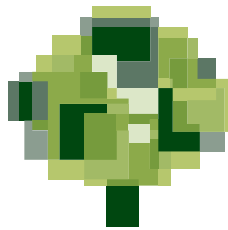


CREAF

ECOLOGY MOVES US

ANNUAL REPORT 2018



CREAF

ECOLOGY MOVES US

ANNUAL REPORT 2018

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CONTENTS

Who we are	6
Annual Highlights	16
International Highlights	19
Financial Overview	23
Research Highlights	25
Scientific output	52
Training	77
Communication and Outreach	80
Annexes	87



A woman wearing a red jacket and glasses is standing on a rocky mountain trail. The background features a vast, rugged mountain range with patches of snow and a valley below. An orange rectangular overlay is positioned in the upper right corner of the image.

WHO WE ARE

OUR APPROACH

We are a public research center dedicated to terrestrial ecology, territorial analysis and global change, pursuing excellence in the generation and transfer of knowledge, management tools and methodologies.

We strive to create new knowledge and innovative solutions on terrestrial ecology management and land-atmosphere interaction that helps society to mitigate Global Change effects, creating adaptation plans and boosting the resilience of nature.

“Through excellence in science we aim to be a Mediterranean and world-class research institution that pushes the frontiers of knowledge while addressing some of the biggest and more complex environmental challenges society faces this century.”

Our aims

- Carry out innovative BASIC RESEARCH on ecology
- Promote APPLIED RESEARCH for the sustainable management of ecosystems
- Develop TOOLS to facilitate decision-making and environmental policies
- DISSEMINATE the science in ecology and its impact to society

Governing organizations

CREAF is a public research center which exists as a consortium between different public entities (administrations, universities, and research centers and institutes).

Generalitat de Catalunya

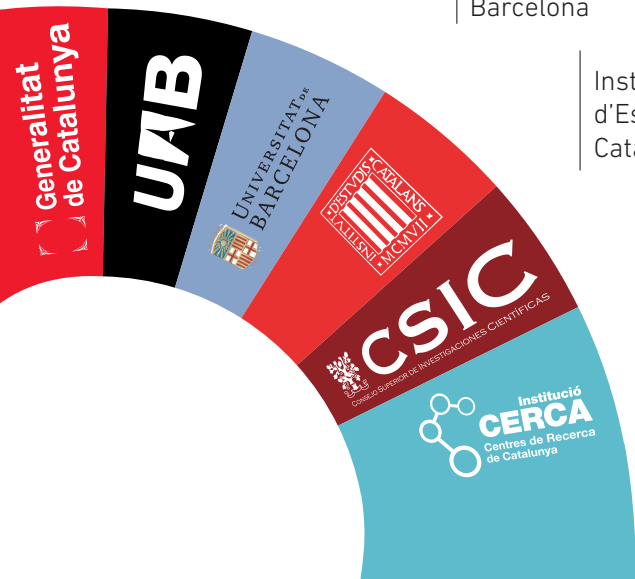
Universitat Autònoma de Barcelona

Universitat de Barcelona

Institut d'Estudis Catalans

Consejo Superior de Investigaciones Científicas

Institució Centres de Recerca de Catalunya



About us

- Founded in 1988
- A leading research center in Mediterranean ecosystems research
- Close to 120 scientists and experts grouped in four research areas: biodiversity, global change, forest ecology and territorial analysis.
- CREAM headquarters are located at the campus of the Autonomous University of Barcelona, Spain.
- An independent center for governments, NGOs, scientists, business and local communities to find practical solutions for facing global change in the Mediterranean region.
- 60 research projects with field studies and activities around the planet.
- Funded by governments, international and national research programs, private companies and foundations.
- Governed by a board of trustees formed by different public entities (administrations, universities, and research centers and institutes).

THE BOARD OF TRUSTEES OF CREAF



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Ms. Montserrat Barniol Carcasona, General Director of Forests (DARP)

Mr. Joan Nogué i Font, Director of the Landscape Observatory

Mr. Ferran Miralles i Sabadell, General Director of Environmental Policy (DTES)

Mr. Arcadi Navarro i Cuartiellas, Secretary of Universities and Research (DEC)

Mr. Juli Gendrau i Farguell, General Director of Prevention and Extinction of Forest Fires (DI)

Mr. Lluís Rovira, Director of the Foundation I-CERCA

Mr. Jaume Terradas, CREAF

BOARD OF DIRECTORS OF CREAF

The Board of Directors is named by the Board of Trustees and handles day-to-day issues of the Center. It is presided by the Director of CREAF and the Secretary is the Deputy Director of CREAF.

PRESIDENT OF THE BOARD OF DIRECTORS

Mr. Javier Retana, Director of CREAF

SECRETARY OF THE BOARD OF DIRECTORS

Mr. Joan Pino, Deputy Director of CREAF and professor of UAB

MEMBERS OF THE BOARD OF DIRECTORS

Sr. Jaume Vicens, Department of Territory and Sustainability

Sr. Enric Vadell, Department of Agriculture, Livestock, Fisheries and Environment (DARP)

Mr. Xavier Bellés, CSIC

Ms. Agustina Guiteras, Department of Economy and Knowledge (DEC)

Mr. Lluís Rovira, Fundació I-CERCA

Mr. Marc Castellnou, Department of Interior (DI)

Mr. Santiago Sabaté, UB

Scientific Committee



Pep Canadell
CSIRO, Australia

John Grace
Edinburg
University, UK



Rob Jackson
Duke's Center of
Global Change, EUA



Ivan Janssens
Antwerpen
University, Belgium



Ophélie Ronce
Institut des Sciences de l'Evo-
lution de Montpellier, France



Bridget Emmett
Centre for Ecology and
Hydrology,
United Kingdom



Staff

SCIENTIFIC DIRECTOR

Javier Retana Alumbroeros, PhD

DEPUTY SCIENTIFIC DIRECTOR

Joan Pino Vilalta, PhD

MANAGING DIRECTOR

José Antonio Fuentes Pérez

RESEARCHERS

CREAF Researchers

1. Pilar Andrés Pastor, PhD
2. Xavier Arnan Viadiu, PhD
3. Anna Àvila Castells, PhD
4. Jordi Bosch Gras, PhD
5. Enrique Doblás Miranda, PhD
6. Josep Maria Espelta Morral, PhD
7. Marc Gràcia Moya, PhD
8. Joan Llusà Benet, PhD
9. Arnald Marcer Batlle, PhD
10. Joan Masó Pau, PhD
11. Maria Mayol Martínez, PhD
12. Sergi Pla Rabés, PhD
13. Lluís Pesquer Mayos, PhD
14. Jordi Sardans Galobart, PhD
15. Jordi Vayreda Duran, PhD
16. Aleixandre Verger Ten, PhD

UAB Researchers

1. Josep M Alcañiz Baldellou, PhD
2. Bernat Claramunt López, PhD
3. Xavier Domene Casadesus, PhD
4. Francisco Lloret Maya, PhD
5. Jordi Martínez Vilalta, PhD
6. Joan Pino Vilalta, PhD
7. Josep Piñol Pascual, PhD
8. Javier Retana Alumbroeros, PhD

STAFF

Researchers



CREAF researchers



UAB researchers



UB researchers



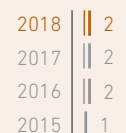
CSIC researchers



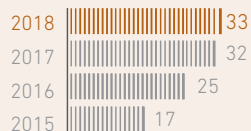
Associate researchers



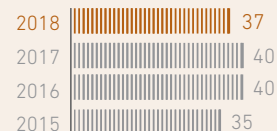
ICREA researchers



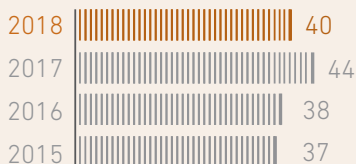
Post-Doctoral



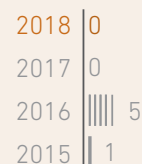
Doctoral Candidates



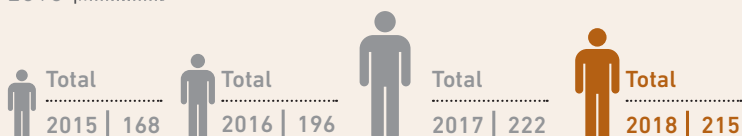
Technicians



Consultants



Administration



9. Miquel Riba Rovira, PhD
10. Angela Ribas Artola, PhD
11. Anselm Rodrigo Domínguez, PhD
12. Sandra Saura Mas, PhD
13. Jaume Terradas Serra, PhD

UB Researchers

1. Jofre Carnicer Cols , PhD
2. Marisol Felip Benach, PhD
3. Santiago Sabaté Jorba, PhD
4. Francesc Sabater, PhD

CSIC Researchers

1. Lluís Brotons Alabau, PhD
2. Jordi Catalan Aguilà, PhD
3. Marc Estiarte Garrofé, PhD
4. Iolanda Filella Cubells, PhD
5. Josep Peñuelas Reixach, PhD
6. Daniel Sol Rueda, PhD

Catalonian Institute for Research and Advanced Studies (ICREA) Researchers

1. Frederic Bartumeus Ferré, PhD
2. Maurizio Mencuccini, PhD

Associate Researchers

1. Raúl Bonal Andrés, PhD
2. Miquel de Cáceres Ainsa, PhD
3. Juan Antonio Calleja Alarcón, PhD
4. Eva Castells, PhD
5. Lluís Coll Mir, PhD
6. Santiago C. González Martínez, PhD
7. Sergi Herrando Vila, PhD
8. Alistar Jump, PhD
9. Louis Lefebvre, PhD
10. José M Montoya, PhD
11. Alberto Muñoz, PhD
12. Gerardo Ojeda Castro, PhD
13. Jaume Piera Fernández, PhD
14. Rosa M Roman Cuesta, PhD
15. Constantí Stefanescu, PhD

Post-Doctoral Researchers

1. Raquel Alfaro Sánchez, PhD
2. Albert Alvarez Nebot, PhD
3. Aitor Ameztegui González, PhD
4. M. Dolores Asensio Abella, PhD
5. Manuela Balzarolo, PhD
6. Corina Basnou, PhD
7. Enric Batllori Presas, PhD
8. Cristina Domingo Marimón, PhD
9. Simon Ducatez, PhD
10. Marcos Fernández Martínez, PhD
11. Mariona Ferrandiz Rovira, PhD
12. Joan García Porta, PhD
13. Raúl García Valdés , PhD
14. Albert Gargallo Garriga, PhD
15. Oriol Grau Fernández, PhD
16. Rossella Guerrieri, PhD
17. Mónica Ladrón de Guevara Sáez de Eguilaz, PhD
18. Oriol Lapiedra González, PhD
19. Lei Liu, PhD
20. Sara Marañón Jiménez, PhD
21. Olga Margalef Marrasé, PhD
22. Yolanda Melero Caverro, PhD
23. Alejandra Morán Ordóñez, PhD
24. Romà Ogaya Inurrigarro, PhD
25. Marc Peaucelle, PhD
26. Guillermo Peguero Gutiérrez, PhD
27. Rafael Poyatos López, PhD
28. Catherine Preece, PhD
29. Estela Romero, PhD
30. Elisabeth M.R. Robert, PhD
31. Benjamin Stocker, PhD
32. Aude Valade, PhD
33. Andrea Vidal, PhD

Doctoral Candidates

1. Sra. Teresa Alfaro (no scholarship)
2. Sr. Harold Arias (Government of Costa Rica)
3. Sra. Laura Blanquer Valderas (FPI-MINECO scholarship)
4. Sra. Olga Boet Escarceller (no scholarship)
5. Sra. Jamie Bookwalter (no scholarship)

6. Sr. Kevin Bórnez Mejías (FPU-MECD scholarship)
7. Sr. Antoine Cabon (FPI-MINECO scholarship)
8. Sr. Juan Chin (Government of Costa Rica)
9. Sr. Miguel Angel Collado Aliaño (FPI-MINECO scholarship)
10. Sr. Adrià Descals Ferrando (FPI-MINECO scholarship)
11. Sra. Andrea Duane (Beca FPU MECD)
12. Sra. Elena Fagín García (FPI-MINECO scholarship)
13. Sr. Víctor Flo Sierra (FPU-MECD scholarship)
14. Sr. Carlos Hernández Castellano (FPU-MECD scholarship)
15. Sra. Luciana Andrea Jaime González (FPI-MINECO scholarship)
16. Sra. Judit Lecina Díaz (FPI-MINECO scholarship)
17. Sr. Roger Lloret Cabot (no scholarship)
18. Sra. Alba Llovet Martín (FPI-MINECO scholarship)
19. Sr. Jordi Margalef Marrasé (FPU-MECD scholarship)
20. Sr. Joan Maspons Ventura (FPI-MINECO scholarship)
21. Sr. Zhaobin Mu (Beca CSC-UAB)
22. Sra. Kaori Otzu (no scholarship)
23. Sr. Carlos Palacín Lizarbe (FPU-MECD scholarship)
24. Sra. Marina Palmero Iniesta (no scholarship)
25. Sr. Manuel de Pedro Rodríguez (FPI-MINECO scholarship)
26. Sra. Maria Ángeles Pérez Navarro (FPU-MECD scholarship)
27. Sra. Larissa Rejalaga (no scholarship)
28. Sra. Sara Reverté Saiz (FPI-MINECO scholarship)
29. Sra. Laura Roquer Beni (FI-AGAUR scholarship)
30. Sra. Teresa Rosas Torrent (FPI-MINECO scholarship)
31. Sra. Mona Sadat Mobargha (no scholarship)
32. Sra. Verónica Sandoya (no scholarship)
33. Sra. Mar Unzeta Lloret (FI-AGAUR scholarship)
34. Sra. Ifigenia Urbina Barrero (FPI-MINECO scholarship)
35. Sra. Maria Vives Ingla (FPU-MECD scholarship)
36. Sr. Kaijun Yang (Beca CSC-UAB)
37. Sra. Aitziber Zufiaurre (FPI-MINECO scholarship)
5. Sr. Carles Batlles Climent
6. Sra. Maria José Broncano Atencia
7. Sra. Annelies Broekman
8. Sr. Xavier Calaf Ramirez
9. Sr. Vicenç Carabassa Closa
10. Sr. Xavier Carbonell Casadesús
11. Sra. Rosa Casanovas Berenguer
12. Sr. Lluís Comas Boronat
13. Sr. Agustí Escobar Rúbies
14. Sr. Pere Roc Fernández Garberí
15. Sr. Miquel Ferrin Guardiola
16. Sra. Laura Force Seguí
17. Sra. Irene Fraile Torroella
18. Sra. Laura Fuentes López
19. Lucia Galiano Pérez, PhD
20. Sr. Christian García González
21. Sr. Javier Gordillo Cerrada
22. Sr. Víctor Granda Garcia
23. Sra. Anna Guardia Valle
24. Sra. Orellys Home Mas
25. Sra. Xènia Jaumejoan Gil
26. Sra. Núria Julià Selvas
27. Sr. Francisco de Paula Molina Fuentes
28. Sra. Montserrat Morral Cors
29. Sr. Pol Oliveras Casas
30. Sra. Diana Pascual Sánchez
31. Sr. Abel Pau García
32. Sra. Maria Teresa Peñarroya Polo
33. Eduard Pla Ferrer, PhD
34. Sra. Ester Prat Carrió
35. Sra. Marta Ramírez Boixaderas
36. Sra. Anabel Sánchez Plaza
37. Sra. Ivette Serral Montoro
38. Sr. Felipe Toro Mejía
39. Sra. Helena Vallicrosa Pou
40. Sr. Paolo Zuccarini

TECHNICIANS

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1. Sr. Enrique Alvarez Domínguez
2. Sra. Nikole Azagury García
3. Sra. Mireia Banqué Casanovas
4. Sra. Meritxell Batalla Mercadé

UAB Staff

1. Sra. Carme Pacios

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2. Sr. Youssef Bouchakri
3. Sr. Carlos Carreño Leal
4. Sra. Cristina García López
5. Sr. Pau Guzmán Martín
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7. Sra. Elena Martín Fernández
8. Sr. Daniel Martínez Gómez
9. Roberto Molowny Horas, PhD
10. Sr. David Morales Duran
11. Sra. María José Moreno Herмосilla
12. José Luis Ordóñez García, PhD
13. Sra. Magda Pujol Mardones
14. Sra. Anna Ramon Revilla
15. Sra. Olga Roig Herrera
16. Sra. Olga Troyano Martínez

WITH FINALIZATION OF RELATION WITH CREAM DURING 2017

Personnel

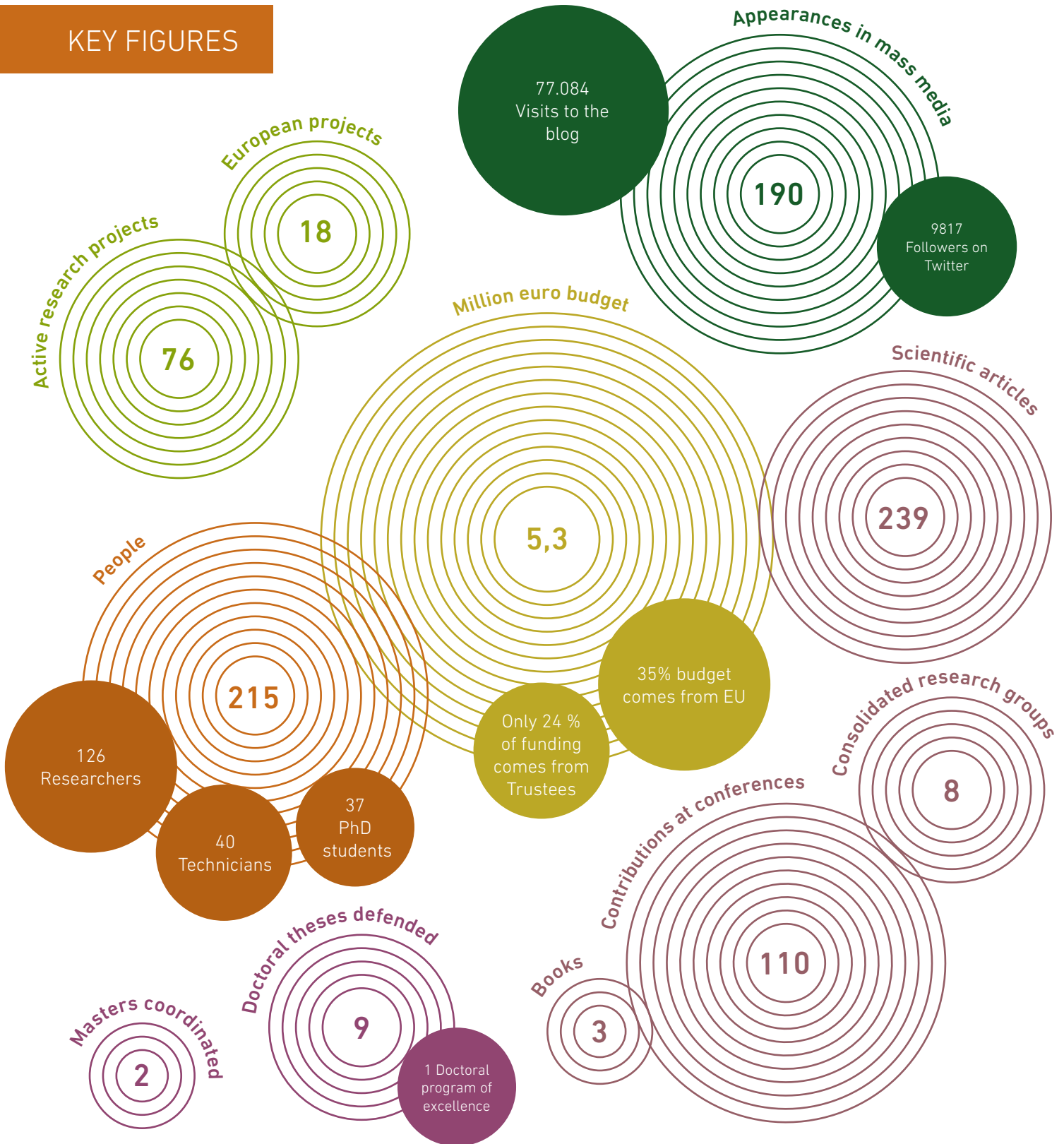
Marta Camino Serrano, José Valentín Rocés Díaz, Chao-Ting Chang, Guillem Closa Santos, Nancy Gamboa, José David García Callejas, Sergio Osorio Cañadas, Irene Raya Moreno, Helena Ruíz Carbayo, Ferran Sayol Altarriba, Chao Zhang, Tong Zheng, Ricard Arasa Gibert, Guillem Bagaria Morató, Roger Eritjà Mathieu, Anna Escolà Llorens, Gerard Farré Armengol, Carlos López Marín, Stefania Mattana, Aitana Oltra Codina, Ingrid Regalado Segarra, José Antonio Fuentes Pérez, Albert Naya, Marina Torres Gibert,

CONSULTANTS

VISITING RESEARCHERS FROM NATIONAL AND INTERNATIONAL INSTITUTIONS

Jacob Nelson, Max Planck Institute for Biogeochemistry (Alemanya)
 Mohammed A.S. Arfin Khan, University of Bayreuth (Alemanya)
 Stefan Ossyssek, Technische Universität München (Alemanya)
 Jerome Murienne, CNRS (França)
 Luisina Carbonell Silletta, Instituto de Biociencias de la Patagonia (Arg.)
 Daniela Boaneres de Souza, Universidade Federal de Minas Gerais (Brasil)
 Lucy Rowland, University of Exeter (UK)
 Débora di Francescantonio, IBS-UNaM-CONICET (Argentina)
 Rodrigo Gabriel Pol, Desert Community Ecology Research Team (Arg.)
 Aurélie Cohas, Université Claude Bernard (França)
 Cleiton Eller, University of Exeter (UK)
 Adrien Finzi, University of Connecticut (USA)
 Andrei G. Lapenas, University of Albany (USA)
 Annick Severine Lang, University of Lund (Suècia)
 Giulio Zangari, University of Tuscia (Itàlia)
 Carlos Magno Martins Vila-Viçosa, CIBIO (Portugal)
 Pilar Hurtado Aragües, Universidad Rei Juan Carlos
 Simone Wengrat, Aarhus University (Dinamarca)
 José Raúl Romo, Universidad de Sonora (Mèxic)
 José Valentin Rocés, Swansea University (UK)
 Carlos Alberto Rivera Rondón, Pontificia Universidad Javeriana (Colòmbia)
 Patrick A. James, Universitat de Montréal (Canada)
 Qi Wang, Institute of Tibetan Plateau Research (Xina)
 Natasa Kiorapostolou, University of Padua (Itàlia)
 Devore Jayna Lynn, University of Sidney (Austràlia)
 Linda Göbel, Universität Freiburg (Alemanya)
 Louis Santiago, University of California (USA)
 Rafael Oliveira, Universidade Campinas (Brasil)
 Luis Novo, Universidade de Aveiro (Portugal)
 Carolina Rojas, Pontificia Universidad Católica (Xile)
 Agmieska Szczerba, Faculty Oceanography & Geography Gdansk (Polònia)

KEY FIGURES





ANNUAL HIGHLIGHTS

CREAF
COUNCIL FOR
RESTORATION AND
ENVIRONMENTAL ACTION

CREAF'S NEW SLOGAN: ECOLOGY MOVES US

The slogan is intended to convey that there are lots of discerning, dedicated, creative, rational people at CREAM. CREAM's new slogan refers to us, our mission and our research, be it in the open air, deep in a forest or high up on a mountain, or in a laboratory. It is not only us who are moved by ecology though. Ecology moves the world; nothing can exist outside ecosystems.



Ecology moves us is the new slogan of CREAM. Credit: J.Luis Ordóñez

CREAF CELEBRATES ITS 30TH ANNIVERSARY

This year, 2018, the CREAM celebrates its 30th anniversary. To celebrate it, we organized the show "You really move us". An official ceremony, with some distinguished personalities, but at the same time a fun event, quite different from what we were used to, where the main characters were our researchers



Jaume Terradas, Javier Retana, Alba Llovet and Carlos Hernández at a moment of the celebration. Credit: Pau Guzmán.



Joan Masó shakes hands with OGC President and CEO Mark Reichardt upon receiving the 2018 Gardels Award.

JOAN MASÓ RECEIVES OGC'S 2018 GARDELS AWARD

At the September meeting of the Open Geospatial Consortium (OGC) Technical Committee in Stuttgart, Germany, Joan Masó received the OGC's prestigious Kenneth D. Gardels Award. The Gardels Award is presented each year to an individual who has made an outstanding contribution to advancing OGC's vision of fully integrating geospatial information into the world's information systems.

3 CREAM RESEARCHERS ON THE LIST OF THE MOST CITED IN THE WORLD

Jordi Martínez-Vilalta, Maurizio Mencuccini and Josep Peñuelas are on the list of the world's most influential scientists published by Clarivate Analytics - a leading company in the innovation sector. This list identifies the experts who lead the studies with the greatest international scientific impact in various areas of study.



Jordi Martínez-Vilalta, Maurizio Mencuccini and Josep Peñuelas.

INTERNATIONAL HIGHLIGHTS



CREAF PRESENTS THE NETWORK FOR EUROPEAN MOUNTAIN RESEARCH (NEMOR)

Coordinated by CREAM and comprising more than 50 European organizations, NEMOR has produced a document seeking the European Commission's recognition of mountains as a unique setting for activities such as testing related to the effects of climate change, reversing depopulation and promoting new circular economy projects.

CREAF PARTICIPATES IN THE GEO WEEK GLOBAL INITIATIVE IN WASHINGTON DC

At the annual meeting of GEO (Group on Earth Observations), CREAM has organized two sessions: one that talked about citizen science, and another which explored the future perspectives for EuroGEOSS.



Informative stand in the GEOweek. Credit: Joan Masó.



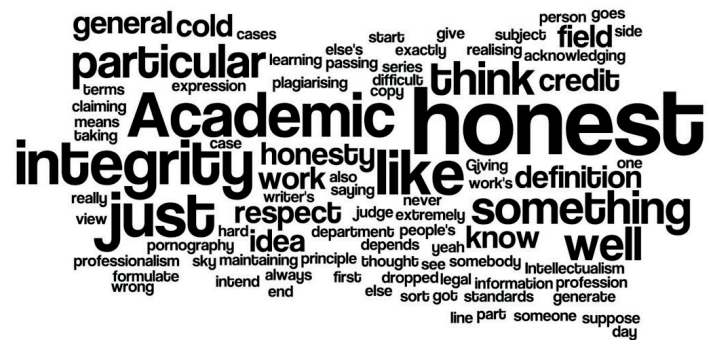
Coypu, an invasive alien species in Catalonia.

CREAF PARTICIPATES IN A NEW COST ACTION TO INCREASE UNDERSTANDING OF ALIEN SPECIES THROUGH CITIZEN SCIENCE

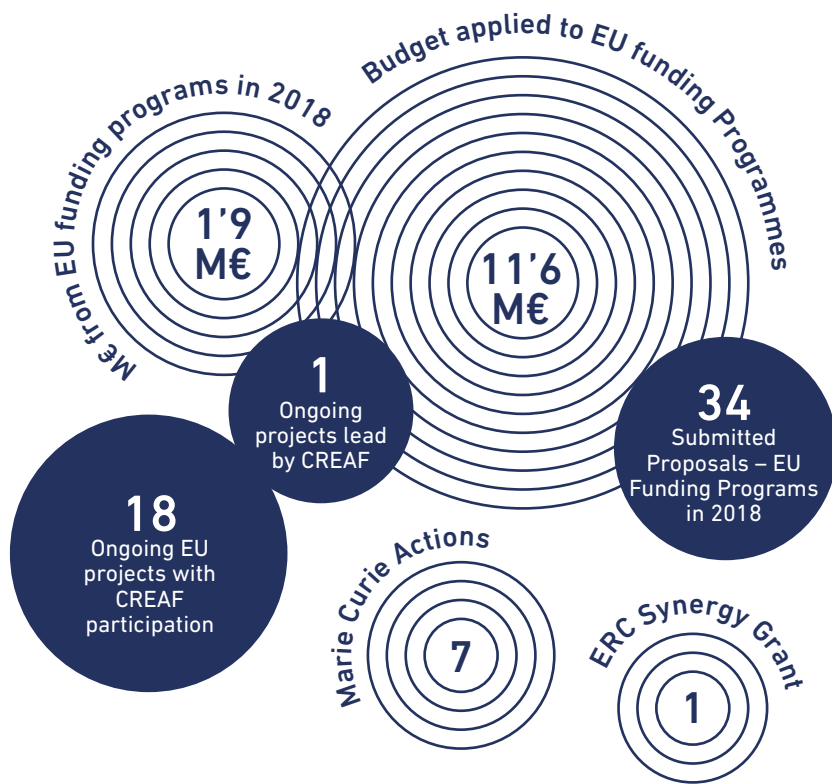
The action will address multidisciplinary research questions in relation to developing and implementing citizen science, advancing scientific understanding of alien species dynamics while informing decision-making specifically implementation of technical requirements of relevant legislation. Bernat Claramunt is leading the Working Group 5 about cross-cutting citizen science initiatives for IAS across Europe.

CREAF ENGAGED WITH AN EUROPEAN WORKING GROUP TO BOOST ETHICS AND INTEGRITY IN RESEARCH

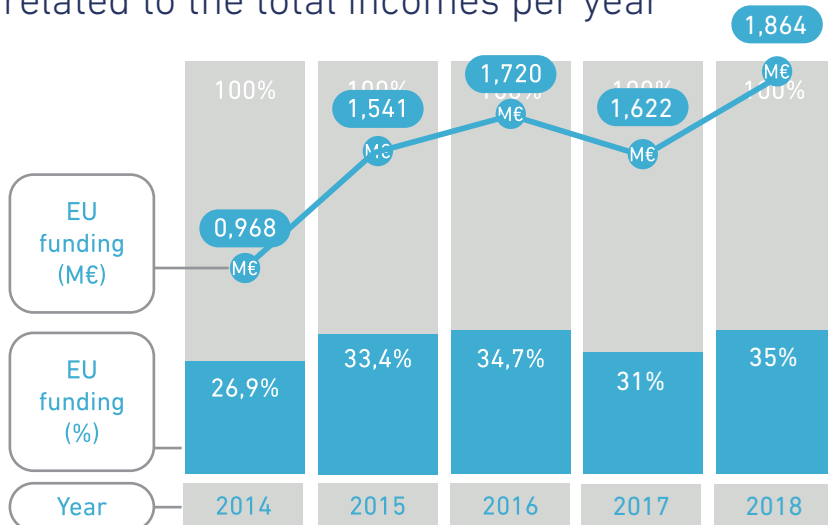
Olga Roig participated in the last ENRIO meeting, a European group to discuss the practical side of Research Ethics and Integrity. By working actively within this community it's expected for CREAM to access solutions to ensure compliance, efficiency, functionality, fairness, and robustness in the practices and processes of the center.



KEY FIGURES



Total EU funding and % of EU funding related to the total incomes per year



Submitted proposals in 2018 (5 coordinated by CREAM)

HORIZON 2020

Excellent Science

- 1 ERC Advanced Grant
- 1 ERC Starting Grant
- 1 Marie Skłodowska-Curie Actions COFUND
- 4 MSCA ITN
- 7 MSCA IF-EF
- 1 Marie Curie IF-GF

Societal Challenges

(Collaborative projects)

- 7 Societal challenge 5
- 3 Societal challenge 2
- 2 COST actions
- 8 By funding schemes Research and Innovation Action
- 3 Innovation Action
- 3 Coordination & Supporting Actions

Widening & Spreading excellence

- 2 Twinning

Science with and for Society

- 3 Science with & for Society

INTERREG

- 1 EUROPE

LIFE

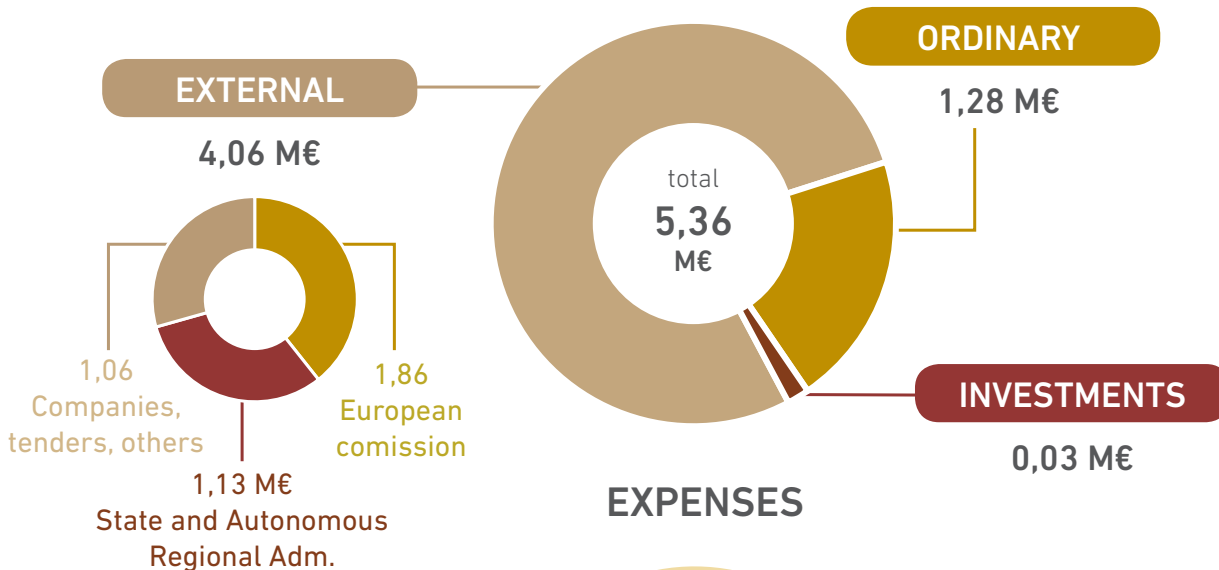
- 2 Climate Change Adaptation
- 1 LIFE Nature & Biodiversity

Other external funds

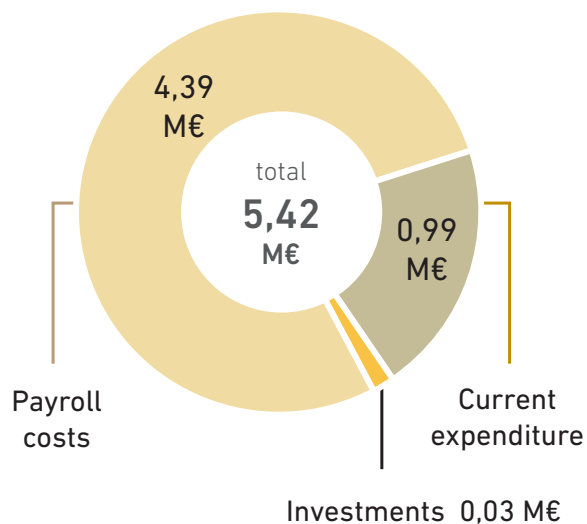
- 1 Funds for Network
- 1 Internships
- 3 Tenders with EU public institutions

FINANCIAL OVERVIEW

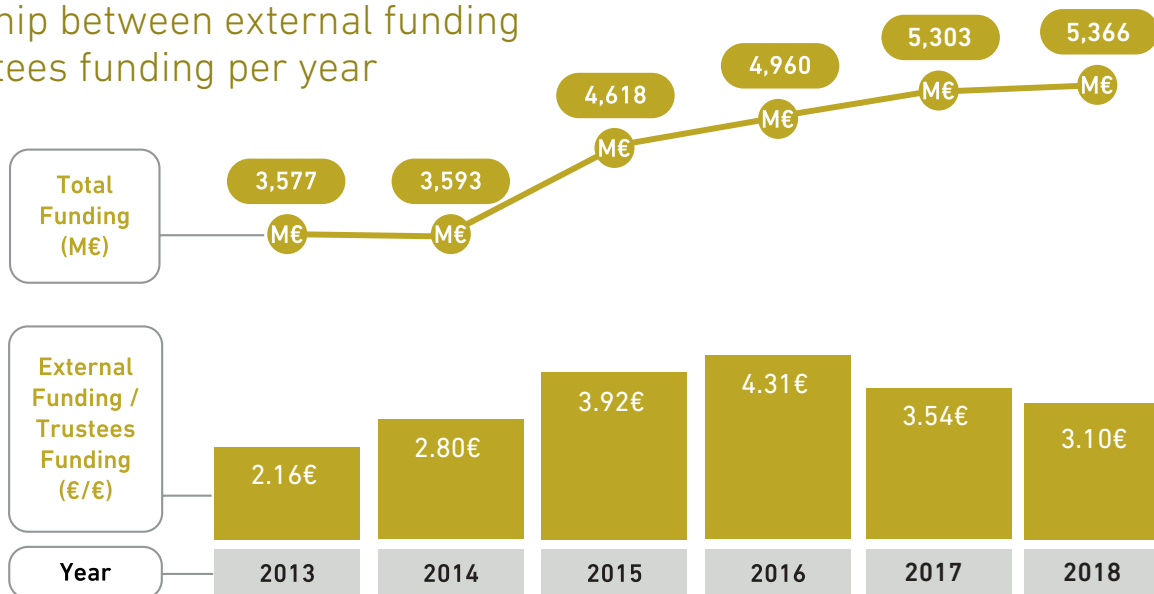
REVENUE



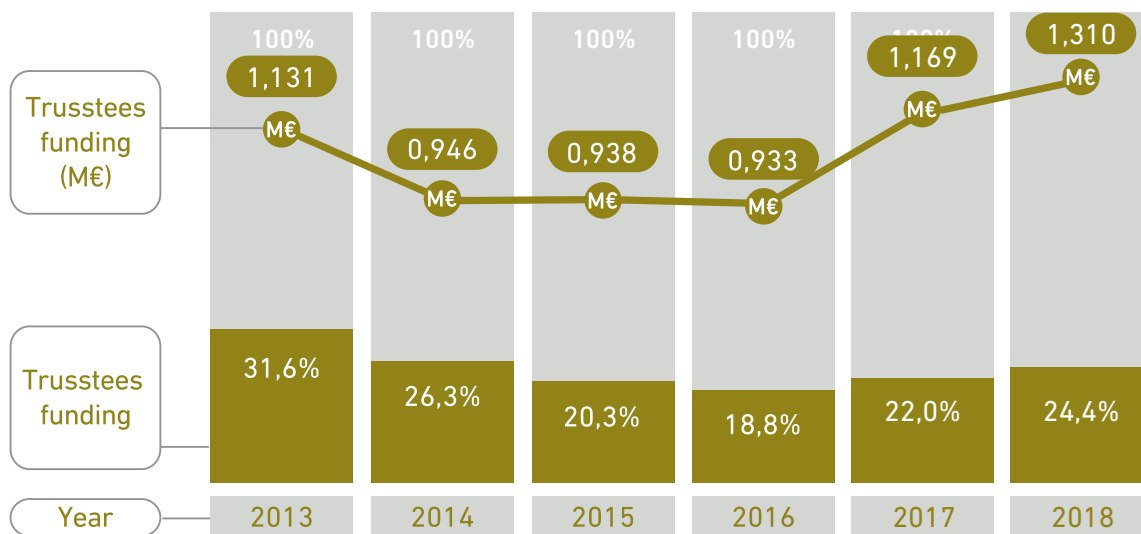
EXPENSES



Total CREAM's funding and relationship between external funding and Trustees funding per year



Total contribution of Trustees to CREAM's budget and % of Trustees funding related to the total incomes per year

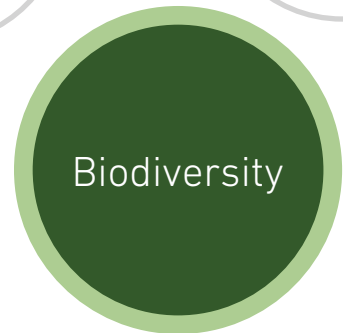
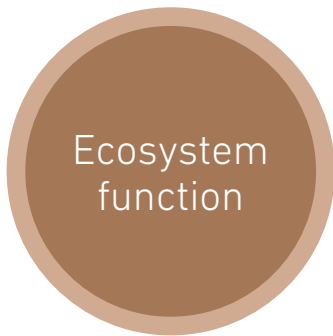


A woman with red hair tied back is seen from behind, holding a smartphone to take a photograph of a large pine tree. The tree is covered in numerous dark pine cones. The background is a clear blue sky. A green rectangular overlay is positioned in the upper right corner of the image.

RESEARCH HIGHLIGHTS

Our research has a global impact.

We have a broad and multidisciplinary research portfolio, integrating fundamental research advances with important contributions in environmental issues of great socioeconomic impact. Our research focuses on four big areas and six cross-cutting topics.





Biodiversity

The Mediterranean Basin is one of the principal points of biodiversity concentration on the planet. The loss of this biodiversity is one of the greatest environmental challenges which we have been obliged to face in the past few decades. Without biodiversity, it would be impossible to obtain the multitude of ecological goods and services which we need to live.

At CREAF we study the mechanisms which generate and maintain biodiversity in terrestrial ecosystems. We analyze territorial patterns of biodiversity and the factors which threaten it. We work with species and communities of plants and animals, with studies carried out from the molecular to ecosystem scale.

Research lines

- Behavior, ecology and evolution
- Population and community dynamics
- Evolutionary ecology
- Species distribution and phenology
- Ecological networks and species interactions

SCIENTIFIC ADVANCES

November, 19th 2018

From the Arctic to the tropics: researchers present a unique database on Earth's vegetation

In a new study published in the scientific journal "Nature Ecology & Evolution", where CSIC-CREAF researcher **Josep Peñuelas** has participated, they present the world's first global vegetation database which contains over 1.1 million complete lists of plant species sampled across all Earth's ecosystems. The database could help better predict the consequences of global climate change.



Tundra landscape in Iceland. Credit: Chris Ried on Unsplash.

July, 31th 2018

Living on an island: a smart choice

An international team of scientists led by CREAF researchers **Ferran Sayol** and **Daniel Sol** have recently discovered a new evolutionary trend that of **increased brain size in island-dwelling animals**. In a study published in the journal *Nature Communications*, the team analyse the relative brain size of **over 11,500 specimens of more than 1,900 bird species**, insular and continental alike. Having reconstructed the changes the brains of these species have undergone over the last 60 million years, the study's authors conclude that differences in brain size are the result of evolutionary changes that occurred **after island colonization**.



A female New Zealand Tomtit (*Petroica macrocephala*) perching on a branch in South island. Credit: Jon Sullivan

February, 19th 2018

Promoting borders between crops is vital to pollinator survival

Proceedings of the Royal Society B has published a study led by the University of Göttingen (Germany) which shows that insect pollinator numbers and biodiversity surge when farmland is laid out as small, irregularly shaped crop fields. This happens because arranging land in such a way means more borders between crops, and those borders are vital to maintaining healthy populations of insect pollinators. A border of grasses and ruderals which enable insects to thrive always forms naturally between two crop fields. CREA researcher **Jordi Bosch** explains that he and his colleagues from CTFC have found that such borders act as highways for insects.



Agricultural landscape with various crops and borders, in Monfrie, in the Italian region of Piemonte.

SCIENCE FOR ENVIRONMENTAL MANAGEMENT

August, 7th 2018

First detection of *Aedes japonicus* in Spain thanks to citizen scientists

Aedes japonicus is an invasive insect capable of transmitting diseases such as West Nile virus. The mosquito was found in Asturias (North Spain) when a person sent a photo of the insect with the Mosquito Alert app in June.



Aedes japonicus. Credit: ECDC

HIGHLIGHTED BIODIVERSITY RESEARCH PROJECTS

DEMO

Demonstration of the management of a solitary bee to improve orchard pollination



Principal investigator:
Jordi Bosch and Anselm Rodrigo
Budget: 29.961 €
Entity: Generalitat de Catalunya
Period: 2017-2018

UBMS

uBMS proposes to create Citizen Observatory of Urban Butterflies with volunteers who prospect butterflies in big cities.



Principal investigator:
Yolanda Melero
Budget: 15.000 €
Entity: Fundación Biodiversidad
Period: 2018-2019

LIQUENCITY

LiquenCity. Find urban lichens and discover the quality of the air in your city



Principal investigator: Bernat Claramunt
Budget: 27.872,75 €
Entity: FECYT
Period: 2018-2019

EXOCAT

Monitoring program of exotic species in Catalonia



Principal investigator: Joan Pino
Budget: 50.000 €
Entity: Generalitat de Catalunya
Period: 2010-2018

Check **Annexes** to see other research projects in Biodiversity Area

PICAT

Integrated platform for the control of aboviruses in Catalonia



Principal investigator:
Fede Bartumeus
Budget: 443.657,10 €
Entity: Ministerio de Economía y Competitividad
Period: 2017-2019

TRANSFER

Keys to understanding the transfer of atmospheric fluctuations to the dynamics of lake plankton



Principal investigator:
Jordi Catalan
Budget: 166.980 €
Entity: Ministerio de Economía y Competitividad
Period: 2016-2019

WILDLIFE IN THE ANDORRAN PYRENEES

Long term survey of high elevation organisms and some of their interactions, to determine whether climate change and/or human pressure will lead to new communities.



Principal investigator:
Bernat Claramunt
Budget: 263.091 €
Entity: EarthWatch Institute
Period: 2016-2020

SISEBIO

Catalonian program for comprehensive biodiversity monitoring



Principal investigator: Javier Retana
Budget: 88.000 €
Entity: Generalitat de Catalunya
Period: 2016-2018

Global Change

Each organism, every community, and every ecosystem plays an important role in the regulation of cycles of energy and nutrients which keep the planet alive. Some of these roles have been modified due to atmospheric changes, climate change, increases in disturbances and changes in land use.

At CREAM we study the effects of **global change** (which includes all of the aforementioned changes) with an international and multidisciplinary focus. The methods of study require working at **diverse scales** (from the organism to the ecosystem), combining experimentation with modeling, and conducting **long-term** monitoring of different ecosystems.

Research lines:

- Biological invasions
- Land use change and landscape dynamics
- Climate change
- Fires
- Integrative and adaptive management of water and the territory
- Urbanization and biodiversity

SCIENTIFIC ADVANCES

February, 14th 2018

Plants are exposed to frost more frequently as a result of climate change

Plants' annual growing season has lengthened, exposing them to frost more often at a time when they are particularly sensitive. That can be detrimental to their activity and lead to substantial crop yield losses.



Winter frost on a mosaic of fields. Credit: Carles Battles

November, 5th 2018

Tree rings show how the tropics shifted 800 years into the past

Studying shifts of the northern-most edge of the tropics revealed that periods of tropical expansion coincided with severe droughts, an article led by Raquel Alfaro Sánchez found.



Each annual growth ring of a tree reflects the climate that year.

December, 18th 2018

Tropical forests increase Earth's carbon sequestration capacity

According to a study published in the Nature Climate Change journal, the capacity of terrestrial ecosystems to absorb carbon dioxide (CO₂) increased between 1994 and 2014. The study highlights the need to protect tropical forests, as their carbon sequestration rate has risen more than that of any other type of forest over the last few years.



Cloud forest.

SCIENCE FOR ENVIRONMENTAL MANAGEMENT

April, 24th 2018

Need for re-evaluation of water, forest and agriculture management strategies in Catalan strategy for climate change adaptation

The final conclusions of the LIFE MEDACC project draw attention to the need to adapt forest, agriculture and water management strategies to the new arid conditions expected as a result of climate change. Since 1973, the water flow at the headwaters of the Muga and Ter rivers has dropped by almost half, and the volume of the middle and lower sections of the Segre has decreased by as much as 60%. June 28th, 2017



Three basins scheme in which MEDACC has worked.

HIGHLIGHTED GLOBAL CHANGE RESEARCH PROJECTS

ISACC TORDELTA

Involving society in climate change adaptation in the Tordera Delta



Principal investigator:
Javier Retana
Budget: 50.634,00 €
Entity: Fundación Biodiversidad
Period: 2017-2018

PHUSICOS

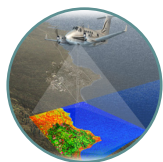
The project aims to test natural-based solutions to counteract the increasing risk of hydrogeological disasters in the EU mountain regions.



Principal investigator:
Pilar Andrés
Budget: 158.121,60 €
Entity: EU
Period: 2018-2022

IMBALANCE-P

Effects of phosphorus limitations on Life, Society and the Earth System.



Principal investigator:
Josep Peñuelas
Budget: 13.600.579,00 €
Entity: EU
Period: 2014-2020

ALIEN SCI

Increasing understanding of alien species through citizen science



Principal investigator:
Bernat Claramunt
Entity: EU
Period: 2018-2022

FERT-WARM

Investigating how warming, drought, and nutrient limitations and imbalances affect the C sink capacity of Earth terrestrial biosphere.



Principal investigator:
Josep Peñuelas
Budget: 321.860,00 €
Entity: Ministerio Economía y Competitividad
Period: 2016-2019

REGIME-SHIFTS

Quantifying, observationally and experimentally, the responses to extreme drought conditions in model tree, shrub, plant and insect species.



Principal investigator:
Jofre Carnicer
Budget: 79.860,00 €
Entity: EU
Period: 2016-2019

Check **Annexes** to see other research projects in Functional ecology and global change Area

Ecosystem function

Each organism, every community, and every ecosystem plays an important role in the regulation of cycles of energy and nutrients which keep the planet alive. Some of these roles have been modified due to atmospheric changes, climate change, increases in disturbances and changes in land use.

At CREAM we study the effects of global change (which includes all of the aforementioned changes) with an international and multidisciplinary focus. The methods of study require working at diverse scales (from the organism to the ecosystem), combining experimentation with modeling, and conducting long-term monitoring of different ecosystems.

Research lines:

- Functional biogeography
- Chemical ecology, ecotoxicology, metagenomics, and metabolomics
- Soil function and restoration
- Atmosphere-biosphere interactions
- Stores and flows of water, carbon, and nutrients

SCIENTIFIC ADVANCES

January, 19th 2018

Thirsty holm oaks lose 21% more carbon through their roots

Once rehydrated, holm oaks have a large capacity for recovery thanks to their high adaptation to the Mediterranean climate. The release of organic compounds into the soil represents a considerable loss of carbon for the holm oak and also modifies the microbial community, which may lead to additional effects on the tree. There are also exudates that make soil nutrients more available to the plant," explains Catherine Preece, CREAM researcher and lead author of the study that was published in *Tree Physiology*.



Catherine Preece with holm oaks in the greenhouse where the experiment took place. Credit: Marina Torres.

July, 26th 2018

'Pampered' trees are the most vulnerable to drought

A recent study conducted by Francisco Lloret, a CREAM researcher and lecturer at the Autonomous University of Barcelona, reveals that trees that have lived in the most ideal climatic conditions are more susceptible to damage during prolonged dry spells. This discovery highlights the importance of the individual history of a forest, given that its resistance to drought will depend on the climatic conditions it has endured in the past.



Foto: Josep Fuster (CC BY).

December, 13th 2018

Nitrogen available to plants in decline

According to an article published in Nature Ecology & Evolution, the authors of which include CREAM postdoctoral researchers Sara Marañón and Rossella Guerrieri (Marie Skłodowska Curie grant holders), the concentration of nitrogen in plant leaves has been in general decline throughout the world for the last 40 years.



Rossella Guerrieri in a north American forest. Credit: Johan Neegers

SCIENCE FOR ENVIRONMENTAL MANAGEMENT

June, 28th 2018

Catalonia's agricultural soils contain four years' worth of carbon emissions

The soils below dryland crops contain 54% of Catalan agricultural land's 48 million tons of organic carbon, although the highest concentrations are found in rice fields and pastures. In the words of CREAM researcher Jordi Vayreda, the study has produced a map that show "changes in soil carbon capacity, the importance of our agricultural soils' role in mitigating climate change, and the most suitable cultivation techniques".



Rice fields are the best at carbon sinking in their soils. Credit: Josep Torta.

HIGHLIGHTED ECOSYSTEM FUNCTION RESEARCH PROJECTS

CLISWELN

Climate Services for the Water-Energy-Land-Food Nexus



Principal investigator:

Jordi Martínez-Vilalta

Budget: 1,004,303.20 €

Entity: Joint Programming Initiative JPI Climate

Period: 2017-2020

StoiCa

Resilience of stoichiometry in subarctic soils under temperature-induced Carbon losses: where does the Nitrogen go?



Principal investigator:

Sara Marañón

Budget: 170,121.60 €

Entity: European Commission (Marie Curie Actions)

Period: 2017-2019

GREEN LINK

Restore desertified areas with an innovative tree growing method across the Mediterranean border to increase resilience



Principal investigator:

Josep Maria Alcañiz

Budget: 2,891,702.00 €

Entity: European Commission (Life+)

Period: 2016-2020

INMODES

Integrated modeling and planning of forest biodiversity and ecosystem services in scenarios of global change



Principal investigator: Javier Retana

Budget: 145.200 €

Entity: Ministerio Economía y Competitividad

Period: 2018-2020

NITRIPHYLL

A novel approach to determine canopy nitrification in the phyllosphere of European forests: combining multiple isotope tracers and proteogenomic techniques



Principal investigator:

Rossella Guerrieri

Budget: 158.121,60 €

Entity: European Commission (Marie Curie Actions)

Period: 2016-2018

M-TRAIT

Modeling tree response to aridity increase with traits



Principal investigator:

Aude Valade and Josep Peñuelas

Budget: 158.121 €

Entity: Marie Curie Actions UE

Period: 2018-2030

FERTICHAR

Use of biochar for soil nitrogen cycling regulation and for a new generation fertilisers



Principal investigator: Josep-

Maria Alcañiz Baldellou

Budget: 193.600,00 €

Entity: Ministerio Economía y Competitividad

Period: 2016-2018

Check **Annexes** to see other research projects in Forest ecology and wildfires Area



Earth Observation

Remote sensing and geographic information systems have permitted analysis of the territory at large scales, and which are at the same time increasingly detailed. These analyses become fundamental for making decisions about the sustainable management of natural resources, designing networks of protected areas, and facing the threats of global change.

Thanks to research carried out by CREAM in this area, we have been able to provide to the public a collection of digital maps of land use of various periods of time, design new formats for storing and distributing thematic cartography, and develop computing tools such as the MiraMon GIS, all of which permit the consultation and analysis of a large quantity of information about our natural heritage.

Research lines:

- Geospatial products and international standards
- Long term ecosystem monitoring
- GIS and remote sensing methodologies and applications
- Regional and global environmental information services

SCIENTIFIC ADVANCES

January, 10th 2018

Current challenges for a global contribution of the European Earth Observation

CREAF organized a side event during the EuroGEOSS presentation to address the role of Research and Innovation in the EuroGEOSS regional initiative. EuroGEOSS will organize the European contributions to the Global Earth Observation System of Systems (GEOSS) and completes the map of regional activities with the already existing AmeriGEOSS, AfriGEOSS, and Asia-pacific GEOSS.



Informative stand at GEOweek. Credit: Joan Masó.

February, 1st 2018

Climate change is causing plants to flower earlier and changing the rhythm of nature

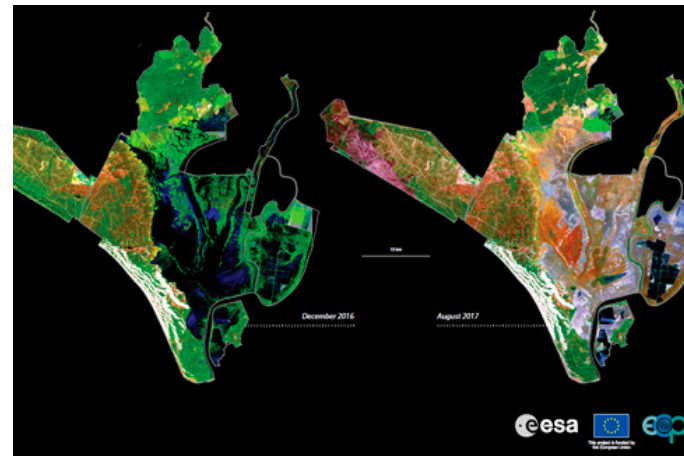
CREAF and the companies Altran and Starlab have led the design of RitmeNatura.cat, a citizen observatory that encourages members of the public to 'adopt' a plant, record the changes it undergoes and provide data that can be used to study the effects of climate change.



March, 5th 2018

ECOPOTENTIAL launched “SPACED: Using Earth Observations to Protect Natural Landscapes” exhibition in Bruxelles

To help promote ECOPOTENTIAL project CREAM and all ECOPOTENTIAL partners opened an exhibition entitled “Spaced: Using Earth Observations to Protect Natural Landscapes” at the European Parliament. Those with passes to the European Parliament was there from 8-12 January 2018.



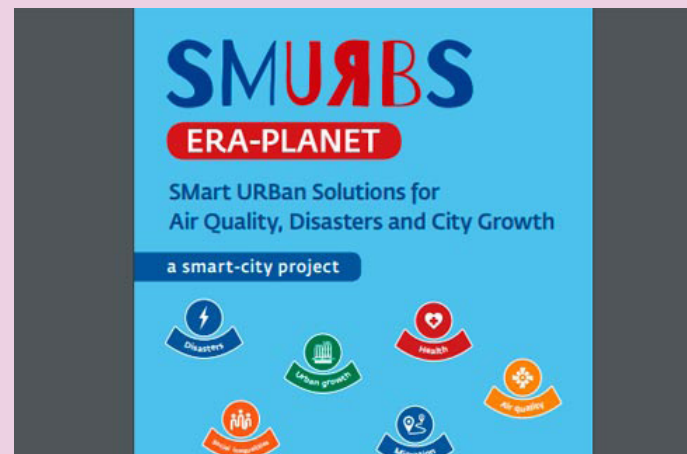
Joan Masó and Cristina Domingo.

SCIENCE FOR ENVIRONMENTAL MANAGEMENT

September, 24th 2018

Smart urban solutions for more resilient cities

CREAF participates in SMURBS project. A new project harnesses Earth observation (EO) data to improve the quality of life in urban areas. The project's first step is to stimulate strategic planning by connecting with local authorities, urban planners and city-level stakeholders to map out 'what is already out there' and 'what the users want'.



HIGHLIGHTED EARTH OBSERVATION RESEARCH PROJECTS

WEOBSERVE

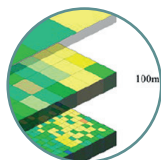
An Ecosystem of Citizen Observatories for Environmental Monitoring



Principal investigator: Joan Masó
Budget: 1.069.507,50 €
Entity: European Commission
Period: 2017-2020

ESA-CCI

ESA project that aims to study and investigate the role of the spatial resolution of Land Cover and its changes in supporting climate modelling research at regional scale.



Principal investigator:
 Alexandre Verger
Entity: European Commission
Period: 2018-2021

SMURBS. ERA-PLANET

SMart URBan Solutions for air quality, disasters and city growth



Principal investigator: Lluís Pesquer
Budget: ERA- Planet
Entity: European Commission (Joint Transnational Call of ERA-PLANET)
Period: 2017-2020

MIRAMON

The geographic information system and remote sensing software MiraMon.



Principal investigator: Xavier Pons, UAB
Budget: 63.000,00 €
Entity: Generalitat de Catalunya
Period: 2018

INDRO

Remote sensing INDicators for DRought monitoring



Principal investigator:
 Manuela Balzarolo
Budget: 170.121,60 €
Entity: European Commission (Marie Curie Actions)
Period: 2017-2019

GEO-Essential. ERA-PLANET

Variables workflows for resource efficiency and environmental management



Principal investigator: Joan Masó
Budget: ERA-Planet
Entity: European Commission
Period: 2017-2020

ERA-PLANET

It will provide advanced decision support tools and technologies aimed to better monitor our global environment and share the information and knowledge in different domain of Earth Observation.



Principal investigator: Nicola Pirrone (CNR – Istituto sull’Inquinamento Atmosferico)
CREAF: Joan Masó
Budget: 50.730.791,00 €
Entity: European Commission
Period: 2016-2021

C-GLOPS1

Providing global biophysical variables and land surface phenology from Earth observation satellites.



Principal investigator:
 Alexandre Verger
Budget: 216.000,00 €
Entity: EU
Period: 2015-2019

Check **Annexes** to see other research projects in Environmental and territorial analysis and GIS Area

CROSS-CUTTING TOPICS



Forests



Citizen science



Sustainability



Big Data and
data quality



Ecosystem
services



Mediterranean
Basin



In this area, CREAM focuses its research on the structure, dynamics and functioning of forests. In particular, we study the decline, regeneration and global functioning of forests by studying nutrient and water cycles and uses. In addition, we develop mathematical models, carry out forest inventories, and create databases.



A deciduous forest. Credit: Lluís Comas.

Featured news

October, 11th 2018

Forest management in Europe will not stop global warming

Aude Valade, CREAM researcher, and the international team behind the study published in *Nature* recommends that forests be managed with a view to preserving the ecological, social and cultural ecosystem services they provide, rather than to cooling the planet as envisaged in the Paris Agreement.

Highlighted project

DINFOREST

Ecological evaluation of the results of forestry practices to enhance forest recovery and resilience after extensive wildfires

Principal investigator: Josep Maria Espelta

Budget: 44.150,00 €

Entity: Diputació de Barcelona

Period: 2018





Despite the youth of this program at CREAM, we have already shown that citizen science can be used to set up early warning systems, environmental management systems, or even the collaborative drafting of climate change adaptation strategies.

Featured news

August, 7th 2018

CREAF launched LiquenCity to find urban lichens and discover the quality of the air in your city

The main objective of the project is to raise awareness among the urban population of Madrid and Barcelona about the effects of atmospheric pollutants and their impact on health, through their active participation in the monitoring of the epiphytic lichens that live with us in the big cities.



Flavoparmelia. Credit: Laura Force.

Highlighted project

uBMS

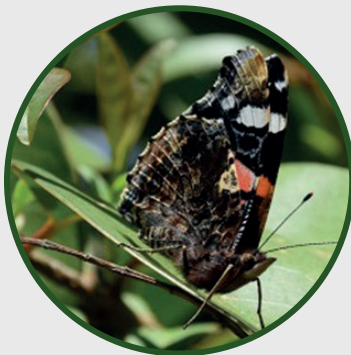
uBMS proposes to create Citizen Observatory of Urban Butterflies with volunteers who prospect butterflies in big cities.

Principal investigator: Yolanda Melero

Budget: 15.000 €

Entity: Fundación Biodiversidad

Period: 2018-2019





Given the contemporary challenges of global change, a transition towards a sustainable economic system is more imperative than ever. The production of sufficient primary products must be assured with minimal environmental or social impacts and without altering ecosystem services. In this context, sustainable management of resources such as forests and water is key.



Featured news

December, 12th 2018

Farmers planting Euro-MED research future

The H2020 project FASTER stands for *Farmers' Adaptation and Sustainability in Tunisia through Excellence in Research*. It aims to reinforce research and knowledge transfer capacity of INRGREF related to innovative land and water management in view of climate change and its implementation through the use of Farm Advisory Systems (FAS). To achieve its mission, FASTER will develop a sustainable framework for research capacity building, international networking and FAS practice.



Highlighted project

ISACC TorDelta

Involving society in climate change adaptation in the Tordera Delta

Principal investigator: Javier Retana

Budget: 50.634,00 €

Entity: Fundación Biodiversidad

Period: 2017-2018



Big data offers great opportunities for research but also requires new approaches for managing it efficiently, rigorously and accurately, all depending on the particularities of associated thematic information. On the other hand, the quality of the alphanumeric and spatial information of the available data must be analyzed. It is necessary to verify that access, maintenance and propagation of metadata is adequate and consistent.



A citizen Science working group. Credit: Open Knowledge Foundation Deutschland (CC BY 2.0).

Featured news

July, 3rd 2018

CREAF's role in the European strategy of fostering citizen observatories for environmental monitoring

CREAF is heading a community of practice that is leading the first citizen science interoperability experiment of the Open Geospatial Consortium (OGC). The goal is for citizen science projects to adopt international standards with a view to data being shared and reused.

Highlighted project

Copernicus Climate Change Service (C3S)

Providing Terrestrial Essential Climate Variables from satellite data.

Principal investigator: Aleixandre Verger

Budget: 68.025,00 €

Entity: EU

Period: 2016-2018





Ecosystem services are being moved to the center of national and European policies, and used as indicators of the quality of society's interaction with the environment. The next step is to place ecosystem services in the centre of decision-making and environmental policies. Once this is done we will have the tools to identify what management options can help mitigate the effects of global change, optimize the benefits, and avoid costs and potential risks to ecosystems and societies.



Temperate forest in Quebec. Credit: Judit Lecina.

Featured news

October, 3rd 2018

The forests that store the most carbon are also the richest in biodiversity

In Spain, according to a study led by CREAM researcher Judit Lecina Díaz and published in the journal *Ecological Applications*, the forests that store the most carbon are often also those that are home to the greatest variety of species of trees and birds. The relationship identified by the study is of great significance for forest management. The study has given rise to a map of Spanish forests that are both carbon and biodiversity hotspots.

Highlighted project

ECOPOTENTIAL

Improving future ecosystem benefits through Earth Observations

Principal investigator: Antonello Provenzale (CNR) / CREAM: Joan Masó

Budget: 14.874.340,00 €

Entity: EU

Period: 2014-2019





CREAF has studied these ecosystems due to their ecological value as well as physical proximity to the center. It is for these reasons that many of CREAM's research lines center on this geographic area. The main objectives of this research are to measure the impact of global change on Mediterranean ecosystems by assessing the multiple interactions that occur between climate, living beings, fires, and human activity, also taking into account the region's evolutionary history.



Scrublands of the Garraf Natural Park. Credit: Jorge Franganillo (CC BY 3.0)

Featured news

October, 23th 2018

Global change threatens the natural systems, health and safety of people in the Mediterranean.

Josep Peñuelas is one of the authors of the first-ever synthesis of multiple environmental changes and risks affecting the livelihoods of people in the entire Mediterranean region published in *Nature Climate Change*. The paper reviews the various environmental changes and the risks posed by these changes in the five major interconnected domains, namely water resources, ecosystems, food safety and security, health, and human security.

Highlighted project

BIOCLIM

Bioclimatic niche and plant community dynamics in response to climate change

Principal investigator: Paco Lloret

Budget: 193.600,00 €

Entity: Ministerio de Economía y Competitividad

Period: 2016-2019



CONSOLIDATED RESEARCH GROUPS

“CREAF coordinates seven Consolidated Research Groups recognized by the Government of Catalonia. This recognition is intended to support the research groups that work in the different scientific areas, in order to recognize and promote high-quality research, the transfer of knowledge and the internationalization of its scientific activities.”

BEEMed Biodiversity and evolution of mediterranean ecosystems

Research Group focused on the study of the processes generating and maintaining biodiversity in the Mediterranean region at different spatial and temporal scales, while analyzing the effects of global change on biodiversity. Studies include all levels of variation, from genes to organisms, landscapes and communities.



Forest dynamics and wildfires

Research Group focused on the study of the structure and functioning of forest ecosystems (forests, scrublands and natural grasslands) and the changes in forest ecosystems by different impacts of global change: fires, deforestation and climate change.



GECA Environmental Change Ecology Group

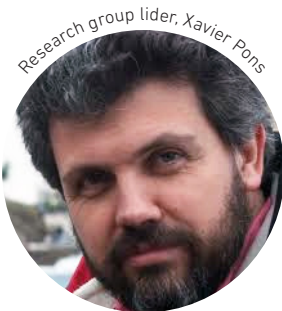
Research Group that studies of the interdependence between the biogeodynamics of the biogeosphere (transport, storage and reactivity of materials and energy related to organisms) and the different ways that biodiversity manifests and distributes (genes, biological type, species, communities, biomes).





Global Ecology Unit

Research Group that studies the global, climatic and anthropogenic local change effects on terrestrial ecosystems.



Grumets

The aim of the Methods and Applications in Remote Sensing and Geographic Information Systems Research Group, GRUMETS, is the development of new algorithms, theory and methodologies in these fields as well as the integration of the fields of geographic information science, geoservices and interoperability, standardization, metadata, applied work and software development.



PROTECSOLS Consolidated Research Group on Soil Protection

Research Group focused on the study of soil degradation associated with pollution, mining activities, infrastructures and wildfires.



Response of terrestrial ecosystems to changing environmental gradients

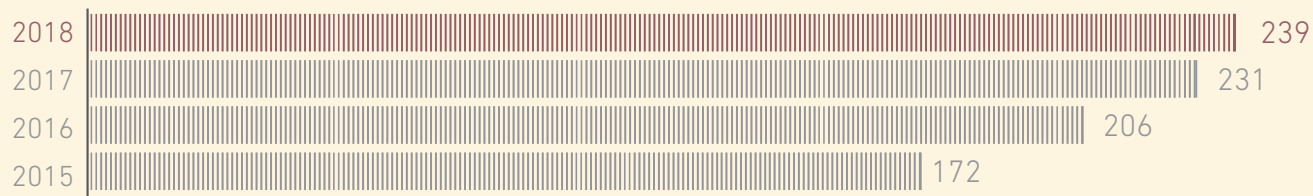
Research Group that includes researches devoted to study terrestrial ecosystems functioning. The group focuses on ecosystem responses to environmental changes that at large extent are determined by human activity and are often related to global change. These studies correspond to several topics and methodological approaches.



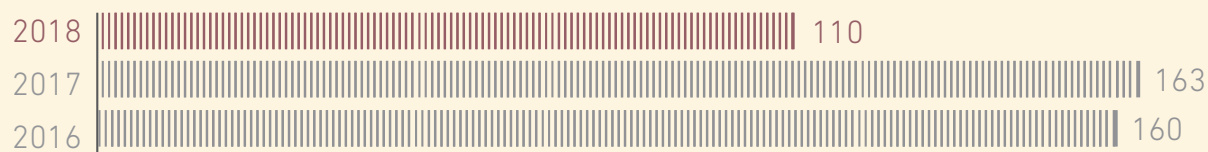
SCIENTIFIC OUTPUT

KEY NUMBERS

SCI publications



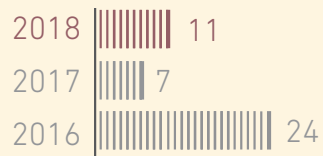
Contribution in national and international scientific conferences



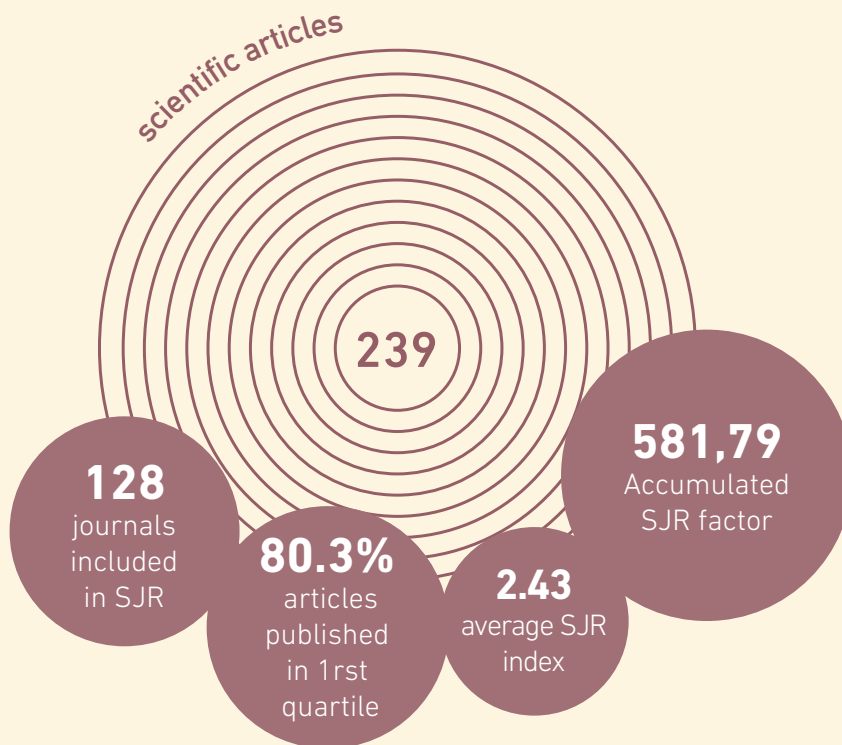
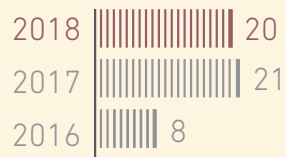
Books



Non SCI publications



Book chapters



Journals

JOURNAL	Article	Quartile	SJR index
Agricultural and Forest Meteorology	2	1	1,818
Agriculture, Ecosystems and Environment	1	1	1,747
Annals of Botany	2	1	1,721
Annals of Forest Science	1	1	0,986
AoB PLANTS	1	1	1,28
Applied Geography	1	1	1,319
Aquatic Botany	1	1	0,766
Atmospheric Chemistry and Physics	1	1	3,032
Atmospheric Environment	2	1	1,533
Behavioral Ecology and Sociobiology	1	1	1,323
Biogeochemistry	1	1	1,658
Biogeosciences	3	1	2,072
Biological Control	1	1	0,95
Biological Reviews	1	1	4,9
Biomass and Bioenergy	1	1	1,235
Biotropica	3	1	1,168
Canadian Journal of Forest Research	1	1	0,969
Carbon Balance and Management	1	1	0,977
Chemical Geology	1	1	1,755
Chemosphere	1	1	1,435
Conservation Letters	1	1	3,828
Diversity and Distributions	2	1	2,521
Earth System Science Data	2	1	4,885
Ecography	3	1	2,618
Ecohydrology	1	1	1,152
Ecological Applications	2	1	2,569

JOURNAL	Article	Quartile	SJR index
Ecological Indicators	3	1	1,406
Ecology	2	1	2,998
Ecology and Evolution	2	1	1,356
Ecology Letters	1	1	6,825
Ecosphere	2	1	1,461
Ecosystems	3	1	2,081
Environmental and Experimental Botany	4	1	1,376
Environmental Archaeology	1	1	0,848
Environmental Geochemistry and Health	1	1	0,884
Environmental Microbiology Reports	1	1	1,299
Environmental Modelling and Software	1	1	1,963
Environmental Pollution	2	1	1,615
Environmental Research Letters	1	1	2,436
Estuarine, Coastal and Shelf Science	1	1	1,059
Forest Ecology and Management	6	1	1,625
Frontiers in Plant Science	1	1	1,731
Functional Ecology	1	1	2,868
Geographical Journal	1	1	1,043
Geophysical Research Letters	1	1	2,657
Geoscience Data Journal	1	1	0,719
Geoscientific Model Development	4	1	2,404
Global and Planetary Change	1	1	1,779
Global Biogeochemical Cycles	1	1	3,217
Global Change Biology	7	1	7,731
Global Ecology and Biogeography	3	1	3,786
Integrative and comparative biology	1	1	1,319

JOURNAL	Article	Quartile	SJR index
Integrative Zoology	4	1	0,854
Journal of Animal Ecology	1	1	2,778
Journal of Applied Ecology	5	1	3,062
Journal of Avian Biology	1	1	1,239
Journal of Biogeography	1	1	2,297
Journal of Ecology	4	1	3,312
Journal of insect physiology	1	1	1,265
Journal of mammalogy	1	1	1,136
Journal of Paleolimnology	1	1	1,019
Journal of Visualized Experiments	1	1	0,827
Land Degradation and Development	1	1	1,761
Land Use Policy	1	1	1,348
Landscape Ecology	1	1	1,858
Methods in Ecology and Evolution	3	1	4,018
Microbiome	1	1	5,171
Molecular Ecology	1	1	3,355
Nature	4	1	17,875
Nature Climate Change	4	1	8,341
Nature Communications	3	1	6,582
Nature Geoscience	1	1	6,752
New Phytologist	11	1	3,787
Oecologia	3	1	1,695
Oikos	2	1	2,172
Palaeogeography, Palaeoclimatology, Palaeoecology	1	1	1,285
Philosophical Transactions of the Royal Society B: Biological Sciences	2	1	3,306
Plant and Soil	2	1	1,361
Plant Cell and Environment	2	1	2,671

JOURNAL	Article	Quartile	SJR index
Plant Ecology	1	1	0,921
Plant Ecology and Diversity	1	1	0,906
Plant Molecular Biology	1	1	1,737
PLoS ONE	3	1	1,164
Proceedings of the National Academy of Sciences of the United States of America	1	1	6,092
Proceedings of the Royal Society B: Biological Sciences	2	1	2,826
Rangeland Ecology and Management	2	1	1,154
Remote Sensing	5	1	2,649
Remote Sensing of Environment	1	1	3,121
Science China Life Sciences	1	1	0,813
Science of the Total Environment	7	1	1,546
Scientific Reports	5	1	1,533
Soil Biology and Biochemistry	1	1	2,604
Tree physiology	4	1	1,387
Trends in parasitology	1	1	2,566
Vegetation History and Archaeobotany	1	1	1,206
Water Resources Research	1	1	2,296
Acta Physiologiae Plantarum	1	2	0,574
Bird Conservation International	1	2	0,581
Cryptogamie, Bryologie	1	2	0,5
Energies	1	2	0,67
Experimental Agriculture	3	2	0,542
Flora: Morphology, Distribution, Functional Ecology of Plants,	1	2	0,57
Food Science and Nutrition	1	2	0,489
Geosciences	1	2	0,451

JOURNAL	Article	Quartile	SJR index
Historical Biology	1	2	0,542
IForest	2	2	0,533
Information Technology for Development	1	2	0,413
International Agrophysics	4	2	0,435
Journal of Arid Environments	1	2	0,763
Journal of Bryology	1	2	0,419
Limnologica	1	2	0,747
Plant Biology	1	2	0,939
Water	2	2	0,634
Wetlands	1	2	0,755
ZooKeys	1	2	0,533
AMB Express	1	3	0,574
Annals of Agricultural and Environmental Medicine	1	3	0,462
British Birds	1	3	0,275
Genome Announcements	1	3	0,553
Journal of virological methods	1	3	0,858
Phytocoenologia	2	3	0,395
Sensors	1	3	0,584
Sociobiology	2	3	0,396
Ecosistemas	3	4	0,158
Fragmenta Entomologica	1	4	0,165
Nature Ecology and Evolution	6	4	0,123
Tropicultura	1	4	0,1

Scientific articles

ALFARO REYNA, T., RETANA, J. AND MARTÍNEZ-VILALTA, J., 2018. Is there a substitution of Pinaceae by Fagaceae in temperate forests at the global scale? *Global and Planetary Change*, **166**, pp. 41-47.

ALFARO-SÁNCHEZ, R., NGUYEN, H., KLESSE, S., HUDSON, A., BELMECHERI, S., KÖSE, N., DIAZ, H.F., MONSON, R.K., VILLALBA, R. AND TROUET, V., 2018. Climatic and volcanic forcing of tropical belt northern boundary over the past 800 years. *Nature Geoscience*, **11**(12), pp. 933-938.

AMEZTEGUI, A., GIL-TENA, A., FAUS, J., PIQUÉ, M., BROTONS, L. AND CAMPRODON, J., 2018. Bird community response in mountain pine forests of the Pyrenees managed under a shelterwood system. *Forest Ecology and Management*, **407**, pp. 95-105.

ANDRESEN, L.C., DOMÍNGUEZ, M.T., REINSCH, S., SMITH, A.R., SCHMIDT, I.K., AMBUS, P., BEIER, C., BOECKX, P., BOL, R., DE DATO, G., EMMETT, B.A., ESTIARTE, M., GARNETT, M.H., KRÖEL-DULAY, G., MASON, S.L., NIELSEN, C.S., PEÑUELAS, J. AND TIETEMA, A., 2018. Isotopic methods for non-destructive assessment of carbon dynamics in shrublands under long-term climate change manipulation. *Methods in Ecology and Evolution*, **9**(4), pp. 866-880.

ANTONIADES, D., GIRALT, S., GEYER, A., ÁLVAREZ-VALERO, A.M., PLA-RABES, S., GRANADOS, I., LIU, E.J., TORO, M., SMELLIE, J.L. AND OLIVA, M., 2018. The timing and widespread effects of the largest Holocene volcanic eruption in Antarctica. *Scientific Reports*, **8**(1),.

ARASA-GISBERT, R., VAYREDA, J., ROMÁN-CUESTA, R.M., VILLELA, S.A., MAYORGA, R. AND RETANA, J., 2018. Forest diversity plays a key role in determining the stand carbon stocks of Mexican forests. *Forest Ecology and Management*, **415-416**, pp. 160-171.

ARELLANO, L., FERNÁNDEZ, P., VAN DROOGE, B.L., ROSE, N.L., NICKUS, U., THIES, H., STUHLÍK, E., CAMARERO, L., CATALAN, J. AND GRIMALT, J.O., 2018. Drivers of atmospheric deposition of polycyclic aromatic hydrocarbons at European high-altitude sites. *Atmospheric Chemistry and Physics*, **18**(21), pp. 16081-16097.

ARIAS-LECLAIRE, H., BONAL, R., GARCÍA-LÓPEZ, D. AND ESPELTA, J.M., 2018. Role of seed size, phenology, oogenesis and host distribution in the specificity and genetic structure of seed weevils (*Curculio* spp.) in mixed forests. *Integrative Zoology*, **13**(3), pp. 267-279.

ARNAN, X., ANDERSEN, A.N., GIBB, H., PARR, C.L., SANDERS, N.J., DUNN, R.R., ANGULO, E., BACCARO, F.B., BISHOP, T.R., BOULAY, R., CASTRACANI, C., CERDÁ, X., TORO, I.D., DELSINNE, T., DONOSO, D.A., ELTEN, E.K., FAYLE, T.M., FITZPATRICK, M.C., GÓMEZ, C., GRASSO, D.A., GROSSMAN, B.F., GUÉNARD, B., GUNAWARDENE, N., HETERICK, B., HOFFMANN, B.D., JANDA, M., JENKINS, C.N., KLIMES, P., LACH, L., LAEGER, T., LEPONCE, M., LUCKY, A., MAJER, J., MENKE, S., MEZGER, D., MORI, A., MOSES, J., MUNYAI, T.C., PAKNIA, O., PFEIFFER, M., PHILPOTT, S.M., SOUZA, J.L.P., TISTA, M., VASCONCELOS, H.L. AND RETANA, J., 2018. Dominance–diversity relationships in ant communities differ with invasion. *Global Change Biology*, **24**(10), pp. 4614-4625.

ARNAN, X., ARCOVERDE, G.B., PIE, M.R., RIBEIRO-NETO, J.D. AND LEAL, I.R., 2018. Increased anthropogenic disturbance and aridity reduce phylogenetic and functional diversity of ant communities in Caatinga dry forest. *Science of the Total Environment*, **631-632**, pp. 429-438.

ARNAN, X., LEAL, I.R., TABARELLI, M., ANDRADE, J.F., BARROS, M.F., CÂMARA, T., JAMELLI, D., KNOECHELMANN, C.M., MENEZES, T.G.C., MENEZES, A.G.S., OLIVEIRA, F.M.P., DE PAULA, A.S., PEREIRA, S.C., RITO, K.F., SFAIR, J.C., SIQUEIRA, F.F.S., SOUZA, D.G., SPECHT, M.J., VIEIRA, L.A., ARCOVERDE, G.B. AND ANDERSEN, A.N., 2018. A framework for deriving measures of chronic anthropogenic disturbance: Surrogate, direct, single and multi-metric indices in Brazilian Caatinga. *Ecological Indicators*, **94**, pp. 274-282.

ASBJORNSEN, H., CAMPBELL, J.L., JENNINGS, K.A., VADEBONCOEUR, M.A., MCINTIRE, C., TEMPLER, P.H., PHILLIPS, R.P., BAUERLE, T.L., DIETZE, M.C., FREY, S.D., GROFFMAN, P.M., GUERRIERI, R., HANSON, P.J., KELSEY, E.P., KNAPP, A.K., MCDOWELL, N.G., MEIR, P., NOVICK, K.A., OLLINGER, S.V., POCKMAN, W.T., SCHABERG, P.G., WULLSCHLEGER, S.D., SMITH, M.D. AND RUSTAD, L.E., 2018. Guidelines and considerations for designing field experiments simulating precipitation extremes in forest ecosystems. *Methods in Ecology and Evolution*, **9**(12), pp. 2310-2325.

B. ELLER, C., DE V. BARROS, F., R. L. BITTENCOURT, P., ROWLAND, L., MENCUCCHINI, M. AND S. OLIVEIRA, R., 2018. Xylem hydraulic safety and construction costs determine tropical tree growth. *Plant Cell and Environment*, **41**(3), pp. 548-562.

BAGARIA, G., RODÀ, F., CLOTET, M., MÍGUEZ, S. AND PINO, J., 2018. Contrasting habitat and landscape effects on the fitness of a long-lived grassland plant under forest encroachment: Do they provide evidence for extinction debt? *Journal of Ecology*, **106**(1), pp. 278-288.

BALLEN-SEGURA, M., CATALAN, J. AND FELIP, M., 2018. Experimental evidence of the quantitative relationship between the prokaryote ingestion rate and the food vacuole content in mixotrophic phytoflagellates. *Environmental Microbiology Reports*, **10**(6), pp. 704-710.

BALZAROLO, M., PEÑUELAS, J., FILELLA, I., PORTILLO-ESTRADA, M. AND CEULEMANS, R., 2018. Assessing ecosystem isoprene emissions by hyperspectral remote sensing. *Remote Sensing*, **10**(7),.

- BARBA, J., LLORET, F., POYATOS, R., MOLOWNY-HORAS, R. AND YUSTE, J.C.**, 2018. Multi-temporal influence of vegetation on soil respiration in a droughtaffected forest. *IForest*, **11**(2), pp. 189-198.
- BARBETA, A., OGÉE, J. AND PEÑUELAS, J.**, 2018. Stable-isotope techniques to investigate sources of plant water. *Advances in Plant Ecophysiology Techniques*. pp. 439-456.
- BARTOMEUS, I. AND BOSCH, J.**, 2018. Loss of pollinators: evidences, causes and consequences. *Ecosistemas*, **27**(2), pp. 1-2.
- BARTRONS, M., SARDANS, J., HOEKMAN, D. AND PEÑUELAS, J.**, 2018. Trophic transfer from aquatic to terrestrial ecosystems: a test of the biogeochemical niche hypothesis. *Ecosphere*, **9**(7),.
- BARTUMEUS, F., OLTRA, A. AND PALMER, J.R.B.**, 2018. Citizen Science: A Gateway for Innovation in Disease-Carrying Mosquito Management? *Trends in parasitology*, **34**(9), pp. 727-729.
- BATALLA, M., NINYEROLA, M. AND CATALAN, J.**, 2018. Digital long-term topoclimate surfaces of the Pyrenees mountain range for the period 1950–2012. *Geoscience Data Journal*, **5**(2), pp. 50-62.
- BATLLORI, E., DE CÁCERES, M., BROTONS, L., ACKERLY, D.D., MORITZ, M.A. AND LLORET, F.**, 2018. Compound fire-drought regimes promote ecosystem transitions in Mediterranean ecosystems. *Journal of Ecology*, .
- BES, M., CORBERA, J., SAYOL, F., BAGARIA, G., JOVER, M., PREECE, C., VIZA, A., SABATER, F. AND FERNÁNDEZ-MARTÍNEZ, M.**, 2018. On the influence of water conductivity, pH and climate on bryophyte assemblages in Catalan semi-natural springs. *Journal of Bryology*, **40**(2), pp. 149-158.
- BI, Q.-., ZHENG, B.-., LIN, X.-., LI, K.-., LIU, X.-., HAO, X.-., ZHANG, H., ZHANG, J.-., JAISI, D.P. AND ZHU, Y.-.**, 2018. The microbial cycling of phosphorus on long-term fertilized soil: Insights from phosphate oxygen isotope ratios. *Chemical Geology*, **483**, pp. 56-64.
- BJORKMAN, A.D., MYERS-SMITH, I.H., ELMENDORF, S.C., NORMAND, S., RÜGER, N., BECK, P.S.A., BLACH-OVERGAARD, A., BLOK, D., CORNELISSEN, J.H.C., FORBES, B.C., GEORGES, D., GOETZ, S.J., GUAY, K.C., HENRY, G.H.R., HILLERISLAMBERS, J., HOLLISTER, R.D., KARGER, D.N., KATTGE, J., MANNING, P., PREVÉY, J.S., RIXEN, C., SCHAEPMAN-STRUB, G., THOMAS, H.J.D., VELLEND, M., WILMKING, M., WIPF, S., CARBOGNANI, M., HERMANUTZ, L., LÉVESQUE, E., MOLAU, U., PETRAGLIA, A., SOUDZILOVSKAIA, N.A., SPASOJEVIC, M.J., TOMASELLI, M., VOWLES, T., ALATALO, J.M., ALEXANDER, H.D., ANADON-ROSELL, A., ANGERS-BLONDIN, S., BEEST, M., BERNER, L., BJÖRK, R.G., BUCHWAL, A., BURAS, A., CHRISTIE, K., COOPER, E.J., DULLINGER, S., ELBERLING, B., ESKELINEN, A., FREI, E.R., GRAU, O., GROGAN, P., HALLINGER, M., HARPER, K.A., HEIJMANS, M.M.P.D., HUDSON, J., HÜLBER, K., ITURRATE-GARCIA, M., IVERSEN, C.M., JAROSZYNSKA, F., JOHNSTONE, J.F., JØRGENSEN, R.H., KAARLEJÄRVI, E., KLADY, R., KULEZA, S., KULONEN, A., LAMARQUE, L.J., LANTZ, T., LITTLE, C.J., SPEED, J.D.M., MICHELSEN, A., MILBAU, A., NABE-NIELSEN, J., NIELSEN, S.S., NINOT, J.M., OBERBAUER, S.F., OLOFSSON, J., ONIPCHENKO, V.G., RUMPF, S.B., SEMENCHUK, P., SHETTI, R., COLLIER, L.S., STREET, L.E., SUDING, K.N., TAPE, K.D., TRANT, A., TREIER, U.A., TREMBLAY, J.-., TREMBLAY, M., VENN, S., WEIJERS, S., ZAMIN, T., BOULANGER-LAPOINTE, N., GOULD, W.A., HIK, D.S., HOFGAARD, A., JÓNSDÓTTIR, I.S., JØRGENSEN, J., KLEIN, J., MAGNUSSON, B., TWEEDIE, C., WOOKEY, P.A., BAHN, M., BLONDER, B., VAN BODEGOM, P.M., BOND-LAMBERTY, B., CAMPETELLA, G., CERABOLINI, B.E.L., CHAPIN, F.S., CORNWELL, W.K., CRAINE, J., DAINESE, M., DE VRIES, F.T., DÍAZ, S., ENQUIST, B.J., GREEN, W., MILLA, R., NIINEMETS, Ü., ONODA, Y., ORDOÑEZ, J.C., OZINGA, W.A., PENUELAS, J., POORTER, H., POSCHLOD, P., REICH, P.B., SANDEL, B., SCHAMP, B., SHEREMETEV, S.**

AND WEIHER, E., 2018. Plant functional trait change across a warming tundra biome. *Nature*, **562**(7725), pp. 57-62.

BJORKMAN, A.D., MYERS-SMITH, I.H., ELMENDORF, S.C., NORMAND, S., THOMAS, H.J.D., ALATALO, J.M., ALEXANDER, H., ANADON-ROSELL, A., ANGERS-BLONDIN, S., BAI, Y., BARUAH, G., TE BEEST, M., BERNER, L., BJÖRK, R.G., BLOK, D., BRUELHEIDE, H., BUCHWAL, A., BURAS, A., CARBOGNANI, M., CHRISTIE, K., COLLIER, L.S., COOPER, E.J., CORNELISSEN, J.H.C., DICKINSON, K.J.M., DULLINGER, S., ELBERLING, B., ESKELINEN, A., FORBES, B.C., FREI, E.R., ITURRATE-GARCIA, M., GOOD, M.K., GRAU, O., GREEN, P., GREVE, M., GROGAN, P., HAIDER, S., HÁJEK, T., HALLINGER, M., HAPPONEN, K., HARPER, K.A., HEIJMANS, M.M.P.D., HENRY, G.H.R., HERMANUTZ, L., HEWITT, R.E., HOLLISTER, R.D., HUDSON, J., HÜLBER, K., IVERSEN, C.M., JAROSZYNSKA, F., JIMÉNEZ-ALFARO, B., JOHNSTONE, J., JORGENSEN, R.H., KAARLEJÄRVI, E., KLADY, R., KLIMEŠOVÁ, J., KORSTEN, A., KULEZA, S., KULONEN, A., LAMARQUE, L.J., LANTZ, T., LAVALLE, A., LEMBRECHTS, J.J., LÉVESQUE, E., LITTLE, C.J., LUOTO, M., MACEK, P., MACK, M.C., MATHAKUTHA, R., MICHELSEN, A., MILBAU, A., MOLAU, U., MORGAN, J.W., MÖRSDORF, M.A., NABE-NIELSEN, J., NIELSEN, S.S., NINOT, J.M., OBERBAUER, S.F., OLOFSSON, J., ONIPCHENKO, V.G., PETRAGLIA, A., PICKERING, C., PREVÉY, J.S., RIXEN, C., RUMPF, S.B., SCHAEPMAN-STRUB, G., SEMENCHUK, P., SHETTI, R., SOUDZILOVSKAIA, N.A., SPASOJEVIC, M.J., SPEED, J.D.M., STREET, L.E., SUDING, K., TAPE, K.D., TOMASELLI, M., TRANT, A., TREIER, U.A., TREMBLAY, J.-., TREMBLAY, M., VENN, S., VIRKKALA, A.-., VOWLES, T., WEIJERS, S., WILMKING, M., WIPF, S. AND ZAMIN, T., 2018. Tundra Trait Team: A database of plant traits spanning the tundra biome. *Global Ecology and Biogeography*, **27**(12), pp. 1402-1411.

BOGDZIEWICZ, M., BONAL, R., ESPELTA, J.M., KALEMBA, E.M., STEELE, M.A. AND ZWOLAK, R., 2018. Invasive oaks escape pre-dispersal insect seed predation and trap enemies in their seeds. *Integrative Zoology*, **13**(3), pp. 228-237.

BOGDZIEWICZ, M., ESPELTA, J.M., MUÑOZ, A., APARICIO, J.M. AND BONAL, R., 2018. Effectiveness of predator satiation in masting oaks is negatively affected by conspecific density. *Oecologia*, **186**(4), pp. 983-993.

BONAL, R., VARGAS-OSUNA, E., MENA, J.D., APARICIO, J.M., SANTORO, M. AND MARTÍN, A., 2018. Looking for variable molecular markers in the chestnut gall wasp *Dryocosmus kuriphilus*: First comparison across genes. *Scientific Reports*, **8**(1),.

BRANDT, M., WIGNERON, J.-., CHAVE, J., TAGESSON, T., PENUELAS, J., CIAIS, P., RASMUSSEN, K., TIAN, F., MBOW, C., AL-YAARI, A., RODRIGUEZ-FERNANDEZ, N., SCHURGERS, G., ZHANG, W., CHANG, J., KERR, Y., VERGER, A., TUCKER, C., MIALON, A., RASMUSSEN, L.V., FAN, L. AND FENSHOLT, R., 2018. Satellite passive microwaves reveal recent climate-induced carbon losses in African drylands. *Nature Ecology and Evolution*, **2**(5), pp. 827-835.

BRANDT, M., YUE, Y., WIGNERON, J.P., TONG, X., TIAN, F., JEPSEN, M.R., XIAO, X., VERGER, A., MIALON, A., AL-YAARI, A., WANG, K. AND FENSHOLT, R., 2018. Satellite-Observed Major Greening and Biomass Increase in South China Karst During Recent Decade. *Earth's Future*, **6**(7), pp. 1017-1028.

BRUELHEIDE, H., DENGLER, J., PURSCHKE, O., LENOIR, J., JIMÉNEZ-ALFARO, B., HENNEKENS, S.M., BOTTA-DUKÁT, Z., CHYTRÝ, M., FIELD, R., JANSEN, F., KATTGE, J., PILLAR, V.D., SCHRODT, F., MAHECHA, M.D., PEET, R.K., SANDEL, B., VAN BODEGOM, P., ALTMAN, J., ALVAREZ-DÁVILA, E., ARFIN KHAN, M.A.S., ATTORRE, F., AUBIN, I., BARALOTO, C., BARROSO, J.G., BAUTERS, M., BERGMEIER, E., BIURRUN, I., BJORKMAN, A.D., BLONDER, B., ČARNI, A., CAYUELA, L., ČERNÝ, T., CORNELISSEN, J.H.C., CRAVEN, D., DAINESE, M., DERROIRE, G., DE SANCTIS, M., DÍAZ, S., DOLEŽAL, J., FARFAN-RIOS, W., FELDPAUSCH, T.R., FENTON, N.J., GARNIER, E., GUERIN, G.R., GUTIÉRREZ, A.G., HAIDER, S., HATTAB, T.,

HENRY, G., HÉRAULT, B., HIGUCHI, P., HÖLZEL, N., HOMEIER, J., JENTSCH, A., JÜRGENS, N., KAÇKI, Z., KARGER, D.N., KESSLER, M., KLEYER, M., KNOLLOVÁ, I., KOROLYUK, A.Y., KÜHN, I., LAUGHLIN, D.C., LENS, F., LOOS, J., LOUAULT, F., LYUBENOVA, M.I., MALHI, Y., MARCENÒ, C., MENCUCCINI, M., MÜLLER, J.V., MUNZINGER, J., MYERS-SMITH, I.H., NEILL, D.A., NIINEMETS, Ü., ORWIN, K.H., OZINGA, W.A., PENUELAS, J., PÉREZ-HAASE, A., PETŘÍK, P., PHILLIPS, O.L., PÄRTEL, M., REICH, P.B., RÖRMERMANN, C., RODRIGUES, A.V., SABATINI, F.M., SARDANS, J., SCHMIDT, M., SEIDLER, G., SILVA ESPEJO, J.E., SILVEIRA, M., SMYTH, A., SPORBERT, M., SVENNING, J.-., TANG, Z., THOMAS, R., TSIRIPIDIS, I., VASSILEV, K., VIOLLE, C., VIRTANEN, R., WEIHER, E., WELK, E., WESCHE, K., WINTER, M., WIRTH, C. AND JANDT, U., 2018. Global trait–environment relationships of plant communities. *Nature Ecology and Evolution*, **2(12), pp. 1906–1917.**

BUSCH, V., KLAUS, V.H., PENONE, C., SCHÄFER, D., BOCH, S., PRATI, D., MÜLLER, J., SOCHER, S.A., NIINEMETS, Ü., PEÑUELAS, J., HÖLZEL, N., FISCHER, M. AND KLEINEBECKER, T., 2018. Nutrient stoichiometry and land use rather than species richness determine plant functional diversity. *Ecology and Evolution*, **8(1), pp. 601–616.**

CABON, A., MARTÍNEZ-VILALTA, J., MARTÍNEZ DE ARAGÓN, J., POYATOS, R. AND DE CÁCERES, M., 2018. Applying the eco-hydrological equilibrium hypothesis to model root distribution in water-limited forests. *Ecohydrology*, **11(7),.**

CABON, A., MOUILLOT, F., LEMPEREUR, M., OURCIVAL, J.-., SIMIONI, G. AND LIMOUSIN, J.-., 2018. Thinning increases tree growth by

delaying drought-induced growth cessation in a Mediterranean evergreen oak coppice. *Forest Ecology and Management*, **409**, pp. 333–342.

CÂMARA, T., LEAL, I.R., BLÜTHGEN, N., OLIVEIRA, F.M.P., QUEIROZ, R.T. AND ARNAN, X., 2018. Effects of chronic anthropogenic disturbance and rainfall on the specialization of ant–plant mutualistic networks in the Caatinga, a Brazilian dry forest. *Journal of Animal Ecology*, **87(4), pp. 1022–1033.**

CAMINO-SERRANO, M., GUENET, B., LUYSSAERT, S., CIAIS, P., BASTRIKOV, V., DE VOS, B., GIELEN, B., GLEIXNER, G., JORNET-PUIG, A., KAISER, K., KOTHAWALA, D., LAUERWALD, R., PEÑUELAS, J., SCHRUMPF, M., VICCA, S., VUICHARD, N., WALMSLEY, D. AND JANSSENS, I.A., 2018. ORCHIDEE-SOM: Modeling soil organic carbon (SOC) and dissolved organic carbon (DOC) dynamics along vertical soil profiles in Europe. *Geoscientific Model Development*, **11(3), pp. 937–957.**

CANELLES, Q., SAURA-MAS, S., BROTONS, L., GARCÍA, M.B., LLORET, F., VILLELLAS, J. AND MORRIS, W.F., 2018. Environmental stress effects on reproduction and sexual dimorphism in the gynodioecious species *Silene acaulis*. *Environmental and experimental botany*, **146, pp. 27–33.**

CANELO, T., GAYTÁN, Á., GONZÁLEZ-BORNAY, G. AND BONAL, R., 2018. Seed loss before seed predation: experimental evidence of the negative effects of leaf feeding insects on acorn production. *Integrative Zoology*, **13(3), pp. 238–250.**

CARABASSA, V., ORTIZ, O. AND ALCAÑIZ, J.M., 2018. Sewage sludge as an organic amendment for quarry restoration: Effects on soil and vegetation. *Land Degradation And Development*, **29(8), Pp. 2568–2574.**

CASTELLANOS, A.E., LLANO-SOTELO, J.M., MACHADO-ENCINAS, L.I., LÓPEZ-PIÑA, J.E., ROMO-LEON, J.R., SARDANS, J. AND PEÑUELAS, J., 2018. Foliar C, N, and P stoichiometry characterize successful plant ecological strategies in the Sonoran Desert. *Plant Ecology*, **219(7), pp. 775–788.**

CATALÁN, N., CASAS-RUIZ, J.P., ARCE, M.I., ABRIL, M., BRAVO, A.G., DEL CAMPO, R., ESTÉVEZ, E., FREIXA, A., GIMÉNEZ-GRAU, P., GONZÁLEZ-FERRERAS, A.M., GÓMEZ-GENER, L., LUPON, A., MARTÍNEZ, A., PALACIN-LIZARBE, C., POBLADOR, S., RASINES-LADERO, R., REYES, M., RODRÍGUEZ-CASTILLO, T., RODRÍGUEZ-LOZANO, P., SANPERA-CALBET, I., TORNERO, I. AND PASTOR, A., 2018. Behind the Scenes: Mechanisms Regulating Climatic Patterns of Dissolved Organic Carbon Uptake in Headwater Streams. *Global Biogeochemical Cycles*, **32**(10), pp. 1528-1541.

CAYUELA, L., GRANZOW-DE LA CERDA, Í. AND MÉNDEZ, M., 2018. The state of European research in tropical biology. *Biotropica*, **50**(2), pp. 202-207.

COLL, L., AMEZTEGUI, A., COLLET, C., LÖF, M., MASON, B., PACH, M., VERHEYEN, K., ABRUDAN, I., BARBATI, A., BARREIRO, S., BIELAK, K., BRAVO-OVIEDO, A., FERRARI, B., GOVEDAR, Z., KULHAVY, J., LAZDINA, D., METSLAID, M., MOHREN, F., PEREIRA, M., PERIC, S., RASZTOVITS, E., SHORT, I., SPATHELF, P., STERBA, H., STOJANOVIC, D., VALSTA, L., ZLATANOV, T. AND PONETTE, Q., 2018. Knowledge gaps about mixed forests: What do European forest managers want to know and what answers can science provide? *Forest Ecology and Management*, **407**, pp. 106-115.

CONNOLLY, J., SEBASTIÀ, M.-., KIRWAN, L., FINN, J.A., LLURBA, R., SUTER, M., COLLINS, R.P., PORQUEDDU, C., HELGADÓTTIR, Á., BAADSHAUG, O.H., BÉLANGER, G., BLACK, A., BROPHY, C., ČOP, J., DALMANNSDÓTTIR, S., DELGADO, I., ELGERSMA, A., FOTHERGILL, M., FRANKOW-LINDBERG, B.E., GHESQUIERE, A., GOLINSKI, P., GRIEU, P., GUSTAVSSON, A.-., HÖGLIND, M., HUGUENIN-ÉLIE, O., JØRGENSEN, M., KADZIULIENE, Z., LUNNAN, T., NYKANEN-KURKI, P., RIBAS, A., TAUBE, F., THUMM, U., DE VliegHER, A. AND LÜSCHER, A., 2018. Weed suppression greatly increased by plant diversity in intensively managed grasslands: A continental-scale experiment. *Journal of Applied Ecology*, **55**(2), pp. 852-862.

COURTOIS, E.A., STAHL, C., VAN DEN BERGE, J., BRÉCHET, L., VAN LANGENHOVE, L., RICHTER, A., URBINA, I., SOONG, J.L., PEÑUELAS, J. AND JANSSENS, I.A., 2018. Spatial Variation

of Soil CO₂, CH₄ and N₂O Fluxes Across Topographical Positions in Tropical Forests of the Guiana Shield. *Ecosystems*, **21**(7), pp. 1445-1458.

CRAINE, J.M., ELMORE, A.J., WANG, L., ARANIBAR, J., BAUTERS, M., BOECKX, P., CROWLEY, B.E., DAWES, M.A., DELZON, S., FAJARDO, A., FANG, Y., FUJIYOSHI, L., GRAY, A., GUERRIERI, R., GUNDALE, M.J., HAWKE, D.J., HIETZ, P., JONARD, M., KEARSLEY, E., KENZO, T., MAKAROV, M., MARAÑÓN-JIMÉNEZ, S., MCGLYNN, T.P., MCNEIL, B.E., MOSHER, S.G., NELSON, D., PERI, P.L., ROGGY, J.C., SANDERS-DEMOTT, R., SONG, M., SZPAK, P., TEMPLER, P.H., DER COLFF, D.V., WERNER, C., XU, X., YANG, Y., YU, G. AND ZMUDCZYŃSKA-SKARBK, K., 2018. Isotopic evidence for oligotrophication of terrestrial ecosystems. *Nature Ecology and Evolution*, **2**(11), pp. 1735-1744.

CRAMER, W., GUIOT, J., FADER, M., GARRABOU, J., GATTUSO, J.-., IGLESIAS, A., LANGE, M.A., LIONELLO, P., LLASAT, M.C., PAZ, S., PEÑUELAS, J., SNOUSSI, M., TORETI, A., TSIMPLIS, M.N. AND XOPLAKI, E., 2018. Climate change and interconnected risks to sustainable development in the Mediterranean. *Nature Climate Change*, **8**(11), pp. 972-980.

CROWTHER, T.W., MACHMULLER, M.B., CAREY, J.C., ALLISON, S.D., BLAIR, J.M., BRIDGHAM, S.D., BURTON, A.J., DIJKSTRA, F.A., ELBERLING, B., ESTIARTE, M., LARSEN, K.S., LAUDON, H., LUPASCU, M., MARHAN, S., MOHAN, J., NIU, S., PEÑUELAS, J.J., SCHMIDT, I.K., TEMPLER, P.H., KRÖEL-DULAY, G., FREY, S. AND BRADFORD, M.A., 2018. Erratum to: Crowther et al. reply (Nature, (2018), 554, 7693, (E7-E8), 10.1038/nature25746). *Nature*, **560**(7716), pp. E1.

- DA COSTA, A.C.L., ROWLAND, L., OLIVEIRA, R.S., OLIVEIRA, A.A.R., BINKS, O.J., SALMON, Y., VASCONCELOS, S.S., JUNIOR, J.A.S., FERREIRA, L.V., POYATOS, R., MENCUCCINI, M. AND MEIR, P.**, 2018. Stand dynamics modulate water cycling and mortality risk in droughted tropical forest. *Global Change Biology*, **24**(1), pp. 249-258.
- DALTON, K.P., PODADERA, A., GRANDA, V., NICIEZA, I., DEL LLANO, D., GONZÁLEZ, R., DE LOS TOYOS, J.R., GARCÍA OCAÑA, M., VÁZQUEZ, F., MARTÍN ALONSO, J.M., PRIETO, J.M., PARRA, F. AND CASAIS, R.**, 2018. ELISA for detection of variant rabbit haemorrhagic disease virus RHDV2 antigen in liver extracts. *Journal of virological methods*, **251**, pp. 38-42.
- DAVIS, J., SIM, L., THOMPSON, R.M., PINDER, A., BOX, J.B., MURPHY, N.P., SHELDON, F., MORÁN-ORDÓÑEZ, A. AND SUNNUCKS, P.**, 2018. Patterns and drivers of aquatic invertebrate diversity across an arid biome. *Ecography*, **41**(2), pp. 375-387.
- DE CÁCERES, M.**, 2018. On vegetation data exchange: The 'Veg-X' standard and the 'VegX' R package. *Ecosistemas*, **27**(1), pp. 128-129.
- DE CÁCERES, M., FRANKLIN, S.B., HUNTER, J.T., LANDUCCI, F., DENGLE, J. AND ROBERTS, D.W.**, 2018. Global overview of plot-based vegetation classification approaches. *Phytocoenologia*, **48**(2), pp. 101-112.
- DE CÁCERES, M., MARTIN-STPAUL, N., TURCO, M., CABON, A. AND GRANDA, V.**, 2018. Estimating daily meteorological data and downscaling climate models over landscapes. *Environmental Modelling and Software*, **108**, pp. 186-196.
- DIEGUEZ-ALONSO, A., FUNKE, A., ANCA-COUCHE, A., ROMBOLÀ, A.G., OJEDA, G., BACHMANN, J. AND BEHRENDT, F.**, 2018. Towards biochar and hydrochar engineering-influence of process conditions on surface physical and chemical properties, thermal stability, nutrient availability, toxicity and wettability. *Energies*, **11**(3),.
- DJUKIC, I., KEPFER-ROJAS, S., SCHMIDT, I.K., LARSEN, K.S., BEIER, C., BERG, B., VERHEYEN, K., CALIMAN, A., PAQUETTE, A., GUTIÉRREZ-GIRÓN, A., HUMBER, A., VALDECANTOS, A., PETRAGLIA, A., ALEXANDER, H., AUGUSTAITIS, A., SAILLARD, A., FERNÁNDEZ, A.C.R., SOUSA, A.I., LILLEBØ, A.I., DA ROCHA GRIPP, A., FRANCEZ, A.-., FISCHER, A., BOHNER, A., MALYSHEV, A., ANDRIĆ, A., SMITH, A., STANISCI, A., SERES, A., SCHMIDT, A., AVILA, A., PROBST, A., QUIN, A., KHUROO, A.A., VERSTRAETEN, A., PALABRAL-AGUILERA, A.N., STEFANSKI, A., GAXIOLA, A., MUYS, B., BOSMAN, B., AHREND, B., PARKER, B., SATTLER, B., YANG, B., JURÁNI, B., ERSCHBAMER, B., ORTIZ, C.E.R., CHRISTIANSEN, C.T., CAROL ADAIR, E., MEREDIEU, C., MONY, C., NOCK, C.A., CHEN, C.-., WANG, C.-., BAUM, C., RIXEN, C., DELIRE, C., PISCART, C., ANDREWS, C., REBMAN, C., BRANQUINHO, C., POLYANSKAYA, D., DELGADO, D.F., WUNDRAM, D., RADEIDEH, D., ORDÓÑEZ-REGIL, E., CRAWFORD, E., PRED, E., TROPINA, E., GRONER, E., LUCOT, E., HORNUNG, E., GACIA, E., LÉVESQUE, E., BENEDITO, E., DAVYDOV, E.A., AMPOORTER, E., BOLZAN, F.P., VARELA, F., KRISTÖFEL, F., MAESTRE, F.T., MAUNOURY-DANGER, F., HOFHANSL, F., KITZ, F., SUTTER, F., CUESTA, F., DE ALMEIDA LOBO, F., DE SOUZA, F.L., BERNINGER, F., ZEHETNER, F., WOHLFAHRT, G., VOURLITIS, G., CARREÑO-ROCADADO, G., ARENA, G., PINHA, G.D., GONZÁLEZ, G., CANUT, G., LEE, H., VERBEECK, H., AUGE, H., PAULI, H., NACRO, H.B., BAHAMONDE, H.A., FELDHAAR, H., JÄGER, H., SERRANO, H.C., VERHEYDEN, H., BRUELHEIDE, H., MEESENBERG, H., JUNGKUNST, H., JACTEL, H., SHIBATA, H., KUROKAWA, H., ROSAS, H.L., ROJAS VILLALOBOS, H.L., YESILONIS, I., MELECE, I., VAN HALDER, I., QUIRÓS, I.G., MAKELELE, I., SENOU, I., FEKETE, I., MIHAL, I., OSTONEN, I., BOROVSKÁ, J., ROALES, J., SHOQEIR, J., LATA, J.-., THEURILLAT, J.-., PROBST, J.-., ZIMMERMAN, J., VIJAYANATHAN, J., TANG, J., THOMPSON, J., DOLEŽAL, J., SANCHEZ-CABEZA, J.-., MERLET, J., HENSCHEL, J., NEIRYNCK, J., KNOPS, J., LOEHR, J., VON OPPEN,**

- J., PORLÁKSDÓTTIR, J.S., LÖFFLER, J., CARDOSO-MOHEDANO, J.-., BENITO-ALONSO, J.-., TOREZAN, J.M., MORINA, J.C., JIMÉNEZ, J.J., QUINDE, J.D., ALATALO, J., SEEBER, J., STADLER, J., KRIISKA, K., COULIBALY, K., FUKUZAWA, K., SZLAVECZ, K., GERHÁTOVÁ, K., LAJTHA, K., KÄPPELER, K., JENNINGS, K.A., TIELBÖRGER, K., HOSHIZAKI, K., GREEN, K., YÉ, L., PAZIANOTO, L.H.R., DIENSTBACH, L., WILLIAMS, L., YAHDJIAN, L., BRIGHAM, L.M., VAN DEN BRINK, L., RUSTAD, L., ZHANG, L., MORILLAS, L., XIANKAI, L., CARNEIRO, L.S., DI MARTINO, L., VILLAR, L., BADER, M.Y., MORLEY, M., LÉBOUVIER, M., TOMASELLI, M., STERNBERG, M., SCHAUB, M., SANTOS-REIS, M., GLUSHKOVA, M., TORRES, M.G.A., GIROUX, M.-., DE GRAAFF, M.-., PONS, M.-., BAUTERS, M., MAZÓN, M., FRENZEL, M., DIDION, M., WAGNER, M., HAMID, M., LOPES, M.L., APPLE, M., SCHÄDLER, M., WEIH, M., GUALMINI, M., VADEBONCOEUR, M.A., BIERBAUMER, M., DANGER, M., LIDDELL, M., MIRTL, M., SCHERER-LORENZEN, M., RŮŽEK, M., CARBOGNANI, M., DI MUSCIANO, M., MATSUSHITA, M., ZHIYANSKI, M., PUŞÇAŞ, M., BARNA, M., ATAKA, M., JIANGMING, M., ALSAFRAN, M., CARNOL, M., BARSOUM, N., TOKUCHI, N., EISENHAEUER, N., LECOMTE, N., FILIPPOVA, N., HÖLZEL, N., FERLIAN, O., ROMERO, O., PINTO, O.B., PERI, P., WEBER, P., VITTOZ, P., TURTUREANU, P.D., FLEISCHER, P., MACREADIE, P., HAASE, P., REICH, P., PETŘÍK, P., CHOLER, P., MARMONIER, P., MURIEL, P., PONETTE, Q., GUARIENTO, R.D., CANESSA, R., KIESE, R., HEWITT, R., RØNN, R., ADRIAN, R., KANKA, R., WEIGEL, R., GATTI, R.C., MARTINS, R.L., GEORGES, R., MENESES, R.I., GAVILÁN, R.G., DASGUPTA, S., WITTLINGER, S., PUIJALON, S., FREDA, S., SUZUKI, S., CHARLES, S., GOGO, S., DROLLINGER, S., MEREU, S., WIPF, S., TREVATHAN-TACKETT, S., LÖFGREN, S., STOLL, S., TROGISCH, S., HOEBER, S., SEITZ, S., GLATZEL, S., MILTON, S.J., DOUSSET, S., MORI, T., SATO, T., ISE, T., HISHI, T., KENTA, T., NAKAJI, T., MICHELAN, T.S., CAMBOULIVE, T., MOZDZER, T.J., SCHOLTEN, T., SPIEGELBERGER, T., ZECHMEISTER, T., KLEINEBECKER, T., HIURA, T., ENOKI, T., URSU, T.-., DI CELLA, U.M., HAMER, U., KLAUS, V.H., RÊGO, V.M., DI CECCO, V., BUSCH, V., FONTANA, V., PISCOVÁ, V., CARBONELL, V., OCHOA, V., BRETAGNOLLE, V., MAIRE, V., FARJALLA, V., ZHOU, W., LUO, W., MCDOWELL, W.H., HU, Y., UTSUMI, Y., KOMINAMI, Y., ZAIKA, Y., ROZHKOV, Y., KOTROCZÓ, Z. AND TÓTH, Z., 2018. Early stage litter decomposition across biomes. *Science of the Total Environment*, **628-629**, pp. 1369-1394.
- DORNELAS, M., ANTÃO, L.H., MOYES, F., BATES, A.E., MAGURRAN, A.E., ADAM, D., AKHMETZHANOVA, A.A., APPELTANS, W., ARCOS, J.M., ARNOLD, H., AYYAPPAN, N., BADIHI, G., BAIRD, A.H., BARBOSA, M., BARRETO, T.E., BÄSSLER, C., BELLGROVE, A., BELMAKER, J., BENEDETTI-CECCHI, L., BETT, B.J., BJORKMAN, A.D., BŁAŻEWICZ, M., BLOWES, S.A., BLOCH, C.P., BONEBRAKE, T.C., BOYD, S., BRADFORD, M., BROOKS, A.J., BROWN, J.H., BRUELHEIDE, H., BUDY, P., CARVALHO, F., CASTAÑEDA-MOYA, E., CHEN, C.A., CHAMBLEE, J.F., CHASE, T.J., SIEGWART COLLIER, L., COLLINGE, S.K., CONDIT, R., COOPER, E.J., CORNELISSEN, J.H.C., COTANO, U., KYLE CROW, S., DAMASCENO, G., DAVIES, C.H., DAVIS, R.A., DAY, F.P., DEGRAER, S., DOHERTY, T.S., DUNN, T.E., DURIGAN, G., DUFFY, J.E., EDELIST, D., EDGAR, G.J., ELAHI, R., ELMENDORF, S.C., ENEMAR, A., ERNEST, S.K.M., ESCRIBANO, R., ESTIARTE, M., EVANS, B.S., FAN, T.-., TURINI FARAH, F., LOUREIRO FERNANDES, L., FARNEDA, F.Z., FIDELIS, A., FITT, R., FOSAA, A.M., DAHER CORREA FRANCO, G.A., FRANK, G.E., FRASER, W.R., GARCÍA, H., CAZZOLLA GATTI, R., GIVAN, O., GORGONE-BARBOSA, E., GOULD, W.A., GRIES, C., GROSSMAN, G.D., GUTIERRÉZ, J.R., HALE, S., HARMON, M.E., HARTE, J., HASKINS, G., HENSHAW, D.L., HERMANUTZ, L., HIDALGO, P., HIGUCHI, P., HOEY, A., VAN HOEY, G., HOFGAARD, A., HOLECK, K., HOLLISTER, R.D., HOLMES, R., HOOGENBOOM, M., HSIEH, C.-., HUBBELL, S.P., HUETTMANN, F., HUFFARD, C.L., HURLBERT, A.H., MACEDO IVANAUSKAS, N., JANÍK, D., JANDT, U., JAŻDŻEWSKA, A., JOHANNESSEN, T., JOHNSTONE, J., JONES, J., JONES, F.A.M., KANG, J., KARTAWIJAYA, T., KEELEY, E.C., KELT, D.A., KINNEAR, R., KLANDERUD, K., KNUTSEN, H., KOENIG, C.C., KORTZ, A.R., KRÁL, K., KUHNZ, L.A., KUO, C.-., KUSHNER, D.J., LAGUIONIE-

- MARCHAIS, C., LANCASTER, L.T., MIN LEE, C., LEFCHECK, J.S., LÉVESQUE, E., LIGHTFOOT, D., LLORET, F., LLOYD, J.D., LÓPEZ-BAUCCELLS, A., LOUZAO, M., MADIN, J.S., MAGNÚSSON, B., MALAMUD, S., MATTHEWS, I., MCFARLAND, K.P., MCGILL, B., MCKNIGHT, D., MCLARNEY, W.O., MEADOR, J., MESERVE, P.L., METCALFE, D.J., MEYER, C.F.J., MICHELSEN, A., MILCHAKOVA, N., MOENS, T., MOLAND, E., MOORE, J., MATHIAS MOREIRA, C., MÜLLER, J., MURPHY, G., MYERS-SMITH, I.H., MYSTER, R.W., NAUMOV, A., NEAT, F., NELSON, J.A., PAUL NELSON, M., NEWTON, S.F., NORDEN, N., OLIVER, J.C., OLSEN, E.M., ONIPCHENKO, V.G., PABIS, K., PABST, R.J., PAQUETTE, A., PARDEDE, S., PATERSON, D.M., PÉLISSIER, R., PEÑUELAS, J., PÉREZ-MATUS, A., PIZARRO, O., POMATI, F., POST, E., PRINS, H.H.T., PRISCU, J.C., PROVOOST, P., PRUDIC, K.L., PULLIAINEN, E., RAMESH, B.R., MENDIVIL RAMOS, O., RASSWEILER, A., REBELO, J.E., REED, D.C., REICH, P.B., REMILLARD, S.M., RICHARDSON, A.J., RICHARDSON, J.P., VAN RIJN, I., ROCHA, R., RIVERA-MONROY, V.H., RIXEN, C., ROBINSON, K.P., RIBEIRO RODRIGUES, R., DE CERQUEIRA ROSSA-FERES, D., RUDSTAM, L., RUHL, H., RUZ, C.S., SAMPAIO, E.M., RYBICKI, N., RYPEL, A., SAL, S., SALGADO, B., SANTOS, F.A.M., SAVASSI-COUTINHO, A.P., SCANGA, S., SCHMIDT, J., SCHOOLEY, R., SETIAWAN, F., SHAO, K.-., SHAVER, G.R., SHERMAN, S., SHERRY, T.W., SICIŃSKI, J., SIEVERS, C., DA SILVA, A.C., RODRIGUES DA SILVA, F., SILVEIRA, F.L., SLINGSBY, J., SMART, T., SNELL, S.J., SOUDZILOVSKAIA, N.A., SOUZA, G.B.G., MALUF SOUZA, F., CASTRO SOUZA, V., STALLINGS, C.D., STANFORTH, R., STANLEY, E.H., MAURO STERZA, J., STEVENS, M., STUART-SMITH, R., RONDON SUAREZ, Y., SUPP, S., YOSHIO TAMASHIRO, J., TARIGAN, S., THIEDE, G.P., THORN, S., TOLVANEN, A., TERESA ZUGLIANI TONIATO, M., TOTLAND, Ø., TWILLEY, R.R., VAITKUS, G., VALDIVIA, N., VALLEJO, M.I., VALONE, T.J., VAN COLEN, C., VANAVERBEKE, J., VENTUROLI, F., VERHEYE, H.M., VIANNA, M., VIEIRA, R.P., VRŠKA, T., QUANG VU, C., VAN VU, L., WAIDE, R.B., WALDOCK, C., WATTS, D., WEBB, S., WESOŁOWSKI, T., WHITE, E.P., WIDDICOMBE, C.E., WILGERS, D., WILLIAMS, R., WILLIAMS, S.B., WILLIAMSON, M., WILLIG, M.R., WILLIS, T.J., WIPF, S., WOODS, K.D., WOEHLE, E.J., ZAWADA, K. AND ZETTLER, M.L., 2018. BioTIME: A database of biodiversity time series for the Anthropocene. *Global Ecology and Biogeography*, **27**(7), pp. 760-786.
- DUANE, A. AND BROTONS, L., 2018. Synoptic weather conditions and changing fire regimes in a Mediterranean environment. *Agricultural and Forest Meteorology*, **253-254**, pp. 190-202.
- ELLER, C.B., ROWLAND, L., OLIVEIRA, R.S., BITTENCOURT, P.R.L., BARROS, F.V., DA COSTA, A.C.L., MEIR, P., FRIEND, A.D., MENCUCINI, M., SITCH, S. AND COX, P., 2018. Modelling tropical forest responses to drought and El Niño with a stomatal optimization model based on xylem hydraulics. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **373**(1760),.
- FARINA, S., OLTRA, A., BOADA, J., BARTUMEUS, F., ROMERO, J. AND ALCOVERRO, T., 2018. Generation and maintenance of predation hotspots of a functionally important herbivore in a patchy habitat mosaic. *Functional Ecology*, **32**(2), pp. 556-565.
- FERNÁNDEZ-MARTÍNEZ, M., LLUSIÀ, J., FILELLA, I., NIINEMETS, Ü., ARNETH, A., WRIGHT, I.J., LORETO, F. AND PEÑUELAS, J., 2018. Nutrient-rich plants emit a less intense blend of volatile isoprenoids. *New Phytologist*, **220**(3), pp. 773-784.
- FERNÁNDEZ-MARTÍNEZ, M., VICCA, S., JANSSENS, I.A., CARNICER, J., MARTÍN-VIDE, J. AND PEÑUELAS, J., 2018. The consecutive disparity index, D: a measure of temporal variability in ecological studies. *Ecosphere*, **9**(12),.
- FERNÁNDEZ-PÉREZ, L., VILLAR-SALVADOR, P., MARTÍNEZ-VILALTA, J., TOCA, A. AND ZAVALA, M.A., 2018. Distribution of pines in the Iberian Peninsula agrees with species differences

in foliage frost tolerance, not with vulnerability to freezing-induced xylem embolism. *Tree physiology*, **38**(4), pp. 507-516.

FILELLA, I., ZHANG, C., SECO, R., POTOSNAK, M., GUENTHER, A., KARL, T., GAMON, J., PALLARDY, S., GU, L., KIM, S., BALZAROLO, M., FERNANDEZ-MARTINEZ, M. AND PENUELAS, J., 2018. A MODIS photochemical reflectance index (PRI) as an estimator of isoprene emissions in a temperate deciduous forest. *Remote Sensing*, **10**(4),.

FLO, V., BOSCH, J., ARNAN, X., PRIMANTE, C., MARTÍN GONZÁLEZ, A.M., BARRIL-GRAELLS, H. AND RODRIGO, A., 2018. Yearly fluctuations of flower landscape in a Mediterranean scrubland: Consequences for floral resource availability. *PLoS ONE*, **13**(1),.

FRANZ, D., ACOSTA, M., ALTIMIR, N., ARRIGA, N., ARROUAYS, D., AUBINET, M., AURELA, M., AYRES, E., LÓPEZ-BALLESTEROS, A., BARBASTE, M., BERVEILLER, D., BIRAUD, S., BOUKIR, H., BROWN, T., BRÖMMER, C., BUCHMANN, N., BURBA, G., CARRARA, A., CESCATTI, A., CESCHIA, E., CLEMENT, R., CREMONESE, E., CRILL, P., DARENOVA, E., DENGEL, S., D'ODORICO, P., FILIPPA, G., FLECK, S., FRATINI, G., FUSS, R., GIELEN, B., GOGO, S., GRACE, J., GRAF, A., GRELE, A., GROSS, P., GRÖNWALD, T., HAAPANALA, S., HEHN, M., HEINESCH, B., HEISKANEN, J., HERBST, M., HERSCHLEIN, C., HÖRTNAGL, L., HUFKENS, K., IBROM, A., JOLIVET, C., JOLY, L., JONES, M., KIESE, R., KLEMEDTSSON, L., KLJUN, N., KLUMPP, K., KOLARI, P., KOLLE, O., KOWALSKI, A., KUTSCH, W., LAURILA, T., DE LIGNE, A., LINDER, S., LINDROTH, A., LOHILA, A., LONGDOZ, B., MAMMARELLA, I., MANISE, T., JIMÉNEZ, S.M., MATTEUCCI, G., MAUDER, M., MEIER, P., MERBOLD, L., MEREU, S., METZGER, S., MIGLIAVACCA, M., MÖLDER, M., MONTAGNANI, L., MOUREAUX, C., NELSON, D., NEMITZ, E., NICOLINI, G., NILSSON, M.B., DE BEECK, M.O.M., OSBORNE, B., LÖFVENIUS, M.O., PAVELKA, M., PEICHL, M., PELTOLA, O., PIHLATIE, M., PITACCO, A., POKORNÝ, R., PUMPANEN, J., RATIÉ, C., REBMANN, C., ROLAND, M., SABBATINI, S., SABY, N.P.A., SAUNDERS, M., SCHMID, H.P., SCHRUMPF, M., SEDLÁK, P., ORTIZ, P.S., SIEBICKE, L., ŠIGUT, L., SILVENNOINEN, H., SIMIONI, G., SKIBA, U., SONNENTAG, O., SOUDANI, K., SOULÉ, P., STEINBRECHER, R., TALLEC, T., THIMONIER, A., TUUTTILA, E.-., TUOVINEN, J.-., VESTIN, P., VINCENT, G., VINCKE, C., VITALE, D., WALDNER, P., WESLIEN, P., WINGATE, L., WOHLFAHRT,

G., ZAHNISER, M. AND VESALA, T., 2018. Towards long-Term standardised carbon and greenhouse gas observations for monitoring Europe's terrestrial ecosystems: A review. *International Agrophysics*, **32**(4), pp. 439-455.

GALIANA, N., LURGI, M., CLARAMUNT-LÓPEZ, B., FORTIN, M.-., LEROUX, S., CAZELLES, K., GRAVEL, D. AND MONTOYA, J.M., 2018. The spatial scaling of species interaction networks. *Nature Ecology and Evolution*, **2**(5), pp. 782-790.

GARCÍA-CALLEJAS, D., MOLOWNY-HORAS, R. AND ARAÚJO, M.B., 2018. Multiple interactions networks: towards more realistic descriptions of the web of life. *Oikos*, **127**(1), pp. 5-22.

GARCÍA-CALLEJAS, D., MOLOWNY-HORAS, R. AND ARAÚJO, M.B., 2018. The effect of multiple biotic interaction types on species persistence. *Ecology*, **99**(10), pp. 2327-2337.

GARCÍA-GÓMEZ, H., IZQUIETA-ROJANO, S., AGUILLAUME, L., GONZÁLEZ-FERNÁNDEZ, I., VALIÑO, F., ELUSTONDO, D., SANTAMARÍA, J.M., ÀVILA, A., BYTNEROWICZ, A., BERMEJO, V. AND ALONSO, R., 2018. Joining empirical and modelling approaches to estimate dry deposition of nitrogen in Mediterranean forests. *Environmental Pollution*, **243**, pp. 427-436.

GARCÍA-VALDÉS, R., BUGMANN, H. AND MORIN, X., 2018. Climate change-driven extinctions of tree species affect forest functioning more than random extinctions. *Diversity and Distributions*, **24**(7), pp. 906-918.

GARGALLO-GARRIGA, A., PREECE, C., SARDANS, J., ORAVEC, M., URBAN, O. AND PEÑUELAS, J.

2018. Root exudate metabolomes change under drought and show limited capacity for recovery. *Scientific Reports*, **8**(1),.

GARNIER, E., VILE, D., ROUMET, C., LAVOREL, S., GRIGULIS, K., NAVAS, M.-. AND LLORET, F., 2018. Inter- and intra-specific trait shifts among sites differing in drought conditions at the north western edge of the Mediterranean Region. *Flora: Morphology, Distribution, Functional Ecology of Plants*, .

GIBB, H., SANDERS, N.J., DUNN, R.R., ARNAN, X., VASCONCELOS, H.L., DONOSO, D.A., ANDERSEN, A.N., SILVA, R.R., BISHOP, T.R., GOMEZ, C., GROSSMAN, B.F., YUSAH, K.M., LUKE, S.H., PACHECO, R., PEARCE-DUVET, J., RETANA, J., TISTA, M. AND PARR, C.L., 2018. Habitat disturbance selects against both small and large species across varying climates. *Ecography*, **41**(7), pp. 1184-1193.

GIELEN, B., ACOSTA, M., ALTIMIR, N., BUCHMANN, N., CESCATTI, A., CESCHIA, E., FLECK, S., HÖRTNAGL, L., KLUMPP, K., KOLARI, P., LOHILA, A., LOUSTAU, D., MARAÑÓN-JIMENEZ, S., MANISE, T., MATTEUCCI, G., MERBOLD, L., METZGER, C., MOUREAUX, C., MONTAGNANI, L., NILSSON, M.B., OSBORNE, B., PAPALE, D., PAVELKA, M., SAUNDERS, M., SIMIONI, G., SOUDANI, K., SONNENTAG, O., TALLEC, T., TUUTTILA, E.-., PEICHL, M., POKORNY, R., VINCKE, C. AND WOHLFAHRT, G., 2018. Ancillary vegetation measurements at ICOS ecosystem stations. *International Agrophysics*, **32**(4), pp. 645-664.

GÓMEZ, K., LORITE, P., GARCÍA, F., TINAUT, A., ESPADALER, X., PALOMEQUE, T., SANLLORENTE, O. AND TRAGER, J., 2018. Differentiating iberiformica and formica (Serviformica) with description of the sexual castes of formica

(Serviformica) gerardi Bondroit, 1917 stat. rev. *Sociobiology*, **65**(3), pp. 463-470.

GÓMEZ, K., MARTÍNEZ, D. AND ESPADALER, X., 2018. Phylogeny of the ant genus *Aphaenogaster* (Hymenoptera: Formicidae) in the Iberian Peninsula, with the description of a new species. *Sociobiology*, **65**(2), pp. 215-224.

GÓMEZ, R., MÉNDEZ-VIGO, B., MARCER, A., ALONSO-BLANCO, C. AND PICÓ, F.X., 2018. Quantifying temporal change in plant population attributes: Insights from a resurrection approach. *AoB PLANTS*, **10**(5),.

GONZÁLEZ-DÍAZ, P., CAVERS, S., IASON, G.R., BOOTH, A., RUSSELL, J. AND JUMP, A.S., 2018. Weak isolation by distance and geographic diversity gradients persist in scottish relict pine forest. *IForest*, **11**(4), pp. 449-458.

GROSSIORD, C., SEVANTO, S., LIMOUSIN, J.-., MEIR, P., MENCUCCINI, M., PANGLE, R.E., POCKMAN, W.T., SALMON, Y., ZWEIFEL, R. AND MCDOWELL, N.G., 2018. Manipulative experiments demonstrate how long-term soil moisture changes alter controls of **Plant Water Use**. *Environmental And Experimental Botany*, **152**, Pp. 19-27.

GUARDIOLA, M., STEFANESCU, C., ROD, F. AND PINO, J., 2018. Do asynchronies in extinction debt affect the structure of trophic networks? A case study of antagonistic butterfly larvae-plant networks. *Oikos*, **127**(6), pp. 803-813.

HAPPE, A.-., ROQUER-BENI, L., BOSCH, J., ALINS, G. AND MODY, K., 2018. Earwigs and woolly apple aphids in integrated and organic apple orchards: responses of a generalist predator and a pest prey to local and landscape factors. *Agriculture, Ecosystems and Environment*, **268**, pp. 44-51.

HARJUNG, A., SABATER, F. AND BUTTURINI, A., 2018. Hydrological connectivity drives dissolved organic matter processing in an intermittent stream. *Limnologia*, **68**, pp. 71-81.

HARTMANN, H., MOURA, C.F., ANDEREGG, W.R.L., RUEHR, N.K., SALMON, Y., ALLEN, C.D., ARNDT, S.K., BRESHEARS, D.D., DAVI,

- H., GALBRAITH, D., RUTHROF, K.X., WUNDER, J., ADAMS, H.D., BLOEMEN, J., CAILLERET, M., COBB, R., GESSLER, A., GRAMS, T.E.E., JANSEN, S., KAUTZ, M., LLORET, F. AND O'BRIEN, M.,** 2018. Research frontiers for improving our understanding of drought-induced tree and forest mortality. *New Phytologist*, **218**(1), pp. 15-28.
- HASS, A.L., KORMANN, U.G., TSCHARNTKE, T., CLOUGH, Y., BAILLOD, A.B., SIRAMI, C., FAHRIG, L., MARTIN, J.-., BAUDRY, J., BERTRAND, C., BOSCH, J., BROTONS, L., BURE, F., GEORGES, R., GIRALT, D., MARCOS-GARCÍA, M.Á., RICARTE, A., SIRIWARDENA, G. AND BATÁRY, P.,** 2018. Landscape configurational heterogeneity by small-scale agriculture, not crop diversity, maintains pollinators and plant reproduction in western Europe. *Proceedings of the Royal Society B: Biological Sciences*, **285**(1872),.
- HERMOSO, V., MORÁN-ORDÓÑEZ, A. AND BROTONS, L.,** 2018. Assessing the role of Natura 2000 at maintaining dynamic landscapes in Europe over the last two decades: implications for conservation. *Landscape Ecology*, **33**(8), pp. 1447-1460.
- HERMOSO, V., VILLERO, D., CLAVERO, M. AND BROTONS, L.,** 2018. Spatial prioritisation of EU's LIFE-Nature programme to strengthen the conservation impact of Natura 2000. *Journal of Applied Ecology*, **55**(4), pp. 1575-1582.
- HINOJO-HINOJO, C., CASTELLANOS, A.E., LLANO-SOTELO, J., PEÑUELAS, J., VARGAS, R. AND ROMO-LEON, J.R.,** 2018. High V_{cmax}, J_{max} and photosynthetic rates of Sonoran Desert species: Using nitrogen and specific leaf area traits as predictors in biochemical models. *Journal of Arid Environments*, **156**, pp. 1-8.
- HONG, S., PIAO, S., CHEN, A., LIU, Y., LIU, L., PENG, S., SARDANS, J., SUN, Y., PEÑUELAS, J. AND ZENG, H.,** 2018. Afforestation neutralizes soil pH. *Nature Communications*, **9**(1),.
- HOSHIKA, Y., OSADA, Y., DE MARCO, A., PEÑUELAS, J. AND PAOLETTI, E.,** 2018. Global diurnal and nocturnal parameters of stomatal conductance in woody plants and major crops. *Global Ecology and Biogeography*, **27**(2), pp. 257-275.
- HU, M., PEÑUELAS, J., SARDANS, J., SUN, Z., WILSON, B.J., HUANG, J., ZHU, Q. AND TONG, C.,** 2018. Stoichiometry patterns of plant organ N and P in coastal herbaceous wetlands along the East China Sea: implications for biogeochemical niche. *Plant and Soil*, **431**(1-2), pp. 273-288.
- KAGAMBÈGA, A., THIBODEAU, A., TRINETTA, V., SORO, D.K., SAMA, F.N., BAKO, É., BOUDA, C.S., WEREME N'DIAYE, A., FRAVALO, P. AND BARRO, N.,** 2018. Salmonella spp. and Campylobacter spp. in poultry feces and carcasses in Ouagadougou, Burkina Faso. *Food Science and Nutrition*, **6**(6), pp. 1601-1606.
- KARAVANI, A., DE CÁCERES, M., MARTÍNEZ DE ARAGÓN, J., BONET, J.A. AND DE-MIGUEL, S.,** 2018. Effect of climatic and soil moisture conditions on mushroom productivity and related ecosystem services in Mediterranean pine stands facing climate change. *Agricultural and Forest Meteorology*, **248**, pp. 432-440.
- KARIMOUNE, L., BA, M.N., BAOUA, I.B. AND MUNIAPPAN, R.,** 2018. The parasitoid Trichogrammatoidea armigera Nagaraja (Hymenoptera: Trichogrammatidae) is a potential candidate for biological control of the millet head miner Heliocheilus albipunctella (de Joannis) (Lepidoptera: Noctuidae) in the Sahel. *Biological Control*, **127**, pp. 9-16.
- KOUSSOUBE, S., BA, M.N., TRAORÉ, F., DABIRE-BINSO, C.L. AND SANON, A.,** 2018. Evaluation of different options: Host plant resistance, weed management, and fertilization for the development of an integrated pest management strategy for the sweet potato weevil in Burkina Faso. *Tropicultura*, **36**(4), pp. 786-797.

- KOVÁČ, D., VESELOVSKÁ, P., KLEM, K., VEČEŘOVÁ, K., AČ, A., PEÑUELAS, J. AND URBAN, O., 2018. Potential of photochemical reflectance index for indicating photochemistry and light use efficiency in leaves of European beech and Norway spruce trees. *Remote Sensing*, **10**(8),.
- LAMB, A.M., GAN, H.M., GREENING, C., JOSEPH, L., LEE, Y., MORÁN-ORDÓÑEZ, A., SUNNUCKS, P. AND PAVLOVA, A., 2018. Climate-driven mitochondrial selection: A test in Australian songbirds. *Molecular ecology*, **27**(4), pp. 898-918.
- LAPIEDRA, O., 2018. Urban Behavioral Ecology: Lessons from Anolis Lizards. *Integrative and comparative biology*, **58**(5), pp. 939-947.
- LE QUÉRÉ, C., ANDREW, R.M., FRIEDLINGSTEIN, P., SITCH, S., PONGRATZ, J., MANNING, A.C., IVAR KORSBAKKEN, J., PETERS, G.P., CANADELL, J.G., JACKSON, R.B., BODEN, T.A., TANS, P.P., ANDREWS, O.D., ARORA, V.K., BAKKER, D.C.E., BARBERO, L., BECKER, M., BETTS, R.A., BOPP, L., CHEVALLIER, F., CHINI, L.P., CIAIS, P., COSCA, C.E., CROSS, J., CURRIE, K., GASSER, T., HARRIS, I., HAUCK, J., HAVERD, V., HOUGHTON, R.A., HUNT, C.W., HURTT, G., ILYINA, T., JAIN, A.K., KATO, E., KAUTZ, M., KEELING, R.F., KLEIN GOLDEWIJK, K., KÖRTZINGER, A., LANDSCHÜTZER, P., LEFÈVRE, N., LENTON, A., LIENERT, S., LIMA, I., LOMBARDOZZI, D., METZL, N., MILLERO, F., MONTEIRO, P.M.S., MUNRO, D.R., NABEL, J.E.M.S., NAKAOKA, S.-., NOJIRI, Y., ANTONIO PADIN, X., PEREGON, A., PFEIL, B., PIERROT, D., POULTER, B., REHDER, G., REIMER, J., RÖDENBECK, C., SCHWINGER, J., SÉFÉRIAN, R., SKJELVAN, I., STOCKER, B.D., TIAN, H., TILBROOK, B., TUBIELLO, F.N., LAAN-LUIJKX, I.T.V., WERF, G.R.V., VAN HEUVEN, S., VIOVY, N., VUICHARD, N., WALKER, A.P., WATSON, A.J., WILTSHIRE, A.J., ZAEHLE, S. AND ZHU, D., 2018. Global Carbon Budget 2017. *Earth System Science Data*, **10**(1), pp. 405-448.
- LEAL, I.R., RIBEIRO-NETO, J.D., ARNAN, X., OLIVEIRA, F.M.P., ARCOVERDE, G.B., FEITOSA, R.M. AND ANDERSEN, A.N., 2018. Ants of the Caatinga: Diversity, biogeography, and functional responses to anthropogenic disturbance and climate change. *Caatinga: The Largest Tropical Dry Forest Region in South America*. pp. 65-95.
- LECINA-DIAZ, J., ALVAREZ, A., REGOS, A., DRAPEAU, P., PAQUETTE, A., MESSIER, C. AND RETANA, J., 2018. The positive carbon stocks–biodiversity relationship in forests: co-occurrence and drivers across five subclimates. *Ecological Applications*, **28**(6), pp. 1481-1493.
- LEDO, A., PAUL, K.I., BURSLEM, D.F.R.P., EWEL, J.J., BARTON, C., BATTAGLIA, M., BROOKSBANK, K., CARTER, J., EID, T.H., ENGLAND, J.R., FITZGERALD, A., JONSON, J., MENCUCCINI, M., MONTAGU, K.D., MONTERO, G., MUGASHA, W.A., PINKARD, E., ROXBURGH, S., RYAN, C.M., RUIZ-PEINADO, R., SOCHACKI, S., SPECHT, A., WILDY, D., WIRTH, C., ZERIHUN, A. AND CHAVE, J., 2018. Tree size and climatic water deficit control root to shoot ratio in individual trees globally. *New Phytologist*, **217**(1), pp. 8-11.
- LEFEBVRE, L., 2018. Collared Doves feeding on food pellets in an urban feral cat shelter. *British Birds*, **111**(1), pp. 50.
- LEQUY, E., AVILA, A., BOUDIAF NAIT KACI, M. AND TURPAULT, M.-., 2018. Atmospheric deposition of particulate matter between Algeria and France: Contribution of long and short-term sources. *Atmospheric Environment*, **191**, pp. 181-193.
- LESLIE, A.D., MENCUCCINI, M. AND PERKS, M.P., 2018. Preliminary growth functions for Eucalyptus gunnii in the UK. *Biomass and Bioenergy*, **108**, pp. 464-469.
- LIU, D., OGAYA, R., BARBETA, A., YANG, X. AND PEÑUELAS, J., 2018. Long-term experimental drought combined with natural extremes accelerate vegetation shift in a Mediterranean holm oak forest. *Environmental and experimental botany*, **151**, pp. 1-11.

- LIU, D., PEÑUELAS, J., OGAYA, R., ESTIARTE, M., TIELBÖRGER, K., SLOWIK, F., YANG, X. AND BILTON, M.C.**, 2018. Species selection under long-term experimental warming and drought explained by climatic distributions. *New Phytologist*, **217**(4), pp. 1494-1506.
- LIU, D., PIAO, S., WANG, T., WANG, X., WANG, X., DING, J., CIAIS, P., PEÑUELAS, J. AND JANSSENS, I.**, 2018. Decelerating Autumn CO₂ Release With Warming Induced by Attenuated Temperature Dependence of Respiration in Northern Ecosystems. *Geophysical Research Letters*, **45**(11), pp. 5562-5571.
- LIU, Q., PIAO, S., JANSSENS, I.A., FU, Y., PENG, S., LIAN, X., CIAIS, P., MYNENI, R.B., PEÑUELAS, J. AND WANG, T.**, 2018. Extension of the growing season increases vegetation exposure to frost. *Nature Communications*, **9**(1),.
- LLORET, F. AND KITZBERGER, T.**, 2018. Historical and event-based bioclimatic suitability predicts regional forest vulnerability to compound effects of severe drought and bark beetle infestation. *Global Change Biology*, **24**(5), pp. 1952-1964.
- LLORET, F., SAPES, G., ROSAS, T., GALIANO, L., SAURA-MAS, S., SALA, A. AND MARTÍNEZ-VILALTA, J.**, 2018. Non-structural carbohydrate dynamics associated with drought-induced die-off in woody species of a shrubland community. *Annals of Botany*, **121**(7), pp. 1383-1396.
- LLOVERAS, L., COSSO, A., SOLÉ, J., CLARAMUNT-LÓPEZ, B. AND NADAL, J.**, 2018. Taphonomic signature of golden eagles (*Aquila chrysaetos*) on bone prey remains. *Historical Biology*, **30**(6), pp. 835-854.
- LOOZEN, Y., REBEL, K.T., KARSSENBERG, D., WASSEN, M.J., SARDANS, J., PEÑUELAS, J. AND DE JONG, S.M.**, 2018. Remote sensing of canopy nitrogen at regional scale in Mediterranean forests using the spaceborne MERIS terrestrial chlorophyll index. *Biogeosciences*, **15**(9), pp. 2723-2742.
- LOUSTAU, D., ALTIMIR, N., BARBASTE, M., GIELEN, B., JIMÉNEZ, S.M., KLUMPP, K., LINDER, S., MATTEUCCI, G., MERBOLD, L., DE BEEK, M.O., SOULÉ, P., THIMONIER, A., VINCKE, C. AND WALDNER, P.**, 2018. Sampling and collecting foliage elements for the determination of the foliar nutrients in ICOS ecosystem stations. *International Agrophysics*, **32**(4), pp. 665-676.
- LU, T., KE, M., LAVOIE, M., JIN, Y., FAN, X., ZHANG, Z., FU, Z., SUN, L., GILLINGS, M., PEÑUELAS, J., QIAN, H. AND ZHU, Y.-.**, 2018. Rhizosphere microorganisms can influence the timing of plant flowering. *Microbiome*, **6**(1),.
- LUN, F., LIU, J., CIAIS, P., NESME, T., CHANG, J., WANG, R., GOLL, D., SARDANS, J., PEÑUELAS, J. AND OBERSTEINER, M.**, 2018. Global and regional phosphorus budgets in agricultural systems and their implications for phosphorus-use efficiency. *Earth System Science Data*, **10**(1), pp. 1-18.
- Luo, W., Wang, X., Sardans, J., Wang, Z., Dijkstra, F.A., Lü, X.-., Peñuelas, J. And Han, X.**, 2018. Higher capability of C3 than C4 plants to use nitrogen inferred from nitrogen stable isotopes along an aridity gradient. *Plant and Soil*, **428**(1-2), pp. 93-103.
- LUO, W., XU, C., MA, W., YUE, X., LIANG, X., ZUO, X., KNAPP, A.K., SMITH, M.D., SARDANS, J., DIJKSTRA, F.A., PEÑUELAS, J., BAI, Y., WANG, Z., YU, Q. AND HAN, X.**, 2018. Effects of extreme drought on plant nutrient uptake and resorption in rhizomatous vs bunchgrass-dominated grasslands. *Oecologia*, **188**(2), pp. 633-643.
- LUYSSAERT, S., MARIE, G., VALADE, A., CHEN, Y.-., NJAKOU DJOMO, S., RYDER, J., OTTO, J., NAUDTS, K., LANSØ, A.S., GHATTAS, J. AND MCGRATH, M.J.**, 2018. Trade-offs in using European forests to meet climate objectives. *Nature*, **562**(7726), pp. 259-262.

- MARAÑÓN-JIMÉNEZ, S., SOONG, J.L., LEBLANS, N.I.W., SIGURDSSON, B.D., PEÑUELAS, J., RICHTER, A., ASENSIO, D., FRANSEN, E. AND JANSSENS, I.A.**, 2018. Geothermally warmed soils reveal persistent increases in the respiratory costs of soil microbes contributing to substantial C losses. *Biogeochemistry*, **138**(3), pp. 245-260.
- MARCE, A., VIDIGAL, D.S., JAMES, P.M.A., FORTIN, M.-., MÉNDEZ-VIGO, B., HILHORST, H.W.M., BENTSINK, L., ALONSO-BLANCO, C. AND PICÓ, F.X.**, 2018. Temperature fine-tunes Mediterranean *Arabidopsis thaliana* life-cycle phenology geographically. *Plant Biology*, **20**, pp. 148-156.
- MAREDA, M.K., REYES, B., BA, M.N., DABIRE, C.L., PITTENDRIGH, B. AND BELLO-BRAVO, J.**, 2018. Can mobile phone-based animated videos induce learning and technology adoption among low-literate farmers? A field experiment in Burkina Faso. *Information Technology for Development*, **24**(3), pp. 429-460.
- MARGALEF, O., ÁLVAREZ-GÓMEZ, J.A., PLA-RABES, S., CAÑELLAS-BOLTÀ, N., RULL, V., SÁEZ, A., GEYER, A., PEÑUELAS, J., SARDANS, J. AND GIRALT, S.**, 2018. Revisiting the role of high-energy Pacific events in the environmental and cultural history of Easter Island (Rapa Nui). *Geographical Journal*, **184**(3), pp. 310-322.
- MARTÍNEZ-VILALTA, J.**, 2018. The rear window: Structural and functional plasticity in tree responses to climate change inferred from growth rings. *Tree physiology*, **38**(2), pp. 155-158.
- MARULL, J., TELLO, E., BAGARIA, G., FONT, X., CATTANEO, C. AND PINO, J.**, 2018. Exploring the links between social metabolism and biodiversity distribution across landscape gradients: A regional-scale contribution to the land-sharing versus land-sparing debate. *Science of the Total Environment*, **619-620**, pp. 1272-1285.
- MCDOWELL, N., ALLEN, C.D., ANDERSON-TEIXEIRA, K., BRANDO, P., BRIENEN, R., CHAMBERS, J., CHRISTOFFERSEN, B., DAVIES, S., DOUGHTY, C., DUQUE, A., ESPIRITO-SANTO, F., FISHER, R., FONTES, C.G., GALBRAITH, D., GOODSMAN, D., GROSSIORD, C., HARTMANN, H., HOLM, J., JOHNSON, D.J., KASSIM, A.R., KELLER, M., KOVEN, C., KUEPPERS, L., KUMAGAI, T., MALHI, Y., MCMAHON, S.M., MENCUCCINI, M., MEIR, P., MOORCROFT, P., MULLER-LANDAU, H.C., PHILLIPS, O.L., POWELL, T., SIERRA, C.A., SPERRY, J., WARREN, J., XU, C. AND XU, X.**, 2018. Drivers and mechanisms of tree mortality in moist tropical forests. *New Phytologist*, **219**(3), pp. 851-869.
- MEIR, P., MENCUCCINI, M., BINKS, O., DA COSTA, A.L., FERREIRA, L. AND ROWLAND, L.**, 2018. Short-term effects of drought on tropical forest do not fully predict impacts of repeated or long-term drought: Gas exchange versus growth. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **373**(1760),.
- MELERO, Y., CORNULIER, T., OLIVER, M.K. AND LAMBIN, X.**, 2018. Ecological traps for large-scale invasive species control: Predicting settling rules by recolonising American mink post-culling. *Journal of Applied Ecology*, **55**(4), pp. 1769-1779.
- MOLINA, E., ESPELTA, J.M., PINO, J., BAGARIA, G. AND ARMENTERAS, D.**, 2018. Influence of clay licks on the diversity and structure of an Amazonian forest. *Biotropica*, **50**(5), pp. 740-749.
- MOLOWNY-HORAS, R., BORREGO, A., RIERA, P. AND ESPELTA, J.M.**, 2018. Severe wildfire in a mediterranean forest. *Equivalency Methods for Environmental Liability: Assessing Damage and Compensation Under the European Environmental Liability Directive*. pp. 203-234.
- MORANO, E. AND BONAL, R.**, 2018. *Araneus bonali* sp. N., a novel lichen-patterned species found on oak trunks (Araneae, Araneidae). *ZooKeys*, **2018**(779), pp. 119-145.

MORÁN-ORDÓÑEZ, A., CANESSA, S., BOTA, G., BROTONS, L., HERRANDO, S. AND HERMOSO, V., 2018. Efficiency of species survey networks can be improved by integrating different monitoring approaches in a spatial prioritization design. *Conservation Letters*, **11**(6),.

MORENO-MARTÍNEZ, Á., CAMPS-VALLS, G., KATTGE, J., ROBINSON, N., REICHSTEIN, M., VAN BODEGOM, P., KRAMER, K., CORNELISSEN, J.H.C., REICH, P., BAHN, M., NIINEMETS, Ü., PEÑUELAS, J., CRAINE, J.M., CERABOLINI, B.E.L., MINDEN, V., LAUGHLIN, D.C., SACK, L., ALLRED, B., BARALOTO, C., BYUN, C., SOUDZILOVSKAIA, N.A. AND RUNNING, S.W., 2018. A methodology to derive global maps of leaf traits using remote sensing and climate data. *Remote Sensing of Environment*, **218**, pp. 69-88.

MORIN, X., FAHSE, L., JACTEL, H., SCHERER-LORENZEN, M., GARCÍA-VALDÉS, R. AND BUGMANN, H., 2018. Long-term response of forest productivity to climate change is mostly driven by change in tree species composition. *Scientific Reports*, **8**(1),.

MU, Z., LLUSIÀ, J., LIU, D., OGAYA, R., ASENSIO, D., ZHANG, C. AND PEÑUELAS, J., 2018. Seasonal and diurnal variations of plant isoprenoid emissions from two dominant species in Mediterranean shrubland and forest submitted to experimental drought. *Atmospheric Environment*, **191**, pp. 105-115.

NAKHAVALI, M., FRIEDLINGSTEIN, P., LAUERWALD, R., TANG, J., CHADBURN, S., CAMINO-SERRANO, M., GUENET, B., HARPER, A., WALMSLEY, D., PEICHL, M. AND GIELEN, B., 2018. Representation of dissolved organic carbon in the JULES land surface model (vn4.4-JULES-DOCM). *Geoscientific Model Development*, **11**(2), pp. 593-609.

OBERSTEINER, M., BEDNAR, J., WAGNER, F., GASSER, T., CIAIS, P., FORSELL, N., FRANK, S., HAVLIK, P., VALIN, H., JANSSENS, I.A., PEÑUELAS, J. AND SCHMIDT-TRAUB, G., 2018. How to spend a dwindling greenhouse gas budget. *Nature Climate Change*, **8**(1), pp. 7-10.

OLSSON, S., PINOSIO, S., GONZÁLEZ-MARTÍNEZ, S.C., ABASCAL, F., MAYOL, M., GRIVET, D. AND VENDRAMIN, G.G., 2018. De novo assembly of English yew

(*Taxus baccata*) transcriptome and its applications for intra- and inter-specific analyses. *Plant Molecular Biology*, **97**(4-5), pp. 337-345.

ORTIZ-ÁLVAREZ, R., TRIADÓ-MARGARIT, X., CAMARERO, L., CASAMAYOR, E.O. AND CATALAN, J., 2018. High planktonic diversity in mountain lakes contains similar contributions of autotrophic, heterotrophic and parasitic eukaryotic life forms. *Scientific Reports*, **8**(1),.

OSORIO-CANADAS, S., ARNAN, X., BASSOLS, E., VICENS, N. AND BOSCH, J., 2018. Seasonal dynamics in a Cavity-Nesting beewasp community: Shifts in composition, functional diversity and host-parasitoid network structure. *PLoS ONE*, **13**(10),.

OTSU, K., PLA, M., VAYREDA, J. AND BROTONS, L., 2018. Calibrating the severity of forest defoliation by pine processionary moth with landsat and UAV imagery. *Sensors (Switzerland)*, **18**(10),.

PALACIN-LIZARBE, C., CAMARERO, L. AND CATALAN, J., 2018. Denitrification Temperature Dependence in Remote, Cold, and N-Poor Lake Sediments. *Water Resources Research*, **54**(2), pp. 1161-1173.

PALACIN-LIZARBE, C., CAMARERO, L. AND CATALAN, J., 2018. Estimating sediment denitrification rates using cores and N₂O microsensors. *Journal of Visualized Experiments*, **2018**(142),.

PALOMO-CAMPESINO, S., RAVERA, F., GONZÁLEZ, J.A. AND GARCÍA-LLORENTE, M., 2018. Exploring Current and Future Situation of Mediterranean Silvopastoral Systems: Case Study in Southern Spain. *Rangeland Ecology and Management*, **71**(5), pp. 578-591.

- PAQUETTE, A., VAYREDA, J., COLL, L., MESSIER, C. AND RETANA, J.**, 2018. Climate Change Could Negate Positive Tree Diversity Effects on Forest Productivity: A Study Across Five Climate Types in Spain and Canada. *Ecosystems*, **21**(5), pp. 960-970.
- PARTS, K., TEDERSOO, L., SCHINDLBACHER, A., SIGURDSSON, B.D., LEBLANS, N.I.W., ODDSDÓTTIR, E.S., BORKEN, W. AND OSTONEN, I.**, 2018. Acclimation of Fine Root Systems to Soil Warming: Comparison of an Experimental Setup and a Natural Soil Temperature Gradient. *Ecosystems*, pp. 1-16.
- PASETTO, D., ARENAS-CASTRO, S., BUSTAMANTE, J., CASAGRANDE, R., CHRYSOULAKIS, N., CORD, A.F., DITTRICH, A., DOMINGO-MARIMON, C., EL SERAFY, G., KARNIELI, A., KORDELAS, G.A., MANAKOS, I., MARI, L., MONTEIRO, A., PALAZZI, E., POURSANIDIS, D., RINALDO, A., TERZAGO, S., ZIEMBA, A. AND ZIV, G.**, 2018. Integration of satellite remote sensing data in ecosystem modelling at local scales: Practices and trends. *Methods in Ecology and Evolution*, **9**(8), pp. 1810-1821.
- PEÑUELAS, J., SARDANS, J., FILELLA, I., ESTIARTE, M., LLUSIÀ, J., OGAYA, R., CARNICER, J., BARTRONS, M., RIVAS-UBACH, A., GRAU, O., PEGUERO, G., MARGALEF, O., PLA-RABÉS, S., STEFANESCU, C., ASENSIO, D., PREECE, C., LIU, L., VERGER, A., RICO, L., BARBETA, A., ACHOTEGUI-CASTELLS, A., GARGALLO-GARRIGA, A., SPERLICH, D., FARRÉ-ARMENGOL, G., FERNÁNDEZ-MARTÍNEZ, M., LIU, D., ZHANG, C., URBINA, I., CAMINO, M., VIVES, M., NADAL-SALA, D., SABATÉ, S., GRACIA, C. AND TERRADAS, J.**, 2018. Assessment of the impacts of climate change on Mediterranean terrestrial ecosystems based on data from field experiments and long-term monitored field gradients in Catalonia. *Environmental and experimental botany*, **152**, pp. 49-59.
- PÉREZ-RODRÍGUEZ, M., MARGALEF, O., CORELLA, J.P., SAIZ-LOPEZ, A., PLA-RABÉS, S., GIRALT, S. AND CORTIZAS, A.M.**, 2018. The role of climate: 71 ka of atmospheric mercury deposition in the southern hemisphere recorded by Rano Aroi Mire, Easter Island (Chile). *Geosciences (Switzerland)*, **8**(10),.
- PETERS, R.L., FONTI, P., FRANK, D.C., POYATOS, R., PAPPAS, C., KAHMEN, A., CARRARO, V., PRENDIN, A.L., SCHNEIDER, L., BALTZER, J.L., BARON-GAFFORD, G.A., DIETRICH, L., HEINRICH, I., MINOR, R.L., SONNENTAG, O., MATHENY, A.M., WIGHTMAN, M.G. AND STEPPE, K.**, 2018. Quantification of uncertainties in conifer sap flow measured with the thermal dissipation method. *New Phytologist*, **219**(4), pp. 1283-1299.
- PETIT, G., VON ARX, G., KIORAPOSTOULOU, N., LECHTHALER, S., PRENDIN, A.L., ANFODILLO, T., CALDEIRA, M.C., COCHARD, H., COPINI, P., CRIVELLARO, A., DELZON, S., GEBAUER, R., GRIČAR, J., GRÖNHOLM, L., HÖLTTÄ, T., JYSKE, T., LAVRIČ, M., LINTUNEN, A., LOBO-DO-VALE, R., PELTONIEMI, M., PETERS, R.L., ROBERT, E.M.R., ROIG JUAN, S., SENFELDR, M., STEPPE, K., URBAN, J., VAN CAMP, J. AND STERCK, F.**, 2018. Tree differences in primary and secondary growth drive convergent scaling in leaf area to sapwood area across Europe. *New Phytologist*, **218**(4), pp. 1383-1392.
- PIAO, S., LIU, Z., WANG, Y., CIAIS, P., YAO, Y., PENG, S., CHEVALLIER, F., FRIEDLINGSTEIN, P., JANSSENS, I.A., PEÑUELAS, J., SITCH, S. AND WANG, T.**, 2018. On the causes of trends in the seasonal amplitude of atmospheric CO₂. *Global Change Biology*, **24**(2), pp. 608-616.
- PIQUÉ, R., MORERA, N., REVELLES, J., CASTELLS, E., LÓPEZ-BULTÓ, O., FRANCH, A. AND BURJACHS, F.**, 2018. The Distribution and Use of Box (*Buxus sempervirens* L.) in the Northeastern Iberian Peninsula During the Holocene. *Environmental Archaeology*, .
- PLA-RABÉS, S. AND CATALAN, J.**, 2018. Diatom species variation between lake habitats: implications for interpretation of

paleolimnological records. *Journal of Paleolimnology*, **60**(2), pp. 169-187.

PLAZA-ÁLVAREZ, P.A., LUCAS-BORJA, M.E., SAGRA, J., MOYA, D., ALFARO-SÁNCHEZ, R., GONZÁLEZ-ROMERO, J. AND DE LAS HERAS, J., 2018. Changes in soil water repellency after prescribed burnings in three different Mediterranean forest ecosystems. *Science of the Total Environment*, **644**, pp. 247-255.

POYATOS, R., AGUADÉ, D. AND MARTÍNEZ-VILALTA, J., 2018. Below-ground hydraulic constraints during drought-induced decline in Scots pine. *Annals of Forest Science*, **75**(4),.

POYATOS, R., SUS, O., BADIELLA, L., MENCUCINI, M. AND MARTÍNEZ-VILALTA, J., 2018. Gap-filling a spatially explicit plant trait database: Comparing imputation methods and different levels of environmental information. *Biogeosciences*, **15**(9), pp. 2601-2617.

PREECE, C., CLAMP, N.F., WARHAM, G., CHARLES, M., REES, M., JONES, G. AND OSBORNE, C.P., 2018. Cereal progenitors differ in stand harvest characteristics from related wild grasses. *Journal of Ecology*, **106**(3), pp. 1286-1297.

PREECE, C., FARRÉ-ARMENGOL, G., LLUSIÀ, J. AND PEÑUELAS, J., 2018. Thirsty tree roots exude more carbon. *Tree physiology*, **38**(5), pp. 690-695.

RAŠI, T., MAJLÁTH, I., BOGDZIEWICZ, M., DUDEK, K., MAJLÁTHOVÁ, V., WŁODAREK, J., ALMÁŠI, M., VARGOVÁ, B. AND TRYJANOWSKI, P., 2018. Tick distribution along animal tracks: Implication for preventative medicine. *Annals of Agricultural and Environmental Medicine*, **25**(2), pp. 360-363.

REGOS, A., CLAVERO, M., D'AMEN, M., GUISAN, A. AND BROTONS, L., 2018. Wildfire-vegetation dynamics affect predictions of climate change impact on bird communities. *Ecography*, **41**(6), pp. 982-995.

REGOS, A., HERMOSO, V., D'AMEN, M., GUISAN, A. AND BROTONS, L., 2018. Trade-offs and synergies between bird conservation

and wildfire suppression in the face of global change. *Journal of Applied Ecology*, **55**(5), pp. 2181-2192.

REGOS, A., IMBEAU, L., DESROCHERS, M., LEDUC, A., ROBERT, M., JOBIN, B., BROTONS, L. AND DRAPEAU, P., 2018. Hindcasting the impacts of land-use changes on bird communities with species distribution models of Bird Atlas data. *Ecological Applications*, **28**(7), pp. 1867-1883.

REN, P., ROSSI, S., CAMARERO, J.J., ELLISON, A.M., LIANG, E. AND PEÑUELAS, J., 2018. Critical temperature and precipitation thresholds for the onset of xylogenesis of *Juniperus przewalskii* in a semi-arid area of the north-eastern Tibetan Plateau. *Annals of Botany*, **121**(4), pp. 617-624.

RIVAS-UBACH, A., PORET-PETERSON, A.T., PEÑUELAS, J., SARDANS, J., PÉREZ-TRUJILLO, M., LEGIDO-QUIGLEY, C., ORAVEC, M., URBAN, O. AND ELSER, J.J., 2018. Coping with iron limitation: a metabolomic study of *Synechocystis* sp. PCC 6803. *Acta Physiologiae Plantarum*, **40**(2),.

ROCES-DÍAZ, J.V., JIMÉNEZ-ALFARO, B., CHYTRÝ, M., DÍAZ-VARELA, E.R. AND ÁLVAREZ-ÁLVAREZ, P., 2018. Glacial refugia and mid-Holocene expansion delineate the current distribution of *Castanea sativa* in Europe. *Palaeogeography, Palaeoclimatology, Palaeoecology*, **491**, pp. 152-160.

ROCES-DÍAZ, J.V., VAYREDA, J., BANQUÉ-CASANOVAS, M., CUSÓ, M., ANTON, M., BONET, J.A., BROTONS, L., DE CÁCERES, M., HERRANDO, S., MARTÍNEZ DE ARAGÓN, J., DE-MIGUEL, S. AND MARTÍNEZ-VILALTA, J., 2018. Assessing

the distribution of forest ecosystem services in a highly populated Mediterranean region. *Ecological Indicators*, **93**, pp. 986-997.

ROCES-DÍAZ, J.V., VAYREDA, J., BANQUÉ-CASANOVAS, M., DÍAZ-VARELA, E., BONET, J.A., BROTONS, L., DE-MIGUEL, S., HERRANDO, S. AND MARTÍNEZ-VILALTA, J., 2018. The spatial level of analysis affects the patterns of forest ecosystem services supply and their relationships. *Science of the Total Environment*, **626**, pp. 1270-1283.

ROCHA-ORTEGA, M., ARNAN, X., RIBEIRO-NETO, J.D., LEAL, I.R., FAVILA, M.E. AND MARTÍNEZ-RAMOS, M., 2018. Taxonomic and functional ant diversity along a secondary successional gradient in a tropical forest. *Biotropica*, **50**(2), pp. 290-301.

ROWLAND, L., DA COSTA, A.C.L., OLIVEIRA, A.A.R., ALMEIDA, S.S., FERREIRA, L.V., MALHI, Y., METCALFE, D.B., MENCUCINI, M., GRACE, J. AND MEIR, P., 2018. Shock and stabilisation following long-term drought in tropical forest from 15 years of litterfall dynamics. *Journal of Ecology*, **106**(4), pp. 1673-1682.

ROWLAND, L., DA COSTA, A.C.L., OLIVEIRA, A.A.R., OLIVEIRA, R.S., BITTENCOURT, P.L., COSTA, P.B., GILES, A.L., SOSA, A.I., COUGHLIN, I., GODLEE, J.L., VASCONCELOS, S.S., JUNIOR, J.A.S., FERREIRA, L.V., MENCUCINI, M. AND MEIR, P., 2018. Drought stress and tree size determine stem CO₂ efflux in a tropical forest. *New Phytologist*, **218**(4), pp. 1393-1405.

RUIZ-CARBAYO, H., BONAL, R., PINO, J. AND ESPELTA, J.M., 2018. Zero-sum landscape effects on acorn predation associated with shifts in granivore insect community in new

holm oak (*Quercus ilex*) forests. *Diversity and Distributions*, **24**(4), pp. 521-534.

SADAQUI, M., LUDWIG, W., BOURRIN, F., BISSONNAIS, Y.L. AND ROMERO, E., 2018. Anthropogenic reservoirs of various sizes trap most of the sediment in the Mediterranean Maghreb basin. *Water (Switzerland)*, **10**(7),.

SÁEZ, L., RUIZ, E., GRANZOW-DE LA CERDA, Í. AND BRUGUÉS, M., 2018. The bryophyte flora of the Montseny massif (northeastern Iberian Peninsula): Conservation issues and an updated check-list. *Cryptogamie, Bryologie*, **39**(1), pp. 3-46.

SAGRA, J., FERRANDIS, P., PLAZA-ÁLVAREZ, P.A., LUCAS-BORJA, M.E., GONZÁLEZ-ROMERO, J., ALFARO-SÁNCHEZ, R., DE LAS HERAS, J. AND MOYA, D., 2018. Regeneration of *Pinus pinaster* Aiton after prescribed fires: Response to burn timing and biogeographical seed provenance across a climatic gradient. *Science of the Total Environment*, **637-638**, Pp. 1550-1558.

SANAEI, A., GRANZOW-DE LA CERDA, Í. AND CAYUELA, L., 2018. Grain size affects the relationship between species richness and above-ground biomass in semi-arid rangelands. *Plant Ecology and Diversity*, **11**(4), pp. 489-499.

SÁNCHEZ-PINILLOS, M., AMEZTEGUI, A., KITZBERGER, T. AND COLL, L., 2018. Relative size to resprouters determines post-fire recruitment of non-serotinous pines. *Forest Ecology and Management*, **429**, pp. 300-307.

SANGINÉS DE CÁRCER, P., VITASSE, Y., PEÑUELAS, J., JASSEY, V.E.J., BUTTLER, A. AND SIGNARBIEX, C., 2018. Vapor-pressure deficit and extreme climatic variables limit tree growth. *Global Change Biology*, **24**(3), pp. 1108-1122.

SARDÀ-PALOMERA, F., BOTA, G., SARDÀ, F. AND BROTONS, L., 2018. Reply to 'a comment on the limitations of UAVs in wildlife research – the example of colonial nesting waterbirds'. *Journal of Avian Biology*, **49**(9),.

SAUNDERS, M., DENGEL, S., KOLARI, P., MOUREAUX, C.,

- MONTAGNANI, L., CESCHIA, E., ALTIMIR, N., LÓPEZ-BALLESTEROS, A., MARAÑÓN-JIMENEZ, S., ACOSTA, M., KLUMPP, K., GIELEN, B., DE BEECK, M.O., HÖRTNAGL, L., MERBOLD, L., OSBORNE, B., GRÜNWALD, T., ARROUAYS, D., BOUKIR, H., SABY, N., NICOLINI, G., PAPALE, D. AND JONES, M., 2018.** Importance of reporting ancillary site characteristics, and management and disturbance information at ICOS stations. *International Agrophysics*, **32**(4), pp. 457-469.
- SAYOL, F., DOWNING, P.A., IWANIUK, A.N., MASPONS, J. AND SOL, D., 2018.** Predictable evolution towards larger brains in birds colonizing oceanic islands. *Nature Communications*, **9**(1),.
- SCHÄR, S., TALAVERA, G., ESPADALER, X., RANA, J.D., ANDERSEN ANDERSEN, A., COVER, S.P. AND VILA, R., 2018.** Do Holarctic ant species exist? Trans-Beringian dispersal and homoplasy in the Formicidae. *Journal of Biogeography*, **45**(8), pp. 1917-1928.
- SCHAUMAN, S., VERGER, A., FILELLA, I. AND PEÑUELAS, J., 2018.** Characterisation of functional-trait dynamics at high spatial resolution in a mediterranean forest from sentinel-2 and ground-truth data. *Remote Sensing*, **10**(12),.
- SCHELHAAS, M.-., FRIDMAN, J., HENGEVELD, G.M., HENTTONEN, H.M., LEHTONEN, A., KIES, U., KRAJNC, N., LERINK, B., NÍ DHUBHÁIN, Á., POLLEY, H., PUGH, T.A.M., REDMOND, J.J., ROHNER, B., TEMPERLI, C., VAYREDA, J. AND NABUURS, G.-., 2018.** Actual European forest management by region, tree species and owner based on 714,000 re-measured trees in national forest inventories. *PLoS one*, **13**(11), pp. e0207151.
- SCHELHAAS, M.-., HENGEVELD, G.M., HEIDEMA, N., THÜRIG, E., ROHNER, B., VACCHIANO, G., VAYREDA, J., REDMOND, J., SOCHA, J., FRIDMAN, J., TOMTER, S., POLLEY, H., BARREIRO, S. AND NABUURS, G.-., 2018.** Species-specific, pan-European diameter increment models based on data of 2.3 million trees. *Forest Ecosystems*, **5**(1),.
- SCHIFANI, E., GENTILE, V., SCUPOLA, A. AND ESPADALER, X., 2018.** Yet another alien: A second species of *Lepisiota* spreading across the Canary Islands, Spain (Hymenoptera: Formicidae). *Fragmenta Entomologica*, **50**(1), pp. 61-64.
- SCHMELLER, D.S., WEATHERDON, L.V., LOYAU, A., BONDEAU, A., BROTONS, L., BRUMMITT, N., GEIJZENDORFFER, I.R., HAASE, P., KUEMMERLEN, M., MARTIN, C.S., MIHOUB, J.-., ROCCHINI, D., SAARENMAA, H., STOLL, S. AND REGAN, E.C., 2018.** A suite of essential biodiversity variables for detecting critical biodiversity change. *Biological Reviews*, **93**(1), pp. 55-71.
- SERRA-MALUQUER, X., MENCUCCINI, M. AND MARTÍNEZ-VILALTA, J., 2018.** Changes in tree resistance, recovery and resilience across three successive extreme droughts in the northeast Iberian Peninsula. *Oecologia*, **187**(1), pp. 343-354.
- SGOLA STRA, F., BLASIOLI, S., RENZI, T., TOSI, S., MEDRZYCKI, P., MOLOWNY-HORAS, R., PORRINI, C. AND BRASCHI, I., 2018.** Lethal effects of Cr(III) alone and in combination with propiconazole and clothianidin in honey bees. *Chemosphere*, **191**, pp. 365-372.
- SHIK, J.Z., RYTTER, W., ARNAN, X. AND MICHELSEN, A., 2018.** Disentangling nutritional pathways linking leafcutter ants and their co-evolved fungal symbionts using stable isotopes. *Ecology*, **99**(9), pp. 1999-2009.
- SIGDEL, S.R., WANG, Y., CAMARERO, J.J., ZHU, H., LIANG, E. AND PEÑUELAS, J., 2018.** Moisture-mediated responsiveness of treeline shifts to global warming in the Himalayas. *Global Change Biology*, **24**(11), pp. 5549-5559.
- SLIK, J.W.F., FRANKLIN, J., ARROYO-RODRÍGUEZ, V., FIELD, R., AGUILAR, S., AGUIRRE, N., AHUMADA, J., AIBA, S.-., ALVES, L.F., ANITHA, K., AVELLA, A.,**

- MORA, F., AYMARD, G.A.C., BÁEZ, S., BALVANERA, P., BASTIAN, M.L., BASTIN, J.-., BELLINGHAM, P.J., VAN DEN BERG, E., DA CONCEIÇÃO BISPO, P., BOECKX, P., BOEHNING-GAESE, K., BONGERS, F., BOYLE, B., BRAMBACH, F., BREARLEY, F.Q., BROWN, S., CHAI, S.-., CHAZDON, R.L., CHEN, S., CHHANG, P., CHUYONG, G., EWANGO, C., CORONADO, I.M., CRISTÓBAL-AZKARATE, J., CULMSEE, H., DAMAS, K., DATTARAJA, H.S., DAVIDAR, P., DEWALT, S.J., DIN, H., DRAKE, D.R., DUQUE, A., DURIGAN, G., EICHHORN, K., ELER, E.S., ENOKI, T., ENSSLIN, A., FANDOHAN, A.B., FARWIG, N., FEELEY, K.J., FISCHER, M., FORSHED, O., GARCIA, Q.S., GARKOTI, S.C., GILLESPIE, T.W., GILLET, J.-., GONMADJE, C., GRANZOW-DE LA CERDA, I., GRIFFITH, D.M., GROGAN, J., HAKEEM, K.R., HARRIS, D.J., HARRISON, R.D., HECTOR, A., HEMP, A., HOMEIER, J., HUSSAIN, M.S., IBARRA-MANRÍQUEZ, G., HANUM, I.F., IMAI, N., JANSEN, P.A., JOLY, C.A., JOSEPH, S., KARTAWINATA, K., KEARSLEY, E., KELLY, D.L., KESSLER, M., KILLEEN, T.J., KOOYMAN, R.M., LAUMONIER, Y., LAURANCE, S.G., LAURANCE, W.F., LAWES, M.J., LETCHER, S.G., LINDSELL, J., LOVETT, J., LOZADA, J., LU, X., LYKKE, A.M., BIN MAHMUD, K., MAHAYANI, N.P.D., MANSOR, A., MARSHALL, A.R., MARTIN, E.H., MATOS, D.C.L., MEAVE, J.A., MELO, F.P.L., MENDOZA, Z.H.A., METALI, F., MEDJIBE, V.P., METZGER, J.P., METZKER, T., MOHANDASS, D., MUNGUÍA-ROSAS, M.A., MUÑOZ, R., NURTJAHYA, E., DE OLIVEIRA, E.L., ONRIZAL, PAROLIN, P., PARREN, M., PARTHASARATHY, N., PAUDEL, E., PEREZ, R., PÉREZ-GARCÍA, E.A., POMMER, U., POORTER, L., QI, L., PIEDADE, M.T.F., PINTO, J.R.R., POULSEN, A.D., POULSEN, J.R., POWERS, J.S., PRASAD, R.C., PUYRAVAUD, J.-., RANGEL, O., REITSMA, J., ROCHA, D.S.B., ROLIM, S., ROVERO, F., ROZAK, A., RUOKOLAINEN, K., RUTISHAUSER, E., RUTTEN, G., MOHD SAID, M.N., SAITER, F.Z., SANER, P., SANTOS, B., DOS SANTOS, J.R., SARKER, S.K., SCHMITT, C.B., SCHOENGART, J., SCHULZE, M., SHEIL, D., SIST, P., SOUZA, A.F., SPIRONELLO, W.R., SPOSITO, T., STEINMETZ, R., STEVART, T., SUGANUMA, M.S., SUKRI, R., SULTANA, A., SUKUMAR, R., SUNDERLAND, T., SUPRIYADI, SURESH, H.S., SUZUKI, E., TABARELLI, M., TANG, J., TANNER, E.V.J., TARGHETTA, N., THEILADE, I., THOMAS, D., TIMBERLAKE, J., DE MORISSON VALERIANO, M., VAN VALKENBURG, J., VAN DO, T., VAN SAM, H., VANDERMEER, J.H., VERBEECK, H., VETAAS, O.R., ADEKUNLE, V., VIEIRA, S.A., WEBB, C.O., WEBB, E.L., WHITFELD, T., WICH, S., WILLIAMS, J., WISER, S., WITTMANN, F., YANG, X., YAO, C.Y.A., YAP, S.L., ZAHAWI, R.A., ZAKARIA, R. AND ZANG, R., 2018. Phylogenetic classification of the world's tropical forests. *Proceedings of the National Academy of Sciences of the United States of America*, **115**(8), pp. 1837-1842.
- SOL, D., MASPONS, J., GONZALEZ-VOYER, A., MORALES-CASTILLA, I., GARAMSZEGI, L.Z. AND MØLLER, A.P., 2018. Risk-taking behavior, urbanization and the pace of life in birds. *Behavioral Ecology and Sociobiology*, **72**(3),.
- SOONG, J.L., MARAÑÓN-JIMENEZ, S., COTRUFO, M.F., BOECKX, P., BODÉ, S., GUENET, B., PEÑUELAS, J., RICHTER, A., STAHL, C., VERBRUGGEN, E. AND JANSSENS, I.A., 2018. Soil microbial CNP and respiration responses to organic matter and nutrient additions: Evidence from a tropical soil incubation. *Soil Biology and Biochemistry*, **122**, pp. 141-149.
- STEFANESCU, C., AGUADO, L.O., ASÍS, J.D., BAÑOS-PICÍN, L., CERDÁ, X., MARCOS GARCÍA, M.Á., MICN, E., RICARTE, A. AND TORMOS, J., 2018. Diversity of insect pollinators in the Iberian Peninsula. *Ecosistemas*, **27**(2), pp. 9-22.
- STOCKER, B.D., ZSCHEISCHLER, J., KEENAN, T.F., PRENTICE, I.C., PEÑUELAS, J. AND SENEVIRATNE, S.I., 2018. Quantifying soil moisture impacts on light use efficiency across biomes. *New Phytologist*, **218**(4), pp. 1430-1449.
- STOJNIC, S., SUCHOCKA, M., BENITO-GARZÓN, M., TORRES-RUIZ, J.M., COCHARD, H., BOLTE, A., COCOZZA, C., CVJETKOVIĆ, B., DE LUIS, M., MARTINEZ-VILALTA, J., RÆBILD, A., TOGNETTI, R. AND DELZON, S., 2018. Variation in xylem vulnerability to embolism in European beech from geographically marginal populations. *Tree physiology*, **38**(2), pp. 173-185.

- STUART-HAËNTJENS, E., DE BOECK, H.J., LEMOINE, N.P., MÄND, P., KRÖEL-DULAY, G., SCHMIDT, I.K., JENTSCH, A., STAMPFLI, A., ANDEREGG, W.R.L., BAHN, M., KREYLING, J., WOHLGEMUTH, T., LLORET, F., CLASSEN, A.T., GOUGH, C.M. AND SMITH, M.D.,** 2018. Mean annual precipitation predicts primary production resistance and resilience to extreme drought. *Science of the Total Environment*, **636**, pp. 360-366.
- SUAREZ, M.L. AND LLORET, F.,** 2018. Self-replacement after small-scale partial crown dieback in austral *Nothofagus dombeyi* forests affected by an extreme drought. *Canadian Journal of Forest Research*, **48**(4), pp. 412-420.
- SUROVÁ, D., RAVERA, F., GUIOMAR, N., MARTÍNEZ SASTRE, R. AND PINTO-CORREIA, T.,** 2018. Contributions of Iberian Silvo-Pastoral Landscapes to the Well-Being of Contemporary Society. *Rangeland Ecology and Management*, **71**(5), pp. 560-570.
- TABAS-MADRID, D., MÉNDEZ-VIGO, B., ARTEAGA, N., MARCER, A., PASCUAL-MONTANO, A., WEIGEL, D., XAVIER PICÓ, F. AND ALONSO-BLANCO, C.,** 2018. Genome-wide signatures of flowering adaptation to climate temperature: Regional analyses in a highly diverse native range of *Arabidopsis thaliana*. *Plant Cell and Environment*, **41**(8), pp. 1806-1820.
- TAPIA, L., REGOS, A., GIL-CARRERA, A. AND DOMÍNGUEZ, J.,** 2018. Assessing the temporal transferability of raptor distribution models: Implications for conservation. *Bird Conservation International*, **28**(3), pp. 375-389.
- TERRER, C., VICCA, S., STOCKER, B.D., HUNGATE, B.A., PHILLIPS, R.P., REICH, P.B., FINZI, A.C. AND PRENTICE, I.C.,** 2018. Ecosystem responses to elevated CO₂ governed by plant–soil interactions and the cost of nitrogen acquisition. *New Phytologist*, **217**(2), pp. 507-522.
- TIAN, F., WIGNERON, J.-., CIAIS, P., CHAVE, J., OGÉE, J., PEÑUELAS, J., RÆBILD, A., DOMEQ, J.-., TONG, X., BRANDT, M., MIALON, A., RODRIGUEZ-FERNANDEZ, N., TAGESSON, T., AL-YAARI, A., KERR, Y., CHEN, C., MYNENI, R.B., ZHANG, W., ARDÖ, J. AND FENSHOLT, R.,** 2018. Coupling of ecosystem-scale plant water storage and leaf phenology observed by satellite. *Nature Ecology and Evolution*, **2**(9), pp. 1428-1435.
- TIFAFI, M., CAMINO-SERRANO, M., HATTÉ, C., MORRAS, H., MORETTI, L., BARBARO, S., CORNU, S. AND GUENET, B.,** 2018. The use of radiocarbon ¹⁴C to constrain carbon dynamics in the soil module of the land surface model ORCHIDEE (SVN r5165). *Geoscientific Model Development*, **11**(12), pp. 4711-4726.
- TNG, D.Y.P., APGAUA, D.M.G., ISHIDA, Y.F., MENCUCCINI, M., LLOYD, J., LAURANCE, W.F. AND LAURANCE, S.G.W.,** 2018. Rainforest trees respond to drought by modifying their hydraulic architecture. *Ecology and Evolution*, **8**(24), pp. 12479-12491.
- URGOITI, J., MUÑOZ, A., ESPELTA, J.M. AND BONAL, R.,** 2018. Distribution and space use of seed-dispersing rodents in central Pyrenees: implications for genetic diversity, conservation and plant recruitment. *Integrative Zoology*, **13**(3), pp. 307-318.
- VALADE, A., LUYSSAERT, S., VALLET, P., NJAKOU DJOMO, S., JESUS VAN DER KELLEN, I. AND BELLASSEN, V.,** 2018. Carbon costs and benefits of France's biomass energy production targets. *Carbon Balance and Management*, **13**(1),.
- VAN DER PLAS, F., RATCLIFFE, S., RUIZ-BENITO, P., SCHERER-LORENZEN, M., VERHEYEN, K., WIRTH, C., ZAVALA, M.A., AMPOORTER, E., BAETEN, L., BARBARO, L., BASTIAS, C.C., BAUHUS, J., BENAVIDES, R., BENNETER, A., BONAL, D., BOURIAUD, O., BRUELHEIDE, H., BUSSOTTI, F., CARNOL, M., CASTAGNEYROL, B., CHARBONNIER, Y., CORNELISSEN, J.H.C., DAHLGREN, J., CHECKO, E., COPPI, A., DAWUD, S.M., DECONCHAT, M., DE SMEDT, P., DE WANDELER, H., DOMISCH, T., FINÉR, L., FOTELLI, M., GESSLER, A., GRANIER, A., GROSSIORD, C.,**

- GUYOT, V., HAASE, J., HÄTTENSCHWILER, S., JACTEL, H., JAROSZEWICZ, B., JOLY, F.-., JUCKER, T., KAMBACH, S., KAENDLER, G., KATTGE, J., KORICHEVA, J., KUNSTLER, G., LEHTONEN, A., LIEBERGESELL, M., MANNING, P., MILLIGAN, H., MÜLLER, S., MUYS, B., NGUYEN, D., NOCK, C., OHSE, B., PAQUETTE, A., PEÑUELAS, J., POLLASTRINI, M., RADOGLU, K., RAULUND-RASMUSSEN, K., ROGER, F., SEIDL, R., SELVI, F., STENLID, J., VALLADARES, F., VAN KEER, J., VESTERDAL, L., FISCHER, M., GAMFELDT, L. AND ALLAN, E., 2018.** Continental mapping of forest ecosystem functions reveals a high but unrealised potential for forest multifunctionality. *Ecology Letters*, **21**(1), pp. 31-42.
- VICCA, S., STOCKER, B.D., REED, S., WIEDER, W.R., BAHN, M., FAY, P.A., JANSSENS, I.A., LAMBERS, H., PEÑUELAS, J., PIAO, S., REBEL, K.T., SARDANS, J., SIGURDSSON, B.D., VAN SUNDERT, K., WANG, Y.-., ZAEHLE, S. AND CIAIS, P., 2018.** Using research networks to create the comprehensive datasets needed to assess nutrient availability as a key determinant of terrestrial carbon cycling. *Environmental Research Letters*, **13**(12),.
- VIDAL-MACUA, J.J., NINYEROLA, M., ZABALA, A., DOMINGO-MARIMON, C., GONZALEZ-GUERRERO, O. AND PONS, X., 2018.** Environmental and socioeconomic factors of abandonment of rainfed and irrigated crops in northeast Spain. *Applied Geography*, **90**, pp. 155-174.
- VILÀ-CABRERA, A., COLL, L., MARTÍNEZ-VILALTA, J. AND RETANA, J., 2018.** Forest management for adaptation to climate change in the Mediterranean basin: A synthesis of evidence. *Forest Ecology and Management*, **407**, pp. 16-22.
- WALLACE, M., JONES, G., CHARLES, M., FORSTER, E., STILLMAN, E., BONHOMME, V., LIVARDA, A., OSBORNE, C.P., REES, M., FRENCK, G. AND PREECE, C., 2018.** Re-analysis of archaeobotanical remains from pre- and early agricultural sites provides no evidence for a narrowing of the wild plant food spectrum during the origins of agriculture in southwest Asia. *Vegetation History and Archaeobotany*, .
- WANG, C., WANG, W., SARDANS, J., AN, W., ZENG, C., ABID, A.A. AND PEÑUELAS, J., 2018.** Effect of simulated acid rain on CO₂, CH₄ and N₂O fluxes and rice productivity in a subtropical Chinese paddy field. *Environmental Pollution*, **243**, pp. 1196-1205.
- WANG, C., WANG, W., SARDANS, J., SINGLA, A., ZENG, C., LAI, D.Y.F. AND PEÑUELAS, J., 2018.** Effects of steel slag and biochar amendments on CO₂, CH₄, and N₂O flux, and rice productivity in a subtropical Chinese paddy field. *Environmental Geochemistry and Health*, .
- WANG, T., LIU, D., PIAO, S., WANG, Y., WANG, X., GUO, H., LIAN, X., BURKHART, J.F., CIAIS, P., HUANG, M., JANSSENS, I., LI, Y., LIU, Y., PEÑUELAS, J., PENG, S., YANG, H., YAO, Y., YIN, Y. AND ZHAO, Y., 2018.** Emerging negative impact of warming on summer carbon uptake in northern ecosystems. *Nature Communications*, **9**(1),.
- WANG, W., SARDANS, J., WANG, C., TONG, C., JI, Q. AND PEÑUELAS, J., 2018.** EFFECTS OF FERTILIZATION ON POREWATER NUTRIENTS, GREENHOUSE-GAS EMISSIONS AND RICE PRODUCTIVITY IN A SUBTROPICAL PADDY FIELD. *Experimental Agriculture*, pp. 1-17.
- WANG, W., SARDANS, J., WANG, C., ZENG, C., TONG, C., BARTRONS, M., ASENSIO, D. AND PEÑUELAS, J., 2018.** Shifts in plant and soil C, N and P accumulation and C:N:P stoichiometry associated with flooding intensity in subtropical estuarine wetlands in China. *Estuarine, Coastal and Shelf Science*, **215**, pp. 172-184.
- WANG, W., SARDANS, J., WANG, C., ZENG, C., TONG, C., BARTRONS, M. AND PEÑUELAS, J., 2018.** STEEL SLAG AMENDMENT INCREASES NUTRIENT AVAILABILITY AND RICE YIELD in

A SUBTROPICAL PADDY FIELD in CHINA. *Experimental Agriculture*, **54**(6), pp. 842-856.

WANG, W., WANG, C., SARDANS, J., TONG, C., OUYANG, L., ASENSIO, D., GARGALLO-GARRIGA, A. AND PEÑUELAS, J., 2018. Storage and release of nutrients during litter decomposition for native and invasive species under different flooding intensities in a Chinese wetland. *Aquatic Botany*, **149**, pp. 5-16.

WANG, W., ZENG, C., SARDANS, J., WANG, C., TONG, C. AND PEÑUELAS, J., 2018. Soil Methane Production, Anaerobic and Aerobic Oxidation in Porewater of Wetland Soils of the Minjiang River Estuarine, China. *Wetlands*, **38**(3), pp. 627-640.

WANG, W., ZENG, C., SARDANS, J., ZENG, D., WANG, C., BARTRONS, M. AND PEÑUELAS, J., 2018. Industrial and agricultural wastes decreased greenhouse-gas emissions and increased rice grain yield in a subtropical paddy field. *Experimental Agriculture*, **54**(4), pp. 623-640.

WANG, Y., CIAIS, P., GOLL, D., HUANG, Y., LUO, Y., WANG, Y.-., BLOOM, A.A., BROQUET, G., HARTMANN, J., PENG, S., PENUELAS, J., PIAO, S., SARDANS, J., STOCKER, B.D., WANG, R., ZAEHLE, S. AND ZECHMEISTER-BOLTENSTERN, S., 2018. GOLUM-CNP v1.0: A data-driven modeling of carbon, nitrogen and phosphorus cycles in major terrestrial biomes. *Geoscientific Model Development*, **11**(9), pp. 3903-3928.

WISER, S.K. AND DE CÁCERESS, M., 2018. New Zealand's plot-based classification of vegetation. *Phytocoenologia*, **48**(2), pp. 153-161.

WORONIK, A., STEFANESCU, C., KÄKELÄ, R., WHEAT, C.W. AND LEHMANN, P., 2018. Physiological differences between female limited, alternative life history strategies: The Alba phenotype in the butterfly *Colias croceus*. *Journal of insect physiology*, **107**, pp. 257-264.

Wu, C., Wang, X., Wang, H., Ciais, P., Peñuelas, J., Myneni, R.B., Desai, A.R., Gough, C.M., Gonsamo, A., Black, A.T.,

Jassal, R.S., Ju, W., Yuan, W., Fu, Y., Shen, M., Li, S., Liu, R., Chen, J.M. And Ge, Q., 2018. Contrasting responses of autumn-leaf senescence to daytime and night-time warming. *Nature Climate Change*, **8**(12), pp. 1092-1096.

WU, C., WANG, X., WANG, H., CIAIS, P., PEÑUELAS, J., MYNENI, R.B., DESAI, A.R., GOUGH, C.M., GONSAMO, A., BLACK, A.T., JASSAL, R.S., JU, W., YUAN, W., FU, Y., SHEN, M., LI, S., LIU, R., CHEN, J.M. AND GE, Q., 2018. Correction to: Contrasting responses of autumn-leaf senescence to daytime and night-time warming (Nature Climate Change, (2018), 8, 12, (1092-1096), 10.1038/s41558-018-0346-z). *Nature Climate Change*, **9**(2), pp. 177.

ZABALZA-MARTÍNEZ, J., VICENTE-SERRANO, S.M., LÓPEZ-MORENO, J.I., CALVO, G.B., SAVÉ, R., PASCUAL, D., PLA, E., MORÁN-TEJEDA, E., DOMÍNGUEZ-CASTRO, F. AND TAGUE, C.L., 2018. The influence of climate and land-cover scenarios on dam management strategies in a highwater pressure catchment in Northeast Spain. *Water (Switzerland)*, **10**(11),.

ZHANG, C., HARPKE, A., KÜHN, E., PÁRAMO, F., SETTELE, J., STEFANESCU, C., WIEMERS, M., ZHANG, Y. AND SCHWEIGER, O., 2018. Applicability of butterfly transect counts to estimate species richness in different parts of the palaeartic region. *Ecological Indicators*, **95**, pp. 735-740.

ZHAO, A., LIU, L., XU, T., SHI, L., XIE, W., ZHANG, W., FU, S., FENG, H. AND CHEN, B., 2018. Influences of canopy nitrogen and water addition on am fungal biodiversity and community composition in a mixed deciduous forest of China. *Frontiers in Plant Science*, **871**.

ZHENG, B., ZHU, Y., SARDANS, J., PEÑUELAS, J. AND SU, J., 2018. QMEC: a tool for high-throughput quantitative assessment of microbial functional potential in C, N, P, and S biogeochemical cycling. *Science China Life Sciences*, **61**(12), pp. 1451-1462.

ZHENG, B.-., IBRAHIM, M., ZHANG, D.-., BI, Q.-., LI, H.-., ZHOU, G.-., DING, K., PEÑUELAS, J., ZHU, Y.-. AND YANG, X.-., 2018. Identification and characterization of inorganic-phosphate-solubilizing bacteria from agricultural fields with a rapid isolation method. *AMB Express*, **8**(1),.

ZHENG, B.-., ZHANG, H.-. AND DING, K., 2018. Draft genome sequence of *Rhodococcus opacus* strain 04-OD7, which can mobilize phosphate. *Genome Announcements*, **6**(23),.

ZHU, D., CIAIS, P., CHANG, J., KRINNER, G., PENG, S., VIOVY, N., PEÑUELAS, J. AND ZIMOV, S., 2018. The large mean body size of mammalian herbivores explains the productivity paradox during the Last Glacial Maximum. *Nature Ecology and Evolution*, **2**(4), pp. 640-649.

ZHU, Y.-., GILLINGS, M., SIMONET, P., STEKEL, D., BANWART, S. AND PENUELAS, J., 2018. Human dissemination of genes and microorganisms in Earth's Critical Zone. *Global Change Biology*, **24**(4), pp. 1488-1499.

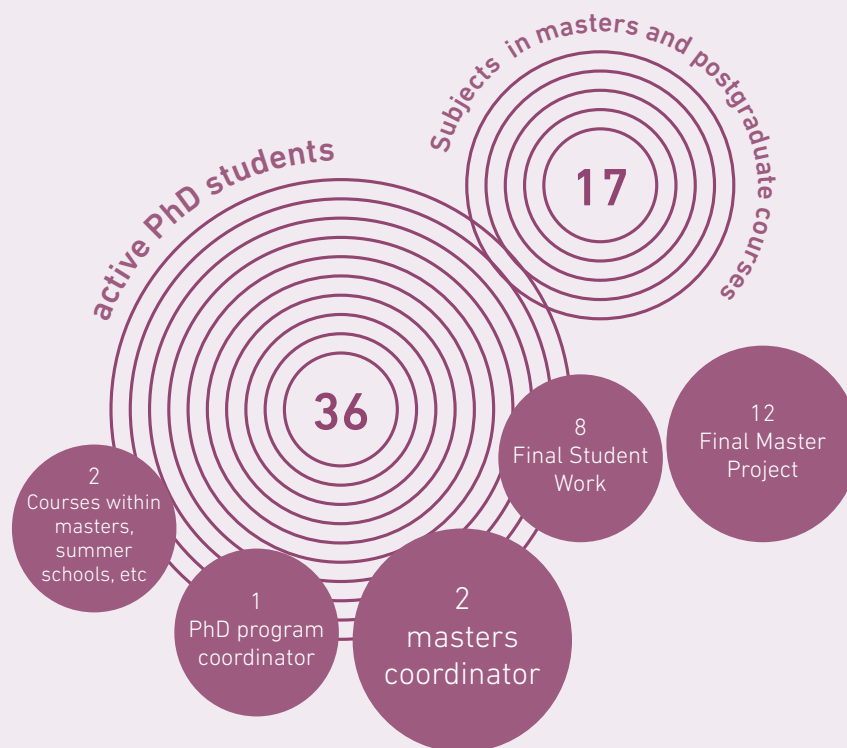
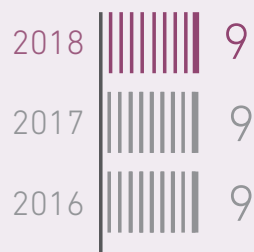
ZWOLAK, R., WITCZUK, J., BOGDZIEWICZ, M., RYCHLIK, L. AND PAGACZ, S., 2018. Simultaneous population fluctuations of rodents in montane forests and alpine meadows suggest indirect effects of tree masting. *Journal of mammalogy*, **99**(3), pp. 586-595.

TRAINING



KEY NUMBERS

PhD theses



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AQUILUÉ, N. (2018) Managing forest landscapes under global changes: simulation models for scenario evaluation.
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Supervisors: Lluís Brotons, Christian Messier, Marié José Fortin.

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This master's degree in Terrestrial Ecology and Biodiversity Management is addressed to students interested in the processes involved in the functioning of terrestrial ecosystems and the options for mitigating their future deterioration in a context of global environmental change, and also to students interested in the management and conservation of biological natural resources (flora and fauna). The master's degree takes up one academic year and is divided into 2 specialisations: Terrestrial Ecology and Management and Diversity of Fauna and Flora (marine and terrestrial). Master in Terrestrial Ecology and Biodiversity.

Coordinator: Francisco Lloret.

Directors: Francisco Lloret, Anna Morton.

Lecturers: Josep Maria Alcañiz, Pilar Andrés, Anna Àvila, Carme Biel, Jordi Bosch, Lluís Brotons, Juan Antonio Calleja, Eva Castells, Maite Carrasón, Jordi Catalan, Bernat Claramunt, Lluís Coll, Maria Constenla, Xavier Domene, Josep Maria Espelta, Marc Estiarte, Iolanda Filella, Mercè Galvany, Fernando García, Carles Gracia, Marc Gràcia, Iñigo Granzow, Laia Guàrdia, Santiago Lavin, Concepción de Linares, Francisco Lloret, Joan Llusà, Manel López Bejar, Javier López, Jordi López Olvera, Ignasi Marco, Jordi Martínez-Vilalta, Joan Masó, Maria Mayol, Maurizio Mencuccini, Ana Morton, Francesc Muñoz, Miquel Ninyerola, Romà Ogaya, Josep Peñuelas, Ramon Pérez, Joan Pino, Josep Piñol, Eduard Pla, Rafael Poyatos, Javier Retana, Miquel Riba, Àngela Ribas, Anselm Rodrigo, Santiago Sabaté, Llorenç Sáez, Sergi Santamaria, Jordi Sardans, Sandra Saura, Robert Savé, Emmanuel Serrano, Daniel Sol, Anna Soler, Constantí Stefanescu, Jaume Terradas, Emilio Valbuena, Jordi Vayreda.

OFFICIAL MASTER IN REMOTE SENSING AND GIS

The aim of this Master is to provide sound scientific training in techniques for observing the Earth and for generating and analyzing information in order to be able to study a given territory and manage its resources using GIS. The program is divided into 7 modules: 4 modules of mandatory subjects and 2 modules of elective advanced subjects. In addition, the Master course is complemented by practical sessions with a tutor and a Final Project as the last mandatory module of the program.

Coordinator: Xavier Pons.

Coordinator assistant: Cristina Cea

Lecturers: Joan Bech, Antoni Broquetas, José Ángel Burriel, Jaume Calvet, Adriano Camps, Cristina Cea, Bernat Codina, Carles Dalmaes, Ricardo Díaz-Delgado, Josep A. Gili, Sergi Gumà, Jordi Isern, Agustín Lobo, Arnald Marcer, Joan Masó, Eduardo de Miguel, Maria Mira, Gerard Moré, Òscar Mora, Javier Muñoz, Miquel Ninyerola, Fernando Pérez, Lluís Pesquer, Joan Pino, Xavier Pons, Càrol Puig, Pere Serra, Jordi Vayreda, Alaitz Zabala.

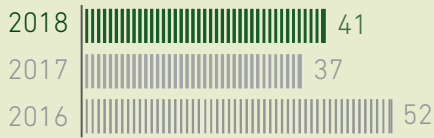
Check Annexes to see all Training activity of CREAM

A woman with dark hair, wearing a black short-sleeved top and grey pants, is looking down at a sample in a brown paper bag. A man with glasses and a blue shirt is standing next to her, also looking at the sample. In the background, a camera operator is visible, holding a professional video camera with a Canon lens. The setting is a charred, post-fire landscape with blackened trees and ground. A green rectangular overlay is positioned in the upper left corner of the image, containing the text "COMMUNICATION AND OUTREACH".

COMMUNICATION
AND OUTREACH

KEY NUMBERS

Press releases



Press releases

41

Impacts in mass media

190

4500
subscribers
to our monthly
newsletter

1906 followers in LinkedIn

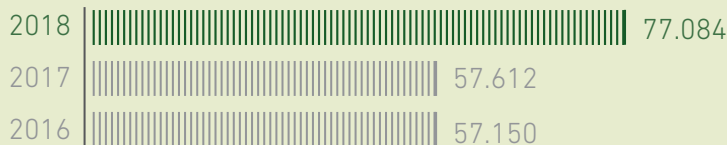
2729 likes in Facebook

1189 Instagram

Blog sessions 77.084

+ 55.256
unic visitors
of our blog
in 2018

Blog sessions



followers on Twitter

Total
2018 | 9817 followers

Total
2017 | 8260 followers

Total
2016 | 6800 followers

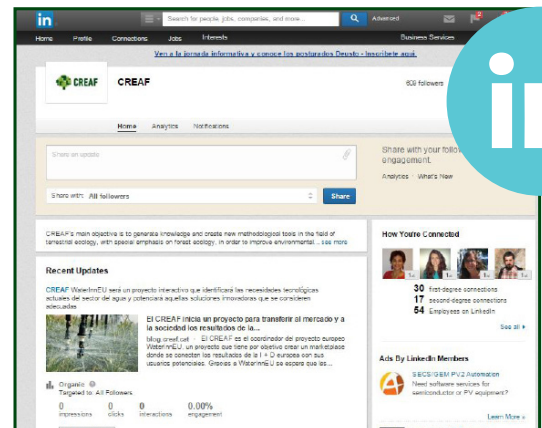
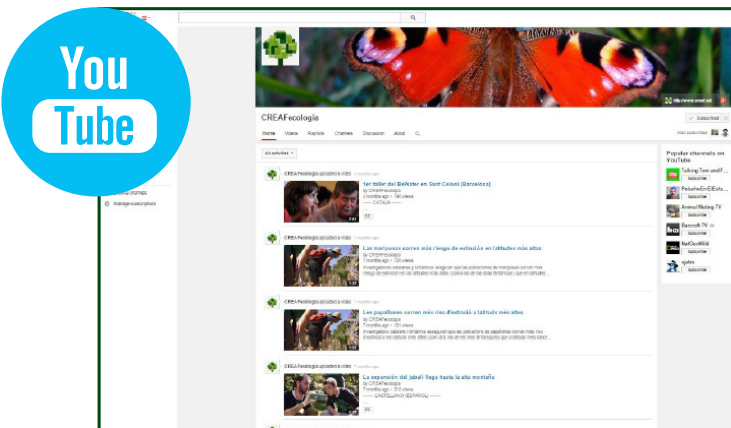
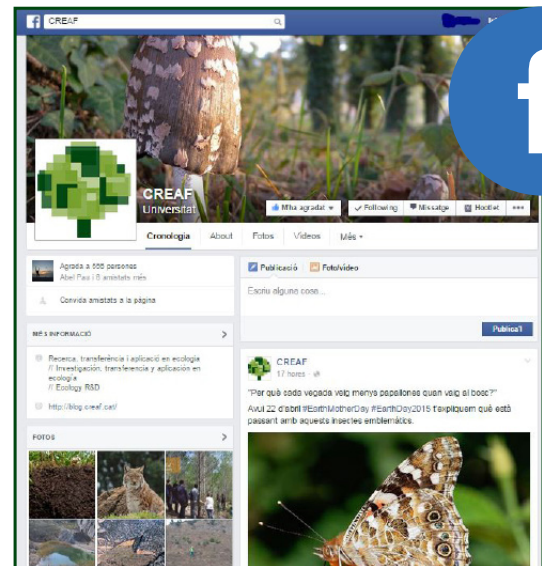
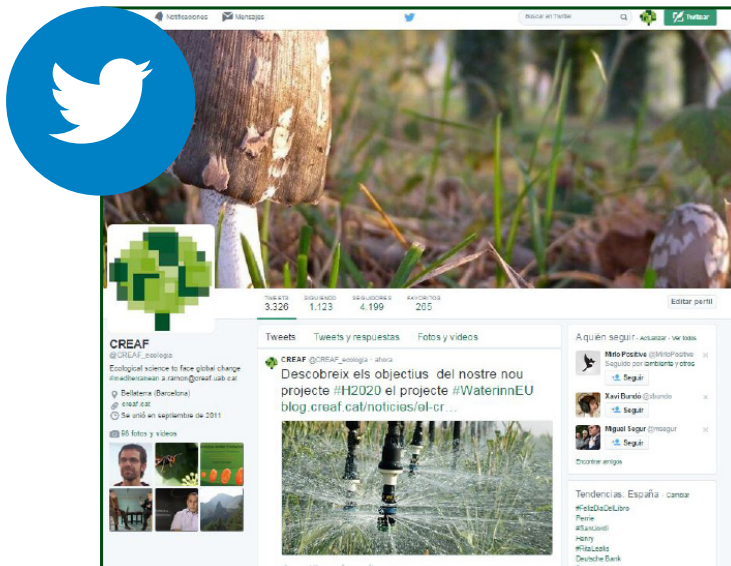
JOIN OUR GROWING COMMUNITY

EXPLORE

Our free and online resources provide objective, fact-based analysis of the latest environment and development data and information. CREAM's blog is a great introduction to our work and covers all our topics. Check it out at www.creaf.cat

Connect

Our social media sites let you join the conversation about important issues and share ideas and information with your network.



HIGHLIGHTED PRESS COVERAGE

22 Societat | L'actualitat del dia 15 de juliol del 2018 | **22**

ESTUDI EUROPEU

La flora escala la muntanya

El canvi climàtic impulsa l'arribada a la part alta de la muntanya d'espècies propies de zones baixes i augura la diversitat a **Les plantes** tanques dels cims estan desapareixent a l'edifició



El canvi climàtic està impulsant l'arribada a la part alta de la muntanya d'espècies propies de zones baixes i augura la diversitat a les plantes. Tanques dels cims estan desapareixent a l'edifició

Un estudi europeu realitzat per un grup de científics de diversos països, liderat pel biòleg de l'Institut de Ciències del Terrestre de l'Organització per a la Cooperació i el Desenvolupament Econòmic (OECD), ha demostrat que el canvi climàtic està impulsant l'arribada a la part alta de la muntanya d'espècies propies de zones baixes i augura la diversitat a les plantes. Tanques dels cims estan desapareixent a l'edifició

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22 AGRICULTURA

Les osmies, les reines de la pol·linització

Investigadors produeixen confes que aquesta abella soluciona el problema de certes camps de fruiters



Les osmies, les reines de la pol·linització. Investigadors produeixen confes que aquesta abella soluciona el problema de certes camps de fruiters

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22 ECONOMIA

Els sòls agrícoles catalans contenen tant carboni com el que el Principat emet en 4 anys

Després de 48 milions de tones de carboni orgànic, els sòls dels conres de seca acumulen el 54%, segons un estudi



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05/04/2018 - El Periódico

25/04/2018 - Ara

01/07/2018 - Regio7

ESDOMINGO

La economía del fuego

Los incendios ya emplean a más gente que las rebajas

El dispositivo 2018 en cifras: 7.000 efectivos, 30 medios, 360 móviles, 77 personas

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2 Societat | L'actualitat del dia 22 de juliol del 2018 | **22**

La UAB investiga per què és saludable passejar pel bosc

El dispositiu 2018 en cifras: 7.000 efectivos, 30 medios, 360 móviles, 77 personas

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01/07/2018 - Pontevedra

23/07/2018 - El Periódico

HOJA N.º 28

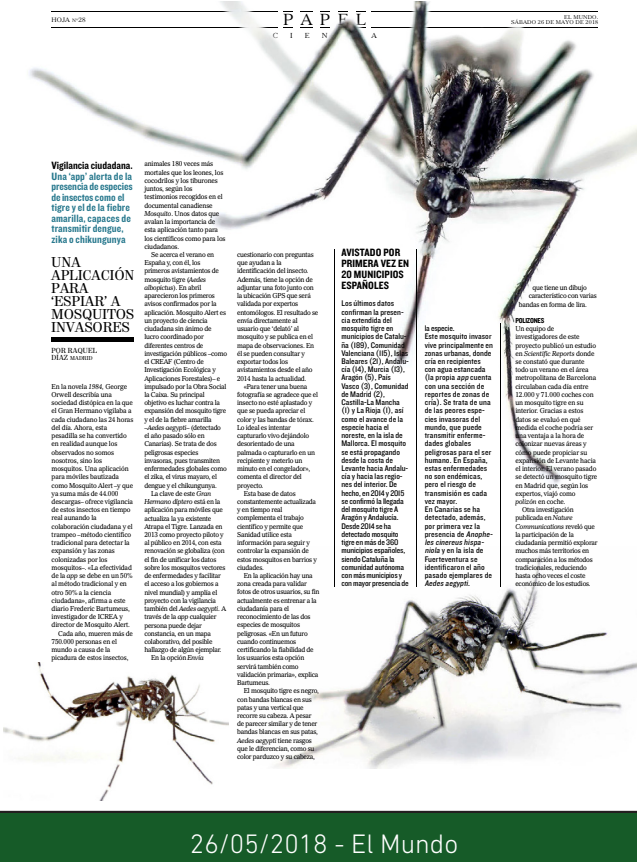
C I E N C I A

SABADO 26 DE MAYO DE 2018

EL MUNDO

EL MUNDO

26/05/2018 - El Mundo



Vigilancia ciudadana.

Una 'app' alerta de la presencia de especies de insectos como el tigre y el de la fiebre amarilla, capaces de transmitir dengue, Zika o chikungunya

animales 180 veces más mortales que los moscos, los coqueños y los thurones juntos, según los testimonios recogidos en el documental catalán Mosquito. Uno, datos que avalan la importancia de esta aplicación tanto para los científicos como para la ciudadanía.

El sistema se usará en España y en los tres primeros asentamientos de mosquito tigre (Aedes albopictus). En abril aparecieron los primeros avisos confirmados por la aplicación. Mosquito Alert es un proyecto de varias ciudades sin ánimo de lucro coordinado por científicos de la Universidad de Barcelona y el CSIC. El centro de Investigación Ecológica y Aplicaciones Forestales, impulsado por la Obra Social la Caixa. Su principal objetivo es luchar contra la expansión del mosquito tigre y el de la fiebre amarilla -años después- detectando el alto pasado solo en Canarias. Se trata de dos peligrosas especies invasoras, que transmiten enfermedades globales como el Zika, el tigre mosquito, el dengue y el chikungunya.

La Caixa y este Gran Hermano difiere en la aplicación para móviles que actualiza la información en tiempo real usando la tecnología de colaboración ciudadana y el tiempo -método científico tradicional para detectar la expansión y las zonas colonizadas por los mosquitos-. La efectividad de la app se debe en un 70% al método tradicional y en otro 30% a la ciencia ciudadana, afirma a este diario Frederic Bartumeus, investigador de ICREA y director de Mosquito Alert.

Cada año, mueren más de 700.000 personas en el mundo a causa de la picadura de estos insectos. En la especie Evoti

AVISTADO POR PRIMERA VEZ EN 20 MUNICIPIOS ESPAÑOLES

Los últimos datos confirman la presencia de esta avispa en 20 municipios de Cataluña (18), Comunidad Valenciana (1), Aragón (1), Murcia (1), Aragón (1), País Vasco (1), Comunidad de Madrid (1), Castilla-La Mancha (1) y La Rioja (1), así como el avance de la especie hacia el oeste, en la isla de Mallorca. El mosquito se está propagando desde la costa de Levante hacia Andalucía y hacia las regiones del interior. De hecho, en 2014 el CSIC se confirmó la llegada del mosquito tigre a Aragón y Andalucía.

Desde 2004 se ha detectado mosquito tigre en más de 200 municipios españoles, en la isla de Formentera se identificaron el alto pasado en algunas zonas de mayor presencia de Aedes argypti.

Este mosquito invasor vive principalmente en zonas urbanas, donde crece en recipientes con agua estancada. En la propia app cuenta con una sección de reportes de zonas de cría. Se trata de una de las especies invasoras del mundo, que puede transmitir enfermedades globales como el dengue y el tigre mosquito, que puede propagarse a través de la sangre humana. En España, estas enfermedades no son endémicas, pero el riesgo de transmisión es cada vez mayor.

En Canarias se ha detectado, además, por primera vez la presencia de Anopheles stephensi, un mosquito que transmite malaria y en la isla de Formentera se identificaron el alto pasado en algunas zonas de mayor presencia de Aedes argypti.

26/05/2018 - El Mundo

ABC VIERNES 14 DE SEPTIEMBRE DE 2018

abc.es/natural

NATURAL 3

PROTEGER EL MAR PARA SALVAR LA TIERRA

De no ser por su profundidad, los océanos cubrirían el 99 por ciento del planeta. Un escenario parecido al que recreaba Kevin Costner en su Waterworld, careniente de criterio científico, pero que obliga al hombre a vivir en un mundo de agua -en el año 2500- tras el derretimiento de los polos. Lo que hoy no sabemos es si, de proseguir el creciente deterioro de la salud de los mares, dentro de casi medio milenio podrán servir de sustento a la Humanidad. Malutilizados durante demasiado tiempo como fuente inagotable de recursos e ilimitado vertedero, hoy se encuentran amenazados por la

contaminación, la sobreexplotación y el cambio climático. Pero no es su biodiversidad (todavía en un 90% inexplorada) lo único que está en juego, sino la armonía del planeta y la vida tal y como la conocemos hoy. Claves en el equilibrio económico, social y ambiental de todos los países, los recursos marinos son fuente vital de sustento. Además, los océanos liberan más oxígeno que todos los bosques del mundo juntos y se han convertido en el irremplazable pulmón de la Tierra, al absorber cerca 2.000 millones de toneladas de dióxido de carbono y el 80% del calor generado por el aumento de los gases de efecto invernadero. Que los

CLAUDIO BARRIOS

líderes internacionales se hayan reunido en la sede de Naciones Unidas para intentar detener esta incontrolada degeneración del alta mar -esas aguas pertenecientes a todos pero gobernadas por nadie- es una oportunidad única para frenar su deterioro y proteger su inmensa pero frágil biodiversidad, legado para generaciones venideras. Esta normativa, jurídicamente vinculante, podría ser piedra angular sobre la que articular la conservación y el uso sostenible de todo el océano. Una cirugía de urgencia, un marcapasos que se espera poder colocar en 2020 en pleno corazón azul.



Hembra de petroca carbonera (*Petroica macrocephala*) en Nueva Zelanda. La segunda parte de su nombre científico significa -cabeza grande-.

LOS PÁJAROS INSULARES SON MÁS LISTOS

Durante los años de sequía, los pájaros carpinteros de las Islas Galápagos utilizan palitos para extraer los insectos de las cavidades de los árboles, lo mismo que hace el cuervo de Nueva Caledonia, en el archipiélago de Oceanía. Y es que, a diferencia de lo que ocurre en los continentes, las condiciones ambientales de las islas pueden llegar a sufrir importantes variaciones de año en año. Si estas se deterioran o se vuelven adversas, sus habitantes animales no pueden huir o irse del lugar

Centro de Investigación Ecológica y Aplicaciones Forestales (Creaf), que revela que los pájaros que viven en islas tienen cerebros más grandes que sus congéneres continentales. Para ello se ha llevado a cabo el estudio del cerebro de 11.500 ejemplares de 1.900 especies de aves insulares y continentales y se han reconstruido los cambios producidos en su tamaño en los últimos sesenta años. La razón que sugieren los investigadores es que ello les permite afrontar mejor

14/09/2018 - ABC

KEY NUMBERS

Outreach conferences organized by CREAM

5

425 participants

4

Participation as organizer in other outreach conferences

Participation as invited speaker in outreach conferences

55

81 Outreach articles

OUTREACH CONFERENCES OR TECHNICAL SEMINARS

Outreach conferences or technical seminars organized by CREAM

XV Jornada SCB-ICHN. Idees, reptes i solucions per fer ciència ciutadana útil i amb impacte

Venue: Institut d'Estudis Catalans, Barcelona, Spain.

Date: 21 November 21th

Numbers of attendees: 155

CREAF members involved in organising: Masó J., Bartumeus F., Ramon A., Claramunt B., Brotons LL.

Observem el canvi climàtic seguint els ritmes de la natura.

Venue: Institut d'Estudis Catalans, Barcelona

Date: July 28th

Numbers of attendees: 64

CREAF members involved in organising: Pino J., Basnou C., Masó J., Prat E.

Les òsmies: una alternativa per a la pol·lització dels fruiters

Venue: Llardecans (Lleida)

Date: March 28th

Numbers of attendees: 23

CREAF members involved in organising: Bosch J., Roquer L., Rodrigo. A.

XV Jornada d'Avenços en Ecologia. Societat Catalana de Biologia – CEAB – GECA.

Venue: Blanes.

Date: November 5th

Numbers of attendees: 50

CREAF members involved in organising: Catalan J.

International Workshop. Adapting the Mediterranean to Climate

Change: agriculture, water and forests.

Venue: Institut d'Estudis Catalans, Barcelona, Spain.

Date: April 24th

Numbers of attendees: 155

CREAF members involved in organising: Pla E., Pascual D., Retana J.

Check Annexes to see more CREAM outreach activity

ANNEXES



PUBLICATIONS

No SCI publications

ATKINSON, G., PICARD, O., KAŠPAR, J., DOBLAS-MIRANDA, E., HOLMBERG, G. (2018) Decision Support Systems & Tools. EIP-AGRI Focus Group Forest Practices & Climate Change, EC Minipaper.

AVILA, A., FERNÁNDEZ-MARTÍNEZ M. (2018) El canvi climàtic al Montseny: anàlisi de les tendències de variació de la temperatura de l'aire i l'aigua a la vall de La Castanya en les darreres tres dècades. IX Trobada d'Estudiosos del Montseny 455-464. Col·lecció Eines Diputació de Barcelona.

BARTUMEUS, F. et al (2018) Mosquito Alert ofrece herramientas gratuitas de soporte a acciones de seguimiento y control del mosquito tigre. Infoplagas 82.

DOBLAS-MIRANDA, E. & KAŠPAR, J., BLENNOW, K., TSARTSOU, E., HORST, A. (2018) Integrated management of forested landscape in the face of climate change. EIP-AGRI Focus Group Forest Practices & Climate Change, EC Minipaper.

ERITJA, R., BARTUMEUS, F. (2018) Mosquitos invasores a través de la mira del teléfono: contexto, retos y oportunidades. Boletín SEEA nº3 (Sociedad Española de Entomología Aplicada).

ESPELTA, J.M., FERNÁNDEZ-MARTÍNEZ, M., BOGDZIEWICZ, M., PEÑUELAS, J. (2018) Plantes anyívoles: entre l'abstinència i la disbauxa reproductiva. L'Atzavara 28: 15-21 (2018) ISSN 0212-8993 eISSN 2339-9791

KELLY, L.T.; BROTONS, L.; GILJOHANN, K.M.; MCCARTHY, M.A.; PAUSAS, J.G.; SMITH, A.L. (2018) Bridging the Divide: Integrating Animal and Plant Paradigms to Secure the Future of Biodiversity in Fire-Prone Ecosystems. Fire , 1, 29.

MASÓ, J., ZABALA, A., SERRAL, I., PONS, X. (2018) Remote Sensing Analytical Geospatial Operations Directly in the Web Browser. International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences XLII-4: 403-410. DOI: 10.5194/isprs-archives-XLII-4-403-2018. 7

PANTERA, A., DOBLAS-MIRANDA, E., BLENNOW, K., SILVA, C., BLUJDEA, V. (2018) Techniques and practices to manage fire risk in the forest (biomass management, Silvopastoralism). EIP-AGRI Focus Group Forest Practices & Climate Change, EC Minipaper.

SCHWICHTENBERG, G. & PICARD, O., PICOS, J., VENTURA, A., ATKINSON, G., CALADO, N., DOBLAS-MIRANDA, E., TSARTSOU, E., ECKER, J. (2018) Knowledge exchange through platforms, networks, or competence centres that link research, practitioners, industry and forest owners. EIP-AGRI Focus Group Forest Practices & Climate Change, EC Minipaper.

TYSON, E., BOWSER, A., PALMER, J., KAPAN, D., BARTUMEUS, F., BROCKLEHURST, M., PAUWELS, E. (2018) Global Mosquito Alert: Building citizen science capacity for surveillance and control of disease-vector mosquitoes. Workshop Report, vol. 2, Wilson Centre.

Books

DOMINGO-MARIMON, C., MASÓ, J. (COORD.) (2018) SPACED: Using Earth Observations to Protect Natural Landscapes. CREA, 1st ed, 67pp. ISBN: 978-84-697-8121-0.

GERMAIN J., PINO, J. (2018). Els sistemes naturals del delta del Llobregat. Treballs de la Institució Catalana d'Història Natural, 19, 1st ed, 715 pp. ISBN 9788499654430.

KRESSE, W., MASO, J. (2018) Geographic information -- Preservation of digital data and metadata -Part 1: Fundamentals. ISO 19165-1:2018. In Internet: <https://www.iso.org/standard/67325.html>

Book chapters

BARBETA, A., OGÉE, J., PEÑUELAS, J. (2018) Chapter 26. Stable-isotope techniques to investigate sources of plant water. In: *Advances in Plant Ecophysiology Techniques*. ISBN 978-3-319-93232-3. pp: 503-524. (L).

BLANCO, J.M., SEGUÍ, J.M., PINO, J., BATRIU, E., VALVERDE, A. (2018). El paisatge vegetal del delta del Llobregat. pp. 223-247 in: Germain J., Pino, J. (ed.). *Els sistemes naturals del delta del Llobregat*. Treballs de la Institució Catalana d'Història Natural, 19, 1st ed, 715 pp. ISBN 9788499654430.

BROTONS, L., HERRANDO, S., SIRAMI, C., KATI, V., & DÍAZ, M. (2018). Mediterranean 9 r Forest Bird Communities and the Role of Landscape Heterogeneity in Space and Time. In: *Ecology and Conservation of Forest Birds*, 318. ISBN 988-1-107-42072-4.

CARABASSA, V., DÍAZ, E., ALCAÑIZ, J.M. (2018) Carbon sequestration and vegetation development in quarry technosols amended with sewage sludge. In: (Silva, C.; Salgueiro, P.; Silva, A.; Mira, A.) *Quarries Alive 2018 – Enhancing Biodiversity and Ecosystems Services in Quarries – Challenges, Strategies and Practice*. Book of Abstracts. Universidade de Évora. Évora. ISBN 978-989-8550-59-0

CARABASSA, V., DÍAZ, E., FRANCO K., KALLEN, S., ALCAÑIZ, J.M. (2018) Restoring agro-silvo-pastoral systems using the Coon ecotechnology: a green infrastructure model for Quarry restoration. In: (Silva, C.; Salgueiro, P.; Silva, A.; Mira, A.) *Quarries Alive 2018 – Enhancing Biodiversity and Ecosystems Services in Quarries – Challenges, Strategies*

and Practice. Book of Abstracts. Universidade de Évora. Évora. ISBN 978-989-8550-59-0

CARABASSA, V., DÍAZ, E., FRANCO, K., KALLEN, S., CAMPO, J., ANDREU, V., GIMENO, E., GONZÁLEZ, F.; VIERA, G.; CRESCENZO, V., BERTAINA, F.; CASTRO, A., GUTIÉRREZ, I., KORKOUMPAS, D., GRAMMELIS, P., ALCAÑIZ, J.M. (2018) LIFE The green link: restaurando áreas degradadas con la ecotecnología COCOON. In: Oliet Palá, J.A.; Martínez-Ruiz, C.; Pequeño Ledezma, M.A. *Libro de resúmenes de la IV Reunión conjunta SECF-AEET 2018*. Sociedad Española de Ciencias Forestales y Asociación Española de Ecología Terrestre. Madrid, España. I.S.B.N.: 978-84-947983-9-9

DOBLAS-MIRANDA, E., ATTORRE, F., AZEVEDO, J., BELEN, I., ENRIQUEZ, E., FREITAS, H., HÓDAR, J.A., ÍRITAŞ, O., KARASLAN, Y., KHATER, C., KOUTSIAS, N., LAHLOU, M., MALKINSON, D., MANSOUR, S., PETTENELLA, D., PICARD, N., PINO, J., VIEIRA, J., VITALE, M., GARAVAGLIA, V. (2018) Chapter 4. Drivers of degradation and threats. In: Bourlion N, Garavaglia V, Picard N (Eds.) *State of Mediterranean Forests 2018*. FAO, Rome. ISBN: 978-92-5-131047-2.

ESTEBAN, P., LAREDO, S., PINO, J., VALVERDE, A. (2018). El context deltaic: situació, origen geològic i història del poblament humà. pp. 27-41 in: Germain J., Pino, J. (ed.). *Els sistemes naturals del delta del Llobregat*. Treballs de la Institució Catalana d'Història Natural, 19, 1st ed, 715 pp. ISBN 9788499654430.

GUERRIERI, R., PEÑUELAS, J., MENCUCINI, M. (2018) Nitrification in tree canopies. ICP Forests 2017 Executive Report. Eberswalde, Germany, pp: 5-6. ISSN 1020-587X, e-ISSN 2198-6541 (L)

LEAL, IR., RIBEIRO-NETO, JD., ARNAN, X., OLIVEIRA, FMP., ARCOVERDE, GB., FEITOSA, RM., ANDERSEN AN. (2018) Ants of the Caatinga: Diversity, Biogeography and Functional Responses to Anthropogenic Disturbance and Climate Change. In: Cardoso Da Silva JM, Leal IR, Tabarelli M eds, *Caatinga: The Largest Tropical Dry Forest Region in South America* Springer, pp. 577 (pp 65-95.). ISBN 978-3-319-68339-3

MASALLES, R.M., FERRER, X., GIRBAL, J., JORDÀ, C., JULIÀ, R., ESTEBAN, P., MONTORI, A., LUCENA, J.R., MARQUÈS, M.A., MENÉNDEZ, M., PINO, J., SORIANO, I., VALVERDE, A. (2018). Història de l'activitat naturalista. pp. 691-715 in: Germain J., Pino, J. (ed.). Els sistemes naturals del delta del Llobregat. Treballs de la Institució Catalana d'Història Natural, 19, 1st ed, 715 pp. ISBN 9788499654430.

MIKUSINSKI, G., VILLERO, D., HERRANDO, S., & BROTONS, L. (2018). Macroecological 5 r Patterns in Forest Bird Diversity in Europe. In: Ecology and Conservation of Forest Birds, 137. . ISBN 988-1-107-42072-4.

PALMER, JR.B., BROCKLEHURST, M., TYSON, E., BOWSER, A., PAUWELS, E., BARTUMEUS, F. (2018) Global Mosquito Alert. Chapter 15, pp. 210-215. In: Citizen Science: Innovation in open science, society and policy. Eds. Susanne Hecker, Muki Haklay, Anne Browser, Zen Makuch, Johannes Vogel, and Aletta Bonn. UCL Press, London

PESQUER, L., ZABALA, A. (2018) Remotely Sensed Images: Lossy Compression. In: Laplante PA (ed.) Encyclopedia of Image Processing 1st Edition. CRC Press Taylor & Francis Group - 856 pp. ISBN 9781482244908 - CAT# K23510

PINO, J., ISERN, R. (2018). El paisatge funcional i el mosaic dels ecosistemes terrestres. pp. 97-113 in: Germain J., Pino, J. (ed.). Els sistemes naturals del delta del Llobregat. Treballs de la Institució Catalana d'Història Natural, 19, 1st ed, 715 pp. ISBN 9788499654430.

PUJANTELL, J., BARBETA, A., BOADA, M., PEÑUELAS, J., BARRIOCANAL, C. (2018) El Montseny como paisaje centinela del cambio global: el caso de estudio de Vallforners. In: Bosque mediterráneo y humedales: paisaje, evolución y conservación. Almud, Ediciones de Castilla-La Mancha, 986 págs., 23,5 cm. ISBN: 978-84-948075-6-5. Pp 289-299.(L)

ROBERT, E., MENCUCCINI, M., MARTINEZ-VILALTA, J. (2018) The xylem anatomy and function of oaks. In: Oaks Physiological

Ecology. Exploring the Functional Diversity of Genus Quercus L. (Eustaquio Gil-Pelegrín, José Javier Peguero-Pina, Domingo Sancho-Knapik, Eds.) Springer, 544 pp, ISBN 978-3-319-69099-5.

SEGUÍ, J.M., VALVERDE, A., DEL HOYO, R., GONZÁLEZ, V., PINO, J. (2018). Les plantes vasculares. pp. 175-221 in: Germain J., Pino, J. (ed.). Els sistemes naturals del delta del Llobregat. Treballs de la Institució Catalana d'Història Natural, 19, 1st ed, 715 pp. ISBN 9788499654430.

VALERO, B., AMOUROUX, D., GANDOIS, L., GALOP, D., LE ROUX, G., CAMARERO, L., CATALÁN, J., SANTAMARÍA, J.M., ELUSTONDO, D., DE DIEGO, A., MORENO, A., BARREIRO LOSTRES, F., MATA-CAMPO, P., CORELLA, P., GONZÁLEZ-SAMPÉRIZ, P., AVILA, A., LIÑERO, O., FELIP, M. (2018) Ecosistemas sensibles de alta montaña: lagos y turberas, pp 58-65. In OPCC-CTP El cambio climático en los Pirineos: impactos, vulnerabilidades y adaptación. ISBN 978-84-09-06268-3.

VALERO-GARCÉS, B., AMOUROUX, D., GANDOIS, L., DIDIER, D., CAMARERO, L., CATALÁN, J., SANTAMARÍA, J.M., ELUSTONDO, D., DE DIEGO, A., MORENO, A., BARREIRO-LOSTRES, F., MATA-CAMPO, P., CORELLA, P., GONZÁLEZ-SAMPÉRIZ, P., AVILA, A., LIÑERO, O., FELIP, M. (2018) El cambio climático durante el Holoceno, pp 18-21. In OPCC-CTP. El cambio climático en los Pirineos: impactos, vulnerabilidades y adaptación. ISBN 978-84-09-06268-3.

Conferences

Member of the scientific committee of national and international conferences

6th symposium on Phosphorus in Soils and Plants, PSP6

Place: Leuven (Belgium)

Date: 10-13 September

CREAF participants: J. Peñuelas

Imbalance-P, Imbalance-P conference (European Research Council Synergy grant ERC-2013-SyG-610028)

Place: Vossemereen - Lommel, (Belgium)

Date: 5-9 February

CREAF participants: J. Peñuelas

Conference name: American Geosciences Union Fall meeting

Place: Washington (USA)

Date: 10-14 December

CREAF participants: S. Marañón-Jiménez, J. Peñuelas

I Congreso Internacional de las Montañas, Sierra Nevada. "Decaimiento de la vegetación y cambio global en sistemas de montaña Session Coordinator.

Place: Granada (Spain)

Date: 4-8 March

CREAF participants: F. Lloret

Physics and Ecology: challenges at the frontier. XXXIV Scientific Meetings in the Mediterranean.

Place: Menorca, (Spain)

Date: 7-11 October.

CREAF participants: F. Bartumeus.

IV Jornada científica del Departament de Biologia Animal, Biologia Vegetal i Ecologia de la Facultat de Biociències de la UAB.

Place: Universitat Autònoma de Barcelona, Bellaterra (Spain)

Date: 7 June

CREAF participants: M. Ferrandiz-Rovira

Conference: 43èemes Journées scientifiques GFHN. Dégradation et restauration des sols naturels, agricoles et urbains en climat aride et semi-aride: mesure, caractérisation et modélisation des processus hydriques.

Place: IEC, Barcelona (Spain)

Date: 19-21 November

CREAF participants: P. Andrés, E. Doblas

Conference: SER Europe Conference on "Restoration in the Era of Climate Change"

Place: Reykjavik (Iceland)

Date: 9-13 September

CREAF participants: P. Andrés

Conference: I International Amazonian Symposium on Ecological Restoration

Place: Florencia (Colombia)

Date: 30 July 30 – 3 August

CREAF participants: P. Andrés

Contribution in national and international conferences.

ALCAÑIZ, JM. (2018) How to sequester organic carbon in soil. El carboni orgànic dels sòls agrícoles de Catalunya. Jornada Tècnica, Institut d'Estudis Catalans, Barcelona, 7 June, (invited speaker).

ALJAZALRI S., RIBAS A., LLURBA R., NOGUES S., FERRIO P., VOLTES J., SEBASTIÀ MT. (2018). Diversity effects on the N cycle and interactions with fertilization using $\delta^{15}\text{N}$ and $\delta^{13}\text{C}$ stable isotopes. REMEDIA workshop. VI Workshop sobre mitigación de emisión de gases de efecto invernadero provenientes del sector agroforestal. Granada, Spain. (oral presentation).

ANDRÉS, P. (2018) La restauración ecológica frente a la creciente incertidumbre global. Invited key speaker. IV Congreso Colombiano de Restauración Ecológica, I International Amazonian Symposium on Ecological Restoration. Florencia, Colombia. July 30 – August 3. (oral presentation)

ANDRÉS, P., VILLALOBOS, R., BONFIL, C. (2018) Ecological restoration and the social construction of the territory. SER Europe Conference on “Restoration in the Era of Climate Change”. Reykjavik, Iceland. 9-13 September (oral presentation)

ARNAN, X., OLIVEIRA, F.M.P., CÂMARA, T., SIQUEIRA, F.S., ANDERSEN, A.N., LEAL, I.R. (2018) Climate change and anthropogenic disturbance effects on ant-mediated ecosystem services in Brazilian Caatinga. XVIII International Congress of International Union of the Study of Social Insects (IUSSI 2018), Guarujá (Brazil), August 5-10. (invited speaker).

ASENSIO, D. AND GLOBAL ECOLOGY UNIT CREA-F-CSIC. (2018) Effects of NP fertilization on soil enzyme activity. Imbalance-P conference (European Research Council Synergy grant ERC-2013-SyG-610028). Vossemeren - Lommel, Belgium, 5-9 February (oral presentation)

ÀVILA, A., GUERRIERI, R., LECHA, L., MATTANA, S., PEÑUELAS, J., MENCUCCINI, M (2018) Nitrogen transformations in the canopy: exploring the role of phyllosphere microbes in a Mediterranean forest. CAPERMED 3rd Meeting. Pamplona 20-21 June (poster)

BALZAROLO, M. AND GLOBAL ECOLOGY UNIT CREA-F-CSIC. (2018) On the remote sensing assessment of plant traits and physiological status. Imbalance-P conference (European Research Council Synergy grant ERC-2013-SyG-610028). Elzen 145,3920 Lommel, België, 7 February (oral presentation)

BALZAROLO, M., PENUELAS, J. (2018) INDRO - Remote sensing INDicators for DROught monitoring. ESA Consultation for a Regional Initiative over the Mediterranean - MED 2018. Frascati (Rome), Italy. 11-13 December (oral presentation)

BARBETA A., CAMARERO, J.J., SANGÜESA-BARREDA, G., MUFFLER, L., PEÑUELAS, J. (2018) Contrasting effects of fog frequency on the growth of two trees in a Mediterranean-temperate ecotone. From the deep past to the Anthropocene: coupling Earth system function to climatic change. INRA Bordeaux-European Research Council. Bordeaux, France. 7-9 March. (oral presentation)

BARREIRO-LOSTRES, F., MORENO, A., GONZÁLEZ-SAMPÉRIZ, P., VALERO-GARCÉS, B., GALOP, D., LE ROUX, G., CAMARERO, L., DE DIEGO, A., CATALÁN, J., AMOUROUX, D., ELUSTONDO, D., SANTAMARÍA ULECIA, J.M., LAUGA, B., MATA CAMPO, M.P. (2018) The REPLIM Project: A lake and wetland network to monitor global changes in the Pyrenees. IPA-IAL 2018. Suecia. June. (poster)

BARTUMEUS, F. (2018) Mosquito Alert: the efficacy and challenges of citizen-science based management of invasive mosquitoes. COST Action CA15212 - Citizen Science to promote creativity, scientific literacy, and innovation throughout Europe. Training School Ettore Majorana Centre for Scientific Culture. Erice, Sicily. Italy. 26-32 November (oral presentation)

BARTUMEUS, F. (2018) Movement ecology: from cells to humans, from fundamental principles to application” Organized by Institut de Biologia Evolutiva, Sant Feliu de Guixols, Spain. 1-2 March. (invited speaker)

BARTUMEUS, F. (2018) Participant. The Physics of Behaviour: Movement, Control and Learning (Organizers: G.Berman, S.Palmer, G.Stephens) ASPEN Centre for Physics (Colorado, USA). 4-8 June (oral presentation)

- BARTUMEUS, F., MOLINA, I.** (2018) A Platform for the Integrated Control of Arbovirosis in CATalonia (PICAT): Mosquito Alert 2.0. Isheid (HIV, Hepatitis and Emerging Infectious Diseases). Marseille, France. 16-18 May. (oral presentation)
- BICHET, C., FERRANDIZ-ROVIRA, M., LÓPEZ, B.C., COHAS, A** (2018) Multiple geographic origins and high genetic differentiation of the Alpine marmots reintroduced in the Pyrenees. Functional Ecology. Nancy, France. 10 December (poster)
- BÓRNEZ, A., VERGER, A., DESCALS, I., FILELLA, M., BALZAROLO, J., PEÑUELAS.** (2018) PROBA-V Land Surface Phenology. PROBA-V Symposium, Ostend, Belgium, 29-31 May (oral presentation)
- BORNEZ, K., VERGER, A. DESCALS, A., FILELLA, I., BALZAROLO, M., PEÑUELAS, J.** (2018) PROBA-V Land Surface Phenology. PROBA-V Symposium 2018, Ostend, Belgium, 29-31 May (oral presentation)
- BOSCH, J.** (2018) A world without bees? Congreso Nacional del Medio Ambiente. CONAMA. Madrid, November. (invited speaker).
- CARABASSA, V., DÍAZ, E., ALCAÑIZ, J.M.** (2018) Carbon sequestration and vegetation development in quarry technosols amended with sewage sludge. Quarries Alive 2018 – Enhancing Biodiversity and Ecosystems Services in Quarries – Challenges, Strategies and Practice. Évora. 2-4 May. (oral communication)
- CARABASSA, V., DÍAZ, E., FRANCO K., KALLEN, S., ALCAÑIZ, J.M.** (2018) Restoring agro-silvo-pastoral systems using the Cocon ecotechnology: a green infrastructure model for Quarry restoration. Quarries Alive 2018 – Enhancing Biodiversity and Ecosystems Services in Quarries – Challenges, Strategies and Practice. Évora. 2-4 May. (poster)
- CARABASSA, V., DÍAZ, E., FRANCO, K., KALLEN, S., CAMPO, J., ANDREU, V., GIMENO, E., GONZÁLEZ, F.; VIERA, G.; CRESCENZO, V., BERTAINA, F.; CASTRO, A., GUTIÉRREZ, I., KORKOUMPAS, D., GRAMMELIS, P., ALCAÑIZ, J.M.** (2018) LIFE The green link: restaurando áreas degradadas con la ecotecnología COCOON. IV Reunión conjunta SECF-AEET, Alcázar de San Juan, 17-19 October. (oral communication)
- CARABASSA, V., DÍAZ, E., FRANCO, K., KALLEN, S., CAMPO, J., ANDREU, V., GIMENO, E., GONZÁLEZ, F.; VIERA, G.; CRESCENZO, V., BERTAINA, F.; CASTRO, A., GUTIÉRREZ, I., KORKOUMPAS, D., GRAMMELIS, P., ALCAÑIZ, J.M.** (2018) LIFE The Green Link project: restoring degraded areas with the Cocoon ecotechnology. TerraEnvision Conference. Barcelona. 29 January-2 February (poster)
- CARNICER, J. AND GLOBAL ECOLOGY UNIT CREAF-CSIC.** (2018) Shift in ecological resources: theory and empirical cases. Imbalance-P conference (European Research Council Synergy grant ERC-2013-SyG-610028). Elzen 145, 3920 Lommel, België, 7 February (oral presentation)
- CARNICER, J., KOZŁOWSKI, J., EJSMOND, M. J., PEÑUELAS, J.** (2018) Optimality theory: a general framework to study body size, metabolism and life-history evolution. EGU General Assembly, Vienna, Austria, 8-13 April. (poster)
- CARNICER, J., PEÑUELAS, J.** (2018). Financial scenarios for global sustainability, climate change policy and ecological conservation. International Conference on Negative CO2 Emissions, Gothenburg, May 22-24 (oral presentation)
- CARRER, A., VERGER, F.J., GARCÍA-HARO, F., PINAULT, X., CEAMANOS, C., MEUREY, S. MOPARTHY, C., VINCENT, G., LELLOUCH, S., COELHO, F., CAMACHO, E., SWINNEN, I., BENHADJ, I., TRIGO.** (2018) Albedo,

LAI, and FAPAR satellite-derived ECVs from EUMETSAT LSA-SAF and ECMWF COPERNICUS. American Geophysical Union (AGU) Fall Meeting, Washington D.C., USA, 10-14 December (poster)

CATALAN, J., NINOT, J.M., ANIZ, M. M. (2018) Conservació en un món en canvi, una reflexió a partir d'Aigüestortes. XI Jornades sobre recerca al Parc Nacional d'Aigüestortes i Estany de Sant Maurici. Boí. 17-19 October. (oral presentation)

DE PEDRO, M., RIBA, M., MAYOL, M., GONZÁLEZ-MARTÍNEZ, S.C., REGALADO, I., REVEL, A., PANNELL, J.R. (2018) Does expansion load compromise adaptation in expanding *Mercurialis annua* populations? II Joint Congress on Evolutionary Biology. Montpellier, 19-22 August. (poster).

ESPELTA, J.M., ALFARO-SÁNCHEZ, R., DÍEZ, O., PALMERO-INIESTA, M., PINO J. (2018) Aforestación espontánea de tierras agrícolas por haya: ¿Oportunidad para una especie amenazada por el cambio climático? IV Encuentro AEET-SECF. Alcazar de San Juan (Spain), 16-19 October (oral communication)

ESPELTA, J.M., BONAL, R., RUÍZ CARBAYO, H., ALFARO-SÁNCHEZ, R., PALMERO-INIESTA, M., BASNOU, C., RAMÍREZ, M., PINO, J. (2018) "Nuevos" bosques del S. XXI: Ensamblaje de comunidades, interacciones planta-animal y servicios ecosistémicos. II Simposio Nacional de Ecología del Paisaje. Bogotá (Colombia) 29- 30 November (invited speaker)

ESPELTA, J.M., PINO, J., BASNOU, C., PALMERO-INIESTA, M., BONAL, R., RUÍZ-CARBAYO H., ALFARO-SÁNCHEZ R., MUÑOZ A., FERRANDIZ-ROVIRA M. (2018) Land use legacies affect community assembly, plant animal interactions and ecosystem functioning: what about climatic refugia? International workshop "The non-climatic dimension of climate refugia" Barsac (France), 27-28 September (oral communication)

FERNÁNDEZ-MARTÍNEZ, M. AND GLOBAL ECOLOGY UNIT CREAM-CASIC. (2018) Global trends in carbon sinks: between CO₂ fertilization and warming. Imbalance-P conference (European Research Council Synergy grant ERC-2013-SyG-610028).

Elzen 145, 3920 Lommel, België, 7 February (oral presentation)

FERRANDIZ-ROVIRA, M., COHAS, A (2018) Incorporating adaptive responses to climate change to explore future scenarios of wildlife distributions: insights from different populations of Alpine marmots. Functional Ecology. Nancy, France. 10 December. (poster)

GARGALLO, A. AND GLOBAL ECOLOGY UNIT CREAM-CASIC. (2018) I Metabolomic niche in French Guiana, II Preliminary results of the P31. Imbalance-P conference (European Research Council Synergy grant ERC-2013-SyG-610028). Vossemeren - Lommel, Belgium, 5-9 February (oral presentation)

GRAU, O. AND GLOBAL ECOLOGY UNIT CREAM-CASIC. (2018) Advances on tree data from French Guiana plots / updates on other ongoing projects. Imbalance-P conference (European Research Council Synergy grant ERC-2013-SyG-610028). Vossemeren - Lommel, Belgium, 5-9 February (oral presentation)

GUERRIERI, R. AND GLOBAL ECOLOGY UNIT CREAM-CASIC. (2018) Combining multiple isotopes and metagenomic to delineate the role of tree canopy nitrification for European forests along a nitrogen deposition and climate gradient. Imbalance-P conference (European Research Council Synergy grant ERC-2013-SyG-610028). Elzen 145, 3920 Lommel, België, 7 February (oral presentation)

GUERRIERI, R., MATTANA, S., CÁLIZ, J., PEÑUELAS, J., MENCUCINI, M. (2018) Beyond greenness: microbial life hidden in tree canopies and its contribution to nitrogen cycling. Symposium:

From the deep past to the Anthropocene. Coupling earth system function to climate change (2018) INRA, Bordeaux, France, 6-9 March (poster),

LADRÓN DE GUEVARA, M., SALA, O.E., WOJCIECHOWSKI, M.F., PEÑUELAS, J. (2018) Patch-size and cover changes of *Bouteloua eriopoda* to extreme precipitation events. Ecological Society of America (ESA) meeting. New Orleans, 5-10 August (poster).

LADRÓN DE GUEVARA, M., SALA, O.E., WOJCIECHOWSKI, M.F., PEÑUELAS, J. (2018) Phenotypic and performance changes of *Bouteloua eriopoda* to extreme precipitation events. Ecological Society of America (ESA) meeting. New Orleans, 5-10 August. (oral presentation)

LEAL, I.R., OLIVEIRA, F.M.P., CÂMARA, T., SIQUEIRA, F.F.S., OLIVEIRA, C.L., DURVAL, J.I.F., ARNAN, X., WIRTH, R. (2018) Increasing aridity rather than human disturbance affects ant-mediated ecosystem services in Brazilian Caatinga. 55th Annual Meeting of the Association for Tropical Biology and Conservation (ATBC), Pullman Kuching, Sarawak (Malaysia), July 1-5. (oral presentation).

LIU, D., WANG, T., WANG, X., DING, J., CIAIS, P., PEÑUELAS, J., JANSSENS, I. (2018) Decelerating autumn CO₂ release with warming induced by attenuated temperature dependence of respiration in northern ecosystems. AGU Fall Meeting, Washington, D.C. 10-14 December, (oral presentation)

LLUSIÀ, J. AND GLOBAL ECOLOGY UNIT CREAF-CSIC. (2018) BVOCs emissions from soils

in French Guiane forest. Imbalance-P conference (European Research Council Synergy grant ERC-2013-SyG-610028). Vossemeren - Lommel, Belgium, 5-9 February (oral presentation)

LOOZEN, REBEL, K., KARSENBERG, D., WASSEN, M., WANG, S., VAN DIJK, J., SARDANS, J., PENUELAS, J., DE JONG, S. (2018) Sensing nitrogen and phosphorous concentrations in vegetation across different scales. EGU General Assembly, Vienna, Austria, 8-13 April. (oral presentation)

MARAÑÓN, S. AND GLOBAL ECOLOGY UNIT CREAF-CSIC. (2018) Coupled carbon and nutrient losses in response to seven years of chronic warming in subarctic soils. Imbalance-P conference (European Research Council Synergy grant ERC-2013-SyG-610028). Elzen 145, 3920 Lommel, België, 7 February (oral presentation)

MARAÑÓN-JIMENEZ, S. (2018) Coupled carbon and nitrogen losses in response to seven years of chronic warming in subarctic soils. 4th IMBALANCE-P Annual Meeting. Lommel, Belgium, February (Invited speaker).

MARAÑÓN-JIMENEZ, S. (2018) Where did the Nitrogen go? (Or why Nitrogen do not rule the world... entirely). 7th meeting of the ForHot Consortium: Joint Ecosystem Assessment on the Effects of Natural Soil Warming on Subarctic Grasslands and Forests. Sitges, Spain, March. (invited speaker).

MARAÑÓN-JIMÉNEZ, S., PEÑUELAS, J., RICHTER, A., SIGURDSSON, B.D., FUCHSLUEGER, L., LEBLANS, N.I.W., JANSSENS, I.A. (2018) Coupled carbon and nitrogen losses in response to seven years of chronic warming in subarctic soils. American Geosciences Union Fall meeting. Washington, USA, 10-14/12/2018 (poster)

MARAÑÓN-JIMÉNEZ, S., RADUJKOVIC, D., CUNTZ, M., VERBRUGGEN, E., SCHRUMPF, M., REBMANN, C. (2018) The contribution of ectomycorrhizal fungi to litter decomposition may imply synergistic controls of above- and belowground vegetation on soil CO₂ emissions. European Geosciences Union annual conference. Vienna, Austria, April. (poster).

MARGALEF, O. AND GLOBAL ECOLOGY UNIT CREAF-CSIC. (2018) Mineral - biological interactions of soil P cycle under global change. Imbalance-P conference (European Research Council Synergy grant ERC-2013-SyG-610028). Vossemeren - Lommel, Belgium, 5-9 February (oral presentation)

MARGALEF, O., PEÑUELAS, J. (2018) Differential weathering and chemical denudation on tropical toposequences constrain P availability and forest characteristics in nutrient-poor Amazonian soils (French Guiana). EGU General Assembly, Vienna, Austria, 8-13 April. (oral presentation)

MARTÍNEZ-MINAYA, J., CONESA, D., FORTIN, M.J., ALONSO-BLANCO, C., PICÓ F. X AND MARCER A. Modeling the distribution range shifts in the annual plant *Arabidopsis thaliana* taking into account the effects of geographic genetic structure and spatial autocorrelation. XXXVII Congreso Nacional de Estadística e Investigación Operativa y XI Jornadas de Estadística Pública, Universidad de Oviedo, Oviedo, Spain, 29 May-01 June 2018 (poster)

MARTÍNEZ-MINAYA, J., CONESA, D., FORTIN, M.J., ALONSO-BLANCO, C., PICÓ, F. XAVIER, MARCER, A. (2018) Effects of geographic genetic structure and spatial autocorrelation on models of distribution range shifts in the annual plant *Arabidopsis thaliana*. XXIXth International Biometric Conference. Barcelona, Spain. 8-13 July (oral presentation).

MARTÍNEZ-MINAYA, J., VICENT, A., CENDOYA, M., LÓPEZ-QUÍLEZ, A., PICÓ, F., MARCER, A. CONESA D. (2018) Bayesian spatial models for analyzing the spread of diseases and species distributions. 2018 ISBA World Meeting. University of Edinburgh, Edinburgh, UK, 24-29 June (poster)

MASÓ, J., DOMINGO, C., SERRAL, I., ZABALA, A., PROVENZALE, A. (2018) Protected Areas From Space. Viewing products with data quality and geospatial user feedback. INSPIRE Conference 2018, 18-21 Sep, Antwerp, Belgium (oral presentation).

MASÓ, J., ZABALA, A., SERRAL, I., PONS, X. (2018) Remote sensing analytical geospatial operations directly in the web browser.

ISPRS Technical Commission IV Symposium 2018, 1-5 Oct, Delft, The Netherlands (oral presentation).

MASÓ J, RUSHFORTH P (2018) *What can bring MapML to the INSPIRE community.* INSPIRE Conference 2018, 18-21 Sep, Antwerp (Belgium).

MENCUCCINI, M. (2018) Plasticity, acclimation and short-term regulation in hydraulics. Symposium drought, plant hydraulic traits and vegetation modeling, ageningen, the Netherlands, September 3-5 (oral presentation).

MÉNDEZ-VIGO, B., ARTEAGA, N., RAMIRO, M., MARCER, A., PICÓ, F., ALONSO-BLANCO, C. (2018) Genome-wide signatures of flowering adaptation to climate temperature. XIV Reunión de Biología Molecular de Plantas. Universidad de Salamanca, Salamanca. Spain. 04-06 July (poster)

OGAYA, R. AND GLOBAL ECOLOGY UNIT CREAF-CSIC. (2018) N-fertilization effects on plant growth in two Mediterranean-type ecosystems. Imbalance-P conference (European Research Council Synergy grant ERC-2013-SyG-610028). Vossemeren - Lommel, Belgium, 5-9 February (oral presentation)

ORTIZ-ÁLVAREZ, R., CATALÁN, J., CAMARERO, LL., TRIADÓ-MARGARIT, X., CASAMAYOR, E.O. (2018) Umbrales ambientales en microeucariotas planctónicos en lagos de Pirineos. XI Jornades sobre recerca al Parc Nacional d'Aigüestortes i Estany de Sant Maurici. Bó. 17-19 October. (oral presentation)

PADRÓ, J.C., CARABASSA, V., BALAGUÉ J., ALCAÑIZ, J.M., BROTONS, L., PONS, X. (2018) Monitoring mine restorations using UAV imagery. TerraEnvision Conference. Barcelona. 29 January-2 February (oral communication)

PALACIN-LIZARBE, C., CAMARERO, LL., HALLIN, S., CHRISTOPHER, M., CALIZ, J., CASAMAYOR, E. CATALAN, J. (2018) Contrasting microbial nitrogen-transforming networks in mountain lake benthic habitats. ISME 17 Leipzig. 17th International Symposium on Microbial Ecology. 12-17 August. Leipzig. Germany. (oral presentation)

PEAUCELLE, M. AND GLOBAL ECOLOGY UNIT CREAM-CASIC. (2018) Impact of the coordinated allocation of foliar resources on global photosynthesis. Imbalance-P conference (European Research Council Synergy grant ERC-2013-SyG-610028). Elzen 145, 3920 Lommel, België, 8 February (oral presentation)

PEAUCELLE, M., VIOVY, N., AUGRIT, P., GOLL, D.S., MAIRE, V., VERHEIJEN, L.M., VAN BODEGOM, P.M., HUANG, M., FRANKLIN, O., KATTGE, J., SOUSSANA, J., SARDANS, J., WANG, R., PEÑUELAS, J., CIAIS, P. (2018) Impact of the coordinated allocation of foliar resources on simulated carbon assimilation with the ORCHIDEE model. EGU General Assembly, Vienna, Austria, 8-13 April. (oral presentation)

PEGUERO, G. AND GLOBAL ECOLOGY UNIT CREAM-CASIC. (2018) Effects of resource availability on litter-soil arthropod communities. Imbalance-P conference (European Research Council Synergy grant ERC-2013-SyG-610028). Elzen 145, 3920 Lommel, België, 7 February. (oral presentation)

PEÑUELAS, J., SANDERS, T., FERNANDEZ-MARTINEZ, M., SCHMITZ, A., EDINGER, J., ET AL. (ICP FOREST), SARDANS, J. (2018) Decreasing foliar P concentrations in European forests. PSP6 Symposium 2018, 10 – 13 September, Leuven (Belgium). (oral presentation)

PEÑUELAS, J. (2018) Chairman of the session: Impact of phosphorus on environmental quality and biodiversity. 6th symposium on Phosphorus in Soils and Plants, PSP6. 10-13th September, Leuven (Belgium). (oral presentation)

PEÑUELAS, J. (2018) Convenor Session Title: B059. Nutrient-Carbon Cycle Interactions in Terrestrial Ecosystems. AGU Fall Meeting, Washington, D.C., 10-14 December, (oral presentation)

PEÑUELAS, J. (2018) Data synthesis in Icelandic grasslands and forests. The ForHot 2018 Workshop: "Joint ecosystem assessment on the effects of natural soil warming and N-input manipulation on subarctic grasslands and forests", Sitges, Catalonia, Spain. (5)6-8 March (oral presentation)

PEÑUELAS, J. (2018) Local Organiser: COST Action ES1308: Meeting Title: Core Group meeting on "Climate Change experimentation, data and modelling". Universidad Autonoma de Barcelona. 21-23 March (oral presentation)

PEÑUELAS, J. (2018) Mediterranean forests under pressure by climate change. EGU General Assembly, Vienna, Austria, 8-13 April. (oral presentation)

PEÑUELAS, J. (2018) Physical, chemical and biological laws driving life responses to environmental global changes. Symposium 'Tracking environmental variability and global changes?'. International Conference on Ecological Sciences, Rennes, France, 23-25 October. (oral presentation)

PEÑUELAS, J. (2018) Research interest of CREAM in Icelandic grasslands. The ForHot 2018 Workshop: "Joint ecosystem assessment on the effects of natural soil warming and N-input manipulation on subarctic grasslands and forests", Sitges, Catalonia, Spain. (5)6-8 March (oral presentation)

PEÑUELAS, J. (2018) Revisiting Imbalance-P, first results. Imbalance-P, Imbalance-P conference (European Research Council Synergy grant ERC-2013-SyG-610028). Vossemeren - Lommel, Belgium, 5-9 February (oral presentation)

PEÑUELAS, J. (2018) Secondary metabolites in the relationships of plants with other organisms and the environment. The "Frontiers in Plant Secondary Compounds Research" workshop. Mols laboratoriet, Aarhus University, January 15-16 (oral presentation)

PEÑUELAS, J. (2018) Welcome to Catalunya. The ForHot 2018 Workshop: "Joint ecosystem assessment on the effects of natural soil warming and N-input manipulation on subarctic grasslands and forests" Sitges, Catalonia, Spain. (5)6-8 March (oral presentation)

PEÑUELAS, J., FERNÁNDEZ-MARTÍNEZ, M., VALLICROSA, H., ZUCCARINI, P., SANDERS, T., ... SARDANS, J. (2018) Elemental foliar composition shifts in European forest in the last 27 years (1989-2016): some differences at distinct latitudes under a general trend towards a general decrease in foliar nutrient concentrations in central and south Europe. Symposium on Phosphorus in Soils and Plants, PSP6. 10 September-13 September, Leuven (Belgium). (oral presentation)

PEÑUELAS, J., SARDANS, J., FILELLA, I., ESTIARTE, M., LLUSIÀ, J., OGAYA, R., CARNICER, J., BARTRONS, M., RIVAS-UBACH, A., GRAU, O., PEGUERO, G., MARGALEF, O., PLA-RABÉS, S., STEFANESCU, C., ASENSIO, L., PREECE, C., LIU, L., VERGER, A., RICO, L., BARBETA, A., ACHOTEGUI-CASTELLS, A., GARGALLO-GARRIGA, A., SPERLICH, D., FARRÉ-ARMENGOL, G., FERNÁNDEZ-MARTÍNEZ, M., LIU, D., ZHANG, C., URBINA, I., CAMINO, C., VIVES, M., NADAL-SALA, D., SABATÉ, S., GRACIA, C., TERRADAS, J. (2018) Mediterranean forests under pressure by climate change. EGU General Assembly, Vienna, Austria, 8-13 April. (oral presentation)

PONS, X., NINYEROLA, M., SERRA, P., ZABALA, A., VIDAL-MACUA, J., DOMINGO-MARIMON, C., PADRÓ, J.C., PADIAL, M., GONZÁLEZ-

GUERRERO, O., PESQUER, L., MASÓ, J., MIRA, M., CEA, C., SERRAL, I. (2018) Primeros resultados del proyecto ACAPL, de análisis del cambio global en la Península Ibérica 1980-2015. XVIII Congreso Nacional TIG, 20-22 Jun, Valencia, Spain (oral presentation).

POYATOS R., GRANDA V. (2018). SAPFLUXNET: una base de datos global de flujo de savia para descifrar los factores ecológicos de la regulación de la transpiración. VIII Coloquio de Primavera sobre Ecofisiología Forestal. Cercedilla, Madrid. 25-27 Apr 2018 (oral presentation).

PREECE, C. AND GLOBAL ECOLOGY UNIT CREAF-CSIC. (2018) Global change impacts in the rhizosphere - experiments with Mediterranean trees and soils. Imbalance-P conference (European Research Council Synergy grant ERC-2013-SyG-610028). Elzen 145, 3920 Lommel, België, 7 February (oral presentation)

PUJANTELL, J., BARBETA, A., BOADA, M., PEÑUELAS, J., BARRIOCANAL, C. (2018) El Montseny como paisaje centinela del cambio global: el caso de estudio de Vallforners. Bosque mediterráneo y humedales: paisaje, evolución y conservación., X Congreso español de biogeografía (XCEB018). Palacio de los condes de Valparaiso, Almagro, Ciudad Real. April (oral presentation)

RIVAS UBACH, A., CHINA, S., SMALLWOOD, C.R., HANDAKUMBURA, P.P., SHARMA, N., JANSSON, C., PEÑUELAS, J., PAŠA-TOLIĆ, L., GUENTHER, A.B. (2018) Understanding the aerosol-microbe-plant interactions in the phyllosphere with "-omics" techniques.

AGU Fall Meeting, Washington, D.C. 10-14 December (oral presentation)

ROMERO, E., LUDWIG, W., SADAQUI, M., LASSALETTA, L., BOUWMAN, L., BEUSEN, A., SARDANS, J., PEÑUELAS, J. (2018) Land-to-sea Fluxes of N and P in the Mediterranean: A North-South Asymmetry. AGU Fall Meeting, Washington, D.C. 10-14 December (oral presentation)

SANCHEZ, A., PANEQUE, P. (2018) Evaluación de la inclusión de la adaptación al cambio climático en la planificación hidrológica: aplicación al caso de la Cuenca de la Tordera. X Congreso Ibérico de Gestión y Planificación del Agua. Coimbra. 6 September. (oral presentation)

SARDANS, J. AND GLOBAL ECOLOGY UNIT CREAF-CSIC. (2018) Towards new paradigms on the use and limitation of nutrients. Imbalance-P conference (European Research Council Synergy grant ERC-2013-SyG-610028). Vossemeren - Lommel, Belgium, 5-9 February (oral presentation)

SAYOL, F., DOWNING, P., IWANIUK, A., MASPONS, J., SOL, D. (2018) Predictable evolution towards larger brains in birds colonizing oceanic islands. II Joint Congress on Evolutionary Biology. Montpellier, 19-22 August (oral presentation).

SGOLAstra, F., ARNAN, X., CABBRI, R., ISANI, G., MEDRZYCHKI, P., TEPER, D. & BOSCH, J. (2018) Combined exposure to sublethal concentrations of an insecticide and a fungicide affect feeding, ovary development and longevity in a solitary bee. *Proceedings R. Soc. B*, 285, 20180887.

SGOLAstra, F., BOSCH, J. (2018) Effects of pesticide cocktails on bees. XI European Congress of Entomology. Napoli. July (oral presentation).

SOL, D., MASPONS, J. (2018) Pace-of-life syndromes and the success of biological invasions. ZSL Symposium "Linking behaviour to populations and communities: how can behavioural ecology inform conservation?" London, 22-23 november (invited oral presentation)

SOL, D., SAYOL, F., DUCATEZ, S., LEFEBVRE, L. (2018) The evolution of behavioural innovativeness: Exaptation or adaptive specialization? II Joint Congress on Evolutionary Biology. Montpellier, 19-22 August (poster).

SONGBAI, H., PIAO, A., CHEN, A., LIU, Y., LIU, L., PENG, S., SARDANS, J., SUN, Y., PEÑUELAS, J., ZENG, H. (2018) Afforestation Neutralizes Soil pH. AGU Fall Meeting, Washington, D.C. 10-14 December (oral presentation)

STOCKER, B. AND GLOBAL ECOLOGY UNIT CREAF-CSIC. (2018) On the improvement of water and nutrient consideration in models. Imbalance-P conference (European Research Council Synergy grant ERC-2013-SyG-610028). Elzen 145, 3920 Lommel, België, 8 February (oral presentation)

STOCKER, B.D., ZSCHEISCHLER, J., KEENAN, T.F., PRENTICE, C., SENEVIRATNE, S.I., PEÑUELAS, J. (2018) Soil moisture controls on C cycle variability and drought impacts across scales. AGU Fall Meeting, Washington, D.C. 10-14 December (oral presentation)

STOCKER, B.D., ZSCHEISCHLER, J., KEENAN, T.F., PRENTICE, I.C., PEÑUELAS, J., SENEVIRATNE, S. (2018) Satellite observations underestimate the impact of drought on terrestrial primary productivity. EGU General Assembly, Vienna, Austria, 8-13 April. (oral presentation)

STOCKER, B.D., ZSCHEISCHLER, J., SENEVIRATNE, S., KEENAN, T., PRENTICE, C., PEÑUELAS, J. (2018) Satellite observations underestimate the impact of drought on terrestrial primary

productivity. From the deep past to the Anthropocene, Coupling Earth system function to climate change. INRA, Bourdeaux, France 8-9th March (oral presentation)

TORO, M., SEISDEDOS, P., NEGRO, A. I., ALONSO, R., VEGA, J. C., ALONSO, M., SÁNCHEZ-CASTILLO, P. M., MONTEOLIVA, A. P., MARCO, J., VALERO, B., CATALAN, J., ALONSO, A. M., ARIAS, S., ARTIÑANO, B., BARREALES, R., BARREIRO, F., BERMEJO, V., CALVETE, H., COBO, G., HOYOS, C., DÍAZ, E., DOMÍNGUEZ, A., FANÉS, I., GARCÍA, H., GONZÁLEZ, P., HERNÁNDEZ, N., LEIRA, M., LIZANA, M., MORENO, A., MORALES, J., NUÑO, C., PAHISSA, J., PEG, M., PÉREZ, M. E., PLA-RABÉS, S., RASINES, A., ROBLAS, N., ROBLES, S., SALVADOR, P., VALIÑO, F., VARGAS, J. L. (2018) Estudio limnológico del lago de Sanabria y su cuenca: un proyecto multidisciplinar para evaluar su estado y funcionamiento ecológico. XIX Congreso de la Asociación Ibérica de Limnología. June. Portugal. (oral presentation)

UNZETA, M., MARTIN, T., SOL, D. (2018) Body size and nest predation in Passerines. Montpellier, 19-22 August (poster).

URBINA, I. AND GLOBAL ECOLOGY UNIT CREAM-CSCIC. (2018) Plant-soil stoichiometric changes along the succession from subalpine grasslands to shrublands in the Pyrenees. Imbalance-P conference (European Research Council Synergy grant ERC-2013-SyG-610028). Vossemereen - Lommel, Belgium, 5-9 February (oral presentation)

URBINA, I., GRAU, O., SARDANS, J., NINOT, J. M., PEÑUELAS, J. (2018) Plant-soil stoichiometric changes along the succession from subalpine grasslands to shrublands in the Pyrenees. EGU General Assembly, Vienna, Austria, 8-13 April. (oral presentation)

VALLICROSA, H. AND GLOBAL ECOLOGY UNIT CREAM-CSCIC. (2018) Update on nutrient data gathering and mining by CREAM. Imbalance-P conference (European Research Council Synergy grant ERC-2013-SyG-610028). Elzen 145, 3920 Lommel, België, 7 February (oral presentation)

VARGAS R., BARBA J., POYATOS R. (2018). Spatiotemporal variability of greenhouse gases stem emissions in an upland forest. Poster B13G-2217. American Geophysical Union Fall Meeting. Washington DC, USA. 10-14 Dec 2018 (oral presentation).

VERGER, A. DESCALS, A., WEISS, M., BARET, F., CAMACHO, J., SANCHEZ, R., LACAZE, B., SMETS, R., VAN DER GOTEN, V., DE FLORIO, K., BÓRNEZ (2018) Copernicus Global Land LAI, FAPAR and Cover Fraction from PROBA-V at 300 m and 1 km. PROBA-V Symposium, Ostend, Belgium, 29-31 May (oral presentation)

VIDAL-CORDERO, J. M., ARNAN, X., RODRIGO, A., CERDÁ, X., BOULAY, R. (2018) Un monitoreo de cuatro años sobre los efectos taxonómicos y funcionales a corto plazo de un incendio forestal en las comunidades de hormigas y arañas. XVIII Congreso Ibérico de Mirmecología (Taxomara 2018) of the Asociación Ibérica de Mirmecología (AIM). León (Spain), July 11-13. (oral presentation).

ZAJKOVÁ, Z., REYES-GONZÁLEZ, J. M., GONZÁLEZ-SOLÍS, J., BARTUMEUS, F. (2018) 11th Measuring Behavior (Metropolitan University, Manchester) The Movement Ecology of Seabirds revealed with Unsupervised Behavioural Clustering. 6-8 June. (oral presentation)

ZHANG, C., PACHECO-LABRADOR, J., JULITTA, T., PORCAR-CASTELL, A., ATHERTON, J., FILELLA, I., PEÑUELAS, J., MIGLIAVACCA, M. (2018) Improving the robustness of the F retrieval. OPTIMISE final conference, Sofia, Feb 21-23 (poster)

**ZHENG, B. AND GLOBAL ECOLOGY UNIT CREAL-
CSIC.** (2018) Assessing C, N and P cycling with functional genes. Imbalance-P conference (European Research Council Synergy grant ERC-2013-SyG-610028). Vossemeren - Lommel, Belgium, 5-9 February (oral presentation)

Outreach publications

BOSCH, J., CAMBRA, J., FEBRERO, A. (2018) Urban bees and natural cities. In: Bee Writings. Beehive, Fundació Miró. Barcelona. pp. 46-54.

CARABASSA V., TORRE M. (2018) Seguiment de restauracions en explotacions mineres a cel obert mitjançant imatges captades amb drons. Butlletí d'Innovació i Recerca del DTES

**ESPELTA J.M, FERNÁNDEZ-MARTÍNEZ M.,
BOGDZIEWICZ M., PEÑUELAS J.** (2018) Plantas anyívoles: entre l'abstinència i la disbauxa reproductiva. L'Atzavara 28:15-21

**FERRANDIZ-ROVIRA M., LLOP I NAYA, A,
RODRIGO DOMÍNGUEZ . A, SOLER MENBRIVES,
A.** (2018) Escriure Biologia a la Universitat. Servei de Llengües (UAB) i Servei de Llengües Modernes (UDG) <https://ddd.uab.cat/record/195688?ln=ca>

LLORET, F., MARTINEZ, ABAIGAR J. (2018) Menos ciencia pública en los planes del Gobierno. Diario La Rioja.

PLA, E (2018). Gestionant els boscos mediterranis per fer front al canvi climàtic. Les proves pilot al projecte LIFE MEDACC. Catalunya Forestal 138

VAYREDA, J. (2018) Què podem fer per adaptar els boscos mediterranis al Canvi Climàtic. Catalunya Forestal 135.

Reports

AVILA, A. (2018) Autoinforme d'acreditació del Programa de Doctorat d'Ecologia Terrestre. Report for the Agència per a la Qualitat del Sistema Universitari de Catalunya.

AVILA, A. (2018) Estudi de la dinàmica hidro-química de la conca del Torrent de la Mina com a zona potencial de reintroducció del tritó i caracterització de la composició química de torrents del Montseny amb presència i absència del tritó. Report for Diputació de Barcelona.

AVILA, A. (2018) Informe sobre el quimisme de la pluja recollida per la Xarxa de Prevenció i Vigilància de la Pluja Àcida: resultats any 2017. Report for the Direcció General de Qualitat Ambiental. Departament de Territori i Sostenibilitat. Generalitat de Catalunya.

BARTUMEUS F. ET AL. (2018) Identificación del mosquito Aedes japonicus en Asturias. Evaluación Rápida de Riesgo. Centro de Coordinación de Alertas y Emergencias Sanitarias. Ministerio de Sanidad, Consumo y Bienestar Social (MSCBS).

**CARABASSA, V., PADRÓ, J.C., BALAGUÉ J., ALCAÑIZ, J.M., BROTONS, L.,
PONS, X.** (2018) Avaluació de la restauració d'activitats extractives mitjançant imatges captades amb drons: assaigs experimentals. Report for the Direcció General de Qualitat Ambiental. Departament de Territori i Sostenibilitat. Generalitat de Catalunya.

VERGER, A., DESCALS, A. (2018) Algorithm Theoretical Basis Document: CDR VGT-based LAI and fAPAR v1.0. pp. 1 - 26. Report for Copernicus Climate Change Service - Lot 9 - Albedo, LAI, FAPAR, 2016/C3S_312a_Lot9_VITO/SC1

VERGER, A., DESCALS, A., BENHADJ, I., CLAES, P. (2018) Product User Guide and Specification: CDR VGT-based LAI and fAPAR v1.0. pp. 1 - 24. Report for Copernicus Climate Change Service - Lot 9 - Albedo, LAI, FAPAR, 2016/C3S_312a_Lot9_VITO/SC1

OUTREACH ANNEXES

PARTICIPATION IN OTHER OUTREACH CONFERENCES OR SEMINARS OF KNOWLEDGE TRANSFER

CAN WE HAVE A GEO INITIATIVE ON A COMMON APPROACH TO ESSENTIAL VARIABLES?

Venue: Kyoto, Japan

Date: October 29th

CREAF members involved as co-organizer:
Serral, I. and Masó J.

ELEVATING CITIZEN SCIENCE AT GEO

Venue: Kyoto, Japan

Date: October 29th

CREAF members involved as co-organizer:
Masó J.

AFFRONTARE LA DESERTIFICAZIONE NEL MEDITERRANEO COL COCOON

Venue: Roma, Itàlia

Date: October 23th

CREAF members involved as co-organizer:
Carabassa, V.

FACE TO FACE MEETING #3 OF COPERNICUS CLIMATE GLOBAL LAND SERVICE (C-GLOPS1): SERVING OUR USERS

Venue: Ostend, Bèlgium

Date: April 28th

CREAF members involved as co-organizer:
Verger, A., Descals, A.

PARTICIPATION AS SPEAKER IN OUTREACH CONFERENCES OR KNOWLEDGE TRANSFER SEMINARS

ANDRÉS, P. (2018) Below-ground biodiversity in agricultural soils: functions and conservation. Invited talk to the Bages Farmers' Group for Plant Protection. Pla de Bages (Barcelona), February 16.

ANDRÉS, P.(2018) Soil biodiversity restoration to restore agricultural lands. Invited talk to the technical workshop on "Soil management is the Great Ignored in intensive farming". 2018 Annual Plan on Technology Transfer. Generalitat de Catalunya. Department of Agriculture, Cattle, Fishing and Food. Escola Politècnica Superior de la UdG. Girona, November 29.

ANDRÉS, P. (2018) Soil Ecology and Belowground Biodiversity Management. Invited talk to the technical workshop on "Management of soil fertilization: a key to improving crop health". 2018 Annual Plan on Technology Transfer. Generalitat de Catalunya. Department of Agriculture, Cattle, Fishing and Food. Vilabertran (Girona), February 20.

AVILA, A. (2018) Comité assessor d'hidrogeòlegs del PNRB Montseny. Masia Mariona, Mosqueroles, 8 November.

AVILA, A. (2018) Composició de l'aigua de l'hàbitat del tritó del Montseny. Es adequada la composició química dels tancs de cria (invited speech). Jornada projecte LIFE-Tritó. Torreferrussa, 13 December.

BARTUMEUS, F. (2018) Com es pot millorar la qualitat de les dades amb sistemes de validació efectius? XV Jornada SCB-ICHN. Institut d'Estudis Catalans, Barcelona, Spain. November.

BARTUMEUS, F. (2018) El paper de la ciència en l'era de la postveritat i el "Big Data" Xerrada Setmana de la Ciència. Biblioteca Comarcal de Blanes, Girona, Spain. 9 November.

CATALAN, J. (2018) El canvi global en els llacs de muntanya. Cafès científics. Casa Orlandai. Barcelona. 21/2/2018.

CATALAN, J. (2018) Why does someone decide to fill 20 m-long tubes with clear water at a senior stage? Mini-Symposium in honor of Prof. Roland Psenner. University of Innsbruck, Innsbruck, Austria, October.

DOBLAS-MIRANDA, E. (2018) Experiències del CREAM en projectes europeus de custòdia del territori. Jornada Finançament europeu per a la custòdia del territori: oportunitats presents i futures (XCT). Barcelona. 3 October.

LLORET, F. (2018). El bosc mediterrani davant el canvi climàtic. Primeres Jornades sobre Canvi Climàtic a les Illes Balears. Palma (Mallorca). 25-26 October.

LLORET, F. (2018). Seguimiento del estado de conservación favorable de hábitats y especies. (Coordinador de sesión y ponencia por invitación) Seminario Biogeográfico de la Región Macaronésica de la Red Natura 2000. Funchal (Madeira). 24-27 September.

MASÓ J. (2018) Adreçant problemes globals i connectant cada granet de sorra: dades massives, interoperabilitat i traçabilitat de les dades Jornada Reptes, idees i solucions per fer ciència ciutadana útil i amb impacte. Barcelona. 21 November.

MASÓ J. (2018) Agenda 2030: Com podem utilitzar l'observació de la terra per monitoritzar els Objectius de Desenvolupament Sostenible? Jornada Eines científiques per millorar la presa de decisions en la conservació de la natura. Barcelona. 9 November.

MASÓ J. (2018) Applying the Citizen Science Ground Truth 2.0 methodology in Africa. The Kenya and Zambia case. GEO Week 2018. Kyoto, Japan. 29 Oct-2 November.

MASÓ J. (2018) Data standards and OGC Interoperability Experiment. GEO Week 2018. Kyoto, Japan. 29 October.

MASÓ J. (2018) GEO ECO: motivation. Detecting and Analysing Changes and Future Scenarios in Protected Areas: from ECOPOTENTIAL to GEO ECO. GEO Week 2018. Kyoto, Japan. 29 October.

MASÓ J. (2018) Network level & "landscape": ENEON. Towards integrated in situ ecosystem observations. GEO Week 2018. Kyoto, Japan. 29 October.

MASÓ J. (2018) Virtual Laboratory and Interoperability. ERA-PLANET: The European network for observing our changing planet. GEO Week 2018. Kyoto, Japan. 30 October.

PEÑUELAS, J. (2018). 2018, Environ constraint to Carbon capturing and storage. Conference. University of Leuven, Belgium. September.

PEÑUELAS, J. (2018). Belowground processes and global change. Seminar. Universidad Complutense de Madrid. October.

PEÑUELAS, J. (2018). Boscos de l'Albera i canvi climàtic i d'usos del sòl. Conference Figueres. June.

PEÑUELAS, J. (2018). CO₂ fertilization of the biosphere is slowing down. seminar. U.S. Department of Energy's Oak Ridge National Laboratory (ORNL) in Oak Ridge, Tennessee. September.

PEÑUELAS, J. (2018). Elementome and metabolomics of warm grasslands in Iceland. Seminar. University of Vienna. November.

PEÑUELAS, J. (2018). Global change and biodiversity. Conference. University of Rennes, France. October.

PEÑUELAS, J. (2018). L'estat ecològic del planeta. Hi som a temps?. Conference Ateneu barcelonès (Barcelona) March.

PEÑUELAS, J. (2018). La vida i les lleis de la vida: aprenent a interpretar el canvi global i els límits per a la sostenibilitat, sessió de recepció del membre numerari de la Secció de Ciències Biològiques de l'Institut d'Estudis Catalans. June.

PEÑUELAS, J. (2018). Leyes ecológicas y Cambio Global. 75 aniversario del Instituto Pirenaico de Ecología-CSIC, Estación Experimental de Aula Dei-CSIC. March.

PEÑUELAS, J. (2018). Metatranscriptome and metabolomics to assess biochemical community changes in gradients of nutrients and temperature. Seminar. Department of Microbiology & Ecosystem Science, University of Vienna. November.

PEÑUELAS, J. (2018). Slowing pace of increasing carbon sinks under climate change. Conference. CzechGlobe Research Institute, Brno, Czech Republic. November.

PEÑUELAS, J. (2018). La fenologia, una ciencia clau per estudiar el canvi climàtic, Institut d'Estudis Catalans, Jornada: Observar el canvi climàtic seguint el ritme de la natura. June.

PINO, J. (2018). El paper del paisatge en la conservació de la biodiversitat. Cicle Natura i Paisatge, Patronat d'Estudis Osonencs, Vic. September.

PINO, J. (2018). Espècies invasores. La conservació ex situ i la reintroducció

d'espècies. Cicle Bojos per la Ciència-Natura (ICTA-UAB). Jardí Botànic Marimurtra (Blanes). April.

PINO, J. (2018). Observem el canvi climàtic seguint els ritmes de la natura. Institut d'Estudis Catalans, Barcelona. June.

PINO, J. (2018). Què hem de fer davant les invasions biològiques? Cicle "Els grans interrogants de la ciència". Casal dels Volcans, Olot. April.

PINO, J. (2018). Taula Rodona "Reflexions sobre biodiversitat urbana". Jornada científica sobre el canvi climàtic a Barcelona. Àrea Metropolitana de Barcelona, Barcelona. October.

PINO, J. (2018). Taula Rodona "Verd i biodiversitat. Canvis en l'entorn natural". Jornada científica sobre el canvi climàtic a Barcelona. Ajuntament de Barcelona, Barcelona. November.

PONS, X., PESQUER, L., COCERO, D. (2018) MiraMon gratuito para estudiantes y usuarios académicos de todo el mundo. Oportunidades para formación, docencia e investigación. XVIII Congreso Nacional de Tecnologías de la Información Geográfica. Valencia. 20-22 June.

POYATOS, R. (2018), An overview of sap flow methods. Examining Transpiration from Ecosystem to Global Scales Workshop. Max Planck Institute for Biogeochemistry, Jena, Germany. 5-9 September.

POYATOS, R. (2018), Towards stand transpiration estimates from global sap flow measurements. Examining Transpiration from Ecosystem to Global Scales Workshop, Max Planck Institute for Biogeochemistry, Jena, Germany. 5-9 September.

POYATOS, R. (2018), Using global sap flow data to unravel the ecological factors of plant transpiration regulation. New Insights to Tree Hydraulics Meeting, Weizmann Institute of Science. Rehovot, Israel. 22-25 January.

RAMON, A. (2018) Comunicar per no perdre la il·lusió. XV Jornada SCB-ICHN. Institut d'Estudis Catalans, Barcelona, Spain. November.

SANCHEZ, A. (2018). Posar les persones al cor de cada iniciativa: com seduïm i mantenim una comunitat? XV Jornada SCB-ICHN. Institut d'Estudis Catalans, Barcelona, Spain. November.

SERRAL, I. (2018) (Integrated) Essential Variables and other integration approaches. Towards integrated in situ ecosystem observations. GEO Week 2018. Kyoto, Japan. 29 October.

TERRADAS, J. (2018). El canvi global i altres coses. Escola Frederic Mistral. November.

TERRADAS, J. (2018). El mirall del mar. De les veles i els vents als petrolers pel pas del Nord-Oest. CCCB, Barcelona, April.

VAYREDA, J. (2018) Alerta forestal de la papallona del boix. Un projecte de ciència ciutadana per conèixer l'estat de salut dels boscos. PATT de la papallona del boix. Olot. November.

VAYREDA, J. (2018). Boscos i adaptació al Canvi Climàtic (Ponència per invitació). L'adaptació del bosc al canvi climàtic i el paper clau dels ajuntaments. Life-Clinòmics (Diputació de Barcelona). Sant Celoni. May.

VAYREDA, J. (2018). Efectos actuales y futuros del cambio climático en los bosques de Catalunya (Ponència per invitació). Primer congrés català de dret ambiental (URV-Tarragona). Tarragona. January.

VAYREDA, J.(2018). Efectos actuales y futuros del cambio climático en los bosques mediterráneos (Ponència per invitació). Jornada Internacional Life- Suber (Consorci Forestal de Catalunya). Barcelona. 12 June

VAYREDA, J. (2018). Ingredients del bosc. Aspectes positius i negatius (Ponència per invitació). Cicle de xerrades:

Medi Ambient i salut humana (ICTA-UAB). Barcelona. December.

VAYREDA, J. (2018). Salut dels boscos i cicle de l'aigua (Ponència per invitació). IV Setmana del Bosc (ICTA). Sant Celoni. 19 October.

VAYREDA, J. (2018). Vulnerabilitat i resiliència dels boscos a la Mediterrània (Ponència per invitació). Maresme i canvi climàtic, arriba el moment d'actuar! (Servei Comarca l del Canvi Climàtic del Maresme i Consell Comarcal del Maresme). Mataró 28 September.

VAYREDA, J. (2018). Vulnerabilitat i resiliència dels boscos de Catalunya (Ponència per invitació). (Ajuntament de Palafolls). Palafolls. June.

VAYREDA, J., CARBONELL, X. (2018) Actuacions silvícoles per preparar un bosc a dinàmica natural. Jornada tècnica PATT. Can Bosc, Diputació de Barcelona. October.

TRAINING ANNEXES

SUBJECTS IN MASTERS AND SUMMER SCHOOLS

Analysis of Vegetation and Landscape Ecology. Master's degree in Ecology, Environmental Management and Restoration, University of Barcelona. Joan Pino.

Aplicaciones de Teledetección. Máster Oficial en Teledetección. Universitat de València, Burjassot. 2018. Aleixandre Verger

Basis of Biology. Teaching in Secondary Schools, Vocational Training Centres and Language Schools. (UAB). Bellaterra. 2018. Sandra Saura Mas

Global change, not only warming but also genes, microbes and pollutants. Ecology, Earth Science and Environment. Research Center for Eco-environmental Sciences (CAS). Beijing. Josep Peñuelas.

Greenhouse gases in paddies under global change. Ecology, Earth Science and Environment. Department of Ecology, College of Urban and Environmental Sciences, Peking University, Beijing. Josep Peñuelas.

Lleis ecològiques, canvis globals i límits de la sostenibilitat, invited closing communication, IV Jornada Científica del Departament de Biologia Animal, Biologia Vegetal i Ecologia (BABVE), Univ. Autònoma de Barcelona. Josep Peñuelas.

On disentangling vegetation diurnal-nocturnal changes in water storage for a better understanding of water cycle. Remote

sensing and GIS. Prof. Feng Tian research group, Department of Physical Geography and Ecosystem Science, Lund University, Lund, Sweden. Josep Peñuelas.

On new paths for climate change experiments: progressive or/an extreme treatments. Ecology and Geography. Department of Biogeochemistry, University of Copenhagen. Josep Peñuelas.

On the use of SMOS to assess neglected trends of C storage and water use by vegetation. Ecology and geography Department of Geography, University of Copenhagen. Josep Peñuelas.

Postgraduate Course on Complexity Science. Master on Computational Biomedical Engineering (Universitat Pompeu Fabra). 2 Lectures. Exam preparation. 2018. Frederic Bartumeus.

Postgraduate Course on Data Science (Universitat de Barcelona). Lecture: Big Data con ciencia ciudadana. 2018. Frederic Bartumeus.

Quantifying the responses of ecosystems and society in a world increasingly rich in nitrogen and carbon but limited in Phosphorus. Ecology, Earth Science and Environment. Institute of Urban Environment (IUE, Xiamen). Josep Peñuelas.

Resistome in soils, waters, plants and animals. Ecology, Earth Science and Environment. Institute of Urban Environment (Xiamen, CAS). Josep Peñuelas.

Terrestrial ecosystems under pressure by climate change. Earth Science and Environment. Institute of Tibetan Plateau Research, Chinese Academy of Sciences (CAS), Beijing. Josep Peñuelas.

Tree lines in high mountains Ecology, Earth Science and Environment. Nanjing Institute of Soil Sciences, Jiaxing Institute, Institute of Tibetan Plateau Research, Chinese Academy of Sciences (Beijing, CAS). Josep Peñuelas.

VOCs and reflectance, odorous and visual signals for phenotyping plants. Ecology and Environment. Helmholtz Zentrum München, Munich. Josep Peñuelas.

What we are missing in phenological studies, but global and local scales. Earth Science and Environment. University of Beijing. Josep Peñuelas.

COURSES OR WORKSHOPS OR SEMINARS WITHIN MASTERS, SUMMER SCHOOLS, MEETINGS, ETC.

Natures, cultures, colonialisme (2018) Màster d'Ecologia. CREA/Unitat d'Ecologia (UAB).Jaume Terradas.

Uso de enmiendas orgánicas para la rehabilitación de suelos (2018). Universidad de Costa Rica, Centro de Investigación en Contaminación Ambiental CICA, San José de Costa Rica. Josep M. Alcañiz.

Doctoral theses

AIZPURUA, O. (2018) Species distribution models for birds. How useful are their outcomes for conservation applications? Universitat de Lleida. Co-directors: Lluís Brotons, Nicolas Titeux.

AQUILUÉ, N. (2018) Managing forest landscapes under global changes: simulation models for scenario evaluation. Université de Quèbec a Montreal (Canada). Co-directors: Lluís Brotons, Christian Messier, Marié Joséé Fortin.

DUANE, A. (2018) Assesing global change impacts on fire regimes in Mediterranean systems. Autonomous University of Barcelona. Co-directors: Lluís Brotons.

RUIZ-CARBAYO, H. (2018) The role of landscape and species attributes in insect community assembly, population genetics and plant-insect interactions in expanding Quercus ilex forests.. Autonomous University of Barcelona. Co-directors: Raúl Bonal, Josep Maria Espelta i Joan Pino

RAYA-MORENO, I. (2018) Effects of applying pine and corn cobs biochar on soil organic carbón in a Mediterranean agricultural land. Autonomous University of Barcelona. Co-directors: Josep M. Alcañiz and Rosa Cañizares González.

SAYOL, F. (2018) Causes and consequences of brain size evolution: A global analysis on birds. Autonomous University of Barcelona. Director: Daniel Sol.

ZHENG, B-X. (2018). Biogeochemistry of soil P and the mechanism of microbial P mobilization. Institute of Urban Environment, Chinese Academy of Sciences/University of Chinese Academy of Sciences. Co-director: Josep Peñuelas.

Final Master Project (Diploma d'Estudis Avançats)

ANDREA, M. (2018) Decreasing body size, the ecological response of climate change for Marmota marmota in Pyrenees. Master in Ecologia Terrestre i Gestió de la Biodiversitat. Universitat Autònoma de Barcelona. Co-directors: Mariona Ferrandiz-Rovria and Bernat. C. López.

COVAS, L. (2018) Effect of Urbanization on Bird Abundance and Diversity: A Temporal Examination of Factors Affecting Biodiversity in Florida. Codirectors Dr. Daniel Sol, Raquel Ubach.

ESTÉVEZ-GARCÍA, J. (2018) A satellite-based study of vegetation phenology over USA. Máster Oficial en Teledetecció. Universitat de València. Co-directors: A. Verger, M. A. Gilabert.

FERNÁNDEZ, P. (2018) Kinematic features of boar sperm under different capacitating conditions as revealed through a novel statistical approach. Universitat de Girona (Jan-Sep 2018). Lecture 3 Sep 2018. Co-Director: Frederic Bartumeus.

GORROTXATEGI, J. (2018) Phloem and xylem properties in branches of European beech trees growing under different edapho-climatic conditions. Forest Ecology and Forest Management. Wageningen University. Co-directors: U. Sass-Klaassen, Jordi Martínez-Vilalta, Elisabeth Robert.

LECHA, L. (2018) Microbial transformations of atmospheric nitrogen deposition in the canopy of trees in a Mediterranean holm oak forest. Màster en Ecologia Terrestre i Gestió de la Biodiversitat. Universitat Autònoma de Barcelona. Codirectors Drs. Guerrieri R., Mencuccini M. and Anna Avila

PÉREZ, C. (2018). Disentangling the effects of land use legacies, climatology, connectivity and dispersal mode in the assembly of woody plant species communities in Mediterranean forests. Co-directors: JM Espelta, R Alfaro & J Pino. Máster en Ecología Terrestre y Gestión de la Biodiversidad. Universidad Autónoma de Barcelona.

PÉREZ, J. (2018). Assessing the effects of forest history, site quality and landscape pattern on the richness and cover of contrasting plant species groups across a biogeographical gradient.. Director: J Pino. Máster en Ecología Terrestre y Gestión de la Biodiversidad. Universidad Autónoma de Barcelona.

RALUY, M. (2018) Resilience of Soil Stoichiometry in Subarctic soils under Temperature-Induced Soil Carbon Losses: Where does the Nitrogen go?. Universitat Autònoma de Barcelona. Co-directors: Sara Marañón, Josep Peñuelas

SCHAUMAN, S. (2018) Characterizing the dynamics of functional traits of Prades forest using Sentinel-2 satellite data and in-situ measurements. Màster en Ecologia Terrestre i Gestió de la Biodiversitat. Universitat Autònoma de Barcelona. Co-directors: A. Verger, I. Filella, J. Peñuelas.

SCHAUMAN, S. (2018) Remote sensing of Prades mountains ecology with Sentinel. Universitat Autònoma de Barcelona. Co-directors: Alexandre Verger, Iolanda Filella, Josep Peñuelas

TORRES, C. (2018) Thermal ecology of Hermann's tortoise in Ebro Delta (Catalonia, Spain). Master in Ecologia, Gestió i restauració del Medi Natural (Universitat de Barcelona). Co-directors: Mariona Ferrandiz-Rovria, A. H. Luján and A. Bertolero.

Final Student Work (projecte final de carrera)

BARBA, C. (2018) Béns i serveis associats als ecosistemes de fanerògames marines i estimacions de pèrdues causades per la seva degradació. Universitat Autònoma de Barcelona. Supervisors: J. Romero i Jordi Martínez-Vilalta.

BARBOSA, S. (2018) Excremota. Grau de Biologia (Universitat Autònoma de Barcelona). Supervisor: Mariona Ferrandiz-Rovira

BRACHO, C. (2018) Incendis forestals: cremes prescrites com a eina de prevenció. Universitat Autònoma de Barcelona. Supervisor: Jaume Terradas

GOMEZ, S. (2018) La rellevància de la temperatura en els testudínids. Grau de Biologia (Universitat Autònoma de Barcelona). Supervisors: Mariona Ferrandiz-Rovira and A. H. Luján

MACIÀ, A. (2018) Boreal fires and climate warming: differences between boreal North America and Boreal Eurasia. Universitat Autònoma de Barcelona. Supervisor: Jaume Terradas

PASCUAL, J.P. (2018) A Review of the Pests Presents in the Main Forest Masses of the Iberian Peninsula. Universitat Autònoma de Barcelona. Supervisor: Francisco Lloret.

TERRAZA, C. (2018) Proposta per a la millora de la biodiversitat i l'ecosistema urbà. Grau de Biologia Ambiental (Universitat Autònoma de Barcelona). Supervisor: Mariona Ferrandiz-Rovira

VILALTA, Q. (2018) Revisió dels mètodes no invasius per l'estudi de fauna i proposta d'aplicació a la marmota alpina (Marmota marmota) al Pirineu. Grau de Biologia Ambiental (Universitat Autònoma de Barcelona). Supervisor: Mariona Ferrandiz-Rovira

AWARDS

Awards and distinctions received by members of CREAM

BARTUMEUS, F. Ciencia en Acción. 1r Premi en la categoria de Continguts Educatius de Ciència en Format Interactiu.

BARTUMEUS, F. Distinguished Researcher (period 2017-2018) at the Spanish Research Council (CSIC).

BARTUMEUS, F. Premi Ciutat de Barcelona in Earth and Environmental sciences 2018.

MASÓ, J. OGC's 2018 Gardels Award. Stuttgart. Sep 13.

MASÓ, J. ZABALA, A. Orléans/Ogc Inspire Hackathon 2018. 3rd place to CKAN Extension to Integrate User Feedback with NiMMbus: The case of ECOPotential

MENCUCCINI, M. Highly Cited Researcher 2018 in Plant and Animal Sciences (Clarivate analytics).

MENCUCCINI, M. Ranked as one of the top Italian Scientists in the area of Natural & Environmental Science by Via-Academy (http://www.topitalianscientists.org/top_italian_scientists.aspx).

PEÑUELAS, J. Highly Cited Researchers list from Clarivate Analytics.

PEÑUELAS, J. Outstanding member of the Institute Ramon Muntaner (Figueres).

PEÑUELAS, J. Scientist with the highest h-index in Plant Sciences and Ecology in Spain, by <http://indice-h.webcindario.com/>.

PEÑUELAS, J. Chinese Academy of Sciences Distinguished Scientist.

PEÑUELAS, J. Marsh Award for Climate Change Research Prize of the British Ecological Society.

PEÑUELAS, J. Menció especial del Premi Ciutat de Barcelona in Earth and Environmental sciences 2018.

PEÑUELAS, J., LLUSIA, J. Nominated as finalists for the reward of scientific projects in the environment area of the 2è TROPHÉES DE LA FONDATION AIR LIQUIDE.

TERRADAS, J. Distinció Luís Balaguer de l'Asociación Española de Ecología Terrestre a la trajectòria.

VILALTA, J. Highly Cited Researcher 2018 in Plant and Animal Sciences (Clarivate analytics).

ACTIVE PROJECTS IN 2018

PROJECT NAME	ACRONYM	Principal investigator	Budget	Entity	Period
Biogeografia funcional: resposta dels ecosistemes terrestres als canvis i gradients ambientals	2017-2019 SGR/1001 LLORET	Francisco Lloret	37.367,00 €	AGAUR	2017-2019
Unitat d'Ecologia Global - Grup de Recerca Consolidat	2017-2019 SGR/1005 PEÑUELAS	Josep Peñuelas	60.216,00 €	AGAUR	2017-2019
Biodiversitat i evolució en ecosistemes mediterranis	2017-2019 SGR/1006 MAYOL	Maria Mayol	20.000,00 €	AGAUR	2017-2019
Dinàmica forestal i incendis	2017-2019 SGR/857 RETANA	Javier Retana	59.463,30 €	AGAUR	2017-2019
GECA Grup d'Ecologia dels Canvis Ambientals	2017-2019 SGR/910 CATALAN	Jordi Catalán	60.216,00 €	AGAUR	2017-2019
Valorització dels recursos bovins i silvopastorals del massís transfronterer Pirineus Mediterrani	ALBERAPASTUR	Marc Gràcia	1.376.386,00 €	EU	2018-2020
Bioclimatic niche and plant community dynamics in response to climate change	BIOCLIM	Francisco Lloret	193.600,00 €	Ministerio Economía y Competitividad	2016-2019
Forests and health. Health research and natural environment	BOSCOS I SALUT	Lluís Brotons / Jordi Vayreda	320.000,00 €	Obra Social "La Caixa"	2016-2018
Formació d'investigadors en el desenvolupament de respostes completes a les convocatòries internacionals de recerca	BURKINA FASO	Lluís Pesquer	19.980,00 €	EU	2018
Copernicus Climate Change Service (C3S): Production of Essential Climate Variable Datasets based on Earth Observations – Albedo, FAPAR & LAI	C3S	Aleixandre Verger	68.025,00 €	EU	2016-2018
Gestió i avaluació de la composició química i l'acidesa de la precipitació de Catalunya	"CARACTERITZACIÓ PLUGES"	Anna Àvila	29.000,00 €	Generalitat de Catalunya	2018
Conectivitat dels ecosistemes forestals i riparis de l'espai SUDOE	CERES	Jordi Vayreda	1.272.214,00 €	EU	2018-2021
Copernicus Global Land Service – Framework Contract for the operation, evaluation and evolution of the Global Land component of the Copernicus Land Service.	C-GLOPS1	Aleixandre Verger	216.000,00 €	EU	2015-2019
Serveis climàtic pel nexu Aigua-Energia-Sòl-Alimentació	CLISWELN	Jordi Martínez-Vilalta	1.004.303,20 €	ERANET (Ministerio Economía y Competitividad)	2017-2020

PROJECT NAME	ACRONYM	Principal investigator	Budget	Entity	Period
COBERTES DEL SÒL	COBERTES DEL SÒL	Xavier Pons	35.000,00 €	Generalitat de Catalunya	2018
Monitoring network for observing the status of Catalan forest	DEBOSCAT	Jordi Martínez-Vilalta / Jordi Vayreda	35.000,00 €	Generalitat de Catalunya	2018
Demostració de l'ús d'una abella solitària per millorar la pol·linització de fruiters	DEMO	Anselm Rodrigo / Jordi Bosch	29.961,15 €	Generalitat de Catalunya	2017-2018
Differential adaptation capacity of dryland grasses to directional changes in water availability	DIAGRASS	Josep Peñuelas (Marie Curie Fellowship granted to Mónica Ladrón de Guevara)	239.191,20 €	EU	2018-2021
Estudi, l'anàlisi i divulgació de resultats de treballs silvícoles i de la dinàmica forestal resultants dels programes de prevenció d'incendis, restauració i millora forestal de la diputació de barcelona	DINFORREST	Josep Maria Espelta	44.150,00 €	Oficina Tècnica de Prevenció Municipal d'Incendis Forestals - DIBA)	2018
Uso del agua y estrategias de resistencia a la sequía a distintas escalas: desde los mecanismos homeostáticos a la dinámica regional de la vegetación	DRESS	Jordi Martínez-Vilalta	193.600,00 €	Ministerio de Ciencia, Innovación y Universidades	2018-2021
Wildlife in the Andorran Pyrenees (II)	EARTHWATCH PIRINEU (II)	Bernat Claramunt	263.091,28 €	EarthWatch Institute	2016-2018
Improving future ecosystem benefits through Earth Observations	ECOPOTENTIAL	Joan Masó	14.874.340,00 €	EU	2014-2019
The European network for observing our changing planet	ERA-PLANET	Joan Masó	50.730.791,00 €	EU	2016-2021
Spread to natural environment of the most planted alien plants in the green areas in Barcelona	EXO BCN 2	Joan Pino	55.418,00 €	Ajuntament de Barcelona	2017-2018
EXOCAT	EXOCAT	Joan Pino	50.000,00 €	Generalitat de Catalunya	2018
CANVIS AMBIENTALS	FACTORS DE CANVI	X.Pons / J.Pino / LL.Brotons	54.000,00 €	Generalitat de Catalunya	2018
Farmers' Adaptation and Sustainability in Tunisia through Excellence in Research	FASTER	Javier Retana	998.250,00 €	EU	2018-2021
Use of biochar for soil nitrogen cycling regulation and for a new generation fertilisers	FERTICHAR	Josep Maria Alcañiz	193.600,00 €	Ministerio Economía y Competitividad	2016-2018

PROJECT NAME	ACRONYM	Principal investigator	Budget	Entity	Period
Saturation of carbon sinks: from a CO2 and N fertilization-dominated period to a warming-dominated period	FERT-WARM	Josep Peñuelas	321.860,00 €	Ministerio Economía y Competitividad	2016-2019
Understanding soil fertility impacts on terrestrial biomass production in a changing environment	FIBER	Josep Peñuelas (Marie Curie fellowship granted to Benjamin Stocker)	158.121,60 €	EU	2017-2019
Desenvolupament de mapes de risc d'incendi en base al Basin Characterization Model (BCM) i a tendències en la humitat del combustible	FIREMOIST	Entic Batllori	17.774,55 €	Ministerio de Ciencia, Innovación y Universidades	2018-2019
Vertebrate-dispersed woody species assembly in new Iberian forests: effects of species niches, landscape structure and dispersers behaviour	FORASSEMBLY	Joan Pino / Josep Maria Espelta	114.950,00 €	Ministerio Economía y Competitividad	2016-2018
Assessment and forecasting of ecosystem services in forests: impacts and adaptation to extreme climate events	FORESTCAST	Javier Retana / Lluís Brotons	134.310,00 €	Ministerio Economía y Competitividad	2015-2018
A functional traits approach to forest function and dynamics: implications for the provision of ecosystem services under climate change	Fun2Fun	Jordi Martínez-Vilalta	198.440,00 €	Ministerio Economía y Competitividad	2014-2018
GAVARRES	GAVARRES	Jordi Vayreda	20.000,00 €	Generalitat de Catalunya	2018
Ground Truth 2.0 - Environmental knowledge discovery of human sensed data	GROUND TRUTH 2.0	Joan Pino / Joan Masó	5.740.631,25 €	EU	2016-2019
Iniciativa de Canvi Climàtic de l'ESA. Variables Climàtiques Essencials: Cobertes del Sol d'elevada resolució espacial	HRLandCoverCCI	Lluís Pesquer	199.953,00 €	University of Trento	2018-2021
Effects of phosphorus limitations on Life, Society and the Earth System	IMBALANCE-P	Josep Peñuelas	13.600.579,00 €	EU	2014-2020
Remote sensing INDicators for DRought monitoring	INDRO	Josep Peñuelas (Marie Curie fellowship granted to Manuela Balzarolo)	170.121,60 €	EU	2017-2019
Modelització integrada i planificació de la biodiversitat i els serveis ecosistèmics dels boscos en escenaris de canvi global	INMODES	Javier Retana	145.200,00 €	Ministerio de Ciencia, Innovación y Universidades	2018-2020

PROJECT NAME	ACRONYM	Principal investigator	Budget	Entity	Period
Implicant a la societat en l'adaptació al canvi climàtic al Delta de la Tordera	ISAAC TORDELTA	Javier Retana	50.634,00 €	Fundación Biodiversidad	2017-2018
Creació i desplegament del Laboratori Metropolità d'Ecologia i Territori de Barcelona (LET-BCN)	LET-BCN	Joan Pino	40.000,00 €	IERMB	2018-2021
Estratègies de Gestió Forestal Innovadores per millorar la Biodiversitat dels Boscos Mediterranis. Incentius i Eines de Gestió	LIFE BIORGEST	Jordi Vayreda	1.576.374,00 €	EU	2018-2023
Restore desertified areas with an innovative tree growing method across the Mediterranean border to increase resilience	LIFE GREEN LINK	Josep Maria Alcañiz	2.891.702,00 €	EU	2016-2020
Demonstration and validation of innovative methodology for regional climate change adaptation in the Mediterranean area	LIFE MEDACC	Javier Retana	2.548.841,00 €	EU	2013-2018
Demonstration of a new agro-silvo-pastoral land use to improve farm profitability in mountain areas	LIFE POLYFARMING	Marc Gràcia	1.135.787,00 €	EU	2016-2021
Networks of knowledge and training for the effective management of Mediterranean forest habitats of Nature 2000	LIFE REDCAPACITA	Jordi Vayreda	590.154,00 €	EU	2016-2019
Networks of knowledge and training for the effective management of Mediterranean forest habitats of Nature 2000	LIFE REDCAPACITA	Jordi Vayreda	590.154,00 €	EU	2016-2019
TRASLOCACIÓ MARMOTES	MARMOTES	Bernat Claramunt	7.300,00 €	Generalitat de Catalunya	2018
MIRAMON	MIRAMON	Xavier Pons	42.000,00 €	Generalitat de Catalunya	2018
Mosquito Alert: a citizen platform for studying and control mosquitos which transmit global diseases	Mosquito Alert	Frederic Bartumeus	400.000,00 €	Obra Social "La Caixa"	2016-2018
Modelització de la resposta dels arbres a un augment de l'aridesa emprant trets funcionals	M-TRAIT	Josep Peñuelas (Marie Curie Fellowship granted to Aude Valade)	158.121,60 €	EU	2018-2020

PROJECT NAME	ACRONYM	Principal investigator	Budget	Entity	Period
A novel approach to determine canopy nitrification in the phyllosphere of European forests: combining multiple isotope tracers and proteogenomic techniques	NITRIPHYLL	Maurizio Mencuccini (Marie Curie fellowship granted to Rossella Guerrieri)	158.121,60 €	EU	2016-2018
OCCC	OCCC	Jordi Vayreda	85.000,00 €	Generalitat de Catalunya	2018
Estudi de la funcionalitat ecològica i la biodiversitat de l'Àrea Metropolitana de Barcelona en el marc del PDU	PDU-AMB	Joan Pino	42.350,00 €	BARCELONA REGIONAL	2018
Research and innovation in the control and restoration process of mining activities	PEDRERES	Josep Maria Alcañiz	26.000,00 €	Generalitat de Catalunya	2018
Hydraulic functional traits as determinants of forest function and drought responses. Putting xylem and phloem attributes into the functional trait map	PHLOEMAP	Jordi Martínez-Vilalta (Marie Curie fellowship granted to Elisabeth MR Robert)	158.121,60 €	EU	2016-2018
'According to nature' - solutions to reduce risk in mountain landscapes	PHUSICOS	Pilar Andrés	9.472.200,00 €	EU	2018-2022
Plataforma integral per al control d'arbovirus a Catalunya	PICAT	Frederic Bartumeus	443.657,10 €	Generalitat de Catalunya	2017-2019
Local adaptation of plant POPulations during Range EXPANsions: the effect on life-history traits and genetic variability	POREXPAN	Maria Mayol	137.940,00 €	Ministerio Economía y Competitividad	2015-2018
Prismàtic, plataforma de coneixement per la gestió del patrimoni natural i de la biodiversitat	PRISMÀTIC	Anna Ramon	18.000,00 €	Generalitat de Catalunya	2018
PROSPECCIÓ FLORA AMENAÇADA	PROSPECCIÓ FLORA	Joan Pino	8.000,00 €	Generalitat de Catalunya	2018
Drought regime shifts and global warming: Impacts, mechanisms, forecasts and mitigation strategies	REGIME-SHIFTS	Jofre Carnicer	79.860,00 €	Ministerio Economía y Competitividad	2016-2019
A network of observatories of ecosystems (lakes and peatbogs) sensitive to the climate change in the Pyrenees	REPLIM	Marisol Felip	1.002.347,55 €	INTERREG	2016-2019

PROJECT NAME	ACRONYM	Principal investigator	Budget	Entity	Period
Desarrollo del modelo de funcionamiento ecológico del lago de Sanabria y su cuenca	SANABRIA	Jordi Catalán	63.650,00 €	ECOHYDROS	2018-2019
A global database of sap flow to unravel the ecological drivers of transpiration regulation in woody plants	SAPFLUXNET	Rafael Poyatos	196.020,00 €	Ministerio Economía y Competitividad	2015-2018
SERVEIS ECOSISTÈMICS	SERVEIS ECOSISTÈMICS	Joan Pino	49.000,00 €	Generalitat de Catalunya	2018
SISEBIO	SISEBIO	Javier Retana	88.000,00 €	Generalitat de Catalunya	2018
Unravelling the potential of spontaneous forest establishment for improving ecosystem functions and services in dynamic landscapes	SPONFOREST	Josep M. Espelta	1.190.453,00 €	ERANET (Ministerio Economía y Competitividad)	2017-2020
Resilience of Soil Stoichiometry in subarctic soils under Temperature-Induced Soil Carbon Losses: Where does the N go?	STOICA	Josep Peñuelas (Marie Curie fellowship granted to Sara Marañón)	170.121,60 €	EU	2017-2019
Variación de historias vitales y pérdida de diversidad biológica en los hábitats alterados por actividades humanas	SURVIVE_CHANGES	Daniel Sol	166.980,00 €	Ministerio de Ciencia, Innovación y Universidades	2018-2020
Tipping points en bosques Mediterráneos ante el cambio climático	TIPMED	Entic Batllori	78.529,00 €	Ministerio de Ciencia, Innovación y Universidades	2018-2020
Keys to understanding the transfer of atmospheric fluctuations to the dynamics of lake plankton	TRANSFER	Jordi Catalán	166.980,00 €	Ministerio Economía y Competitividad	2016-2019
Observatori ciutadà de la biodiversitat de papallones a la ciutat "uBMS"	uBMS	Yolanda Melero	14.999,76 €	Ministerio de Ciencia, Innovación y Universidades	2018
An Ecosystem of Citizen Observatories for Environmental Monitoring	WEOBSERVE	Joan Masó	1.069.507,50 €	EU	2017-2020
XARXA BOSCOS DINAMICA NATURAL	XARXA BOSCOS	Jordi Vayreda	35.000,00 €	Generalitat de Catalunya	2018



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