

# Climate Change

## ADAPTATION

# Plan

## 2021-2030

**21** questions  
and answers



Climate Change Adaptation Plan (2021-2030).  
21 questions and answers.

Texts: Spanish Climate Change Office (MITECO).

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VICEPRESIDENCIA  
TERCERA DEL GOBIERNO  
MINISTERIO  
PARA LA TRANSICIÓN ECOLÓGICA  
Y EL RETO DEMOGRÁFICO



ORGANISMO  
AUTÓNOMO  
PARQUES  
NACIONALES



# Climate Change

# ADAPTATION

# Plan



# 2021 - 2030

**21** questions  
and answers

## 1

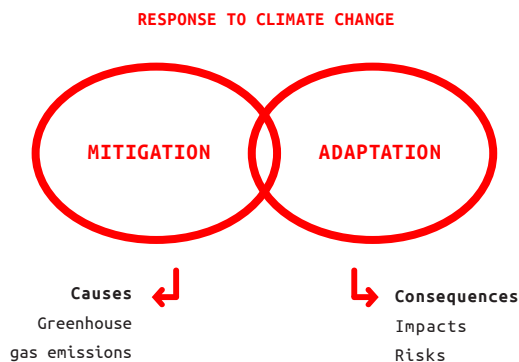
# What is climate change adaptation?

In recent decades, knowledge of the climate change phenomenon has become so familiar that many people, including those who are not experts in the field, could provide a relatively accurate scientific definition. However, discussions about climate change *mitigation* and *adaptation* are less common. These two concepts, which are often used together due to the synergies between them, are in fact very different.

While **mitigation** focuses on actions to reduce net emissions of greenhouse gases into the atmosphere (which are the driver of climate change), climate change **adaptation** comprises all actions aimed at avoiding or reducing the potential impacts and risks arising from climate change, reducing vulnerability and exposure to climate

change, and increasing the resilience of societies and ecosystems.

Although they are different strategies, it is important to recognise that **mitigation and adaptation are clearly complementary**: without mitigation, our ability to adapt will be overwhelmed at a much faster rate. On the other hand, adaptation is essential for dealing with the impacts that climate change is already causing and will inevitably cause in the future. Moreover, promoting adaptation that is not low in greenhouse gas emissions does not make any sense as it intensifies the problem, which is causing the effects we wish to avoid and, on the other hand, promoting mitigation that does not integrate adaptation criteria puts us at risk of the impacts of climate change. ■



**Figure 1.** Responses to climate change: mitigation and adaptation

## 2

# Why do we need climate change adaptation?



SPAIN FACES  
SIGNIFICANT  
RISKS FROM  
CLIMATE CHANGE

Climate change is already a reality and its consequences are felt today on a global scale.

Climate change projections show a set of trends for Spain, including a rise in maximum and minimum temperatures, an increase in the duration of heat waves, a decrease in rainfall, and a rise in the average sea level, among others. These changes also affect the hydrological cycle and projections show a decrease in average river flows, a decrease in aquifer recharge, in addition to an increase in droughts, torrential rain and floods.

**Spain faces significant risks from climate change** due to its socioeconomic characteristics, its climate, geographical location (on the border between the African and European continents), orography,

extensive coastline, and the presence of two archipelagos. Key sectors of the economy, such as agriculture, forestry, tourism or transportation, are highly dependent on the climate. This is also the case for so many other essential areas, such as human health, cities or biodiversity.

Moreover, in an interconnected world, the effects of climate change on other countries and regions implies additional impacts resulting in changes in international trade, financial flows, migration, and tourism, among others. Therefore, all of this makes it necessary to adopt measures at all levels: institutional, administrative, technical, scientific, private, etc., in order to be able to adapt to this climate change. ■



## What are the main impacts of climate change in our country?

Climate change causes a series of cascading consequences or impacts on Spanish ecological systems and economic sectors. These include:

- **A decrease in water resources**, with important implications for agriculture and livestock, urban supply, hydroelectric production, and ecosystems.
- The **impacts on flora and fauna and other elements of natural heritage**. Changes in the distribution of terrestrial and aquatic species, expansion of invasive alien species and deterioration of ecosystems.
- Increased **danger of wildfires** and **risk of desertification**.
- Impacts on **human health** because of heat waves and other extreme events, such as floods and droughts. Indirect impacts derived from atmospheric pollution and airborne allergens, or changes in the distribution of vector-borne diseases.
- Impacts on the **agricultural sector**, which is highly dependent on both climate and soil.
- Impacts on key **resources** that support the tourism sector (snow, beaches, etc.), as well as on **tourism infrastructure**.
- **Impacts on the coastline** due to the sea level rise and the increased destructive power of coastal storms.
- Impacts on different components of the **energy system**: basic resources for the

generation of renewable energy, such as water, effects on transportation, distribution and storage of energy and changes in consumption patterns, due to increased demand for refrigeration.

- Loss of functionality of **transport infrastructures** due to extreme events such as coastal storms (ports) or floods (road and rail networks).

Climate change also is causing **social changes** related to the economy and employment, culture, heritage, and identity values, governance, and territorial population distribution, constituting **a threat to social cohesion and a factor of conflict associated** with the use of natural resources.

There are also impacts on cultural heritage, including real estate located near the coast; buildings with historical-cultural interest and cultural landscapes, due to factors such as increased desertification, flooding and other extreme events.

In cities, heat waves and their impacts are increased by the so-called “**urban heat island**” effect. Floods are favored by the large impermeable urban surfaces which prevent infiltration and promote runoff. On the other hand, the location of a substantial part of the urban areas on the coastline exposes them specifically to the effects of sea level rise and extreme coastal events. ■

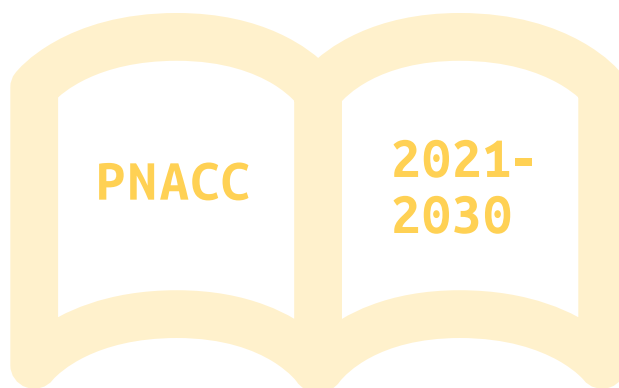


## What is the National Adaptation Plan?

The National Adaptation Plan is our roadmap for the development of coherent responses to prevent or reduce the impacts of a warmer, more extreme and unpredictable climate. It provides the reference framework for public efforts in terms of both knowledge generation and the preparation of adaptive response measures to climate change in Spain.

Its **overall aim** is to promote coordinated and coherent action against the effects of climate change in Spain, in order to avoid

or reduce present and future damage derived from climate change and to build a more resilient economy and society. The National Climate Change Adaptation Plan (PNACC) 2021-2030, which continues the work started in 2006, also responds to our European and international commitments in this field and is part of a broader set of tools: the strategic framework on energy and climate for the transformation towards a low-carbon economy that is resilient to the effects of climate change. ■





## What are its specific objectives?

In order to facilitate action against the effects of climate change in Spain, the PNACC 2021-2030 establishes the following specific objectives:

- Reinforce **systematic climate observation**, the production and updating of regionalised climate change **projections** for Spain and the development of **climate services**.
- Promote a continuous and cumulative process of **knowledge generation** on impacts, risks and adaptation in Spain and facilitate its transfer to society, reinforcing the development of methodologies and tools to analyse the potential impacts of climate change.
- Promote the acquisition and **strengthening of capacities for adaptation**.
- **Identify the main climate change risks** for Spain, taking into account their nature, urgency and magnitude, and promote and support the definition and implementation of the corresponding adaptation measures.
- Integrate adaptation into **public policies**.
- Promote the **involvement of all interested actors**, including different levels of government, the private sector, social organisations and the general public, to actively contribute to constructing responses to climate change risks.
- **Ensure administrative coordination** and strengthen governance on adaptation.
- Fulfil and develop the **commitments undertaken** by Spain in the European and international context.
- Promote the **monitoring and evaluation** of adaptation policies and measures. ■

PROMOTE A CONTINUOUS AND CUMULATIVE PROCESS OF KNOWLEDGE GENERATION ON IMPACTS, RISKS AND ADAPTATION IN SPAIN AND FACILITATE ITS TRANSFER TO SOCIETY





## How was the plan developed?

The PNACC 2021 - 2030 is the result of a **collective process of analysis and reflection**. This process began with the **in-depth evaluation of the first PNACC** (approved in 2006) and its three work programmes. This evaluation included supplementary sources, including the opinions, assessments and suggestions given by people working in the field of adaptation in Spain, collected through surveys and in-depth interviews. Additionally, an analysis of compliance with the actions foreseen in the first plan and its corresponding programmes was made.

In a second phase, ideas and suggestions were collected from experts and key actors in the field of adaptation using various formats: deliberative workshops, online forms and bilateral consultations with the main public

administrations responsible for implementing adaptation policies and measures.

The initial draft was submitted to a **public consultation process** for a period from 4<sup>th</sup> May to 30<sup>th</sup> June 2020. Participation reflected significant interest and commitment.

After this consultation period the updated draft of the plan was subjected to consideration by three collegiate bodies whose comments and observations served to enhance the document.

In short, **this new National Adaptation Plan is the result of the analyses, assessments and proposals from a wide range of people and organisations, both public and private.** ■

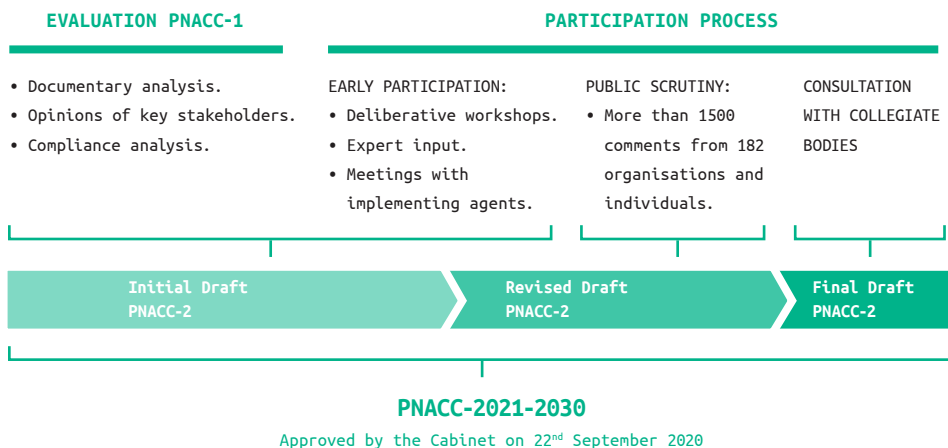


Figure 2. PNACC 2021-2030 Development outline

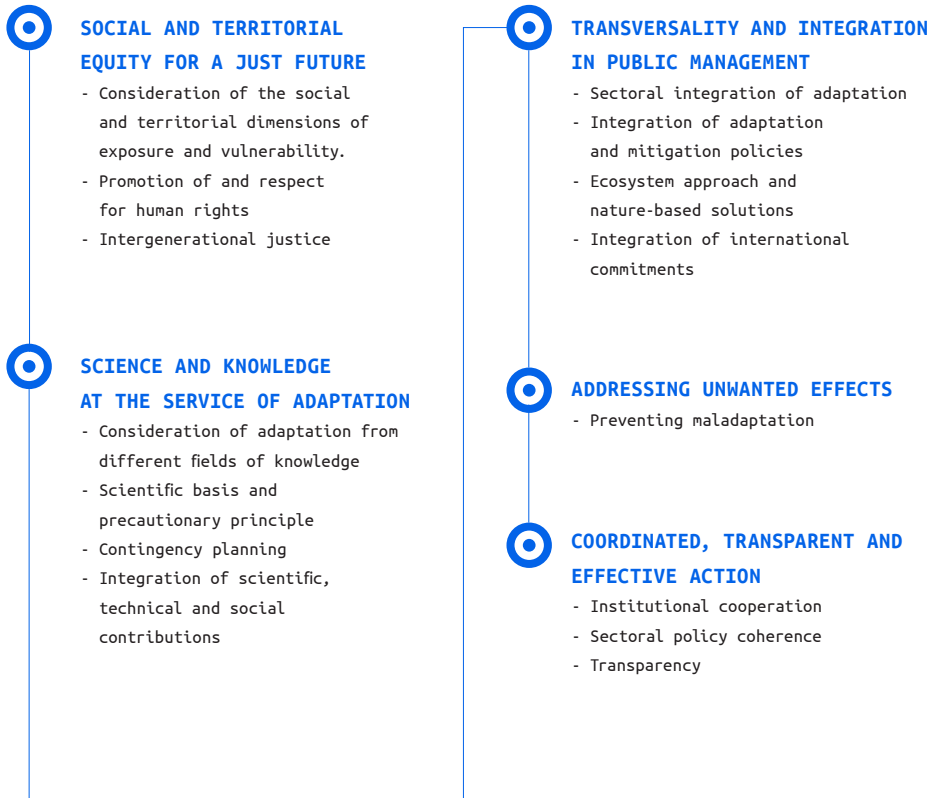


# What are the basic principles which guide the plan?

Chapter 5 of the PNACC 2021-2030 establishes its **guiding principles**. These are fundamental aspects common to all areas of work and their lines of action and should guide adaptation policies and measures. They collate

ethical principles, rights and basic approaches to guide all decisions.

These guiding principles have been grouped into 5 categories, as shown in the figure below:



**Figure 3.** Guiding principles of the PNACC 2021-2030





## Why is it necessary to generate more knowledge for adaptation?

Knowledge generation is the basis for informed decision making. Adaptive responses must be based on sufficient knowledge of the risks of climate change.

PNACC-2 will therefore continue to promote the generation of knowledge within its framework:

- ➔ Analyses will be carried out to **detect knowledge gaps** that need to be addressed.

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- ➔ **Guidelines will be developed for the preparation of assessments of the impacts and major risks** of climate change.

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- ➔ **Practical tools** (projections, scenario viewers, guidelines for the use of scenarios, manuals, etc.) will be developed to undertake exposure and vulnerability studies.

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- ➔ Where appropriate, **new types of analysis** will be incorporated, such as analysis of particularly unfavourable scenarios and analysis of critical environmental and social aspects.

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- ➔ **The contributions generated by the subsequent IPCC reports** will be analysed specifically in order to facilitate their transfer to the risk analyses and the design of actions carried out within the PNACC framework.





## Why is it necessary to integrate adaptation into other plans, programmes and regulations?

The integration of climate change adaptation into plans, programmes and regulations will help promote changes to reduce risks and improve the adjustment of different areas and sectors to the current and expected climate. To improve this integration, the PNACC framework will actively identify strategies, plans and programmes that could incorporate aspects relating to climate change. Additionally, the plan identifies **more than 30 strategies and plans**

that are expected to be formulated or updated in the near future, **in which the adaptive approach has to be incorporated or reinforced.**

The plan also recognises the **role of environmental assessment** as an instrument for mainstreaming climate change adaptation into plans, programmes and projects that may have significant effects on the environment. ■



INTEGRATING CLIMATE  
CHANGE ADAPTATION INTO  
PLANS, PROGRAMMES  
AND POLICIES WILL  
HELP PROMOTE CHANGES  
TO REDUCE RISKS

## 10

# How does it intend to mobilise society as a whole?

Climate change adaptation can only be conceived as a collective project. In order to enable the active and conscious involvement of the different

public and private stakeholders, the PNACC-2 will continue to promote information, outreach, training, research, innovation and social participation. ■

### CAPACITY BUILDING

Build the personal and collective skills that enable society as a whole to make the best possible contribution, avoiding or reducing the risks arising from climate change

### OUTREACH

It conveys information on the risks and impacts of climate change, as well as responses to avoid or reduce them, from scientific, technical and administrative language into user-friendly language

### PARTICIPATION

Propose mechanisms that facilitate the involvement of society in the diagnosis, definition of objectives, identification or design of adaptation measures, as well as their implementation and evaluation

### SOCIAL RESEARCH

It recognises meaningful knowledge, values and social behaviors on climate change adaptation, guiding outreach and training efforts, as well as social participation

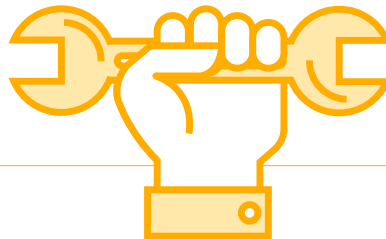


Figure 4. Tools for social mobilisation for climate change adaptation

11

Which economic sectors or areas of work will the plan affect?

With the aim of facilitating the integration of adaptation actions in the different fields of public and private management,

the PNACC defines **18 areas of work**, specifying objectives for each of them (Chapter 7 of the Plan). ■



Figure 5. Areas of work PNACC (2021-2030)

# 12 What are the main lines of action proposed?

For each of the **18 areas of work** contemplated in the Plan, **lines of action** are defined to **guide the initiatives needed to achieve the objectives**. The lines of action are presented in the form of action sheets (Annex 1 of the Plan), which include an explanation of their motives and a brief description of their orientation. They identify some of the main departments of the administration responsible for or collaborating in their

development and define the indicators which will subsequently facilitate the evaluation of the degree of compliance with the defined lines of action.

The PNACC defines **7 cross-cutting issues** (Chapter 8 of the Plan), which should be encouraged in the different areas of work. Specific lines of action have been defined for the practical application of these seven cross-cutting issues, and included in Annex 2 of the Plan. ■

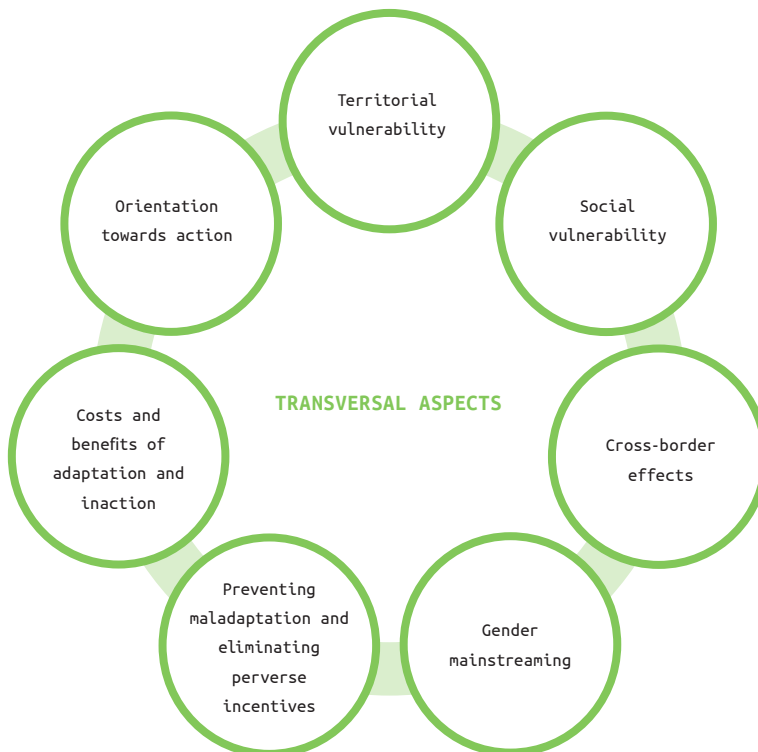


Figure 6. Transversal aspects (PNACC-2)



## How are the risk level differences between different territories and human groups taken into consideration?

The current and potential impacts of climate change are unevenly distributed throughout the territory. These **territorial differences** (which may have geographic, economic, social or ecological roots) should be identified in risk studies and considered when establishing adaptation measures.

On the other hand, in different types of territories, such as mountainous areas, plateaus, islands or coastal areas, climate change occurs differently, with varying impacts and requiring diverse adaptation responses.

In addition to the territorial aspect, there are also differences in the effects on diverse human groups due to **variations in vulnerability**, among other factors. These differences may be related to **sociodemographic variables** such as age, gender, level of education or income level, **population dynamics** (growing or declining)

or **working conditions**, among others. These variables may condition exposure and sensitivity to impacts and the capacity to respond to them.

When the **gender approach** is applied, there is evidence of distinct effects of climate change on women and men because of the multiple forms of discrimination suffered by women and girls throughout history; the differences in gender roles; the different possibilities of access to resources or the inequalities of power and participation in decision-making.

The fight against climate change opens the door to important processes of change and transformation, which require measures to ensure our **societies are more equal and inclusive**. It is therefore necessary to consider the contributions of all sectors and all stakeholders, and in this context, women are fundamental agents of change. 🗡️



## 14

## 14. Why is it important to consider the effects of climate change beyond our borders?

THE IMPACTS THAT OCCUR OUTSIDE END UP HAVING REPERCUSSIONS IN OUR TERRITORY

Photo: @travelsnips

Spain is connected to the rest of the world in many ways. As a result of these global connections, **the impacts derived from climate change that occur outside our country have repercussions within our territory.**

Therefore, in order to facilitate the inclusion of cross-border effects in the actions for climate change adaptation, **the PNACC 2021-2030 promotes:**

- **Identifying chains of impacts** derived from climate change that connect areas beyond the borders of our country and raising awareness among the agents involved.
- **Improved knowledge** of the impact on Spain of climate change effects which occurs beyond our borders, on aspects such as trade, transport and infrastructure, finance, migrations, ecosystems, geopolitics and security.
- **Integrating the cross-border dimension** in the lines of action defined for the sectoral objectives, where necessary.
- **Developing strategies and initiatives that contribute to reducing Spain's vulnerability,** without adverse effects on European and global vulnerability, enhancing global cooperation in adaptation. ■

## 15

## What is maladaptation and why is it important to prevent it?

The term “maladaptation” is used to refer to adaptive measures that have counterproductive effects. **Maladaptive actions** are those that, in an attempt to manage climate-related risks in a given area or domain, increase risks in others, either now or in the future. It is essential to develop maladaptation prevention tools to assess the robustness of adaptation actions and identify potential undesirable effects. In other words, **adaptation initiatives should respect the “do no harm” principle** for all actions and policies to contribute to the success of the transition to sustainability, and so without doing any harm to other environmental objectives. This therefore avoids any adaptation

activity being considered environmentally sustainable if the damage it causes to the environment is greater than the benefits.

At times, institutional frameworks, regulations or public actions may promote decisions that increase the risks posed by climate change. These “perverse incentives” can affect the decisions of individuals, private organisations and public administrations on a local, regional and national scale. Identifying and correcting them can have, in many cases, strategic value in terms of achieving an enabling environment for adaptation, by facilitating a more coherent alignment of incentives. ■

“MALADAPTATION”  
IS USED TO REFER  
TO ADAPTATION  
MEASURES THAT HAVE  
COUNTERPRODUCTIVE  
EFFECTS

## 16

## What are the costs and benefits of adaptation and inaction?

The analysis of the economic, social and environmental costs and benefits of adaptive responses is a particularly important element in terms of decision making, although its calculation is often complex.

The different adaptive responses entail a range of **costs** (for planning, preparation, promotion and implementation of adaptation measures, including transition and opportunity costs) and **associated benefits** (obtained as a result of the adoption and implementation of adaptation measures). Adaptation measures usually also entail a series of **supplementary benefits or co-benefits** (such as the reduction of damages derived from current climate variability, or benefits related to socioeconomic development, quality of life, biodiversity conservation, human health, etc.).

On the other hand, when integrating costs and benefits for decision-making in terms of adaptation, it is important to take into account the **costs of inaction**, i.e., the costs that would be incurred if no planned adaptation measures were taken. As these costs will depend on future emissions trajectories, it will occasionally be necessary to consider different climate change scenarios.

The PNACC 2021-2030 establishes that costs and benefits should be assessed not only through quantitative (where possible and meaningful) and/or qualitative estimation, but also by trying to identify the distribution of these costs and benefits among sectors and socioeconomic groups, in addition to their variation over time. These analyses should also be linked to mitigation costs and benefits and other socioeconomic trends. ■



## What financial resources are available to address adaptation?

The varied nature of climate change adaptation actions and the multiplicity of public management areas, administrative units and stakeholders involved mean that the **sources of financing** for the lines of action established in this plan must also be diverse. Chapter 9 of the Plan outlines the main tools and lines of work aimed at strengthening adaptation

financing, including specific recovery measures under the Next Generation EU and the European Union's Multiannual Financial Framework 2021-27 (with its European funds FEDER, FEAGA, FEADER and FEMP, and its European programmes: LIFE and Horizon Europe), national funds (PIMA ADAPTA and sectoral budgets) and private funding. ■



THE PLAN OUTLINES  
THE MAIN INSTRUMENTS  
AND WORK STREAMS AIMED  
AT STRENGTHENING  
FINANCING FOR ADAPTATION

# 18 How will progress and results be reported?

The PNACC-2 will provide information on the impacts and risks derived from climate change, the adaptation initiatives undertaken and their achievements using the following **tools**:

- **Reports on climate risks and adaptation:**

The Ministry for the Ecological Transition and the Demographic Challenge, in collaboration with other ministerial departments and the autonomous communities, will prepare and publish, at least every five years, a synthesis report on the evolution of the main risks and impacts derived from climate change and on the policies and measures aimed at increasing resilience and reducing vulnerability to climate change in Spain.

- **Sectoral progress reports:**

These are analyses of the current status in relation to one of the PNACC's own areas or subareas of work. These reports may be prepared at the request of the Government or the Congress of Deputies.

- **PNACC Monitoring Reports:**

Gathering information on the actions undertaken in a set period of time, along with the conclusions, challenges and outlook. It is proposed

that two follow-up reports are to be prepared, with suggested publication dates in 2024 and 2029.

- **Climate change and adaptation indicators:**

Annex 3 of the PNACC includes a provisional collection of indicators that will provide a dynamic view of the effects of climate change and the advances made, if any, in adaptation, facilitating the continuous improvement of policies and measures based on the analysis of progress made and the identification of pending challenges. In 2021, an in-depth review of this initial relationship will be undertaken to complete and, if necessary, adjust the initial collection. Starting in 2021, and on a biennial basis, the data series related to the defined set of indicators will be updated and made public.

Other informative tools derived from international commitments are the adaptation communications (specified in the Paris Agreement on climate change) and the information on national adaptation actions, specified in the European governance scheme on energy and climate.

Lastly, the PNACC envisages an **in-depth evaluation in 2029.** ■



## How is the plan coordinated and managed?

The Spanish Climate Change Office (OECC), which is part of the Ministry for the Ecological Transition and the Demographic Challenge, is responsible of the coordination of the PNACC 2021-2030 but, its definition, development and evaluation is a collective task.

Climate change adaptation requires coordinated and coherent action by the Spanish society as a whole, **which demands a governance system that favours the participation of all the actors involved**, as well as detailed and action-oriented planning.

To encourage coordination, advice and participation in adaptation, the PNACC considers several specific stable forums:

### *Impacts and Adaptation Working Group (GTIA):*

This is a technical exchange forum that brings together departments of the national government and the autonomous communities, with the overall objective of coordinating and integrating the different strategies and plans for climate change adaptation that are being developed in Spain at national and regional levels.

### *Committee on Impacts, Risks and Adaptation (CIRA):*

Newly created, this committee will bring together individuals from academia, non-governmental organisations, the public sector and business, especially SMEs, to provide ideas and recommendations for advancing the PNACC and to provide expert judgment on adaptation.

### *PNACC Seminars:*

These are meeting spaces to enable monographic handling of with topics that, at any given time, are considered significant for the development of the PNACC and its corresponding work programmes. ■

IN ORDER TO FACILITATE COORDINATION, THE PNACC PROVIDES FOR A NUMBER OF SPECIFIC AND STABLE FORA



## Where can I find more information about the plan and its development?

ADAPTECCA HAS BECOME A VALUABLE TOOL TO ACCESS INFORMATION ON IMPACTS, VULNERABILITY AND CLIMATE CHANGE ADAPTATION


Photo: Michelle Leman

The **MITECO website** has a homepage for the topics of **impact, vulnerability and adaptation** [www.miteco.gob.es/es/cambio-climatico/temas/impactos-vulnerabilidad-y-adaptacion](http://www.miteco.gob.es/es/cambio-climatico/temas/impactos-vulnerabilidad-y-adaptacion) from which it is possible to access the main documents and news related to the development of the PNACC, such as the reports on climate risks and adaptation or the PNACC monitoring reports, in addition to the main events (courses, seminars, public presentations) planned for the near future.

Another key reference for more information is the **Platform on Adaptation to Climate Change in Spain** [www.adaptecca.es](http://www.adaptecca.es), which collates

a wide range of tools, documents, news and calls for proposals related to adaptation. **AdapteCCA** has become a valuable tool for accessing information on impacts, vulnerability and climate change adaptation in Spain.

The work programmes also provide information on the measures planned for each period, those identified as priority and an approximate schedule for their development.

[www.miteco.gob.es/es/cambio-climatico/temas/impactos-vulnerabilidad-y-adaptacion/plan-nacional-adaptacion-cambio-climatico](http://www.miteco.gob.es/es/cambio-climatico/temas/impactos-vulnerabilidad-y-adaptacion/plan-nacional-adaptacion-cambio-climatico) 




## How can I participate?

PNACC 2021-2030 will only be a success if a significant part of society **engages in the project**. The plan explicitly assigns responsibilities to a wide range of institutions which belong to the national government, the autonomous communities and local administrations. However, addressing the plan's objectives and transferring them to different territories and social spheres requires even broader participation.

There are several **ways in which to participate**, personally or collectively, in the implementation of the plan, including:

- Collaboration in **generating knowledge** about the risks posed by climate change in our own area of work or in our community.
- Participation in **defining and implementing adaptation plans and initiatives** in our place of residence or work.
- Help to **integrate adaptation into plans, programmes and regulations** through the corresponding participatory processes.
- Become an active part of the **AdapteCCa** community, contribute to the platform or receive updates via its regular newsletter ([/www.adaptecca.es/participa-en-adaptecca](http://www.adaptecca.es/participa-en-adaptecca)).
- Participate in **initiatives** (seminars, training activities, etc.) that are proposed within the PNACC framework.
- Develop **educational and outreach activities** on climate change adaptation, using various resources:
  - the educational resources on the AdapteCCa platform.
  - the educational resources of the Life Shara project, "Awareness and knowledge for climate change adaptation" ([www.lifeshara.es/es/divulgacion](http://www.lifeshara.es/es/divulgacion)).
  - the content of the CENEAM thematic mini-portal dedicated to Climate Change ([www.miteco.gob.es/es/ceneam/recursos/mini-portales-tematicos/cambio-climatico.aspx](http://www.miteco.gob.es/es/ceneam/recursos/mini-portales-tematicos/cambio-climatico.aspx)).

**IT IS POSSIBLE  
TO PARTICIPATE  
PERSONALLY OR  
COLLECTIVELY**

For any questions, proposals or suggestions, please contact to the following address [bzn-oecc-adaptacion@miteco.es](mailto:bzn-oecc-adaptacion@miteco.es) 



# GLOSSARY

## *Adaptation*

Process of adjustment to the current or expected climate and its effects. In human systems, adaptation aims to moderate or avoid the damages which stem from climate change or to take advantage of its opportunities.

## *Exposure*

Presence of people, livelihoods, species or ecosystems, environmental functions and services, or elements of economic, social or cultural heritage in places and locations that could be adversely affected.

## *Impacts*

The effects of extreme weather and climate events and climate change on natural and human systems. The impacts generally refer to the effects on lives; livelihoods; health; ecosystems; economic, social and cultural assets; services (including environmental) and infrastructure due to the interaction of hazardous climate events and the vulnerability of societies or systems exposed to them. The effects of climate change on geophysical systems, including floods, droughts and rising sea levels, are a subset of the impacts known as physical impacts.

## *Maladaptation*

Maladaptive actions are those that may lead to increased risk of adverse climate-related effects, increased vulnerability or loss of welfare, now or in the future. Examples of this would include measures that increase exposure to climate risks (e.g., promotion of economic development in high-risk locations), measures that increase climate risks (e.g., increased greenhouse gas emissions), measures that increase environmental, social or economic vulnerability (e.g., displacement of flood risk downstream), or measures that reduce incentives for adaptation.

## *Mitigation*

Human intervention aimed at reducing sources or enhancing greenhouse gas emissions sinks.





## *Projection*

Potential future evolution of a variable, or a series of variables, often obtained with the help of models. In contrast to predictions, projections are predetermined by a number of assumptions (e.g., about the socioeconomic situation or technological development)

## *Resilience*

The capacity of economic, social and environmental systems to cope with a shock or impact by responding or reorganising themselves in a way that preserves their key role, identity and structure, while maintaining their capacity to adapt, learn and transform.

## *Risks*

Potential consequences when something that is considered valuable is at stake and the outcome is uncertain. Risk is often expressed as the probability of the occurrence of a dangerous event or the result of trends derived from the impacts, should those events or trends become a reality.

## *Nature-based solutions*

Solutions to societal challenges that are inspired and supported by nature, which are cost-effective while simultaneously providing environmental, social and economic benefits and helping to build resilience.

## *Vulnerability*

Susceptibility or predisposition to be adversely affected. Vulnerability includes a number of elements including sensitivity or susceptibility to harm, and lack of capacity to cope with or adapt to harm.



# PNACC

2021-2030