

# César SAUVAGE

PhD student in  
Oceanography/Meteorology

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Born in 1993, on January 2<sup>nd</sup>  
Nationality: French

## Education

- 2016 – Now **PhD student at CNRM (Meteorological National Research Center)**,  
*Paul Sabatier University, Toulouse, France.*
- 2012 – 2015 **Engineering university - Water engineering, 3 year master program**,  
*Polytech'Nice-Sophia Antipolis, France.*  
Hydrology, Water treatment, Fluid mechanics, Modelling, Physical oceanography.
- 2014 **Semester in South Korea, Incheon National University.**  
Mar. to Aug. Hydrology, Water treatment, Modelling, Water resources management.
- 2010 – 2012 **2 year Preparatory program, Polytech'Nice-Sophia Antipolis, France.**  
For the entry into the engineering program.

## Projects and Internships

- 2016 – 2019 **PhD - Ocean-atmosphere coupling for prediction of Mediterranean heavy precipitation events : better modeling and impacts of river runoff and sea state, CNRM,**  
*Supervisors : Cindy Lebeauvin Brossier, Marie-Noëlle Bouin, Véronique Ducrocq.*  
I've worked on the north-western Mediterranean Sea on autumn period where extreme Mediterranean events mostly occur. I've studied the impact of the representation of the river flow (climatology, daily and hourly observations) using the ocean model NEMO. Then, I ran coupled ocean - atmosphere - wave model (NEMO - AROME - WW3) in order to study the impact of a better representation of the sea state in the air sea exchanges and its influence on the precipitation forecast.
- 2015 **High resolution modelling in the northern mediterranean sea,**  
Apr. to Sep. *Mediterranean Institute of Oceanography, Toulon, France,*  
*Supervisors : Anne Molcard and Yann Ourmières.*  
I ran regional high resolution simulations over the northern Mediterranean Sea using the MITgcm ocean model and studied the Mediterranean Northern Current. I've also compared hydrostatic and non-hydrostatic approaches of the Navier-Stokes equations on small scales.
- Jan. 2015 **Hydro-Europe, Nice - France.**  
A two weeks project studying the 1994 flood of the Var (Southeast France) with Mike software, and possible amenagements. All the work was done collaborating in team with international members.
- July 2014 **Hydro-Asia, Daejeon - South Korea.**  
A one week project on flood risks and amenagements on the Geum river (South Korea) with Mike and HEC-Ras softwares. All the work was done collaborating in team with international members.
- 2014 **Rainfall runoff simulation on agricultural lands,**  
Jan. to Feb. *Supervisor : Olivier Delestre.*  
I've done comparaisn of different numerical method, used to solve the S<sup>t</sup> Venant equation, on FullSWOF 2D software.

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## Publication

- 2018 **Sauvage, C.**, C. L. Brossier, V. Ducrocq, M.-N. Bouin, B. Vincendon, M. Verdecchia, I. Taupier-Letage, F. Orain., Impact of the representation of the freshwater river input in the Western Mediterranean Sea. *Ocean Modelling*, 131, 115-131, DOI : 10.1016/j.ocemod.2018.09.005.
- 2018 **Sauvage, C.**, C. L. Brossier, V. Ducrocq, M.-N. Bouin., Role of the sea state on the air-sea exchanges during a Mediterranean heavy precipitation event in a kilometer-scale forecast system. *AMS 21st Conference on Air-Sea Interaction, Conference paper - Extended abstract*.

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## International Conference

- May 2019 **12th HyMeX workshop**, Split, Croatia,  
**Sauvage C.**, C. Lebeaupin Brossier, V. Ducrocq and M-N. Bouin : Characterization of the air-sea exchanges during a Mediterranean heavy precipitation event using realistic sea state modelling. *Talk*.
- June 2018 **AMS 21st Conference on Air-Sea Interaction**, Oklahoma City, OK, USA,  
**Sauvage C.**, C. Lebeaupin Brossier, V. Ducrocq and M-N. Bouin : Role of the sea state on the air-sea exchanges during a Mediterranean heavy precipitation event in a kilometer-scale forecast system. *Talk..*
- June 2018 **11th HyMeX workshop**, Lecce, Italy,  
**Sauvage C.**, C. Lebeaupin Brossier, V. Ducrocq and M-N. Bouin : Role of the sea state on the air-sea exchanges during a Mediterranean heavy precipitation event in a kilometer-scale forecast system. *Talk*.
- July 2017 **10th HyMeX workshop**, Barcelona, Spain,  
**Sauvage C.**, C. Lebeaupin Brossier, V. Ducrocq and M-N. Bouin : Ocean-atmosphere coupling for Mediterranean heavy precipitation forecast : better river runoff and sea state modelling. *Poster*.

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## Skills

- Language French (mother tongue), English (fluent), Spanish (Notions), Korean (Notions)
- Programmations  $\LaTeX$ , Ferret, Python, Matlab, Fortran,
- Softwares/Models AROME, NEMO, WaveWatchIII, MITgcm, FullSWOF 2D, Mike (SHE-21), EPANET, HEC-Ras, Microsoft Office

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## Miscellaneous

- Music I'm playing guitar, started with flamenco-classical approche but like also a lot of different music style, brazilian, pop, rock etc. I like also playing ukulele or weissenborn guitar.
- Sport I'm practising tennis for leisure but also in competition.