PROTECTION AGAINST WATER

What flood protection measures have been taken in your region?

1

EQUO ALMERÍA LEVANTE has proposed ideas to reduce the risk of floods in Vera and Antas:

In the first place, to design an emergency plan and inform the population. Due to Vera's frequent floods, we should have emergency plans, protocols and safety points

2

Secondly, to create a natural channelling and keep river Antas clean.

Throughout the years, the channels have been affected by human waste, which has reduced the capacity of the channel.

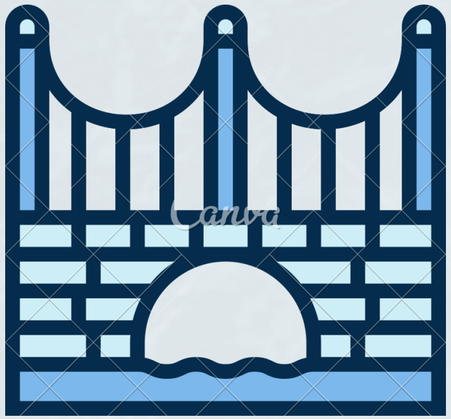
This, plus a very low bridge and a block formed by vegetation underneath the bridge has caused the channel to expand its width.

That's why EQUO ALMERIA proposed to clean the river.

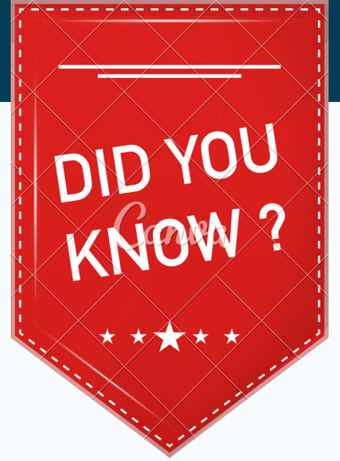
3

IN THE THIRD PLACE, IT'S URGENT TO IMPROVE SOME INFRASTRUCTURES, SUCH AS BRIDGES AND ROADS, TO TRY TO REDIRECT THE CHANNEL'S NATURAL PATH.

FINALLY, ALL THE HOUSING THAT HAS BEEN CONSTRUCTED WITHIN THE WATERCOURSE OF THE RIVER ANTAS SHOULD BE REMOVED TO PREVENT HUMAN LOSS AND MATERIAL DAMAGE IN THE FUTURE.



An interesting fact....



In Alicante it rains very little, but it pours every once in a while. This town on the southeastern coast of Spain goes without rain for months on end, but when it comes, it is torrential, bringing destructive and sometimes fatal flooding.

In San Juan, a low-lying area of the city, authorities have built a new park with a twist: *La Marjal* serves as a typical recreation area and a nature reserve – but its primary purpose is to store, and then recycle rainwater.

In function it resembles an *aljibe*, a technique developed by Arab residents of Spain many centuries ago, in which rainwater is collected and stored in a kind of cistern underneath a building.

La Marjal **does a similar job, but outdoors. The water is also then diverted to a nearby treatment plant, where it can subsequently be used to clean streets and water parks. It has the capacity of 18 Olympic pools but it has never reached more than 30%, not even after its first big test in 2017, when there was unusually heavy rain.**

How has flood protection developed over time?

THROUGHOUT THE YEARS, THERE HAS BEEN A SERIES OF PROCEEDINGS FROM THE SPANISH AND EUROPEAN ADMINISTRATION IN ORDER TO REDUCE THE IMPACTS OF FLOODS.

THESE ARE THE MOST IMPORTANT MEASURES THAT HAVE BEEN TAKEN IN SPAIN:

1. In 1998: the White Book of Water, developed by the Ministry of Environment, included all the existing documents until then about the situation of water, floods, droughts…

2. In 2000: the European Union’s water framework directive came out, whose initial plan was to reduce the impacts of floods. However, they didn't take into account global warming and climate change.

3. In 2007, Directive 2007/60/EC of the European Parliament and of the Council on the assessment and management of flood risks: they only wanted to concentrate on the risks of floods, so they elaborated hazard and risk maps for floods and management plans of the flood risks.

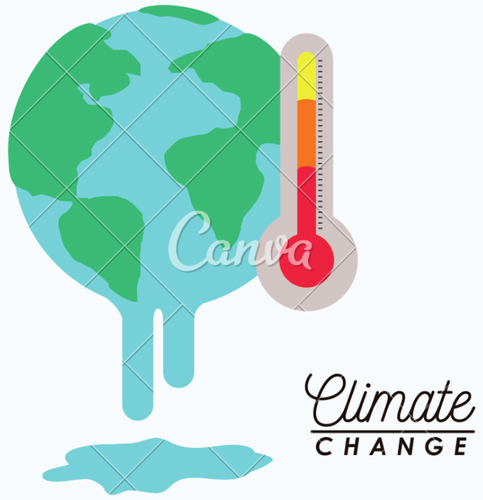
4. In Andalucia, floods are becoming more and more serious and frequent, but not just because of the rains. There are also human activities which don't contribute to this problem:

Lots of neighbourhoods and housings were constructed in river basins, watercourses and channels that become easily flooded when it rains heavily. Therefore, lives of people and infrastructures are at a constant risk.

Global warming is a term used for the observed century-scale rise in the average temperature of the Earth's climate system and its related effects.

Scientists are more than 95% certain that nearly all of global warming is caused by increasing concentrations of greenhouse gases (GHGs) and other human-caused emissions.

WHAT ARE THE MEASURES THAT WILL BE TAKEN TO ADAPT TO EFFECTS OF THE PROJECTED CLIMATE CHANGE?



Climate change also affects Almería. Measures are being taken to learn how to face it in the short and long term.

La Subdelegación del Gobierno en Almería has met with local institutions and economic and social agents to discuss these measures.

They have all collaborated in the presentation of different projects that are taking place in order to face climate change and protect the coast of Almeria.
This is hoped to be finished in 2021.

THE ONLY WAY TO STOP CLIMATE CHANGE IS TO REDUCE GREENHOUSE GAS EMISSION. TO DO THIS, IT IS NECESSARY FOR ALL LOCAL, AUTONOMIC AND CENTRAL ADMINISTRATIONS TO TAKE MEASURES.

The overall objectives are:

1.REDUCE THE EMISSION OF THESE GASES IN ALMERIA

2.INCREASE THE CAPACITY OF DRAINS OF ANDALUCIA TO HELP MITIGATE CLIMATE CHANGE.

3. DEVELOP ANALYTICAL TOOLS, KNOWLEDGE AND GOVERNANCE TO MITIGATE CLIMATE CHANGE.

Almeria is also getting ready by taking measures to slowly adapt to it:

- Promote an agreement with UAL (University of Almeria) for the elaboration of the diagnosis and some other plan that should be followed in: renewable energies, investigation and development of these energies, energy efficiency in urbanism...

- Finally, a series of social projects to raise awareness of the situation we're facing by giving talks in schools, social campaigns and other informative projects to make people collaborate.

Against the backdrop of climate change, rainwater drainage seems to be gaining importance.

In how far do regional planning actors and local authorities try to adapt to this problem?

Due to climate change, in this area of Spain we are having trouble with floods because we are getting strong rains in short periods of time.

Our towns and villages are not prepared for this huge amount of water.

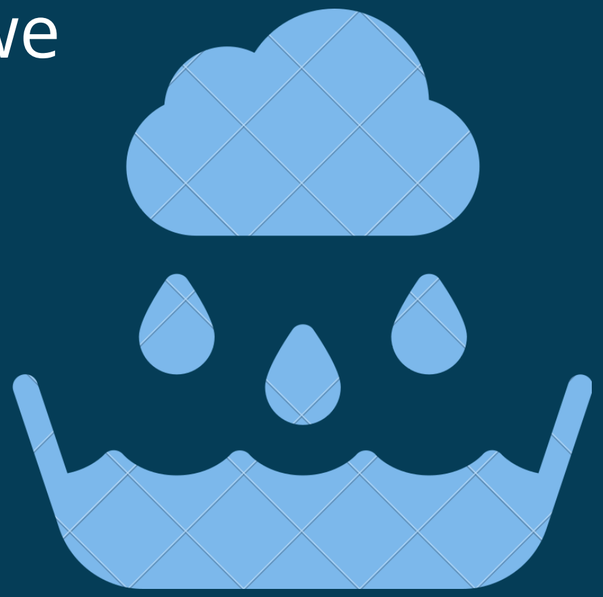
Sanitation networks are insufficient. This is why rainwater drainage is so important:

1.IT’S USED FOR THE EXPLOITATION OF RAINWATER

2.IT PREVENTS POSSIBLE FLOODS.

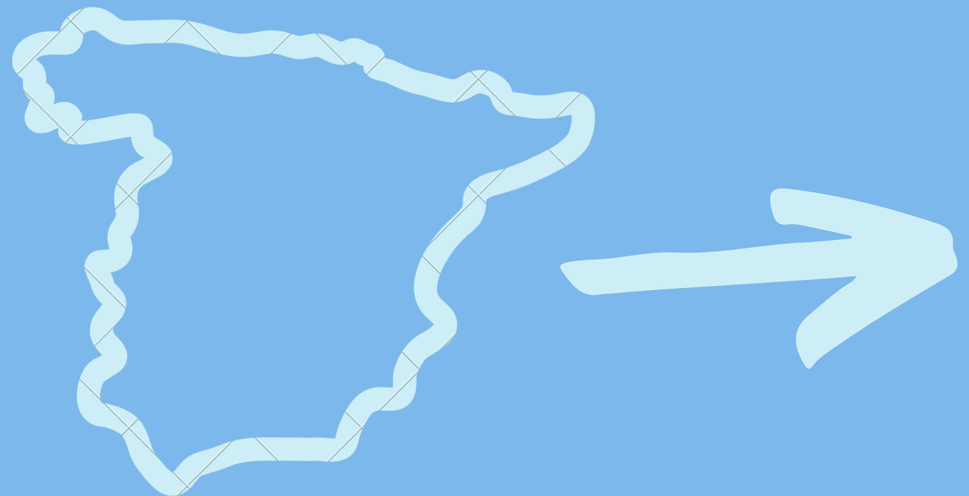
We know that there are flood-prone areas, and that the climate in our area is characterised by long periods of dry weather combined with heavy rainfall in a very short period of time.

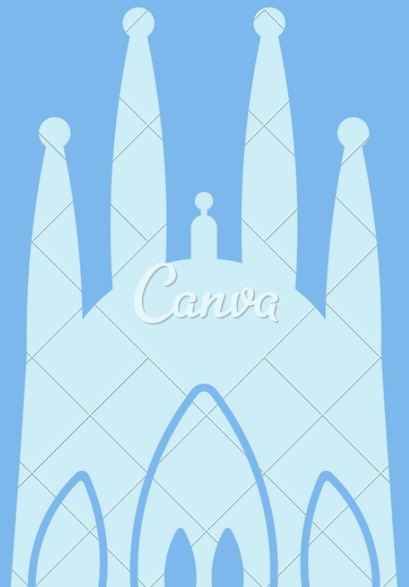
Thus, the treatment and the recycling of these waters for its subsequent use is essential. Drainage tunnels help us with both issues and therefore, provide water for when we need it, thanks to rainwater deposits.

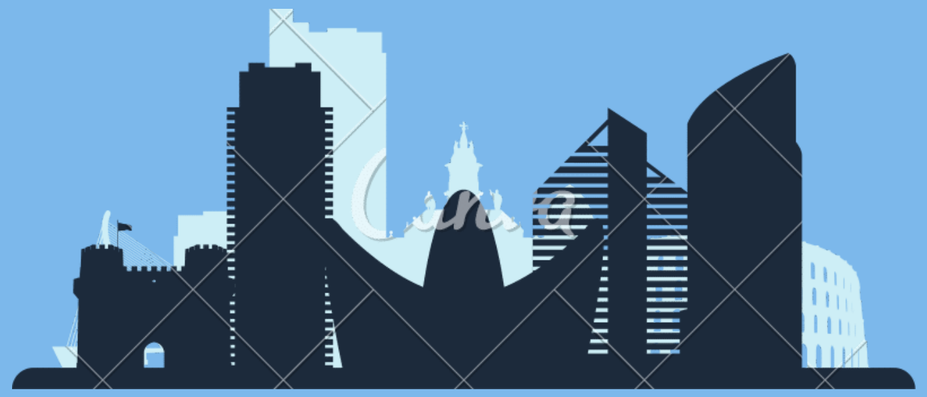


Some countries such as the UK and Australia have already put these measures into practice, but in Spain you can only find them in cities like Barcelona and Valencia or Alicante.

The University of Granada is currently studying the possibility of installing rainwater drainage systems in Andalucia to stop floods.







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IES EL PALMERAL, VERA

SPAIN

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