

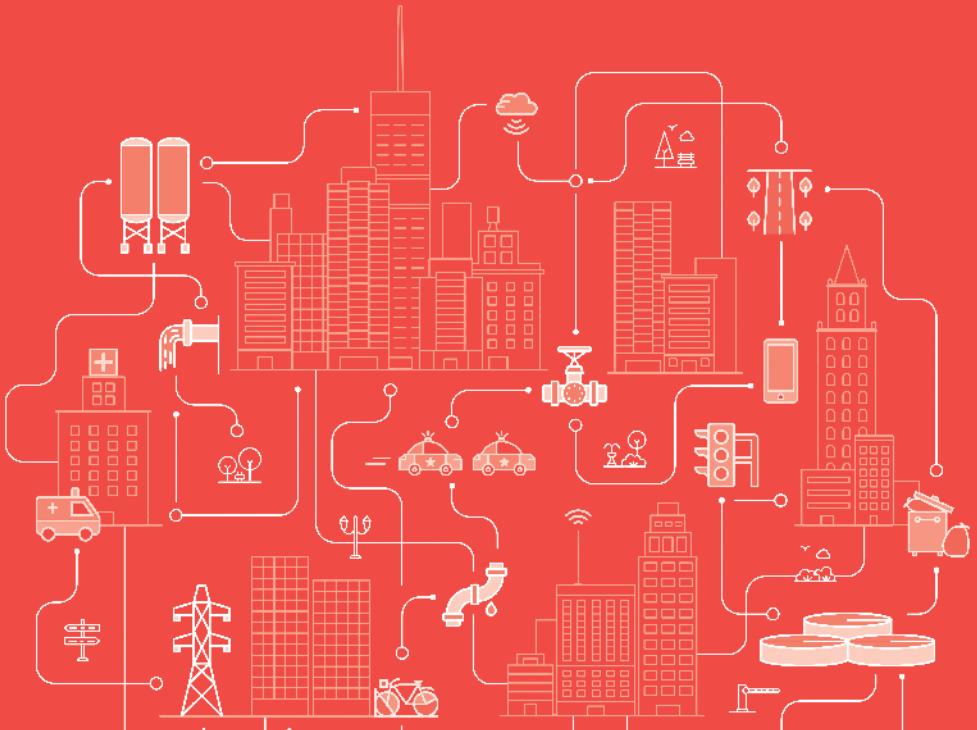


RESILIENT CITIES FACING
CLIMATE CHANGE



HOW TO...

develop and implement a Resilience Action Plan (RAP) in your city



WHAT IS YOUR CONCERN?

Do you have a problem related to water and climate change in your city?

Check if these items apply:






- You have to deal with water-related problems.
- Climate change aggravates these water problems.
- Your water problems affect several urban services.
- You don't know how to improve your city's resilience.
- You don't know the benefits of implementing resilience-oriented actions.

If you selected at least one item, then you need a **RAP** for your city, with special focus on climate change and water.

What do we mean by focus on water?

Among other climate-related **hazards**, water might compromise your city's resilience if expected changes in climate **variables** occur. This might be related to how **water services** are prepared and respond to the hazards or to cascading effects to **related services**.


Hazards

-  **Flooding**
-  **Drought**
-  **Heatwave**
-  **Cold wave**
-  **Wind storm**




Variables

-  **Rainfall**
-  **Snowfall**
-  **Wind**
-  **Sea level**
-  **Temperature**

Water services

-  **Water supply**
-  **Wastewater**
-  **Storm water**

Related services

-  **Waste**
-  **Energy**
-  **Mobility**

HOW RESILIENT IS YOUR CITY?

Let's see how resilient you are to climate-related hazards:

- You don't know how to assess this matter.**
Let's start now!
- Actions for resilience are at an early stage of development.**
Let's improve!
- Significant steps have already been taken.**
Keep going!
- Consolidated actions are already in place, results are showing. You are advanced in resilience!**
Monitor and update your RAP!
And share your experience with others!

Do you want to be advanced in resilience?

A resilient city, with its resilient services, is able to do:

What

- ✓ **Respond and recover**
- ✓ **Mitigate**
- ✓ **Learn from the past**
- ✓ **Prepare for the future**
- ✓ **Adapt**
- ✓ **Transform**

When

- ✓ **Today**
- ✓ **In the next years**
- ✓ **In the next decades**

Who

- ✓ **Higher-level decision-makers**, spanning the entire city or service.
- ✓ **Action providers**, materializing the strategies both geographically and temporally.
- ✓ **Stakeholders**, all those interested in the functioning of the city.

RESCCUE SOLVES YOUR PROBLEMS THIS IS HOW!

What should you do?

✓ Develop a RAP!



Know!

Know your city and its urban services.



Assess!

Assess how resilient are your city and services by diagnosing your resilience maturity and constraints.



Plan!

- What do you want to accomplish regarding resilience? Identify your resilience objectives.
- Which actions will improve your resilience?
- Where will you apply these actions and which ones will you prioritize?
- When will you carry out these actions?
- Who is going to implement them?



Do it!

Implement, monitor and review the RAP.

✓ Diagnose and plan for:

Your city

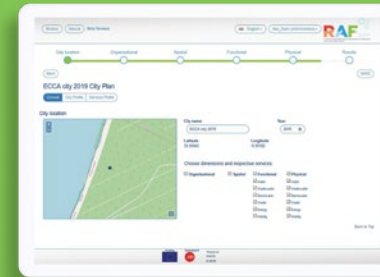
- ✓ **Organisational resilience:** governance relations, population involvement.
- ✓ **Spatial resilience:** urban space and environment.

Your services

- ✓ **Functional resilience:** provision of strategic services.
- ✓ **Physical resilience:** infrastructure of strategic services.



Use our tools

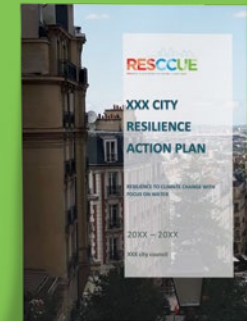


RAF app

The RESCCUE's Resilience Assessment Framework app (RAF app) is a web-based platform based on metrics designed to support objective-oriented resilience characterization, diagnosis, planning and implementation.

Visualize your results

Graphs, tables and charts help to understand, analyze and display data.



RAP template

The RAP template structures your plan, setting guidance on the contents and layout, that any city might complete or adapt to better fit its own context and expectations.



What do you need?

- ✓ Know your city.
- ✓ Know your services and infrastructures.
- ✓ Gather a multidisciplinary team.
- ✓ Recall your past climate events' characteristics and impacts.
- ✓ Acknowledge what already contributes to your resilience.
- ✓ Project your climate change scenarios.
- ✓ Simulate the effects of climate change on your city and services.
- ✓ Choose strategies that enhance your resilience.
- ✓ Acknowledge compliance with your resilience objectives while implementing those strategies.

MAKING YOUR CITY RESILIENT: DEVELOPING AND IMPLEMENTING A RAP



Use these guidelines to:

Create and apply a roadmap to improve your city's resilience to climate change with focus on water

If water-related risks may condition the correct functioning of your city, and climate change may significantly aggravate them, then you need a RAP with this focus.

By searching for the best responses for the gaps in your diagnosis, the RAP:

- **grasps your vision** for the future;
- **identifies the resilience objectives** for your city and its urban services;
- **states where you stand** today;
- **defines the road** towards the objective

Besides, RAP monitoring and review keeps track of the implementation of resilience strategies in your city, to make sure they have been properly followed and warns you if changes in the road are needed.

5 steps to your solution:

- ✓ **What is your concern?**
- ✓ **How resilient is your city?**
- ✓ **Do you want to be advanced in resilience?**
- ✓ **What should you do?**
- ✓ **What do you need?**



Resilience Action Plans development and implementation experts:

Several RESCCUE partners worked together under the leadership of LNEC to develop and implement the Resilience Action Plans (RAP) for Barcelona, Lisbon and Bristol:

- **LNEC (Laboratório Nacional de Engenharia Civil)**
- **UN-Habitat**
- **Câmara Municipal de Lisboa**
- **Ajuntament de Barcelona**
- **Bristol City Council**
- **Aquatec-Suez Advanced Solutions**
- **University of Exeter**



LNEC is a public institute of Science and Technology that carries out research in all fields of civil engineering, giving it a unique multidisciplinary perspective.

The institute has long been involved in assessment frameworks development, supporting planning activities in the water sector and promoting sustainable and resilient water services and cities.

LNEC actively participates in several international projects related to climate change adaptation.

Expert contact info:

Contact us if you want to develop a RAP for your city!

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LABORATÓRIO NACIONAL
DE ENGENHARIA CIVIL

RESCCUE HELPS YOU MAKE YOUR CITY RESILIENT TO CLIMATE CHANGE

The RESCCUE project

RESCCUE (RESilience to cope with Climate Change in Urban arEas—a multisectorial approach focusing on water) is Europe's first large-scale innovation and urban resilience project, aimed to **improve the capability of cities to anticipate, prepare for, respond to, and recover from significant climate-change related threats with minimum damage.**

A multisectorial approach, a key advantage of RESCCUE

The RESCCUE perspective is a holistic one, which focuses rather on the interconnections than on separate city units of the urban infrastructure networks. To interconnect the several sectorial models, the project takes advantage of the **proposed tools and methodologies.**

3 cities, 3 different challenges

The models and tools developed within RESCCUE to analyse urban resilience based on a multisectorial approach have been validated in three different cities, carefully selected by their representativeness of the European diversity in terms of climate type and city characteristics: **Barcelona, Lisbon and Bristol.**

The RESCCUE partners can be your strategic team to help you make your city resilient to climate change:

