including interventions for landscape regeneration through protection.	NDCs in Paraguay: Protect and restore wetlands and water sources.
<i>e. Creation of new ecosystems</i>	Establishment, protection or management of created ecosystems, including new types of ecosystems (ex. artificial wetlands).	NDCs in Costa Rica: By 2030, create a methodological guide for nature-based solutions in infrastructure (green infrastructure) to promote building practices with an integrated landscape.
<i>f. Combination of artificial and natural ecosystems</i>	Approaches that include both natural or semi-natural ecosystems and created ecosystems.	NDCs in Chile: Plant 200,000 hectares of forest, with at least 100,000 hectares of permanent forest cover, and at least 70,000 hectares using native species. The forest recovery and planting will preferably be on soils suitable for forestry and/or in priority conservation areas, aimed at capturing 3.0 to 3.4 MtCO ₂ eq per year by 2030.

Table 7: Types of actions on the ground, descriptions and examples in LAC region NDCs (adapted from Chausson et al., 2020).



Photo: ACEAA

c) **Relevant areas of development**

As discussed in the previous section, NbS is an approach that broadens and expands the importance of nature conservation. Climate action commitments with an NbS approach have a direct impact on various areas of development beyond just nature conservation. **Table 8** provides examples of commitments with an NbS approach identified in the NDCs in the region that involve different areas of development.

Areas of development ¹¹	Examples in LAC region NDCs
Agriculture	NDCs in Colombia. NAMA for sustainable livestock production: reduce GHG emissions in livestock production and increase carbon removal in agroecosystems for livestock production.
Forestry	NDCs in Panama. By 2025, Panama commits to developing and implementing their National REDD+ Strategy.
Water management	NDCs in Mexico. Promote hydrological environmental services through the conservation, protection, and restoration of river basins, with special attention to Nature-based Solutions.
Fisheries	NDCs in Costa Rica. Costa Rica is committed to promoting sustainable fishing, including mariculture projects, value-added artisanal and traditional fishing, and marine spatial planning to promote the development of the blue economy.
Tourism	NDCs in Cuba. Stop the deterioration and restore and conserve the coral reefs in the archipelago, prioritizing the ridges that border the insular shelf and protect urban beaches for tourism. Combat overfishing of the fish that promote healthy coral reefs.
Biodiversity	NDCs in Argentina. Strengthen the adaptive management of natural resources with an ecosystem approach to ensure the conservation and sustainable use of biodiversity, including terrestrial and aquatic ecosystems.
Health	NDCs in Honduras. By 2030, Honduras commits to reduce the use of firewood in family homes by 39% to combat deforestation.
Energy	NDCs in Paraguay. Protect and restore watercourses in priority sub-basins for hydroelectric power generation.
Industry	NDCs in the Dominican Republic. Promote the reforestation of quarries and the planting of endemic trees in buffer areas of Dominican cement companies.
Spatial planning	NDCs in Nicaragua. Improve the protection of biosphere reserves with a land management programme and the promotion of reforestation, with an investment of approximately USD 400 million.
Waste management	NDCs in Chile. In 2020, create a National Organic Waste Strategy aimed at increasing the value of this type of waste at the municipal level, reincorporating the nutrients, organic material and substrates in the production process, thus contributing to climate change adaptation and mitigation.
Transportation/Infrastructure	NDCs in Paraguay. Plan and manage the navigability of cross-border rivers in times of low water and drought.
Multisectoral	NDCs in Costa Rica. In 2021, implement the National Bioeconomy Strategy of Costa Rica 2020-2030 to ensure the sustainable production of high added value products in all regions and emerging biocities, based on the fair and equitable use of biodiversity, the circular use of biomass and the biotechnological progress of the country as a knowledge society.

Table 8: Areas of development and examples in LAC region NDCs.

11 It is important to highlight that many of the NbS commitments are directly linked to more than one area of development.

d) **Ecosystems with potential for implementation**¹²

Another category of analysis of the NbS approach commitments identified in the NDCs is the ecosystem for potential implementation of actions on the ground.

Table 9 provides examples of commitments with an NbS approach that can be implemented in different ecosystems in the region.

Ecosystem ¹³	Examples in LAC region NDCs
Marine/coastal (e.g., seagrasses, coral reefs, mangroves)	NDCs in Guatemala. By 2025, restore and reforest at least 1,500 hectares of mangrove ecosystems with the participation of local communities, indigenous and Garífuna peoples, women's groups and youth.
Agroecosystems (e.g., agriculture and livestock)	NDCs in El Salvador. Conservation, restoration and rehabilitation of one million hectares of ecosystems and landscapes; addressing the causes of deforestation, ecosystem degradation and promoting the transition to sustainable agroecosystems.
Forests (excluding coastal mangrove forests)	NDCs in Chile. By 2030, Chile commits to the recovery and sustainable management of 200,000 hectares of native forests aimed at capturing 0.9 to 1.2 MtCO ₂ eq per year.
Urban areas (e.g., residential, service economy, and industrial areas)	NDCs in Costa Rica. By 2022, restore 300 hectares of landscapes and urban micro-corridors.
Freshwater (e.g., wetlands, peatlands, rivers, lakes)	NDCs in the Dominican Republic. Improve the quality of the water-producing ecosystems that supply drinking water and improve sanitation services.
Grasslands (including pastures, savannahs, plains, scrublands, alpine tundra)	NDCs in Colombia. Delimit and protect 100% of the alpine tundra in Colombia through management plans.
Other	NDCs in Argentina. Evaluate changes in glacial and periglacial systems to develop mechanisms for their protection.
Multiple	NDCs in Paraguay. Promote the use of Nature-based Solutions (NbS) to improve the adaptive capacity of priority sectors.

Table 9: Ecosystems and examples in LAC region NDCs.

¹² Ecosystem classification adapted from Keith (2020) and Seddon (2020a).

¹³ It should be noted that many of the action on the ground NbS commitments can potentially be implemented in more than one ecosystem.

e) Result in a net gain to biodiversity and ecosystem integrity¹⁴

There is a scientific consensus that, if climate actions using nature fail to take conservation standards into account, it may imply trade-offs to the detriment of the proper functioning of ecosystems and biodiversity (Pörtner et al., 2021). For example, the use of exotic species in forest plantations to mitigate climate change is not considered an NbS as this type of measure could negatively affect the water cycle or soil and have impacts on biodiversity and the integrity of ecosystems. Thus, this category aims to assess whether the identified actions on the ground could affect biodiversity, ecosystems and the resilience of their services. This category is essential to determine if the action analyzed is a sustainable NbS (IUCN, 2020).

f) Reference to marginalized groups and NbS¹⁵

Indigenous peoples play a fundamental role in the protection of ecosystems globally (Garnett et al., 2018). Similarly, the use of ecosystems for climate action must ensure environmental and social safeguards that guarantee the effective participation of local stakeholders, both rural and urban, for its effective implementation (Boyland et al., 2022; Lo, Qi & Jang, 2022; IUCN, 2020). Power relations play a fundamental role in consultation processes

¹⁴ For this category, we conducted a qualitative analysis of each action on the ground commitment with an NbS approach based on Criterion 3 of the IUCN Global Standard for Nature-based Solutions (IUCN, 2020). Each commitment is evaluated with a color code: green for potential gains for biodiversity; yellow when it is not clear or there is uncertainty with the information provided; red for measures potentially detrimental to biodiversity and ecosystem integrity (ex. monoculture forest plantations).

¹⁵ For this category, we conducted a comprehensive qualitative analysis of the NDC to assess the role of vulnerable groups in relation to the use of nature. Each NDC was assessed with a color code: green when it clearly mentions these groups in relation to climate targets using nature; yellow for a weak reference; and red if it does not establish a direct relationship between vulnerable groups and the use of nature for climate action.

involving vulnerable stakeholders. This variable examines whether an NDC has commitments for the active participation of marginalized stakeholders, such as indigenous peoples and women, in the use of ecosystems for climate action.



Photo: EISP



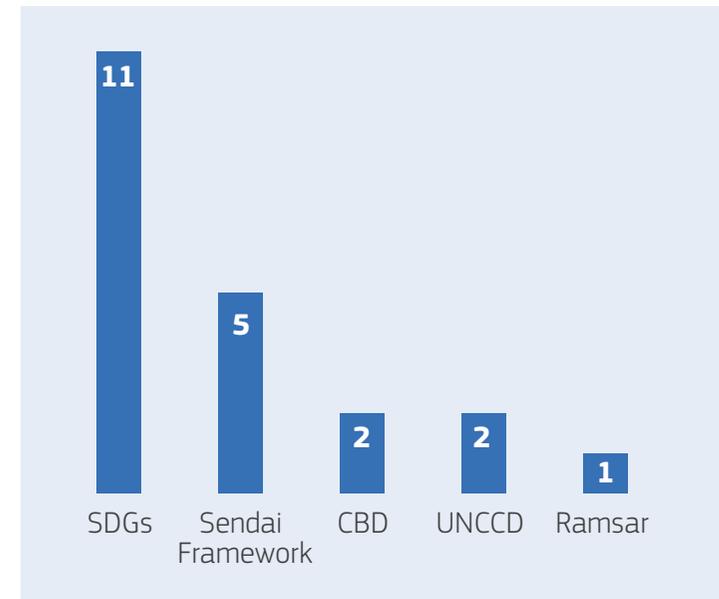
3. ANALYSIS OF THE RESULTS OF THE CLASSIFICATION

Following are the results of the analysis of the 16 NDCs of the EUROCLIMA+ Programme countries that submitted NDC updates between January 2020 and June 2022. The NDCs analyzed are from the following countries: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay and Peru.

3.1 Results of the general assessment of the NDCs

3.1.1. Linkage of the commitments with other international conventions

Most of the NDCs in the region establish direct links between climate commitments and their contributions to other international instruments. Except for Brazil and Peru (which do not provide details), the other NDCs tie their commitments to at least one international commitment. As seen in **Graph 1**, most of the NDCs (11) link their commitments to specific Sustainable Development Goals (**SDGs**). Five of the NDCs indicate the contribution of their commitments to the Sendai Framework for Disaster Risk Reduction (**Sendai Framework**); two are linked to the Convention on Biological Diversity (**CBD**) and the UN Convention to Combat Desertification (**UNCCD**); and one to the **Ramsar Convention** to protect wetlands.



Graph 1: Number of NDCs that associate climate commitments with other international instruments.



3.1.2. Mention of NbS approach in the NDC

As shown in **Figure 6**, most of the countries in the region explicitly mention the use of an NbS (or EbA) approach, and the remaining countries in the region include it implicitly. This means that all countries incorporate the use of biodiversity and ecosystems to address climate change in some way.



Figura 6. Countries that explicitly or implicitly mention the NbS approach in their updated NDCs.

3.2 Categorization of NbS in the NDCs

All the countries analyzed include at least one nature-based commitment to combat climate change. As mentioned above, given the diversity in the structure, outline, and content of the NDCs, it is not always feasible to make comparisons among NDCs, but it is possible to identify the presence (or absence) of key issues, as is the case with measures that can be categorized as having an NbS approach. It is important to mention that, in the case of Peru's NDCs, it only provides general information on mitigation and adaptation targets, and the specific measures are described in a technical document after the communication of the NDCs to the UNFCCC (Ministerio de Ambiente de Perú, 2018).

Graph 2 shows the number of commitments with an NbS approach, by country, either because they contribute to generating the enabling conditions for implementation or because they establish actions on the ground using nature (see **Tables 4 and 5**). When aggregating the data by country, Costa Rica has the highest number of commitments with an NbS approach. Other countries, such as the Dominican Republic, Paraguay, Guatemala and Argentina, present a significant number of measures of this type. Finally, many of the countries have around 10 commitments with an NbS approach, and a few do not provide sufficient details on the specific measures, since, as indicated in the NDC itself, these will be detailed in documents to be developed later (this is the case of Brazil and Peru).

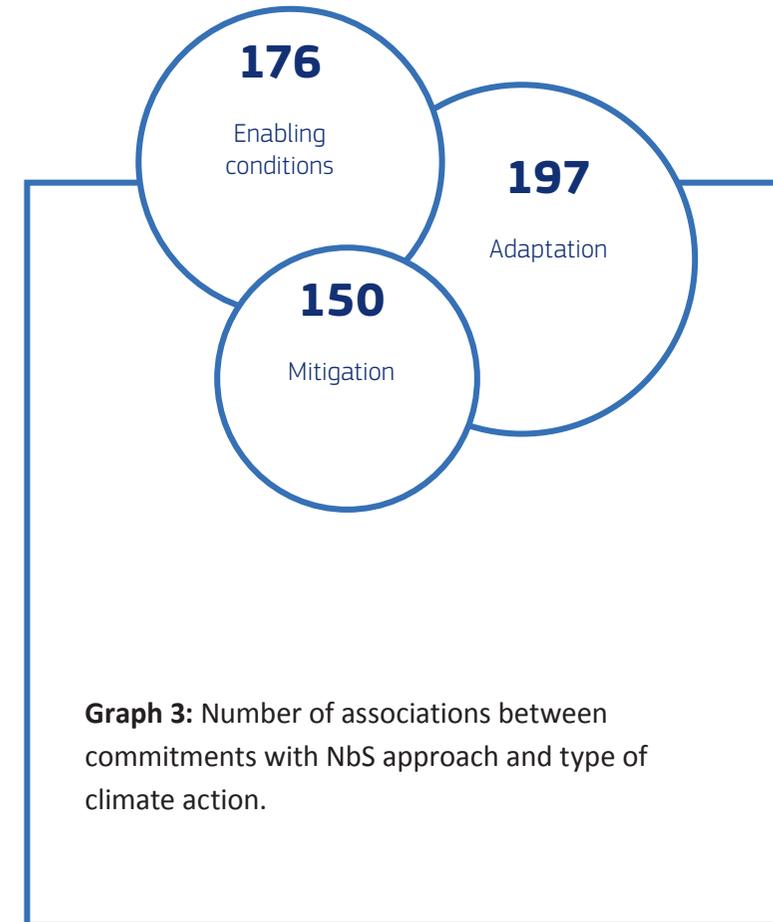
54	COSTA RICA
33	DOMINICAN REPUBLIC
32	PARAGUAY
24	GUATEMALA
23	ARGENTINA
18	COLOMBIA
14	BOLIVIA
12	EL SALVADOR
12	CHILE
12	PANAMA
9	HONDURAS
9	MEXICO
7	CUBA
4	NICARAGUA
1	PERU
1	BRAZIL

Graph 2: Number of commitments with an NbS approach per updated NDC.

The categories for the classification of commitments with an NbS approach in the NDCs are described below.

a) Contribution to climate action

The commitments with an NbS approach in the region's NDCs contribute to various areas of climate action, including actions on the ground for mitigation and adaptation and generating the necessary enabling conditions for their implementation (see **Graph 3**). Among the commitments with an NbS approach we identified, most are related to climate change adaptation actions (197 commitments), although commitments that generate enabling conditions for the use of nature (176) also stand out. Commitments with an NbS approach that contribute to mitigation also have a significant presence in the updated NDCs (150). Finally, many of the commitments with an NbS approach contribute to both mitigation and adaptation in a synergistic manner, which is one of the main advantages of this approach.

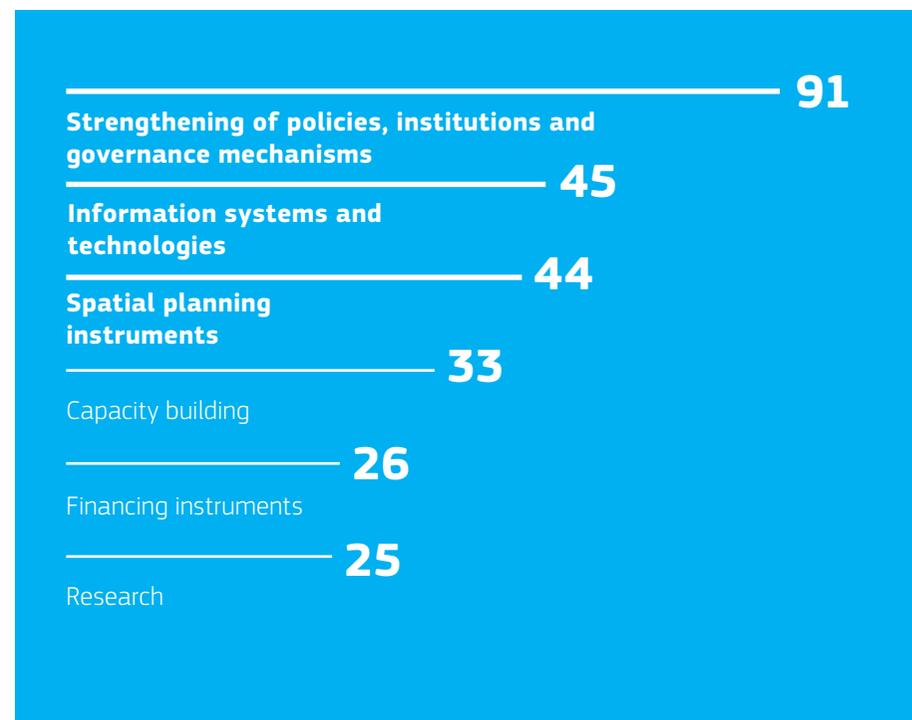


b) Classification of the types of NbS measures

Both the commitments that incorporate actions on the ground and those that generate enabling conditions for climate action through ecosystems were subclassified according to the various types of NbS to address climate change. These subcategories are specified below:

I. Types of enabling conditions

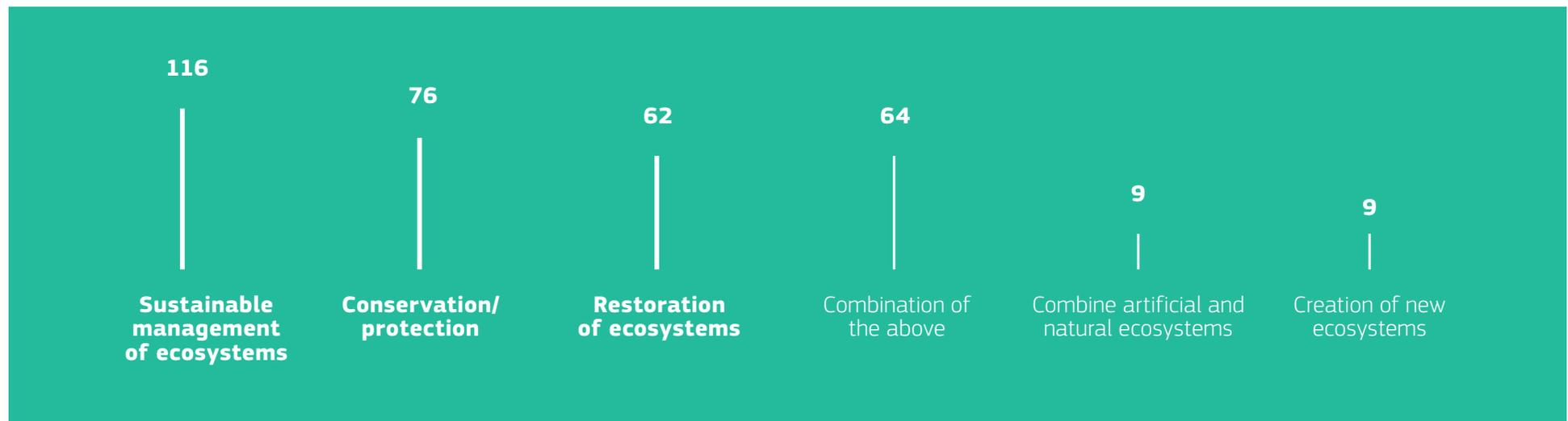
The countries in the region have incorporated different enabling conditions that directly and indirectly facilitate the implementation of NbS actions on the ground (see **Graph 4**). Among these types of conditions, we can highlight the **strengthening of policies, institutions and governance mechanisms** (91 commitments), the incorporation of **information systems and technologies** (45 commitments) and **spatial planning instruments – both terrestrial and marine** – (44 commitments). Commitments associated with **capacity building** (33), **financing instruments** (26) and **research** (25) were also identified as part of the enabling conditions for NbS in the NDCs.



Graph 4: Number of associations between commitments with an NbS approach per type of enabling condition.

II. Types of actions on the ground

Among the actions on the ground with an NbS approach, actions for the protection, restoration and sustainable management of ecosystems (see **Graph 5**) emerged. **Sustainable management** actions (mostly linked to agricultural activities) are the most prevalent in the NDCs (116 commitments), followed by actions for the **conservation/protection** of natural and semi-natural ecosystems (76), as well as their **restoration** (62). In addition, commitments with some **combination** of the above (conservation/protection; restoration; and/or sustainable management of ecosystems) also are common, with 64 commitments of this type. Finally, few commitments were identified that incorporate **artificial ecosystems** created by humans (usually in urban areas), or that **combine artificial and natural ecosystems** (with 9 commitments in each category).



Graph 5: Number of associations between commitments with an NbS approach per type of action on the ground.

c) Relevant areas of development

An important part of the analysis of commitments with an NbS approach is determining the association with other areas of development (see **Graph 6**). For example, most of the commitments are directly related to more than one sector of development and **multisectoral** NbS contributions prevail (a total of 231). In addition, commitments with an NbS approach are related to other sectors of development traditionally linked to nature, such as **biodiversity** (204); **forests** (169); **agriculture** (166); and **water** (164).

Similarly, commitments with an NbS approach that are related to **spatial planning**, both terrestrial and marine (188 commitments) appeared. The commitments with this approach are directly linked to areas of development that are not traditionally related to nature, but that play a fundamental role in the climate agenda, such as **energy** (76), **waste** (65), **industry** (64) and **transport** (58).

Biodiversity	204
Planning	188
Forestry	169
Agriculture	166
Water management	164
Fishing	103
Health	92
Tourism	88
Energy	76
Waste	65
Industry	64
Transportation	58
Multisectoral	231

Graph 6: Number of associations between commitments with an NbS approach and different development sectors.



d) **Ecosystems with potential for implementation**

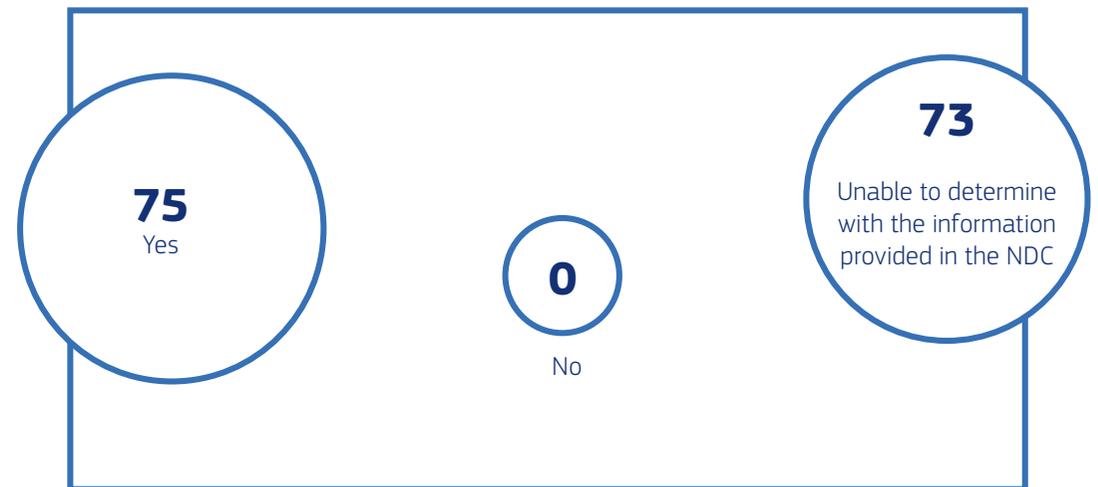
While analyzing the actions on the ground in the NDCs, a variety of ecosystems for potential implementation (see **Graph 7**) were identified, especially measures with the potential to be implemented in **multiple ecosystems** (93 commitments). In addition, although commitments for **forest ecosystems** predominate (111 commitments), there is also the potential for important actions in **agroecosystems** (104), **marine-coastal ecosystems** (77), **freshwater ecosystems** (75), and potential implementation, to a lesser extent, in **grassland, scrubland, savannah, and alpine tundra ecosystems** (41), as well as **other ecosystems** (7) (for example, **glaciers**).



Graph 7: Number of associations between commitments with an NbS approach and ecosystems for potential implementation.

e) **Result in a net gain to biodiversity and ecosystem integrity**

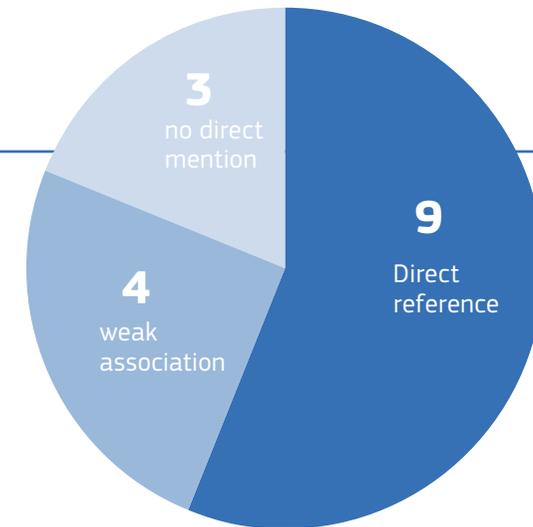
For actions on the ground commitments, it was assessed whether they contribute to a net gain in biodiversity and ecosystem integrity. For this variable, there are 3 possible results: 1) “Yes” (*net gain*); 2) “No” (*no net gain*); and 3) “?” (*unable to determine with the information provided in the NDC*) (see **Graph 8**). Based on these three categories of analysis, the results show that half of the actions on the ground with an NbS approach (75 commitments) demonstrate significant potential for **biodiversity gains** if implemented as indicated in the NDC. On the other hand, none of the commitments with an NbS approach for field implementation were identified a potential **detrimental impact on biodiversity**. However, we identified numerous commitments where **the impact on biodiversity is not clear** (73), which represents a challenge, but also an opportunity to ensure effective implementation on the ground.



Graph 8: Number of commitments with an NbS approach and potential net gain to biodiversity.

f) Reference to marginalized groups and NbS

Finally, in the study it was determined whether the commitments with an NbS approach mention the marginalized groups that are mostly dependent on natural capital for their livelihood. As shown in **Graph 9**, most of the NDCs (9 in total) make a **direct reference** to these groups (ex. indigenous peoples, local communities, Afro-descendants, women) in relation to nature. However, 4 of the NDCs present a **weak association between these groups and nature**, while 3 of the NDCs **make no direct mention** of these groups and the use of nature for climate action. In cases of commitments with no reference (or a weak reference) to these groups, the implementation of the measures could be strengthened, especially in the next round of NDC updates in 2025, to improve the sustainability of nature-based for climate actions.



Graph 9: Number of NDCs that refer to marginalized groups in relation to ecosystems.

"Dayrã Yio"
Nuestro Vestuario



"WAKA"
Mujer



"WERã"
Mujer

ARTESANIAS



"PORONGO"
Canasta



Photo: CISP

CONCLUSIONS AND RECOMMENDATIONS

Countries will update their NDCs again in 2025 with a view to aligning their commitments to meeting the targets of the Paris Agreement by mid-century (see **Figure 1**). The results of the classification of commitments with the NbS approach represent an opportunity to better understand the progress and challenges of incorporating this approach in climate action targets and the connection with other international conventions, such as the CBD. In what follows, some preliminary conclusions and recommendations of this study are provided.

Conclusions from the analysis

- **The countries of the region are adopting nature-based climate action** by incorporating ecosystems and their services in their updated NDCs. **Most of the countries analyzed (10 out of the total¹⁶) incorporate an NbS or EbA approach explicitly**, which underscores that these approaches are being widely adopted in the climate action targets of the countries in the region. **A smaller group of countries (6 out of the total¹⁷) do not explicitly incorporate this approach but include nature in their climate commitments.** Of these six countries, **two of them (Brazil and Peru) present very little information in their updated NDCs**, the publication of subsequent technical documents to carry out a more comprehensive analysis of the measures with an NbS approach in their climate commitments is awaited.

16 The countries are: Argentina, Chile, Colombia, Costa Rica, Guatemala, Honduras, Mexico, Paraguay, Panama and the Dominican Republic.

17 Bolivia, Brazil, Cuba, El Salvador, Nicaragua and Peru.

- The NDCs analyzed contain commitments with an NbS approach that support diverse **enabling conditions**, as well as **actions on the ground for adaptation and mitigation** in a synergistic manner. **Enabling condition commitments are very present among the measures proposed in the NDCs** of the countries in the region. Many of these enabling conditions directly and indirectly support the protection, restoration, and sustainable management of nature for climate action. **Many other commitments identified as actions on the ground also incorporate nature for climate action**, strengthening the resilience of ecosystems to address climate change.
- NbS commitments are directly linked to different **sectors of development** in the countries and incorporate **diverse ecosystems**, besides forests. Thus, **one of the most important conclusions of the analysis** is that the **commitments that incorporate ecosystems can contribute to combating climate change in many different areas of development** in the countries. **Another notable result is that commitments with field implementations can be executed in multiple ecosystems**, which could enhance the benefits of NbS for biodiversity conservation.

Recommendations to ensure robust NbS measures for climate action

- **The NbS approach for climate action should benefit biodiversity and ecosystem integrity.** This is a fundamental requirement for the implementation of robust measures with an NbS approach for climate action. As can be seen from the recent synthesis of the IPCC and IPBES, based on the best available science, ecosystem-based climate action measures should positively benefit biodiversity to ensure sustainability over time (Pörtner et al., 2021).
- **NbS are more robust when they provide multiple benefits beyond just climate change mitigation. NbS mitigation measures are at great risk if they only focus on carbon sequestration.** This not only limits the potential of the multiple benefits that NbS can provide (compared to other alternatives), but also compromises the sustainability of nature-based mitigation actions (Donatti et al., 2022).
- **Measures with an NbS approach should ensure the fair and equitable participation of marginalized groups.** One of the main criticisms of the NbS approach for climate action is the risk of displacing local communities and vulnerable groups. Thus, NbS actions need to establish the necessary mechanisms for the active participation of marginalized peoples in decision-making processes. The participation of these groups should be aimed at a fair distribution of the costs and benefits of the actions; the recognition of the norms and values of the local stakeholders involved; and recognition of the specific power relations and context in which NbS approach measures are implemented (Boylund et al., 2022).



Photo: ACOFOP

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