



World
Meteorological
Organization



Symposium on Climate Change and Variability- Agro Meteorological Monitoring and Coping Strategies for Agriculture

Oscarsborg, Norway

June 3-6 2008

Organizers:

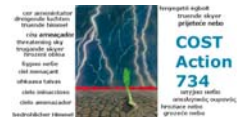
European Cooperation in the field of Scientific and Technical Research -COST
Management Committee of COST ACTION 734
'Impact of Climate Change and Variability on European Agriculture'

World Meteorological Organization (WMO)
Commission for Agricultural Meteorology (CAgM)

Local organizers:

Bioforsk, Norwegian Institute for Agricultural and Environmental Research
Plant Health and Plant Protection Division

UMB, The Norwegian University of Life Sciences
Department of Plant and Environmental Sciences



ESF provides the COST Office through an EC contract

Welcome

to the Symposium on Climate Change and Variability - Agro Meteorological Monitoring and Coping Strategies for Agriculture held at Oscarsborg, Norway. We hope that you all will have a fruitful meeting with good discussions as well as a pleasant stay in Norway!

Ås, June 2, 2008

The local organizing committee at Bioforsk Plant Health and Plant Protection Division and The Norwegian University of Life Sciences

	Tuesday	Wednesday	Thursday	Friday
Breakfast		0730 - 0830	0730 - 0830	0730 - 0830
		0830 <i>Transport to Ås University Campus</i>	0830 Session II, con.	0900 Session V
		1000 Opening Session	0930 <i>Coffee break</i>	
		1030 Session I	0945 Session III	
Lunch		1200 - 1330	1230 - 1330	1300 - 1400
		1330 Session I, con.	1330 Session III con.	
		1445 Session II	1500 <i>Coffee break</i>	<i>Ferry to mainland</i>
	Arrival and registration	1700 Visit to experimental field	1515 Session IV	
	Cost MCM meeting	1815 <i>Transport to Oscarsborg</i>	1800 <i>Guided tour of Oscarsborg fortress</i>	
Dinner	2000 - 2100	2000 - 2100	2000 - - - Symposium dinner	

Tuesday June 3

Arrival at Oscarsborg

1600-1900

Registration

1700-1900

COST734 MCM-meeting

2000-2100

Dinner

Wednesday June 4

0830-1000

Transportation to Ås, University campus

0900-1000

Registration

Opening of the symposium

at the Norwegian University of Life Sciences

1000-1015

Welcome addresses by

- Director of Research of Bioforsk - Nils Vagstad

- Director of Research of the Norwegian University of Life Sciences - Odd Jarle Skjelhaugen

1015-1030

Opening addresses by

- Professor Simone Orlandini, leader of COST ACTION 734

- Dr. Mannava V.K. Sivakumar, leader of Agricultural Meteorology Division of WMO

SESSION I

Agroclimatic Indices and Simulation Models


Chair : Josef Eitzinger and Pavol Nejedlik

1030-1045	<i>Le</i>	Josef Eitzinger - Applications of agroclimatic indices and process oriented simulation models in european agriculture	11
1045-1050		Tor Håkon Sivertsen - Asking some questions about the scope of mechanistic crop growth models connected to global change	17
1050-1100		Discussion	
1100-1115	<i>Le</i>	Dragutin T. Mihailovic - NCEP non-hydrostatic regional model and surface scheme LAPS: A dynamical scaling tool for use in agricultural models	12
1115-1120		Anne Kari Bergjord - Successful model prediction of frost damage in Norwegian winter wheat fields	18
1120-1130		Discussion	
1130-1145	<i>Le</i>	Zoltan Dunkel - Survey of the drought indices used in agrometeorology	13
1145-1150		Peder A. Tyvand - Two-dimensional flow in a porous medium with general anisotropy	19
1150-1200		Discussion	
1200-1330		<i>Lunch</i>	
1330-1345	<i>Le</i>	Bernard Seguin - On the use of agroclimatic indices and crop simulation models for assessing the influence of climate change on the European viticulture	14
1345-1350		Henrik Eckersten - Application of weather driven crop growth models to long term experiments	20
1350-1355		Johannes Deelstra - Climate change, erosion and nutrient loss from agricultural dominated catchments in South Eastern Norway	21
1355-1405		Discussion	
1405-1420	<i>Le</i>	Visnja Vucetic - Secular trend analysis of the growing degree days in Croatia	15
1420-1435	<i>Le</i>	Pavol Nejedlik - Occurrence of dry and wet periods during vegetation season at selected stations of Slovakia for the period 1951-2005	16
1435-1445		Discussion	
1445-1500		<i>Coffee break</i>	

SESSION II

Current Trends of Agroclimatic Indices and Simulation Model Output




Chair: Vesselin Alexandrov and Leonidas Toullos

1500-1515	<i>Le</i>	Nicolas R. Dalezios - Sustainable production zoning for agroclimatic classification using GIS and remote sensing	26
1515-1520		Leonidas Toullos - Satellite climate and biophysical data for warning purposes for European agriculture	32
1520-1530		Discussion	
1530-1545	<i>Le</i>	Gennady V. Menzhulin - The designing of the new regression models of crop productivity year-to-year anomalies based on the AVHRR satellite vegetation monitoring information	27
1545-1550		Gennady V. Menzhulin - Availability of the new climate models numerical experiments to reproduce of historical climates variations: Whether the climate changes scenarios recommended in the 4 th IPCC report can be ranked by their accuracy?	31
1550-1600		Discussion	
1600-1620	<i>Le</i>	Simone Orlandini - Current trends of agroclimatic indices applied to grapevine and olive trees in Central Italy	28
1620-1635	<i>Le</i>	Vesselin Alexandrov - Regions with agricultural production vulnerable to climate variability and change	25
1635-1640		Vesselin Alexandrov - Summarizing a questionnaire on agroclimatic trends in Europe	35
1640-1650		Discussion	
1700-1800		Vidar Thue-Hansen - Visit to the experimental field of agro meteorology at the Norwegian University of Life Sciences	
1800-1900		<i>Transportation to Oscarsborg</i>	
2000-2100		<i>Dinner</i>	

Thursday June 5 2008

Session II Continued


Chair: Vesselin Alexandrov and Leonidas Toullos






0830-0845	<i>Le</i>	Antonio Mestre - Trend analysis of long series of agroclimatic parameters in Spain	29
0845-0848		Stig Morten Thorsen - Climate indices for overwintering of forage grasses in Norway in relation to climate change	33
0848-0851		Alessandro Chiaudani - Comparison between piecewise linear and flat steps statistical methods for the long period agroclimatological discontinuity analysis	34
0851-0900		Discussion	
0900-0915	<i>Le</i>	Kurt Christian Kersebaum - Testing different CO ₂ response algorithms against a FACE crop rotation experiment and application for climate change impact assessment on different sites in Germany.	30
0915-0920		Hans-Joachim Weigel - Crop growth under future atmospheric CO ₂ concentrations: results from the German Free Air Carbon Dioxide (FACE) experiment	40
0920-0930		Discussion	
0930-0945		<i>Coffee break</i>	

SESSION III

Developing and Assessing Future Regional and Local Scenarios of Agroclimatic Conditions

Chair: Pierluigi Calanca and Robert Stefanski

0945-1005	<i>Le</i>	Pierluigi Calanca - Analysis of European drought risk under current and future climatic conditions based on regional climate scenarios	43
1005-1015		Discussion	
1015-1035	<i>Le</i>	Mannava V.K. Sivakumar - Climate change mitigation, adaptation and sustainability in agriculture	44
1035-1045		Discussion	
1045-1100	<i>Le</i>	Ward Smith - Some perspectives on agricultural GHG mitigation and adaptation strategies with respect to the impact of climate change /variability in vulnerable areas	45
1100-1105		Anne Gobin - The impact of climate change on the water balance of Belgian crops	53
1105-1115		Discussion	

1115-1130	<i>Le</i>	Raymond P. Motha - Developing an adaptation strategy for sustainable agriculture	46
1130-1135		János Mika - New assessment of potential productivity for maize vegetation with respect to projected climate changes in Hungary	54
1135-1145		Discussion	
1145-1200	<i>Le</i>	Tor Håkon Sivertsen - Discussing the concepts of 'sustainability', 'sustainable agriculture' and 'allodial farm'	47
1200-1205		Jens Erik Ørum - Sustainable strategies for spring barley production	58
1205-1220	<i>Le</i>	Kirsten S. Tørresen - Climate change effects in perennial weeds at high latitudes	48
1220-1230		Discussion	
1230-1330		<i>Lunch</i>	
Session III, part 2			
Chair: Raymond Motha and Mdudsuzi Gamezde			
1330-1345	<i>Le</i>	Tomas Halenka - New sources of high resolution climate change scenarios for impact studies in agriculture	49
1345-1350		Tor Håkon Sivertsen - Some questions connected to global scenarios of climate change	56
1350-1400		Discussion	
1400-1415	<i>Le</i>	Miroslav Trnka - AgriCLIM - software package for assessment changes in agroclimatic conditions - results and planned use in COST734	50
1415-1420		Ole Hans Baadshaug - Effect of climate change on growth potential in the mountainous region of Southeast Norway	55
1420-1430		Discussion	
1430-1445	<i>Le</i>	Arif Goheer - Current capabilities in the analysis of climate risks and adaptation strategies in critical areas	51
1445-1450		Petr Hlavinka - Expected effects of regional climate change on the soil moisture regimes in central Europe and central US	57
1450-1500		Discussion	
1500-1515		<i>Coffee break</i>	

SESSION IV

Risks and Foreseen Impacts on Agriculture

Chair: Miroslav Trnka and Ward Smith

1515-1530	<i>Le</i>	Yonel Oswaldo Mendoza Vereau - Status of coping with climate risks in agriculture, rangelands, forestry and fisheries in critical areas	61
1530-1535		Miroslav Trnka - Crop yields and agroclimatic conditions in central Europe between 2020 and 2050	69
1535-1545		Discussion	
1545-1600	<i>Le</i>	Andrew Watkins - Climate forecasts for user communities in agriculture, rangelands, forestry and fisheries	62
1600-1603		Miroslav Trnka - Current perceptions on climate change impacts and adaptation for arable crops in Europe	70
1603-1606		Mette Lægdsmand - Impacts and adaptation to climate change in cropping systems (IMPACTS)	71
1606-1615		Discussion	
1615-1625	<i>Le</i>	Marina A. Bleken - Scenarios of future cereal production, ecological and economical consequences evaluated by simulation models using downscaled GCM scenarios for two regions in Norway	64
1625-1630		Jerzy Kozyra - Field crop losses caused by weather conditions in Poland	72
1630-1635		Suresh Kumar - The impact of climate change on soil hydrology and degradation: an assessment of vulnerabilities on Irish agriculture	73
1635-1645		Discussion	
1645-1655	<i>Le</i>	Angela Anda - Consequences of climate change on maize microclimate in Hungary	65
1655-1705	<i>Le</i>	Reimund P. Rötter - Simulation of rapeseed yields under climatic change in Finland	66
1705-1715		Discussion	
1715-1725	<i>Le</i>	Bernard Šiška - Drought analyses of agricultural landscape as influenced by climatic conditions in the Slovak Republic	67
1725-1735	<i>Le</i>	Orivaldo Brunini - Crop adaptation to climate changes and meteorological adversities, agrometeorological and agronomic aspects	68
1735-1745		Discussion	
1800-1930		<i>Guided tour at Oscarsborg Fortress</i>	
2000 - - -		<i>Symposium dinner at Oscarsborg Fortress Welcome by Director Ellen Merethe Magnus, Bioforsk Plant Health and Plant Protection Division</i>	



Friday June 6

SESSION V

Discussing and concluding the symposium

Chair: M.V.K. Sivakumar and Simone Orlandini

0900-1200

Establishing groups for discussion

Preliminary topics for the groups:

- Determination of critical areas for climate change and variability
- Current status of strategies for mitigation, adaptation and sustainability
- Current capabilities in the analysis of climate risks and adaptation
- Coping with climate risks and foreseen impacts in agriculture

Establishing groups for discussion

Meetings in the discussion groups

1200-1300

Plenary meeting to consider the reports from the discussion groups

1300-1400

Lunch

End of symposium