

ANNA CABRÉ ALBÓS

Research climate consultant for the University of Pennsylvania, Philadelphia, USA

About me: [Webpage](#), [Linkedin](#), [Twitter](#) **Academic me:** [Research Gate](#), [Google Scholar](#)

Climate scientist and oceanographer with a background in cosmology and physics. Interested in communication, education, data visualization, and creativity for sustainability and social change. I believe in an intersectional education where the relationship with our planet touches every part of the curriculum. I have written two books for children about the climate emergency. Presently writing a book about our global impact on earth, and planning to design an educational program around it.

München, Germany, annacabrealbos@gmail.com

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APPOINTMENTS

Research consultant for the University of Pennsylvania, Philadelphia, USA 2018 - present

Beatriu de Pinós - Marie S Curie COFUND fellowship (success rate ~10%) 4/2016 - 7/2018

Institute of Marine Sciences, Barcelona, Spain

- *Heat transport in the South Atlantic. Climate change modelling, IPCC model analysis*

Research Associate in Oceanography and Climate (*career shift) 1/2012 - 2/2016

Dept. of Earth and Environmental Science, University of Pennsylvania, Philadelphia, USA

- *Physical oceanography; oxygen, nitrogen, carbon cycles; phytoplankton models and observations from satellites; climate change modelling, IPCC model analysis*

Postdoctoral Investigator in Cosmology

Dept. of Physics and Astronomy, University of Pennsylvania, Philadelphia, USA

10/2009 - 9/2012

Institute of Space Sciences (IEEC-CSIC), Barcelona, Spain

7/2008 - 9/2009

EDUCATION

Ph.D. in Physics University of Barcelona and Institute of Space Sciences, Barcelona 1/2004 - 6/2008

Master's Degree in Teaching Secondary Level Science, University of Barcelona 9/2006 - 5/2007

Bachelor's Degree in Physics University of Barcelona, Spain 9/1998 - 7/2003

SKILLS

Analytical thinking. Critical thinking and analysis. Complex problem-solving with creative thinking. Critical evaluation of scientific literature. Careful record-keeping. Project design and management. Ability to see the big picture. Distillation of complex information into a simple product. Visualisation of numbers to create a story. Take pleasure in completing tasks. Follower of the ethical code of science.

AREAS OF EXPERTISE AND INTEREST

Climate models and IPCC reports, biogeochemical and physical oceanography, our footprint on Earth, children's education, science communication, women in STEMM, physics, mathematics.

COMMUNICATION AND CREATIVITY <https://annacabre.science/#communication>

Author of two children's non-fiction educational books: *Mamma goes to Antarctica* and *The Secret Life of Viruses* (by Zahori Books), 2020.

Co-author of the book *Climate change for astronomers*, by Travis Rector et al., ongoing.

Trained in science journalism with a course at the leading Spanish newspaper *El Pais*, Spain, 2006.

Public speaking and presentation skills and **public engagement with media outlets.**

Director of the documentary *Tornar a començar* (*Start over again*) about my experience in Antarctica with 100 women scientists (see [teaser in Catalan](#), ongoing)

Successful crowdfunding and PR campaign to raise funds for the book *Mamma goes to Antarctica*.

International collaborator: worked in Spain, USA, Germany. Semester stays in England, Chile, and Mexico.

Writing and editing skills (30 peer-reviewed simulations, 18 as a main author, with ~2000 citations).

Experience dealing with feedback when submitting papers/proposals and as a journal reviewer.

Languages: Catalan/Spanish (native), English (fluent), German (intermediate), French (beginner)

TECHNICAL SKILLS

Big data science and modeling with Fortran, Matlab, IDL, UNIX Scripts, sql, HTML, Ferret, Excel

Knowledge of (and experience using) statistical tools and theoretical algorithms and frameworks: Uncertainty analysis, trend analysis, time series analysis, mapping techniques, Monte Carlo analysis...

Trained in **Satellite remote sensing** (U. of Cornell & OCB) and **Machine learning** (Stanford on-line).

MANAGEMENT AND CAREER DEVELOPMENT

Participated in a **women leadership program for a sustainable planet** ([Homeward Bound](#) 2019).

Co-founder of the Spanish Association *Ellas Lideran* (*Women Lead*) (<http://ellaslideran.cc>)

Teaching assistant for *Ocean Atmosphere Dynamics*, University of Pennsylvania, 2012-2013.

Supervision and Mentoring: Co-supervised 7 undergraduate students, two master's degree students, and three PhD students at the U. of Pennsylvania, 2010-2016.

REFERENCES

Dr. Josep Lluís Pelegrí (Institute of Marine Sciences, Barcelona) pelegri@icm.csic.es

Prof. Irina Marinov (University of Pennsylvania, Philadelphia) imarinov@sas.upenn.edu

LIST OF PEER-REVIEWED PUBLICATIONS

Oceanography and climate sciences:

- 30. Are shifts in species distribution triggered by climate change? Application to the swordfish global case**, Erauskin-Extramiana, Arrizabalaga, **Cabré** et al., 2020, Deep Sea Research Part II: Topical Studies in Oceanography, 175, 104666, doi: 10.1016/j.dsr2.2019.104666
- 29. Pathways and mechanisms for subtropical-tropical transfer in the South Atlantic Ocean**, **Cabré**, Pelegrí, Vallès-Casanova, 2019, JGR Oceans, 124, 7, 4820-2837, doi: 10.1029/2019JC015160
- 28. Large scale distribution of tuna species in a warming ocean**, Erauskin-Extramiana, Arrizabalaga, Hobday, **Cabré**, Ibaibarriaga, Arregui, Murua, and Chust, 2019, Global Change Biology, Volume 25, Issue 6, 2043-2060, doi: 10.1111/gcb.14630
- 27. Increasing biomass in the warm oceans: Unexpected new insights from SeaWifs**, Sharma, Marinov, **Cabré**, Kostadinov, Singh, 2019, Geophysical Research Letters, 46, 7, 3900-3910, doi: 10.1029/2018GL079684
- 26. Historical trends and future distribution of anchovy spawning in the Bay of Biscay**, Erauskin-Extramiana, Alvarez, Arrizabalaga, Ibaibarriaga, Uriarte, Cotano, Santos, Ferrer, **Cabré**, Irigoien, and Chust, 2019, Deep Sea Research II, 159, 169-182, doi: 10.1016/j.dsr2.2018.07.007 .
- 25. Global atmospheric teleconnections and multi-decadal climate oscillations driven by Southern Ocean convection**, **Cabré**, Marinov, and Ganandesikan, 2017, Journal of Climate 30, 8107-8126, doi: 10.1175/JCLI-D-16-0741.1.
- 24. Inter-Comparison of Phytoplankton Functional Type Phenology Metrics Derived from Ocean Color Algorithms and Earth System Models**, Kostadinov, **Cabré**, et al., 2017, Remote Sensing of Environment, 190, 162-177, doi: 10.1016/j.rse.2016.11.014 .
- 23. Carbon-Based Phytoplankton Size Classes Retrieved via Ocean Color Estimates of the Particle Size Distribution**, Kostadinov, Milutinovic, Marinov, and **Cabré**, 2016, Ocean Sciences, 12, 561-576, doi: 10.5194/os-12-561-2016
- 22. Phenology of Size-Partitioned Phytoplankton Carbon-Biomass from Ocean Color Remote Sensing and CMIP5 Models**, **Cabré**, Shields, Marinov, and Kostadinov, 2016, Front. Mar. Sci. 3:39, doi: 10.3389/fmars.2016.00039, doi: 10.3389/fmars.2016.00039
- 21. A Zonally-Banded Phytoplankton Response to 21st Century Climate Change in the Southern Ocean across the IPCC AR5 Earth System Model Suite**, Leung, **Cabré**, and Marinov, 2015, Biogeosciences, 12, 5715-5734, doi: 10.5194/bg-12-5715-2015
- 20. Oxygen Minimum Zones in the tropical Pacific across CMIP5 models: Mean State Differences and Climate Change Trends**, **Cabré**, Marinov, Bernardello, and Bianchi, 2015, Biogeosciences, 12, 5429-5454, doi: 10.5194/bg-12-5429-2015
- 19. Terrestrial and Marine Perspectives on Modeling Organic Matter Degradation Pathways**, Burd, Frey, **Cabré**, et al., 2015, Global Change Biology, 1365-2486, doi: 10.1111/gcb.12987
- 18. Consistent global responses of marine ecosystems to future climate change across the IPCC AR5 Earth System Models**, **Cabré**, Marinov, and Leung, 2015, Climate Dynamics, 45, 5, 1253-1280, doi: 10.1007/s00382-014-2374-3

+ 17 peer-reviewed publications in Cosmology and Astrophysics from 2006 to 2013