

**Canadian Meteorological and Oceanographic Society (CMOS) & Canadian Society of  
Agriculture and Forest Meteorology (CSAFM) present**

## **Land, Agriculture and Climate (Virtual Session)**

*Session Convenors: Shannon Brown (University of Guelph), Alexander Moravek (York University),  
Elizabeth Pattey (Agriculture and Agri-Food Canada), Ward Smith (Agriculture and Agri-Food  
Canada), Aston Chipanshi (Agriculture and Agri-Food Canada) and Catherine Champagne  
(Agriculture and Agri-Food Canada)*

**May 27, 2020**

(all times Eastern Daylight Savings Time)

Register here for access to Zoom link to attend meeting:

<https://cmos.in1touch.org/site/registration/information>

### **Session 1**

- 11:05 Quantifying land-atmosphere interactions using aircraft-based flux measurements  
*Raymond Desjardins, Agriculture and Agri-Food Canada*
- 11:17 Drivers and Variability of Nitrous Oxide Emissions from Annual Crops in Cold Climate  
*Claudia Wagner-Riddle, University of Guelph*
- 11:30 Influence of cover crops, tillage, and rotation diversity on field-scale cropland soil N<sub>2</sub>O flux  
*Yuanpei Gao, University of Guelph*
- 11:42 How do Soil Type, Crop Rotation Diversity and Climate Change affect Freeze-Thaw Nitrous Oxide Emissions?  
*Rebecca Johnson, University of Guelph*
- 11:55 New insights into the bi-directional exchange of ammonia from eddy covariance flux measurements above a corn crop canopy  
*Alexander Moravek, York University*
- 12:07 Monitoring urban greenhouse gases in downtown Toronto using open-path Fourier transform spectroscopy  
*Yuan You, University of Toronto*
- 12:20 **Lightning Talk:** Temperature Induced Spectroscopic Line-broadening Effects in Open-path Eddy Covariance CO<sub>2</sub> Flux  
*Ivan Bogoev, Campbell Scientific*
- 12:25 **Lightning Talk:** Controls on Autotrophic and Heterotrophic Respiration in an Ombrotrophic Bog  
*Tracy Rankin, McGill University*

**Session 2:**

- 13:05 Western Canadian Freshwater Availability: Current and Future Vulnerabilities  
*Barrie Bonsal, Environment and Climate Change Canada*
- 13:17 Historical Rainfall and Runoff Analysis and Climate Implications for Agriculture in the Midwest United States  
*Jane Niemeyer & Anthony Lupo, University of Missouri*
- 13:30 An improved crop precipitation deficit indicator for corn yield prediction, using STICS crop model in eastern Canada  
*Elizabeth Pattey, Agriculture and Agri-Food Canada*
- 13:42 Evaluation of Satellite-derived Soil Moisture Products over Agricultural Regions of Canada  
*Yaasiin Oozeer, University of Waterloo*
- 13:55 Evapotranspiration and soil moisture of rainfed corn field in eastern Canada using STICS crop model – Calibration based on contrasting climate conditions  
*Sameh Saadi, Agriculture and Agri-Food Canada*
- 14:07 Application of a gap-filling routine to improve seasonal and annual ET measurements from weighing lysimeters  
*Shannon Brown, University of Guelph*
- 14:20 **Lightning Talk:** Application of the Vegetation Drought Response Index to Agricultural Regions in Canada  
*Tyler Black, Agriculture and Agri-Food Canada*
- 14:25 **Lightning Talk:** Pollution over Mexico City: Ammonia measurements and variability  
*Beatriz Herrera, University of Toronto*

*Session 3:*

- 15:05 Thousand year history of disturbance and climate impacts on forests of southeastern Canada  
*Konrad Gajewski, University of Ottawa*
- 15:17 Benchmarking land surface models  
*Christian Seiler, Environment and Climate Change Canada*
- 15:30 Towards an improved methodology for modelling climate change impacts on cropping systems  
*Ward Smith, Agriculture and Agri Food Canada*
- 15:42 Improving Crop yield forecasting with spatial modelling at sub-regional scale under a changing climate  
*Aston Chipanshi, Agriculture and Agri Food Canada*
- 15:55 Testing of ensemble algorithms to improve the national crop yield forecasting with multiple earth observation datasets  
*Yinsuo Zhang, Agriculture and Agri Food Canada*
- 16:07 Global land in-situ-based temperature and precipitation extremes of relevance to agriculture from HadEX3: 1901 – 2018  
*Jim Salinger, University of Tasmania, Australia*

### Poster Session

<https://drive.google.com/drive/folders/1UZErzTTQBi9qCDAbWo1qMN-mJRordYZ-?usp=sharing>

You can view all of the posters here and leave comments or ask questions. Authors should check questions and provide feedback until the end of the week (May 30<sup>th</sup>) or contact author directly (link will be posted in the chat)

Posters:

***Pollution over Mexico City: Ammonia measurements and variability – Beatriz Herrera,***  
*University of Toronto*

***Comparisons of multiscale NH<sub>3</sub> observations around Toronto, Canada – Shoma Yamanouchi,***  
*University of Toronto*

***Temperature Induced Spectroscopic Line-broadening Effects in Open-path Eddy Covariance CO<sub>2</sub>***  
*Flux - Ivan Bogoev, Campbell Scientific*

***Controls on Autotrophic and Heterotrophic Respiration in an Ombrotrophic Bog - Tracy Rankin,***  
*McGill University*

***Application of the Vegetation Drought Response Index to Agricultural Regions in Canada -***  
*Tyler Black, Agriculture and Agri-Food Canada*

***Please join us for the Canadian Society for Agriculture and Forest Meteorology Annual General Meeting on May 28<sup>th</sup> at 12:00 to learn more about our society and how you can be part of the ag/forest meteorology community.***

<https://us02web.zoom.us/j/4066214047?pwd=YXM5dmNERlYyQ2NleJg5OU1xRnhHQT09>