COST 734-CLIVAGRI: Impacts of Climate change and Variability on European Agriculture

S. Orlandini (1), P. Nejedlik (2), J. Eitzinger (3), V. Alexandrov (4), L. Toulios (5), L. Kajfez Bogataj (6), P. Calanca (7), M. Trnka (8), and J.E. Olesen (9)

(1) University of Firenze, Agronomy and Land Management, Firenze, Italy (simone.orlandini@unifi.it), (2) Slovak Hydrometeorological Institute, Bratislava, Slovak Republic, (3) Institute of Meteorology (BOKU-Met), Working group Agrometeorology, University of Natural Resources and Applied Life Sciences (BOKU), Vienna, Austria, (4) National Institute of Meteorology and Hydrology, Sofia, Bulgaria, (5) National Agricultural Research Foundation (NAGREF), Larissa, Greece, (6) Biotechnical Faculty, Centre for agrometeorology, University of Ljubljana, Ljubljana, Slovenia, (7) Agroscope Reckenhol-Taenikon, Research Station ART, Zurich, Switzerland, (8) Inst. of Agriculture Systems and Bioclimatology, Mendel University of Agriculture and Forestry in Brno, Czech Republic, (9) Dept. of Agroecology and Environment, University of Aarhus, Denmark

COST is an intergovernmental framework for European Cooperation in Science and Technology, funded by its member countries through the EU Framework Programme. The objective of COST is to coordinate, integrate and synthesise results from ongoing national research within and between COST member countries to add value to research investment. COST Actions aim to deliver scientific syntheses and analyses of best available practice to aid problem identification, risk assessment, public utilities and policy development.

During 2006, COST Action 734 (CLIVAGRI-Impacts of Climate Change and Variability on European Agriculture) was launched thanks to the coordinated activity of 15 EU countries. The main objective of the Action is the evaluation of possible impacts from climate change and variability on agriculture and the assessment of critical thresholds for various European areas (COST 734 MoU. www.cost.esf.org). Secondary objectives are: the collection and review of existing agroclimatic indices and simulation models, to assess hazard impacts on various European agricultural areas relating hazards to climatic conditions; building climate scenarios for the next few decades; the definition of harmonised criteria to evaluate the impacts of climate change and variability on agriculture; the definition of warning systems guidelines. Four working groups, with the integration of remote sensing sub working group 2.1 were created to address these aims:

WG1 - Agroclimatic indices and simulation models
WG2 – Evaluation of the current trends of agroclimatic indices and simulation model outputs describing agricultural impacts and hazard levels
WG3 – Development and assessment of future regional and local scenarios of agroclimatic conditions
WG4 – Risk assessment and foreseen impacts on agriculture

The activity of WGs has been structured like a matrix, presenting on the rows the methods of analysis and on the columns the phenomena and the hazards. Each intersection point describes the evaluation of past, present and future trends of climate and thus the impacts on agriculture. Based on these results, possible actions (specific recommendations, suggestions, warning systems) will be elaborated and proposed to the end-users, depending on their needs. At present 28 countries join the Action with the collaboration of Agricultural Meteorology Division - Word Meteorology Organization and Ispra- IPSC- AGRIFISH UNIT - Joint Research Centre.

Time schedule of activity includes three main phases:
- Planning, operational arrangements, establishment of WGs and inventory.
- Main scientific work to be conducted by each WG.
- WGs activities to be concluded with emphasis on disseminations, reports and final publications.