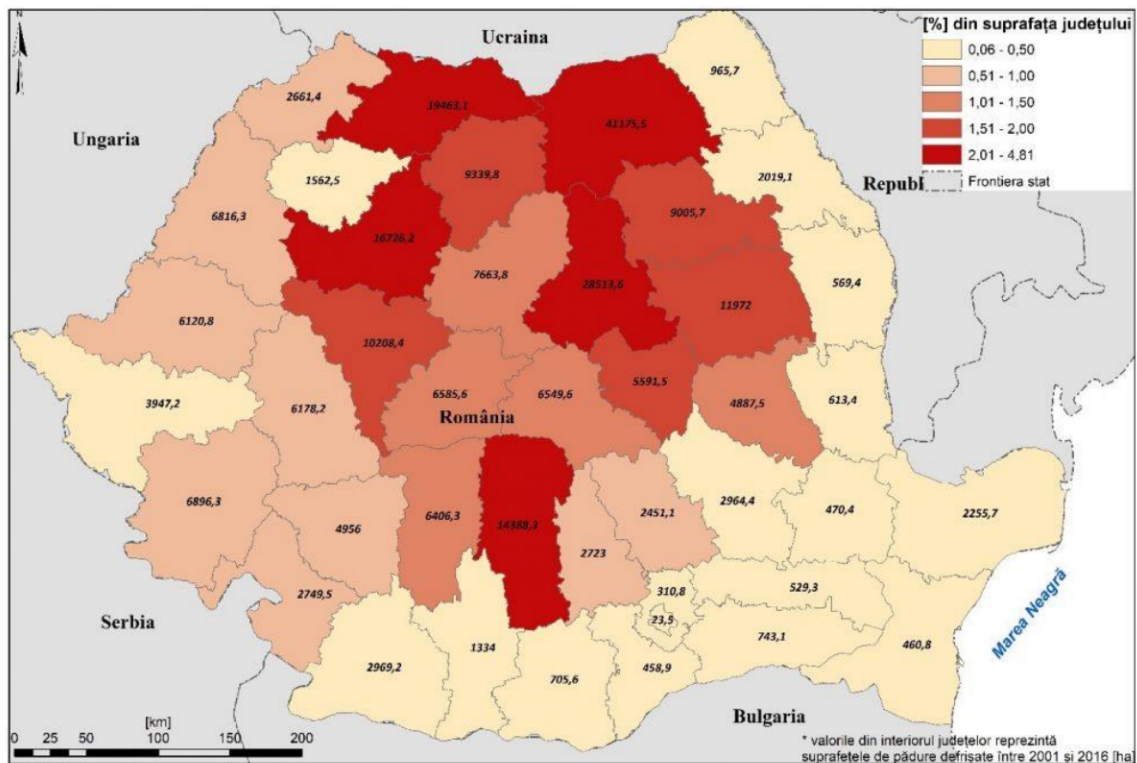


Research for support of capacity assessment and mitigation of climate change and other stressors on the state of forest ecosystems and vineyards

Within the project the INCDPM is responsible for the following activities:

- presentation of the main regulations and standards and representative examples of the EU area on the protection of forests and vineyards, with particular reference to mitigation of the effects of climate change and other stressors;
- inventory of forest ecosystems for investigating the degree of adaptability of species to climate change; mapping forest ecosystems using GIS techniques; analyzing and centralizing the influence of climatic factors on forest ecosystems;
- vulnerability analysis (exposure, sensitive areas, adaptation capacity, socio-economic impact) of forests under the influence of climate change and critical area setting;
- investigating changes in the composition of forest ecosystems and the effects of climate change on their productivity;
- comments and investigations on: species distribution, temperature increase, prolongation of vegetation season and others.



- **Partners**

National Institute for Research and Development in Forestry Marin Drăcea Bucharest-
INCDS –Coordonator;

National Institute for Research and Development for Biotechnologies in Horticulture
Stefănești Argeș – INCDBH;

Research and Development Research Center for Viticulture and Wines Bujoru –SCDVV
Bujoru;

National Institute of Research and Development for Machines and Installations for
Agriculture and Food Industry Bucharest – INMA;

Lower Danube University in Galati– UGAL.

- **Period**

02.11 2017 – 10.12.2018

- **Financed via**

Ministry of Research and Innovation

- **Project Coordinators**

Project Director:

Coordinator: Dr. fiz. Monica Matei, Scientific Researcher II

Deputy Coordinator: Dr. eng. Danut Coviiorva, Scientific Researcher II

Objectives

Developing preventive solutions to mitigate the impact of climate change on the state of forest ecosystems and wine-growing.

Specific objectives:

- Assessment of the main environmental factors action on forest ecosystems and wine-growing crops;
- Measures to mitigate the action of climate change on forest ecosystems and wine-growing crops;
- Harmonized preventive solutions with integrated mechanization systems.

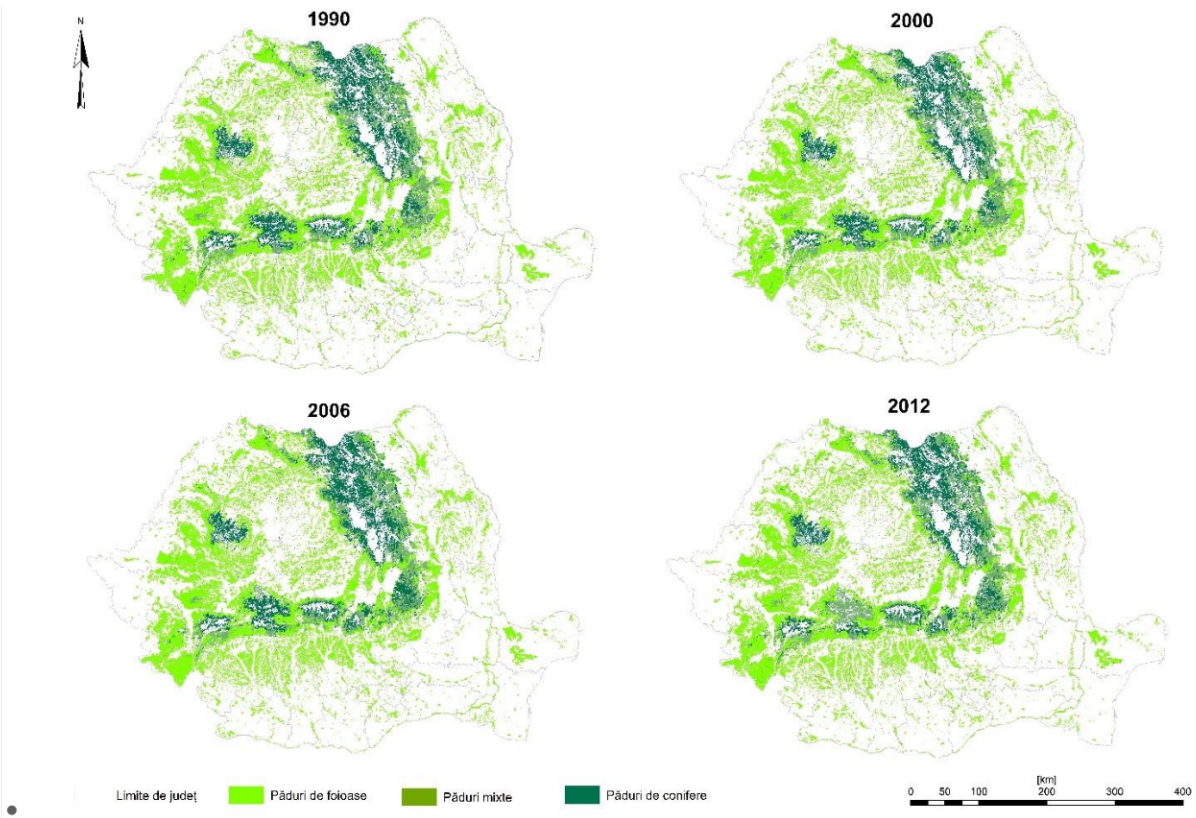
Results

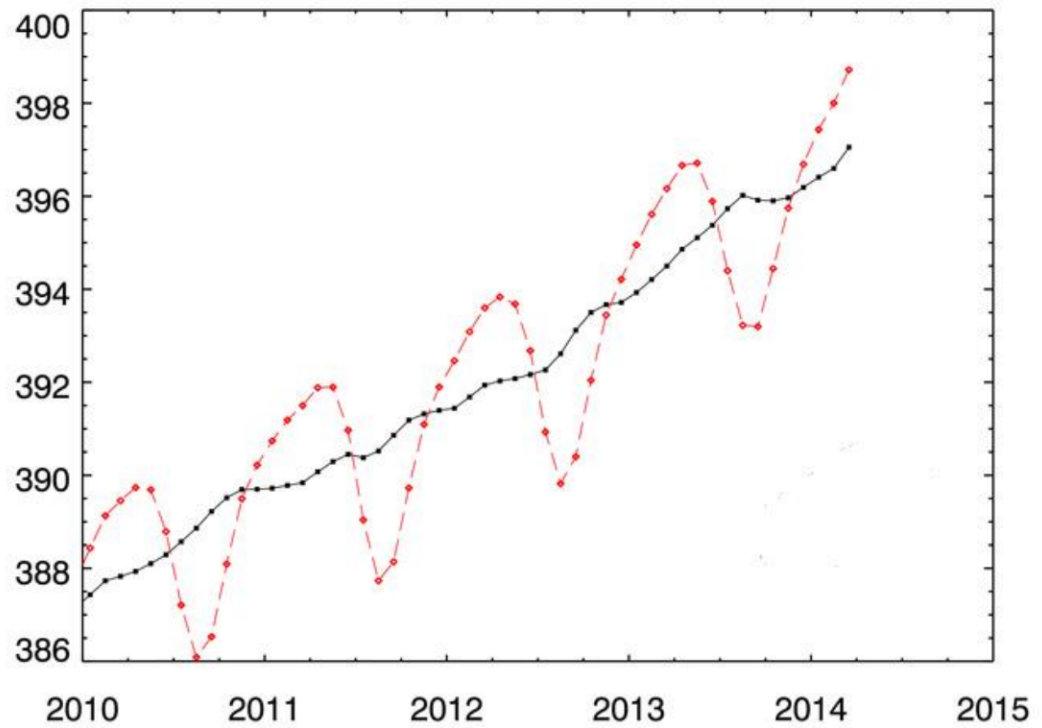
After activities accomplishment, the following results were obtained:

- the trends of changing the temperature regime and of the atmospheric precipitations on the territory of Romania were analyzed;
 - the state of health and stability of forest ecosystems in recent decades has been studied;
 - the factors affecting the state and stability of forests have been described extensively with examples of their impact on forest ecosystems;
 - the climatic factors that can influence vine culture: solar radiation, light, air temperature, atmospheric precipitation, wind have been inventoried and described.
 - the climatic risk phenomena that may affect the vineyard culture have been quantified: short duration (long winds, electric discharge, hail) (long precipitation, heavy snow, viscole), long and very long duration (rainfall overflow periods, pluviometric depletion periods).
- studied: the impact of climate change on forest ecosystems and their adaptation options according to geographic location; the main factors that disturb the European forests and some possible adaptation measures; the percentage of injury of the tree species by biogeographical regions in our country; the dynamics of intensity of

harming species located in different biogeographical regions during the 1990-2013 period; the dynamics of the injury intensity of the autochthonous forest species between 1990 and 2017; the evolution of forest types, according to information extracted from the Corine Land Cover.

Localization of forest types at national level





Atmospheric carbon concentrations (ppm) at Mauna Loa Hawaii for the period 2010-2014

(Source: NOAA Earth System Research Laboratory)