



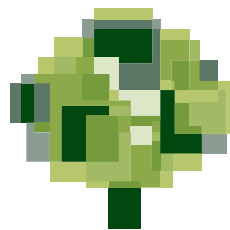
**CREAF**

Research, Innovation and  
Knowledge Transfer in Terrestrial Ecology

**ANNUAL REPORT 2015**







# CREAF

Research, Innovation and  
Knowledge Transfer in Terrestrial Ecology

ANNUAL REPORT 2015

© CREA F 2016

Text and graphics: CREA F

Coordination: Anna Ramon and Communication Department of CREA F.

Design and infographics: Lucas Wainer

Cover photograph: José Luis Ordóñez

Sections photographs: Marina Torres



# CONTENTS

|                            |    |
|----------------------------|----|
| Who we are                 | 6  |
| Annual Highlights          | 16 |
| International Highlights   | 20 |
| Financial Overview         | 24 |
| Research Highlights        | 26 |
| Scientific output          | 56 |
| Training                   | 74 |
| Communication and Outreach | 80 |
| Annexes                    | 86 |



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.”*

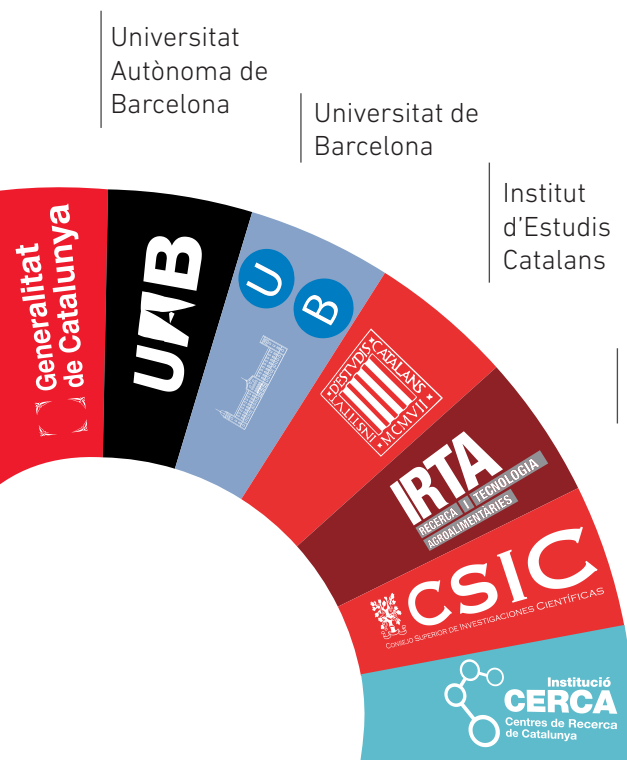
### Our aims

- 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).



## About us

- Founded in 1988
- A leading research center in Mediterranean ecosystems research
- Close to 100 scientists and experts grouped in four research areas: biodiversity, global change, forest ecology and territorial analysis.
- CREAF 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
- More than 70 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).

Institut de Recerca i Tecnologia Agroalimentàries

Consejo Superior de Investigaciones Científicas

Institució Centres de Recerca de Catalunya

## THE BOARD OF TRUSTEES OF CREAM



### **PRESIDENT OF THE BOARD OF TRUSTEES**

Mr. Josep Enric Llebot, Secretary of Environment and Sustainability

### **SECRETARY OF THE BOARD OF TRUSTEES**

Mr. Javier Retana, Director of CREAM

### **MEMBERS OF THE BOARD OF TRUSTEES**

Mr. Ferran Sancho, Rector of UAB

Mr. Dídac Ramírez, Rector of UB

Mr. Joandomènec Ros Aragonès, President of IEC

Mr. Emilio Lora-Tamayo, President of CSIC

Mr. Josep M. Monfort, Director of IRTA

Mr. Antoni Trasobares, General Director of Environment and Diversity (DAAM)

Mr. Pere Sala, Landscape Observatory of Catalonia (DTES)

Ms. Marta Subirà, General Director of Environmental Policy (DTES)

Mr. Antoni Castellà, Secretary of Universities and Research (DEC)

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

Mr. Ramon Parés, General Director of Prevention and Extinction of Forest Fires (DI)

Mr. Jaume Terradas, CREAM

Mr. Ferran Rodà, CREAM

## 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

Mr. Xavier Bellés, CSIC

Mr. Salvador Grau, Department of Territory and Sustainability

Ms. Agustina Guiteras, Department of Economy and Knowledge

Mr. Lluís Rovira, Fundació ICERCA

Mr. Robert Savé, IRTA

Mr. Marc Castellnou, Department of Interior

Mr. Xavier Clopés, Department of Agriculture, Livestock, Fisheries and Environment

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



## Staff

### SCIENTIFIC DIRECTOR

Javier Retana Alumbroeros, PhD

### DEPUTY SCIENTIFIC DIRECTOR

Joan Pino Vilalta, PhD

### MANAGING DIRECTOR

José Antonio Fuentes Pérez

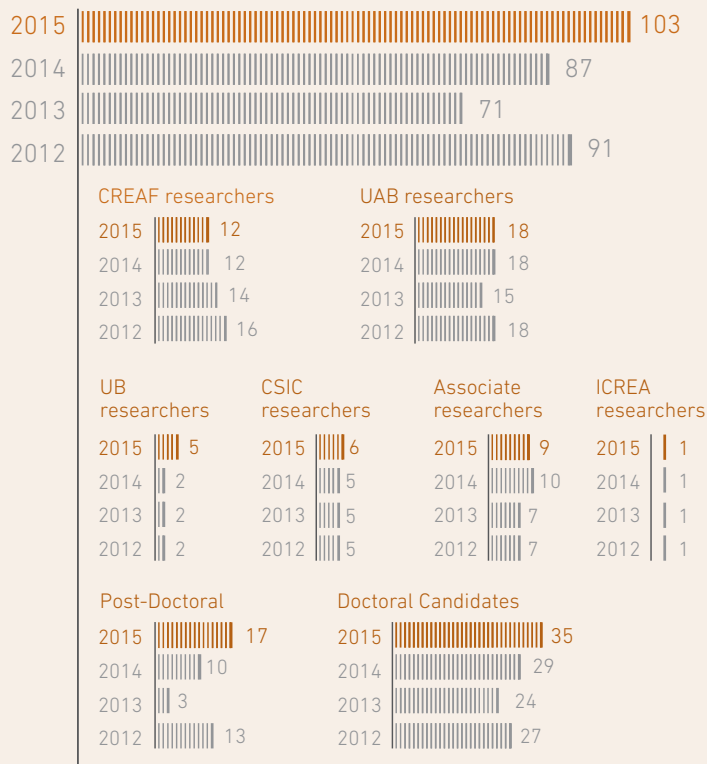
### RESEARCHERS

#### CREAF Researchers

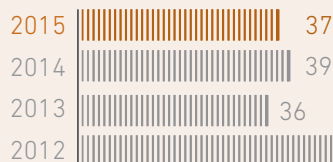
1. Pilar Andrés Pastor, PhD
2. Anna Àvila Castells, PhD
3. Jordi Bosch Gras, PhD
4. Enrique Doblas Miranda, PhD
5. Josep Maria Espelta Morral, PhD
6. Marc Gràcia Moya, PhD
7. Joan Llusià Benet, PhD
8. Arnald Marcer Batlle, PhD
9. Joan Masó Pau, PhD
10. Maria Mayol Martínez, PhD
11. Jordi Sardans Galobart, PhD
12. Jordi Vayreda Duran , PhD

## STAFF

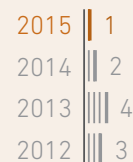
### Researchers



### Technicians



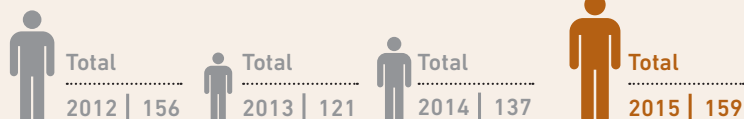
### Consultants



### Administration



### Campaign Staff





## UAB Researchers

1. Josep M Alcañiz Baldellou, PhD
2. Rosa Cañizares González, PhD
3. Bernat Claramunt López, PhD
4. Xavier Domene Casadesus, PhD
5. Xavier Espadaler Gelabert, PhD
6. Íñigo Granzow de la Cerda, PhD
7. Francisco Lloret Maya, PhD
8. Jordi Martínez Vilalta, PhD
9. Joan Pino Vilalta, PhD
10. Josep Piñol Pascual, PhD
11. Javier Retana Alumbrosos, PhD
12. Miquel Riba Rovira, PhD
13. Angela Ribas Artola, PhD
14. Ferran Rodà de Llanza, PhD
15. Anselm Rodrigo Domínguez, PhD
16. Sandra Saura Mas, PhD
17. Constantí Stefanescu, PhD
18. Jaume Terradas Serra, PhD

## UB Researchers

1. Jofre Carnicer Cols, PhD
2. Marisol Felip Benach, PhD
3. Carles Gracia Alonso, PhD
4. Santiago Sabaté Jorba, PhD
5. 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. Maurizio Mencuccini, PhD

## Associate Researchers

1. Frederic Bartumeus, PhD
2. Raúl Bonal Andrés, PhD
3. Miquel de Cáceres Ainsa, PhD
4. Lluís Coll Mir, PhD
5. Louis Lefebvre, PhD
6. José M Montoya, PhD
7. Alberto Muñoz, PhD
8. Gerardo Ojeda Castro, PhD
9. Rosa M Roman Cuesta, PhD

## Post-Doctoral Researchers

1. Michela Albuquerque, PhD
2. Albert Alvarez Nebot, PhD
3. Aitor Ameztegui, PhD
4. M. Dolores Asensio Abella, PhD
5. Enric Batllori Presas, PhD
6. Mariona Ferrandiz Rovira, PhD
7. Raúl García Valdés, PhD
8. Oriol Grau Fernández, PhD
9. Olga Margalef Marrasé, PhD
10. Yolanda Melero Caverro, PhD
11. Romà Ogaya Inurriagarro, PhD
12. John Palmer, PhD
13. Guillermo Peguero Gutiérrez, PhD
14. Rafael Poyatos López, PhD
15. Catherine Preece, PhD
16. Anna Torné Noguera, PhD
17. Aleixandre Verger Ten, PhD

## Doctoral Candidates

1. Sr. Ander Achotegui Castells (FPI-MINECO scholarship)
2. Sr. David Aguadé Vidal (FPU-MECD scholarship)
3. Sra. Teresa Alfaro (BECA)
4. Sra. Maria Angeles Pérez Navarro (FPU-MECD scholarship)
5. Sr. Harold Arias (Government of Costa Rica)
6. Sra. Marta Camino (Universiteit Antwerpen)
7. Sra. Chao-Ting Chang (no scholarship)
8. Sr. Miguel Angel Collado Aliaño (FPI-MINECO scholarship)

9. Sr. Guillem Closa Santos (Iren Acqua Gas Spa. Genova)
10. Sr. Marcos Fernández Martínez (FI-AGAUR scholarship)
11. Sra. Irene Figueroa Aguilar (no scholarship)
12. Sra. Nancy Gamboa (Government of Costa Rica)
13. Sra. Núria García Ferrer (FPI-MINECO scholarship)
14. Sr. José David García Callejas (FPU-MECD scholarship)
15. Sr. Pau Giménez Grau (FPU-MECD scholarship)
16. Sr. Carlos Hernández Castellano (FPU-MECD scholarship)
17. Sra. Julieta Krapovickas (no scholarship)
18. Sra. Judit Lecina Díaz (FPI-MINECO scholarship)
19. Sr. Daijun Liu (CSC-UAB scholarship)
20. Sr. Joan Maspons Ventura (FPI-MINECO scholarship)
21. Sr. Sergio Osorio Cañadas (FI-AGAUR scholarship)
22. Sr. Carlos Palacín Lizarbe (FPU-MECD scholarship)
23. Sr. Manuel de Pedro Rodríguez (FPI-MINECO scholarship)
24. Sra. María Ángeles Pérez Navarro (FPU-MECD scholarship)
25. Sra. Irene Raya Moreno (FPI-MINECO scholarship)
26. Sra. Larissa Rejalaga (no scholarship)
27. Sra. Sara Reverté (FPI-MINECO scholarship)
28. Sra. Teresa Rosas (FPI-MINECO scholarship)
29. Sra. Helena Ruíz Carbayo (FPI-MINECO scholarship)
30. Sr. Marc Sala Faig (FPU-MECD scholarship)
31. Sr. Ferran Sayol Altarriba (FI-AGAUR scholarship)
32. Sra. Mar Unzeta Lloret (FI-AGAUR scholarship)
33. Sra. Ifigenia Urbina Barrero (FPI-MINECO scholarship)
34. Sra. Chao Zhang (CSC-UAB scholarship)
35. Sra. Aitziber Zufiaurre (FPI-MINECO scholarship)
12. Sra. Rosa Casanovas Berenguer
13. Sr. Lluís Comas Boronat
14. Sr. Daniel Díaz Benito
15. Sr. Agustí Escobar Rúbies
16. Sra. Anna Escolà
17. Sr. Gerard Farré Armengol
18. Sr. Pere Roc Fernández Garberí
19. Sra. Irene Fraile Torroella
20. Sr. Albert Gargallo Garriga
21. Sr. Javier Gordillo
22. Sra. Anna Guardia Valle
23. Sra. Rosa Isern Fontanet
24. Sra. Núria Julià Selvas
25. Stefania Mattana, PhD
26. Sra. Diana Pascual Sánchez
27. Sr. Abel Pau García
28. Sra. Maria Teresa Peñarroya Polo
29. Lluís Pesquer Mayos, PhD
30. Eduard Pla Ferrer, PhD
31. Sergi Pla Rabes, PhD
32. Sra. Ester Prat Carrió
33. Sra. Marta Ramírez
34. Sra. Ingrid Regalado Segarra
35. Sra. Laura Roquer Beni
36. Sra. Anabel Sánchez Plaza
37. Sra. Ivette Serral Montoro

## TECHNICIANS

### CREAF Staff

1. Sr. Enrique Alvarez Domínguez
2. Guillem Bagaria Morató, PhD
3. Sra. Mireia Banqué Casanovas
4. Adrià Barbeta, PhD
5. Sra. Helena Barril Graells
6. Sra. Meritxell Batalla Mercadé
7. Corina Basnou, PhD
8. Sr. Carles Batlles Climent
9. Anne Elisabeth Emilie Broekman, PhD
10. Sr. Vicenç Carabassa Closa
11. Sr. Xavier Carbonell

### UAB Staff

1. Sra. Neus Riué

### Campaign Staff

1. Borja Allué Oliván
2. Sr. Víctor Flo Sierra
3. Sr. Fabien J.N. Lambert
4. Roger Lloret Cabot
5. Carlos López Marí
6. Miquel Martínez Motis
7. Ricardo Ontillera Sánchez
8. Marina Palmero Iniesta
9. Laura Peipoch Costa

10. Federica Ravera
11. Laura Rico Cabanas
12. Juan Rodríguez Rosario

## ADMINISTRATION

1. Sra. Marta Barceló Pérez
2. Sr. Carlos Carreño Leal
3. Sra. Elba Fuster Figuerola
4. Sra. Cristina García López
5. Sra. Maria Rosario del Hoyo Vinuesa
6. Sr. Pablo Igarza Briones
7. Sr. Daniel Martínez Gómez
8. Sra. Clara Mir Massana
9. Roberto Molowny Horas, PhD
10. Sr. David Morales
11. Sra. María José Moreno
12. José Luis Ordóñez García, PhD
13. Sra. Magdalena Pujol Mardones
14. Sra. Anna Ramon Revilla
15. Sra. Olga Roig Herrera
16. Sra. Marina Torres Gibert
17. Sr. Albert Naya Díaz

## CONSULTANTS

Sra. Maria José Broncano Atencia

## VISITING RESEARCHERS FROM NATIONAL AND INTERNATIONAL INSTITUTIONS

|                             |                                                       |
|-----------------------------|-------------------------------------------------------|
| Paloma Ruíz Benito, PhD     | University of Stirling, UK                            |
| Louis Lefebvre, PhD         | McGill University, Canada                             |
| Viktor Oláh, PhD            | University of Debrecen, Hongria                       |
| Sra. Elena Goldan           | University of Bacau, Romania                          |
| Sr. José Maria Costa        | University of Sassari, Itàlia                         |
| Hervé Cochard, PhD          | INRA Clermont-Ferrand. França                         |
| Jaime Coello Gómez, PhD     | CTFC                                                  |
| Jennifer Soong, PhD         | Universiteit Antwerpen, Bèlgica                       |
| Thomas Kitzberger, PhD      | Laboratorio ECOTONO-CONYCET, Argentina                |
| Sebastian Pfautsch, PhD     | University of Western Sydney, Austràlia               |
| Sra. Maria Amores Arrocha   | Doñana CSIC                                           |
| Sra. Tania Marisol González | UNAL, Colòmbia                                        |
| Sra. Juliana Gómez          | UNAL, Colòmbia                                        |
| Rosina Soler, PhD           | Lab. Recursos Agroforestales-CADIC-CONICET, Argentina |
| Sra. Emilia Pellegrini      | Universitat de Roma, Itàlia                           |
| Sra. Alba Lázaro            | Universidad de Granada                                |
| Sra. Sameh Cherif           | INRGREF, Tunísia                                      |
| Sr. Touhami Issam           | INRGREF, Tunísia                                      |
| Amy Zanne, PhD              | George Washington University, USA                     |
| Sylvain Delzon, PhD         | University of Bordeaux, França                        |

## WITH FINALIZATION OF RELATION WITH CREAM DURING 2015

### Personnel

Mireia Bartrons Vilamala, PhD, Sra. Laura Aguilhaume Rodríguez-O'Connor, Sra. Clara Primante, Sr. Dominik Sperlich, Sr. Pau Sunyer Sala

## KEY FIGURES

European projects

14

Masters coordinated

2

Million euro budget

4,6

Appearances in mass media

157

Books

6

Scientific articles

172

46.000  
Visits to the  
blog

5.000  
Followers on  
Twitter

Consolidated research groups

8

Member of 23  
international  
networks

Contributions at conferences

151

1 Doctoral  
program of  
excellence

Doctoral theses defended

16

37  
Technicians

35  
PhD  
students

103  
Researchers

People

159

Active research projects

61



A photograph of two Amanita muscaria mushrooms growing in a forest. The mushrooms have bright red caps with white spots and white stems. They are surrounded by fallen autumn leaves in shades of brown, orange, and yellow. A semi-transparent olive-green rectangle is overlaid on the upper right portion of the image, containing the text 'ANNUAL HIGHLIGHTS' in white, uppercase, sans-serif font.

## ANNUAL HIGHLIGHTS



## DR. JOSEP PEÑUELAS, AWARDED WITH THE 2015 REY JAIME I PRIZE IN THE “PROTECTION OF NATURE” CATEGORY

This renowned Spanish prize, created in 1995, is given to recognize an individual who has investigated the improvement of our ecological environment. Dr. Josep Peñuelas, ecologist from the CSIC at the CREAF, was awarded in the “Protection of nature” category. The announcement was made from the Palau de la Generalitat Valenciana, in the presence of the President of Council, Mr. Albert Fabra, and the President of *Fundación Valenciana Estudios Avanzados* and Vicepresident of the Rey Jaime I Prizes Foundation, Mr. Vicente Boluda.



## JORDI MARTÍNEZ-VILALTA RECEIVED THE ICREA 2014 ACADEMIA AWARD

The ICREA Academia Programme aims to foster excellence in research among lecturers and researchers from Catalonia's public universities. A total of 30 lecturers received the award this year. One of them is the CREAF researcher and honorary researcher of the University of Edinburgh, UK, Jordi Martínez-Vilalta. His research focuses on the improvement of knowledge of the functioning of natural systems and their response to environmental changes.



## CREAF RECEIVES THE 'HR EXCELLENCE IN RESEARCH' AWARD FROM THE EUROPEAN COMMISSION



CREAF has elaborated a Human Resources Strategy for Researchers (HRS4R), incorporating the principles of the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers promoted by the European Commission (EC). The HRS4R of CREAF is based on an internal analysis and it deploys an Action Plan with a set of scheduled actions inspired in the Charter and Code principles and endorsed by a set of internal rules and practices.

## CREAF NOW HAS ITS OWN WEB PORTAL FOR OPEN ACCESS PUBLICATIONS IN THE UAB REPOSITORY



CREAF has committed to provide open and cost-free access to the scientific information generated with public funds, coming into line with European tendencies which promote the rules set in the Horizon 2020 funding plan. Towards this goal, the centre coordinated with the Science and Technology Library of the UAB to create a specific web portal within its repository of digital documents. The portal is already active and has more than 300 open access documents, including doctoral theses, science dissemination documents, scientific articles, projects, and reports, among other types of content.

## PACO LLORET IS THE NEW PRESIDENT OF THE AEET



In June 2015 CREAF researcher Francisco Lloret was chosen as the new president of the Spanish Association of Terrestrial Ecology (AEET), a society of more than 700 researchers and professionals in the field of terrestrial ecology, and home of the journal *Ecosistemas*.





A low-angle photograph of several European Union flags flying on tall, silver flagpoles. The flags are blue with twelve yellow stars arranged in a circle. In the background, a modern building with a curved glass facade is visible. The sky is clear and blue. A dark blue rectangular box is overlaid on the top right of the image, containing the text 'INTERNATIONAL HIGHLIGHTS' in white, uppercase letters.

# INTERNATIONAL HIGHLIGHTS





## CREAF NEW MEMBER OF ECSA

ECSA is the European association of citizen science. Bernat Claramunt and Frederic Bartumeus from CREAM are active members. Nowadays, the centre coordinates several projects about citizen science like, Mosquito Alert, Fenodato or Natusfera, among others.



## CREAF ENTERS THE CORE GROUP OF THE EUROPEAN MOUNTAIN RESEARCH ADVOCACY NETWORK

Bernat Claramunt, CREAM researcher, has entered the core group of 6-8 people of the European Mountain Research Advocacy Network (MRI- Europe). He and other researchers will coordinate the future advocacy efforts of this non-profit organization. The main objective is to establish a relation between mountain projects and the societal challenges defined in Horizon 2020.

## CREAF HAS ENTERED THE NATIONAL SUPPORT GROUP OF THE FOREST TECHNOLOGICAL PLATFORM

CREAF has officially entered at the National Support Group (NSG) of the Forest Technological Platform representing the Spanish forest technological sector. The group was created to promote research and innovation in forestry and to connect associations, companies and research centres working in this area. Now, CREAM will play an important role in the office communication.

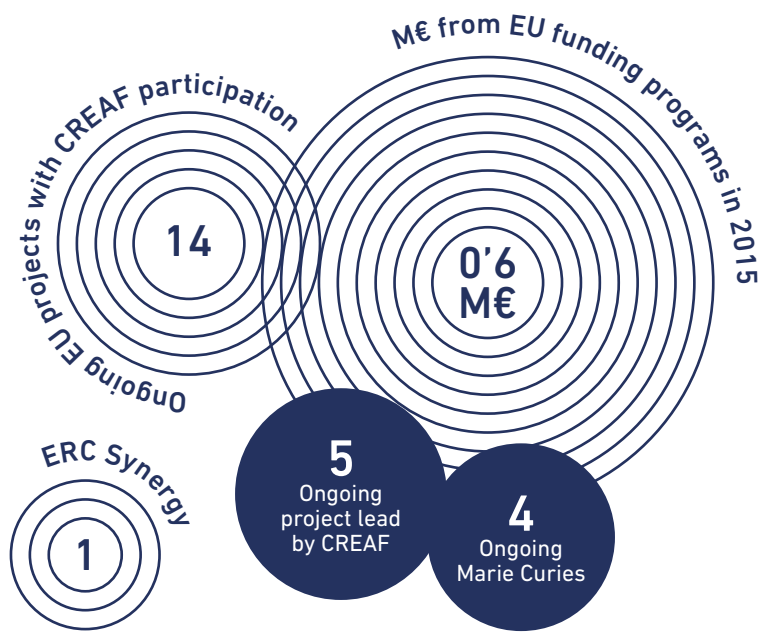


## CREAF WILL COORDINATE THE CREATION OF ENEON, A EUROPEAN NETWORK OF EARTH OBSERVATION

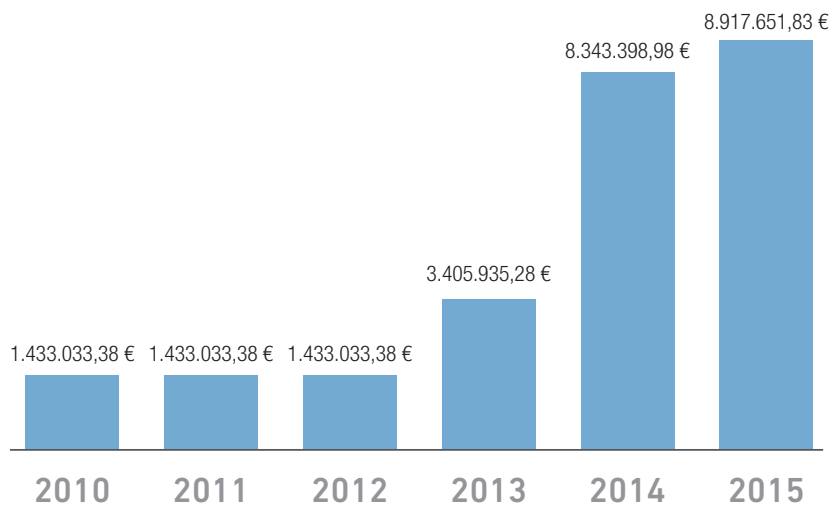
This was a core decision taken during the meeting of the ConnectinGEO, a European Horizon2020 project coordinated by CREAM. The aim of the network will be to coordinate and promote the use of Earth observation data in Europe, which can be used for determining the health of the planet from space, using remote sensing technology such as sensor and cameras on planes, satellites, and other airships.



# KEY FIGURES



Funds obtained from European research programs (accumulated)



## Submitted Proposals 2015

### Marie Curies



### H2020 – SC2 Bioeconomy



### H2020 – SC5 Climate Action



### Life+



### COST Action



### ERA Net Cofund



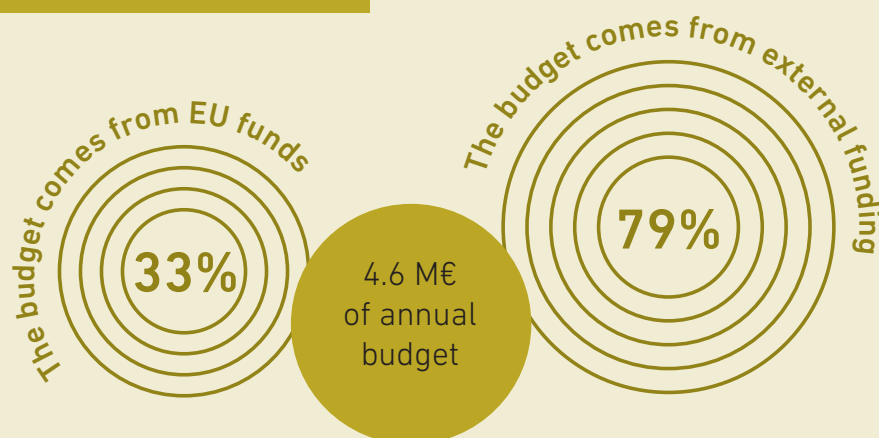
### Interreg



### ERC



# FINANCIAL OVERVIEW

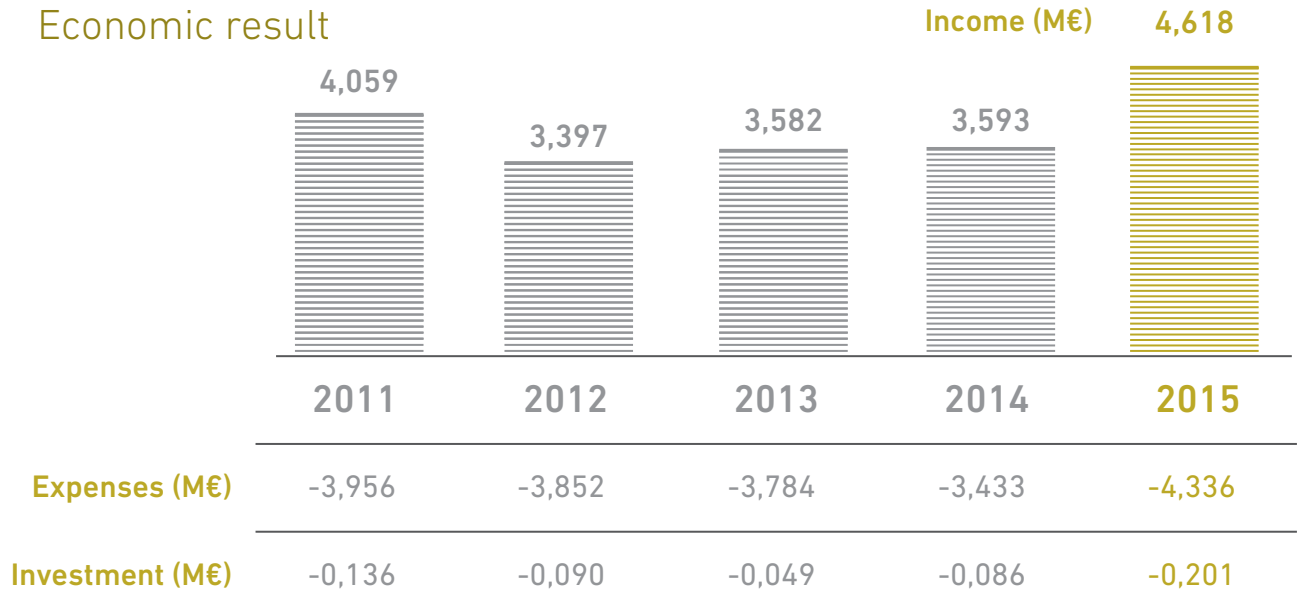


## Total External Funding

|                        | 2012      |      | 2013      |      | 2014      |      | 2015      |      |
|------------------------|-----------|------|-----------|------|-----------|------|-----------|------|
| External funding       | €         | %    | €         | %    | €         | %    | €         | %    |
| Competitive projects   | 1.619.028 | 78%  | 1.919.115 | 78%  | 1.767.253 | 67%  | 3.027.287 | 83%  |
| European Comission     | 423.178   | 20%  | 551.552   | 23%  | 967.783   | 37%  | 1.540.800 | 42%  |
| National               | 1.195.850 | 58%  | 1.367.563 | 56%  | 799.470   | 30%  | 1.486.486 | 41%  |
| Other external Funding | 448.641   | 22%  | 527.181   | 22%  | 880.504   | 33%  | 624.396   | 17%  |
| National               | 448.641   | 22%  | 463.593   | 19%  | 745.183   | 28%  | 447.805   | 12%  |
| International          | 0         | 0%   | 63.588    | 3%   | 135.320   | 5%   | 176.592   | 5%   |
| TOTAL                  | 2.067.669 | 100% | 2.446.296 | 100% | 2.647.756 | 100% | 3.651.683 | 100% |

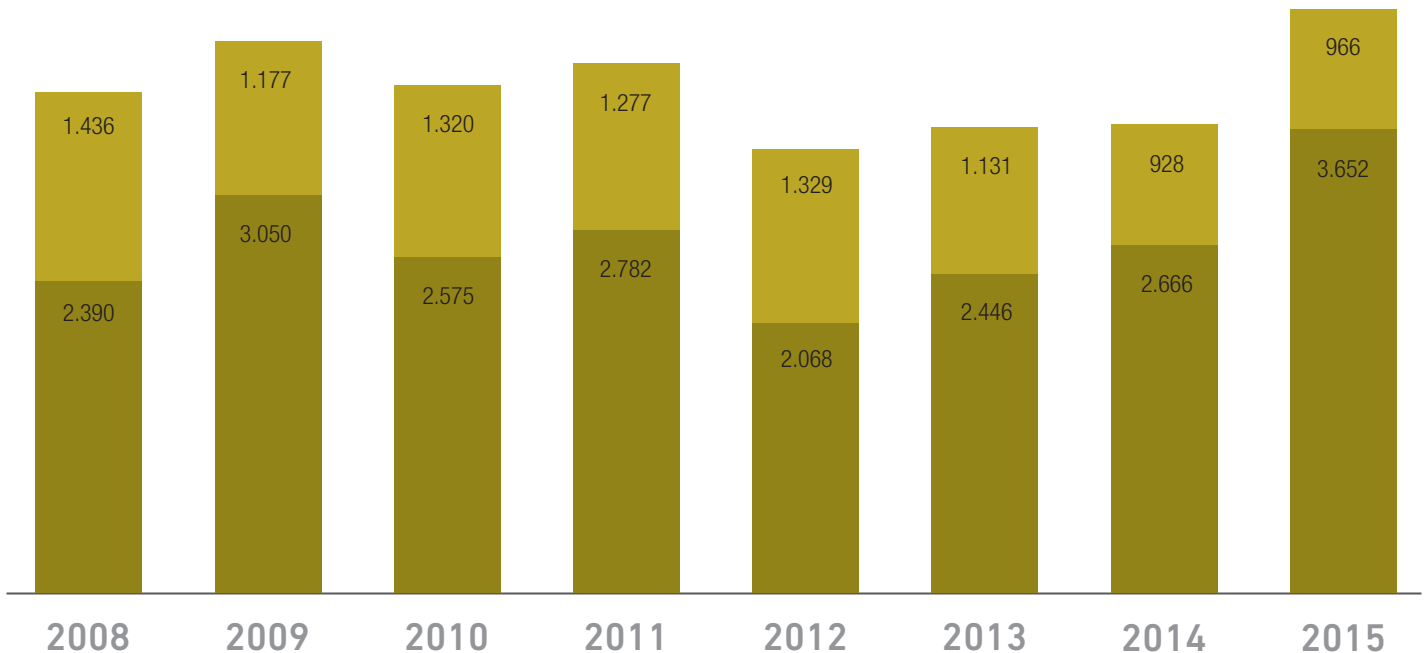


## Economic result



## External - Trustees

Trustees External Funding



A photograph of a greenhouse interior. In the foreground, several rows of potted plants, likely rose bushes, are visible. The plants are in dark grey pots and have green leaves with some red buds. A person with long brown hair, wearing a white sleeveless top and black pants, is standing in the background, tending to the plants. The greenhouse has a high ceiling with a translucent covering and hanging lights. A yellow hose is on the gravel floor. A green rectangular box is overlaid on the top right of the image, containing the text "RESEARCH HIGHLIGHTS".

## RESEARCH HIGHLIGHTS

CREAF's research portfolio is wide and multidisciplinary, including advances in basic research as well as important contributions to environmental topics of significant socioeconomic impact.

Our science responds to the research needs of local and international governmental organizations. Research carried out by the center can be divided into four general areas:

- Biodiversity
- Functional ecology and global change
- Forest ecology and wildfire
- Environmental analysis and GIS

# 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 CREAM 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

- Population dynamics and genetics
- Phenology and distribution of species
- Species interactions
- Biological invasions



November 20<sup>th</sup>, 2015

## Singing in higher pitches is no guarantee of success for city birds

“ An international study published in *Behavioral Ecology* journal, with participation of **Daniel Sol** from CREAM, has observed city-dwelling birds in around 20 cities worldwide.”

The researchers compared around 400 species and analyzed whether these were more abundant in their natural habitat or in urban areas. What is certain is that species which sing at higher pitches are heard better against the low tones of the city, but there are other abilities which are more important when adapting to urban life, such as finding food and avoiding urban dangers.

Blackbird (*Turdus merula*). Credit: J.Luis Ordóñez



November 11<sup>th</sup>, 2015

## Birds and butterflies are key indicators for the measurement of biodiversity loss

---

“ *These variations were related with changes in the Catalanian (and Mediterranean) landscape over the last few decades.*”

According to a study published in the journal *Environmental Conservation*, in which Lluís Brotons from CREAM has participated, the populations of birds or butterflies living in open habitats have been negatively affected by the loss of field and scrubland habitat. Conversely, species which live in forests have been favored.”

The robin (*Erithacus rubecula*) Credit: David García ©



May 14<sup>th</sup>, 2015

## Bee genomes show evolution takes many routes from solitary to social life

“An international consortium of researchers, including Jordi Bosch from CREAM, discovered there are many roads to social evolution, but the evolutionary vehicles tend to be the same.”

The paper was published in the journal Science. One of the main findings was that there is no single road map to eusociality, there may be many different trajectories for social evolution. All, however, involved increases in the complexity of gene networks.

Photo Javier Losarcos





February 24<sup>th</sup>, 2015

## Yellow sugarcane aphid detected in Spain

“The yellow sugarcane aphid feeds on plants of the family of grasses. Carlos Hernández-Castellano from CREA and from the University of León have discovered this species in Tarragona and Girona, which probably arrived from Northern Africa.”

Up to now it is unknown to what extent the aphid could represent a threat to European extensive crops of such plants, such as rice or maize, so it is needed a distribution map of this species in Europe in order to evaluate its potential pest behaviour.

Yellow sugarcane aphid has been detected in Spain. (Photo: Nicolás Pérez Hidalgo)





February 17<sup>th</sup>, 2015

## Climate change could change the gender ratio of acorn weevils

“The article published in the Royal Society Open Science have shown that male weevils are more sensitive to prolonged drought.”

According to a study in which Josep Maria Espelta from CREAM participated, the delay of late-summer rains could change the equilibrium between males and females in these Mediterranean weevils, favoring the females.”

Female acorn weevil. Credit: Josep Maria Espelta



## HIGHLIGHTED BIODIVERSITY RESEARCH PROJECTS

### NATUSFERA

Citizen science project based in iNaturalist app (Natusfera). We work with Catalan, Basque and Spanish highschools, in biodiversity related projects.



**Principal investigator:** Bernat Claramunt  
**Budget:** 25.000,00 €  
**Entity:** FECYT  
**Period:** 2015-2016

### POREXPAN

Local adaptation of plant populations during range expansions: the effect on life-history traits and genetic variability.



**Principal investigator:** Maria Mayol  
**Budget:** 137.940,00 €  
**Entity:** Ministerio Economía y Competitividad  
**Period:** 2015-2017

### SPALINK

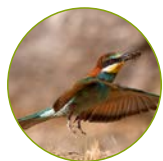
Spatial heterogeneity in plant-pollinator communities: effects on interaction networks and consequences to pollination function



**Principal investigator:** Anselm Rodrigo i Jordi Bosch  
**Budget:** 114.950,00 €  
**Entity:** Ministerio Economía y Competitividad  
**Period:** 2014-2016

### SURVIVE\_HIREC

Essential strategies for facing rapid environmental change provoked by humans



**Principal investigator:** Daniel Sol  
**Budget:** 139.150 €  
**Entity:** Ministerio Economía y Competitividad  
**Period:** 2014-2016

### FENODATO

Phenological observations created and validated by citizens for scientific analysis of global change.



**Principal investigator:** Joan Masó  
**Budget:** 33.000,00 €  
**Entity:** FECYT  
**Period:** 2015

### Wildlife in the French Pyrenees

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



**Principal investigator:** Bernat Claramunt  
**Budget:** 86.692,29 €  
**Entity:** EarthWatch Institute  
**Period:** 2015

### CS-TIGER

R&D of a citizen alert system for the study and management in Spain of the tiger mosquito, an invasive species and vector of diseases



**Principal investigator:** Frederic Bartumeus  
**Budget:** 80.000 €  
**Entity:** Fundación bancaria "La Caixa"  
**Period:** 2014-2015

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

## GLOBAL CHANGE REPORT



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:

- Chemical ecology, ecotoxicology, metabolomics
- Carbon and nutrient stocks and fluxes
- Water resources
- Interactions between ecosystems and the atmosphere



February 3<sup>rd</sup>, 2015

## Scientists identify the 13 most important research challenges to face global change in the Mediterranean region

“A multidisciplinary team of 28 researchers (of which 15 were from CREAM) has evaluated scientific progress of the last 16 years in the study of global change in terrestrial Mediterranean ecosystems, and has identified which should be immediate research priorities to make our ecosystems more resistant to the negative effects of this phenomenon.”

Scientists consider it key to understand why droughts kill so many trees and the influence of local forest histories on tree mortality. They also warn that we know very little about the joined effects of different disturbances on each ecosystem, and highlight the necessity to plan research projects covering more time and space.

Photo (CC BY NC SA) CREAM





September 23<sup>th</sup>, 2015

## The fragrance of flowers depends on the fungi and bacteria that coat them

“Leaf unfolding occurred on average about 4 days earlier every one degree increase in spring temperature between 1980 and 1994, whereas this value dropped to -2.3 days C-1 between 1999 and 2013, a decrease of over 40%.”

According to this study published in the journal Nature with the participation of Josep Peñuelas, researcher from CSIC at CREAM, warmer winters and photoperiod are forcing plants to control their phenology calendars.

Photo (CC BY NC SA) CREAM



September 17<sup>th</sup>, 2015

## Increased ozone levels reduce flowers' sex appeal

“As climate change increases ozone levels, pollinators will have a harder timing finding plants that feed them. That's going to be a problem for the bees that pollinate a third of the world's food supply.”

Flowers and other plants rely on microscopic scent molecules to attract the bees and other pollinators that feed on them. Climate change is going to disrupt that process, mostly because of ground-level ozone, which is projected to increase over the coming decades. The study, leaded by Gerard Farré from CREAM and published in the journal *New Phytologist*, found that flowers' fragile scent molecules break down more quickly as they are exposed to greater levels of ozone.

Increased ozone levels reduce flowers' sex appeal Autor: Antonio Picascia (CC-BY)





July 6<sup>th</sup>, 2015

## Degraded land restored with sewage sludge sequester up to 37% more carbon than un-amended land

“A study carried out by researchers from CREAM shows that restoring degraded land with sewage sludge aids carbon sequestration in the soil. These organic wastes improve soil structure and the growth of plants, and these are eventually incorporated into the soil as soil carbon.”

Over the study period the soils restored with sludge sequestered 26 tons of carbon per hectare per year in comparison with the 19 tons sequestered by soils without sludge.

Restoration of the Alcover and Mont-Ral mine. Photo (CC BY NC SA) CREAM



February 26<sup>th</sup>, 2015

## Human activity may be supporting growth of harmful algae in lakes

“The organisms commonly known as blue-green algae have proliferated much more rapidly than other algae in lakes across North America and Europe over the past two centuries – and in many cases the rate of increase has sharply accelerated since the mid-20th century.”

According to scientific article published in Ecology Letters with Jordi Catalan from the CREAL as an author.

Algae bloom in a lake. Autor: Fernando Cobo





## HIGHLIGHTED FUNCTIONAL ECOLOGY AND GLOBAL CHANGE RESEARCH PROJECTS

### MEDECO-HUB

CREAF, the future Mediterranean hub of science and innovation in ecology of Europe



**Principal investigator:** Javier Retana  
**Budget:** 156.000 €  
**Entity:** Ministerio Economía y Competitividad  
**Period:** 2014-2017

### LACUS

The concept of the lacustrine district for the ecological understanding of alpine areas



**Principal investigator:** Jordi Catalán  
**Budget:** 242.000 €  
**Entity:** Ministerio Economía y Competitividad  
**Period:** 2014-2016

### PEDRERES

Research and innovation in the regulation and process of restoration following extractive activities



**Principal investigator:** Josep Maria Alcañiz  
**Budget:** 39.000 €  
**Entity:** Contracte-Programa Generalitat de Catalunya  
**Period:** 2014-2015

### IMBALANCE-P

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



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

### NP

Impacts of the growing environmental disproportionality of N and P on organisms, communities, and terrestrial ecosystems



**Principal investigator:** Josep Peñuelas  
**Budget:** 338.800 €  
**Entity:** Ministerio Economía y Competitividad  
**Period:** 2014-2016

### SOBIGLOBIC

Matching soil biodiversity with global biogeochemical cycles



**Principal investigator:** Pilar Andrés  
**Budget:** 342.012 €  
**Entity:** EU  
**Period:** 2013-2016

### LIFE MEDACC

Demonstration and validation of innovative methodology for regional climate change adaptation in the Mediterranean area



**Principal investigator:** Gabriel Borràs  
**Budget:** 2.548.841 €  
**Entity:** EU  
**Period:** 2013-2018

### BEWATER

Making society an active participant in water adaptation to global change



**Principal investigator:** Javier Retana  
**Budget:** 2.934.724 €  
**Entity:** EU  
**Period:** 2013-2017

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

# FOREST ECOLOGY REPORT

---



Forests, shrubland, and other forest formations are dynamic systems, which constantly change in function of many natural processes and disturbances they are subjected to. All of these factors affect mortality, regeneration, and growth of the different species which form a part of the ecosystem.

In this area, CREAM is a widely-recognized center in the creation of **forest inventories and databases**, and in the development of mathematical models for the study of forests. The integration of these data into **global change models** helps plan new strategies of forest management to preserve the natural, social and economic value of our forest ecosystems.

Research lines:

- Structure and dynamics of forest communities
- Forest decline and regeneration
- Forest fires
- Forest data bases

November 25<sup>th</sup>, 2015

## The tallest trees in tropical forests die from dehydration after extreme droughts

“According to a study co-led by Maurizio Mencuccini from CREAM published in the journal *Nature*, droughts caused by climate change could result in the death of the tallest trees in tropical forests.”

For the first time, the scientists have shown that after prolonged water deficit tall trees suffer embolisms in their circulatory systems and die of dehydration.

Experiment in the tropical forest. Photo (CC BY NC SA) CREAM





July 15<sup>th</sup>, 2015

## Mathematics will help us to predict which kind of fire each landscape will have

“A mathematic model developed by Lluís Brotons from CREAM is able to estimate the probability a landscape has to suffer a wind-driven fire, a topographic fire or a fuel driven fire.”

The work, published in the International Journal of Wildland Fire could be used to improve fire suppression strategies and adapt prevention measures in front the new climate change scenario

Topographic fire, Salo (Spain) July 2013./Bombers de la Generalitat de Catalunya.





April 14<sup>th</sup>, 2015

## Droughts alter microbial diversity of the land and increase CO<sub>2</sub> emissions

“Paco Lloret from CREAM have analysed how the deterioration of woods caused by droughts associated to global warming are affecting the microbial composition of the soil and modifying carbon cycles.”

The drought increased the number of herbaceous species which substituted the junipers which had died. The increase in dead leaves produced by the defoliation of the junipers modified the microbial diversity of the soil.

Shrub of Doñana region which the research was conducted



October 6<sup>th</sup>, 2015

## Agriculture and forestry increase the production world ecosystem biomass by 15%

---

“Josep Peñuelas from CREAM has participated in an international study which has estimated the total biomass production of all planetary ecosystems.”

These data published in Nature Geoscience can be used to improve accounting of the global supply of natural resources and plan strategies for boosting the sequestration of atmospheric carbon.

Forest thinning increases the amount of nutrients available to each tree. CREAM (CC-BY)





## HIGHLIGHTED FOREST ECOLOGY AND WILDFIRES RESEARCH PROJECTS

### NEWFORESTS

New and old World perspectives for forest ecology and management in a context of global change



**Principal investigator:** Denis Boglio (Centre Tecnològic Forestal de Catalunya)  
**Budget:** 405.300 €  
**Entity:** EU  
**Period:** 2014-2016

### MENFRI

Mediterranean Network of Forest Research and Innovation



**Principal investigator:** Enrique Doblas  
**Budget:** 745.958 €  
**Entity:** EU  
**Period:** 2013-2016

### SIMWOOD

Regional forest governance dialogues fostering conscious forest ownership and sustainable wood mobilisation in Europe forest ecology



**Principal investigator:** Roland Schreiber (Bayerische Landesanstalt für Wald und Forstwirtschaft)  
**Budget:** 5.990.447 €  
**Entity:** EU  
**Period:** 2014-2017

### FORESTCAST

Assessment and forecasting of ecosystem services in forests: impacts and adaptation to extreme climate events



**Principal investigator:** Javier Retana / Lluís Brotons  
**Budget:** 134.310,00 €  
**Entity:** Ministerio Economía y Competitividad  
**Period:** 2015 - 2017

### FUN2FUN

An estimation of the dynamics and functioning of forests based on functional attributes: Implications for ecosystem services



**Principal investigator:** Jordi Martínez  
**Budget:** 198.440 €  
**Entity:** Ministerio Economía y Competitividad  
**Period:** 2014 -2016

### DEBOSCAT

Vulnerability of forests to climate change: monitoring of episodes of forest decline in Catalonia



**Principal investigator:** Jordi Vayreda  
**Budget:** 90.000 €  
**Entity:** Contracte-Programa Generalitat de Catalunya  
**Period:** 2015

### SAPFLUXNET

A global database of sap flow to unravel the ecological drivers of transpiration regulation in woody plant.



**Principal investigator:** Rafa Poyatos  
**Budget:** 196.020,00 €  
**Entity:** Ministerio Economía y Competitividad  
**Period:** 2015-2018

### INFORMED

Integrated research on forest resilience and management in the mediterranean



**Principal investigator:** François Lefevre (INRA) / CREAM: Javier Retana  
**Budget:** 1.129.000,00 €  
**Entity:** EU.  
**Period:** 2015-2017

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

# ENVIRONMENTAL AND TERRITORIAL ANALYSIS AND GIS REPORT

---



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:

- Regional environmental changes and processes
- Development of the MiraMon GIS
- Methods and standards in GIS and remote sensing
- Thematic cartography and environmental information systems
- Landscape fragmentation and dynamics



July 2<sup>nd</sup>, 2015

## What environmental services do we get from the urban green spaces of the Barcelona Metropolitan Area?

“CREAF has carried out a groundbreaking study within the context of studies coordinated by the Barcelona Metropolitan Area and Barcelona Regional to study ecosystem services provided by Barcelona green spaces.”

This report is one of the first to provide detailed cartography of key regulating services of the green infrastructure of the BMA, including: supporting services (biodiversity and connectivity), regulating services (carbon stocks, hydraulic regulation), and services for well-being and recreation (accessibility to green spaces). The study is meant to inform and improve regional management and planning strategies.

Barcelona. Autor Rodrigo Paredes CC BY



October 30<sup>th</sup>, 2015

## With Earth observation, ECOPOTENTIAL will improve the future of ecosystem services

*“This research initiative financed by the European Horizon 2020 program has 47 partners, including CREAM, and a budget of 15 million euros. The goal of the Ecopotential project is to propose technological approaches and solutions for improving ecosystem benefits.”*

The approaches and solutions will be based on Earth observation, field measurements, data analysis, and modeling. Ecopotential will focus its activities and pilot actions on a set of internationally-recognized protected natural areas in Europe, including mountain ecosystems, arid and semi-arid areas, coastal areas, and marine ecosystems.

Image of the Ecopotential project





July 9<sup>th</sup>, 2015

## The CTFC and CREAf boast a new drone service for research in ecology and conservation

“The InForest mixed unit assembled by these two institutions has become the first academic institution in Catalonia and one of the first in the nation authorized for drone operation.”

Flying drones equipped with sensors and cameras over natural areas can produce high-quality data for ecologists. Recognition of the centres as operators of the new drone service will facilitate closer relationships with private sector companies associated with development of this technology.

Area burnt by the 1998 forest fire near Solsona, Spain, and site of an ongoing study of regeneration of the pine population.



March 26<sup>th</sup>, 2015

## CREAF starts a project for the transfer of results of European R&D on water to the marketplace and to society

---

“CREAF coordinates the European project WaterInnEU, whose objective is to create a marketplace connecting results of European R&D on water with potential users.”

Through WaterInnEU, it is hoped that tools, protocols, and data produced by European research can be standardised, provided via open access, and that they are transferred to actors in the water management sector with decision-making power, or that they penetrate into the market in the form of products and services.

WaterInnEU wants to transfer to the market the research done by EU (Foto: agrilifetoday)





## HIGHLIGHTED ENVIRONMENTAL AND TERRITORIAL ANALYSIS AND GIS RESEARCH PROJECTS

### ConnectinGEO

Coordinating an Observation Network of Networks  
EnCompassing saTellite and IN-situ to fill the Gaps in  
European Observations




---

**Principal investigator:** Joan Masó  
**Budget:** 999.995,94 €  
**Entity:** EU  
**Period:** 2014-2017

---

### WaterInnEU

Applying European market leadership to river basin  
networks and spreading of innovation on water ICT  
models, tools and data




---

**Principal investigator:** Lluís Pesquer  
**Budget:** 914.991 €  
**Entity:** EU  
**Period:** 2014-2017

---

### 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

---

### MIRAMON

The geographic information system and remote sensing  
software MiraMon



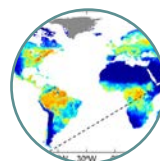

---

**Principal investigator:** Xavier Pons  
**Budget:** 150.000 €  
**Entity:** Contracte-Programa  
Generalitat de Catalunya  
**Period:** 2015

---

### LONGLOVE

Long-term global vegetation monitoring



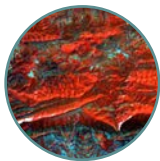

---

**Principal investigator:**  
Alexandre Verger  
**Budget:** 45.000 €  
**Entity:** Centre National d'Etudes  
Spatiales (CNES)  
**Period:** 2014-2015

---

### DinaCliVe

Spatiotemporal analysis of land cover and vegetation  
stress in the Iberian P. in light of a half a century




---

**Principal investigator:** Xavier Pons  
**Entity:** Ministerio de Economía y  
Competitividad  
**Period:** 2012-2015

---

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

# CONSOLIDATED RESEARCH GROUP

“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, GRUMETS, is the development of new algorithms, theory and methodologies in these fields as well as the development of applications that advance environmental and geographical research from basic and applied disciplines.



## 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.



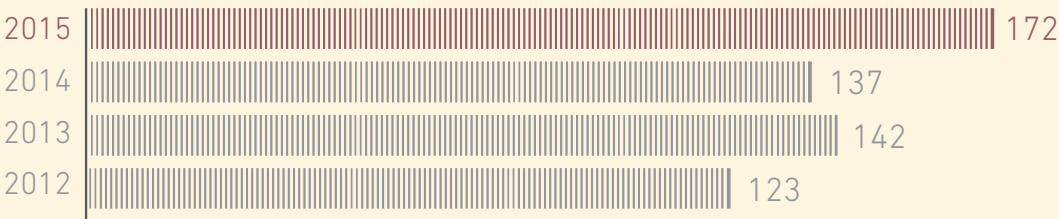
## SCIENTIFIC OUTPUT





# KEY NUMBERS

## SCI publications



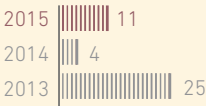
## Books



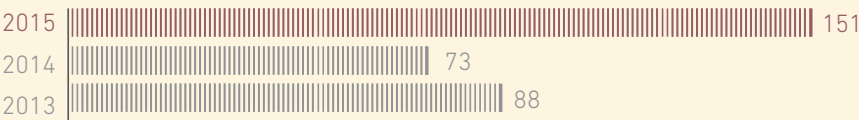
## Non SCI publications



## Book chapters



## Contribution in national and international scientific conferences



## CREAF in Scimago Institutions Rankings

| Indicators                  | WORD                        |                               | SPAIN                      |                          |
|-----------------------------|-----------------------------|-------------------------------|----------------------------|--------------------------|
|                             | Position<br>(5054 entities) | Value 2015<br>(world-related) | Position<br>(244 entities) | Evolution<br>(2014-2015) |
| <i>Size independent</i>     |                             |                               |                            |                          |
| Specialization              |                             | 80,3%                         |                            |                          |
| Exc & Leadership            |                             | 45,3%                         |                            |                          |
| Normalized Impact           |                             | 8,5%                          |                            |                          |
| Excellence                  |                             | 46,2%                         |                            |                          |
| Articles in Q1              |                             | 84,3%                         |                            |                          |
| International Collaboration |                             | 58,2%                         |                            |                          |
| Leadership                  |                             | 52,6%                         |                            |                          |
| <i>Size dependant</i>       |                             |                               |                            |                          |
| Output                      |                             | 0,2%                          |                            |                          |
| Scientific Talent Pool      |                             | 0,1%                          |                            |                          |

- 1. Specialization Index:** Values range between 0 and 100, indicating generalist vs. specialized institutions respectively.
- 2. Excellence with Leadership:** Amount of papers (in%) in the Excellence rate in which the institution is the main contributor
- 3. Normalized Impact:** The values (in decimal numbers) show the relationship between an institution's average scientific impact and the world average set to a score of 1.
- 4. Excellence Rate:** Amount (in %) of an institution's scientific output that is included into the set of the 10% of the most cited papers in their respective scientific fields.
- 5. High Quality Publications:** Ratio of publications that an institution publishes in the journals ranked in the first quartile (25%) in their categories as ordered by SCImago Journal Rank (SJRII)
- 6. International Collaboration:** Institution's output ratio produced in collaboration with foreign institutions.
- 7. Scientific Leadership:** Amount of papers (in %) in which the corresponding author belongs to the institution.
- 8. Output:** Total number of documents published in scholarly journals indexed in Scopus
- 9. Scientific talent pool:** Total number of authors from an institution in the total publication output of that institution during a particular period of time.

## Journals

| JOURNAL                                  | Article | Quartile | Impact Factor |
|------------------------------------------|---------|----------|---------------|
| Agricultural and Forest Meteorology      | 2       | 1        | 3,762         |
| Agriculture, Ecosystems and Environment  | 2       | 1        | 3,402         |
| Agroforestry Systems                     | 1       | 2        | 1,215         |
| Animal of Forest Science                 | 1       | 3        | 0,59          |
| Animal of Forest Science                 | 1       | 1        | 1,981         |
| Applied Soil Ecology                     | 1       | 1        | 2,644         |
| Aquatic Botany                           | 1       | 2        | 1,608         |
| Atmospheric Chemistry and Physics        | 2       | 1        | 5,053         |
| Basic and Applied Ecology                | 2       | 2        | 1,942         |
| Behavioral Ecology                       | 2       | 2        | 3,177         |
| Biochemical Systematics and Ecology      | 2       | 4        | 0,967         |
| Biologia                                 | 1       | 4        | 0,827         |
| Biological Conservation                  | 2       | 1        | 3,762         |
| Biological Invasions                     | 3       | 2        | 2,586         |
| Biological Reviews                       | 1       | 1        | 9,67          |
| Canadian Journal of Forest Research      | 1       | 2        | 1,683         |
| Catena                                   | 2       | 1        | 2,82          |
| Climate Dynamics                         | 1       | 1        | 4,673         |
| Climate Change                           | 2       | 1        | 3,43          |
| Computers, Environment and Urban Systems | 1       | 2        | 1,537         |
| Conservation Letters                     | 1       | 1        | 7,241         |
| Ecography                                | 2       | 1        | 4,774         |
| Ecological Applications                  | 2       | 1        | 4,093         |
| Ecological Entomology                    | 1       | 1        | 1,699         |
| Ecological Modelling                     | 1       | 2        | 2,321         |
| Ecological Monographs                    | 1       | 1        | 6,98          |

| JOURNAL                                  | Article | Quartile | Impact Factor |
|------------------------------------------|---------|----------|---------------|
| Ecology and Evolution                    | 1       | 2        | 2,32          |
| Ecology Letters                          | 1       | 1        | 10,689        |
| Ecology of Freshwater Fish               | 1       | 2        | 1,701         |
| Ecology                                  | 1       | 1        | 4,656         |
| Ecosphere                                | 1       | 2        | 2,255         |
| Environment and Experimental Botany      | 2       | 1        | 3,359         |
| Environmental Conservation               | 1       | 2        | 2,368         |
| Environmental Research Letters           | 1       | 1        | 3,906         |
| European Journal of Forest Research      | 1       | 1        | 2,095         |
| European Journal of Population           | 1       | 2        | 1,622         |
| FEMS Microbiology Ecology                | 1       | 2        | 3,568         |
| Field Crops Research                     | 2       | 1        | 2,976         |
| Forest Ecology and Management            | 3       | 1        | 2,66          |
| Forests                                  | 2       | 2        | 1,449         |
| Frontiers in Ecology and the Environment | 1       | 1        | 7,441         |
| Functional Ecology                       | 2       | 1        | 4,828         |
| Functional Plant Biology                 | 1       | 1        | 3,145         |
| Geoderma                                 | 1       | 1        | 2,772         |
| Geophysical Research Letters             | 1       | 1        | 4,196         |
| Geoscientific Model Development          | 1       | 1        | 3,654         |
| Global Change Biology                    | 9       | 1        | 8,044         |
| Global Ecology and Biogeography          | 8       | 1        | 6,531         |
| Hydrological Sciences Journal            | 1       | 2        | 1,549         |
| IForest                                  | 1       | 2        | 1,269         |



| JOURNAL                                                             | Article | Quartile | Impact Factor |
|---------------------------------------------------------------------|---------|----------|---------------|
| Insectes Sociaux                                                    | 1       | 2        | 1,022         |
| International Journal of Tropical Insect Science                    | 1       | 4        | 0,419         |
| International Journal of Wildland Fire                              | 1       | 1        | 2,429         |
| Journal of Applied Ecology                                          | 1       | 1        | 4,564         |
| Journal of Biogeography                                             | 2       | 1        | 4,59          |
| Journal of Chemical Ecology                                         | 1       | 2        | 2,747         |
| Journal of Experimental Botany                                      | 1       | 1        | 5,526         |
| Journal of Insect Conservation                                      | 1       | 1        | 1,717         |
| Journal of Plant Physiology                                         | 1       | 1        | 2,557         |
| Journal of Vegetation Science                                       | 1       | 1        | 3,709         |
| Landscape and Urban Planning                                        | 1       | 1        | 3,037         |
| Molecular Ecology Resources                                         | 1       | 1        | 3,712         |
| Advances in Ecological Research                                     | 1       | 1        | 404           |
| Mycoscience                                                         | 1       | 4        | 1,418         |
| Nature Climate Change                                               | 1       | 1        | 14,547        |
| Nature Communications                                               | 2       | 1        | 11,47         |
| Nature                                                              | 2       | 1        | 41,456        |
| Nature Geoscience                                                   | 2       | 1        | 11,74         |
| New Phytologist                                                     | 7       | 1        | 7,672         |
| New Zealand Journal of Ecology                                      | 1       | 3        | 1,057         |
| Oecologia                                                           | 1       | 2        | 3,093         |
| Oikos                                                               | 1       | 1        | 3,444         |
| Plant and Soil                                                      | 1       | 1        | 2,953         |
| Peer J                                                              | 1       | 1        | 2,112         |
| Perspectives in Plant Ecology, Evolution and Systematics            | 1       | 1        | 3,606         |
| Pest Management Science                                             | 1       | 1        | 2,694         |
| Physical Review E - Statistical, Nonlinear, and Soft Matter Physics | 2       | 1        | 2,288         |
| Physics of Life Reviews                                             | 1       | 1        | 7,478         |

| JOURNAL                                                 | Article | Quartile | Impact Factor |
|---------------------------------------------------------|---------|----------|---------------|
| Physiological Entomology                                | 1       | 2        | 1,416         |
| Plant and Soil                                          | 1       | 1        | 2,952         |
| Plant Biology                                           | 1       | 1        | 2,633         |
| Plant Ecology and Evolution                             | 1       | 3        | 0,986         |
| Plant Ecology                                           | 3       | 2        | 1,463         |
| Plant, Cell and Environment                             | 3       | 1        | 6,96          |
| PLoS Biology                                            | 1       | 1        | 9,343         |
| PLoS ONE                                                | 1       | 1        | 3,234         |
| Proceedings of the Royal Society B: Biological Sciences | 2       | 1        | 3,544         |
| Quaternary Science Reviews                              | 1       | 1        | 4,572         |
| Records of Natural Products                             | 1       | 3        | 0,868         |
| Regional Environmental Change                           | 1       | 2        | 2,628         |
| Remote Sensing                                          | 1       | 1        | 3,18          |
| Remote Sensing of Environment                           | 1       | 1        | 6,393         |
| Risk Analysis                                           | 1       | 1        | 2,502         |
| Russian Journal of Plant Physiology                     | 1       | 3        | 0,946         |
| Science                                                 | 2       | 1        | 33,611        |
| Science of the Total Environment                        | 4       | 1        | 4,099         |
| Scientific Reports                                      | 1       | 1        | 5,578         |
| Sedimentary Geology                                     | 1       | 1        | 2,665         |
| Soil use and Management                                 | 1       | 3        | 1,466         |
| Tree Physiology                                         | 6       | 1        | 3,655         |
| Trees - Structure and Function                          | 2       | 2        | 1,651         |
| Trends in Plant Sciences                                | 2       | 1        | 12,929        |
| Water, Air, and Soil pollution                          | 1       | 2        | 1,554         |
| Ewetlands Ecology and Management                        | 1       | 3        | 1,274         |

## Scientific articles

Source: SCOPUS, Scimago Journal Rank Indicator (SJR)

**ACHOTEGUI-CASTELLS, A., DANTI, R., LLUSIÀ, J., ROCCA, G. D., BARBERINI, S., & PEÑUELAS, J.** (2015). Strong induction of minor terpenes in italian cypress, *Cupressus sempervirens*, in response to infection by the fungus *Seiridium cardinale*. *Journal of Chemical Ecology*, 41(3), 224-243. doi:10.1007/s10886-015-0554-1

**ADAMS, H. D., COLLINS, A. D., BRIGGS, S. P., VENNETIER, M., DICKMAN, L. T., SEVANTO, S. A., MCDOWELL, N. G.** (2015). Experimental drought and heat can delay phenological development and reduce foliar and shoot growth in semiarid trees. *Global Change Biology*, 21(11), 4210-4220. doi:10.1111/gcb.13030

**AGUADÉ, D., POYATOS, R., GÓMEZ, M., OLIVA, J., & MARTÍNEZ-VILALTA, J.** (2015). The role of defoliation and root rot pathogen infection in driving the mode of drought-related physiological decline in scots pine (*Pinus sylvestris* L.). *Tree Physiology*, 35(3), 229-242. doi:10.1093/treephys/tpv005

**AGUADÉ, D., POYATOS, R., ROSAS, T., & MARTÍNEZ-VILALTA, J.** (2015). Comparative drought responses of *Quercus ilex* L. and *Pinus sylvestris* L. in a montane forest undergoing a vegetation shift. *Forests*, 6(8), 2505-2529. doi:10.3390/f6082505

**AIZPURUA, O., CANTÚ-SALAZAR, L., SAN MARTIN, G., BIVER, G., BROTONS, L., & TITEUX, N.** (2015). Reconciling expert judgement and habitat suitability models as tools for guiding sampling of threatened species. *Journal of Applied Ecology*, 52(6), 1608-1616. doi:10.1111/1365-2664.12515

**AIZPURUA, O., PAQUET, J. -., BROTONS, L., & TITEUX, N.** (2015). Optimising long-term monitoring projects for species distribution modelling: How atlas data may help. *Ecography*, 38(1), 29-40. doi:10.1111/ecog.00749

**AMEZTEGUI, A., & COLL, L.** (2015). Herbivory and seedling establishment in pyrenean forests: Influence of micro- and meso-habitat factors on browsing pressure. *Forest Ecology and Management*, 342, 103-111. doi:10.1016/j.foreco.2015.01.021

**AMEZTEGUI, A., COLL, L., & MESSIER, C.** (2015). Modelling the effect of climate-induced changes in recruitment and juvenile growth on mixed-forest dynamics: The case of montane-subalpine pyrenean ecotones. *Ecological Modelling*, 313, 84-93. doi:10.1016/j.ecolmodel.2015.06.029

**ARELLANO L., FERNÁNDEZ P., FONTS R., ROSE N.L., NICKUS U., THIES H., STUCHLÍK E., CAMARERO L., CATALAN J. AND GRIMALT J.O.** (2015). Increasing and decreasing trends of the atmospheric deposition of organochlorine compounds in european remote areas during the last decade. *Atmospheric Chemistry and Physics*, 15(11), 6069-6085. doi:10.5194/acp-15-6069-2015

**ARMENTERAS, D., RODRÍGUEZ, N., & RETANA, J.** (2015). National and regional relationships of carbon storage and tropical biodiversity. *Biological Conservation*, 192, 378-386. doi:10.1016/j.biocon.2015.10.014

**ARNAN, X., CERDÁ, X., & RETANA, J.** (2015). Partitioning the impact of environment and spatial structure on alpha and beta components of taxonomic, functional, and phylogenetic diversity in european ants. *PeerJ*, 2015(9) doi:10.7717/peerj.1241

**BAGARIA, G., HELM, A., RODÀ, F., & PINO, J.** (2015). Assessing coexisting plant extinction debt and colonization credit in a grassland-forest change gradient. *Oecologia*, 179(3), 823-834. doi:10.1007/s00442-015-3377-4

**BARBA, J., LLORET, F., & YUSTE, J. C.** (2015). Effects of drought-induced forest die-off on litter decomposition. *Plant and Soil*, 1-11.

**BARBETA, A., MEJÍA-CHANG, M., OGAYA, R., VOLTAS, J., DAWSON, T. E., & PEÑUELAS, J.** (2015). The combined effects of a long-term experimental drought and an extreme drought on the use of plant-water sources in a mediterranean forest. *Global Change Biology*, 21(3), 1213-1225. doi:10.1111/gcb.12785

**BARTRONS, M., EINARSSON, Á., NOBRE, R. L. G., HERREN, C. M., WEBERT, K. C., BRUCET, S., . . . IVES, A. R.** (2015). Spatial patterns reveal strong abiotic and biotic drivers of zooplankton community composition in lake mývatn, Iceland. *Ecosphere*, 6(6) doi:10.1890/ES14-00392.1

**BARTRONS, M., GRATTON, C., SPIESMAN, B. J., & ZANDEN, M. J. V.** (2015). Taking the trophic bypass: Aquatic-terrestrial linkage reduces methylmercury in a terrestrial food web. *Ecological Applications*, 25(1), 151-159.

**BARTUMEUS, F.** (2015). Behavioural ecology cannot turn its back on lévy walk research comment on "liberating Lévy walk research from the shackles of optimal foraging" by A.M. Reynolds. *Physics of Life Reviews*, 14, 84-86. doi:10.1016/j.plrev.2015.06.007

**BASNOU, C., IGUZQUIZA, J., & PINO, J.** (2015). Examining the role of landscape structure and dynamics in alien plant invasion from urban mediterranean coastal habitats. *Landscape and Urban Planning*, 136, 156-164. doi:10.1016/j.landurbplan.2014.12.001

**BASNOU, C., VICENTE, P., ESPELTA, J. M., & PINO, J.** (2015). Of niche differentiation, dispersal ability and historical legacies: What drives woody community assembly in recent mediterranean forests? *Oikos*, doi:10.1111/oik.02534

**BATLLORI, E., ACKERLY, D. D., & MORITZ, M. A.** (2015). A minimal model of fire-vegetation feedbacks and disturbance stochasticity generates alternative stable states in grassland-shrubland-woodland systems. *Environmental Research Letters*, 10(3) doi:10.1088/1748-9326/10/3/034018

**BATRIU, E., NINOT, J. M., & PINO, J.** (2015). Filtering of plant functional traits is determined by environmental gradients and

by past land use in a mediterranean coastal marsh. *Journal of Vegetation Science*, 26(3), 492-500. doi:10.1111/jvs.12251

**BATRIU, E., NINOT, J. M., & PINO, J.** (2015). Interactions between transplants of *Phragmites australis* and *Juncus acutus* in mediterranean coastal marshes: The modulating role of environmental gradients. *Aquatic Botany*, 124, 29-38. doi:10.1016/j.aquabot.2015.03.003

**BENAVIDES, R., ESCUDERO, A., COLL, L., FERRANDIS, P., GOURIVEAU, F., HÓDAR, J. A., . . . VALLADARES, F.** (2015). Survival vs. growth trade-off in early recruitment challenges global warming impacts on mediterranean mountain trees. *Perspectives in Plant Ecology, Evolution and Systematics*, 17(5), 369-378. doi:10.1016/j.ppees.2015.06.004

**BENEJAM, L., SAURA-MAS, S., BARDINA, M., SOLÀ, C., MUNNÉ, A., & GARCÍA-BERTHOU, E.** (2015). Ecological impacts of small hydropower plants on headwater stream fish: From individual to community effects. *Ecology of Freshwater Fish*, doi:10.1111/eff.12210

**BERNAL, M., VERDAGUER, D., BADOSA, J., ABADÍA, A., LLUSIÀ, J., PEÑUELAS, J., . . . LLORENS, L.** (2015). Effects of enhanced UV radiation and water availability on performance, biomass production and photoprotective mechanisms of *laurus nobilis* seedlings. *Environmental and Experimental Botany*, 109, 264-275. doi:10.1016/j.envexpbot.2014.06.016

**BLANCH, J. S., PEÑUELAS, J., LLUSIÀ, J., SARDANS, J., & OWEN, S. M.** (2015). Differences in photosynthesis and terpene content in leaves and roots of wild-type and transgenic



*Arabidopsis thaliana* plants. *Russian Journal of Plant Physiology*, 62(6), 823-829. doi:10.1134/S1021443715060035

**BLOWER, J. D., MASÓ, J., DÍAZ, D., ROBERTS, C. J., GRIFFITHS, G. H., LEWIS, J. P., . . . PONS, X.** (2015). Communicating thematic data quality with web map services. *ISPRS International Journal of Geo-Information*, 4(4), 1965-1981. doi:10.3390/ijgi4041965

**BONAL, R., HERNÁNDEZ, M., ESPELTA, J. M., MUÑOZ, A., & APARICIO, J. M.** (2015). Unexpected consequences of a drier world: Evidence that delay in late summer rains biases the population sex ratio of an insect. *Royal Society Open Science*, 2(9) doi:10.1098/rsos.150198

**BOURIAUD, L., MARZANO, M., LEXER, M., NICHIFOREL, L., REYER, C., TEMPERLI, C., . . . HANEWINKEL, M.** (2015). Institutional factors and opportunities for adapting european forest management to climate change. *Regional Environmental Change*, 15(8), 1595-1609. doi:10.1007/s10113-015-0852-8

**BREWITT K, PIÑOL J, WERNER C, BEYSLAG W, ESPADALER X, PÉREZ N, PLATNER C.** 2015. Evaluating the importance of trophobiosis in a Mediterranean ant community: a stable isotope analysis. *Insectes Sociaux*, 62, 81-95.

**BRANDT, M., MBOW, C., DIOUF, A. A., VERGER, A., SAMIMI, C., & FENSHOLT, R.** (2015). Ground-and satellite-based evidence of the biophysical mechanisms behind the greening Sahel. *Global Change Biology*, 21(4), 1610-1620. doi:10.1111/gcb.12807

**BROTNS, L.** (2015). Peer-review warning: System error, reviewers not found. *Frontiers in Ecology and the Environment*, 13(5), 241-242. doi:10.1890/15.WB.009

**CÁCERES, M. D., MARTÍNEZ-VILALTA, J., COLL, L., LLORENS, P., CASALS, P., POYATOS, R., . . . BROTONS, L.** (2015). Coupling a water balance model with forest inventory data to predict drought stress: The role of forest structural changes vs. climate changes. *Agricultural and Forest Meteorology*, 213, 77-90. doi:10.1016/j.agrformet.2015.06.012

**CALFAPIETRA, C., PEÑUELAS, J., & NIINEMETS, T.** (2015). Urban plant physiology: Adaptation-mitigation strategies under permanent stress. *Trends in Plant Science*, 20(2), 72-75. doi:10.1016/j.tplants.2014.11.001

**CAMPIOLI, M., VICCA, S., LUYSSAERT, S., BILCKE, J., CESCHIA, E., CHAPIN III, F. S., . . . JANSSENS, I. A.** (2015). Biomass production efficiency controlled by management in temperate and boreal ecosystems. *Nature Geoscience*, 8(11), 843-846. doi:10.1038/ngo2553

**CAMPOS, D., BARTUMEUS, F., RAPOSO, E. P., & MÉNDEZ, V.** (2015). First-passage times in multiscale random walks: The impact of movement scales on search efficiency. *Physical Review E - Statistical, Nonlinear, and Soft Matter Physics*, 92(5) doi:10.1103/PhysRevE.92.052702

**CARDADOR, L., BROTONS, L., MOUGEOT, F., GIRALT, D., BOTA, G., POMAROL, M., & ARROYO, B.** (2015). Conservation traps and long-term species persistence in human-dominated systems. *Conservation Letters*, 8(6), 456-462. doi:10.1111/conl.12160

**CARDADOR, L., CÁCERES, M. D., GIRALT, D., BOTA, G., AQUILUÉ, N., ARROYO, B., . . . BROTONS, L.** (2015). Tools for exploring habitat suitability for steppe birds under land use change scenarios. *Agriculture, Ecosystems and Environment*, 200, 119-125. doi:10.1016/j.agee.2014.11.013

**CARNICER, J., SARDANS, J., STEFANESCU, C., UBACH, A., BARTRONS, M., ASENSIO, D., & PEÑUELAS, J.** (2015). Global biodiversity, stoichiometry and ecosystem function responses to human-induced C-N-P imbalances. *Journal of Plant Physiology*, 172, 82-91. doi:10.1016/j.jplph.2014.07.022

**CEAUȘU, S., CARVER, S., VERBURG, P. H., KUECHLY, H. U., HÖLKER, F., BROTONS, L., & PEREIRA, H. M.** (2015). European wilderness in a time of farmland abandonment. *Rewilding european landscapes* (pp. 25-46) doi:10.1007/978-3-319-12039-3\_2

**COLOMER-VENTURA, F., MARTÍNEZ-VILALTA, J., ZUCCARINI, P., ESCOLÀ, A., ARMENGOT, L., & CASTELLS, E.** (2015). Contemporary evolution of an invasive plant is associated with climate but not with herbivory. *Functional Ecology*, 29(11), 1475-1485. doi:10.1111/1365-2435.12463

**DE MENDOZA, G., VENTURA, M., & CATALAN, J.** (2015). Environmental factors prevail over dispersal constraints in determining the distribution and assembly of trichoptera species in mountain lakes. *Ecology and Evolution*, 5(13), 2518-2532. doi:10.1002/ece3.1522

**DIOUF, A. A., BRANDT, M., VERGER, A., EL JARROUDI, M., DJABY, B., FENSHOLT, R., ... TYCHON, B.** (2015). Fodder biomass monitoring in sahelian rangelands using phenological metrics from FAPAR time series. *Remote Sensing*, 7(7), 9122-9148. doi:10.3390/rs70709122

**DOBLAS-MIRANDA, E., MARTÍNEZ-VILALTA, J., LLORET, F., ÁLVAREZ, A., ÁVILA, A., BONET, F. J., ... RETANA, J.** (2015). Reassessing global change research priorities in mediterranean terrestrial ecosystems: How far have we come and where do we go from here? *Global Ecology and Biogeography*, 24(1), 25-43. doi:10.1111/geb.12224

**DOBLAS-MIRANDA, E., & WORK, T. T.** (2015). Localized effects of coarse woody material on soil oribatid communities diminish over 700 years of stand development in black-spruce-feathermoss forests. *Forests*, 6(4), 914-928. doi:10.3390/f6040914

**DOČKALOVÁ, K., HOLUBCOVÁ, J., BACARDIT, M., BARTRONS, M., CAMARERO, L., GALLEGÓ, E., ... STUHLÍK, E.** (2015). Brown and brook trout populations in the tatra mountain lakes (slovakia, poland) and contamination by long-range transported pollutants. *Biologia* (Poland), 70(4), 516-529. doi:10.1515/biolog-2015-0052

**DOMENE, X., ENDERS, A., HANLEY, K., & LEHMANN, J.** (2015). Ecotoxicological characterization of biochars: Role of feedstock and pyrolysis temperature. *Science of the Total Environment*, 512-513, 552-561. doi:10.1016/j.scitotenv.2014.12.035

**DOMENE, X., HANLEY, K., ENDERS, A., & LEHMANN, J.** (2015). Short-term mesofauna responses to soil additions of corn stover biochar and the role of microbial biomass. *Applied Soil Ecology*, 89, 10-17. doi:10.1016/j.apsoil.2014.12.005

**DUANE, A., PIQUÉ, M., CASTELLNOU, M., & BROTONS, L.** (2015). Predictive modelling of fire occurrences from different fire spread patterns in mediterranean landscapes. *International Journal of Wildland Fire*, 24(3), 407-418. doi:10.1071/WF14040

**ESPADALER, X., MARÍ, M., PRATS, I., & CALVO, J.** (2015). Ants (hymenoptera, formicidae) of the islets of vedrà, es vedranell, and the islets of ponent (eivissa). [Formigues (Hymenoptera, Formicidae) dels illots des Vedrà, es Vedranell i els illots de Ponent (Eivissa)] *Bolleti De La Societat d'Historia Natural De Les Balears*, 56, 51-58. Retrieved from www.scopus.com

**ESTIARTE, M., & PEÑUELAS, J.** (2015). Alteration of the phenology of leaf senescence and fall in winter deciduous species by climate change: Effects on nutrient proficiency. *Global Change Biology*, 21(3), 1005-1017. doi:10.1111/gcb.12804

**FARRÉ-ARMENGOL, G., FILELLA, I., LLUSIÀ, J., NIINEMETS, U., & PEÑUELAS, J.** (2015). Optimum temperature for floral terpene emissions tracks the mean temperature of the flowering season. *Functional Plant Biology*, 42(9), 851-857. doi:10.1071/FP14279

- FARRÉ-ARMENGOL, G., FILELLA, I., LLUSIA, J., & PEÑUELAS, J.** (2015). Relationships among floral VOC emissions, floral rewards and visits of pollinators in five plant species of a mediterranean shrubland. *Plant Ecology and Evolution*, 148(1), 90-99. doi:10.5091/plecevo.2015.963
- FARRÉ-ARMENGOL, G., FILELLA, I., LLUSIA, J., & PEÑUELAS, J.** (2015). Pollination mode determines floral scent. *Biochemical Systematics and Ecology*, 61, 44-53. doi:10.1016/j.bse.2015.05.007
- FARRÉ-ARMENGOL, G., FILELLA, I., LLUSIA, J., PRIMANTE, C., & PEÑUELAS, J.** (2015). Enhanced emissions of floral volatiles by *Diplotaxis erucoides* (L.) in response to folivory and florivory by *Pieris brassicae* (L.). *Biochemical Systematics and Ecology*, 63, 51-58. doi:10.1016/j.bse.2015.09.022
- FERNÁNDEZ, J. D., LORITE, J., BOSCH, J., & GÓMEZ, J. M.** (2015). Variation in the reproductive success of a narrow endemic plant: Effects of geographical distribution, abiotic conditions and pollinator community composition. *Basic and Applied Ecology*, 16(5), 375-385. doi:10.1016/j.baae.2015.02.006
- FERNÁNDEZ-MARTÍNEZ, M., GARBULSKY, M., PEÑUELAS, J., PEGUERO, G., & ESPELTA, J. M.** (2015). Temporal trends in the enhanced vegetation index and spring weather predict seed production in mediterranean oaks. *Plant Ecology*, 216(8), 1061-1072. doi:10.1007/s11258-015-0489-1
- FERNÁNDEZ-MARTÍNEZ, M., VICCA, S., JANSSENS, I.A., CAMPIOLI, M., PEÑUELAS, J.** 2015. Nutrient availability and climate as the main determinants of the ratio of biomass to NPP in woody and non-woody forest compartments. *Trees, structure and function* 10/2015; 29(6) 1-9 DOI:10.1007/s00468-015-1319-8.
- FERNÁNDEZ-MARTÍNEZ, M., VICCA, S., JANSSENS, I. A., SARDANS, J., LUYSSAERT, S., CAMPIOLI, M., . . . PEÑUELAS, J.** (2015). Reply to 'uncertain effects of nutrient availability on global forest carbon balance' and 'data quality and the role of nutrients in forest carbon-use efficiency'. *Nature Climate Change*, 5(11), 960-961. doi:10.1038/nclimate2794
- FU, Y. H., ZHAO, H., PIAO, S., PEAUCELLE, M., PENG, S., ZHOU, G., . . . JANSSENS, I. A.** (2015). Declining global warming effects on the phenology of spring leaf unfolding. *Nature*, 526(7571), 104-107. doi:10.1038/nature15402
- GARCÍA-GÓMEZ, H., GARRIDO, J. L., VIVANCO, M. G., LASSALETTA, L., RÁBAGO, I., ÀVILA, A., . . . ALONSO, R.** (2015). Corrigendum to "nitrogen deposition in spain: Modeled patterns and threatened habitats within the natura 2000 network" *Science of the Total Environment*, 505, 1234. doi:10.1016/j.scitotenv.2014.11.001
- GARGALLO-GARRIGA, A., SARDANS, J., PÉREZ-TRUJILLO, M., ORAVEC, M., URBAN, O., JENTSCH, A., . . . PEÑUELAS, J.** (2015). Warming differentially influences the effects of drought on stoichiometry and metabolomics in shoots and roots. *New Phytologist*, 207(3), 591-603. doi:10.1111/nph.13377
- GIBB, H., SANDERS, N. J., DUNN, R. R., WATSON, S., PHOTAKIS, M., ABRIL, S., . . . PARR, C. L.** (2015). Climate mediates the effects of disturbance on ant assemblage structure. *Proceedings of the Royal Society B: Biological Sciences*, 282(1808) doi:10.1098/rspb.2015.0418
- GIL-TENA, A., DE CÁCERES, M., ERNOULT, A., BUTET, A., BROTONS, L., & BUREL, F.** (2015). Agricultural landscape composition as a driver of farmland bird diversity in brittany (NW france). *Agriculture, Ecosystems and Environment*, 205, 79-89. doi:10.1016/j.agee.2015.03.013



**GIRADO-BELTRÁN, P., ANDREU, J., & PINO, J.** (2015). Exploring changes in the invasion pattern of alien flora in catalonia (NE of spain) from large datasets. *Biological Invasions*, 17(10), 3015-3028. doi:10.1007/s10530-015-0930-3

**GIRAudeau, M., MATEOS-GONZALEZ, F., COTÍN, J., PAGANI-NUÑEZ, E., TORNÉ-NOGUERA, A., & SENAR, J. C.** (2015). Metal exposure influences the melanin and carotenoid-based colorations in great tits. *Science of the Total Environment*, 532, 512-516. doi:10.1016/j.scitotenv.2015.06.021

**GOMEZ-POLO, P., ALOMAR, O., CASTAÑÉ, C., LUNDGREN, J. G., PIÑOL, J., & AGUSTÍ, N.** (2015). Molecular assessment of predation by hoverflies (diptera: Syrphidae) in mediterranean lettuce crops. *Pest Management Science*, 71(9), 1219-1227. doi:10.1002/ps.3910

**GONZÁLEZ-OLABARRIA, J. R., MOLA-YUDEGO, B., & COLL, L.** (2015). Different factors for different causes: Analysis of the spatial aggregations of fire ignitions in Catalonia (Spain). *Risk Analysis*, 35(7), 1197-1209. doi:10.1111/risa.12339

**GUERRIERI, R., VANGUELOVA, E. I., MICHALSKI, G., HEATON, T. H. E., & MENCUCCINI, M.** (2015). Isotopic evidence for the occurrence of biological nitrification and nitrogen deposition processing in forest canopies. *Global Change Biology*, 21(12), 4613-4626. doi:10.1111/gcb.13018

**GUÈZE, M., LUZ, A. C., PANEQUE-GÁLVEZ, J., MACÍA, M. J., ORTA-MARTÍNEZ, M., PINO, J., & REYES-GARCÍA, V.** (2015). Shifts in indigenous culture relate to forest tree diversity: A case study from the tsimane', Bolivian Amazon. *Biological Conservation*, 186, 251-259. doi:10.1016/j.biocon.2015.03.026

**HERNÁNDEZ, A., TRIGO, R. M., PLA-RABES, S., VALERO-GARCÉS, B. L., JEREZ, S., RICO-HERRERO, M., . . . GIRALT, S.** (2015). Sensitivity of two iberian lakes to north atlantic atmospheric circulation modes. *Climate Dynamics*, 45(11-12), 3403-3417. doi:10.1007/s00382-015-2547-8

**HOLLANDER, F. A., TITEUX, N., WALSDORFF, T., MARTINAGE, A., & VAN DYCK, H.** (2015). Arthropods and novel bird habitats: Do clear-cuts in spruce plantations provide similar food resources for insectivorous birds compared with farmland habitats? *Journal of Insect Conservation*, 19(5), 1011-1020. doi:10.1007/s10841-015-9817-y

**HUANG, Z., LIU, B., DAVIS, M., SARDANS, J., PEÑUELAS, J., & BILLINGS, S.** (2015). Long-term nitrogen deposition linked to reduced water use efficiency in forests with low phosphorus availability. *New Phytologist*. doi:10.1111/nph.13785

**JARQUE, S., QUIRÓS, L., GRIMALT, J. O., GALLEGU, E., CATALAN, J., LACKNER, R., & PIÑA, B.** (2015). Background fish feminization effects in european remote sites. *Scientific Reports*, 5 doi:10.1038/srep11292

**KAPHEIM, K. M., PAN, H., LI, C., SALZBERG, S. L., PUIU, D., MAGOC, T., . . . ZHANG, G.** (2015). Genomic signatures of evolutionary transitions from solitary to group living. *Science*, 348(6239) doi:10.1126/science.aaa4788

**KEBEDE, A. S., DUNFORD, R., MOKRECH, M., AUDSLEY, E., HARRISON, P. A., HOLMAN, I. P., . . . WIMMER, F.** (2015). Direct and indirect impacts of climate and socio-economic change in europe: A sensitivity analysis for key land- and water-based sectors. *Climatic Change*, 128(3-4), 261-277. doi:10.1007/s10584-014-1313-y

**KÖLZSCH, A., ALZATE, A., BARTUMEUS, F., DE JAGER, M., WEERMAN, E. J., HENGVELD, G. M., . . . VAN DE KOPPEL, J.** (2015). Experimental evidence for inherent lévy search behaviour in foraging animals. *Proceedings of the Royal Society B*:

*Biological Sciences*, 282(1807) doi:10.1098/rspb.2015.0424

**KOMAC, B., PLADEVALL, C., PEÑUELAS, J., CONESA, J. V., & DOMÈNECH, M.** (2015). Variations in functional diversity in snowbed plant communities determining snowbed continuity. *Plant Ecology*, 216(9), 1257-1274. doi:10.1007/s11258-015-0506-4

**KROËL-DULAY, G., RANSIJN, J., SCHMIDT, I. K., BEIER, C., DE ANGELIS, P., DE DATO, G., . . . PEÑUELAS, J.** (2015). Increased sensitivity to climate change in disturbed ecosystems. *Nature Communications*, 6doi:10.1038/ncomms7682

**LAPIEDRA, O., SOL, D., TRAVESET, A., & VILÀ, M.** (2015). Random processes and phylogenetic loss caused by plant invasions. *Global Ecology and Biogeography*, 24(7), 774-785. doi:10.1111/geb.12310

**LIU, D., OGAYA, R., BARBETA, A., YANG, X., & PEÑUELAS, J.** (2015). Contrasting impacts of continuous moderate drought and episodic severe droughts on the aboveground-biomass increment and litterfall of three coexisting mediterranean woody species. *Global Change Biology*, 21(11), 4196-4209. doi:10.1111/gcb.13029

**LIU, E. J., OLIVA, M., ANTONIADES, D., GIRALT, S., GRANADOS, I., PLA-RABES, S., . . . GEYER, A.** (2015). Expanding the tephrostratigraphical framework for the south shetland islands, antarctica, by combining compositional and textural tephra characterisation. *Sedimentary Geology*, doi:10.1016/j.sedgeo.2015.08.002

**LLORET, F., MATTANA, S., & YUSTE, J. C.** (2015). Climate-induced die-off affects plant-soil-

microbe ecological relationship and functioning. *FEMS Microbiology Ecology*, 91(2) doi:10.1093/femsec/iu014

**LLUSIA, J., ROAHTYN, S., YAKIR, D., ROTENBERG, E., SECO, R., GUENTHER, A., & PEÑUELAS, J.** (2015). Photosynthesis, stomatal conductance and terpene emission response to water availability in dry and mesic mediterranean forests. *Trees - Structure and Function*, 1-11. doi:10.1007/s00468-015-1317-x

**LONSDALE, J., XENAKIS, G., MENCUCINI, M., & PERKS, M.** (2015). A comparison of models for quantifying growth and standing carbon in UK scots pine forests. *IForest*, 8(OCTOBER2015), 596-605. doi:10.3832/ifor1403-008

**MAAS, B., KARP, D. S., BUMRUNGSI, S., DARRAS, K., GONTHIER, D., HUANG, J. C. -, . . . WILLIAMS-GUILLÉN, K.** (2015). Bird and bat predation services in tropical forests and agroforestry landscapes. *Biological Reviews*, doi:10.1111/brv.12211

**MARKS, E. A. N., MOLOWNY-HORAS, R., & DOMENE, X.** (2015). Investigating the use of multi-gaussian nonlinear regressions to separate collembolan size classes for soil quality assessment. *Water, Air, and Soil Pollution*, 226(8) doi:10.1007/s11270-015-2503-6

**MARLÈS MAGRE, J., IVARS, T. V., LÓPEZ, B. C., PÉREZ SALICRUP, D. R., ZARAGOZA, R. M., MATEO, S. S., & JUNCÀ, M. B.** (2015). Dendroclimatic analysis of pinus pseudostrobus and pinus devoniana in the municipalities of áporo and zitácuaro (michoacán), monarch butterfly biosphere reserve. *Investigaciones Geográficas*, 2015(88), 19-32. doi:10.14350/rig.43338

**MARTÍN-ALCÓN, S., COLL, L., DE CÁCERES, M., GUITART, L., CABRÉ, M., JUST, A., & GONZÁLEZ-OLABARRÍA, J. R.** (2015). Combining aerial LiDAR and multispectral imagery to assess postfire regeneration types in a mediterranean forest. *Canadian Journal of Forest Research*, 45(7), 856-866. doi:10.1139/cjfr-2014-0430

**MARTÍN-ALCÓN, S., COLL, L., & SALEKIN, S.** (2015). Stand-level drivers of tree-species diversification in mediterranean pine

forests after abandonment of traditional practices. *Forest Ecology and Management*, 353, 107-117. doi:10.1016/j.foreco.2015.05.022

**MARTÍN-GÓMEZ, P., BARBETA, A., VOLTAS, J., PEÑUELAS, J., DENNIS, K., PALACIO, S., . . . FERRIO, J. P.** (2015). Isotope-ratio infrared spectroscopy: A reliable tool for the investigation of plant-water sources? *New Phytologist*, 207(3), 914-927. doi:10.1111/nph.13376

**MARULL, J., OTERO, I., STEFANESCU, C., TELLO, E., MIRALLES, M., COLL, F., . . . DIANA, G. L.** (2015). Exploring the links between forest transition and landscape changes in the mediterranean. does forest recovery really lead to better landscape quality? *Agroforestry Systems*, 89(4), 705-719. doi:10.1007/s10457-015-9808-8

**MAYOL, M., RIBA, M., GONZÁLEZ-MARTÍNEZ, S. C., BAGNOLI, F., DE BEAULIEU, J. -, BERGANZO, E., . . . VENDRAMIN, G. G.** (2015). Adapting through glacial cycles: Insights from a long-lived tree (taxus baccata). *New Phytologist*, 208(3), 973-986. doi:10.1111/nph.13496

**MEIR, P., MENCUCCINI, M., & DEWAR, R. C.** (2015). Drought-related tree mortality: Addressing the gaps in understanding and prediction. *New Phytologist*, 207(1), 28-33. doi:10.1111/nph.13382

**MELERO, Y., ROBINSON, E., & LAMBIN, X.** (2015). Density- and age-dependent reproduction partially compensates culling efforts of invasive non-native american mink. *Biological Invasions*, 17(9), 2645-2657. doi:10.1007/s10530-015-0902-7

**MÉNARD, L., NÜST, D., NGO, K. -, BLANC, P., JIRKA, S., MASÓ, J., . . . WALD, L.** (2015). Interoperable exchange of surface solar irradiance observations: A challenge. *Energy Procedia*, 76 113-120. doi:10.1016/j.egypro.2015.07.867

**MENCUCCINI, M.** (2015). Dwarf trees, super-sized shrubs and scaling: Why is plant stature so important? *Plant, Cell and Environment*, 38(1), 1-3. doi:10.1111/pce.12442

**MENCUCCINI, M., MINUNNO, F., SALMON, Y., MARTÍNEZ-VILALTA, J., & HÖLTÄ, T.** (2015). Coordination of physiological traits involved in drought-induced mortality of woody plants. *New Phytologist*, 208(2), 396-409. doi:10.1111/nph.13461

**MOIRON, M., GONZÁLEZ-LAGOS, C., SLABBEKOORN, H., & SOL, D.** (2015). Singing in the city: High song frequencies are no guarantee for urban success in birds. *Behavioral Ecology*, 26(3), 843-850. doi:10.1093/beheco/arv026

**MOLOWNY-HORAS, R., BASNOU, C., & PINO, J.** (2015). A multivariate fractional regression approach to modeling land use and cover dynamics in a mediterranean landscape, *Environment and Urban Systems*, 54, 47-55. doi:10.1016/j.compenvurbsys.2015.06.001

**MULDER, C., BENNETT, E. M., BOHAN, D. A., BONKOWSKI, M., CARPENTER, S. R., CHALMERS, R., ... & HAUGHTON, A. J.** (2015). Chapter One-10 Years Later: Revisiting Priorities for Science and Society a Decade After the Millennium Ecosystem Assessment. *Advances in Ecological Research*, 53, 1-53.

**NAUDTS, K., RYDER, J., McGRATH, M. J., OTTO, J., CHEN, Y., VALADE, A., . . . LUYSSAERT, S.** (2015). A vertically discretised canopy description for ORCHIDEE (SVN r2290) and the modifications to the energy, water and carbon fluxes. *Geoscientific Model Development*, 8(7), 2035-2065. doi:10.5194/gmd-8-2035-2015

**OGAYA, R., BARBETA, A., BAŞNOU, C., & PEÑUELAS, J.** (2015). Satellite data as indicators of tree biomass growth and forest dieback in a mediterranean holm oak forest. *Annals of*



*Forest Science*, 72(1), 135-144. doi:10.1007/s13595-014-0408-y

**OJEDA, G., MATTANA, S., ÀVILA, A., ALCAÑIZ, J. M., VOLKMANN, M., & BACHMANN, J.** (2015). Are soil-water functions affected by biochar application? *Geoderma*, 249-250, 1-11. doi:10.1016/j.geoderma.2015.02.014

**OJEDA, G., ORTIZ, O., MEDINA, C. R., PERERA, I., & ALCAÑIZ, J. M.** (2015). Carbon sequestration in a limestone quarry mine soil amended with sewage sludge. *Soil use and Management*, 31(2), 270-278. doi:10.1111/sum.12179

**OSORIO, S., ARNAN, X., BASSOLS, E., VICENS, N., & BOSCH, J.** (2015). Local and landscape effects in a host-parasitoid interaction network along a forest-cropland gradient. *Ecological Applications*, 25(7), 1869-1879. Retrieved from www.scopus.com

**PAHISSA, J., CATALAN, J., MORABITO, G., DÖRFLINGER, G., FERREIRA, J., LAPLACE-TREYTURE, C., . . . DE HOYOS, C.** (2015). Benefits and limitations of an intercalibration of phytoplankton assessment methods based on the mediterranean GIG reservoir experience. *Science of the Total Environment*, 538, 169-179. doi:10.1016/j.scitotenv.2015.08.042

**PALMER, J. R. B., & PYTLIKOVÁ, M.** (2015). Labor market laws and intra-european migration: The role of the state in shaping destination choices. *European Journal of Population*, 31(2), 127-153. doi:10.1007/s10680-015-9341-5

**PASCUAL, D., PLA, E., LOPEZ-BUSTINS, J. A., RETANA, J., & TERRADAS, J.** (2015). Impacts of climate change on water resources in

the mediterranean basin: A case study in catalonia, spain. *Hydrological Sciences Journal*, 60(12), 2132-2147. doi:10.1080/002626667.2014.947290

**PEÑUELAS, J., BARTRONS, M., LLUSIA, J., & FILELLA, I.** (2015). Sensing the energetic status of plants and ecosystems. *Trends in Plant Science*, 20(9), 528-530. doi:10.1016/j.tplants.2015.07.002

**PFAUTSCH, S., HÖLTÄ, T., & MENCUCCHINI, M.** (2015). Hydraulic functioning of tree stems - fusing ray anatomy, radial transfer and capacitance. *Tree Physiology*, 35(7), 706-722. doi:10.1093/treephys/tpv058

**PIAO, S., TAN, J., CHEN, A., FU, Y. H., CIAIS, P., LIU, Q., . . . PEÑUELAS, J.** (2015). Leaf onset in the northern hemisphere triggered by daytime temperature. *Nature Communications*, 6 doi:10.1038/ncomms7911

**PIÑOL, J., MIR, G., GOMEZ-POLO, P., & AGUSTÍ, N.** (2015). Universal and blocking primer mismatches limit the use of high-throughput DNA sequencing for the quantitative metabarcoding of arthropods. *Molecular Ecology Resources*, 15(4), 819-830. doi:10.1111/1755-0998.12355

**PREECE, C., LIVARDA, A., WALLACE, M., MARTIN, G., CHARLES, M., CHRISTIN, P. -, . . . OSBORNE, C. P.** (2015). Were fertile crescent crop progenitors higher yielding than other wild species that were never domesticated? *New Phytologist*, 207(3), 905-913. doi:10.1111/nph.13353

**QUENTIN, A. G., PINKARD, E. A., RYAN, M. G., TISSUE, D. T., BAGGETT, L. S., ADAMS, H. D., ... & GIBON, Y.** (2015). Non-structural carbohydrates in woody plants compared among laboratories. *Tree physiology*, 35(11), 1146-1165.

**QUEVEDO, L., ARNAN, X., & RODRIGO, A.** (2015). Post-fire forestry management improves fruit weight and seed set in forest coppices dominated by *Arbutus unedo* L. *Forest Ecology and Management*, 345, 65-72. doi:10.1016/j.foreco.2015.02.030

**RAJSNEROVÁ, P., KLEM, K., HOLUB, P., NOVOTNÁ, K., VEČEŘOVÁ, K., KOZÁČIKOVÁ, M., . . . URBAN, O.** (2015). Morphological, biochemical and physiological traits of upper and lower canopy leaves of european beech tend to converge with increasing altitude. *Tree Physiology*, 35(1), 47-60. doi:10.1093/treephys/tpu104

**RATCLIFFE, S., LIEBERGESELL, M., RUIZ-BENITO, P., MADRIGAL GONZÁLEZ, J., MUÑOZ CASTAÑEDA, J. M., KÄNDLER, G., . . . WIRTH, C.** (2015). Modes of functional biodiversity control on tree productivity across the european continent. *Global Ecology and Biogeography*, doi:10.1111/geb.12406

**RAVERA, F., TARRASÓN, D., & ESPELTA, J. M.** (2015). Land use change trajectories, conservation status and social importance of dry forests in nicaragua. *Environmental Conservation*, 42(1), 1-11. doi:10.1017/S0376892914000186

**RETANA, J., ARNAN, X., & CERDÁ, X.** (2015). A multidimensional functional trait analysis of resource exploitation in european ants. *Ecology*, 96(10), 2781-2793. Retrieved from www.scopus.com

**RIBAS, A., LLURBA, R., GOURIVEAU, F., ALTIMIR, N., CONNOLLY, J., & SEBASTIÀ, M. T.** (2015). Plant identity and evenness affect yield and trace gas exchanges in forage mixtures. *Plant and Soil*, 391(1-2), 93-108. doi:10.1007/s11104-015-2407-7

**RIVAS-UBACH, A., SARDANS, J., HÓDAR, J. A., GARCIA-PORTA, J., GUENTHER, A., ORAVEC, M., . . . PEÑUELAS, J.** (2015). Similar local, but different systemic, metabolomic responses of closely related pine subspecies to folivory by caterpillars of the processionary moth. *Plant Biology*, doi:10.1111/plb.12422

**ROWLAND, L., DA COSTA, A. C. L., GALBRAITH, D. R., OLIVEIRA, R. S., BINKS, O. J., OLIVEIRA, A. A. R., . . . MEIR, P.** (2015). Death from drought in tropical forests is triggered by hydraulics not carbon starvation. *Nature*, 528(7580), 119-122. doi:10.1038/nature15539

**ROWLAND, L., LOBO-DO-VALE, R. L., CHRISTOFFERSEN, B. O., MELÉM, E. A., KRIJLT, B., VASCONCELOS, S. S., . . . MEIR, P.** (2015). After

more than a decade of soil moisture deficit, tropical rainforest trees maintain photosynthetic capacity, despite increased leaf respiration. *Global Change Biology*, 21(12), 4662-4672. doi:10.1111/gcb.13035

**RUBIO, L., BODIN, Ö., BROTONS, L., & SAURA, S.** (2015). Connectivity conservation priorities for individual patches evaluated in the present landscape: How durable and effective are they in the long term? *Ecography*, 38(8), 782-791. doi:10.1111/ecog.00935

**RULL, V., CAÑELLAS-BOLTÀ, N., MARGALEF, O., SÁEZ, A., PLA-RABES, S., & GIRALT, S.** (2015). Late holocene vegetation dynamics and deforestation in rano aroi: Implications for easter island's ecological and cultural history. *Quaternary Science Reviews*, 126, 219-226. doi:10.1016/j.quascirev.2015.09.008

**SAKSCHESKI, B., VON BLOH, W., BOIT, A., RAMMIG, A., KATTGE, J., POORTER, L., . . . THONICKE, K.** (2015). Leaf and stem economics spectra drive diversity of functional plant traits in a dynamic global vegetation model. *Global Change Biology*, 21(7), 2711-2725. doi:10.1111/gcb.12870

**SALMON, Y., TORRES-RUIZ, J. M., POYATOS, R., MARTINEZ-VILALTA, J., MEIR, P., COCHARD, H., & MENCUCCINI, M.** (2015). Balancing the risks of hydraulic failure and carbon starvation: A twig scale analysis in declining scots pine. *Plant, Cell and Environment*, 38(12), 2575-2588. doi:10.1111/pce.12572

**SÁNCHEZ-COSTA, E., POYATOS, R., SABATÉ, S.** (2015). Contrasting growth and water use strategies in four co-occurring Mediterranean

tree species revealed by concurrent measurements of sap flow and stem diameter variations. *Agricultural and Forest Meteorology*, 207(15), 24-37. doi:10.1016/j.agrformet.2015.03.012.

**SÁNCHEZ-LÓPEZ, G., HERNÁNDEZ, A., PLA-RABES, S., TORO, M., GRANADOS, I., SIGRÓ, J., . . . GIRALT, S.** (2015). The effects of the NAO on the ice phenology of spanish alpine lakes. *Climatic Change*, 130(2), 101-113. doi:10.1007/s10584-015-1353-y

**SANTAMARIA, S., & ESPADALER, X.** (2015). *Rickia lenoirii*, a new ectoparasitic species, with comments on world laboulbeniales associated with ants. *Mycoscience*, 56(2), 224-229. doi:10.1016/j.myc.2014.06.006

**SARDANS, J., ALONSO, R., JANSSENS, I. A., CARNICER, J., VERESEGLLOU, S., RILLIG, M. C., . . . PEÑUELAS, J.** (2015). Foliar and soil concentrations and stoichiometry of nitrogen and phosphorous across european pinus sylvestris forests: Relationships with climate, N deposition and tree growth. *Functional Ecology*, doi:10.1111/1365-2435.12541

**SARDANS, J., JANSSENS, I. A., ALONSO, R., VERESOGLOU, S. D., RILLIG, M. C., SANDERS, T. G. M., . . . PEÑUELAS, J.** (2015). Foliar elemental composition of european forest tree species associated with evolutionary traits and present environmental and competitive conditions. *Global Ecology and Biogeography*, 24(2), 240-255. doi:10.1111/geb.12253

**SARDANS, J., LLUSIA, J., OWEN, S. M., NIINEMETS, Ü., & PEÑUELAS, J.** (2015). Screening study

of leaf terpene concentration of 75 borneo rainforest plant species: Relationships with leaf elemental concentrations and morphology. *Records of Natural Products*, 9(1), 19-40. Retrieved from www.scopus.com

**SARDANS, J., & PEÑUELAS, J.** (2015). Potassium: A neglected nutrient in global change. *Global Ecology and Biogeography*, 24(3), 261-275. doi:10.1111/geb.12259

**SARDANS, J., & PEÑUELAS, J.** (2015). Trees increase their P: N ratio with size. *Global Ecology and Biogeography*, 24(2), 147-156. doi:10.1111/geb.12231

**SAURA-MAS, S., BONAS, A., & LLORET, F.** (2015). Plant community response to drought-induced canopy defoliation in a mediterranean quercus ilex forest. *European Journal of Forest Research*, 134(2), 261-272. doi:10.1007/s10342-014-0848-9

**SAVAGE, J. A., CLEARWATER, M. J., HAINES, D. F., KLEIN, T., MENCUCCHINI, M., SEVANTO, S., . . . ZHANG, C.** (2015). Allocation, stress tolerance and carbon transport in plants: How does phloem physiology affect plant ecology? *Plant, Cell and Environment*, doi:10.1111/pce.12602

**SERRAT, A., PONS, P., PUIG-GIRONÈS, R., & STEFANESCU, C.** (2015). Environmental factors influencing butterfly abundance after a severe wildfire in mediterranean vegetation. *Animal Biodiversity and Conservation*, 38(2), 207-220. Retrieved from www.scopus.com

**SERRA-VARELA, M. J., GRIVET, D., VINCENOT, L., BROENNIMANN, O., GONZALO-JIMÉNEZ, J., & ZIMMERMANN, N. E.** (2015). Does phylogeographical structure relate to climatic niche divergence? A test using maritime pine (pinus pinasterAit.). *Global Ecology and Biogeography*, 24(11), 1302-1313. doi:10.1111/geb.12369

**SGOLASTRA, F., ARNAN, X., PITTS-SINGER, T. L., MAINI, S., KEMP, W. P., & BOSCH, J.** (2015). Pre-wintering conditions and post-winter performance in a solitary bee: Does diapause impose



an energetic cost on reproductive success? *Ecological Entomology*, doi:10.1111/een.12292

**SOL, D., & MASPONS, J.** (2015). Integrating behavior into life-history theory: A comment on wong and candolin. *Behavioral Ecology*, 26(3), 677-678. doi:10.1093/beheco/arv025

**SOUBOU, M., NACRO, S., & OUATTARA, D.** (2015). Natural enemies associated with rice stemborers in the kou valley, Burkina Faso. *International Journal of Tropical Insect Science*, 35(4), 164-171. doi:10.1017/S174275841500020X

**SPERLICH, D., BARBETA, A., OGAYA, R., SABATÉ, S., PEÑUELAS, J.** 2015. Balance between carbon gain and loss under long-term drought: impacts on foliar respiration and photosynthesis in *Quercus ilex* L. *Journal of Experimental Botany*, 67(3):821-833, doi: 10.1093/jxb/erv492

**SPERLICH, D., CHANG, C. T., PEÑUELAS, J., GRACIA, C., & SABATÉ, S.** (2015). Seasonal variability of foliar photosynthetic and morphological traits and drought impacts in a mediterranean mixed forest. *Tree Physiology*, 35(5), 501-520. doi:10.1093/treephys/tpv017

**STEPPE, K., VANDEGEHUCHTE, M. W., TOGNETTI, R., & MENCUCINI, M.** (2015). Sap flow as a key trait in the understanding of plant hydraulic functioning. *Tree Physiology*, 35(4), 341-345. doi:10.1093/treephys/tpv033

**SUNYER, P., BOIXADERA, E., MUÑOZ, A., BONAL, R., & ESPELTA, J. M.** (2015). The interplay among acorn abundance and rodent behavior drives the spatial pattern of seedling recruitment in mature mediterranean oak forests. *PLoS ONE*, 10(6) doi:10.1371/journal.pone.0129844

**TALAVERA, G., ESPADALER, X., & VILA, R.** (2015). Discovered just before extinction? the first endemic ant from the balearic islands (*Lasius balearicus* sp. nov.) is endangered by climate change. *Journal of Biogeography*, 42(3), 589-601. doi:10.1111/jbi.12438

**TAN, J., PIAO, S., CHEN, A., ZENG, Z., CIAIS, P., JANSSENS, I. A., . . . VICCA, S.** (2015). Seasonally different response of photosynthetic activity to daytime and night-time warming in the northern hemisphere. *Global Change Biology*, 21(1), 377-387. doi:10.1111/gcb.12724

**TARANU, Z. E., GREGORY-EAVES, I., LEAVITT, P. R., BUNTING, L., BUCHACA, T., CATALAN, J., . . . VINEBROOKE, R. D.** (2015). Acceleration of cyanobacterial dominance in north temperate-subarctic lakes during the anthropocene. *Ecology Letters*, 18(4), 375-384. doi:10.1111/ele.12420

**TORNÉ-NOGUERA, A., RODRIGO, A., OSORIO, S., & BOSCH, J.** (2015). Collateral effects of beekeeping: Impacts on pollen-nectar resources and wild bee communities. *Basic and Applied Ecology*, doi:10.1016/j.baae.2015.11.004

**TRAGUST, S., FELDHAAR, H., ESPADALER, X., & PEDERSEN, J. S.** (2015). Rapid increase of the parasitic *Fungus laboulbenia formicarum* in supercolonies of the invasive garden ant *Lasius neglectus*. *Biological Invasions*, 17(10), 2795-2801. doi:10.1007/s10530-015-0917-0

**TROMER, R. M., BARBOSA, M. B., BARTUMEUS, F., CATALAN, J., DA LUZ, M. G. E., RAPOSO, E. P., & VISWANATHAN, G. M.** (2015). Inferring Lévy walks from curved trajectories: A rescaling method. *Physical Review E - Statistical, Nonlinear, and Soft Matter Physics*, 92(2) doi:10.1103/PhysRevE.92.022147

**URBINA, I., SARDANS, J., BEIERKUHNLIN, C., JENTSCH, A., BACKHAUS, S., GRANT, K., . . . PEÑUELAS, J.** (2015). Shifts in the elemental composition of plants

during a very severe drought. *Environmental and Experimental Botany*, 111, 63-73. doi:10.1016/j.envexpbot.2014.10.005

**VERGER, A., BARET, F., WEISS, M., FILELLA, I., & PEÑUELAS, J.** (2015). GEOCLIM: A global climatology of LAI, FAPAR, and FCOVER from VEGETATION observations for 1999-2010. *Remote Sensing of Environment*, 166, 126-137. doi:10.1016/j.rse.2015.05.027

**VILÀ-CABRERA, A., MARTÍNEZ-VILALTA, J., & RETANA, J.** (2015). Functional trait variation along environmental gradients in temperate and mediterranean trees. *Global Ecology and Biogeography*, 24(12), 1377-1389. doi:10.1111/geb.12379

**WALSH, B. J., RYDZAK, F., PALAZZO, A., KRAXNER, F., HERRERO, M., SCHENK, P. M., . . . OBERSTEINER, M.** (2015). New feed sources key to ambitious climate targets. *Carbon Balance and Management*, 10(1) doi:10.1186/s13021-015-0040-7

**WANG, R., BALKANSKI, Y., BOPP, L., AUMONT, O., BOUCHER, O., CIAIS, P., . . . TAO, S.** (2015). Influence of anthropogenic aerosol deposition on the relationship between oceanic productivity and warming. *Geophysical Research Letters*, 42(24), 10745-10754. doi:10.1002/2015GL066753

**WANG, R., BALKANSKI, Y., BOUCHER, O., BOPP, L., CHAPPELL, A., CIAIS, P., . . . TAO, S.** (2015). Sources, transport and deposition of iron in the global atmosphere. *Atmospheric Chemistry and Physics*, 15(11), 6247-6270. doi:10.5194/acp-15-6247-2015

**WANG, R., BALKANSKI, Y., BOUCHER, O., CIAIS, P., PEÑUELAS, J., & TAO, S.** (2015). Significant

contribution of combustion-related emissions to the atmospheric phosphorus budget. *Nature Geoscience*, 8(1), 48-54. doi:10.1038/ngeo2324

**WANG, W., LAI, D. Y. F., SARDANS, J., WANG, C., DATTA, A., PAN, T., . . . PEÑUELAS, J.** (2015). Rice straw incorporation affects global warming potential differently in early vs. late cropping seasons in southeastern china. *Field Crops Research*, 181, 42-51. doi:10.1016/j.fcr.2015.07.007

**WANG, W., SARDANS, J., LAI, D. Y. F., WANG, C., ZENG, C., TONG, C., . . . PEÑUELAS, J.** (2015). Effects of steel slag application on greenhouse gas emissions and crop yield over multiple growing seasons in a subtropical paddy field in china. *Field Crops Research*, 171, 146-156. doi:10.1016/j.fcr.2014.10.014

**WANG, W., WANG, C., SARDANS, J., MIN, Q., ZENG, C., TONG, C., & PEÑUELAS, J.** (2015). Agricultural land use decouples soil nutrient cycles in a subtropical riparian wetland in china. *Catena*, 133, 171-178. doi:10.1016/j.catena.2015.05.003

**WANG, W., WANG, C., SARDANS, J., TONG, C., JIA, R., ZENG, C., & PEÑUELAS, J.** (2015). Flood regime affects soil stoichiometry and the distribution of the invasive plants in subtropical estuarine wetlands in china. *Catena*, 128, 144-154. doi:10.1016/j.catena.2015.01.017

**WANG, W. Q., SARDANS, J., WANG, C., ZENG, C. S., TONG, C., ASENSIO, D., & PEÑUELAS, J.** (2015). Ecological stoichiometry of C, N, and P of invasive phragmites australis and native *Cyperus malaccensis* species in the minjiang river tidal estuarine wetlands of china. *Plant Ecology*, 216(6), 809-822. doi:10.1007/s11258-015-0469-5

**WANG, W. -, WANG, C., SARDANS, J., ZENG, C. -, TONG, C., & PEÑUELAS, J.** (2015). Plant invasive success associated with higher N-use efficiency and stoichiometric shifts in the soil-plant system in the minjiang river tidal estuarine wetlands of china. *Wetlands Ecology and Management*, 23(5), 865-880. doi:10.1007/s11273-015-9425-3

**WHITMAN, E., BATLLORI, E., PARISIEN, M. -, MILLER, C., COOP, J. D., KRAWCHUK, M. A., . . . HAIRE, S. L.** (2015). The climate space of fire regimes in north-western north america. *Journal of Biogeography*, 42(9), 1736-1749. doi:10.1111/jbi.12533

**WISER, S. K., THOMSON, F. J., & DE CÁCERES, M.** (2015). Expanding an existing classification of new zealand vegetation to include nonforested vegetation. *New Zealand Journal of Ecology*, 40(1)

**YOCUM, G. D., RINEHART, J. P., HORVATH, D. P., KEMP, W. P., BOSCH, J., ALROOBI, R., & SALEM, S.** (2015). Key molecular processes of the diapause to post-diapause quiescence transition in the alfalfa leafcutting bee megachile rotundata identified by comparative transcriptome analysis. *Physiological Entomology*, 40(2), 103-112. doi:10.1111/phen.12093

**YVON-DUROCHER, G., ALLEN, A. P., CELLAMARE, M., DOSSENA, M., GASTON, K. J., LEITAO, M., . . . TRIMMER, M.** (2015). Five years of experimental warming increases the biodiversity and productivity of phytoplankton. *PLoS Biology*, 13(12) doi:10.1371/journal.pbio.1002324

**ZECHMEISTER-BOLTENSTERN, S., KEIBLINGER, K. M., MOOSHAMMER, M., PEÑUELAS, J., RICHTER, A., SARDANS, J., & WANEK, W.** (2015). The application of ecological stoichiometry to plant-microbial-soil organic matter transformations. *Ecological Monographs*, 85(2), 133-155.

## Books

**CARABASSA V, ORTIZ O, ALCAÑIZ JM** (2015) Protocolo para la evaluación y seguimiento de la restauración de zonas afectadas por minería. CREA. ISBN: 978-84-606-8442-8

**MASÓ J** (2015) OGC Web Map Tile Service (WMTS) Simple Profile. OGC Engineering Report. <http://docs.opengeospatial.org/is/13-082r2/13-082r2.html> ISBN: OGC 13-082r2

**MASÓ J** (2015) Testbed-11 Implementing JSON/GeoJSON in an OGC Standard Engineering Report. OGC Engineering Report. [https://portal.opengeospatial.org/files/?artifact\\_id=64595](https://portal.opengeospatial.org/files/?artifact_id=64595) ISBN: OGC 15-053

**MASÓ J, CLOSA G, GIL Y** (2015) Applying W3C PROV to Express Geospatial Provenance at Feature and Attribute Level, Springer Lecture Notes pp 271-274

**MÉNARD L., NÜST D., NGOA K.M., BLANC P., JIRKA S., MASÓ J., RANCHIN T., WALD L.** (2015). Interoperable Exchange Of Surface Solar Irradiance Observations; A Challenge. Energy Procedia. 76 113-120. DOI: j.egypro.2015.07.867

**TERRADAS J.** (2015). Noticias sobre Evolución: la teoría y los nuevos conocimientos. 215pp. [http://issuu.com/creaf\\_ecologia/docs/noticias\\_sobre\\_evolucion\\_esp/1?e=7078918/12318042](http://issuu.com/creaf_ecologia/docs/noticias_sobre_evolucion_esp/1?e=7078918/12318042) ISBN: 978-84-606-6402-4

**Check Annexes to see more CREA Scientific output**

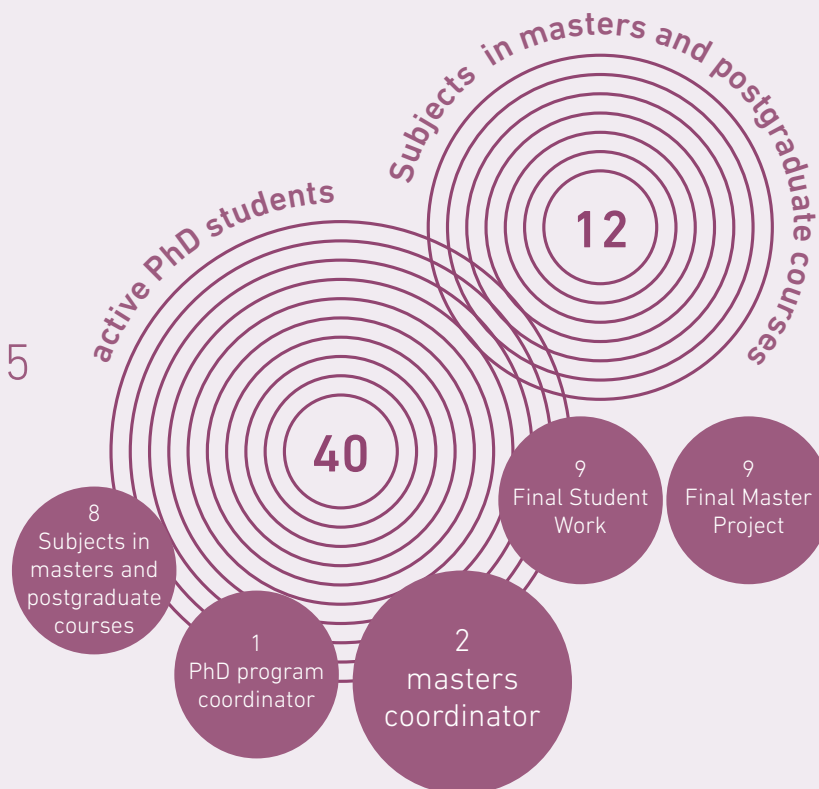
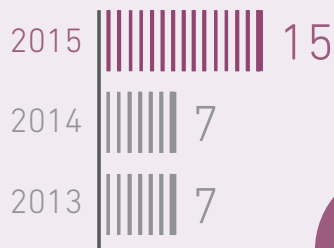
# TRAINING





## KEY NUMBERS

### PhD theses



## PhD PROGRAM IN TERRESTRIAL ECOLOGY

CREAF coordinates the **PhD in Terrestrial Ecology** which consists in writing, presenting and defending **AN** original piece of research which, in this case, is framed within the ambit of the terrestrial ecology.

This PhD programme is aimed at students interested in understanding the processes involved in global environmental change and the loss of biodiversity, as well as possible actions to mitigate the damaging effects of environmental changes and the conservation of natural resources.

The PhD programme consists of 35 lecturers and associated researchers working on the following lines of research: Biodiversity, Functional ecology and global change; Forest ecology and fires; Soil protection and conservation; Remote sensing and GIS.

**Coordinator:** Anna Àvila

**Lecturers:** Jordi Bosch Gras, Jordi Catalan Aguilà, Bernat Claramunt López, Xavier Espadaler Gelabert, Maria Mayol Martínez, Joan Pino Vilalta, Josep Piñol Pascual, Miquel Riba Rovira, Ferran Rodà de Llanza, Anselm Rodrigo Domínguez, Daniel Sol Rueda, Anna Avila Castells, Jofre Carnicer Cols, Marc Estiarte Garrofé, Iolanda Filella Cubells, Joan Llusà Benet, Maurizio Mencuccini, Romà Ogaya Inurriagarro, Josep Peñuelas Reixach, Eduard Pla Ferrer, Angela Ribas Artola, Jordi Sardans Galobart, Robert Savé Montserrat, Enrique Doblas Miranda, Josep Maria Espelta Morral, Arnald Marcer Batlle, Marc Gràcia Moya, Francisco Lloret Maya, Jordi Marínez Vilalta, Rafael Poyatos López, Javier Retana Alumbrosos, Sandra Saura Mas, Josep Maria Alcañiz Balldellou, Pilar Andrés Pastor, Xavier Domene Casadesús.

## PHD THESES

1. **AGUILLAUME RODRÍGUEZ O'CONNOR L.** (2015) Nitrogen deposition at Mediterranean holm-oak forests: loads and indicators. Universitat Autònoma de Barcelona. Director: Anna Avila Castells
2. **ACHOTEGUI-CASTELLS, A.** (2015). The role of terpenes in the defensive responses of conifers against herbivores and pathogens. Universitat Autònoma de Barcelona. Codirected by: Josep Peñuelas Reixach i Joan Llusà Benet.
3. **BAGARIA G.** (2015). Time lags in plant community assembly after forest encroachment into Mediterranean grasslands: drivers and mechanisms. Autonomous University of Barcelona. Codirected by: Joan Pino and Ferran Rodà.
4. **BARBA FERRER J.** (2015) Effects of drought-induced forest die-off and species replacement on soil CO<sub>2</sub> effluxes. Autonomous University of Barcelona. Codirected by: Francisco Lloret Maya, Jorge Curiel Yuste
5. **BARBETA, A.** (2015). Forest acclimation to increasing drought: structural and functional changes. Autonomous University of Barcelona. Codirected by: Josep Peñuelas Reixach i Romà Ogaya Inurriagarro
6. **CLOSA G.** (en curs) Contributions to Geospatial Provenance in Distributed Environments: Metadata for Geospatial Modelization. Autonomous University of Barcelona. Direcció: Dr. J. Masó
7. **FARRÉ-ARMENGOL, G.** (2015). Biotic and abiotic factors that determine the emission of volatile organic compounds by flowers. Universitat Autònoma de Barcelona. Codirected by: Iolanda Filella Cubells i Josep Peñuelas.
8. **GARGALLO, A.** (2015). Metabolomics and stoichiometry adapted to the study of environmental impacts on plants. Autonomous University of Barcelona. Codirected by: Maria Pérez Trujillo, Jordi Sardans Galobart i Josep Peñuelas Reixach
9. **GUARDIOLA M.** (2015). Efectes de la pèrdua i fragmentació de les pastures mediterrànies sobre la riquesa, composició i relacions tròfiques de plantes i papallones. Autonomous University of Barcelona. Codirected by: Joan Pino and Ferran Rodà.
10. **MOLINA HERRERA A.** (2015) Relaciones ecohidrológicas en una plantación de cerezos para madera. Autonomous University of Barcelona. Codirected by: Pilar Llorens García and Carme Biel Loscos
11. **PRIMANTE, C** (2015) The role of floral traits in structuring plant-pollinator interactions. Autonomous University of Barcelona. Codirected by: Jordi Bosch and Anselm Rodrigo.
12. **REGOS SANZ A.** (2015) Global change and the uncertain future of biodiversity in Mediterranean-type ecosystems: insights from a strategic foresight process. Universitat Autònoma de Barcelona. Director: Lluís Brotons Alabau
13. **SPERLICH, D.** (2015). Mediterranean forests in a changing environment. Impacts of drought and temperature stress on tree physiology. Universitat de Barcelona. Codirected by: Santi Sabaté Jorba and Josep Peñuelas.
14. **SUNYER SALA P.** (2015) Context dependency in acorn predation and dispersal by *Apodemus sylvaticus* in

Mediterranean oak forests: the role of seasonality and animal-animal interactions. Autonomous University of Barcelona. Codirected by: Josep Maria Espelta Morral and Alberto Muñoz Muñoz

- 15. TORNÉ-NOGUERA A (2015)** Spatial variability of bee communities: from local assemblages to interaction networks. Autonomous University of Barcelona. Codirected by: Jordi Bosch and Anselm Rodrigo.

## OFFICIAL MASTER IN TERRESTRIAL ECOLOGY AND BIODIVERSITY MANAGEMENT

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:** Fernando García, Jordi Martínez-Vilalta.

**Lecturers:** Josep Maria Alcañiz, Pilar Andrés, Anna Àvila, Carme Biel, Jordi Bosch, Lluís Brotons, Maite Carrasón, Jordi Catalan, Bernat Claramunt, Lluís Coll, Maria Constenla, Xavier Espadaler, Josep Maria Espelta, Marc Estiarte, Iolanda Filella, Fernando García, Carles Gracia, Marc Gràcia, Iñigo Granzow, Santiago Lavin, Francisco Lloret, Joan Llusià, Manel López Bejar, Jordi López Olvera, Ignasi Marco, Jordi Martínez-Vilalta, Joan Masó, Maria Mayol, Maurizio Mencuccini, Ana Morton, Francesc Muñoz, Miquel Ninyerola, Romà Ogaya, Oriol Ortiz, Josep Peñuelas, Ramon Pérez, Joan Pino, Josep Piñol, Eduard Pla, Rafael Poyatos, Javier Retana, Miquel Riba, Àngela Ribas, Ferran Rodà, Anselm Rodrigo, Santiago Sabaté, Llorenç Sáez, Sergi Santamaria, Jordi Sardans, Sandra Saura, Robert Savé, Emmanuel Serrano, Daniel Sol, Anna Soler, Constantí Stefanescu, Jaume Terradas, 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:** Òscar González.

**Lecturers:** Joan Bech, Antoni Broquetas, José Ángel Burriel, Jaume Calvet, Adriano Camps, Cristina Cea, Bernat Codina, Jordi Cristóbal, Carles Dalmases, Ricardo Díaz-Delgado, Josep A. Gili, Sergi Gumà, Jordi Isern, Agustín Lobo, Arnald Marcer, Joan Masó, Eduardo de Miguel, 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**





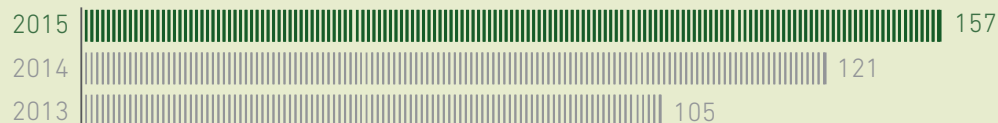


# COMMUNICATION AND OUTREACH



## KEY NUMBERS

### Impacts in mass media



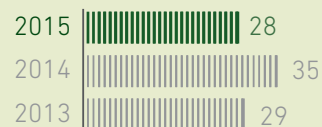
Press releases

28

Impacts in mass media

157

### Press releases



3000  
subscribers  
to our monthly  
newsletter

801 followers in LinkedIn

in

1057 likes in Facebook

f

followers on twitter



### Total

2015 | 5000 followers

### Total

2014 | 3900 followers

### Total

2013 | 2700 followers

Blog sessions 46.000



+ 31.000  
unic visitors  
of our blog  
in 2015

2014

Blog sessions 39.000

+ 25.000 unic visitors  
of our blog in 2014

2013

Blog sessions 21.000

+ 16.000 unic visitors  
of our blog in 2013





## HIGHLIGHTED PRESS COVERAGE

40 SOCIEDAD

**La caza del mosquito tigre**

La policía catalana utiliza los controles de carretera para buscar el insecto en los coches

Después de una gran campaña de sensibilización, el mosquito tigre sigue siendo una amenaza para la salud pública en Cataluña. La policía catalana utiliza los controles de carretera para buscar el insecto en los coches.

**Aedes albopictus**

Este mosquito de reciente introducción en España, conocido como mosquito tigre, es una de las principales causas de enfermedades transmitidas por insectos en el mundo. La policía catalana utiliza los controles de carretera para buscar el insecto en los coches.

**Modelos de dispersión**

Los modelos de dispersión de los mosquitos tigre se han desarrollado para predecir su expansión geográfica. Estos modelos se basan en datos de campo y en simulaciones matemáticas.

**La caza del mosquito tigre**

La policía catalana utiliza los controles de carretera para buscar el insecto en los coches. Este tipo de control es una de las estrategias más efectivas para reducir la población de mosquitos tigre.

**20/08/2015 - ABC**

MISCELANEA

**El aumento de ozono perjudica a las flores**

Reducen los compuestos volátiles responsables de sus fragancias y pierden capacidad para atraer a los polinizadores que les fecundan

Un estudio realizado por científicos de la Universidad de California, Berkeley, ha demostrado que el aumento de ozono en la atmósfera afecta negativamente a las flores. Los niveles elevados de ozono reducen la producción de compuestos volátiles que las flores utilizan para atraer a los polinizadores.

**Adam y Patac Unidas denuncian el 'exterminio de gatos en El Mojón'**

Los dueños de gatos en El Mojón, un barrio de Madrid, han denunciado el exterminio de sus mascotas. Los vecinos afirman que los gatos están siendo asesinados de forma sistemática por parte de las autoridades locales.

**22/09/2015 - La Verdad**

**150 árboles por cabeza**

En España hay 7.000 millones. Y en todo el mundo tres billones, ocho veces más de lo que se creía. Pero si no los cuidamos, en 2135 no quedará ni uno

**Arboles por comunidad autónoma**

| Comunidad Autónoma | Arboles (millones) |
|--------------------|--------------------|
| Madrid             | 1.100.000          |
| Cataluña           | 1.000.000          |
| Valencia           | 900.000            |
| País Vasco         | 800.000            |
| Galicia            | 700.000            |
| Castilla-La Mancha | 600.000            |
| Castilla y León    | 500.000            |
| Extremadura        | 400.000            |
| Andalucía          | 300.000            |
| Canarias           | 200.000            |

**16/09/2015 - El correo**

**Investigación Medio ambiente**

Un modelo matemático es capaz de estimar la probabilidad que tiene un paisaje de sufrir un incendio, según la forma del terreno o la cantidad de combustible disponible para el fuego.

**Matemáticas para predecir diferentes tipos de incendio**

Los científicos han desarrollado un modelo matemático que permite predecir la probabilidad de que un paisaje sufra un incendio. Este modelo se basa en datos de terreno y en simulaciones matemáticas.

**11/10/2015 - El Periodico**

05/04/2015 \_ ARA D'INFORMACIÓ \_ 23

CIÈNCIA ★ ART

# EL BALL DELS INSECTES I ALTRES CRIATURES

La ballarina i coreògrafa Sol Pico i l'edible llumne Terradas conversen sobre el flàgiri equilibri de la natura i els moments que respira

TEXT: MÓNICA FERRERO

Que parles de la dansa d'insectes amb la ballarina i coreògrafa Sol Pico és com parlar amb una científica. La dansa que ella i el seu company, el coreògraf i dissenyador de vestuari Lluís Terradas, han creat per a la seva obra *El flàgiri*, és el resultat d'una investigació científica que els ha portat a visitar museus i a llegir sobre el tema. Els insectes són els protagonistes de la dansa, i els seus moviments són els que els inspira. Els insectes són els protagonistes de la dansa, i els seus moviments són els que els inspira. Els insectes són els protagonistes de la dansa, i els seus moviments són els que els inspira.

El flàgiri és una dansa que els inspira. Els insectes són els protagonistes de la dansa, i els seus moviments són els que els inspira. Els insectes són els protagonistes de la dansa, i els seus moviments són els que els inspira.

El flàgiri és una dansa que els inspira. Els insectes són els protagonistes de la dansa, i els seus moviments són els que els inspira. Els insectes són els protagonistes de la dansa, i els seus moviments són els que els inspira.

El flàgiri és una dansa que els inspira. Els insectes són els protagonistes de la dansa, i els seus moviments són els que els inspira. Els insectes són els protagonistes de la dansa, i els seus moviments són els que els inspira.

**PODIU I CONVERSES**  
Sol Pico i Lluís Terradas són els protagonistes de la dansa. Els insectes són els protagonistes de la dansa, i els seus moviments són els que els inspira. Els insectes són els protagonistes de la dansa, i els seus moviments són els que els inspira.

## ENCUNY DE LA NATURE

El flàgiri és una dansa que els inspira. Els insectes són els protagonistes de la dansa, i els seus moviments són els que els inspira. Els insectes són els protagonistes de la dansa, i els seus moviments són els que els inspira.

El flàgiri és una dansa que els inspira. Els insectes són els protagonistes de la dansa, i els seus moviments són els que els inspira. Els insectes són els protagonistes de la dansa, i els seus moviments són els que els inspira.

El flàgiri és una dansa que els inspira. Els insectes són els protagonistes de la dansa, i els seus moviments són els que els inspira. Els insectes són els protagonistes de la dansa, i els seus moviments són els que els inspira.

El flàgiri és una dansa que els inspira. Els insectes són els protagonistes de la dansa, i els seus moviments són els que els inspira. Els insectes són els protagonistes de la dansa, i els seus moviments són els que els inspira.

## ENCUNY ARA&CAT

**ENCUNY ARA&CAT**  
El flàgiri és una dansa que els inspira. Els insectes són els protagonistes de la dansa, i els seus moviments són els que els inspira. Els insectes són els protagonistes de la dansa, i els seus moviments són els que els inspira.

## Quins objectes?

**Quins objectes?**

**Quins objectes?**

**Quins objectes?**

**Quins objectes?**

**Quins objectes?**

**Quins objectes?**

**Quins objectes?**

**Quins objectes?**

**Quins objectes?**

**Quins objectes?**

**Quins objectes?**

**Quins objectes?**

**Quins objectes?**

05/04/2015 - Diari Ara

diari de girona  
Cultura i Societat • 28 DE JUNY DE 2016

diari de girona

# La contaminació atmosfèrica està «feminitzant» els peixos d'alta muntanya

► Diversitat reduïda en hàbits venenuts del Pirineu i l'Arcaologia detecta característiques femenines en els esquelets

**Per la seva** manca de diversitat, els hàbits venenuts de l'alta muntanya catalana són considerats els peixos més vulnerables a la contaminació atmosfèrica. Els científics de l'Arcaologia de la Universitat de Girona han detectat, a través dels esquelets, que els hàbits venenuts de l'alta muntanya catalana són considerats els peixos més vulnerables a la contaminació atmosfèrica.

El treball, dirigit pel professor de Geografia i Història de l'Arcaologia, ha demostrat que els hàbits venenuts de l'alta muntanya catalana són considerats els peixos més vulnerables a la contaminació atmosfèrica. El treball, dirigit pel professor de Geografia i Història de l'Arcaologia, ha demostrat que els hàbits venenuts de l'alta muntanya catalana són considerats els peixos més vulnerables a la contaminació atmosfèrica.

mostrat en els seus peixos. De fet, el treball ha demostrat que els hàbits venenuts de l'alta muntanya catalana són considerats els peixos més vulnerables a la contaminació atmosfèrica.

El treball, dirigit pel professor de Geografia i Història de l'Arcaologia, ha demostrat que els hàbits venenuts de l'alta muntanya catalana són considerats els peixos més vulnerables a la contaminació atmosfèrica. El treball, dirigit pel professor de Geografia i Història de l'Arcaologia, ha demostrat que els hàbits venenuts de l'alta muntanya catalana són considerats els peixos més vulnerables a la contaminació atmosfèrica.

El treball, dirigit pel professor de Geografia i Història de l'Arcaologia, ha demostrat que els hàbits venenuts de l'alta muntanya catalana són considerats els peixos més vulnerables a la contaminació atmosfèrica. El treball, dirigit pel professor de Geografia i Història de l'Arcaologia, ha demostrat que els hàbits venenuts de l'alta muntanya catalana són considerats els peixos més vulnerables a la contaminació atmosfèrica.

La contaminació atmosfèrica afecta els hàbits de l'alta muntanya

El treball, dirigit pel professor de Geografia i Història de l'Arcaologia, ha demostrat que els hàbits venenuts de l'alta muntanya catalana són considerats els peixos més vulnerables a la contaminació atmosfèrica. El treball, dirigit pel professor de Geografia i Història de l'Arcaologia, ha demostrat que els hàbits venenuts de l'alta muntanya catalana són considerats els peixos més vulnerables a la contaminació atmosfèrica.

El treball, dirigit pel professor de Geografia i Història de l'Arcaologia, ha demostrat que els hàbits venenuts de l'alta muntanya catalana són considerats els peixos més vulnerables a la contaminació atmosfèrica. El treball, dirigit pel professor de Geografia i Història de l'Arcaologia, ha demostrat que els hàbits venenuts de l'alta muntanya catalana són considerats els peixos més vulnerables a la contaminació atmosfèrica.

El treball, dirigit pel professor de Geografia i Història de l'Arcaologia, ha demostrat que els hàbits venenuts de l'alta muntanya catalana són considerats els peixos més vulnerables a la contaminació atmosfèrica. El treball, dirigit pel professor de Geografia i Història de l'Arcaologia, ha demostrat que els hàbits venenuts de l'alta muntanya catalana són considerats els peixos més vulnerables a la contaminació atmosfèrica.

El treball, dirigit pel professor de Geografia i Història de l'Arcaologia, ha demostrat que els hàbits venenuts de l'alta muntanya catalana són considerats els peixos més vulnerables a la contaminació atmosfèrica. El treball, dirigit pel professor de Geografia i Història de l'Arcaologia, ha demostrat que els hàbits venenuts de l'alta muntanya catalana són considerats els peixos més vulnerables a la contaminació atmosfèrica.

## París subhastà per primera vegada una selecció d'art urbà europeu i llatí

**El Museu** d'Art Modern de París ha subhastat per primera vegada una selecció d'art urbà europeu i llatí. El treball, dirigit pel professor de Geografia i Història de l'Arcaologia, ha demostrat que els hàbits venenuts de l'alta muntanya catalana són considerats els peixos més vulnerables a la contaminació atmosfèrica. El treball, dirigit pel professor de Geografia i Història de l'Arcaologia, ha demostrat que els hàbits venenuts de l'alta muntanya catalana són considerats els peixos més vulnerables a la contaminació atmosfèrica.

El treball, dirigit pel professor de Geografia i Història de l'Arcaologia, ha demostrat que els hàbits venenuts de l'alta muntanya catalana són considerats els peixos més vulnerables a la contaminació atmosfèrica. El treball, dirigit pel professor de Geografia i Història de l'Arcaologia, ha demostrat que els hàbits venenuts de l'alta muntanya catalana són considerats els peixos més vulnerables a la contaminació atmosfèrica.

## Més de 50.000 persones firmen per aconseguir que s'alibiri un gos a l'aeroport

**El treball**, dirigit pel professor de Geografia i Història de l'Arcaologia, ha demostrat que els hàbits venenuts de l'alta muntanya catalana són considerats els peixos més vulnerables a la contaminació atmosfèrica. El treball, dirigit pel professor de Geografia i Història de l'Arcaologia, ha demostrat que els hàbits venenuts de l'alta muntanya catalana són considerats els peixos més vulnerables a la contaminació atmosfèrica.

El treball, dirigit pel professor de Geografia i Història de l'Arcaologia, ha demostrat que els hàbits venenuts de l'alta muntanya catalana són considerats els peixos més vulnerables a la contaminació atmosfèrica. El treball, dirigit pel professor de Geografia i Història de l'Arcaologia, ha demostrat que els hàbits venenuts de l'alta muntanya catalana són considerats els peixos més vulnerables a la contaminació atmosfèrica.

## «Hòbit» publica més lletres de Proppert i Urgues Uria

**El treball**, dirigit pel professor de Geografia i Història de l'Arcaologia, ha demostrat que els hàbits venenuts de l'alta muntanya catalana són considerats els peixos més vulnerables a la contaminació atmosfèrica. El treball, dirigit pel professor de Geografia i Història de l'Arcaologia, ha demostrat que els hàbits venenuts de l'alta muntanya catalana són considerats els peixos més vulnerables a la contaminació atmosfèrica.

## NOU POESEN

El treball, dirigit pel professor de Geografia i Història de l'Arcaologia, ha demostrat que els hàbits venenuts de l'alta muntanya catalana són considerats els peixos més vulnerables a la contaminació atmosfèrica.

16/06/2016 - Diari de Girona

[illegible][illegible][illegible][illegible]



11/10/2015 - El Periódico



01/12/2015 - El Mensual, 20 minutos



05/03/2015 - Mundo Agrario



20/05/2015 - La Vanguardia



20/05/2015 - La Vanguardia



## KEY NUMBERS



*As a publicly funded organisation, CREA has both a responsibility and an interest to feed back on its work; communicating its innovative research programmes and cutting-edge science, and bringing the questions, concerns and responses of the public to the research projects. This is achieved through a number of different initiatives aimed at making sophisticated science understandable to a range of audiences, from high-school students, to journalists, to politicians.*

### OUTREACH CONFERENCES OR TECHNICAL SEMINARS

#### Organized by CREA

##### **JORNADA CREA-SCB-ICHN. Quins serveis ambientals obtenim dels nostres boscos?.**

Place: Institut d'Estudis Catalans, Barcelona

Date: 18 November de 2015

Numbers of attendees: 200

CREA membres involved in organising: Joan Pino, Lluís Brotons, Eduard Pla, Jordi Martínez-Vilalta

##### **Jornada tècnica PATT 2015. Seguiment de la dinàmica de la vegetació des de satèl·lit. El cas del Sahel africà.**

Place: Bellaterra

Date: 20

Numbers of attendees: 20

CREA membres involved in organising: Aleixandre Verger

##### **Workshop "Water quality in the Tordera Basin"**

Place: La Quadra StM.

Palautordera Municipality

Date: 8 July 2015

Numbers of attendees: 20

CREA membres involved as organizer: Anabel Sanchez, Annelies Broekman.



### **Course “Speaking about Science” Doctoral activity of the Terrestrial Ecology Program:**

Place: CREAF, Bellaterra

Date: from October to December 2015 (8 sessions)

Numbers of attendees: 10 per class

CREAF membres involved in organising: Anna Avila Castells

Speakers: Anna Sala (Montana University, USA)

### **Jornada PATT: Presentació del protocol d'avaluació de la restauració d'activitats extractives**

Place: Alcover

Date: 13 November 2015

Numbers of attendees: 25

CREAF membres involved in organising: Vicenç

Carabassa, Josep Maria Alcañiz

### **XII Jornada d'Avenços en Ecologia. SCB-CEAB**

Place: CEAB, Blanes.

Date: 23 October 2015.

Number of attendees: 60

CREAF membres involved in the organising: Jordi Catalan (convenor)

### **The High Mountain in a Changing World: Challenges for conservation. International Workshop.**

Place: Espot, Aigüestortes i Estany de Sant Maurici National Park.

Date: 4-6 November 2015.

CREAF membres involved in the organising: Jordi Catalan (convenor)

### **Jornada PATT. SIG aplicat a la gestió forestal.**

Place: CREAF, Bellaterra

Date: 25-26 June 2015

Number of attendees: 30

CREAF membres involved in organising: Enrique Doblas, Jordi Vayreda, Lluís Comas



### **III MENFRI SAG (expertise roundtable on forestry in the Mediterranean).**

Place: Sant Pau, Barcelona

Date: 22-23 June 2015

Number of attendees: 16

CREAF members involved in organising: Enrique Doblas

### **R2I Cluster Meeting (among managers of R2I-ENP, EC 7FP, projects).**

Place: CREAF, Bellaterra

Date: 20 January 2015

Number of attendees: 10

CREAF members involved in organising: Enrique Doblas



**Check Annexes to see more CREAF outreach activity**

# ANNEXES





# ANNEXES PUBLICATIONS

## No SCI publications

**BANQUÉ, M. MARTÍNEZ-VILALTA, J. & J. VAYREDA** (2015). Resultats de l'enquesta de coneixement expert de la vulnerabilitat al canvi climàtic de les principals espècies forestals de Catalunya. *Catalunya Forestal*, 124, 21-22.

**BAÑOL-PÉREZ, C., BARRIENTOS, J.A., PIÑOL, J.** (2015), Efecto de la exclusión de hormigas sobre la abundancia y diversidad de *Hymenoptera Parasitica* en un cultivo ecológico de mandarineros (La Selva del Camp, Tarragona, España). *Orsis*. 29: 1-42. (A).

**BARECH, G., REBBAS, K., KHALDI, M., DOUMANDJI, S., ESPADALER, X.** (2015), Redécouverte de la fourmi d'Argentine *Linepithema humile* en Algérie : un fléau qui peut menacer la biodiversité. *Boletín de la Sociedad entomológica Aragonesa* 56: 269-272.

**BLOWER J.D., MASÓ J., DÍAZ D., ROBERTS C.J., GRIFFITHS G.H., LEWIS J.P., YANG X. AND PONS X.** (2015). Communicating Thematic Data Quality with Web Map Services. *ISPRS International Journal of Geo-Informatics* 4(4) 1965-1981. DOI: 10.3390/ijgi4041965

**BONAL R, HERNÁNDEZ M, ESPELTA J.M., MUÑOZ, A., APARICIO J.M** (2015), Unexpected consequences of a drier world: evidence that delay in late summer rains biases the population sex ratio of an insect. *Royal Society Open Science* 2 150198.

**CORBERA, J., FERNÁNDEZ-MARTÍNEZ, M., JOVER, M., TORNER, G., CALPE, M., CIURANA, O., SABATER, F.** (2015), Els briòfits de les fonts de la Serralada Litoral Central: composició específica i efecte dels paràmetres ambientals en la seva distribució. *L'Atzavara* 25 (2015) 105-116.

**DOBLAS-MIRANDA E., MENFRI TEAM** (2015), MENFRI network: Euro-Mediterranean innovation for forest development. *Forêt Méditerranéenne* 36 (2) 223-230.

**FERNÁNDEZ-MARTÍNEZ, M., ACHOTEGUI-CASTELLS, A.** (2015), La variabilitat interdecadal de l'Oscil·lació de l'Atlàntic Nord com a possible determinant de la freqüència de rierades a Arenys. *L'Atzavara* 25 (2015) 117-124.

**KEFAUVER, S., FILELLA, I., ZHANG, C., PEÑUELAS, J.** (2015). Linking OMI HCHO and MODIS PRI satellite data with BVOCs emissions in NE Spain. Geoscience and Remote Sensing Symposium (IGARSS), 2015 *IEEE International*, 2661 – 2664

**LL. BENEJAM, S. SAURA-MAS, J. MONTSERRAT, F. TORRES, M. MACIES** (2015). Could electric fish barriers help to manage native populations of European crayfish threatened by crayfish plague (*Aphanomyces astaci*)?: Management of Biological Invasions. Volume 6 Issue 3: 307 (A)

**MÉNARD L., NÜST D., NGOA K.M., BLANC P., JIRKA S., MASÓ J., RANCHIN T., WALD L.** (2015). Interoperable Exchange Of Surface Solar Irradiance Observations; A Challenge. *Energy Procedia*. 76 113-120. DOI: j.egypro.2015.07.867

**HERMOSO, V. CLAVERO, M. VILLERO, D. BROTONS, LL.** Continental targets for EU conservation. Correspondence published in *Nature* 528, 193 (2015); <http://dx.doi.org/10.1038/528193b>

**PÉREZ-HIDALGO N., HERNÁNDEZ-CASTELLANO C., GARCIA-FIGUERES F.** (2015), First record of *Neophyllaphis podocarpi* Takahashi (Hemiptera: Aphididae) in the Iberian Peninsula. *Bulletin OEPP/EPPO Bulletin* 45(1) 1-3.

**SABATER, F., FERNÁNDEZ-MARTÍNEZ, M., CORBERA, J., CALPE, M., TORNER, G., CANO, O., CORBERA, G., CIURANA, O., PARERA, J.M.** (2015), Caracterització hidrogeoquímica de les fonts de la Serralada Litoral Central en relació a la litologia i als factors ambientals. *L'Atzavara* 25 (2015) 93-104.

**SÁNCHEZ-GARCÍA, D., ESPADALER, X.** (2015), Cardiocondyla obscurior Wheeler, 1929 (Hymenoptera, Formicidae) en España. *Iberomyrmex* 7: 7–9.

**SANCHEZ-LORENZO, A., VICENTE-SERRANO, S.M., WILD, MM., AZORIN-MOLINA, C., CALBÓ, J., REVUELTO, J., LÓPEZ-MORENO, J.I., MORAN-TEJEDA, E., MARTÍN-HERNÁNDEZ, N., PEÑUELAS, J.** (2015) Evaporation and reference evapotranspiration trends in Spain. Geophysical Research Abstracts, Vol. 17, EGU2015-14983, 2015, EGU General Assembly 2015.

**TERRADAS, J.** (2015). El pensamiento evolutivo de Ramón Margalef. *Ecosistemas*, 24: 104-110

**VAYREDA, J & CARBONELL, X.** (2015) Treure fusta dels nostres boscos. El projecte SIMWOOD promou experiències pilot innovadores de mobilització de fusta a tot Europa. *Revista Silvicultura*, 72, 14-16.

## Bookchapters

**ANTONIADES, D.; OLIVA, M.; GIRALT, S.; AGRELA, J.; GRANADOS, I.; PLA-RABES, S.; TORO, M. & VIEIRA, G.** (2015). Deglaciación holocena de la Península Barton (Isla King George, Antártida Marítima). In: Gómez Ortiz, A.; Salvador-Franch, F.; Oliva, M. & Salvà-Catarineu, M. (eds.). Avances, métodos y técnicas en el estudio del periglaciario. Publicacions i Edicions de la Universitat de Barcelona, Barcelona, pp. 47-54.

**CATALAN J.** (2015). Tracking long-range atmospheric transport of trace metals, polycyclic aromatic hydrocarbons, and organohalogen compounds using lake sediments of mountain regions. In: J. M. Blais, M. R. Rosen and J. P. Smol (eds.), Environmental contaminants. Using natural archives to track sources and long-term trends of pollution. Springer Netherlands, Dordrecht, pp. 263-322.

**LLORET, F., ESCUDERO, A., IRIONDO, J.M., MARTINEZ-VILALTA, J., VALLADRES, F.** (2015) Mecanismos de estabilización y resiliencia de la vegetación frente a eventos climáticos extremos. In: Herrero A , De Zavala MA (directores) Los bosques y la biodiversidad frente al cambio climático: Impactos, Vulnerabilidad y Adaptación en España. Informe de Evaluación. Ministerio Agricultura, Alimentación y Medio Ambiente, pp. 369-375. ISBN 978-84-491-0038-3.

**PESQUER L, ZABALA A** (2015) Lossy Compression for Remotely Sensed Images. Encyclopedia of Computer Science and Technology. Taylor & Francis Group

**SABATÉ S, NADAL-SALA D, GRACIA C.** (2015) Proyecciones sobre la evolución de los balances de carbono y agua para los bosques españoles en el contexto de cambio climático. De Zavala MA (directores) Los bosques y la biodiversidad frente al cambio climático: Impactos, Vulnerabilidad y Adaptación en España. Informe de Evaluación. Ministerio Agricultura, Alimentación y Medio Ambiente, pp. 369-375. ISBN 978-84-491-0038-3.

**S. RAMOS, S. SAURA-MAS, G. MERCADAL, M. JOVER, LL. VILAR.** (2015). Propostes de gestió i de zones prioritàries per a la conservació de la flora. In: Ll. Vilar, X. Quintana. El poblament vegetal i els hàbitats del massís del Montgrí, les illes Medes i la plana del Baix Ter. Editorial: Càtedra d'ecosistemes litorals mediterranis. Parc natural del Montgrí. Museu de la Mediterrània. ISBN: 2013-2939

**S. SAURA MAS, M. JOVER.** 2015. Flora vascular singular. In: Ll. Vilar, X. Quintana. El poblament vegetal i els hàbitats del massís del Montgrí, les illes Medes i la plana del Baix Ter. Editorial: Càtedra d'ecosistemes litorals mediterranis. Parc natural del Montgrí. Museu de la Mediterrània. ISBN: 2013-2939

**SOL D** (2015) The evolution of innovativeness: exaptation or specialized adaptation? In: Kaufman A, Kaufman J (eds) Animal creativity and innovation: research and theory. Academic Press, San Diego, California, pp 163–182

**VAYREDA J., GRACIA M., MARTÍNEZ-VILALTA J., CANADELL J.G., RETANA J.** (2015) Vulnerabilidad de los bosques españoles al cambio global: efectos sobre el stock y la capacidad de sumidero de carbono. In: Herrero A, De Zavala MA (directores) Los bosques y la biodiversidad frente al cambio climático: Impactos, Vulnerabilidad y Adaptación en España. Informe de Evaluación. Ministerio Agricultura, Alimentación y Medio Ambiente, pp. 369-375. ISBN 978-84-491-0038-3.

**VILÀ-CABRERA A., GALIANO L., MARTÍNEZ-VILALTA J.** (2015) Vulnerabilidad de los bosques ibéricos de pino albar ante el cambio climático. In: Herrero A, De Zavala MA (directores) Los bosques y la biodiversidad frente al cambio climático: Impactos, Vulnerabilidad y Adaptación en España. Informe de Evaluación. Ministerio Agricultura, Alimentación y Medio Ambiente, pp. 369-375. ISBN 978-84-491-0038-3.

## Conferences

### Member of the scientific committee of national and international conferences

#### 4º Congreso Ibérico de Ecología

Place: Coimbra (Portugal)

Date: 15-19 June 2015

CREAF members in the scientific committee: F. Lloret

#### ClimMani meeting

Place: Poznan, Poland

Date: September 28-30, 2015

CREAF members in the Organizing committee: J. Peñuelas y M. Estiarte

#### Imbalance-P, kick-off meeting

Place: Barcelona

Date: January 14-16

CREAF members in the Organizing committee: J. Peñuelas y M. Estiarte

#### LEAP: Land Ecosystem – Atmosphere Processes Workshop

Place: Richland EMSL-NPPL

Date: March 9 and 1

CREAF members in the Organizing committee (on-line): J. Peñuelas, M. Bartrons



## Contribution in national and international conferences.

**ACHOTEGUI, A., FARRÉ-ARMENGOL, G. AND GLOBAL ECOLOGY UNIT CREAM-CSIC.** (2015). Effects of nutrient availability on floral volatile emissions and flower pollination. *Imbalance-P conference* (European Research Council Synergy grant ERC-2013-SyG-610028). Barcelona (Catalonia, Spain), 13-16 January. (oral communication)

**ALLEN, C., BRESHEARS, D.D., McDOWELL, N.G., LLORET, F.** (2015) Underestimation of Global Vulnerability to Tree Mortality and Forest Die-Off from Hotter Drought in the Anthropocene — A Synthesis of Contrasting Evidence and Perspectives. *American Geophysical Union Fall Meeting*, San Francisco, 14-18 December 2015 (oral communication)

**ALONSO, R., GEROSA, G., RIBAS, A., CALATAYUD, V., DÍAZ DE QUIJANO, M., ELVIRA, S., CALVO, E., MARZUOLI, R., PEÑUELAS, J., POLLASTRINI, M., BUSSOTTI, F., MEREU, S., FUSARO, L., GONZÁLEZ-FERNÁNDEZ, I.** (2015). Ozone critical levels for Mediterranean forests. ICPVegetation, Rome (Italia), 3-5 February. (oral communication)

**AMORES-ARROCHA M., AMORES-ARROCHA A., MARCER A. AND PICÓ F.X.** (2015) Analysis of the geographic structure of genetic variation in *Arabidopsis thaliana* in Eurasia. *EUROANALYSIS 2015*, Université de Bordeaux, Bordeaux, France, 6-10 September (poster)

**ASENSIO, D. AND GLOBAL ECOLOGY UNIT CREAM-CSIC.** (2015). The role of soil enzymes and soil microbial stoichiometry on N:P imbalances. *Imbalance-P conference* (European Research

Council Synergy grant ERC-2013-SyG-610028). Barcelona (Catalonia, Spain), 13-16 January. (oral communication)

**BAGARIA G., HELM A., RODÀ F., PINO J.** (2015), Extinction debt and colonization credit coexist in a forestation gradient on Mediterranean grasslands, 58th IAVS Symposium: Understanding broad-scale vegetation patterns. Brno, Czech Republic. 19-24 July (oral communication).

**BARBA, J., CURIEL-YUSTE, J., POYATOS, R., JANSSENS, I., LLORET, F.** (2015) Strong resilience of soil respiration components to drought-induced die-off resulting in forest secondary succession. *Ecological European Federation* (EEF/SITE) Congress "Ecology at the interface". Roma, 21-25 September (poster)

**BARBA, J., CURIEL-YUSTE, J., POYATOS, R., JANSSENS, I., LLORET, F.** (2015) Strong resilience of soil respiration components to drought-induced die-off resulting in forest secondary succession. *4 Congreso Ibérico de Ecología. Coimbra* (Portugal), 15 -18 June (poster)

**BARBETA, A., AND GLOBAL ECOLOGY UNIT CREAM-CSIC.** (2015). Linking hydraulic redistribution and nutrient uptake capacity by roots in Amazonian Rainforests. *Imbalance-P conference* (European Research Council Synergy grant ERC-2013-SyG-610028). Barcelona (Catalonia, Spain), 13-16 January. (oral communication)

**BARTRONS M., CIAIS, P., JANSSENS, I., OBERSTEINER, M., PEÑUELAS, J.** (2015). Quantifying the responses of ecosystems and society in a world increasingly rich in N and C but limited in Phosphorus. *5th International Workshop on Higher Education*. June 9th-12th, 2015. University of Vic, Spain. (oral communication)

**BARTRONS, M. AND GLOBAL ECOLOGY UNIT CREAM-CSIC.** (2015). Food web response to nutrient imbalances. *Imbalance-P conference* (European Research Council Synergy grant ERC-2013-SyG-610028). Barcelona (Catalonia, Spain), 13-16 January. (oral communication)

**BASNOU C, MELERO Y, PINO J.** (2015), Ecosystem functions and services in Barcelona, *Nature-Based Solutions to Societal Challenges*. Ghent, Belgium, 18-20 May. (oral communication)

**BASTOS AC, DOMENE X, KAMMAN, D, CARDOSO R, MORGADO A, PRODANA M, ARASA R, DEL ÁGUILA M, BUCHELI T, HILBER I, SCHMIDT H-P, VERHEIJEN FGA, KEIZERG JJ, SOARES AMVM, LOUREIRO S.** (2015). Bridging the gaps between analytical & effect-based biochar characterization: an inter-laboratory COST Action initiative. *EU COST Action Biochar & ANS e.V. Final Symposiu*. Geisenheim, Germany. 28-30 September. (poster)

**BOSCH J.** (2015) Diversified pollination strategies for bee-pollinated crops. *XXV Semana Científica de la Universidade Federal de Uberlândia*, Brazil. October (oral communication, opening conference)

**BOSCH J.** (2015) Pre-wintering conditions and reproductive success in a solitary bee: is there a trade-off between diapause and post-winter performance? *XI Bee Meeting*. Ribeirão Preto, Brazil. October 20015. (oral communication, invited speaker)

**BOSCH J. MARTÍN GONZÁLEZ A.M, ARNAN X., PRIMANTE C., BARRIL-GRAELLS H. RODRIGO A.** (2015) Interannual variation in flowering patterns and plant-pollinator interactions in a mediterranean plant community. *ECOFLO*R. Zahara de los Atunes. February. (oral communication)

**CAILLERET M., BIGLER C., BUGMANN H., DAVI H., MINUNNO F., PELTONIEMI M., MARTÍNEZ-VILALTA J.** (2015) Towards a common methodology to assess tree-ring based growth-mortality relationships. *EGU General Assembly 2015*. 12-17 April, Vienna, Austria, (poster)

**CAILLERET M., BIRCHER N., MARTÍNEZ-VILALTA J., BUGMANN H.** (2015) Comment mieux simuler la mortalité des arbres dans les modèles de dynamique forestière ? Tests avec le modèle ForClim. *CAQSI*S 2015. Nancy, 7-9 April (oral communication)

**CAILLERET M., MARTÍNEZ-VILALTA J., BIGLER C., JANSEN S., ROBERT E.M.R., BUGMANN H., AND MEMBERS OF TOPIC GROUP 7 OF**

**THE EU COST ACTION STReESS5** (2015) Is there any universal growth-mortality relationship? Insights from a new international tree-ring database. *International Scientific Conference on Dendrochronology Climate and Human History in the Mediterranean Basin*. Antalya, Turkey, 18-23 October (oral communication)

**CAÑIZARES R, RAYA I, DOMENE X, CARABASSA V, ALCAÑIZ JM,.** (2015). Efectos de la aplicación de biochar en la material orgánica. *XXX Reunión Nacional del Sociedad Española de la Ciencia del Suelo*, Granada. 11 September. (poster)

**CAÑIZARES R, TORRES G, RAYA I, CARABASSA V, ORTIZ O, ALCAÑIZ JM** (2015). Comparación de la estabilidad de la materia orgánica de un suelo tratado con distintos tipos de biochar y compost. *VII Simposio Nacional sobre Control de la Degradación y la Restauración del Suelo (CONDEGRES)*. Bilbao. 22-26 June (poster)

**CARABASSA V, GONZÁLEZ R, ORTIZ O, CAÑIZARES R, ALCAÑIZ JM** (2015) Rehabilitación de suelos con lodos de depuradora ¿es una práctica efectiva para el secuestro de carbono?. *VII Simposio Nacional sobre Control de la Degradación y la Restauración del Suelo (CONDEGRES)*. Bilbao. 22-26 June. (oral communication)

**CARABASSA V, ORTIZ O, ALCAÑIZ JM** (2015) Protocolo para la evaluación y seguimiento de la restauración de zonas afectadas por minería. *VII Simposio Nacional sobre Control de la Degradación y la Restauración del Suelo (CONDEGRES)*. Bilbao. 22-26 June. (poster)

**CARNICER, J. AND GLOBAL ECOLOGY UNIT CREAM-CSIC.** (2015). Insect Biodiversity and

C-N-P stoichiometry. *Imbalance-P conference* (European Research Council Synergy grant ERC-2013-SyG-610028). Barcelona (Catalonia, Spain), 13-16 January. (oral communication)

**CATALAN, J.** (2015). A Meeting point for freshwater biogeochemistry and microbial biodiversity: who is doing the work, at what pace are they working? ASLO 2015. *Aquatic Sciences Meeting*. 22-27 February. Granada. Spain. (oral communication and session cochair)

**CATALAN, J.** (2015). Aigüestortes, un santuari per a la recerca limnològica (història i perspectives). *X Jornades Sobre recerca al Parc Nacional d'Aigüestortes i Estany de Sant Maurici*. Espot 14-16 October. (oral communication)

**CATALAN, J.** (2015). Análisis ecológico de la culturización del paisaje de alta montaña desde el Neolítico: los Parques Nacionales de montaña como modelo. *Jornada de Investigación. Parque Nacional de Ordesa y Monte Perdido*. Torla. Huesca. 27 October. (oral communication)

**CATALAN, J.** (2015). Strengthening the palaeolimnological contribution to global change. ASLO2015. *Aquatic Sciences Meeting*. 22-27 February. Granada. Spain. (oral communication and session co-chair)

**CATALAN, J.; PLA-RABÈS, S.; RIVERA-RONDÓN, C. A.; CAMARERO, L.** (2015). Reconstructing inorganic carbon changes in lakes using the diatom record. ASLO2015. *Aquatic Sciences Meeting*. 22-27 February 2015. Granada. Spain. (oral communication)

**CAYUELA, L., GRANZOW-DELA CERDA, Í, MACÍA, M.** (2015) What do we know about tropical biodiversity research? Ecological European Federation (EEF/SITE) *Congress "Ecology at the interface"*. Roma, 21-25 September (oral communication).

**CHAPARRO D., VALL-LLOSSERA M., PILES M., CAMPS A., POU X., PORTAL G., VAYREDA J, MARTÍNEZ-VILALTA J, BANQUÉ M, AND THE SMOS-BEC TEAM** (2015) Remotely sensed soil moisture & forestry applications. *2nd SMOS Science Conference*. Madrid, 25-29 May (oral communication)

**COSTA D, DOMENE X, ABRANTES I, SOUSA JP, ALCAÑIZ JM.** (2015) Biochar application in agricultural Mediterranean soils: effects on nematode communities. *4º Congreso Ibérico de Ecología. Sociedade Portuguesa de Ecologia-Asociación Española de Ecología Terrestre*. Coimbra, Portugal. 16-19 Julio. (poster)

**DEMENDOZA, G.; VENTURA, M.; CATALAN, J.** (2015). Environmental factors prevail over dispersal constraints in determining the distribution and assembly of Trichoptera species in mountain lakes. ASLO2015. *Aquatic Sciences Meeting*. 22-27 February 2015. Granada. Spain. (oral communication)

**DEBROUK H., ALTIMIR N., IBÁÑEZ M., RIBAS A., SEBASTIÀ MT.** (2015) CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O fluxes in semi-natural grasslands in the Pyrenees. *The 4º Iberian Ecological Congress*. Coimbra, 16-19 th June. (oral communication)

**DEBROUK H., ALTIMIR N., IBÁÑEZ M., RIBAS A., SEBASTIÀ MT.** (2015) GHG Fluxes in semi-natural grasslands in the Pyrenees. *European Geosciences Union (EGU) General Assembly*. Viena, 12-17 April. (poster)

**DEBROUK H., ALTIMIR N., RIBAS A., IBÁÑEZ M., SEBASTIÀ MT.** (2015) GHG fluxes in semi-natural grasslands in the Pyrenees. *4th ICOS-Finland meeting: Greenhouse Gases, Science and Society Conference*. Helsinki, 26-27th October (poster)

**DIAZ DE QUIJANO, D.; FELIP, M.; CATALAN, J.** (2015). Phosphatase in *Cyclotella* spp. and its implications for the global change



interpretation of paleolimnological records. ASLO2015. *Aquatic Sciences Meeting*. 22-27 February. Granada. Spain. (poster)

**DOBLAS-MIRANDA E.** (2015), Innovation for forest development. *IV Mediterranean Forest Week*. Barcelona, 17-20 March. (invitation to oral presentation and roundtable)

**DOMENE X, BASTOS AC.** (2015) Bridging the gaps between analytical and effects-based characterization of biochars as remediation agents. *25th SETAC Europe Annual Meeting*. Barcelona, Spain. 3-7 May. (poster)

**DOMENE X, MATTANA S, SÁNCHEZ-MORENO S.** (2015) Soil nematode communities as indicators of medium-term ecological impacts of biochar application. *25th SETAC Europe Annual Meeting*, Barcelona, Spain. 3-7 May. (poster)

**DOMENE X.**, (2015) Eco(toxico)logical risk assessment of biochar applications to soil. *Meeting of the Commission III (Soil Biology and Soil Ecology) German Soil Science Society (DBG)*. Universität Bremen Zentrum für Umweltforschung und nachhaltige Technologien. Bremen, Germany. 17-18 March. (invited speaker)

**EINSTEIN, A., JANSSENS, I., PEÑUELAS, J., CIAIS, P., OBERSTEINER, M.** (2015). IMBALANCE-P: aims and overview of ecosystem manipulation experiments. Oral communication at presented at the Nutrients in terrestrial ecosystems and their role in climate change feedback. *2nd ClimMani COST action meeting*. Poznan, 28-30 September. (oral communication)

**ESPELTA JM, ROSELL C, NAVÁS F, FERNÁNDEZ-BOU M, SUNYER P, MUÑOZ A, BONAL R.** (2015). IMPACTBOAR: Evaluación del impacto del jabalí (*S. scrofa*) sobre las comunidades de prados, regeneración del arbolado y especies animales clave en el Parque Nacional de Aigüestortes i Estany de Sant Maurici (PNAESM). Jornadas de Investigación Programa Científico OAPN. PN Cabañeros, 28-30 October. (oral communication)

**ESPELTA JM, ROSELL C, NAVÁS F, FERNÁNDEZ-BOU M, SUNYER P, MUÑOZ A, BONAL R.** (2015). Avaluació de l'impacte del senglar

en al Parc Nacional d'Aigüestortes i Estanys de Sant Maurici. *X Jornades Sobre recerca al Parc Nacional d'Aigüestortes i Estany de Sant Maurici*. Espot 14-16 October. (oral communication)

**ESPELTA, J.M, VILÀ-CABRERA, A., BASNOU, C., PINO, J.** (2015), Are "new forests" in Spain relevant for C accumulation and stocks? (Poster). *4º Congreso Ibérico de Ecología*. Coimbra, Portugal, 16-19 June. (poster)

**ESTIARTE M, PEÑUELAS J.** (2015). Potential significance for nutrient leaching of manipulation type in precipitation-reduction experiments. Poster presented at the Nutrients in terrestrial ecosystems and their role in climate change feedback. *2nd ClimMani COST action meeting*. Poznan, 28-30 September. (poster)

**ESTIARTE M, VICCA S, PEÑUELAS J, BAHN M, BEIER C, EMMETT BA, FAY PA, HANSON PJ, HASIBEDER R, KIGEL J, KRÖEL-DULAY G, LARSEN KL, LELLEI-KOVÁCS E, LIMOUSIN JM, OGAYA R, OURCIVAL JM, SALA OE, SMITH AR, SCHMIDT IK, STERNBERG M, TIELBÖRGER K, TIETEMA A, JANSSENS I.** (2015). ANPP-precipitation relationships in multi-year drought experiments in natural ecosystems. *100th ESA Annual Meeting*, August 9 -- 14, 2015, Baltimore, MD. (oral communication)

**FARRÉ-ARMENGOL G., ACHOTEGUI-CASTELLS A.** (2015). Effects of nutrient availability on floral volatile emissions and flower pollination. *Imbalance-P conference PLECO Antwerp, and Global Ecology Unit CREAM-CSIC* (European Research Council Synergy grant ERC-2013-SyG-610028). Barcelona. January 13-16. (oral communication).

**FELIP, M.; TRIADÓ-MARGARIT, X.; CASAMAYOR, E. O.; GASOL, J. M.; CATALAN, J.** (2015). Protist diversity assessment: comparing microscopy, cytometry and molecular approaches. **ASLO2015**. Aquatic Sciences Meeting. 22-27 February 2015. Granada. Spain. (poster)

**FERNÁNDEZ-MARTÍBEZ, M. AND GLOBAL ECOLOGY UNIT CREAM-CSIC.** (2015). Disentangling the role of nutrient availability and a changing climate in forest productivity. *Imbalance-P conference* (European Research Council Synergy grant ERC-2013-SyG-610028). Barcelona (Catalonia, Spain), 13-16 January. (oral communication)

**GALIANO L., TIMOFEEVA G., SAURER M., SIEGWOLF R., MARTÍNEZ-VILALTA J., GESSLER A.** (2015) Allocation to stored C pools during recovery from severe drought. *4º Congreso Ibérico de Ecología*. Coimbra (Portugal), 15 -18 June (poster)

**GARCIA-FORNER N., SALA A., BIEL C., SAVÉ R., MARTÍNEZ-VILALTA J.** (2015) Individual traits as determinants of time to death under extreme drought in *P. sylvestris*. *4º Congreso Ibérico de Ecología*. Coimbra (Portugal), 15 -18 June (oral communication)

**GARGALLO-GARRIGA, A., SARDANS, J., PÉREZ-TRUJILLO, M., PARELLA, T., PEÑUELAS, J.** (2015). Ecometabolomic study of plant shoots/roots responses to drought. *EUROMAR, European Magnetic Resonance Meeting*, July 5-10, Prague, Czech Republic. (poster).

**GARGALLO-GARRIGA, A., SARDANS, J., PÉREZ-TRUJILLO, M., PARELLA, T., PEÑUELAS, J.** (2015). Ecometabolomic study of plant

shoots/roots responses to drought. *Jornades doctorals, Departament Química, Facultat de Ciències i Biociències Universitat Autònoma de Barcelona*. (oral communication)

**GIMÉNEZ-GRAU, P.; FELIP, M.; PLA-RABÉS, S.; CAMARERO, L.; CATALAN, J.** (2015). Prokaryote phylogenetic major groups response to P and N experimental enrichments in an ultraoligotrophic lake. **ASLO2015. Aquatic Sciences Meeting**. 22-27 February 2015. Granada. Spain. (oral communication)

**GONZÁLEZ-LAGOS., C.; SOL, D.** Avian urban dwellers are better invaders due to their enhanced behavioural plasticity. *34th International Ethological Conference 2015*, Cairns, Australia. (oral communication)

**GONZÁLEZ-MARTÍNEZ S.C., ALÍA R., BUDDE K., ECKERT A.J., GRIVET D., HEUERTZ M., JARAMILLO-CORREA J.P., MAYOL M., PLOMION C., RIBA M., RODRÍGUEZ-QUILÓN I., VENDRAMIN G.G., VIZCAINO-PALOMAR N.** (2015) Back to nature: candidate genes, population genomics and prediction of maladaptation in natural populations. *ProCoGen Final Open Conference, Promoting Conifer Genomic Resources*. Orléans, 30th November - 4th December. (invited oral communication)

**GRAU, O. AND GLOBAL ECOLOGY UNIT CREAM-CSIC.** (2015). Linking ecosystem diversity, structure and function. *Imbalance-P conference* (European Research Council Synergy grant ERC-2013-SyG-610028). Barcelona (Catalonia, Spain), 13-16 January. (oral communication)

**HERNÁNDEZ-CASTELLANO C., PIÑOL J., ESPADALER X.** (2015). Usefulness and limitations of stable isotopes ( $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$ ) to study arthropod food webs. An example of an ant community from a citrus grove. *Jornades de Biorecerca - UABio*. Barcelona 5 June. (poster)

**HINAREJOS S. DOMENE X, BOSCH J.** (2015) Developing laboratory test methods for evaluating toxicity to solitary bees. Entomological Society of America. *Pacific Branch Meeting*. Coeur d'Alene. April. (oral communication)

**IBÁÑEZ M., ALTIMIR N., DEBROUK H., RIBAS A., SEBASTIÀ MT.** (2015) Relative influence of vegetation and climate on carbon dioxide exchange in Pyrenean grasslands. *The 4º Iberian Ecological Congress "ECOLOGÍA FUNCIONAL Y CAMBIO AMBIENTAL / ECOLOGIA FUNCIONAL E ALTERAÇÕES AMBIENTAIS*. Coimbra, 16-19 th June. (poster)

**IBÁÑEZ M., ALTIMIR N., RIBAS A., SEBASTIÀ MT.** (2015) Carbon Dioxide Exchange in Pyrenean Grasslands: Relative Influence of Vegetation and Climate. GHG flux Workshop, From Natural to Urban Systems. Potsdam, 19-23th October (poster)

**IZQUIERDO R., AGUILLAUME L., ALARCÓN M., AVILA A.** (2015). Trends and patterns of N wet deposition in NE Spain for the last 3 decades. *I Jornada Científica del Departament de Biologia Animal, Biologia Vegetal i Ecologia*. UABio. Bellaterra, 5 June 2015. (poster)

**JULIÀ N, NINYEROLA M** (2015) An interoperable standard system for the automatic generation and publication of the fire risk maps based on Fire Weather Index (FWI). *European Geosciences Union General Assembly - EGU 2015*, Vienna, Austria. (poster)

**KEFAUVER, S., FILELLA, I., ZHANG, C., PEÑUELAS, J.** (2015). Linking OMI HCHO and MODIS PRI satellite data with BVOCs emissions in NE Spain. *International Geoscience and Remote Sensing Symposium* (IGARSS IEEE), Milan, Italy. July 26-31. (oral communication)

**LACAZE R., SMETS B., CALVET J.-C., CAMACHO F., TANSEY K., BARET F., RAMON D., MONTERSLEET B., ROUJEAN J. -L., WANDREBECK L., SWINNEN E., BERTELS L., VERGER A., FREITAS S., PAULIK C., JANN A.** (2015). Sentinel-3 for the Copernicus Global Land Service: Monitoring the Continental Ecosystems at Global Scale. *Sentinel-3 for Science workshop*, Venice, Italy, 2nd-5th June (oral communication).

**LAMI, A.; BUCHACA, T.; MARCHETTO, A.; MUSAZZI, S.; CATALAN, J.; GUILIZZONI, P.** (2015).. Differential patterns in the response

to global change of high altitude lakes in two mountain ranges in Europe. *ASLO2015. Aquatic Sciences Meeting*. 22-27 February 2015. Granada. Spain. (oral communication)

**LLORET, F.** (2015) Trade-offs in the high-mountain conservation. International Workshop "The High-mountain in a changing world: challenges for conservation". *Espot* (Lleida, Spain), 4-6 November. (invited presentation)

**LLORET, F., SAPES, G., BATLLORI, E.** (2015) Assessing plant community responses to global change through species bioclimatic niches. Ecological European Federation (EEF/ SITE) *Congress "Ecology at the interface"*. Roma, 21-25 Setember (oral communication)

**LLURBA R., RIBAS A., GOURIVEAU F., ALTIMIR N., CONNOLLY J., SEBASTIÀ MT.** (2015) Efectos de la identidad e interacciones de plantas sobre la producción y los intercambios gaseosos de gases traza en mezclas forrajeras. *IV REMEDIA Workshop*. Madrid, 23-25 March (oral communication)

**LLUSIÀ, J. AND GLOBAL ECOLOGY UNIT CREA-FCSC.** (2015). Responses of terpene and phenolics content (and) emissions, of Mediterranean and tropical vegetation to changes in nutrient availability. *Imbalance-P conference* (European Research Council Synergy grant ERC-2013-SyG-610028). Barcelona (Catalonia, Spain), 13-16 January. (oral communication)

**LONGO A., INGALL E.D., DÍAZ, J.M., OAKES M.M., KING L., NENES A., MIHALOPOULOS N., VIOLAKI K., AVILA A., BENITEZ-NELSON C.R., BRANDES J.A., McNULTY I., VINE D.** (2015) Aerosol



phosphorus delivered to the Mediterranean Sea: insights from synchrotron-based spectroscopy. *ASLO Meeting*. Granada, Spain, 22-27 February. (poster)

**MARGALEF, O. AND GLOBAL ECOLOGY UNIT CREAF-CSIC.** (2015). Phosphorus pathways in soil: Nutrient availability under the time perspective. *Imbalance-P conference* (European Research Council Synergy grant ERC-2013-SyG-610028). Barcelona (Catalonia, Spain), 13-16 January. (oral communication)

**MARTÍNEZ-VILALTA J., SALA, A., ASENSIO M.D., LLORET F., PALACIO S., GALIANO L., HOCH G., PIPER F.** (2015) Dynamics of non-structural carbohydrates in terrestrial plants: a global synthesis. *4º Congreso Ibérico de Ecología*. Coimbra (Portugal), 15 -18 June (oral communication)

**MASÓ J, PRAT E, MONTANER C, COLOMER J L** (2015) After populating INSPIRE with datasets, how to ensure geospatial digital preservation. *INSPIRE Conference 2015*. Lisboa, Portugal. 25-29 May. (oral communication)

**MASÓ J, SERRAL I, MENARD L, WALD L, NATIVI S, PLAG H-P, JULES-PLAG S, NÜST D, JIRKA S, PEARLMAN J, DE MAZIERE M** (2015) Towards the creation of a European Network of Earth Observation Networks within GEO. *The ConnectinGEO project. European Geosciences Union General Assembly - EGU 2015*, Vienna, Austria. (oral communication)

**MASÓ, J., BROEK M., THUM S., NÜST D., ZABALA A** (2015) Geospatial User Feedback as a Form of Alternative Scientific Digital Reputation. *EO*

*Open Science 2.0 workshop*. ESA-ESRIN, Frascati, Italy. 12-14 October. (oral communication)

**MASPONS, J.** (2015) Modelling workgroup: What environmental conditions favor the evolution of POLS? *Workshop: Towards a general theory of the pace-of-life síndrome*, 2015, Nov 15, Hannover, Germany. (oral communication)

**MASPONS, J. & SOL, D.** (2015) Integrating behaviour to unravel the life history of successful invaders Presented at *11th Ecology & Behaviour meeting*; May 17-21th; Toulouse, France. (oral communication)

**MAYOL M., RIBA M., GONZÁLEZ-MARTÍNEZ S.C., DEBEAULIEU J.L., BERGANZO E., BURGARELLA C., DUBREUIL M., KREJMEROVA D., PAULE L., ROMSAKOVA I., VETTORI C., VINCENOT L., BAGNOLI F., VENDRAMIN G.G.** (2015) Adapting through glacial cycles: insights from a long-lived tree (*Taxus baccata* L.). 10º Congresso Nazionale SISEF, Sostenere il pianeta, boschi per la vita. *Ricerca e innovazione per la tutela e la valorizzazione delle risorse forestali*. Firenze, 15th-18th September. (oral communication)

**MENARD L, NÜST D, JIRKA S, MASÓ J, RANCHIN T, WALD L** (2015) Open Surface Solar Irradiance Observations - A Challenge. *European Geosciences Union General Assembly - EGU 2015*, Vienna, Austria. (oral communication)

**MUÑOZ A., SUNYER P., BOIXADERA E., BONAL R., ESPELTA J.M.** (2015) The interplay among acorn abundance and rodent behaviour drives the spatial patterns of seedling recruitment in mature Mediterranean oak forests. *4 Iberian Ecological Congress*. Coimbra, junio 2015 (oral communication)

**MUÑOZ A., SUNYER P., BONAL R., NICOLAU B., ARROYO L., ARIAS-LECLAIRE H., PALMERO M., ESPELTA J.M.** (2015) Distribution and habitat preferences of the small rodent community in the National Park of Aigüestortes i Estany de Sant Maurici. *4 Iberian Ecological Congress*. Coimbra, junio 2015 (poster)

**OGAYA, R., FILELLA, I. AND GLOBAL ECOLOGY UNIT CREAM-CSIC.** (2015). Fluorescence, PRI and reflectance in tropical forests. *Imbalance-P conference* (European Research Council Synergy grant ERC-2013-SyG-610028). Barcelona (Catalonia, Spain), 13-16 January. (oral communication)

**OLIVA, M.; ANTONIADES, D.; GIRALT, S.; GRANADOS, I.; PLA-RABES, S.; TORO, M. & LIU, E.J.** (2015). Holocene environmental changes in Byers Peninsula (South Shetland Islands, Antarctica) inferred from lake sediments. *VII Conferência Portuguesa das Ciências Polares. Évora* (Portugal), pp. 27. (poster)

**OLIVA, M.; ANTONIADES, D.; GIRALT, S.; GRANADOS, I.; PLA-RABES, S.; TORO, M. & LIU, E.J.** (2015). Ongoing analysis of lake sediments from Byers Peninsula (Livingston Island, South Shetland Islands). *PAGES Antarctica2k*. Venice (Italy), 3-4th September. (poster)

**OLIVA, M.; ANTONIADES, D.; GIRALT, S.; GRANADOS, I.; PLA-RABES, S.; TORO, M.; SANJURJO, J. & LIU, E.J.** (2015). The deglaciation of the Byers peninsula based on a multiple dating-method approach in lake sediments of Byers Peninsula (South Shetland Islands, Antarctica). *Proceedings of the XIX INQUA Congress*. Nagoya (Japan) 26 Jul- 2 Aug, T00691. (poster)

**OLIVA, M.; ANTONIADES, D.; GIRALT, S.; GRANADOS, I.; PLA-RABES, S.; TORO, M.; SANJURJO, J., LIU, E.J. & VIEIRA, G.** (2015). Holocene deglaciation of Byers Peninsula (South Shetland Islands, Antarctica) using a combined dating-method approach to lake sediments. *Proceedings of the V Iberian Conference of the International Permafrost Association*. Valladolid (Spain) 24-26 Juny, pp. 11. (poster)

**OLIVA, M.; ANTONIADES, D.; GIRALT, S.; GRANADOS, I.; PLA-RABES, S.; TORO, M.; SANJURJO, J., LIU, E.J. & VIEIRA, G.** (2015). Holocene environmental changes in Byers Peninsula (South Shetland Islands, Antarctica) based on a multiple dating-method approach to lake sediments. *Proceedings of the XII International Symposium on Antarctic Earth Science*. Goa (India) 13-17 July, pp. 441. (poster)

**PALACÍN-LIZARBE, C. CAMARERO, L., HALLIN, S., CASAMAYOR, E.O., CATALAN, J.** (2015). Denitrification in mountain lakes from the Pyrenees: rates and genetic potential. *ICoN4. 4th International Conference on Nitrification (and Related Processes)*. Edmonton, Alberta, Canada. June 28-July 1 (oral communication)

**PALACIN-LIZARBE, C.; CAMARERO, L.; CASAMAYOR, E. O.; CATALAN, J.** (2015). Denitrification in mountain lakes from the Pyrenees: rates & gene copies. *ASLO2015. Aquatic Sciences Meeting*. 22-27 february 2015. Granada. Spain. (oral communication)

**PEGUERO, G. AND GLOBAL ECOLOGY UNIT CREAM-CSIC.** (2015). Effects of resource availability on soil invertebrate communities – A functional and phylogenetic approach. *Imbalance-P conference* (European Research Council Synergy grant ERC-2013-SyG-610028). Barcelona (Catalonia, Spain), 13-16 January. (oral communication)

**PEÑUELAS, J.** (2015). Global change: from mechanisms to patterns. Environmental to global change drivers: Upscaling from molecules to the planet. Environmental Adaptation: from Molecules to the Planet The Estonian Centre of Excellence in Environmental Adaptation ENVIRON. **Final Conference. Dorpat Conference** Centre, October 1-3, 2015 Tartu, Estonia. (invited keynote/opening session)

**PEÑUELAS, J., AND GLOBAL ECOLOGY UNIT CREAM-CSIC.** (2015). Drought in a mediterranean and ecophysiological perspective. *ClimMani integrated WG1-4 workshops*, Joint initiatives and common protocols in extreme events

ecology, experiments and modelling University of Copenhagen, Copenhagen, Denmark, March 24-26,. (oral communication)

**PEÑUELAS, J., AND GLOBAL ECOLOGY UNIT CREAM-CSIC.** (2015). Quantification of the responses of ecosystems and society in a world increasingly rich in N and C but limited in Phosphorus. *Imbalance-P kick-off meeting*, Barcelona, January 14-16. (oral communication)

**PEÑUELAS, J.** (2015). Drought in a mediterranean and ecophysiological perspective. *ClimMani integrated WG1-4 workshops*, Joint initiatives and common protocols in extreme events ecology, experiments and modelling University of Copenhagen, Copenhagen, Denmark, March 24-26,. (oral communication)

**PEÑUELAS, J.** (2015). Interactions of atmospheric changes and urban forests, and considerations on their remote sensing. *COST FP1204 GreenInUrbs*, Barcelona (Spain), March 17 and 18,. (oral communication).

**PEÑUELAS, J.** (2015). Quantification of the responses of ecosystems and society in a world increasingly rich in N and C but limited in Phosphorus. *Imbalance-P kick-off meeting*, Barcelona, January 14-16. (oral communication)

**PEÑUELAS, J.** (2015). Chairman Sessions: Interactions between soils and plants and Synergies in the Imbalance of phosphorous in ecosystems and human society. *Imbalance-P, kick-off meeting preliminary schedule*, Barcelona, January 14-16. (oral communication)

**PEÑUELAS, J., BARTRONS M.** (2015). Gathering of experimental and observational data and data-mining to feed, link and validate IAM and ESM. *IMBALANCE-P IAM-ESM integration meeting*, Paris. April 9th-10th, 2015. (oral communication)

**PEÑUELAS, J., FILELLA, I., ESTIARTE, M., LLUSIÀ, J., SARDANS, J., OGAYA, R., CARNICER, J., BARTRONS, M., RIVAS, A., GRAU, O., PEGUERO, G., MARGALEF, O., ASENSIO, D., PREECE, C., LIU, L., VERGER, A., RICO, L., BARBETA, A., ACHOTEGUI, A., GARGALLO, A., SPERLICH, D., FARRÉ-ARMENGOL, G., FERNÁNDEZ-MARTINEZ, M., LIU, D., ZHANG, C., URBINA, I.** (2015). Integration of molecular and global tools for a better understanding of current changes in forest structure and functioning. *X National Congress of the Italian Society of Silviculture and Forest Ecology*, Sostenere il pianeta, boschi per la vita ricerca e innovazione per la tutela e la valorizzazione delle risorse. Florence, 15-18 September. (invited final conference keynote)

**PESQUER L** (2015) Applying European market leadership to river basin networks and spreading of innovation on water ICT models, tools and data. *42nd Congress International Association of Hydrogeologists*. Roma. Itàlia, September (oral communication)

**PESQUER L, GONZÁLEZ O, DOMINGO C, CRISTÓBAL J, PONS X** (2015) Generación de un banco de áreas de reflectividad pseudo-invariante para la Península Ibérica mediante imágenes MODIS. *XVI Congreso de la AET "Teledetección, humedales y espacios protegidos"*. Sevilla, Spain. (oral communication)

**PESQUER L, JIRKA S, VAN DE GIESEN N, VAN NOOYEN R, MASÓ J, PRAT E, PONS X** (2015) Applying standards to ICT models, tools and data in Europe to improve river basin networks and spread innovation on water sector. *European Geosciences Union General Assembly* - EGU 2015, Vienna, Austria. (oral communication)

**PESQUER L, STASCH C.** (2015) River Basin Standards: interoperability Pilot. *52°North Sensor Web Workshop*. Munster. Denmark. 23-24 November. (oral communication)



**PICÓ F.X., MARCER A., MÉNDEZ-VIGO B. AND ALONSO-BLANCO C.** (2015) Evaluating the effects of global climate change on loss of genetic diversity: the case of the annual plant *Arabidopsis thaliana* in the Iberian península. *4º Congreso Ibérico de Ecología. Universidade de Coimbra*, Coimbra, Portugal, 16-19 June (oral communication)

**PINO, J., ESPELTA, J.M., BASNOU, C., BONAL, R., MUÑOZ, R., RUIZ-CARBAYO, H., VAYREDA, J., VILÀ, A.** (2015), New Iberian forests: community assembly rules and ecosystem functions. *4º Congreso Ibérico de Ecología. Coimbra*, Portugal, 16-19 June. (Invited conference)

**PINO, J., GAMBOA, N., SEGURA, A., BAGARIA, G. BASNOU, C.** (2015), Land use pathways strongly drive woody community assembly at landscape scale in Mediterranean scrublands. *4º Congreso Ibérico de Ecología. Coimbra*, Portugal, 16-19 June. (poster)

**PJUROVÁ B, NATAL-DA-LUZ T, SOUSA JP, DOMENE X.** (2015) Biochar as an alternative to activated carbon for polluted soil remediation. *25th SETAC Europe Annual Meeting*, Barcelona, Spain. 3-7 May. (poster)

**PLA-RABES, S.; MONTEITH, D.; FLOWER, R.; ROSE, N.; CATALAN, J.** (2015). Remote lake phytoplankton variability matches the northern hemisphere climate change pattern. *ASLO2015. Aquatic Sciences Meeting*. 22-27 February 2015. Granada. Spain. (oral communication)

**PORCAR, J.A., ET AL.** (2015). Seasonal changes in optical, biochemical and functional properties of Scots pine needles during spring recovery of photosynthesis. *Ebernburg Workshop on Leaf Optics*, Christian-Albrechts-University Kiel, Kiel (Germany). (oral communication)

**POYATOS R., SUS O., VILÀ-CABRERA A., VAYREDA J., MENCUCINI M., MARTÍNEZ-VILALTA J.** (2015) Assessment of imputation methods using varying ecological information to fill the gaps in a tree functional trait data base. *4º Congreso Ibérico de Ecología. Coimbra* (Portugal), 15 -18 June (oral communication)

**POYATOS R., SUS O., VILÀ-CABRERA A., VAYREDA J., SAURA-MAS S., MENCUCINI M., MARTÍNEZ-VILALTA J.** (2015) Federation (EEF/SITE) Congress "Ecology at the interface". Roma, 21-25 September (poster) (oral communication).

**PREECE, C. AND GLOBAL ECOLOGY UNIT CREAM-CSIC.** (2015). How do drought and nutrient availability interact to affect plant-soil feedbacks? *Imbalance-P conference* (European Research Council Synergy grant ERC-2013-SyG-610028). Barcelona (Catalonia, Spain), 13-16 January. (oral communication)

**REINSCH S, COSBY BJ, KOEHLER E, SOWERBY A, DE DATO G, ESTIARTE M, GUIDOLOTTI G, KOVACS-LANG E, KROEL-DULAY G, LEILEI-KOVACS E, LARSEN KS, LIBERATI D, PEÑUELAS J, RANSIJN J, SCHMIDT IK, SMITH AR, DUKES J AND EMMETT BA.** (2015). Contrasting Responses of Ecosystem Carbon Gain (Input) and Soil Carbon Efflux (Output) to Warming and Drought Across a European Aridity Gradient. *AGU Fall meeting*, 14-18 December, 2015, San Francisco, California, USA. (oral communication)

**REVERTÉ S., RETANA J., GÓMEZ, J. M., BOSCH J.** (2015) Relationship between flower colour and pollinator composition in four plant communities. *ECOFLORE*. Zahara de los Atunes. February. (oral communication)

**RIVAS, A, GARGALLO, A., SARDANS, J. AND GLOBAL ECOLOGY UNIT CREAM-CSIC.** (2015). The relations between elemental composition and the structure and function of ecosystems: coupling stoichiometrical and metabolic to ecological analyses. *Imbalance-P conference*

(European Research Council Synergy grant ERC-2013-SyG-610028). Barcelona (Catalonia, Spain), 13-16 January. (oral communication)

**RIVAS, A., PEÑUELAS, J.** (2015). Atmo-metabolomics: a new approach in the study of the interactions biosphere-atmosphere. LEAP: Land Ecosystem – Atmosphere Processes Workshop in Richland EMSL-NPPL March 9 and 11. (oral communication)

**RIVERA-RONDÓN, C. A.; CATALAN, J.** (2015). The ratio between Chrysophyceae cysts and diatoms as an index for water level reconstruction. ASLO2015. Aquatic Sciences Meeting. 22-27 February. Granada. Spain. (oral communication)

**ROESSINK I., HANEWALD N., SCHNEIDER C. MEDRZYCKI P., BOSCH J., ET AL** (2015) First results of a method proposal for a solitary bee (*Osmia* spp.) first tier acute contact laboratory test. Society of Environmental Toxicology and Chemistry (SETAC). *25th Annual Meeting*. Barcelona. May. (oral communication)

**RUÍZ-CARBAYO H, ESPELTA JM, BONAL R, MUÑOZ A, HERNÁNDEZ ML, PINO J** (2015) "Islands in the stream": Effects of habitat spatial pattern and tree age in the lepidopteran community of *Q. ilex* in a savannah-like landscape (oral communication)

**RUÍZ-CARBAYO, H., ESPELTA, J.M., BONAL, R., HERNÁNDEZ, M., PINO, J.** (2015), "Islands in the stream": Effects of habitat spatial pattern and tree age in the Lepidoptera community of *Q. ilex* in a savannah-like landscape. *4º Congreso Ibérico de Ecología*. Coimbra, Portugal, 16-19 June. (oral communication)

**SALA-FAIG, M., CAMARERO, L., CASAMAYOR, E.O., CATALAN, J.** (2015). Isotopic and molecular analyses reveal high nitrification activity performed by ammonia-oxidizing bacteria in a deep oligotrophic mountain lake. ICoN4. *4th International Conference on Nitrification* (and Related Processes). Edmonton, Alberta, Canada. June 28-July 1. (oral communication)

**SALA-FAIG, M.; CAMARERO, L.; CASAMAYOR, E. O.; CATALAN, J.** (2015).. Molecular and isotopic analysis reveals high nitrification activity performed by ammonia-oxidizing bacteria in a deep oligotrophic mountain lake. *ASLO2015. Aquatic Sciences Meeting*. 22-27 February 2015. Granada. Spain. (oral communication)

**SANCHEZ, A., BROEKMAN A.**, (2015) BeWater project: Science and Society co-creating 4 Mediterranean River Basin Adaptation Plans to face water scarcity. *Presentation and poster at the ECCA Conference*. Bella Center, Copenhagen, Denmark 12th to 14th May (poster and oral communication)

**SANCHEZ-LORENZO, A. PEÑUELAS, J., ET AL.** (2015). Evaporation and reference evapotranspiration trends in Spain. *EGU General Assembly 2015*, EGU2015-14983. (poster)

**SARDANS, J. AND GLOBAL ECOLOGY UNIT CREA-FCI.** (2015). Databases and data mining in the study of Phosphorus cycle. *Imbalance-P conference* (European Research Council Synergy grant ERC-2013-SyG-610028). Barcelona (Catalonia, Spain), 13-16 January. (oral communication)

**SAURA-MAS S., VILLANUEVA, M., BLANCO A., BARRERA J., POCH J., DOT E.** (2015) Interdisciplinary thinking: a learning-teaching experience in higher education. Brighton, UK. *IAFOR European conference in education*. 1-5 july (oral communication)

**SAYOL, F.** Creative Minds: Innovation in Animals. Presented at *3rd Jornada d'Investigadors Predoctorals Interdisciplinària*; 2015 Feb 5th; Historical Building of University of Barcelona, Barcelona, Spain. (oral communication)

**SAYOL, F. DANIEL SOL; ORIOL LAPIEDRA; JOAN MASPONS; ANDREW IWANIUK.** Migratory behavior shapes brain size evolution in birds. Presented at 11th *Ecology & Behaviour meeting*; 2015 May 17-21th; Toulouse, France. (oral communication)

**SAYOL, F; DANIEL SOL; ORIOL LAPIEDRA; JOAN MASPONS; ANDREW IWANIUK.** Coping with seasonal changes through alternative behavior strategies in birds. 100th Ecological Society of America Conference, Baltimore, USA. 9-14 August 2015. (oral communication)

**SAYOL, F; DANIEL SOL; ORIOL LAPIEDRA; JOAN MASPONS; ANDREW IWANIUK.** The evolution of brain size in changing environments. University of Scranton, USA. September 24, 2015. (invited seminar)

**SEBASTIÀ MT., LLURBA R., RIBAS A., KIRWAN L., CONNOLLY J.** (2015) Generalized Diversity-Interaction models are a powerful tool to reveal diversity effects on multifunctionality in model agroecosystems. *The 4<sup>o</sup> Iberian Ecological Congress "Ecología funcional y cambio ambiental /ecologia funcional e alterações ambientais*. Coimbra, 16-19 th June. (oral communication)

**SGOLASTRA F., RENZI T., TOSI S., MEDRZYCKI S., BORTOLOTTI L., BOGO G., BOSCH J.** (2015) Summary and state of the art of non-apix (Bumblebee and solitary bee) Toxicity testing methods. *4th. APITOX-Coloss workshop*. Bologna. May. (oral communication)

**SHIBATA, H., AGUILLAUME L., AVILA A., ET AL.** (2015) ILTER Nitrogen Initiative: Challenge for global comparative studies on nitrogen cycles. *ILTER Symposium and Workshop*. Roma, Italy, 24-25 September 2015. (poster)

**SOL, D., GARAMZEGI, L.** POLS and comparative analyses. Workshop: "Towards a general theory of the pace-of-life syndrome", Hannover, Germany. (oral communication)

**TARACENA V, ESPELTA JM, BONFIL C** (2015) Depredación dispersiva de bellotas en dos encinos del bosque tropical seco: importancia de la fenología y el tamaño de semilla. //

*Reunión del Grupo de Trabajo de Biología Tropical* (REDTROP-AEET). Madrid, 29-30 October (oral communication)

**TERRADAS J** (2015). Serveis dels ecosistemes. Teoria, conceptes i estat de la qüestió. Conferència inaugural XV International summer school on environment: Ecosystem services. Institut de Medi ambient i Càtedra de Geografia i pensament territorial de la UdG, Norwegian Institute for Nature Research (NINA) Girona, 2th October. (oral communication)

**TERRADAS, J.** *Ecologia viscuda*. Conferència a l'Escola Frederic Mistral-Tècnic Eulàlia. Projecte Amgen Exper(i)ència. Barcelona, 3 de desembre de 2015

**TRIGO, R. M., RUBIO-INGLÉS, M. J., VALERO-GARCÉS, B, GIRALT, S.** NAO signal Evolution for the last two millennia in the Central Range (Spain). *Simposio Internacional CLIMA-ES*. Tortosa 11-13 Marzo. (oral communication)

**TRIGO, R. M., RUBIO-INGLÉS, M. J., VALERO-GARCÉS, B, GIRALT, S.** The effects of NAO on two iberian alpine lakes for the last two millennia. *ASLO Aquatic Sciences Meeting*. Granada, 22-27 February. (oral communication)

**UNZETA, M. & SAYOL, F.** Studying Jackdaws life-history in the Lleida Plain. Presented at University of Exeter, Cornwall Campus; 2015 May 4th ; Falmouth, UK. (oral communication)

**URBINA, I. AND GLOBAL ECOLOGY UNIT CRE-AF-CSIC.** (2015). Abiotic and biotic factors effects on elemental stoichiometry of plant-soil compartments in terrestrial ecosys-

tems. *Imbalance-P conference* (European Research Council Synergy grant ERC-2013-SyG-610028). Barcelona (Catalonia, Spain), 13-16 January. (oral communication)

**VÁGÁSI, CSONGOR; ORSOLYA VINCZE; LAURA PÁTRA; GERGELY OSVÁTH; ATTILA MARTON; LŐRINC BÁRBOS; DANIEL SOL; PÉTER L. PAP;** Large-brained birds suffer less oxidative damage. Congrès: *10th European Ornithologist's Union Conference*, 25 August, Badajoz, Spain (oral communication)

**VAMVAKERIDOU-LYROUDIA L, MANSFIELD L, V. MOORE R, HAUSER A, AKHAVAN R, FARNHAM T, LASPIDOU C, PESQUER L, McCANN J** (2015). Recommendations for Standards and Standardisation in the European SMART Water Market. *Computing and Control for the Water Industry conference*, CCWI2015, Leicester, 2-4 September 2015

**VELEZ J, ARMENTERAS D, RIVERA O, ESPELTA JM** (2015) Dieta y disponibilidad de alimento para la danta de tierras bajas (Tapirus terrestres) en la cuenca media del río Caquetá (Amazonas, Colombia). *II Reunión del Grupo de Trabajo de Biología Tropical* (REDTROP-AEET). Madrid, 29-30 Octubre (oral communication)

**VERGER, A.; BARET, F.; WEISS, M.; FILELLA, I.; PEÑUELAS, J.** (2015). Land surface phenology from Geoclim: a Global climatology of vegetation biophysical variables. Multitemp 2015, 8th International Workshop on the Analysis of Multitemporal Remote Sensing Images July 22-24, 2015 – Annecy, France. (oral communication)

**VERGER A., FILELLA I., PEÑUELAS J.** (2015) Remote sensing of structural and functional

traits of Mediterranean and tropical forests using multi-sensor multi-source data fusion. *Imbalance-P conference* (European Research Council Synergy grant ERC-2013-SyG-610028). Barcelona (Catalonia, Spain), 13-16 January (oral communication).

**VERGER, A., FILELLA, I., BARET, F., PEÑUELAS, J.** (2015). Caracterización de la fenología de la vegetación a escala global mediante series temporales SPOT VEGETATION. *XVI Congreso de la AET, Teledetección Humedales y espacios protegidos*, October 21-23, Sevilla. (oral communication)

**VERRYCKT, L., COSTE, S., VICCA, S., OP DE BEECK, M., URBINA, I., OGAYA, R., PEÑUELAS, J., CHAVE, J., JANSSENS, I.** (2015). Vertical and spatial variation of photosynthetic parameters V<sub>cm</sub> and J<sub>max</sub> during the wet season in tropical lowland forests of French Guiana. *Research day at University of Antwerp, Department Biology, Centre of Excellence PLECO* (Plant and Vegetation Ecology), 24 September. (oral communication)

**VERRYCKT, L., URBINA, I., OGAYA, R., LLUSIÀ, J., GRAU, O., PEGUERO, G., VAN LANGENHOVE, L., JANSSENS, I. PEÑUELAS, J.** (2015). IMBALANCE-P Project. *Labex CEBA meeting*, 8-9 October, 2015, Cayenne, Guayana Francesa. (oral communication)

**VICENTE-SERRANO S.M., ZABALZA-MARTÍNEZ J., BORRÀS G., PLA E., PASCUAL D., MARTÍN-HERNÁNDEZ N., AZORÍN-MOLINA C., SÁNCHEZ-LORENZO A., LÓPEZ-MORENO J.I., SERRANO-NOTIVOLI R.** (2015), Changes in extreme hydrological events in highly regulated river basins of Catalonia (NE Spain): discerning between climate change processes, land cover modifications and water resources management. International Scientific Conference "Our Common Future Under Climate Change". Paris (France). 7th-10th July (poster).

**VICENTE-SERRANO S.M., ZABALZA-MARTÍNEZ J., LÓPEZ-MORENO J.I., MARTÍN-HERNÁNDEZ N., BORRÀS G., PLA E., PASCUAL D., SERRANO R.** (2015), Downstream accentuation of hydrological alterations by dams in heavily regulated basins of Catalonia,



Spain. *26th International Union of Geodesy and Geophysics General Assembly*. Prague (Czech Republic). 22nd Juny - 2nd July (poster).

**WANG, R., BALKANSKI, Y., BOUCHER, O., CIAIS, P., PEÑUELAS, TAO, S.** (2015). A Large Contribution of Combustion-related Emissions to the Atmospheric Budget of Phosphorus. *AGU Fall meeting*, 14-18 December, 2015, San Francisco, California, USA. (oral communication)

**ZABALZA J., VICENTE-SERRANO S.M., BORRÀS G., PLA E., PASCUAL D., FUNES I., SAVÉ R., BIEL C.** (2015) Recent change in water resources and future scenarios. Connection with climate change processes in three hydrological basins of Catalonia (NE Spain) affected by different water management. *XV World Water Congress*. Edinburgh (Scotland). 28th May (oral communication)

## Unpublished reports

**BARET F., WEISS M., VERGER A., SMETS B.** (2015). ATBD for LAI, FAPAR and FCOVER from Sentinel-3 data at 300m resolution. INRA-EMMAH, report for ImagineS (FP7-Space-2012-1) project.

**AVILA A.** (2015) Characterization of rainwater chemistry in the Catalan Network- Year 2014. (2015) CREA-Departament de Territori i Sostenibilitat. Generalitat de Catalunya.

**VERGER A., BARET F., WEISS M.** (2015). Algorithm Theoretical Basis Document GEOV2/AVHRR: Leaf Area Index (LAI), Fraction of Absorbed Photosynthetically Active Radiation (FAPAR) and Fraction of green Vegetation Cover (FCOVER) from LTDR AVHRR . CREA. January 2015. Report for LONGLOVE contract (THEIA-SP-44-0207-CREA).

**LAROCQUE-TOBLER I, AND PLA-RABÈS S.** (2015). Using paleolimnology to find restoration solutions: the case of Lake Muzzano, Switzerland. *Frontiers in Ecology and Evolution* 3. 10.3389/fevo.2015.00070

## OUTREACH ANNEXES

### OUTREACH CONFERENCES OR TECHNICAL SEMINARS

#### Technical seminars

##### **Cursos de MiraMon Estàndard**

Place: CREAf. Universitat Autònoma de Barcelona

Date: 18, 19, 24, 25 March 2015

Numbers of attendees: 18

CREAF members involved in organising: Guillem Closa

##### **Cursos de MiraMon Estàndard**

Place: CREAf. Universitat Autònoma de Barcelona

Date: 17, 18, 25, 25 November 2015

Numbers of attendees: 8

CREAF members involved in organising: Guillem Closa

##### **Cursos de MiraMon Avançat**

Place: CREAf. Universitat Autònoma de Barcelona

Date: 9, 10, 16, 17 December 2015

Numbers of attendees: 11

CREAF members involved in organising: Guillem Closa, Lluís Pesquer

##### **Cursos de MiraMon 20 anys**

Place: CREAf. Universitat Autònoma de Barcelona

Date: 27, 28, 29, 30 January 2015

Numbers of attendees: 22

CREAF members involved in organising: Guillem Closa, Lluís Pesquer, Abel Pau, Núria Julià

##### **Cursos de MiraMon 20 anys**

Place: CREAf. Universitat Autònoma de Barcelona

Date: 7, 8, 9, 10 July 2015

Numbers of attendees: 19

CREAF members involved in organising: Guillem Closa, Lluís Pesquer, Abel Pau

#### **Participation in other outreach conferences or technical seminars**

##### **Nutrients in terrestrial ecosystems and their role in climate change feedbacks. 2nd ClimMani COST action meeting.**

Organizer: ClimMani COST-Action

Place: Poznan

Date: 28-30 September 2015

Number of attendees: 100

CREAF members involved as co-organizer: Marc Estiarte y Josep Peñuelas

##### **Observació de sòls de la Serralada Litoral Central: dins del cicle de Seminaris de divulgació científica de la Delegació de la Serralada Litoral Central (ICHN), Ajuntament i direcció de cultura de Mataró.**

Place: Sant Celoni, Sant Martí de Montnegre, Terra Negra

Date: 11 April 2015

CREAF members involved as co-organizer: Marcos Fernández-Martínez, Guillem Bagaria

##### **El sòl, font de vida: Cicle de Seminaris de divulgació científica de la Delegació de la Serralada Litoral Central (ICHN), Ajuntament i direcció de cultura de Mataró.**

**Place: Can Palauet, Mataró**

Date: 8th – 30th April 2015

Numbers of attendees: variable

CREAF membres involved as co-organizer: Quico Sabater, Marcos Fernández Martínez

### **The GIO workshop on VGT reprocessing**

Place: Mol – Belgium

Date: 26-27 November

CREAF membres involved as participant: Aleixandre Verger

### **Participation by invitation as speaker in outreach conferences or technical seminars**

**ANDRÉS** (2015) Soil food web stability is affected by aboveground herbivory. Conferència invitada en el seminario “*Improving our knowledge on the taxonomy and functional roles of soil fauna*” (SOILDIVFUN). CSIC/UB. Universidad de Barcelona. Diciembre 14-15.

**ANDRÉS P.** (2015) Climate change and carbon cycle in the Rocky Mountains NP. The amazing machinery under our feet. Charla invitada en la serie de seminarios del Colorado Mountain Club. Sede del Rocky Mountains National Park. Estes Park. Colorado, USA. 9 de Mayo.

**BANQUÉ M.** (2015) Presentació del projecte CANVIBOSC: impactes del canvi climàtic de les espècies arbòries més abundants a Catalunya. Sessió tècnica de la selecció de Restauració i Millora Forestal. Universitat Autònoma de Barcelona, Bellaterra, Spain. July.

**BANQUÉ M.** (2015) Projecte DEBOSCAT, la xarxa de seguiment de l'estat dels boscos de Catalunya. Sessió tècnica de la selecció de Restauració i Millora Forestal. Universitat Autònoma de Barcelona, Bellaterra, Spain. July.

**BANQUÉ M., CUSÓ M., MARTÍNEZ-VILTALTA J., VAYREDA J.** (2015), Els Serveis Ecosistèmics dels boscos de Catalunya. Aproximació a escala municipal. XII Conference CREAM SCB ICHN. Barcelona. 18 November

**DOMINGO C.** (2015) Dades in-situ, modelització SIG i teledetecció: un trinomi Big Data que ens permet entendre que passa al nostre territori. Conferència convidada. XIVè Fòrum TIG/SIG 2015: L'estat de l'art de la Geoinformació. Barcelona, Spain.

**ESPELTA JM.** (2015) “Regeneración post-incendio de frondosas y pautas de gestión. Máster interuniversitario en Incendios Forestales: Ciencia y gestión integral.” Universitat de Lleida, Universidad de León, Universidad de Córdoba.

**LLORET, F.** (2015) Context ecològic dels processos de renaturalització de les darreres dècades a Catalunya. Sessió Científica ICHN-Fundació Catalana La Pedrera “Renaturalització d'hàbitats a Catalunya”. Sant Benet del Bages, Spain. 24 April.

**LLORET, F.** (2015) “De què parlem exactament quan ens referim a boscos a dinàmica lliure?. Seminar “La compatibilització de l'aprofitament fuster i la conservació: els boscos singulars com a pretext”, SIMWOOD Project. Bellaterra, Spain. 12 November.

**LLORET, F.** (2015) Biodiversitat i canvi global. Curso “La conservació de la biodiversitat”, Universitat Internacional de Menorca Illa del Rei, Maó, Spain. 17-18 April.

**LLORET, F.** (2015) Episodios extremos de sequía y resiliencia de la vegetación. Programa de Doctorado en Biología Integrada, Universidad de Sevilla. Sevilla, Spain. 19 November.

**MARCEA A., FORTIN M.J. AND PICÓ F.X.** (2015) Species distribution modelling based on

intraspecific genetic variation in the light of global climate change. Spatial Ecology & Conservation 3, University of Bristol, Bristol, UK. 13-15 July 2015.

**MAYOL M.** (2015) Respostes ecològiques i evolutives de les espècies vegetals al canvi climàtic. XII Jornada d'Avenços en Ecologia. Blanes, Spain. 23 October.

**PASCUAL D., PLA E.** (2015), Practical considerations to build up socio-economical scenarios for local eco-hydrological studies. Workshop on methodologies to design global change scenarios (GCS) for the Mediterranean forests in INFORMED project. Solsona. 1st-2nd December.

**PEÑUELAS, J.** (2015) Ecología Global, Fundación Premios Rey Jaime I, Valencia, Spain. 2 October.

**PEÑUELAS, J.** (2015) Ecologia global: dels gens a la biosfera, Reunió ordinària de la Secció de Ciències Biològiques, Institut d'Estudis Catalans (IEC) Barcelona, Spain. 12 January.

**PEÑUELAS, J.** (2015) Respostes dels ecosistemes i la societat a un món cada vegada més ric en N i C però limitat en P, Jornada sobre la Recerca en sòls a Catalunya, Jornada Edafo-Junior Barcelona, Spain. 29 May.

**PEÑUELAS, J.** (2015) Drought in a mediterranean and ecophysiological perspective, University of Copenhagen, Copenhagen, Denmark

**PEÑUELAS, J.** (2015) Cambio climático y límite altitudinal del bosque, Talahua-Simiatug (Bolívar-Ecuador)

**PEÑUELAS, J.** (2015) Prospectiva ambiental generada por los cambios de usos del suelo: aspectos biológicos y físico-químicos, Quito Secretaria Nacional de Medio Ambiente (Ecuador). Seminari de treball.

**PEÑUELAS, J.** (2015) Remote sensing of ecosystem productivity using MODIS and GOME, Oxford, Hawkwell House. Seminari de treball.

**PEÑUELAS, J.** (2015) Terpens i comportament sexual, Parc de Recerca Biomèdica de Barcelona, Departament d'Urologia-Andrologia de l'Hospital del Mar. Seminari de treball.

**PEÑUELAS, J.** (2015) PRI as indicator of plant VOC emissions, University of Antwerp, VITO Remote Sensing Department.

**PIÑOL J.** (2015) Quantitative metabarcoding of terrestrial arthropods? Diet analysis of generalists predators. IRBio Seminar on DNA metabarcoding (IRBio). Barcelona, Spain. 26 November.

**PLA E.** (2015), Boscos, aigua i carboni, El paper de regulació dels ecosistemes forestals. XII Conference CREAM SCB ICHN. Barcelona, Spain. 18 November.

**PLA E.** (2015), Tercer Informe del Canvi Climàtic a Catalunya – Hidrologia. Experts group on Climate Change in Catalonia (GECCC). Poblet, Spain. 2-3 July.

**RODRIGO** (2015) Efectos del fuego sobre la biodiversidad a nivel de paisaje. Seminario de la Cátedra José Celestino Mutis. Universidad Nacional de Bogotá, Colombia, 28 Marzo.

**SAURA-MAS S.,** (2015) Incendis i vegetació. Congress of "Meteorologia e incendis forestals. XIX Setmana catalana de meteorologia METEOCAT 2015. Barcelona, Spain. 2 January.



**SABATÉ S.** (2015) El canvi climàtic, un repte ineludible i creixent. Cicle de Conferències a Camprodon. 9 August

**SOL, D.** (2015) "Life history to cope with human-induced rapid environmental changes", Seminari convidat, University of Exeter, UK. June.

**SOL, D.** (2015) "Life history to cope with human-induced rapid environmental changes", Seminari convidat, Universitat de Barcelona, Spain. 2 February.

**TERRADAS J** (2015). Ecologia viscuda. Conference at Escola Frederic Mistral-Tècnic Eulàlia. Barcelona, Spain. 3 December.

**TERRADAS, JAUME**, 2015. Serveis dels ecosistemes. Teoria, conceptes i estat de la qüestió. Conferència inaugural XV International summer school on environment: Ecosystem services. Institut de Medi ambient i Càtedra de Geografia i pensament territorial de la UdG, Norwegian Institute for Nature Research (NINA) Girona, Spain. 2 October.

## **Outreach publications**

**ANDRÉS P, MOORE JC, SIMPSON RT, SELBY G, COTRUFO F, DENEK K, HADDIX ML, SHAW EA, MILANO DE TOMASEL C, MOLOWNY-HORAS R, WALL DH** (2015) Soil food web stability is affected by grazing in the short grass steppe. Oral presentation. 2015 Soil Ecology Society Meeting. Colorado Springs, Colorado, USA. 9-12 de junio 2015.

**ANDRÉS P, ROSELL-MELÉ A, COLOMER F, ALCAÑIZ JM, DENEK K** (2015) Effect of biochar on soil microbial community- A field experiment in Mediterranean soils. Poster. International Conference on Ecology of soil Microorganisms. Microbes as Important Drivers of Soil Processes. Prague, Czech Republic. 29 Noviembre – 3 Diciembre 2015.

**ANDRÉS P, SANTAMARÍA S, PALACIOS-VARGAS JG, MEJÍA RECAMIER BE, IGLESIAS R, ESPADALER X** (2015) Heterogeneidad del territorio y biodiversidad en la restauración de pastizales. Comunicación oral al IV Congreso Iberoamericano de Restauración Ecológica. SIACRE. Buenos Aires, Argentina. 12-16 de abril de 2015

**BANQUÉ M., MARTÍNEZ-VILALTA J., VAYREDA J.** (2015) Resultats de l'enquesta de coneixement expert de la vulnerabilitat al canvi climàtic de les principals espècies forestals de Catalunya. Catalunya Forestal 124: 21-22

**CATALAN, J.** (2015). Història natural de l'ecosistema microscòpic. L'Atzavara, 25: 27-36.

**CURIEL-YUSTE J., FLORES-RENTERÍA D., BARBA J., FERNÁNDEZ-LÓPEZ M., LLORET**

**F., MATTANA S., PEÑUELAS J., PIZANO C.** (2015). El suelo que pisamos, un ecosistema de infinita variedad. Revista digital del Museo Nacional de las Ciencias Naturales, Naturalmente 5: 4-9.

**CURIEL-YUSTE, J., FLORES-RENTERIA, D.Y., BARBA, J., FERNANDEZ-LOPEZ, M., LLORET, F., MATTANA, S., PEÑUELAS, J., PIZANO, C. COLABORADORES** (2015) Los suelos terrestres, el reino de los microorganismos. Naturalmente 5:5-9.

**MASÓ J.** (2015) Seeing sub-pixel cars (and planes) in the brand new Sentinel 2 Earth Observation Satellite images! CREAM Newsletter ISSN 2385-7234

**NAYA A.** (2015) Wood and leaf densities explain how forests function across the globe CREAM Newsletter ISSN 2385-7234

**NUÑEZ L.** (2015) Singing in higher pitches is no guarantee of success for city birds. CREAM Newsletter ISSN 2385-7234

**ORDÓÑEZ JL.** (2015) Scientists identify the 13 most important research challenges to face global change in the Mediterranean region. CREAM Newsletter ISSN 2385-7234

**RAMON A.** (2015) The tallest trees in tropical forests die from dehydration after extreme droughts. CREAM Newsletter ISSN 2385-7234

**RAMON A.** (2015) Birds and butterflies are key indicators for the measurement of biodiversity loss. CREAM Newsletter ISSN 2385-7234

**RAMON A.** (2015) Catalunya ja ha recuperat el 22% del bosc afectat per la gran sequera de 2012. CREAM Newsletter ISSN 2385-7234

**RAMON A.** (2015) Climate change could change the gender ratio of acorn weevils. CREAM Newsletter ISSN 2385-7234

**RAMON A.** (2015) Human activity may be supporting growth of harmful algae in lakes. CREAM Newsletter ISSN 2385-7234

**RAMON A.** (2015) L'increment dels nivells d'ozó fa perdre el sex appeal de les flors. CREAM Newsletter ISSN 2385-7234

**RAMON A.** (2015) Scientists and Catalan National Police collaborate to catch tiger mosquito stowaways in private vehicles. CREAM Newsletter ISSN 2385-7234

**RAMON A.** (2015) The CTFC and CREAM boast a new drone service for research in ecology and conservation. CREAM Newsletter ISSN 2385-7234

**REQUENA J.** (2015) Els ecòlegs proposen estudiar el canvi global emprant les ciutats com a laboratoris

**REQUENA J.** (2015) Els peixos de llacs remots d'alta muntanya s'estan "feminitzant". CREAM Newsletter ISSN 2385-7234

**SANCHEZ A., BROEKMAN A.** (2015). BeWater Tordera case study. Revolve Magazine. <http://www.revolve-water.com/tordera-case/>

**TERRADAS J** (2015) La ecología de las ciudades y su impacto global. Vídeo: <https://vimeo.com/79880384>

**TERRADAS J** (2015). Natural communities. CREAM Newsletter ISSN 2385-7234

**TERRADAS J** (2015). Nothing can be understood without evolution. CREAM Newsletter ISSN 2385-7234

**TERRADAS J** (2015). The man's place in ecosystems. CREAM Newsletter ISSN 2385-7234

**TERRADAS J** (2015). Is environmental education working? CREAM Newsletter ISSN 2385-7234

**TERRADAS, J** (2015). On the pest affecting olive trees in south Italy. CREAM Newsletter ISSN 2385-7234

**TORRES M.** (2015) Algunes formigues viuen en cases reciclades. CREAM Newsletter ISSN 2385-7234

**TORRES M.** (2015) Biochar, el carbó que no es crema. CREAM Newsletter ISSN 2385-7234

**TORRES M.** (2015) Degraded land restored with sewage sludge sequester up to 37% more carbon than un-amended land. CREAM Newsletter ISSN 2385-7234

**TORRES M.** (2015) Ecòlegs del CREAM proposen un nou sistema per diagnosticar l'estat de salut dels ecosistemes. CREAM Newsletter ISSN 2385-7234

**TORRES M.** (2015) Increased daytime temperatures is causing earlier leaf emergence. CREAM Newsletter ISSN 2385-7234

**TORRES M.** (2015) Les abelles van passar a ser socials per canvis en l'expressió gènica. CREAM Newsletter ISSN 2385-7234

**TORRES M.** (2015) Mathematics will help us to predict which kind of fire each landscape will have. CREAM Newsletter ISSN 2385-7234

**TORRES M.** (2015) MiraMon treballa en l'avaluació del risc d'incendi a Andorra. CREAM Newsletter ISSN 2385-7234

**TORRES M.** (2015) Espanya té prop de 7.000 milions d'arbres. CREAM Newsletter ISSN 2385-7234

**TORRES M.** (2015) Flowers pollinized by insects are more fragrant than those pollinized by the wind. CREAM Newsletter ISSN 2385-7234

**TORRES M.** (2015) Ecòlegs del CREAM proposen un nou sistema per diagnosticar l'estat de salut dels ecosistemes. CREAM Newsletter ISSN 2385-7234

**TORRES M.** (2015) The response of leaf unfolding phenology to climate warming has significantly reduced in Central Europe. CREAM Newsletter ISSN 2385-7234

**TORRES M.** (2015) The youngest ecosystems are those most sensitive to climate change. CREAM Newsletter ISSN 2385-7234

**TORRES M.** (2015) Agriculture and forestry increase the production world ecosystem biomass by 15%. CREAM Newsletter ISSN 2385-7234

## TRAINING ANNEXES

### SUBJECTS IN NON CREAM MASTERS AND POSTGRADUATE COURSES

Aplicaciones de Teledetección. Máster Oficial en Teledetección. Universitat de València, Burjassot. 2015. Aleixandre Verger

Ecology. Official Master's Degree in Teaching in Secondary Schools, Vocational Training and Language Centres. UAB. Bellaterra. 2015. Sandra Saura-Mas

Environmental violence and global change. Postgrade in peace culture. UAB. Escola de cultura de pau. Bellaterra. 2015. Sandra Saura-Mas

Laboratorio de instrumentación. Máster Oficial en Teledetección. Universitat de València, Burjassot. 2015. Aleixandre Verger

Presentació de la sessió "Creació de models Hidrològics amb HEC-HMS" Màster Universitari en Recursos Minerals i Riscos Geològics 2014-2015. Guillem Closa.

Presentació de la sessió "Creació de models Hidrològics amb HEC-HMS". Màster Universitari en recursos Minerals i Riscos Geològics, UB-UAB. 2015-2016. Guillem Closa.

Sistemas de Información y Áreas Protegidas. Máster en Sistemas de Información Geográfica. Fundació Politècnica de Catalunya. Barcelona. 2015. Arnald Marcer

Soil Ecology. Master on Soil and Water Management. UdL-UB-UAB-UN. 2015. Xavier Domene, Rosa Cañizares.

### COURSES WITHIN MASTERS, SUMMER SCHOOLS, ETC.

Ecofisiologia dels processos de mortalitat induïda per sequera en boscos. Fisiologia Vegetal Ambiental (Grau de Ciències Ambientals). Universitat de Barcelona. January 2015. Rafael Poyatos.

Ecología del Fuego en Leñosas. Maestría en Manejo, Uso y Conservación del Bosque. Facultad de Medio Ambiente y Recursos Naturales de la Universidad Distrital Francisco José de Caldas. Bogotá, Colombia. March 2015. Anselm Rodrigo

Ecological restoration of quarries. Seminari Permanent de Ciències Naturals. Associació de Professors Llicenciats en Biologia, Geologia i Ciències Ambientals. Museu d'Alcover, Alcover. 2015. Vicenç Carabassa.

Experiencias de adaptación al cambio climático en el uso del agua en cuencas mediterráneas. Forest Management Course on Ecosystem Service Payments organized by Hazi Foundation. Fraisoro Eskola, Gipuzkoa. December 2015. Eduard Pla

Global change and Mediterranean forests. AMGEN Science Teachers Training course. Can Balasc, Barcelona. November 2015. Eduard Pla

Interactions of global change and terrestrial ecosystems: from genes to the biosphere, and the attempts to remotely sensed them. Doctorate Winter School: Global Ecology. University of Zurich, Irchel campus. March 2015. Josep Peñuelas

Long-term studies in Catalonia: tracing atmospheric changes for environment protection. Course on Mediterranean Ecosystems. Aberdeen University, (organiser: Dr. Martin Baker), Bellaterra. 2015. Anna Avila



## FINAL MASTER PROJECT (DIPLOMA D'ESTUDIS AVANÇATS)

Developing adaptation strategies: the BeWater experience. Interdisciplinary Master Studies in Environmental, Economic and Social Sustainability  
ICTA –Autonomous University of Barcelona. November 2015. Anabel Sánchez

Climate change: the social challenge of our time. FLACSO Spain. Post graduate interdisciplinary course. University of Salamanca. July 2015. Annelies Broekman

Organic matter in soil: origin, management and importance for carbon sequestration. Seminari Permanent de Ciències Naturals. Associació de Professors Llicenciats en Biologia, Geologia i Ciències Ambientals. Casa de Convalescència de l'Hospital de Sant Pau, Barcelona. 2015. Xavier Domene

Research, development and innovation. Course on Mediterranean Ecosystems. Aberdeen University (organiser: Dr. Martin Baker), Bellaterra. 2015. Anna Avila

Rehabilitation of degraded land and their assessment". Seminari Permanent de Ciències Naturals. Associació de Professors Llicenciats en Biologia, Geologia i Ciències Ambientals. Casa de Convalescència de l'Hospital de Sant Pau, Barcelona. 2015. Vicenç Carabassa

Scaling effects of nutrient imbalances on ecosystems and society: from molecules to integrated socioeconomic assessment models. Doctorate School: Terrestrial Ecology. Agricultural University of Iceland, Reykjavik. September 2015. Josep Peñuelas

Use of remote sensing techniques to monitor vegetation performance. Doctorate School: Environmental Sciences. University of Antwerp, Antwerp.. August 2015. Josep Peñuelas

**AMORES ARROCHA, MARÍA** (2015) *Análisis de la estructura geográfica de la variación genética de *Arabidopsis thaliana* en su rango de distribución nativo*. Master's thesis. Programme: Master in Molecular Genetics and Biotechnology. Universidad de Sevilla. Codirected by: Xavier Picó and Arnald Marcer.

**CABRERA TORRES, F.** (2015) *Evaluación de daños de la tormenta de viento Klaus 2009 en la zona forestal de Aquitania – Francia, mediante datos MODIS y ETM+*. Trabajo Aplicaciones de Teledetección. Master Oficial en Teledetección. Universitat de València. Director: Aleixandre Verger

**Cussó M.** (2015) *Forest ecosystem services in Catalonia. Assessment, mapping and relationship with the socioeconòmic and climàtic contexts*. Màster en Ecologia Terrestre i Gestió de la Biodiversitat. Autonomous University of Barcelona. Codirected by: Jordi Martínez-Vilalta, Jordi Vayreda and Mireia Banqué.

**HERNÁNDEZ-CASTELLANO C.** (2015) *Spatial variability in the soil macroinvertebrate food web of an agroecosystem: a stable isotope analysis*. Màster en Ecologia Terrestre i Gestió de la Biodiversitat. Autonomous University of Barcelona. Director Josep Piñol.

**MARIBY B.** (2015) *Anàlisi Estudio y demostración del estándar WaterML*. Màster en Teledetecció i Sistemes d'Informació

Geogràfica. Autonomous University of Barcelona. Codirected by: Lluís Pesquer i Joan Masó

**NOVAU A.** (2015) *Factores asociados a la presencia y composición de especies arbóreas en bosques ibéricos recientes*. Master in Ecology, Environmental Management and Restoration, University of Barcelona. Director: Joan Pino

**NOVELLAS R.** (2015). *Interaction strength in plant-pollinator networks: are we using the right currency?* Màster en Ecologia Terrestre i Gestió de la Biodiversitat. Autonomous University of Barcelona. Codirected by: Jordi Bosch and Anselm Rodrigo

**PUIG P.** (2015) *El rol de la radiació solar i les cobertes en la generació de Models Digitals Climàtics*. Màster en Teledetecció i SIG. Autonomous University of Barcelona. Codirected by: Meritxell Batalla and Miquel Ninyerola.

**SANS E.** (2015) *Anàlisi comparativa de series d'imatges Aqua-MODIS i Terra-MODIS. Cas d'estudi: zones pseudoinvariants i diferències entre productes*. Màster en Teledetecció i Sistemes d'Informació Geogràfica. Autonomous University of Barcelona. Codirected by: Lluís Pesquer Cristina Domingo

**TELLO E.** (2015). *Plant community assembly in novel peri-urban forests: the role of forest history, hábitat and landscape factors*. Master in Ecology, Environmental Management and Restoration, University of Barcelona. Director: Joan Pino

## FINAL STUDENT WORK (PROJECTE FINAL DE CARRERA)

**CASTELLVÍ-XAUS J.** (2015) *Incendis forestals a les comunitats d'aranyes de diferents boscos mundials*. Autonomous University of Barcelona (Environmental Biology Degree) Director: Anselm Rodrigo

**FITÉ X.** (2011) *Estudi del decaïment en Pinus halepensis al Parc de Collserola*. Autonomous University of Barcelona (Ciències Ambientals). Codirected by: Jordi Martínez-Vilalta and Jordi Vayreda.

**FITÓ F.** (2015). *Invasive freshwater fish in the Mediterranean region of Catalonia*. Updated impact review. Autonomous University of Barcelona. Director: Joan Pino

**GARCIA-RICO A..** (2015). *Efecto del fuego sobre macromamíferos norteamericanos con comportamiento alimentario diferente..* Anàlisis dels impactes i propostes d'actuació. Autonomous University of Barcelona (Environmental Biology Degree) Director: Anselm Rodrigo

**PINTANDO-ALMIRALL R.** (2015) *Producció integrada en el conreu de la vinya: la coberta vegetal i la conservació dels marges* Autonomous University of Barcelona (Environmental Biology Degree) Director: Anselm Rodrigo

**RAMONEDA-MASSAGUÉ J** (2015) *Structural dynamics of a Mediterranean pollination network: The influence of flowering phenology on the community structure*. Autonomous University of Barcelona (Biology Degree) Director: Anselm Rodrigo i Jordi Bosch

**SOLÉ-PADRÓS M.** (2015) *Estudi de les ciències naturals als mitjans: comparació entre Espanya i Regne Unit*. Autonomous University of Barcelona (Environmental Biology Degree) Director: Anselm Rodrigo

**VÁZQUEZ-VILÀ, X** (2015) *Live in Canada's Coasts: Pagophilus groenlandicus*. Autonomous University of Barcelona (Biology Degree) Director: Anselm Rodrigo

**VELASCO C.** (2015). *Les dunes metropolitanes del delta del Llobregat. Anàlisi dels impactes i propostes d'actuació*. Autonomous University of Barcelona. Director: Joan Pino

## AWARDS

**Jordi Martínez-Vilalta** - ICREA Acadèmia 2015

**Josep Peñuelas** - Premios Rey Jaime I in the class of Protection of Nature, 2015

**Jaume Terradas** - Honor Membership of del the Environmentalists College of Catalonia, COAMB, May 22th 2015.

| PROJECT NAME                                                                                                                                        | ACRONYM                   | Principal investigator      | Budget          | Entity                                                    | Period    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------------------|-----------------|-----------------------------------------------------------|-----------|
| Monitorització de la vegetació a llarg termini i escala global                                                                                      | LONGLOVE                  | Aleixandre Verger           | 45.000,00 €     | Centre National d'Etudes Spatiales (CNES)                 | 2014-2015 |
| Global initial operations of biosphere monitoring service                                                                                           | GIOBIO                    | Aleixandre Verger           | 31.281,00 €     | VLAAMSE INSTELLING VOOR TECHNOLOGISCH ONDERZOEK NV (VITO) | 2015      |
| Caracterització pluges II                                                                                                                           | CARACTERITZACIÓ PLUGES II | Anna Àvila                  | 28.828,30 €     | Generalitat Catalunya                                     | 2015      |
| Prismàtic, plataforma de coneixement per la gestió del patrimoni natural i de la biodiversitat                                                      | TRANSFERÈNCIA CONEIXEMENT | Anna Ramon                  | 36.000,00 €     | Generalitat Catalunya                                     | 2015      |
| Gestión de servicios ecosistémicos para la producción de fruta en distintos climas de Europa                                                        | ECOFRUIT                  | Anselm Rodrigo/Jordi Bosch  | 85.000,00 €     | Ministerio Economía y Competitividad                      | 2015-2017 |
| "Heterogeneidad espacial en comunidades plantapolinizador: efectos sobre las redes de interaccion y consecuencias funcionales para la polinizacion" | SPALINK                   | Anselm Rodrigo/Jordi Bosch  | 114.950,00 €    | Ministerio Economía y Competitividad                      | 2014-2016 |
| Improving future ecosystem benefits through Earth Observations                                                                                      | ECOPOTENTIAL              | Antonello Provenziale (CNR) | 14.874.340,00 € | EU                                                        | 2015-2019 |
| Wildlife in the Changing French Pyrenees                                                                                                            | EARTHWATCH PIRINEU        | Bernat Claramunt            | 86.692,29 €     | ECOTONS/ EARTHWATCH PIRINEU                               | 2013-2016 |
| iNaturalist España, creando comunidad a través de casos de estudio                                                                                  | iNaturalist II            | Bernat Claramunt            | 25.000,00 €     | FECYT                                                     | 2014-2015 |
| Estratègies vitals per a fer front als canvis ambientals ràpids induïts pels humans                                                                 | SURVIVE_HIREC             | Daniel Sol                  | 139.150,00 €    | Ministerio Economía y Competitividad                      | 2014-2016 |
| New and old World perspectives for forest ecology and management in a context of global change                                                      | NEWFORESTS                | Lluís Brotons (CTFC)        | 405.300,00 €    | EU                                                        | 2013-2017 |
| Mediterranean Network of Forest Research and Innovation                                                                                             | MENFRI                    | Enrique Doblas              | 745.958,00 €    | EU                                                        | 2013-2016 |



| PROJECT NAME                                                                                                                                                                                                                                            | ACRONYM                      | Principal investigator                      | Budget         | Entity                               | Period    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|---------------------------------------------|----------------|--------------------------------------|-----------|
| Efecto de episodios de sequía en la dinámica y el ensamblaje de comunidades vegetales forestales y arbustivas                                                                                                                                           | SECADIN                      | Francisco Lloret                            | 122.850,00 €   | Ministerio Economía y Competitividad | 2013-2015 |
| Resposta dels ecosistemes terrestres als canvis i gradients ambientals                                                                                                                                                                                  | 2014-2016 SGR/453 LLORET     | Francisco Lloret                            | 43.200,00 €    | AGAUR                                | 2014-2016 |
| Convenio de colaboración entre el CREAF y la Fundación Bancaria "La Caixa" para la investigación del desarrollo de un sistema de alerta ciudadano para el estudio y gestión del mosquito tigre en España, una especie invasora y vector de enfermedades | CS-TIGER                     | Frederic Bartumeus                          | 80.000,00 €    | Fundación bancaria "La Caixa"        | 2014-2015 |
| Mètodes d'anàlisi de Dades d'Accelerometria per al Projecte Iniciativa ICARUS                                                                                                                                                                           | ICARUS                       | Frederic Bartumeus                          | 21.722,00 €    | Max Plank Institute for Ornithology  | 2015      |
| Demonstration and validation of innovative methodology for regional climate change adaptation in the Mediterranean area                                                                                                                                 | LIFE12 ENV/ ES/000536 MEDACC | Gabriel Borràs (OCCC-Generalitat Catalunya) | 2.548.841,00 € | EU                                   | 2013-2018 |
| Seguiment biodiversitat                                                                                                                                                                                                                                 | SEGUIMENT BIODIVERSITAT      | Javier Retana/Arnald Marcer                 | 45.000,00 €    | Generalitat Catalunya                | 2015      |
| Making society an active participant in water adaptation to global change                                                                                                                                                                               | BEWATER                      | Javier Retana                               | 2.934.724,00 € | EU                                   | 2013-2017 |
| CREAF, el futuro HUB mediterráneo de ciencia e innovación en ecología de Europa                                                                                                                                                                         | MEDECO-HUB                   | Javier Retana                               | 156.000,00 €   | Ministerio Economía y Competitividad | 2014-2017 |
| Investigación Integrada en Resiliencia y Gestión Ambiental en el Mediterráneo                                                                                                                                                                           | INFORMED                     | Javier Retana                               | 1.129.000,00 € | ERA-NET (EU)                         | 2015-2017 |
| Dinàmica forestal i incendis                                                                                                                                                                                                                            | 2014-2016 SGR/879 RETANA     | Javier Retana                               | 48.000,00 €    | AGAUR                                | 2014-2016 |
| Evaluación y predicción de los servicios ecosistémicos de los bosques: impactos y adaptación frente a fenómenos climáticos extremos                                                                                                                     | FORESTCAST                   | Javier Retana                               | 134.310,00 €   | Ministerio Economía y Competitividad | 2015-2017 |

| PROJECT NAME                                                                                                                                                                                    | ACRONYM               | Principal investigator                 | Budget       | Entity                                   | Period    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|----------------------------------------|--------------|------------------------------------------|-----------|
| Matching soil biodiversity with global biogeochemical cycles                                                                                                                                    | SOBIGLOBIC            | Javier Retana (P. Andrés; IP J.Retana) | 342.012,90 € | EU                                       | 2013-2016 |
| Recerca i innovació en restauració de talussos en infraestructures de mobilitat terrestre                                                                                                       | ECOROAD               | Josep M Alcañiz                        | 18.347,00 €  | Generalitat Catalunya                    | 2015      |
| Effects of global change on plant VOC emissions (COVS)                                                                                                                                          | AIRLICOVS             | Joan Llusà                             | 50.000,00 €  | AIR LIQUIDE Foundation                   | 2014-2016 |
| Architecture Implementation Pilot Phase 4 (AIP-4) WCS and WFS tutorials                                                                                                                         | AIP-4                 | Joan Masó                              | 26.754,37 €  | Open Geospatial Consortium               | 2015      |
| Observaciones fenológicas creadas y validadas por ciudadanos para el análisis científico del cambio                                                                                             | FENODATO              | Joan Masó                              | 33.000,00 €  | FECYT                                    | 2015-2016 |
| Coordinating an Observation Network of Networks EnCompassing saTellite and IN-situ to fill the Gaps in European Observations                                                                    | ConnectinGEO          | Joan Masó                              | 999.995,94 € | EU                                       | 2015-2017 |
| Implicaciones del clima, el paisaje y las interacciones biológicas en la formación de los nuevos bosques ibéricos                                                                               | NOVFORESTS            | Joan Pino                              | 181.350,00 € | Ministerio Economía y Competitividad     | 2013-2015 |
| Anàlisi de la capacitat d'invasió del medi natural de les plantes exòtiques més plantades als espais verds públics de Barcelona                                                                 | EXO_BCN               | Joan Pino                              | 13.125,00 €  | Ajuntament de Barcelona                  | 2014-2015 |
| Anàlisi dels serveis ecosistemàtics de la província de Barcelona i proposta d'una infraestructura verda, en el marc del Sistema d'Informació Territorial de la Xarxa d'Espais Lliuers (SITxell) | MCS56-B SITxell II    | Joan Pino                              | 40.000,00 €  | Diputació Barcelona                      | 2015      |
| Invasions biològiques                                                                                                                                                                           | INVASIONS BIOLOGIQUES | Joan Pino                              | 20.000,00 €  | Generalitat Catalunya                    | 2015      |
| Análisis ecológico de la culturalización del paisaje de alta montaña desde el Neolítico: los Parques Nacionales de montaña como modelo                                                          | CUL-PA                | Jordi Catalán                          | 74.562,55 €  | Organismo Autónomo de Parques Nacionales | 2013-2017 |

| PROJECT NAME                                                                                                                                                                                       | ACRONYM                     | Principal investigator       | Budget       | Entity                                                              | Period    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------------------------------|--------------|---------------------------------------------------------------------|-----------|
| Grup d'Ecologia dels Canvis Ambientals                                                                                                                                                             | 2014-2016 SGR/1249 CATALAN  | Jordi Catalán                | 45.000,00 €  | AGAUR                                                               | 2014-2016 |
| El concepto de districte lacustre en la comprensió ecològica de l'alta muntanya                                                                                                                    | LACUS                       | Jordi Catalán                | 242.000,00 € | Ministerio Economía y Competitividad                                | 2014-2016 |
| Una aproximación a la dinámica y funcionamiento de los bosques basada en los atributos funcionales: Implicaciones para los servicios ecosistemáticos                                               | FUN2FUN                     | Jordi Martínez               | 198.440,00 € | Ministerio Economía y Competitividad                                | 2014-2017 |
| Boscoss singulars                                                                                                                                                                                  | BOSCOS SINGULARS            | Jordi Vayreda                | 25.000,00 €  | Generalitat Catalunya                                               | 2015      |
| Inventari forestal nacional                                                                                                                                                                        | INVENTARI FORESTAL NACIONAL | Jordi Vayreda                | 40.000,00 €  | Generalitat Catalunya                                               | 2015      |
| Sibosc (Deboscet)                                                                                                                                                                                  | SIBOSC (DEBOSCAT)           | Jordi Vayreda/Jordi Martínez | 45.000,00 €  | Generalitat Catalunya                                               | 2015      |
| Canvi climàtic i boscos                                                                                                                                                                            | CANVI CLIMÀTIC I BOSCOS     | Jordi Vayreda/Jordi Martínez | 90.000,00 €  | Generalitat Catalunya                                               | 2015      |
| Recerca i innovació en el control i en el procés de la restauració d'activitats extractives                                                                                                        | PEDRERES                    | Josep M Alcañiz              | 39.000,00 €  | Generalitat Catalunya                                               | 2015      |
| Efectes del biochar sobre el segrest de carboni i la biodiversitat edàfica en sòls mediterranis                                                                                                    | MEDICHAR                    | Josep Maria Alcañiz          | 198.900,00 € | Ministerio Economía y Competitividad                                | 2013-2015 |
| Col.laboració per l'estudi, anàlisi i divulgació de resultats de treballs silvícoles i de la dinàmica forestal resultant del Programa de Restauració i Gestió Forestal a la Província de Barcelona | OTPMIF III                  | Josep Maria Espelta          | 44.130,00 €  | Oficina Tècnica de Prevenció Municipal d'Incendis Forestals - DIBA) | 2014-2017 |
| Impactos de la expansión del jabaí sobre comunidades vegetales de pastos, procesos de regeneración natural del arbolado y especies clave forestales en ambientes alpinos y sub-alpinos             | IMPACTBOAR                  | Josep Maria Espelta          | 106.030,00 € | Organismo Autónomo de Parques Nacionales                            | 2011-2015 |
| Grup d'Ecofisiologia i efectes ecològics dels canvis ambientals                                                                                                                                    | 2014-2016 SGR/274 PEÑUELAS  | Josep Peñuelas               | 48.000,00 €  | AGAUR                                                               | 2014-2016 |

| PROJECT NAME                                                                                                                                                               | ACRONYM                 | Principal investigator                                                                | Budget          | Entity                                                | Period    |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|---------------------------------------------------------------------------------------|-----------------|-------------------------------------------------------|-----------|
| Effects of phosphorus limitations on Life, Society and the Earth System                                                                                                    | IMBALANCE-P             | Josep Peñuelas                                                                        | 13.600.579,98 € | EU                                                    | 2014-2020 |
| Impactes de la creixent desproporció ambiental entre N i P sobre organismes, comunitats i ecosistemes terrestres                                                           | NP                      | Josep Peñuelas                                                                        | 338.800,00 €    | Ministerio Economía y Competitividad                  | 2014-2016 |
| Drought impacts on plant-soil interactions and ecosystem stability                                                                                                         | S-CLIMA                 | Josep Peñuelas (la M.Curie està atorgada a C.Preece; l'IP responsable és J.Peñuelas)  | 166.336,20 €    | EU                                                    | 2014-2016 |
| Shifts in ecosystems state in Mediterranean landscapes: when, where and how? The interacting effects of multiple disturbances under climate change                         | RESCRI                  | Lluís Brotons (la M.Curie està atorgada a E.Batlloiri; l'IP responsable és L.Brotons) | 223.000,00 €    | EU                                                    | 2015-2017 |
| Applying European market leadership to river basin networks and spreading of innovation on water ICT models, tools and data                                                | WaterInnEU              | Lluís Pesquer                                                                         | 914.991,00 €    | EU                                                    | 2015-2017 |
| Patrones de distribución actuales y potenciales de stocks de carbono y producción primaria neta en los diferentes tipos de cubiertas de vegetación en la España Peninsular | CARBOSTOCKS             | Marc Gràcia                                                                           | 145.200,00 €    | Ministerio Economía y Competitividad                  | 2012-2015 |
| Demostració de l'aplicació de nous models de gestió per a l'adaptació al canvi climàtic de masses d'alzina i suro al Massís del Montnegre i Corredor                       | MONTNEGRE               | Marc Gràcia                                                                           | 48.537,94 €     | Associació de propietaris del Montnegre i el Corredor | 2014-2015 |
| Biodiversitat i Evolució en Ecosistemes Mediterranis                                                                                                                       | 2014-2016 SGR/913 MAYOL | Maria Mayol                                                                           | 40.500,00 €     | AGAUR                                                 | 2014-2016 |
| ADAPtive variation, environmental gradients and demography in Mediterranean CONifers: from genes to phenotypes and niches                                                  | ADAPCON                 | Maria Mayol                                                                           | 185.130,00 €    | Ministerio Economía y Competitividad                  | 2012-2015 |
| 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                  | 2015-2017 |



| PROJECT NAME                                                                                                                              | ACRONYM                        | Principal investigator                                                   | Budget         | Entity                                               | Period    |
|-------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------------------------------------------------------|----------------|------------------------------------------------------|-----------|
| Canvis ambientals i indicadors                                                                                                            | CANVIS AMBIENTALS I INDICADORS | L Brotons/J Pino                                                         | 51.000,00 €    | Generalitat Catalunya                                | 2015      |
| Una base de datos global de flujo de savia para descifrar los factores ecológicos de la regulación de la transpiración en plantas leñosas | SAPFLUXNET                     | Rafael Poyatos                                                           | 196.020,00 €   | Ministerio Economía y Competitividad                 | 2015-2018 |
| Regional forest governance dialogues fostering conscious forest ownership and sustainable wood mobilisation in Europe                     | SIMWOOD                        | Roland Schreiber (Bayerische Landesanstalt für Wald und Forstwirtschaft) | 5.990.447,00 € | EU                                                   | 2013-2017 |
| Geomuseu II                                                                                                                               | GEOMUSEU II                    | Arnald Marcer                                                            | 7.251,53 €     | Consorci del Museu de Ciències Naturals de Barcelona | 2015      |



**CREAF**

Campus UAB. Edifici C  
08193 Bellaterra  
(Barcelona)  
Tel. + 34 93 581 13 12  
Fax + 34 93 581 41 51  
[www.creaf.cat](http://www.creaf.cat)

Consorti constituït per:



**Generalitat  
de Catalunya**

**UAB**

Universitat Autònoma  
de Barcelona



UNIVERSITAT DE  
BARCELONA



**Institut  
d'Estudis  
Catalans**



**Institució  
CERCA**  
Centres de Recerca  
de Catalunya



**CSIC**  
CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS

**IRTA**

RECERCA | TECNOLOGIA  
AGROALIMENTÀRIES