



# clima!te



## RELEVANCE AND PERSPECTIVES

Climaite will add to a comprehensive understanding regarding the impact of climatic changes on biological processes and natural ecosystems. The research will potentially add to the background for future political decisions and actions to reduce or counteract unwanted or negative effects. CLIMAITE contribute to education of new researchers and biological scientists and to the general public knowledge about climatic effects on biological processes.

## CLIMAITE – PARTICIPANTS

CLIMAITE is a collaboration between leading Danish research groups within the area of climatic effects on biological processes:

- RISØ National Laboratory
- Copenhagen University
- Forest and Landscape at the Danish Agricultural University
- EPA lab

For further information, contact:

**Centerleder Claus Beier, RISØ,**  
**Phone +45 4677 4161**  
**claus.beier@risoe.dk**

or visit our website

**[www.climaite.dk](http://www.climaite.dk)**

CLIMAITE is based on economical support from the Villum Kann Rasmussen foundation. The research activities are further supported by Elsam A/S, Air Liquide A/S, Danfoss A/S and the participating institutes.

– a Danish research centre to investigate how climatic changes will affect biological processes and natural ecosystems



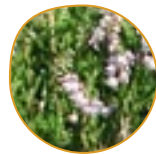
# Climate

## CLIMATE CHANGE AND BIOLOGICAL EFFECTS

The climate is changing. Human activities cause increased emissions of green house gasses, particularly CO<sub>2</sub>. Atmospheric CO<sub>2</sub> has increased by 30% over the past 50 years and is predicted to further double over the coming century. Elevated atmospheric CO<sub>2</sub> increases the green house effect which will lead to elevated global temperatures and altered precipitation pattern. In the future ecosystems are therefore facing simultaneous changes in three factors:

- Elevated atmospheric CO<sub>2</sub>
- Elevated temperature
- Altered precipitation patterns

These are key factors regulating biological processes. Climatic changes will therefore affect natural ecosystems. Ultimately certain ecosystems and natural habitats may change dramatically or disappear.



**Climaite** – Climate change effects on biological processes in terrestrial ecosystems

## CLIMAITE – DANISH RESEARCH IN CLIMATE CHANGE EFFECTS

CLIMAITE is a multidisciplinary Danish research centre. CLIMAITE will improve our knowledge about the effects of changes in climatic conditions on biological processes in natural ecosystems. The research activities will particularly bring novelty at three important points:

- The effects of temperature, precipitation and CO<sub>2</sub> and their interactions will be investigated together because all these factors will change simultaneously during climate change
- Extreme climatic conditions (e.g. drought) and changes outside the growing season (e.g. early onset of spring) will have strong focus because recent results indicate that these are of particular importance for climate driven changes in biological processes.
- The studies are conducted by ecosystem manipulation in the field in order to gain realistic results.



## BRANDBJERG – A MODELECOSYSTEM YEAR 2075

CLIMAITE has established a research site at Brandbjerg on a military practise ground near Jægerspris 50 km NV of Copenhagen. Here time is advanced by 70 years and CO<sub>2</sub>, temperature and precipitation is manipulated to create a Danish climate year 2075. The researchers continuously study the effects of the manipulations on the biological processes – effects on plants, soil and fauna.