



RESEARCH INSTITUTE OF WATER AND ENVIRONMENTAL ENGINEERING  
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ASSOCIAÇÃO PARA O DESENVOLVIMENTO DA AERODINÂMICA INDUSTRIAL  
*Portugal*

## The Idea



The LIFE RESILIENT FORESTS project is about improving the resilience of forests to climate change, enhancing resilience to wildfire, environmental degradation and other climate-induced disturbances. The overall goal is to develop a replicable forest management approach at the watershed scale that can be applied elsewhere across Europe.



**Coupling water, fire and climate resilience with biomass production from forestry to adapt watersheds to climate change**

## Mission



The LIFE RESILIENT FORESTS project will monitor all of the impacts, so it can prove the environmental soundness of the project and its socioeconomic positive impact in rural areas connect with other successful initiatives through networking activities.

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[@LIFE\\_RESILIENT](https://twitter.com/LIFE_RESILIENT)



[Resilient Forests](https://www.youtube.com/channel/UC...)

## Expected results



The main goal is the successful demonstration and replication of an innovative forest management approach at the watershed scale that:

- increases forest resilience against climate change
- increases water budget
- increases bio-energy production
- increases economic opportunities in rural areas
- reduces fire hazard



EUROPEAN BIOMASS INDUSTRY ASSOCIATION  
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FORSCHUNGSZENTRUM JÜLICH GMBH  
*Germany*



AYUNTAMIENTO DE SERRA  
*Spain*



The project LIFE RESILIENT FORESTS – Coupling water, fire and climate resilience with biomass production from forestry to adapt watersheds to climate change is co-funded by the LIFE Programme of the European Union under contract number LIFE 17 CCA/ES/000063.

# LIFE RESILIENT FORESTS

## Climate change and forest ecosystems

The effects of climate change and climate variability on forest ecosystems are evident around the world and impacts are unavoidable, at least in the short and medium term.

Climate change affects forest ecosystems negatively by making forests **less resilient** to disturbances, such as the reduction of plant growth, the frequency and the intensity of pest and disease outbreaks, wildfires and wind storms. Between 1950 and 2000 in Europe an average of 35 million m<sup>3</sup> wood was damaged annually by disturbances such as storms (53%) and wildfires (16%).

During the last 30 years, the total EU area affected by water scarcity and droughts doubled from 6 to 13%, economic losses of this increase were estimated at 100 billion Euro.

## Activities

### Decision Support System - DSS

LIFE Resilient Forest will develop a system to introduce climate change **adaptation strategies** in forest management across Europe. This tool will be based on a successful approach already adopted by the municipality of Serra (Valencia, Spain).

### Demonstration

The support system will be adapted to different conditions and demonstrated at **three locations** in Germany, Portugal and Spain, both at sub-catchment and at catchment scale.

### Replication

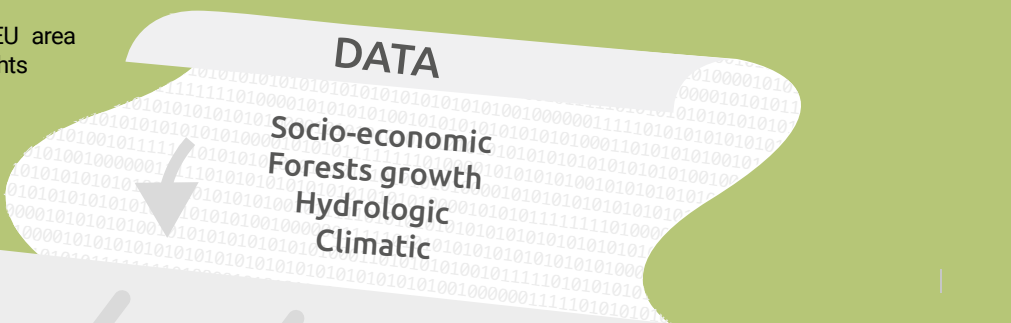
A replication strategy will be developed for **transferring** this approach, so it can be applied elsewhere across Europe.

### Monitoring

The project will conduct a complete monitoring of the impacts, including a **Life Cycle Assessment (LCA)** of the system, to prove the environmental soundness of the approach and its socio-economic effects in rural areas.

### Networking

Networking activities will be developed so the project can take advantage of other successful initiatives related to forest management and climate change, and to facilitate the **transfer of information**. It will carry out a wide dissemination action to reach out both public and private stakeholders and to achieve a positive impact on **regulations and policies** for forest management across Europe.



### RESILIENT FORESTS DSS TOOL

- The DDS system aims to:
- **guide forest managers** in the climate change adaptations
  - optimize and update forest managements at the **watershed** scale incorporating climate change issues
  - combine the main forest goods and forest services into a **multi-stakeholder multi-criteria tool** based on the different environmental and socioeconomic situations
  - couple the different results of hydrological, biomass, hydroeconomic and climate change models in order to set optimal management practices