**Press Release**

25. January 2010

# European research project on greenhouse gas balance in agriculture and forestry starts

## EU funded project involves more than 40 partners

Almost the entire European land cover is used to produce crops and wood. In view of the changing climate it is especially important to know how much of the greenhouse gases are released into the atmosphere or fixed in biomass and soil by forest, farming, and meat production. These would be either so-called sources or sinks of greenhouse gases. One of the largest European research efforts for elucidating these mechanisms, the GHG Europe Project, will be launched these days. The project that involves more than 40 institutes from all over Europe will be coordinated by Johann Heinrich von Thuenen Institute (vTI) in Braunschweig, Germany.

The ambitious aim of the project is to establish a greenhouse gas budget for Europe, including the order of magnitudes of various greenhouse gas sources and sinks, their regional distribution, and their temporal dynamics. To this end the European Union provides almost 7 million euro for the next three and a half years. National and university funds contribute add about 12 million euro. “We will try to separate human-related factors like land use from natural factors like weather and climatic variability”, says project coordinator Dr. Annette Freibauer of Institute for Agricultural Climate Research of von Thuenen – Institute. “When we understand the processes better, we can make better suggestions as to what we need to do in agriculture and forestry to keep their effect on the climate balance positive.”

For the project kick-off, scientists from more than forty European research institutes meet from 27 to 29 January in Orvieto, Italy. GHG Europe tries to answer questions like which ecosystems will react most sensitive to climate changes? Which options are available in agriculture and forestry management to keep carbon sinks and minimize greenhouse gas emissions?

The project will integrate results from various national and international climate research projects for a comprehensive assessment. Measurements from more than one hundred

**Johann Heinrich von Thünen-Institut (vTI)**
Bundesforschungsinstitut für Ländliche Räume, Wald und Fischerei
Bundesallee 50
38116 Braunschweig
www.vti.bund.de

Pressesprecher:
Dr. Michael Welling
Fon: 0531-596 1016
Fax: 0531-596 1099
pressestelle@vti.bund.de

continental stations distributed across all European climatic regions and ecosystems will be used to assess the contribution of different land uses to the emissions and sinks of the three most important greenhouse gases carbon dioxide ($CO_2$), nitrous oxide ($N_2O$), and methane($CH_4$). The scientists will combine long-term measurements from all over Europe and initiate greenhouse gas measurements in regions that have been researched little so far. This includes east European forests and Mediterranean shrubland. The measurements of this network of stations will be used in computer models to project future greenhouse gas budgets under a changing climate. The models also include socio-economic effects to address interactions between economic development, land use, and greenhouse gas emissions. “For the first time in Europe, we will look at all three major greenhouse gases in a joint, comprehensive approach. This is especially important for understanding the role of agriculture and forestry for climate protection”, says Annette Freibauer. Forests, for example, fix one third of the global carbon dioxide emissions produced by human activities. This sink, however, varies strongly among years. For example, the $CO_2$ fixation of European forests decreased to almost nil in the very hot summer of 2003. On the other hand, farming, meat production, and draining of wetlands release large amounts of nitrous oxide and methane, which reduces the positive effect of forests.

The project has a background in the United Nations Framework Convention on Climate Change and ongoing negotiations for a post-Kyoto agreement for a commitment to significant reduction of greenhouse gas emissions. GHG Europe will allow to produce a total climate budget that includes not only the positive sinks of the biosphere but also the greenhouse gas emissions produced by land use. Thus, the project ensures Europe’s leading position in climate research.

**Contact:**

Dr. Annette Freibauer (Project coordinator)
Johann Heinrich von Thünen-Institute (vTI), Institute für Agricultureal Climate Research
Bundesallee 50, 38116 Braunschweig
Tel.: +49-531-596-2634, e-mail: annette.freibauer@vti.bund.de

*Please send a courtesy copy* ✍