

39 boulevard R. Wagner
31300 Toulouse, France
+33646201063
robin.waldman@meteo.fr
French, 32 years old

**Robin
WALDMAN**



EDUCATION

- 2013 / 2016 **PhD degree – Science of the Universe, Environment and Space**
Université Paul Sabatier (UPS), Toulouse, France
- 2011 / 2013 **Engineering degree on Environmental Sciences and Specialized Master on Public Policies for Sustainable Development.**
Civil and Environmental Corps of Engineers – École des Ponts Paristech, France
- 2009 / 2011 **M. Sc Ocean, Atmosphere, Climate, Remote Sensing (OACOS)**
Université Pierre et Marie Curie (UPMC) – École normale supérieure (ENS), France
- 2008 / 2009 **B. Sc Earth Sciences**
Université Paris Sud – École normale supérieure, France
- 2006 / 2008 **Preparatory school – Biology, Chemistry, Physics, Earth Sciences (BCPST)**
Lycée Hoche, Versailles, France
International Chemistry Olympiades (IChO) – Member of 2007 French preselection
- 2006 **French Scientific Baccalauréat, European English option – Upper Honors**

RESEARCH EXPERIENCE

- **RESEARCH POSITIONS**

- 2016 / ongoing **Researcher at Centre National de Recherches Météorologiques (CNRM)**
Research topics: understanding the drivers of the thermohaline/overturning circulation, role of mesoscale in ocean mean state and variability, the ocean as a regulator of climate.
- 2013 / 2016 **PhD, Centre National de Recherches Météorologiques (CNRM), Université Paul Sabatier, Toulouse, France (supervision: Samuel Somot, Marine Herrmann)**
« Multi-scale study of ocean deep convection in the Mediterranean sea: from observations to climate modelling. »

- **PEER-REVIEWED PUBLICATIONS**

- OM, in preparation Nicolas Gonzalez, Robin Waldman, Gianmaria Sannino, Samuel Somot and Hervé Giordani, **A new perspective on tidal mixing at the Strait of Gibraltar from a very high-resolution model of the Mediterranean Sea**
- JPO 2020 Robin Waldman, Joël Hirschi, Aurore Voldoire, Christophe Cassou, Rym Msadek, **Clarifying the relation between AMOC and thermal wind: application to the centennial variability in a coupled climate model**
- JAMES 2019 Séférian et al, **Evaluation of CNRM Earth-System model, CNRM-ESM2-1: role of Earth system processes in present-day and future climate**
- JAMES 2019 Voldoire et al, **Evaluation of CMIP6 DECK experiments with CNRM-CM6-1**

- OM 2018 Natalija Dunić, Thomas Arsouze, Pierre Nabat, Robin Waldman, Ivica Vilibic, Jadranka Sepic, Robert Precali, Romain Pennel, Hrvoje Mihanovic, Samuel Somot, Gabriel Jorda, Florence Sevault, **Performance of multi-decadal ocean simulations in the Adriatic Sea.**
- GRL 2018b Robin Waldman, Nils Brüggemann, Anthony Bosse, Michael Spall, Samuel Somot and Florence Sevault, **Overturning the Mediterranean Thermohaline Circulation.**
- Scientific Reports 2018 M. Peharda, I. Vilibić, B.A. Black, K. Markulin, N. Dunić, T. Džoić, H. Mihanović, M. Gačić, S. Puljas, R. Waldman, **Using bivalve chronologies for quantifying environmental drivers in a semi-enclosed temperate sea.**
- GRL 2018a Robin Waldman, Samuel Somot, Marine Herrmann, Florence Sevault and Pal Erik Isachsen, **On the chaotic variability of deep convection in the Mediterranean Sea.**
- JGR-O 2018 Testor et al, **Multi-scale observations of deep convection in the northwestern Mediterranean Sea during winter 2012-2013 from a multi-platform approach.**
- JGR-O 2017b Robin Waldman, Marine Herrmann, Samuel Somot, Thomas Arsouze, Rachid Benschila, Anthony Bosse, Jerome Chanut, Herve Giordani, Florence Sevault and Pierre Testor, **How does mesoscale impact dense water formation? Answers from an ensemble simulation of the intense 2012-2013 event in the Northwestern Mediterranean Sea.**
- JGR-O 2017a Robin Waldman, Samuel Somot, Marine Herrmann, Anthony Bosse, Guy Caniaux, Claude Estournel, Loic Houpert, Louis Prieur, Florence Sevault and Pierre Testor, **Modeling the intense 2012–2013 dense water formation event in the northwestern Mediterranean Sea: Evaluation with an ensemble simulation approach**
- JGR-O 2016 Waldman, R., S. Somot, M. Herrmann, F. Sevault, P. Testor, C. Estournel, L. Prieur, D. Dausse, L. Coppola, L. Mortier, A. Bosse, **An uncertainty framework to estimate dense water formation rates: case study in the Northwestern Mediterranean, Journal of Geophysical Research.**
- Climate Dynamics 2016 Samuel Somot, Loic Houpert, Florence Sevault, Pierre Testor, Anthony Bosse, Isabelle Taupier-Letage, Marie-Noelle Bouin, Robin Waldman, Christophe Cassou, Emilia Sanchez-Gomez, Xavier Durrieu de Madron, Fanny Adloff, Pierre Nabat, Marine Herrmann, **Characterizing, modelling and understanding the climate variability of the deep water formation in the North-Western Mediterranean Sea**

- **REVIEW**

- 2017 / ongoing Reviewer for the journals Ocean Science, Scientific Reports, Remote Sensing and Journal of Geophysical Research

- **CONFERENCES**

- 2018-2020 **DRAKKAR workshops – Grenoble, France**
Talks: « Where does the downwelling of the Mediterranean thermohaline circulation take place? » (2018), "On the mixed layer heat budget on intense cooling events in the Mediterranean" (2020)
Poster: "An intense Arctic-driven centennial AMOC cycle in the CNRM-CM6 climate model" (2020)
- 2018 **Ocean Sciences conference – Portland, USA**
Poster « On the chaotic variability of the Mediterranean Thermohaline Circulation. »
- 2015-2019 **EGU Meetings – Vienna, Austria**

Talks: « Ocean deep convection in the Mediterranean sea: 2012-2013 case study in the Gulf of Lions, from observations to modelling » (2015), "Does intrinsic ocean variability impact ocean deep convection? Answers from eddy-resolving ensemble simulations of the Northwestern Mediterranean Sea." (2017), "Overturning of the Mediterranean Thermohaline Circulation" (2019)
 Posters: « An uncertainty framework to estimate uncertainty in dense water formation rates: case study in the Northwestern Mediterranean. » (2015), « How does mesoscale impact ocean deep convection? Answers from ensemble Northwestern Mediterranean Sea simulations. » (2017)

2015-2018

SIMED Workshops

Talks: "Role of preconditioning and mesoscale on ocean deep convection: 2012-2013 case study over the Gulf of Lions" (2015), "Effect of tidal and background mixing on deep convection in the Gulf of Lions" (2017), "Implementation of a double diffusion and tidal mixing scheme in the NEMOMED12 model" (2018), "Overturning the Mediterranean Thermohaline Circulation" (2018)

2014-2018

HyMeX workshops

Talks: « Ocean deep convection in the Mediterranean sea: 2012-2013 case study in the Gulf of Lions, from observations to modelling. » (2014), « Impact of mesoscale eddies on ocean deep convection in the Northwestern Mediterranean sea. » (2015), « Does intrinsic ocean variability impact ocean deep convection? Answers from eddy-resolving ensemble simulations of the Northwestern Mediterranean Sea. » (2017), "Overturning the Mediterranean Thermohaline Circulation." (2018),
 Posters: « An Observing System Simulation Experiment (OSSE) to assess uncertainty in MOOSE large-scale estimates. » (2014), « How does mesoscale impact ocean deep convection? Answers from ensemble Northwestern Mediterranean Sea simulations. » (2017), "Evaluating PERLE network with an Observing System Simulation Experiment" (2018)

2014-2019

MedCordex Workshops

Talks: « Ocean deep convection in the Mediterranean sea: 2012-2013 case study in the Gulf of Lions, from observations to modelling. » (2014)

• **PROJECTS**

International

Med-Cordex: Mediterranean region of the International CORDEX programme (modelling of all the components of the regional climate system, 12 km RCM, fully coupled RCM). Med-CORDEX is currently the regional climate modelling task of HyMeX (former HyMeX-TTM3) on-going

HyMeX: Study of the Mediterranean hydrological cycle and related extreme events, 2010-2020

MerMex: Study of the Mediterranean Sea physics, biogeochemistry and marine ecosystems, 2010-2020

MISTRALS: Meta-programme, also called Chantier Méditerranée, for the integrated study of the Mediterranean at regional and local scales, 2010-2020.

ESM2025: European project aiming at developing the next generation of Earth System Models

National

Hymex-SIMED3, MISTRALS-Simed4: French coordination for an improved modelling of the Mediterranean Sea using in particular the NEMOMED configurations.

ANR-ASICS-MED: Evaluate the role of the ocean meso- and submeso-scale processes in the dense water mass formation in the North-West Mediterranean Sea, following the HyMeX-2013 field campaign.

- **TEACHING - SUPERVISION**

2018 Lectures of physical oceanography (Master's degree) and tutorials of bibliography and ocean/climate modelling at UNAM, Mexico

2019 / ongoing Supervisor of Nicolas Gonzalez' PhD thesis: "On the role of exchanges at the Strait of Gibraltar as a regulator of the Mediterranean climate."

OTHER SKILLS

- **LANGUAGES**

Fluently **French** (mother tongue), **Spanish** (bilingual), **English** (fluent, TOEIC 985/990 in 2012), **Portuguese** (fluent), **Italian** (good notions)

Some notions **German, Thai**

- **COMPUTER SCIENCES**

Numerical modelling **NEMO, AGRIF, ECLIS**

Programming **Python, Matlab, Fortran, Shell, NCO/CDO, SOSIE**

Office **Latex, Open Office**