Lisa BERNINI

Postgraduate student in Oceanography

Passionate about Earth Sciences, especially climate and ocean physics, I want to integrate research programs on these subjects.

Education

Master in Marine Sciences — Aix-Marseille University Marseille, France

From September 2020 to June 2022

Graduated with highest honors in Physical and Biogeochemical Oceanography

CPES Multidisciplinary Undergraduate degree — PSL University Paris, France

From September 2017 to June 2020

Graduated with honors in "Experimental Sciences" (Physics, Chemistry and Biology) from the Scientific department of CPES

Baccalauréat (French secondary school diploma) — High School Bernard Palissy Agen, France

From September 2014 to June 2017

Graduated with highest honors from Scientific Baccalaureate - Biology and Earth Science mention

Internship

Intern at the Department of Environmental and Earths Sciences (DISAT) / Bicocca University, Milan, Italy
From January 2022 to June 2022
Subjects: Influence of SST variability on the intensification of tropical cyclones / Medicanes characterisation

Intern at the Mediterranean Institute of Oceanography (MIO) / Aix-Marseille University, Marseille, France
From May 2021 to June 2021
Subject: Functional Data Analysis (FDA) applied to the Antartic icesheet

Intern at the Training Center on Environment and Society (CERES) / École Normale Supérieure (ENS), Paris, France
From January 2019 to June 2019
Subjects: Agroecology, Modelling crop epidemics

Skills

Great adaptability
Because of my multidisciplinary background, I have been able to develop skills in the scientific, literary and social fields.

Ability to work in a team
During my studies, I carried out many works in group developing my listening skills and my ability to lead a project.

Hardworking

Computer skills

Matlab

Pyhton

Fortran

R

Languages

French
Mother tongue

English
C1 on CECRL

Italian
B1 on CECRL

Scholarship granted

COST Action reimbursement - 1011.78 € for 7 days (26/06/2022 - 03/07/2022)

Aix-Marseille University scholarship for international mobility - "Plan Mobilité Sortante" - 3000 € for 5 months (01/2022 - 05/2022)

ERASMUS+ scholarship for international mobility - 2366 € for 5 months (01/2022 - 05/2022)

French Ministery of Higher Education and Research scholarship for international mobility - "Aide à la Mobilité Internationale du Ministère" - 2000 € for 5 months (01/2022 - 05/2022)

Milano-Bicocca University reimbursement - 2800 € for 5 months (01/2022 - 05/2022)

Scientific activities

Active participation to the **MedCyclonesCost Action 19109** working group n°2 (contribution to cyclones tracking and oral presentation).

Participation to the first **MedCyclones Workshop** (27-29 June 2022) and **Training School** (27 June – 2 July 2022).

I, Lisa Bernini, born the second of December 1999 in Agen (France), by applying the provisions of articles 3 and 47 of Presidential Decree 445/2000 and being aware, pursuant to art. 76, that anyone who makes false statements, draws up or makes use of false documents, is punishable under the Italian Criminal Code and the special applicable Italian laws, and loses the benefits referred to in art. 75, hereby state assuming full responsibility that all the information provided above are correct.

Milan, the 23 of June 20

Lisa Bernini

AIX-MARSEILLE UNIVERSITY

CERTIFICATE of OBTENTION: Master's Degree

The Director of the OSU-Pytheas Institute hereby certifies that

the **Degree of Master in Sciences and Technologies,**

Marine Sciences field,

with a **specialization in Physical and Biogeochemical Oceanography**

has been attributed to

Ms Lisa BERNINI

born the 02 December 1999 in Agen (47),

in the 2021/2022 University year with first - class honours,

thus awarding her 120 European Transfer Credits (ECTS).

Student Number: 20000820

Marseille, the 17 June 2022

Nicolas THOUVENY

IMPORTANT NOTE: One copy only of this certificate will be issued. No duplicate can be provided.

TRANSLATION CERTIFIED CONFORM
22/06/2022

Rachel Mackie

OSU Institut Pytheas
Master Sciences de la Mer

Certificate of Achievement
Cycle for Undergraduate Studies

The Director of Pluridisciplinary Cycle for Undergraduate Studies at Paris Sciences et Lettres - PSL University certifies that :

Student : **BERNINI Lisa**

Student national identification number **0410020977A**

Date of birth : **02/12/1999**

Place of birth : **AGEN (FRANCE)**

was admitted to the **Pluridisciplinary Cycle for Undergraduate Studies** program with 180 ECTS.

Track : **Sciences**

Major : **Experimental sciences**

Academic Year : 2019 - 2020

and obtained an average mark **14,0** **/ 20** with **High Honours.**

Paris, 17/07/2020

PSL University
Isabelle Catto, Director of the CPES

Université PSL
PSL
UNIVERSITÉ PARIS
60 rue Mazarine - 75006 Paris

No duplicate will be delivered.

Using an ensemble of cyclone tracking methods to produce best-tracks datasets: Application to Mediterranean cyclones

Emmanouil Flaounas,
Leonardo Aragao,
Lisa Bernini,
Stavros Dafis,
Benjamin Doiteau,
Helena Flocas,
Suzanne L. Gray,
Alexia Karwat,
John Kouroutzoglou,
Piero Lionello,
Florian Pantillon,
Claudia Pasquero,
Platon Patlakas,
Maria Angels Picornell,
Federico Porcù,
Matthew Priestley,
Marco Reale,
Malcolm Roberts,
Dor Sandler,
Enrico Scoccimarro,
Michael Sprenger,
Philipp Zschenderlein,

Abstract

A high number of cyclone tracking methods have been used in the past to study and analyse high impact weather in climatological scales. However, several past studies showed that qualitative characteristics of cyclone climatologies might change depending on the method used. This is due to a non-commonly accepted physical and mathematical definition of cyclone centres, as also due to the high sensitivity of the methods' outputs when tracking these centres in time. Especially when considering extratropical cyclones, the absence of best-track datasets -similar to their tropical counterparts- renders validation and synthesis of studies' results rather difficult.

In this article, we present a new methodological approach where 10 different cyclone tracking methods applied to ERA5 reanalysis are combined to produce a best-tracks dataset for the Mediterranean region for the period 1979-2020. For this reason, composite tracks are built by combining tracks that overlap at least partially in space and time. Once built, best-tracks retain the composite tracks that concentrate the agreement of a threshold number of methods. The latter defines the confidence level of the composite tracks. In our analysis, we tested the sensitivity of our methodological approach to the overlapping criterion that defines similar tracks and to the different adopted confidence levels. Finally, we compared the composite tracks to the tracks from individual cyclone tracking methods. Results showed that composite tracks describe more intense and longer-lasting cyclones with more distinguished early, mature and decay stages than cyclone tracks

produced by individual cyclone tracking methods. Taking into consideration the role of the confidence level to tune the intensity of the retained cyclones, we propose the tracks dataset in the supplementary material as a best-tracks dataset of Mediterranean cyclones for the period 1979-2020. This dataset can be used as a reference of tracks for weather systems with a well organised meso-to-large scale cyclonic circulation to perform climatological studies and benchmarking other cyclone tracking methods in the Mediterranean region.

Mediterranean tropical-like cyclones in ERA5 dataset

Lisa Bernini, Leone Cavicchia, Enrico Scoccimarro, Claudia Pasquero

April 2022

Abstract

Using ERA5 reanalysis data, cyclones in the Mediterranean region are detected and tracked from the sea level pressure field. On average, our scheme identifies about 115 cyclones per year. About 8 per year have an inner warm core throughout the whole troposphere (identification based on thermal wind relation) for at least 6 hours. A comparison with the 41 cyclones that have been identified as Medicanes in the literature indicates that 34 of them are present in the ERA5 cyclone catalog that we generated, 23 with a deep warm core and 11 with a shallow warm core that only reaches the mid troposphere. A characterization of the wind speed and precipitation fields associated with those cyclones, based on composites, shows profound differences between deep warm core, shallow warm core, and cold core cyclones.

Lisa Bernini <lisa.bernini@unimib.it>

COST Action CA19109 Invitation to "Annual COST Action workshop"

COST Association Notification <noreply@cost.eu> 14 giugno 2022 08:15
Rispondi a: COST Association Notification <noreply@cost.eu>
A: Lisa Bernini <lisa.bernini@unimib.it>

THIS INVITATION IS NOT TRANSFERABLE

Dear Ms Lisa Bernini,

We have the pleasure to invite you to the following event:

- COST Action: CA19109 - European network for Mediterranean cyclones in weather and climate
- Event title: Annual COST Action workshop
- Location: University of Athens, 30 Panepistimiou str., 10679, Athens, Greece
- Event Type: Meeting (Workshop/Conference, Management Committee,)

Session(s) to which you are invited:

- *"Workshops/Conferences":* from 27/06/2022 at 08:45 to 29/06/2022 at 18:30

Please click on the link below to accept or decline this invitation: invitation link.

Ms Marina MANOURA
Grant Holder Manager
The Cyprus Insitute
Cyprus
22208789

Best regards,

COST Association

COST Association | Avenue du Boulevard-Bolwerklaan 21
1210 Brussels | Belgium
Tel: +32 2 533 38 00
helpdesk@cost.eu | https://www.cost.eu

MTG-001 — Mail generated by e-COST on 14 June 2022 at 08:15:29

Lisa Bernini <lisa.bernini@unimib.it>

COST Action CA19109 Invitation to "MedCyclones Summer School"

COST Association Notification <noreply@cost.eu> 18 maggio 2022 15:00
Rispondi a: COST Association Notification <noreply@cost.eu>
A: Lisa Bernini <lisa.bernini@unimib.it>

THIS INVITATION IS NOT TRANSFERABLE

Dear Ms Lisa Bernini,

We have the pleasure to invite you to the following event:

- COST Action: CA19109 - European network for Mediterranean cyclones in weather and climate
- Event title: MedCyclones Summer School
- Location: University of Athens, 30 Panepistimiou Str, , 10679, Athens, Greece
- Event Type: Training School

Session(s) to which you are invited:

- *"MedCyclones Summer School":* from 27/06/2022 at 09:00 to 02/07/2022 at 17:00 (eligible for reimbursement)

Please click on the link below to accept or decline this invitation: invitation link.

Reimbursement information:

- COST Reimbursement Rules have changed as from 1st November 2021 (!)
- The expenses related to your participation in this event will be reimbursed in line with the COST Rules of Reimbursement available here: https://www.cost.eu/travel_reimbursement_rules/ .
- You will be able to submit your reimbursement claim only after the event. In addition, you shall estimate your reimbursement via the invitation link provided above.
- During the event, please sign the Attendance List.
- The deadline to submit your reimbursement claim online is 15 days after the event via your invitation link.
- Please ensure that you register in e-COST the same e-mail address as in your invitation and that your bank details are up to date.
- Following national and/or institutional regulations, you may be requested to provide original supporting documents.

Ms Marina MANOURA
Grant Holder Manager
The Cyprus Insitute
Cyprus
22208789

Best regards,

COST Association

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1210 Brussels | Belgium
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helpdesk@cost.eu | https://www.cost.eu

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