

Guillaume Dueymes

Research Scientist

Université du Québec à Montréal

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Nationalities: French - Canadian

Personal website : www.climanalyse.ca

Github : <https://github.com/guimeto>

➤ Strengths

- Organisation : Planning and project monitoring
- Efficiency : Fast handling of a project, focus on target objectives
- Communication : Coordination between the various actors of the project, leadership capabilities
- Autonomy : Great adaptation, rapidly acquired autonomy
- Reliability: Objectives always reached respecting deadlines with expected quality
- Initiative : Proposal of new tools for the project monitoring, improvement processes. Deep investment and great motivation to finish project successfully

EDUCATION

DESS Master's Professional Degree in Meteorology
2006-2007 Université du Québec à Montréal, Montréal – Canada

Master Master's Degree in Atmospherice and Oceanographic Sciences
2004-2006 École Nationale de la Météorologie de Météo France
Université de Paul Sabatier, Toulouse – France

Bachelor Bachelor's degree in Physics
2003-2004 Baulieu University, Rennes – France

DEUG DEUG « Sciences de la Matière »
2001-2003 Baulieu University, Rennes – France

COMPUTING SKILLS

Data manipulating - Analyse	Matlab, Python, R, MySQL, IDL, R.DIAG, CDO, NCL, XREC, Idpro, SQL, COSP, IDV, ArcGIS, OPENDAP, Grads, ASD, Panoply
Programming languages	Fortran, C,C++, Shell Unix/linux
Python librairies	Pandas, Numpy, Matplotlib, Seaborn, Xarray, Beautiful Soup, Requests, Scikit learn
Web development	Django, CSS, HTML, jquery, bootstrap, d3.js, highchart, leaflet
Data format	Netcdf, RPN (Canadian standard format), GRIB, HDF, KMZ, Ascii, json, xml, grib

GESTION BASE DE DONNÉES

- **Strong experience to manage large data sets**

Data downloading (structured, semi-structured and unstructured), cleaning and processing of data, extraction and transfer of information, interpolation, statistics, analysis, standardization

Reanalyses	ECMWF et NCEP/NCAR
Regional climate model	CORDEX, NARCCAP and AMMA projects
Grid observations	ANUSPLIN, DAYMET, NLDAS, CRU, CONUS, E-OBS
Observations	Surface SWOB, METAR, sounding
Instrumentation	- Experience in handling many meteorological sensors - Radars Metek MRR2, MRPro - Disdrometer OTT2 - Lidar Halo Photonics

WORK EXPERIENCE

Centre ESCER **Research Scientist / Project manager** CFI-9 Adaptable Observation System
2018-Aujourd'hui

- Development of a network of automated stations for monitoring microclimatic conditions throughout the Quebec
- Design of a mobile urban station

- Design of measurement equipment and management of tenders (budget of 2.5M \$)
- Development of a real-time database
- Development of a data sharing and extraction portal
- Development of a visualisation data portal:
<http://station.escer.uqam.ca/>
- ClimHuNor project : data manager
- Python / Matlab trainer and student support

Centre ESCER **Research Scientist** at ESCER center - University of Quebec at Montreal – Environment Canada (SMC division)

2011-2017

- North American data manager for IRIACC project: create and provide standardized data over north America and Africa
- CORDEX project: develop and evaluate of future high-resolution climate information on extremes from Regional Climate Model (RCM).
- FACE project (<http://face.ete.inrs.ca/en/node/25>) – develop a warning and monitoring system of extreme weather and its impacts on vulnerable regions over Africa and north America (e.g, water resources, floods, storm tracking, heat and cold spells)
- Create graphics of weather and climate maps
- Develop and perform scripts and toolbox to generate statistical extreme indices as simulated by different regional climate models over regional areas (e.g, drought indices, extreme precipitation, wet or dry days, percentile of maximum and minimum temperature, hot and cold spell indices)
- Use Fortran code to compute storm tracks and their characteristics using reanalysis data and numerical weather data (GEM), regional climate models output (Canadian Regional Climate Model) and global climate models (CGCM3, HadCM3)
- IPY 2012 "Knowledge to Action" Conference: Volunteer coordinator, including recruitment strategy, training materials and protocols, volunteer schedule, and registration processes (70 volunteers); 2400 degates
<http://www.ipy2012montreal.ca/organization/volunteers.php>

INRS **Research Scientist** Institut National de la Recherche Scientifique, Québec

2010-2011

- Develop and evaluate future high-resolution climate information on extremes from Regional Climate Model (RCM). Applying statistical downscaling methods from GCM to RCM resolutions and compare with RCM outputs (e.g, Automated Statistical Downscaling) over soecific regions
- Generate high-resolution probabilistic climate change scenarios including extremes and variability with assessments of their associated

uncertainties (i.e. from GCM, GCM/RCM or GCM/SD cascades, and downscaling methods).

ES CER **Research Scientist** group ESCER – CMC , University of Quebec at Montreal
2007-2010 (Science Horizon award)

- Develop subroutines in cloud microphysics
- Run climate model over regional scale: GEMLAM, GEMCLIM, NARCM, LCM
- Study of Arctic climate sensibility: climate statistical analysis, synoptic analysis, atmospheric chemistry
- Data assimilation

PUBLICATIONS

Irina Sagurova, Antoinette Ludwig, Nicholas H. Ogden, Yann Pelcat, **Guillaume Dueymes** and Philippe Gachon, 2019 : Predicted Northward Expansion of the Geographic Range of the Tick Vector *Amblyomma americanum* in North America under Future Climate Conditions, Environmental Health Perspectives. DOI: <https://doi.org/10.1289/EHP5668>

Ogden, N.H. et Gachon, P. (2019). Climate change and infectious diseases: What can we expect? *Canada Communicable Disease Report*, 45(4), 76–80.

Poan D. E., P. Gachon, **G. Dueymes** and R. Laprise, 2017: Composite analysis of North American East Coast extratropical storms and their environment as simulated by a regional climate model, submitted to QJRMS, QJ-17-0336.

Poan D. E., P. Gachon, R. Laprise, R. Aider and **G. Dueymes**, 2017: Investigating added value of regional climate modeling in North American winter storm track simulations, *Clim. Dyn.*, DOI : 10.1007/s00382-017-3723-9

Victoria Ng, Aamir Fazil, Philippe Gachon, **Guillaume Dueymes**, Milka Radojević, Mariola Mascarenhas, Sophiya Garasia , Michael A. Johansson and Nicholas H. Ogden, 2016. Assessment of the probability of autochthonous transmission of Chikungunya virus in Canada under recent and projected climate change; implications for Zika virus. *Environmental Health Perspectives*

St-Hilaire, A., C. Boyer, R.A. Curry, P. Gachon, E. D. Poan, **G. Dueymes** J. MacLellan, 2016. Water temperature modelling on the Miramichi drainage basin: Future thermal scenarios and implications for Atlantic salmon. In *NB Atlantic salmon vulnerability under a changing climate*, Edited by The Canadian Rivers Institute, New Brunswick Climate Change Research Collaborative – ETF, 2015-2016, 90 p.

Gachon, P., Bussi eres, L., Gosselin, P., Raphoz, M., Bustinza, R., Martin, P., **Dueymes, G.**, Gosselin, D., Labrecque, S., Jeffers, S., and Yagouti, A. (2016) Guide to identifying alert thresholds for heat waves in Canada based on evidence. Co-edited by Universit  du Qu bec   Montr al, Environment and Climate Change Canada, Institut National de Sant  Publique du Qu bec, and Health Canada, Montr al, Qu bec, Canada, 71 p., September 2016.

Poan, E., Gachon, P., **Dueymes. G.**, Sanda, I., West African monsoon intraseasonal activity and its daily precipitation indices in regional climate models: diagnostics and challenges. *Climate Dynamics* 47(9) · February 2016 DOI: 10.1007/s00382-016-3016-8

Gachon, P., **G. Dueymes**, P. Gosselin et O. Gagnon, 2014: L'interdisciplinarité au service de la santé: cas du Québec. *Territoires incubateurs de santé ? Les Cahiers de l'IAU IdF (Institut d'Aménagement et d'Urbanisme, Ile de France)*, 170-171 – septembre 2014, 186-187

Girard E., **G.Dueymes**, P. Du and A.K. Bertram, 2012: Assessment of the Effects of AcidCoated Ice Nuclei on the Arctic Cloud Microstructure, Atmospheric Dehydration, Radiation and Temperature during Winter. *International Journal of Climatology* DOI: 10.1002/joc.3454

P.Gachon, M.Radojevic, A, Harding, L.Benyahya, R.Laprise, N.Khaliq, P.Roy, H-II Eum, **G.Dueymes** (2011): Evaluation of regional Climate Model simulations: intercomparaison over Canada and specific region; guidelines document (NCERC-SRO)

Girard, E., **G. Dueymes**, J.-P. Blanchet, R. Munoz-Alpizar, 2009: Modeling of the effects of acidic aerosols on Arctic cloud microstructure and surface radiative budget during winter. AMS meeting, (ams.confex.com/ams/pdfpapers/152830.pdf)