MINISTERIO DE CIENCIA E INNOVACIÓN

Cofinanciado por la Unión Europea

AGENCIA ESTATAL DE INVESTIGACIÓN

CURRICULUM VITAE (CVA)

IMPORTANT – The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.

CV date	13/11/2022

Part A. PERSONAL INFORMATION

First name	Núria		
Family name	Marbà Bordalba		
Gender (*)	Female	Birth date (dd/mm/yyyy)	29/08/1967
Social Security, Passport, ID number	35121832G		
e-mail	nmarba@imedea.uib-csic.es	URL Web: https://imedea.uib-csic.es/ficha.php?pid=96	
Open Researcher and Contributor ID (ORCID) (*)		0000-0002-8048-6789	

(*) Mandatory

A.1. Current position

Position	Investigadora Científica		
Initial date	05/02/2009		
Institution	Consejo de Investigaciones Científicas (CSIC)		
Department/Center	Institut Mediterrani d'Estudis Avançats/ Dept. Oceanografía y Cambio Global		
Country	Spain	Teleph. number	972 611720
Key words	marine ecology, global change, blue carbon, coastal vegetated habitats, thresholds and no-linear responses, biological conservation and restoration, biological invasions, ecosystem services		

A.2. Previous positions (research activity interuptions, art. 14.2.b))

Period	Position/Institution/Country/Interruption cause
2002-2009	Científico Titular CSIC/IMEDEA/Spain
1999-2002	Postdoctoral researcher MCED/IMEDEA /Spain
1998-1999	Postdoctoral researcher /CEAB /Spain
1996-1997	Postoctoral researcher/NIOO/The Netherlands
1995	Assistant research professor/Univ. Copenhagen/Denmark

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD in Biology	Universidad de Barcelona	1995
Licenciatura de Biología	Universidad de Barcelona	1990
Maîtrise d'Oceanologie Appliqueé	Université de Perpignan-Paris VI	1990

Part B. CV SUMMARY *(max. 5000 characters, including spaces)*

Scientific Career: PhD in Biology by the University of Barcelona (1995). I conducted 2 postdocs abroad, one at the University of Copenhagen (Denmark) of 6 months (1995) and another at the Netherlands Instituut voor Ecologie (NIOO-KNAW) (The Netherlands) of 2 years (1996-1997). In

2002, after 5 year postdoc at CSIC (CEAB and IMEDEA), I become a CSIC permanent staff member as Científico Titular. Since 2009, I am Investigadora Científica CSIC. I am the Head of the Global Change Research Group of IMEDEA since 2015, the head of the Department of Global Change Research of IMEDEA between 2011 and 2017 and that of the Department of Oceanography and Global Change of IMEDEA since 2021. My main research fields are marine plant ecology and global change. I am interested to know (1) the function of and services provided by macrophyte dominated marine ecosystems, (2) the coastal ecosystem responses to pressures and to the release of pressures, paying particular attention to no linear responses and tipping points, and (3) to provide scientific basis to define marine ecosystem conservation polices. I acted as Associate Editor for *Estuaries and Coasts* (2009-2014), *Limnology and Oceanography* (2016-2018) and *Marine Ecology: an evolutionary perspective* (2005-2021) and currently I am serving as Associate Editor for and *Frontiers in Marine Science topic Global Change and the Future Ocean* (2014-).

- Total publications SCI: 216
- Citations: 14176 (WOS, Clarivate), 23153 (Google)
- h-index: 66 (WOS, Clarivate), 81 (Google)
- 8 articles within the top 1 % of most cited articles published in the fields Geosciences, Enviromment/Ecology, o Plant & Animal Science the same year (InCites Essential Science Indicators, Clarivate)
- 61 contributions to conferences or invited talks

Main scientific achievements:

- **Marine macrophyte ecology:** magnitude and variability of seagrass growth, population and meadow dynamics; herbivory pressure; development and use of a technique allowing reconstruction of growth, phenology, population dynamics of seagrasses based on age determinations; quantification of seagrass clonal growth rules and scaling relationships of growth and plant life span; analysis of seagrass colonisation and recovery processes including restoration; in collaboration of physicist experts on complex systems, identification of key emerging properties from simple clonal growth rules and plant demographic balance that determine the growth form of the clones and vegetation seascapes; analysis of seagrass-microbial interactions
- **Drivers of ecosystem change (climate and other human impacts):** examination of seagrass responses to sediment and climate disturbances; determination of thresholds of coastal eutrophication and sediment sulphide compromising the resilience of coastal macrophytes; identification of temporal and spatial patterns of metal accumulation in marine macrophytes; analysis of dynamics and impacts of biological invasions in marine ecosystems; determination of thermal thresholds and performance curves of macrophytes and associated fauna; assessment of vulnerability of coastal habitats to global warming; analysis of the trajectories of European seagrass change
- **Blue carbon:** provide scientific evidence that coastal vegetated ecosystems are intense carbon sinks and effective natural coastal defences while providing refuge to calcifyers under scenarios of ocean acidification; demonstration that planting actions can restore or create seagrass carbon sinks
- **Aquaculture:** evaluation of role of aquaculture as food source during the current century; comparison of the rate of domestication of terrestrial, marine and freshwater biodiversity; analysis of growth rate of patents derived from macroalgae aquaculture and distribution across countries

Communication: The results have been published in leading scientific journals (including Nature, Science, Nature Climate Change, Nature Geoscience, Nature Biotechnology, Biotechnology Advances, Science Advances, Nature Ecology and Evolution, PNAS) and presented in international conferences and workshops. The results have been communicated to the media through press releases and to the general public through press, radio and TV interviews, videos, public talks, school visits, open science events (e.g. science week).

Mid-to-long term objectives and financial support: the main scientific objectives currently focus on assessing the implications of seascape pattern formation in the resilience of coastal ecosystems to global change, on conducting research in the field of thermal ecology (identification of thermal niches, thermal sensitivity and vulnerability to warming in combination with other stressors, ecosystem shifts) and to provide scientific basis to implement strategies to mitigate and adapt to climate (and global) change through conservation and restoration of marine coastal habitats. This research is currently funded by the projects RTI2018-095441-B-C21 (Ministry of Science, Innovation and Universities) and PRD2018/18 (Government of the Balearic Islands).

Training:

***PhD Thesis*:** 4 (plus 1 on going)

- *Diversity and functions of microbial communities in seagrasses*. N. Garcias Bonet, Univ. Illes Balears (2012). Present: Specialist Scientist at King Abdullah University of Science and Technology, Saudi Arabia.
- *Assessing the role of dugongs as herbivores on the seagrass meadows of the Andaman Islands*. E. D'Souza, Madurai Kamaraj University (India) (2015). Present: Postdoc at Natural Conservation Foundation (India).
- *Almacenamiento de Carbono en praderas submarinas: tasas, persistencia y control*. I. Mazarrasa, Univ. Illes Balears (2016). Present: Postdoc at Univ. of Cantabria.
- *Efecto del calentamiento global en la proliferación de macrófitos invasores, capacidad de adaptación y funciones ecosistémicas*. M. Wesselmann (2021). Univ. Illes Balears.
- *Role of macrophyte interactions on ecosystem resilience to climate change*. E. Mayol (on going). Univ. Illes Balears.

***Master Thesis*:** 12 (plus 1 on going)
Maria Sánchez Camacho (Bangor University, UK, 2003); Clara Vignolo (Bangor University, UK, 2005); Olga Carnicer (CSIC-UIMP, 2009); Joana Vicente de Boves (CSIC-UIMP, 2009); Coraline Girard (Université de Perpignan-Via Domitia, France, 2011); Guillermo Samperio Ramos (CSIC-UIMP, 2011); David Sánchez Quiles (CSIC-UIMP, 2011); Esteve Palou Pol (Universitat Autònoma de Barcelona, 2015); Ioannis Savva (Master of Science Marine Biodiversity and Conservation (EMBC+), Ghent University, Bremen University, the University of Algarve, Galway-Mayo Institute of Technology (GMIT), University Pierre and Marie Curie (UPMC) and the University of Oviedo, 2016); Ana Pascual (Master of Science Marine Biodiversity and Conservation (EMBC+), Ghent University, Bremen University, the University of Algarve, Galway-Mayo Institute of Technology (GMIT), University Pierre and Marie Curie (UPMC) and the University of Oviedo, 2016); Lidia Cucala (University of the Balearic Islands, 2020); Marina Forteza. (University of the Balearic Islands, 2020).

***Mentoring/supervision Postdocs*:** 10
Rosa García Novoa (2009-2013); Ana Ruiz (2014-2016) (present: postdoc JdC incorporación at Imedea); Maria Antònia Jiménez (2012-2015)(present: profesora titular at Universitat Illes Balears); Guillem Roca Carceller (2015-2018) (present: teacher secondary schools); Scott Bennet (2016-2020) (Present: DECRA postdoctoral researcher at University of Tasmania, Australia); Julia Santana (2016-2019) (Present: postdoctoral researcher at University of Tasmania, Australia); Raquel Vaquer-Sunyer (2017-2018) (Present: scientist at Fundació Marilles); Sergio Ruiz-Halpern (2017) (Present: scientist at Save the Med); Neus Garcias Bonet (2020) (Present: Scientist Specialist at King Abdullah University of Science and Technology, Saudi Arabia); Andrea Antón (Juan de la Cierva Incorporación, 2020-)

Coordinator of the course "Impacto del Cambio Global sobre los hábitats Marinos" of the Máster en Cambio Global of UIMP and CSIC for the period 2008-2015.

Part C. RELEVANT MERITS *(sorted by typology)*

C.1. Publications *(selected publications)*

1. **Marbà** N., Jordà G., Bennett S., Duarte C.M. (2022). Seagrass Thermal Limits and Vulnerability to Future Warming. Front. Mar. Sci. 9: 860826. doi: 10.3389/fmars.2022.860826
2. Bennett, Scott; Alcoverro, Teresa; Kletou, Demetris; …. **Marbà, Núria**. 2022. Resilience of seagrass populations to thermal stress does not reflect regional differences in ocean climate. New Phytologist, 233: 1657–1666. doi: 10.1111/nph.17885
3. Guillem Roca, Javier Palacios, Sergio Ruiz-Halpern, **Núria Marbà**. (2022). Experimental carbon emissions from degraded Mediterranean seagrass (*Posidonia oceanica*) meadows under current and future summer temperatures. Journal of Geophysical Research: Biogeosciences, 127, e2022JG006946. https://doi.org/10.1029/2022JG006946. Selected in Eos.org Editor's Highlight (https://eos.org/editor-highlights/warming-and-agitation-intensify-seagrass-meadow-carbon-fluxes) on 17 october 2022
4. Wesselmann M, Geraldi, N.R, Duarte, C.M.,… **Marbà, N**. 2021. Seagrass (Halophila stipulacea) invasión enhances carbon sequestration in the Mediterranean Sea. Global Change Biology 27 (11): 2592-2607. DOI: 10.1111/gcb.15589 (9/9)

5. Bennett, S; Santana Garçon, J; **Marbà, N**; … Duarte, C M. 2021. Climate-driven impacts of exotic species on marine ecosystems. Global Ecology and Biogeography, 30:1043–1055. (3/14)
6. Jorda, G, **Marbà**, N, Bennett, S, Santana-Garcon, J, Agusti, S, Duarte, CM. (2020). Ocean warming compresses the 3D habitat of marine life. Nature Ecology and Evolution 4: 109–114.
7. Mazarrasa, I, **N Marbà**, Garcia-Orellana, J, Masqué, P, Arias-Ortiz, A, Duarte, CM. 2017. Effect of environmental factors (wave exposure and depth) and anthropogenic pressure in the C sink capacity of *Posidonia oceanica* meadows. Limnology and Oceanography. 62: 1436-1450
8. Ruiz-Reynés D, D Gomila, T Sintes, E Hernández-García, **N Marbà**, C M. Duarte. 2017. Fairy-circle landscapes under the sea. Science Advances, 3 (8): e1603262.
9. **Marbà**, **N**, Arias-Ortiz, A, Masqué, P, Kendrick, GA, Mazarrasa, I, Bastyan, GR, Garcia-Orellana, J, Duarte CM. 2015. Impact of seagrass loss and subsequent revegetation on carbon sequestration and stocks. Journal of Ecology, 103 (2): 296–302.
10. Duarte, CM, Losada, IJ, Hendriks, IE, Mazarrasa, I, **Marbà**, N. 2013. The Role of Coastal Plant Communities for Climate Change Mitigation and Adaptation. *Nature Climate Change,* 3: 961–968.

C.2. Research projects

1. Observing and mapping marine ecosystems-next generation tools (OBAMA-NEXT). Horizon-CL6-2022-BIODIV-01-01 (EU, Project 101081642). 1/1/2023 to 31/12/2026 PI: J. Carstensen (PI CSIC: N. Marbà) Budget CSIC: 353 033 €
2. Marine forest coastal restoration: an underwater gardening socio-ecological plan (Ocean Citizen) HORIZON-MISS-2021-OCEAN-02-01 (EU). 1/1/2023 to 31/12/2026 PI: S. Rossi (PI CSIC: Enrique Isla, PI IMEDEA-CSIC: N. Marbà). Budget IMEDEA-CSIC: 290 467.27€
3. Complex DYnamics of CoastaL Ecosystems: Resilience to Climate Change (CYCLE) Ministerio de Ciencia e Innovación (PID2021-123723OB-C21). Coordinated project CSIC-IMEDEA, UIB-IFISC. 1/9/2022 to 31/8/2025 PI: I.E. Hendriks co-PI: N. Marbà Budget CSIC-IMEDEA 258 940.00 €
4. Papel de las praderas submarinas en la mitigación de impactos del cambio climático (SEAFRONT) Ministerio de Ciencia e Innovación (TED2021-132132B-C22) -Coordinated Project CSIC-IEO, CSIC-IMEDEA. 1/12/2022 to 30/11/2024 PI CSIC-IMEDEA N. Marbà. Budget CSIC-IMEDEA: 108 100.00 €
5. Participatory and multi-level governance process to design a transformational climate change adaptation project at Cala Millor beach from an integrated and multidisciplinary science-based approach (LIFE AdaptCalaMillor) LIFE-EU (Project 101074227). 1/12/2022 to 31/4/2027. PI (CSIC) A. Orfila. Budget: 349 246.93 €
6. Sostenibilidad de ecosistemas marinos costeros en el contexto del cambio global en el Mar Mediterráneo (SuMaEco). Ministerio de Ciencia, Innovación y Universidades (RTI2018-095441-B-C21). 1/1/2019 to 30/9/2022. PI: N. Marbà co-PI: IE Hendriks. Budget: 239 580 €.
7. Operational Potential of Ecosystem Research Applications (OPERA). FP7 (EU, Project No. 308393). 1/12/2012 – 30/11/2017. PI (CSIC) N Marbà. Budget: 213 900 €

C.3. Contracts, technological or transfer merits

I lead or participated in the elaboration of technical reports for the EU Water Frame Directive, the Spanish Ministry of environment, UNEP RAC/SPA and the Blue Carbon Initiative (UNESCO, Conservation International and UICN), of which I am member of the scientific working group since 2011. I coordinated the challenge “Achieving a resilient living ocean” and contributed to two additional challenges of volume 13 Ocean Science Challenges for 2030 del CSIC. I was “Editor reviewer” for the Coastal Wetlands Chapter in the 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands. I am a member of the Expert Committee of Climate change of the Government of the Balearic Islands.