

## Curriculum Vitae

Name of Firm: Swedish Meteorological and Hydrological Institute, SMHI  
Name: **Colin** Gareth, **Jones**  
Profession: Research Scientist and Head of the Rossby Centre  
Date of Birth: 13th October 1967  
Marital Status: Married with 3 children (aged 12, 10 and 6 years)  
Nationality: British

Languages spoken: English (mother tongue), Swedish (fluent), French (intermediate)

### Key Qualifications

PhD in Atmospheric Science 1994  
Bsc in Geophysical Sciences 1989

### Education

**September 1989-October 1993.** Ph.D in the Climatic Research Unit at the University of East Anglia, U.K. Title: **Tropical Cyclone Modelling with a Limited Area Atmospheric Model.** Research was done under the supervision of Professor Tom Wigley and Professor Hilding Sundqvist (University of Stockholm). A large fraction of my Ph.D research work was performed during 3 visits to the Department of Meteorology at Stockholm University. The research entailed developing the HIRLAM model for use in the tropics and investigating its ability (at various resolutions) to simulate the development of past Atlantic Hurricanes.

**September 1986-July 1989:** 1st class honours in Geophysical Sciences at the University of East Anglia, U.K. Winner of the Alan Preston prize in Oceanography and the Mobil Prize in Geophysics.

**September 1983-July 1985:** Attended the United World College of the Atlantic, U.K. Received the International Baccalaureate, studying higher level subjects in Mathematics, Physical Science and Geography. Subsidiary subjects followed were; Physical Science, English and Russian

**September 1978-July 1983.** Attended Holywell High School, Wales, U.K. Received 9 'O' levels (4 with grade A and 5 with grade B).

### Employment Record

**September 2007-present.** Head of the Rossby Centre at SMHI

**June 2005-July 2008.** Canada Research Chair in Regional Climate Modelling and Professor: University of Quebec at Montreal (UQAM), Dept of Earth and Atmospheric Sciences.

**Sept 2004 to June 2005.** Visiting Professor at University of Quebec at Montreal, Dept of Earth and Atmospheric Sciences and the Canadian Regional Climate Modelling Network. Position jointly funded by Environment Canada and the Ouranos consortia.

**Sept 1998 to August 2004:** Research Scientist in the Rossby Centre situated in the Research and Development section of the Swedish Meteorological and Hydrological Institute (SMHI). Main duties were the development of the Atmospheric component of the Rossby Centre Regional Climate Model. I was also responsible for physical parameterisation development within the Limited Area forecast model HIRLAM, operational at SMHI from December 2002.

**September 1995-September 1998.** Research Scientist in the Centre for Global Atmospheric Modelling at the University of Reading, U.K. Coordinator of all U.K. University projects utilising the UK. Meteorological Office Unified Model. This involved the development and coordination of up to 25 varied projects using the Unified Model. Projects ranged from Ph.D. studies to the CGAM contribution to the AMIP II project.

**September 1994-September 1995.** NOAA/UCAR Postdoctoral Fellow in Global Change at Colorado State University in the group of Professor David Randall. Research focussed on the representation of stratocumulus clouds in the CSU AGCM.

**January 1993-September 1994.** Research Scientist at the Climatic Research Unit, University of East Anglia, U.K. Primary responsibility was the development of a tropical ocean data set of observed precipitation suitable for GCM evaluation.

**September 1985-August 1986:** Teacher of Mathematics and Geography at the Brent International School, Baguio City, Philippines.

**Summer Employment in 1985, 1986 and 1988** as an instructor at the Extra-Mural Centre, United World College of the Atlantic, U.K. Instructing groups of physically and mentally challenged children in a variety of outdoor pursuits (e.g. Canoeing, Rock Climbing).

## **Positions of Responsibility**

**December 2008- present:** Co-Chair of the World Climate Research Program, Task Force on Regional Climate Downscaling.

**November 2008 – February 2009:** Co-organiser of the World Climate Research Program sponsored workshop on 'Evaluating and Improving Regional Climate Predictions', Toulouse, France, February 11-13, 2008.

**May 2008 – present:** Member of the Steering Committee for the German COSMOS Earth System Modelling consortium.

**May 2008 – present:** Member of the international EC-Earth, Earth System Modelling Steering Group.

**January 2007 – March 2008:** Co-Director and organiser of the World Climate Research Programme (WCRP) sponsored workshop on: The use of Regional Climate Models in Developing Nations; Application to Climate Change and Seasonal Prediction. The 2-week conference and training event will take place at ICTP in Trieste, Italy, March 2008 and is cosponsored by ICTP and WCRP.

**October 2006 – October 2010.** Principal Investigator on the Canadian Foundation for Climate and Atmospheric Sciences (CFCAS) Network: The Canadian Regional Climate Modelling and Diagnostics Network. <http://www.mrcc.uqam.ca/>.

**April 2006 – April 2010.** Principal Investigator on the NSERC MITACS (Mathematics of Information Technology and Complex Systems) Network: Simulating Climate Processes with High-Resolution Regional Climate Models.  
<http://www.mrcc.uqam.ca/MITACS>

**June 2006 - June 2009.** Co-Investigator on the NSERC International Polar Year Network: Investigating and Simulating the Arctic Dehydration Greenhouse Effect.

**July 2006 – July 2010.** Co-Investigator on the CFCAS Network : Cloud-Aerosol Feedbacks and Climate (CAFC). This is a Canadian Network aiming to better observe and model the aerosol-indirect effect, primarily using the coupled Canadian GCM.

**June 2007.** Convener of a session on: High Resolution Climate Modelling at the 2007 annual conference of the Canadian Meteorological and Oceanographic Society, St Johns. May 28th to June 1st <http://www.cmos2007.ca/en/program/science/climate.htm>

**May 2006.** Co-convener of a session on: The Generality of Climate Models, at the American Geophysical Union spring meeting of 2006 in Baltimore USA, May 23rd-26th.

**September 2005 – 2008.** Member of the World Climate Research Program (WCRP) Working Group on Numerical Experimentation (WGNE); Invited Expert on Regional Climate Modelling.

**September 2005 – 2008.** Member of the GEWEX Modelling and Prediction Panel (GMPP); Representative for Regional Climate Modelling and liaison between CEOP and GMPP modelling activities.

**January 2003 to December 2004:** Area Leader for physical parameterisations in the HIRLAM collaboration. In this capacity I was responsible for all parameterisation development contributing to the HIRLAM forecasting system. I was also a member of the

HIRLAM Management Group, responsible for strategic development of the HIRLAM NWP forecast system. As HIRLAM physics Area Leader I was responsible for developing all science plans pertaining to physical parameterisation development within the HIRLAM project. I was, furthermore, responsible for distributing tasks to the contributing scientists along with assessing and ensuring the success of all projects under my jurisdiction.

**March 2000-March 2003:** SMHI lead scientist in the European Union Framework 5 project (EU FPV): *Cliwa Net* (Cloud Liquid Water Network: <http://www.knmi.nl/samenw/cliwa-net>). Project aimed at developing a prototype European cloud and cloud water observational network and using observations so derived for model evaluation and development.

**March 2000-March 2003:** SMHI lead scientist in the EU Framework 5 project *EUROCS* (European Cloud Systems, <http://www.cnrm.meteo.fr/gcss/EUROCS/EUROCS.html> )

**March 2003-March 2006:** SMHI scientist in the EU Framework 5 project *GLIMPSE* (Global Implications of Arctic Climate processes and feedbacks, <http://www.awi-potsdam.de/www-pot/atmo/glimpse/index.html>)

**2001-2004:** SMHI responsible scientist for the International *Project to Intercompare Regional Climate Simulations* (PIRCS: <http://www.pircs.iastate.edu>)

**2001-2004:** SMHI responsible scientist for the International *ARCMIP* project (*Arctic Regional Model Intercomparison Project*: <http://paos.colorado.edu/~curryja/arc mip>)

**August 2002:** Lecturer in the Helmholtz Institute for Computational Physics Summer School titled: *Scientific Supercomputing in Climate Research*. The school was aimed at graduate students and postdoctoral researchers. I gave a 1 week course on regional climate modelling (<http://Server2Linux.cgbpool.mathnat.uni-potsdam.de/~hisp/Juergen>)

**January 1997-September 1998:** Responsible Scientist for the CGAM/UGAMP contribution to the AMIP II project (<http://www-pcmdi.llnl.gov/amip/amiphome.html>)

## Grants Held

NSERC funded Canada Research Chair: Chair in Regional Climate Modelling. 5-year award (June 2005 – June 2010) of ~ 600,000 SEK/year, renewable for a further 5 years.

Canadian Foundation for Innovation (CFI) Infrastructure Grant in support of highperformance supercomputing. ~3.6 million SEK.

Canadian Foundation for Climate and Atmospheric Sciences (CFCAS) network award to fund the Canadian Regional Climate Modelling and Diagnostics Network. Project coordinator: Colin Jones (UQAM), 4-year award (October 2006–October 2010) of ~4.6million SEK /year.

NSERC-MITACS (Mathematics of Information Technology and Complex Systems) award to fund the Network : Simulating Climate Processes with High-Resolution Regional Climate Models. Project coordinator: Colin Jones (UQAM), 2-year award (April 2006-April 2008) of 800,000 SEK/year, renewable for a further 2-year period.

NSERC-IPY award to fund the Network; Detection and Assessment of the Dehydration-Greenhouse Feedback in the Arctic. Project coordinator: Jean-Pierre Blanchet (UQAM), 3-year award (June 2006-June 2009) of ~1.1 million SEK/year.

CFCAS award to fund the Network Cloud-Aerosol Feedbacks and Climate (CAFC) Project coordinator: Phil Austin (University of British Columbia), 3-year award (October 2006-October 2010) of ~ 350,000 SEK/year.

NSERC Personal Discovery Grant to fund: The Development and Application of highresolution Regional Climate Models. 5-year award (June 2005-June 2010) of ~ 130,000 SEK/year.

EU Framework 5 : Cloud Liquid Water Network (CLIWANET). Project coordinators; Andre van Lammermen (KNM, UtrechtI) and Susanne Crewell (University of Munich). March 2000-March 2003.

EU Framework 5 : European Cloud Systems (EUROCS). Project coordinator; Jean-Luc Redelsperger (CNRM, Toulouse). March 2000-March 2003

EU Framework 5 : Global Implications of Arctic Climate Processes (GLIMPSE). Project coordinator; Klaus Dethleff (AWI, Potsdam). March 2003 – March 2006.

Swedish National Space Board, SCANDIA Cloud Analysis. Project Coordinator : Karl-Goran Karlsson. September 2000 – September 2002.

## **Referees**

### **Professor René Laprise**

Director: Centre for Regional Climate Modelling  
University of Quebec at Montreal  
Ouranos, 19th Floor Tower West  
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### **Professor Michael Tjernström**

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**Publications**

**Publications in referred journals**

He, Y., A.H. Monahan, C.G. Jones, A. Dai, D. Caya, S. Biner, and K. Winger: Land surface wind speed probability distributions in North America: Observations and regional climate model evaluations. *Journal of Geophysical Research* , accepted for publication.

K.Wyser , C.G.Jones, P.Du, E. Girard, U. Willén, J.Cassano, J.H.Christensen, J.A.Curry, K.Dethloff, J.-E. Haugen, D.Jacob, M. Køltzow, R.Laprise, A.Lynch, S.Pfeifer, A.Rinke, M.Serreze, M.J.Shaw, M.Tjernström and M. Zagar 2007. An Evaluation of Arctic Cloud and Radiation processes during the SHEBA year: Simulation results from 8 Arctic Regional Climate Models. 2007. *Climate Dynamics* 30, 2-3, Feb 2008..

Qian M., C.G. Jones, R. Laprise and D. Caya 2007. The Influence of North Atlantic Oscillation and Hudson Bay sea-ice on the Climate of Eastern Canada. *Climate.Dynamics* 31, 2-3, August 2008.

Markovic M., C.G. Jones, P.Vaillancourt and D. Paquin 2007. An Evaluation of the Surface Radiation Budget Over North America for a Suite of Regional Climate Models and Reanalysis Data, Part 1: Comparison to Surface Stations Observations. *Climate Dynamics* 31, 779-794

Markovic M., C.G. Jones, P.Vaillancourt and D. Paquin 2007. An Evaluation of the Surface Radiation Budget Over North America for a Suite of Regional Climate Models and Reanalysis Data, Part 2: Comparison Over the Northern American Continent. Accepted for publication in the *Int. Journal of Climatology*.

Zadra, A., D. Caya, J. Côté, B. Dugas, C. Jones, R. Laprise, K. Winger and L.-P. Caron, 2008: The next Canadian Regional Climate Model. *Physics in Canada*, Vol. 64., No. 2, Apr-Jun (Spring) Special Issue on Fast Computing.

Takle, E. S., J. Roads, B. Rockel, W. J. Gutowski, Jr., R. W. Arritt, I. Meinke, C. G. Jones and A. Zadra, 2007: Transferability intercomparison: An opportunity for new

insight on the global water cycle and energy budget. *Bulletin of the AMS*, 88, Issue 3, 375-384. See also Supplement, *Bulletin of the AMS*, 88, Issue 3, S1-S4.

Caron L-P, C.G. Jones 2007. Assessing Future Tropical Cyclone Frequency: An Analysis of 2 Tropical Cyclone Indices as simulated by a suite of IPCC AR4 Coupled Global Climate Models. *Tellus*, 60A, 80-96.

Tourigny E. and C.G. Jones 2007. The simulation of seasonal timescale climate anomalies over the tropical Americas using a high-resolution Regional Climate Model. Part I: Seasonal mean anomalies forced by ENSO. Accepted for publication in *Tellus*.

Tourigny E. and C.G. Jones 2007. The simulation of seasonal timescale climate anomalies over the tropical Americas using a high-resolution Regional Climate Model. Part II: Subseasonal variability and anomalies forced by ENSO. In preparation

Jiao Y. and C. G. Jones, 2007: Simulating subtropical clouds and convection with a Regional Climate Model. *Monthly Weather Review* 131, 11, 4168-4187.

Karlsson, K., U. Willén, C. Jones, and K. Wyser 2008, Evaluation of regional cloud climate simulations over Scandinavia using a 10-year NOAA Advanced Very High Resolution Radiometer cloud climatology, *Journal. Geophys. Res.*, 113, D01203, doi:10.1029/2007JD008658

Rinke A., K.Dethloff, J.J.Cassano, J.H.Christensen, J.A.Curry, J-E.Haugen, D.Jacob, C.G.Jones, M.Koltzow, A.H.Lynch, S.Pfeifer, M.C.Serreze, M.J.Shaw, M.Tjernström, K.Wyser and M.Zagar 2006. Evaluation of an Ensemble of Arctic Regional Climate Models: Spatial Patterns and Height Profiles. *Climate Dynamics*. DOI 10.1007/s00382-005-0095-3

Tjernström M, M. Zagar, G.Svensson, J.J.Cassano, K.Dethloff, C.G.Jones, S.Pfeifer, A.Rinke, T.Semmler, M.J.Shaw and K.Wyser 2005. Modelling the Arctic Boundary Layer: An evaluation of six ARCMIP regional scale models with data from the SHEBA project. *Boundary Layer Meteorology* 117, 337-381.

Wyser K. and C.G.Jones 2005. When is a cloud not a cloud? Problems in comparing modelled and observed clouds. *Journal of Geophysical Research* 110, D09207 doi:10.1029/2004JD004751.

Jones C.G., U.Willen, A.Ullerstig and U.Hansson 2004. The Rossby Centre Regional Atmospheric Climate Model (RCA). Part I: Model Climatology and performance for the present climate over Europe. *Ambio* 33, 199-210.

Jones C.G., K.Wyser, A.Ullerstig and U.Willen. 2004. The Rossby Centre Regional Atmospheric Climate Model (RCA). Part II: Application to the Arctic Climate *Ambio* v33, 211-220.

- Michelson D.B, C.G.Jones, T.Landelius, C.G.Collier, G.Haase and M.Heen 2004. "Down-to-Earth" modelling of equivalent surface precipitation using multisource data and radar. Accepted for publication: *Quarterly Journal of the Royal Meteorological Society* 131, 607, 1093-1112.
- Räisänen J, U.Hansson, A.Ullerstig, R.Döscher, L.P.Graham, C.G.Jones, H.E.M Meier, P.Samuelsson and U.Willen. 2004. European climate in the late 21st century: Regional simulations with two driving Global Models and two forcing scenarios. *Climate Dynamics* 22, 13-31.
- Guichard F., J.C.Petch, J-L.Redelsperger, P.Bechtold, J-L.Chaboureau, S.Cheinet, W.Grabowski, H.Grenier, C.G.Jones, M.Koehler, J-M.Piriou, R.Tailleux and M.Tomasini. 2004. Modelling the diurnal cycle of deep precipitating convection over land with CRMs and SCMs. *Quarterly Journal of the Royal Meteorological Society* 130, No. 604, 3139-3172 .
- Lenderink G, A.P.Siebesma, S.Cheinet, S.Irons, C.G.Jones, P.Marquet, F.Muller, D.Olmeda, J.Calvo, E.Sanchez and P.Soares. 2004. The diurnal cycle of shallow Cumulus clouds over land: A single column model intercomparison study. *Quarterly Journal of the Royal Meteorological Society* 130, No. 604, 3339-3364 .
- Siebesma A.P, C.Jakob, G.Lenderink, R.Neggers, J.Teixeira, J.Calvo, A.Chlond, H.Grenier, C.G.Jones, M.Köhler, H.Kitagawa, P.Marquet, A.Lock, F.Mueller, D.Olmeda and C.Severijns. Cloud representation in General Circulation Models over the Northern Pacific Ocean: A EUROCS intercomparison study. 2004. *Quarterly Journal of the Royal Meteorological Society* 130, No. 604, 3245-3269.
- Anderson C.J, R.W.Arritt, E.S.Takle, Z.Pan, W.Gutowski, F.Otieno, R.da Silva, D.Caya, J.H Christensen, D.Luthi, M.Gaertner, C.Gallarado, F.Giorgi, S.Hong, C.G.Jones., H.Juang, J.Katzfey, W.Lapenta, R.Laprise, J.Larson, G.Liston, J.L.McGregor, R.A.Pielke., J.O.Roads and J.A.Taylor 2003. Hydrological Processes in Regional Climate Model Simulations of the Central United States Flood of June-July 1993. *Journal of Hydrometeorology* 4, 584-598.
- Döscher R, U Willen, C.G.Jones, A.Rutgersson, H.E.Meier, U.Hansson and L.P.Graham. 2002. The development of the regional coupled ocean-atmosphere model RCAO. *Boreal Environment Research*, 7, 183-193.
- Rummukainen M, J.Räisänen, B.Bringfelt, A.Ullerstig, A.Omstedt, U.Willen, U.Hansson and C.G.Jones. 2001. A regional climate model for northern Europe: model description and results from the downscaling of two GCM control simulations. *Climate Dynamics* 17, 339-359.
- Doherty R.M., M.Hulme and C.G.Jones. 1999. A Gridded Reconstruction of Land and Ocean Precipitation for the Extended Tropics from 1974-1994. *Int. Journal Climatology* 19, 119-142.



## **Publications in non-refereed journals**

Caron L-P. and C.G.Jones 2007. An Analysis of Inferred Cyclogenesis Frequency in ERA-40 Reanalysis and in an Ensemble of IPCC AR4 Models. CAS/JSC WGNE Research Activities in Atmospheric and Oceanic Modelling, WGNE Blue Book 2007, Section 9, 1-2

Jiao Y and C.G. Jones 2007. Cloud processes simulated by the Canadian Regional Climate Model along a cross-section in the Pacific Ocean. CAS/JSC WGNE Research Activities in Atmospheric and Oceanic Modelling, WGNE Blue Book 2007, Section 4, 9-10

Z. Kothavala, C.G. Jones, D. Paquin and A. Zadra 2007. The Transferability of Regional Climate Models through an assessment of the diurnal cycle. CAS/JSC WGNE Research Activities in Atmospheric and Oceanic Modelling, WGNE Blue Book 2007, Section 7, 9-10.

Markovic M, C.G. Jones, P. Vaillancourt and D. Paquin 2007. The Simulated Surface Radiation Budget over North America in a Suite of Regional Climate Models. CAS/JSC WGNE Research Activities in Atmospheric and Oceanic Modelling, WGNE Blue Book 2007, Section 7, 13-14.

Papon C., C. G. Jones, D. Paquin, Y. Jiao 2007. Shallow cumulus parameterisation in the Canadian Regional Climate Model. CAS/JSC WGNE Research Activities in Atmospheric and Oceanic Modelling, WGNE Blue Book 2007, Section 7, 9-10.

Paquin-Ricard D, C.G. Jones and P. Vaillancourt 2007. Comparison of Cloud Microphysics between GEM and ARM-SGP Observations. CAS/JSC WGNE Research Activities in Atmospheric and Oceanic Modelling, WGNE Blue Book 2007, Section 7, 17-18.

Tourigny, E. and C.G. Jones, 2007. Seasonal Prediction at the Regional Scale: An Analysis of Regional Climate Model Performance Over the Tropical Americas. CAS/JSC WGNE Research Activities in Atmospheric and Oceanic Modelling, WGNE Blue Book 2007, Section 9, 39-40

Kjellström E, L.Bärring, S.Gollvik, U.Hansson, C.G.Jones, P.Samulesson, M,Rummukainen, A.Ullerstig and K.Wyser 2006. A 140-year simulation of European climate with the new version of the Rossby Centre regional atmospheric model (RCA3). *SMHI Reports Meteorology and Climatology*, No. 108, December 2006.

Jones C.G. 2005. Combining a statistical cloud scheme and moist conservative turbulence scheme in the HIRLAM model. HIRLAM Workshop Report from HIRLAM/NetFAM Workshop on Convection and Clouds, January 24-26 2005. Available from the HIRLAM-6 project, SMHI, Norrköping S601-76 Sweden.

Jones C.G. 2004. Representing Stratocumulus Clouds in numerical models : Sensitivity to model physics and vertical resolution. *HIRLAM Newsletter 45*, 125-135. June 200. Available on request from SMHI, S601-76 Norrköping Sweden.

Jones C.G., G.Lenderink and K-I.Ivarsson. 2003. Representing subgrid scale mixing under stable conditions: The importance for overall model synoptic development. *HIRLAM Newsletter 43*, 125-135. June 200. Available on request from SMHI, S601-76 Norrköping Sweden.

Jones C.G. and E.Sanchez. 2002. The representation of shallow cumulus convection and associated cloud fields in the Rossby Centre Atmospheric Model. *HIRLAM Newsletter 41*, June 2002. Available on request from SMHI, S601-76 Norrköping Sweden.

Jones C.G. and A.Ullerstig. 2002. The representation of precipitation in RCA2 (Rossby Centre Atmospheric Model version 2). *SWECLIM Newsletter 12*, 27-39. Available on request from SMHI, S601-76 Norrköping Sweden.

Karlsson K and C.G.Jones. 2002. Evaluation of regional cloud-climate simulations using a 10-year NOAA-AVHRR cloud climatology. *SWECLIM Newsletter 13*, 25-40. Available on request from SMHI, S601-76 Norrköping Sweden.

Willen U and C.G.Jones. 2002. Comparison of model and cloud radar derived cloud overlap. *SWECLIM Newsletter 12*, 49-55. Available on request from SMHI, S601-76 Norrköping Sweden.

Uden P, L. Rontu, H. Järvinen, P. Lynch, J. Cavlo, G. Cats, J. Cuxart, K. Eerola, C. Fortelius, J.A. Garcia-Moya, C.G. Jones, G. Lenderink, A. McDonald, R. McGrath, B. Navascues, N.W. Nielsen, V. Oedegaard, E. Rodriguez, M. Rummukainen, R. Room, K. Sattler, B.H Saas, H. Savijärvi, B.W. Scheur, R. Sigg, H. The and A. Tijn 2002. HIRLAM-5 Scientific Documentation. Technical Report, HIRLAM-5 project, SMHI, SE-601-76 Norrköping, Sweden. 144pp.

Jones C.G. 2001. A brief description of RCA2 (Rossby Centre Atmospheric Model version 2). *SWECLIM Newsletter 11*, 9-14. Available on request from SMHI, S601-76 Norrköping Sweden.