

QUILCAILLE Yann

Born on the 5th November 1989

Nationality: French

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Education

10/2014 – 09/2018	PhD Thesis at University Versailles-Saint Quentin, part of the consortium University Paris-Saclay (France): Revisiting emissions and climate scenarios with a compact Earth system model.
09/2013 – 08/2014	Master's degree 2 OACOS (Ocean, Atmosphere, Climate and Space Observations) at UPMC, Paris 6 University (Paris, France)
09/2012 – 08/2013	Master's degree 2 EDDEE (Economics of Sustainable Development, of Environment and of Energy) at AgroParisTech (member of ParisTech, the Paris Institute of Technology, which is a consortium of 10 of the foremost French Graduate Institutes in Science and Engineering).
09/2011 – 08/2012	Master's degree 1 PHYTEM of Physics: joined program between the ENS Cachan (Paris, France, one of the major French Grandes Écoles, which are considered the pinnacle of French higher education) and the UPMC, Paris 6 University (Paris, France)
09/2010 – 07/2011	Bachelor's degree PHYTEM at the ENS Cachan and at the UPMC
09/2008 – 07/2010	CPGE (Class preparing students for highly competitive exams for entrance in the French "Grandes Ecoles") in Physics-Chemistry at the school Clemenceau (Nantes, France)
09/2006 – 06/2007	A level of Science, option Engineering, speciality Mathematics, with high honors

Professional Summary

06/2018 –	Research assistant , then research scholar in the International Institute for Applied Systems Analysis (IIASA, Austria), under the projects NUNATARYUK and IMBALANCE-P. Development of the simple Earth system model OSCAR, integration of nutrient cycles, enhanced climate projections under SSP scenarios.
10/2014 – 09/2018	PhD thesis in the Laboratory of Sciences of Climate and Environment (LSCE, France) and the International Center for Research on Environment and Development (CIRED, France): Revisiting emissions and climate scenarios with a compact Earth system model . Uncertainties in inventories, climate projections and negative emissions using the model OSCAR.
02/2014 – 07/2014	Research Internship in the Laboratory of Sciences of Climate and Environment (LSCE, France): Interactions between climate change and oceanic carbon cycle . Production of box models for the ocean carbon-cycle, integration of climate change feedbacks over carbonate chemistry, physical transports and biologic exports.
03/2013 – 08/2013	Research Internship in the laboratory UMR Economie Publique of INRA (France): Effects of climate change on agriculture . Analysis of the database ORACLE and of econometric land-use change models, for use of climate variables within these models.
05/2012 – 08/2012	Research Internship in the laboratory Environmental Sciences & Engineering (CALTECH, California): Study of the frontal systems in the Weddell Sea . Treated a new database, used the results to calculate the eddy mixing in the concerned region, analyzed the results.
11/2011 – 01/2012	Pedagogic training period at the high school Gustave Eiffel (Cachan, France): exercises and lessons in Mathematics for 15 to 16 years old teenager.

06/2011 – 07/2011

Research Internship at the Laboratory of Molecular Physic for the Atmosphere and Astrophysics (LPMAA, France): *Study of the quantum states of water using chromatography in gaseous state.* built the set-up of an experiment using an infrared very high resolution spectrometer, pumps for very low pressure, liquid nitrogen and purified water, achieved the complete calibration.

Publications

- Yann Quilcaille, Thomas Gasser, Joeri Rogelj, Glen Peters, Philippe Ciais and Franck Lecocq, **Climate futures of the SSP scenarios in a transparent framework** (*in prep.*)
- Yann Quilcaille, Thomas Gasser and, **CMIP6 simulations with the compact Earth system model OSCAR v3.1** (*in prep.*)
- Nicholls, Z. R. J., Meinshausen, M., Lewis, J., Gieseke, R., Dommenges, D., Dorheim, K., Fan, C.-S., Fuglestad, J. S., Gasser, T., Golüke, U., Goodwin, P., Kriegler, E., Leach, N. J., Marchegiani, D., Quilcaille, Y., Samset, B. H., Sandstad, M., Shiklomanov, A. N., Skeie, R. B., Smith, C. J., Tanaka, K., Tsutsui, J., and Xie, Z., **Reduced complexity model intercomparison project phase 1: Protocol, results and initial observations**, *Geosci. Model Dev. Discuss.*, <https://doi.org/10.5194/gmd-2019-375>, in review, (2020).
- Thomas Gasser, Léa Crepin, Yann Quilcaille, Richard A. Houghton, Philippe Ciais, and Michael Obersteiner, **Historical CO₂ emissions from land-use and land-cover change and their uncertainty** (2020). *Biogeosciences*, (<https://doi.org/10.5194/bg-2020-33>)
- Zebede R. J. Nicholls, Malte Meinshausen, Jared Lewis, Robert Gieseke, Dietmar Dommenges, Kalyn Dorheim, Chen-Shuo Fan, Jan S. Fuglestad, Thomas Gasser, Ulrich Golüke, Philip Goodwin, Elmar Kriegler, Nicholas J. Leach, Davide Marchegiani, Yann Quilcaille, Bjørn H. Samset, Marit Sandstad, Alexey N. Shiklomanov, Ragnhild B. Skeie, Christopher J. Smith, Katsumasa Tanaka, Junichi Tsutsui, and Zhiang Xie, **Reduced complexity model intercomparison project phase 1: Protocol, results and initial observations** (2020). *Geoscientific Model Development* (<https://doi.org/10.5194/gmd-2019-375>)
- Yann Quilcaille, Thomas Gasser, Philippe Ciais, Franck Lecocq, Greet Janssens-Maenhout and Steve Mohr. **Uncertainty in projected climate change arising from uncertain fossil-fuel emissions estimates** (2018). *Environmental Research Letters*, (<https://doi.org/10.1088/1748-9326/aab304>).
- Thomas Gasser, Philippe Ciais, Olivier Boucher, Yann Quilcaille, Maxime Tortora, Laurent Bopp, and Didier Hauglustaine. **The compact Earth system model OSCAR v2.2 : description and first results** (2017). *Geoscientific Model Development*, 10, 271–319. (<https://www.geosci-model-dev.net/10/271/2017/>)
- Vivian Dépoues, Sabine Giguët, Aglaé Jézéquel, Yann Quilcaille. **Témoignage de quatre étudiants engagés pour la réussite de la COP 21** (2015) *Natures Sciences Sociétés*, 23, supplément, S122-S125. (<https://www.nss-journal.org/articles/nss/abs/2015/02/nss150024/nss150024.html>)
- Yann Quilcaille, Yann Chavaillaz, Sabine Giguët, Aglaé Jézéquel, Amélie Rajaud, Camille Ferron, Amandine Amat, Vivian Dépoues, Adèle Revelard, Marine Lugen, Leslie Tourneville, Adrien Comte, Xavier Mouroux, Marien Ranche, Margot Hovsepian, Roxane Sansilvestri (2015). **(In)certitudes et adaptation au climat futur : le regard des « acteurs de demain »**, *Studies* N°04/15, *Iddri*, Paris, France. ([http://www.iddri.org/Publications/\(In\)certitudes-et-adaptation-au-climat-futur-le-regard-des-acteurs-de-demain](http://www.iddri.org/Publications/(In)certitudes-et-adaptation-au-climat-futur-le-regard-des-acteurs-de-demain))

Communications

- Presentation at the IMBALANCE-P meeting, 14/02/2019: “CNP version of the compact Earth system model OSCAR”

- Recorded presentation on the vulgarization of my PhD thesis, broadcasted on the YouTube channel on 24/05/2019 “Ma thèse en synthèse”: <https://youtu.be/dLvJpR6Hv-w>
- PICO presentation during the EGU 08/04/2019: “Carbon budgets based on new climate projections of the SSP scenarios and observations”, Yann Quilcaille, Thomas Gasser, Philippe Ciais, Franck Lecocq, Michael Obersteiner
- Oral presentation at the IMBALANCE-P meeting, 14/02/2019: “Towards a CNP version of the compact Earth system model OSCAR”
- Round-table discussion during the festival “Les Tropikantes”, 22/09/2017: “Climate change and development”
- Teaching during the European training program ATHENS (Advanced Technology Higher Education Network), 2016 & 2017: “Physical aspects of climate change”
- Teaching (lecture and computing exercises) 2nd year of Master EEET (Economics of Environment, Energy and Transport), 2016 & 2017: “Simple modelling of climate change”
- Poster presentation during the “1.5 degrees: meeting the challenges of the Paris Agreement” 21/09/2016: “Analysis of the IPCC AR5 transformation pathways with a new compact Earth system model”, Yann Quilcaille, Thomas Gasser, Philippe Ciais, Franck Lecocq and Glen Peters.
- Oral presentation during the EGU 18/04/2016: “From uncertainties on emissions from fossil fuel combustion to climate change”, Yann Quilcaille, Thomas Gasser, Philippe Ciais, Franck Lecocq, Greet Janssens-Maenhout, Steve Mohr, Robert Andres and Laurent Bopp.
- Oral presentation during the CIRED seminar, 12/04/2016: “Uncertainty in projected climate change caused by methodological discrepancy in estimating CO₂ emissions from fossil fuel combustion” Yann Quilcaille, Thomas Gasser, Philippe Ciais, Franck Lecocq, Greet Janssens-Maenhout, Steve Mohr, Robert Andres and Laurent Bopp.

Skills

Languages:

- **French:** native speaker
- **English** (TOEIC: 925/990): more than 3 years working in an English-speaking environment
- **German:** twice two months studying in a German-speaking environment

Computing:

- Office, Solidworks, LaTeX
- Windows, Linux
- Python, R, Scilab, Matlab

Personal Interests

- Leisure: lecture, sport (e.g. scuba-diving, yoseikan budo, trekking, skiing), friends, trips (e.g. UK, USA, Germany, Mauritius, Sicile, Austria, Singapore, Myanmar), ...
- Student Associations (voluntary) at the ENS Cachan: travel manager in the BDA (Student's Office of Arts), treasurer then president of the Club Rock (dance), president of the Club Role-playing Games, co-founder of the project Himalaya
- Student Association (voluntary) of the AgroParisTech : Vice-president of the BDE Avenue du Maine (Student's Office)