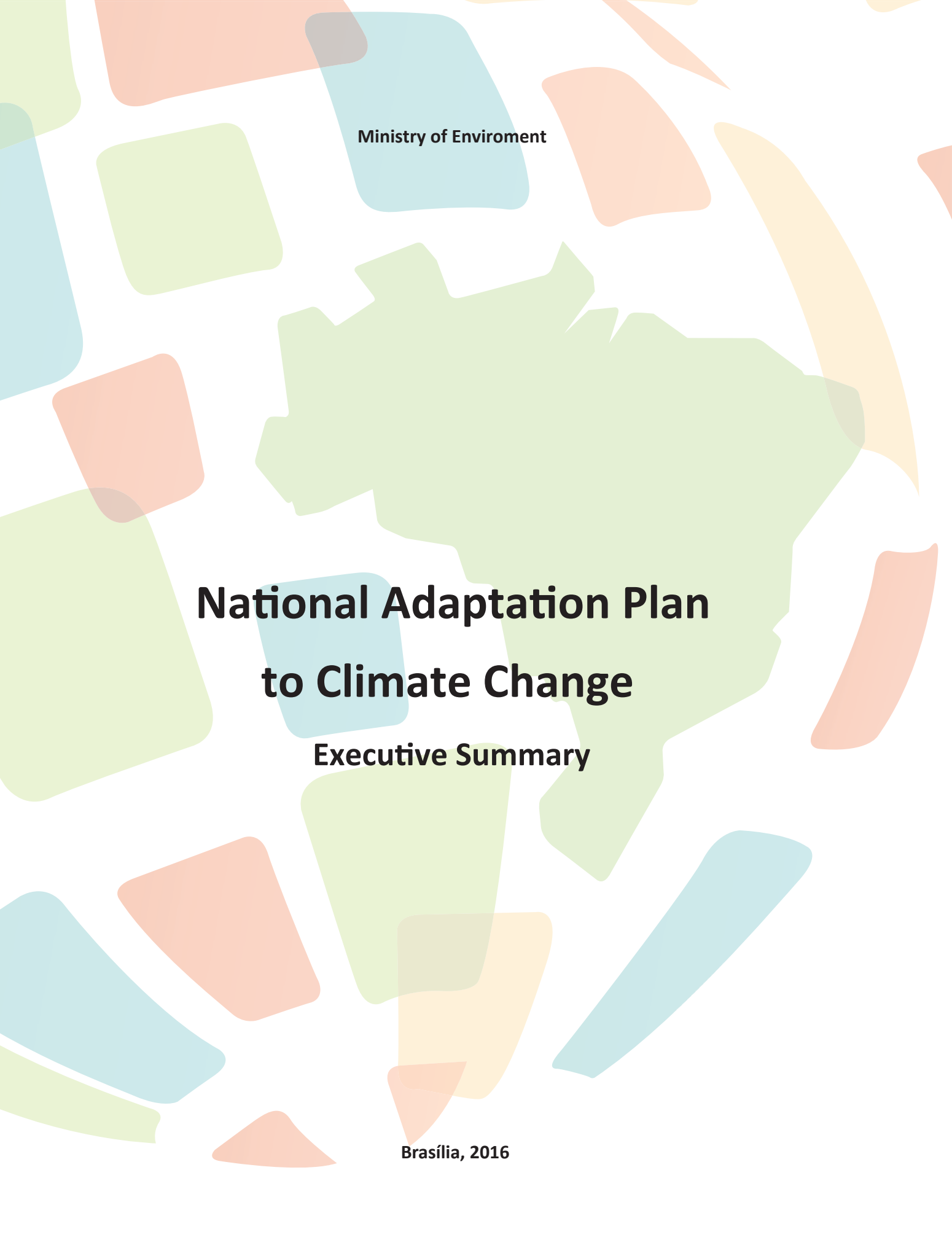


National Adaptation Plan to Climate Change

Executive Summary





Ministry of Environment

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ANA	National Water Agency	MCTI	Ministry of Science, Technology and Innovation
CAISAN	Inter-ministerial Chamber for Food and Nutritional Security	MI	Ministry of National Integration
Casa Civil/PR	Staff of the Presidency of the Republic	MCid	Ministry of Cities
Cemaden	National Centre for Monitoring of Natural Disasters	MRE	Ministry of External Relations
EMBRAPA	Brazilian Agricultural Research Corporation	MME	Ministry of Mines and Energy
FBMC	Brazilian Forum on Climate Change	MDA	Ministry of Agrarian Development
FUNAI	National Indian Foundation	MDS	Ministry of Social Development and Combating Hunger
FioCruz	Oswaldo Cruz Foundation	MDIC	Ministry of Development, Industry and Foreign Trade
IBAMA	Brazilian Institute for Environment and Natural Renewable Resources	MMA	Ministry of Environment
ICMBio	Chico Mendes Institute for Biodiversity Conservation	MPOG	Ministry of Planning, Budget and Management
INPE	National Institute for Space Research	MS	Ministry of Health
MAPA	Ministry of Agriculture, Livestock and Food Supply	MT	Ministry of Transport
		SFB	Brazilian Forestry Service
		CPRM	Geological Survey of Brazil

State, civil-society and private-sector representatives also contributed to the drafting of this plan. See the complete list on the Ministry of Environment website.

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The National Adaptation Plan (NAP) was established by Ministry of Environment (MMA) Order 150 of 10th May 2016, published in the Official Gazette (DOU) of 11th May 2016. Coordination of the Plan is entrusted to the Technical Group for Adaptation, established to provide technical and political guidance, to monitor, assess and review its actions, and to establish operational routines and mechanisms for its management.

General objective, vision and principles

The **general objective** of the Plan is to promote reduction and management of climate risk in Brazil and considering the effects of climate change, by taking full advantage of emerging opportunities, avoiding losses and damages, and building instruments to enable adaptation of natural, human, productive and infrastructure systems.

The **vision** underlying the Plan is that all government-policy sectors considered vulnerable to the impacts of climate change must have strategies in place for climate-risk management. The Plan aims to ensure satisfactory and coordinated deployment of sectoral and thematic risk-management strategies, especially in the fields of food and nutritional security, water and electric power. Measures for adaptation need also to be aligned with national socioeconomic development goals, and with coordinated federal, state and municipal public policies for reduction of inequalities. From a long-term perspective, by 2040, the NAP aims to have systemically contributed toward augmenting the Federal Government's capacity to adapt, and to have reduced risks associated with climate change.

Effective adaptation entails assimilation of climate-change risk-management into current public policies, thematic and sectoral plans, and into national development strategies, observing the following **principles**:

Inter-governmental Coordination
Intra-governmental Coordination
Sectoral, thematic and territorial approach
Social, cultural, economic and regional scope
Co-benefits between Adaptation and Mitigation
Incorporation of adaptation to climate change into governmental planning
Basing of adaptation actions on scientific, technical and traditional knowledge
Promotion of Ecosystems based Adaptation (EbA) ¹ in public policies
Promotion of regional cooperation.

Specific objectives

Federal Government activities to promote adaptation to climate change shall seek to provide structure for a sustainable development process that increases resilience from various sectoral and thematic perspectives.

Based upon observation of current domestic and international best practices, and through dialogue with society, governmental bodies and the private sector, the following specific objectives were established:

- Guide the expansion and dissemination of scientific, technical and traditional knowledge in support of the production, management and dissemination of information on climate risks, and develop capacity-building measures for governmental bodies and society in general;
- Promote coordination and cooperation among public agencies for climate-risk management, by means of public-participation processes, with a view to fostering continuous improvement of climate risk-management actions;
- Identify and propose measures to promote adaptation to and reduction of climate risk.

¹ The Concept of Ecosystems based Adaptation (EbA) used in this Plan, implies “management, conservation and restoration of ecosystems, with the aim of providing ecosystem services to enable society to adapt to the impacts of climate change”.

Sectoral and thematic strategies

Mapping of vulnerability to climate change requires the development of sectoral and thematic strategies and consideration of territorial dynamics.

Eleven sectors and themes are encompassed by the NAP namely: Agriculture*, Biodiversity and Ecosystems, Cities and Urban Development, Natural Disasters, Industry* and Mining*, Infrastructure (Electric Power*, Transport and Urban Mobility*), Vulnerable Populations, Water Resources, Health*, Food and Nutritional Security, and Coastal Zones. The sectoral and thematic approach adopted is in line with legal provisions for sharing of responsibilities, priorities and urgencies regarding vulnerability, at the federal level.

There follows a description of each of the main sectorial or thematic strategy goals:

- **Agriculture** – This chapter aims to examine the vulnerabilities of agriculture to climatic change; provide support for the farm sector in implementing actions to promote resilience of agro-ecosystems; foster pursuit of technology transfers; furnish inputs for a review of the Low-Carbon Agriculture Plan (Plano ABC), especially for its Adaptation Programme and for actions to be carried out by 2020.

* Sectoral Plans for Mitigation of and Adaptation to Climate Change for these sectors are contemplated by Law 12187 of 2009, and Decree 7390 of 2010.

- **Biodiversity and Ecosystems** –

Analysis of the impacts of climate change on Brazilian biodiversity and assessment of potential adaptation measures to reduce its vulnerability. Evaluation of the role of biodiversity and of ecosystems in reducing socioeconomic vulnerabilities through provision of ecosystem services.

- **Cities and Urban Development**

– Approach public policies for urban planning and development from a climate standpoint. Identify “no regrets”² actions that contribute directly to reducing vulnerability to climate change and the development of resilient cities.

- **Disaster Risk Management**

– Foster activities targeted at development of risk-reduction capabilities, readiness and prompt response to climate-change related disasters.

- **Industry and Mining**

– Submit basic concepts and guidelines to complement treatment of issues relating to adaptation to climate change, through the Low-Carbon Industry Plan and Low-Carbon Mining Plan, highlighting the cross-cutting nature of actions required and persistent gaps.

- **Infrastructure**

– Present the impacts and vulnerabilities associated to climate change for the Transport, Urban-Mobility and Electric-Power sectors, and suggest guidelines for addressing them.

2 These adaptation actions promote benefits for the sectors regardless of whether the foreseen impacts of climate change come about.

- **Vulnerable Populations** – Identify the population groups most vulnerable to climate change, with a view to fostering their adaptation.
- **Water Resources** – Assess the impacts of climate change on water resources and the main water-user sectors, identifying adaptation measures that best prepare water-resources management and governance for facing up to a scenario of greater climate variance.
- **Health** – Present the vulnerabilities, impacts and risks of climate change to human health, and propose guidelines and strategies for the Unified Health System (SUS) in consonance with the National Policy for Climate Change (PNMC).
- **Food and Nutritional Security** – Assess vulnerabilities, impacts and risks of climate change to Brazilian food and nutritional security and propose

guidelines and practices that contribute toward reducing such vulnerabilities.

- **Coastal Zone** – Identify the current level of exposure to climate change of the Brazilian coastal zone, including the main related impacts and vulnerabilities, and propose actions necessary for development of climate resilience.

Goals agreed upon by objective

The following table presents targets for objectives 1 and 2, to be implemented within the first cycle of the NAP. Under objective 3, the table presents targets for the main sectoral and thematic strategies pursued. Long-standing institutional knowledge and the accumulation of actions for addressing climate change in the sectors involved have enabled close collaboration in the definition of these goals.

Table 1. Goals of the National Adaptation Plan, broken down by specific objective

Specific Objectives	Goals	Responsible
Objective 1: Expansion and dissemination of scientific, technical and traditional knowledge: production, management and dissemination of information on climate risk	1.1 Strategy to enhance the quality of climate projections, as inputs for public policies for adaptation, drafted and implemented.	MMA /MCTI
	1.2 Plan of action to implement Technological Needs Assessment (TNA) for adaptation, drafted.	MCTI
	1.3 Online Platform for management of knowledge on adaptation, established and made available to society.	MMA
	1.4 Strategy to expand and strengthen the Climate Network (Rede Clima), drafted and implemented.	MCTI
	1.5 The data integration project for monitoring and observation of impacts of climate change (SISMOI) prepared and implemented.	MCTI
Objective 2: Coordination and cooperation among public agencies and civil society	2.1 Capacity-building strategy for adaptation developed and implemented for various target publics.	MMA
	2.2 NAP monitoring and evaluation system developed and implemented.	MMA
	2.3 Study with systematised information on funding and economic incentives for adaptation made available.	MMA
	2.4 Strategies to promote formulation of public policies for adaptation at the federal, state and municipal levels, drafted.	MMA

Table 1. (CONTINUED) Goals of the National Adaptation Plan, broken down by specific objective

Specific Objectives	Goals	Responsible
Objective 3: Identify and propose measures to promote adaptation to and reduction of climatic risk	Agriculture	
	3.1 Agricultural Risk and Vulnerability Monitoring and Simulation System developed and implemented.	Embrapa
	3.2 Climate Intelligence Centre for Agriculture, designed to assess climate risk for planning and development of Brazilian Agricultural Policies, established.	MAPA
	Biodiversity and Ecosystems	
	3.3 Ecosystem based Adaptation (EbA) Strategy for areas at risk of occurrence of extreme events and other impacts of climate change, drafted.	MMA
	3.4 Modelling of the impact of climate change on biodiversity prepared for use in public policies for conservation, recovery and sustainable use of biodiversity.	MMA
	3.5 Monitoring deployed in 50 Federal Conservation Units, for in situ evaluation and monitoring of current and future impacts of climate change on biodiversity.	ICMBIO
	Vulnerable Populations	
	3.6 Diagnosis of Vulnerability to Climate Change of target populations of the National Policy for Territorial and Environmental Management for Indigenous Lands (PNGATI), drafted.	FUNAI
	3.7 Diagnosis of Vulnerability to Climate Change of target populations of the National Plan for Food and Nutritional Security (PLANSAN), drafted.	MDS
3.8 Diagnosis drafted and Vulnerability to Climate Change of poor populations, beneficiaries of agro-extractivist public policies, reduced.	MMA	

Table 1. (CONTINUED) Goals of the National Adaptation Plan, broken down by specific objective

Specific Objectives	Goals	Responsible
Objective 3: Identify and propose measures to promote adaptation to and reduction of climatic risk	Water Resources	
	3.9 Incorporate measures for adaptation to climate change into actions carried out by the National Water Agency.	ANA
	3.10 Integrated climatic and hydrological modelling carried out and impacts on water-resources management evaluated.	ANA
	Health	
	3.11 Expand the scope of the National Drinking Water Quality Surveillance Program (Vigiagua) to 85% of Brazilian municipalities, by 2019.	MS
	3.12 A research, monitoring and communications network on climate and health established within the SUS.	MS/FIOCRUZ
	Coastal Zone	
	3.13 Reference Centres for Coastal Georeferencing established, providing and organizing information and tools for climate-risk modelling and generation of qualified responses in the Coastal Zone.	MMA
	3.14 Strategy to harmonize continental altimetry with marine bathymetry (AltBat) prepared and with funding earmarked for its execution.	IBGE/MMA
	3.15 Macro-diagnosis of the Coastal Zone (Macro-ZC) reviewed, considering vulnerabilities relating to climate change.	MMA



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