



Tuesday, May 17

Time	Title	Presenter
13:00 – 15:00	Network HQP meeting, PK-6120	
16:00 – 17:00*	Public lecture1: Toward seamless weather-climate and environmental prediction	Gilbert Brunet ECCC-RPN
17:00 – 18:00*	Public lecture2: Weather and climate information across time scales for applications	Andrew Robertson IRI, Columbia University

* Please note that the public lectures will be at Ouranos (550 Sherbrooke West, 19th floor)

Wednesday, May 18

08:15 – 09:00	Registration	
09:00 – 09:05	Welcome remarks	Luc-Alain Giraldeau Dean, Faculty of Sciences, UQÀM
09:05 – 09:20	CNRCWP research update	Laxmi Sushama UQÀM
09:20 – 10:00	Integrative project: Investigation of the 2013 Alberta flood from weather and climate perspectives	John Gyakum McGill Bernardo Teufel PhD-UQÀM
	Theme B: Statistical extremes allowed by fine mesh and land-atmosphere feedbacks	
10:00 – 10:30	The influence of variability external to the RCM domain on extremes within the domain	Francis Zwiers Kiri Whan UVic, PCIC
	PMP response to anthropogenic influence	Xuebin Zhang ECCC-CDAS
10:30 – 10:50	Coffee Break	
10:50 – 11:10	Invited talk: GEPS based monthly forecasting at the Canadian Meteorological Centre	Hai Lin ECCC-RPN
11:10 – 11:40	The inter- and intra-seasonal variability of land-atmosphere coupling over North America in CRCM5 and CanRCM4	G. Yang Kam Wing MSc-UQÀM

	Dynamical downscaling of seasonal forecasts using CRCM5	Gulilat Tefera Diro RA-UQÀM
	Rain-on-snow events over North America in CanRCM4 and CRCM5	Dae Il Jeong RA-UQÀM
11:40 – 12:00	Open discussion on theme B	
12:00 – 13:30	Lunch & Posters (for all participants)	
	Theme C: Land-surface processes enhanced by improved representation of surface heterogeneity	
13:30 – 13:50	Invited talk: Recent developments at RPN on land surface modeling (new SVS scheme, subkm modeling, impact of cities)	Stéphane Bélair ECCC-RPN
13:50 – 14:05	A new TKE turbulence parameterization in the global climate model (CanAM4)	Yanping He RA-UVic
14:05 – 14:35	Snow characteristics and snow albedo feedback, sub-grid snow parameterization, snow-atmosphere coupling over North America as simulated by the Canadian Regional Climate Model	Gulilat Tefera Diro RA-UQÀM Arman Ganji RA-UQÀM Bruno Fang MSc-UQÀM
14:35 – 15:05	Development and validation of a glacier mass balance algorithm to nest into the Canadian regional climate model	Marjorie Perroud PDF-UCalgary
	On glacier-climate/hydrology interactions over NW Canada	Katja Winger RA-UQÀM
15:05 – 15:35	Simulating fractional coverages of different vegetation types over North America using the Canadian Terrestrial Ecosystem Model (CTEM)	Rudra Shrestha PDF-UVic
	Response of the simulated land surface state in high-latitude regions to competition between vegetation types	Bernardo Teufel PhD-UQÀM
15:35 – 15:50	Coffee Break	
15:50 – 16:20	A climatological analysis of lake effect snowfall and its processes over the Ontario Snowbelt Region of the Great Lakes Basin	Janine Baijnath PhD-UWaterloo
	Representation of the Great Lakes in CRCM5 using 3D ocean model NEMO: impacts on simulated climate	Oleksandr Huziy PhD-UQÀM
16:20 – 16:40	Regional climate modeling's place in assessing future impacts of climate change: A climate services viewpoint	David Huard Ouranos Michael Vieira Manitoba Hydro
16:40 – 17:10	Invited talk: Canadian Cold Regions Network	Howard Wheeler GIWS, U of Saskatchewan

17:10 – 17:30	Open discussion on theme C	
17:30 – 17:45	Regional reanalysis with CRCM5	Pierre Gauthier UQÀM
Special meetings		
17:45 – 18:40	Scientific Advisory Board (SAB) meeting with users/students, Agora; Scientific Steering Committee (SSC) meeting, PK-1140	
18:30 – 20:30	Dinner (for all participants)	

Thursday, May 19

	Theme A: Specific weather and climate phenomena permitted by high-resolution	
09:00 – 09:30	Synoptic-scale increases of Northern Hemisphere zonal available potential energy	Kevin Bowley PhD-McGill
	On the relationship between North Atlantic baroclinic growth rate regimes and surface cyclogenesis	Bryn Ronalds MSc-McGill
09:30 – 10:00	Freezing rain: Climatology and microphysics	Mélissa Cholette PhD-UQÀM Émilie Bresson PDF-UQÀM
10:00 – 10:20	RCM added value in climate projections	John Scinocca ECCC-CCCma
10:20 – 10:40	Coffee break	
10:40 – 10:55	Revisiting North America storm tracks from regional climate models perspective	Emanuel Poan PDF-UQÀM
	Assessment of storm tracks variability over North America using various wind and vorticity fields	Housseyni Sankaré PhD-UQÀM
10:55 – 11:15	Open discussion on theme A	
11:15 – 11:45	Invited talk: CanSISE Deliverable 1: Assessment of sea ice, snow, and related climate variability in Canada's Earth System Model and Prediction Systems	Paul Kushner U of Toronto
11:45 – 12:05	Exploring collaboration – Workshop summary	Laxmi Sushama UQÀM
12:05 – 14:00	Lunch & [SAB meeting] (for all participants)	
14:00 – 16:30	Special meetings: Joint SAB, SSC meeting, PK-1140	
17:00 – 19:00	5 à 7, Bénélux (245 Sherbrooke West)	

May 18 – 19, Posters

Title	Presenter
Surface-Ground Water Interaction in the Canadian Land Surface Scheme	Arman Ganji RA-UQÀM
Projected changes to rain-on-snow events over North America	Dae Il Jeong RA-UQÀM
Glacier and hydrology changes in future climate over western Canada	Katja Winger RA-UQÀM
Lake-river and lake-atmosphere interactions in a changing climate over Northeast Canada	Oleksandr Huziy PhD-UQÀM
Snow-atmosphere coupling in current and future climates over North America in CRCM5	Gulilat Tefera Diro RA-UQÀM
Soil moisture-precipitation coupling in CanRCM4 and CRCM5	G. Yang Kam Wing MSc-UQÀM
Snow characteristics and snow-albedo feedback in CanRCM4 and CRCM5	Bruno Fang / Sareh Hesarakhi MSc-UQÀM
Influence of open water bodies on the modelling of summertime convection over the Canadian Prairies	Deepti Joshi PDF-UQÀM
Spatial spin-up of fine scales in regional climate model simulation driven by low-resolution boundary conditions	Dominic Matte PhD-UQÀM
Assessment of storm tracks variability in North America using various wind products from Regional Climate Models	Housseyni Sankare PhD-UQÀM
The role of acidified aerosols in the evolution of thin ice clouds (TICs) over the Arctic region	Ana Crisan PDF-UQÀM
Precipitation characteristics associated with the large-scale flow field over the eastern side of the Alberta Rockies	Paul Vaquer MSc-UQÀM
Data assimilation of far infrared radiation in polar regions	Laurence Coursol MSc-UQÀM
Far Infrared Radiometer campaign at Eureka. A case study of observed ice clouds	Ludovick Pelletier MSc-UQÀM
CRCM5 dynamical downscaling over the CORDEX Arctic domain	Maryam Takhsha MSc-UQÀM
Design of a new far-infrared radiometer for polar cloud measurement	Yacine Bouzid PhD-UQÀM
Preliminary results with CLASS and urban model TEB over eastern NA.	Gemechu Fanta PhD-UQÀM
Energetic study of a rapid intense storm developing over mid-latitude area	Oumarou Nikiema RA-UQÀM
Potential climate change effects on Arctic infrastructure: permafrost degradation and land subsidence	Behnam Golzan Seyyed UQÀM

Toward seamless weather-climate and environmental prediction

by Gilbert Brunet

Speaker



Dr. Gilbert Brunet
Director, Meteorological Research Division (MRD), Environment Canada

Venue

550 Sherbrooke West,
Ouranos, 19th floor,
room A

Date and time

17 May 2016,
4pm to 5pm

Sponsored by

Canadian Network for
Regional Climate and
Weather Processes
cnrcwp.uqam.ca

Abstract

Over the last decade or so, predicting the weather, climate and atmospheric composition has emerged as one of the most important areas of scientific endeavor. This is partly because the remarkable increase in skill of current weather forecasts has made society more and more dependent on them day to day for a whole range of decision making. And it is partly because climate change is now widely accepted and the realization is growing rapidly that it will affect every person in the world profoundly, either directly or indirectly. One of the important endeavors of our societies is to remain at the cutting-edge of modelling and predicting the evolution of the fully coupled environmental system: atmosphere (weather and composition), oceans, land surface (physical and biological), and cryosphere. This effort will provide an increasingly accurate and reliable service across all the socio-economic sectors that are vulnerable to the effects of adverse weather and climatic conditions, whether now or in the future. This emerging challenge was at the center of the World Weather Open Science Conference (Montreal, 2014). The outcomes of the conference are described in the World Meteorological Organization (WMO) book: Seamless Prediction of the Earth System: from Minutes to Months, (G. Brunet, S. Jones, P. Ruti Eds., WMO-No. 1156, 2015). It is freely available on line at the WMO website. We will discuss some of the outcomes of the conference for the WMO World Weather Research Programme (WWRP) and Global Atmospheric Watch (GAW) long term goals and provide examples of seamless modelling and prediction across a range of timescales at convective and sub-kilometer scales for regional coupled forecasting applications at Environment and Climate Change Canada (EC3).

Speaker's biography

Gilbert Brunet obtained his PhD in meteorology at McGill University (1989). He is Director of the Meteorological Research Division (MRD), Environment Canada since 2006. He was previously head (1999-2006) and research scientist (1993-98) at the Numerical Prediction Research Section of MRD. MRD's objective is to improve knowledge and information on weather and environmental conditions that influence decision-making from minutes to seasons for the benefit of Canadian government, society and economy. He is former chair of the World Weather Research Programme (WWRP) Scientific Steering Committee (SSC), WMO, Geneva (2007-14) and member since 2015. He worked at the UK Met Office (2012-2015) as Director of Weather Science. He has developed nationally and internationally in the last two decades a strategic vision of the way forward for the multidisciplinary science of prediction and its implementation. He is member of the: 1) UCAR Community Advisory Committee, National Center for Environmental Prediction (NCEP), USA since 2011; and 2) UK Met Office Scientific Advisory Committee (MOSAC), Exeter, UK. He is chair of the Korea Institute of Atmospheric Prediction Systems (KIAPS) Scientific Advisory Committee (SAC), Seoul, Korea since 2016. He is recognized as an expert in weather and climate dynamics since his post-doctoral work at the DAMTP (Cambridge University, UK, 1989-91) and LMD (École normale supérieure, Paris, 1991-93) and as adjunct-professor at McGill University since 1993. His research work covers analytical and empirical studies of wave processes from regional to planetary scale, and numerical weather prediction from minutes to seasons.

Weather and climate information across time scales for applications

by Andrew Robertson

Speaker



Dr. Andrew Robertson
Senior Research Scientist,
Columbia University

Head, IRI Climate Group

Adjunct professor,
Department of Earth &
Environmental Sciences,
Columbia University

Venue

550 Sherbrooke West,
Ouranos, 19th floor,
room A

Date and time

17 May 2016,
5pm to 6pm

Sponsored by

Canadian Network for
Regional Climate and
Weather Processes
cnrcwp.uqam.ca

Abstract

It has been pointed out that the phenomena in the Earth system that occur on different time-scales imply potential predictive power for the atmosphere on that time-scale (B. Hoskins, 2012). Forecasts and applications have been largely limited to weather forecasts of a few days, or climate forecasts of average conditions of the upcoming few seasons. Even for the latter, it has been apparent for some time that it is often the modulations of daily weather characteristics, such as dry spell risk during the flowering stage of crops, or wet spells during harvest, that are of most importance for applications. With the advent of sub-seasonal forecasting, the concept of connecting the two using forecast information at multiple lead times is starting to gain interest, where longer-lead forecasts give a decision maker more time to act, while shorter lead forecasts can be more specific about the time and place of a high-impact weather event occurring. This talk will present some examples of climate information available on daily to seasonal times from data, real time monitoring, and forecasts from the applications and user-decisions point of view, including the “Ready-Set-Go” concept developed by the Red Cross/Red Crescent Climate Centre and the IRI.

Speaker’s biography

Andrew Robertson is a Senior Research Scientist at Columbia University and head of the IRI Climate Group. He is also an adjunct professor in the Department of Earth & Environmental Sciences. Graduating with a PhD in atmospheric dynamics from the University of Reading, UK, in 1984, under the supervision of Brian Hoskins, he has over 30 years of experience in climate research, ranging from midlatitude meteorology, coupled ocean-atmosphere climate dynamics, sub-seasonal and seasonal forecasting, downscaling, and tailoring of climate information for use in conjunction with sectoral models for climate adaptation and risk management. Since joining the IRI in 2001, Robertson has worked extensively with climate data and models to develop risk management strategies in South and Southeast Asia, and Indonesia in particular, in addition to Africa and South America. He has taught extensively in capacity building training courses on seasonal and sub-seasonal forecasting and climate downscaling.

Funded by



Natural Sciences and Engineering Research Council of Canada (NSERC)
www.nserc-crsng.gc.ca

Partners



List of participants

	Name	Last name	Affiliation
1	Aboubacar Keita	Setigui	UQÀM - ESCER
2	Agbazo	Médard	UQÀM - ESCER
3	Alexandru	Adelina	UQÀM - ESCER
4	Anderson	Kevin	ECCC - CDAS
5	Ansley	James	ECCC - CCCma
6	Baijnath	Janine	University of Waterloo
7	Barszcz	Agnès	UQÀM - ESCER
8	Belair	Stephen	ECCC - RPN
9	Biner	Sebastien	Ouranos
10	Blanchet	Jean-Pierre	UQÀM - ESCER
11	Blyth	Eleanor	NERC, UK
12	Bourque	Alain	Ouranos
13	Bowen	Dave	NSERC
14	Bowley	Kevin	McGill
15	Bresson	Émilie	UQÀM - ESCER
16	Brunet	Gilbert	ECCC - RPN
17	Chacón	Arlette	UQÀM - ESCER
18	Chaumont	Diane	Ouranos
19	Cholette	Mélissa	UQÀM - ESCER
20	Christensen	Jens	DMI, Denmark
21	Côté	Hélène	Ouranos
22	Côté	Jean	UQÀM - ESCER
23	Coursol	Laurence	UQÀM - ESCER
24	Crisan	Ana	UQÀM - ESCER
25	de Elía	Ramon	Ouranos
26	Desroches-Lapointe	Aurélie	UQÀM - ESCER
27	Déry	Stephen	UNBC
28	Diro	Gulilat Tefera	UQÀM - ESCER
29	Duarte	Luis	UQÀM - ESCER
30	Dugas	Bernard	UQÀM - ESCER
31	Fanta	Gemechu	UQÀM - ESCER
32	Fournier	Élyse	Ouranos
33	Gachon	Philippe	UQÀM - ESCER
34	Giguère	Michel	Ouranos
35	Ganji	Arman	UQÀM - ESCER
36	Gemechu	Fanta	UQÀM - ESCER
37	Girard	Éric	UQÀM - ESCER
38	Golzan	Seyyed Behnam	UQÀM - ESCER
39	Grenier	Patrick	Ouranos
40	Grotjahn	Richard	UC - Davis
41	Gyakum	John	McGill University
42	Hachelaf	Rabah	UQÀM - ESCER
43	Harvey	Richard	ECCC - CPS
44	Hay	Rachel	UNBC
45	He	Yanping	UVic
46	Hesaraki	Sareh	UQÀM - ESCER
47	Huard	Georges	UQÀM - ESCER
48	Huard	David	Ouranos
49	Huziy	Oleksandr	UQÀM - ESCER
50	Jeong	Dae Il	UQÀM - ESCER
51	Houle	Daniel	Ouranos
52	Keita	Sétigui	UQÀM - ESCER
53	Leduc	Martin	Ouranos
54	Leon	Luis	ECCC
55	Lin	Hai	ECCC - RPN
56	Matte	Dominic	UQÀM - ESCER

	Name	Last name	Affiliation
57	Marinier	Sébastien	UQÀM - ESCER
58	McFadden	Vanessa	UQÀM - ESCER
59	McCray	Cristopher	McGill
60	Melton	Joe	ECCC - CCCma
61	Monteiro	Eva Rosa	UQÀM - ESCER
62	Mohammed-Ali	Ben-Alaya	UVic
63	Music	Biljana	Ouranos
64	Nikiema	Oumarou	UQÀM - ESCER
65	Ngueto	Yves	UQÀM - ESCER
66	Lucas-Picher	Philippe	UQÀM - ESCER
67	Poan	Emmanuel	UQÀM - ESCER
68	Poirier	Emilie	UQÀM - ESCER
69	Pelletier	Ludovick	UQÀM - ESCER
70	Plummer	David	Ouranos
71	Perroud	Marjorie	University of Calgary
72	Qian	Minwei	ECCC - CCCma
73	Robertson	Andrew	IRI - U. Columbia
74	Roberge	François	UQÀM - ESCER
75	Ronalds	Bryan	McGill
76	Rondeau-Genesse	Gabriel	Ouranos
77	Roy	Sylvie	NSERC
78	Sankare	Housseyni	UQÀM - ESCER
79	Scinocca	John	ECCC - CCCma
80	Sghyar	Rajaa	UQÀM - ESCER
81	Sghyar	Rajaa	UQÀM - ESCER
82	Shrestha	Rudra	UVic
83	St-Pierre	Médéric	UQÀM - ESCER
84	Sushama	Laxmi	UQÀM - ESCER
85	Takhsha	Maryam	UQÀM - ESCER
86	Teufel	Bernardo	UQÀM - ESCER
87	Thériault	Julie	UQÀM - ESCER
88	Torlaschi	Enrico	UQÀM - ESCER
89	Versegghy	Diana	ECCC - CPS
90	Vaquer	Paul	UQÀM - ESCER
91	Vieira	Michael	Manitoba Hydro
92	Wehner	Michael	Lawrence Berkeley National Lab, USA
93	Winger	Katja	UQÀM - ESCER
94	Zwiers	Francis	PCIC
95	Walker	Anne	ECCC - CPS
96	Wheater	Howard	University of Saskatchewan
97	Yerubandi	Ram	ECCC