

Day Two - Track Two

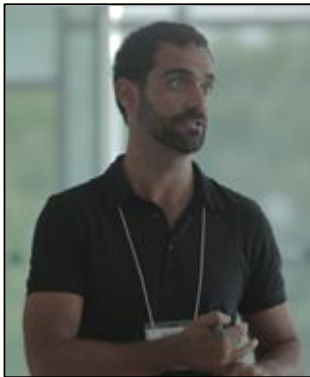
Thursday, March 23rd, 2017

3:30 p.m. – 4:00 p.m.

State of Climate Change Science and Practice in Ontario

Presenters: Fabio Tonto, Toronto and Region Conservation and Edmundo Fausto, Ontario Climate Consortium

Biography



Fabio Tonto, MEPP, P.Eng. is a Project Manager with the Research and Climate Programs Section of the Toronto and Region Conservation Authority where he works on a range of issues including hydrology modeling, green infrastructure and climate change adaptation. Prior to working with TRCA Mr. Tonto has worked in environmental consulting, as engineering manager for a stormwater treatment technology and with a leading Canadian environmental nonprofit organization.



Edmundo Fausto, MSc is a Project Manager with the Ontario Climate Consortium Secretariat in the Toronto and Region Conservation Authority. His role is focused on projects that aim to answer critical research questions related to change adaptation and greenhouse gas emissions reduction. Edmundo Fausto has worked in energy consulting as a certified measurement and verification professional, as well as stimulated scientific research through international multidisciplinary partnerships focused on Climate, Atmospheric, and Environmental Science.

Abstract

Given the observed and anticipated impacts of climate change there is a great deal of interest by municipalities, conservation authorities, provincial agencies, infrastructure proponents, financial services companies, and risk managers in developing information and approaches that reflect anticipated future climate conditions, so that these can be reflected in practice. However, there are a number of challenges related to the complexity of factors that drive these expected impacts, and the development of reliable tools and processes to incorporate long-term future projections into design and decision making processes. For example, there are a number of methods for applying climate model output to derive future extreme rainfall statistics and impact projections. Within the existing literature on this topic, different studies have used varying combinations of global climate model

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outputs, downscaling techniques, spatial and temporal scales, emission scenarios and statistic methods. This raises the question as to how the level of uncertainty associated with future projections should influence engineering practice including infrastructure design, and overall risk management.

This presentation will describe the current state of science and practice in the Great Lakes Basin, the availability of climate model output data, and the results of an assessment of its use in adaptation practice in Ontario. Furthermore, the presenters will discuss some identified challenges of applying climate change projections in engineering practice, particularly where uncertainty is high.

Learning Objectives

1. A better understanding of the climate change data available for practitioners in Ontario, and the conclusions of an inter-comparison study on climate change;
2. Some examples of how other climate change projections have been used in the Great Lakes region; and
3. To obtain further insight into the challenges and lessons learned from the inclusion of climate change projections in engineering practice.