



Workshop on “Modelling the impact of extreme climatic events in agriculture”

Thursday September 10, 2015 - 9 am to 4 pm

INRA / Montpellier SupAgro Campus La Gaillarde - Montpellier (France)

Web page: <http://fsd5.european-agronomy.org/modextreme.html>

For registration: <http://goo.gl/forms/mHii2h8q1Z>

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Description of the workshop (topics and goals)

Extreme weather events such as drought and heat waves events endanger food security. A contemporary challenge is to examine if, how and to which extent modelling practices as currently undertaken in most real situations, can effectively support the issue of food security, with a policy-making orientation. European agricultural policy-makers (e.g. European Commission Joint Research Centre and the Directorate General Agriculture) make use of crop modelling tools to support agricultural policies. One of these tools is the multi-model platform BioMA (<http://bioma.jrc.ec.europa.eu>). There is a need to better take into account the impact of extreme events. This can be done by improving existing crop modelling capabilities via libraries of process models into generically usable software units. Based on the advancements of the EU-FP7 project MODEXTREME (MODelling vegetation response to EXTREME Events, <http://modextreme.org>), the workshop will present new solutions to model the impact of extreme events, and strategies for their effective implementation.

The workshop will focus on identification of extreme events, statistical and process-based approaches to improve prediction of crop yields, and their implementation into modelling solutions. Scientists and stakeholders from a range of domains are invited to attend the workshop to be held in conjunction with the 5th International Symposium for Farming System

Design. The workshop will provide participants with opportunities to discuss and explore emerging modelling approaches to the impact of extreme weather events in agriculture with fellow students, researchers, and practitioners from agricultural business, policy and academia. The goals of the workshop are to present ideas, foster research community and identify open issues and/or explore directions for future research and policy implementation. As such, it also offers a good opportunity for researchers to present their work and to obtain feedback from an interested community in an interactive fashion. Presentations on emerging topics will be offered (related to modellers' experience and linking to policy support), mainly based on the experience and background of the organizers in the domain. We welcome active interactions from and among participants as well as controversial and stimulating discussions.

Agenda of the workshop

09.00 Presentation of the workshop

Gianni Bellocchi - INRA Grassland Ecosystem Research Unit, Clermont-Ferrand (France)

09.30 Scenarios for future changes in extremes for agricultural modelling

Ole Christensen - Danish Meteorological Institute, Copenhagen (Denmark)

10.00 Assessing spatial and temporal patterns of agriculturally relevant extreme events by means of agroclimatic indices

Pierluigi Calanca - Agroscope, Zurich (Switzerland)

10.30 Is it possible to predict extreme yield loss using climate indicators?

David Makowski - INRA AgroParisTech, Thiverval-Grignon (France)

11.00 Simulating frost impact on crop production

Jose Paulo de Melo e Abreu - Higher Institute of Agronomy-University of Lisbon (Portugal)

11.30 Models of growth as a function of temperature and water deficit with explicit genetic variability

François Tardieu, Boris Parent - INRA Supagro, Montpellier (France)

12.00 A comparison of modelling solutions for transpiration and yield of olive orchards

Luca Testi - Spanish National Research Council-Institute for Sustainable Agriculture, Cordoba (Spain)

12.30 Impacts of extreme events on grapevine: experimental and modelling activities

Marco Moriondo – University of Florence (Italy)

13.00 – 14.00 LUNCH BREAK

14.00 A software component for simulation of the impacts of weather extremes on agricultural production

Livia Paleari, Roberto Confalonieri - University of Milan (Italy)

14.30 Impacts of extreme events in grassland models

David Borras, Gianni Bellocchi - INRA Grassland Ecosystem Research Unit, Clermont-Ferrand (France)

15.00 Discussion

15.30 Wrap-up and close-up of the workshop

Gianni Bellocchi - INRA Grassland Ecosystem Research Unit, Clermont-Ferrand (France)

16.00 END OF WORKSHOP