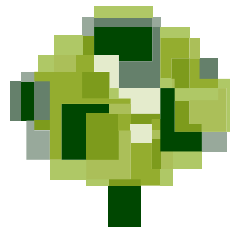


CREAF

Research, Innovation and Knowledge
Transfer in Terrestrial Ecology

ANNUAL REPORT 2014



CREAF

Research, Innovation and Knowledge
Transfer in Terrestrial Ecology

ANNUAL REPORT 2014

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Cover photograph: Abel Pau

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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).

Universitat
Autònoma de
Barcelona

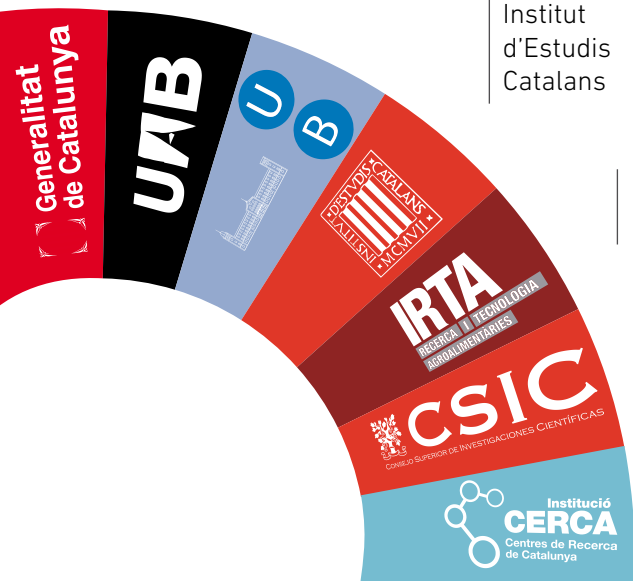
Universitat de
Barcelona

Institut
d'Estudis
Catalans

Institut de Recerca i Tecnologia
Agroalimentàries

Consejo Superior de
Investigaciones Científicas

Institució Centres de Recerca
de Catalunya



About us

- Founded in 1988
- A leading research center in Mediterranean ecosystems research
- Close to 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).

THE BOARD OF TRUSTEES OF CREAM



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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 CREAM and the Secretary is the Deputy Director of CREAM.

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SECRETARY OF THE BOARD OF DIRECTORS

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DEPUTY SCIENTIFIC DIRECTOR

Joan Pino Vilalta, PhD

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José Antonio Fuentes Pérez

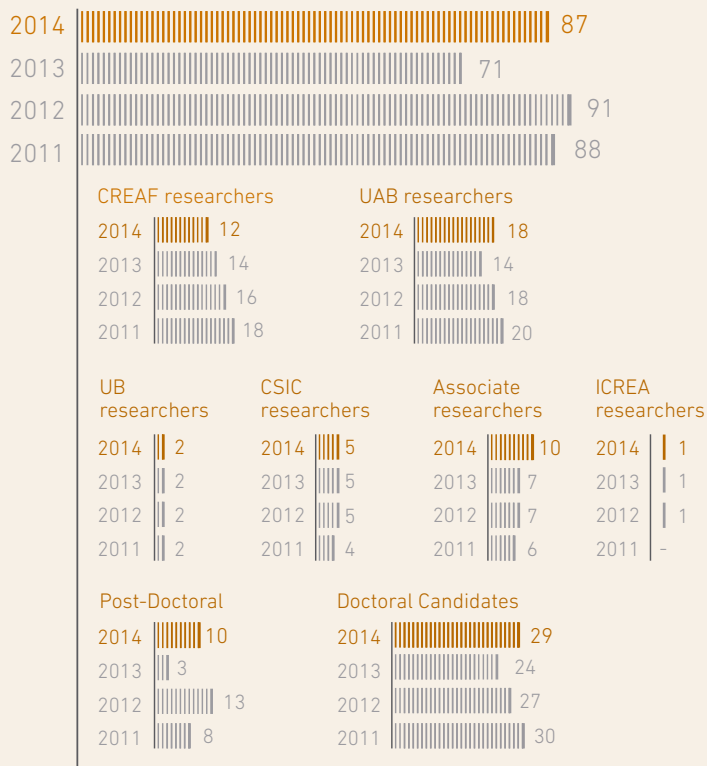
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2. Anna Àvila Castells, PhD
3. Jordi Bosch Gras, PhD
4. Enriquer Doblàs Miranda, PhD
5. Josep Maria Espelta Morral, PhD
6. Marc Gràcia Moya, PhD
7. Joan Llusà Benet, PhD
8. Arnald Marcer Batlle, PhD
9. Joan Masó Pau, PhD
10. Maria Mayol Martínez, PhD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

STAFF

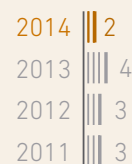
Researchers



Technicians



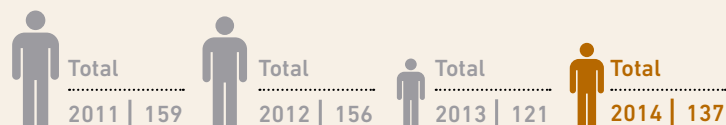
Consultants



Administration



Campaign Staff



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3. Bernat Claramunt López, PhD
4. Xavier Domene Casadesus, PhD
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8. Joan Pino Vilalta, PhD
9. Josep Piñol Pascual, PhD
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12. Miquel Riba Rovira, PhD
13. Angela Ribas Artola, PhD
14. Ferran Rodà de Llanza, PhD
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17. Constantí Stefanescu, PhD
18. Jaume Terradas Serra, PhD

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3. Iolanda Filella Cubells, PhD
4. Josep Peñuelas Reixach, PhD
5. 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, PhD
3. Lluís Brotons, PhD
4. Miquel de Cáceres Ainsa, PhD
5. Jofre Carnicer Cols, PhD
6. Lluís Coll, PhD
7. Louis Lefebvre, PhD
8. José M Montoya, PhD
9. Alberto Muñoz, PhD
10. Rosa M Roman Cuesta, PhD
11. Rosa Cañizares Gonzalez, PhD

Post-Doctoral Researchers

1. M. Dolores Asensio Abella, PhD
2. Mireia Bartrons Vilamala, PhD
3. Oriol Grau Fernández, PhD
4. Olga Margalef Marrasé, PhD
5. Yolanda Melero Caverro, PhD
6. John Palmer, PhD
7. Guillermo Peguero Gutiérrez, PhD
8. Rafael Poyatos López, PhD
9. Catherine Preece, PhD
10. Aleixandre Verger Ten, PhD

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1. Ander Achotegui Castells (FPI-MINECO scholarship)
2. David Aguadé Vidal (FPU-MEC scholarship)
3. Laura Aguiillaume Rodríguez-O'Connor (FPI-MINECO scholarship)
4. Harold Arias (Government of Costa Rica)
5. Guillem Bagaria Morató (FPU-MEC scholarship)
6. Josep Barba Ferrer (FPI-MINECO scholarship)
7. Adrià Barbeta Margarit (FPI-MINECO scholarship)
8. Marta Camino (University of Antwerp)

9. Chao-Ting Chang (no scholarship)
10. Guillem Closa Santos (Iren Acqua Gas Spa., Geneva)
11. Marcos Fernández Martínez (FI-AGAUR scholarship)
12. Irene Figueroa Aguilar (no scholarship)
13. Nancy Gamboa (Government of Costa Rica)
14. Núria García Ferrer (FPI-MINECO scholarship)
15. José David García Callejas (FPU-MEC scholarship)
16. Pau Giménez Grau (FPU-MEC scholarship)
17. Daijun Liu (CSC-UAB scholarship)
18. Joan Maspons Ventura (FPI-MINECO scholarship)
19. Sergio Osorio Cañadas (FI-AGAUR scholarship)
20. Carles Palau Puig (no scholarship)
21. Clara Primante (FPU-MEC scholarship)
22. Larissa Rejalaga (no scholarship)
23. Helena Ruíz Carbayo (FPI- MINECO scholarship)
24. Marc Sala Faig (FPU-MEC scholarship)
25. Ferran Sayol Altarriba (FI-AGAUR scholarship)
26. Dominik Sperlich (no scholarship)
27. Pau Sunyer Sala (FI-AGAUR scholarship)
28. Anna Torné Noguera (FPI- MINECO scholarship)
29. Chao Zhang (CSC-UAB scholarship)

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9. Vicenç Carabassa Closa
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10. Olga Roig Herrera

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2. David Morales

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Elisa Berganzo González
Marta Coll Brunet
Núria García García
Giovanna Melas
Lidia Quevedo

VISITING RESEARCHERS FROM NATIONAL AND INTERNATIONAL INSTITUTIONS

Barbora Pjurová	Technical University of Ostrava
Michael Loik, PhD	University of California Santa Cruz
Karen Holl, PhD	University of California Santa Cruz
Francesco Minunno	University of Helsinki
Consuelo Bonfil, PhD	UNAM Mexico
Elisabeth Robert	URIJE Universiteit Brussels
Pedro Villar Salvador, PhD	Universidad de Alcalá de Henares
Louis Lefebvre, PhD	McGill University
Maria Eugenia Figueroa	Universidad de Santiago del Estero
Pablo González	EBD-CSIC
Henrique Togashi, PhD	Macquarie University, Sydney, Australia
Maria Laura Suárez	ECOTONO Laboratory (Argentina)
Mikel Galante, PhD	University of Edinburgh
Rachel Cohen, PhD	University of Edinburgh
Sara Vicca, PhD	University of Antwerp
Maxime Cailleret, PhD	ETH-Zurich
Estlla Raffaele, PhD	ECOTONO-CONICET Laboratory Argentina
Ajinkia Dahake	University of Groningen
Jacomo Alciatore	University of Groningen
Robert Clement, PhD	University of Edinburgh
Paloma Ruíz Benito, PhD	University of Stirling

WITH FINALIZATION OF RELATION WITH CREAM DURING 2014

Personnel

Albert Alvarez Nebot, Xavier Calaf Ramírez, Pascal Evano, Moisés Guardiola Bufí, Rebeca Izquierdo Miguel, Eduard Luque Patrocinio, Miguel Lurgi Rivera, José M. Marcos Gallardo, Carolina Puerta Piñero, PhD, Marta Ramírez Boixaderas, Albert Rivas Ubach, PhD, Franc Rodà Avila, Iraima Verkaik Witteveen, PhD.

KEY FIGURES

European projects

12

Appearances in mass media

124

Million euro budget

3,51

Active research projects

73

Books

5

People

137

Scientific articles

137

87
Researchers

29
PhD
students

39
Technicians

38.961
Visits to the
blog

3870
Followers on
Twitter

Contributions at conferences

73

Doctoral theses defended

9

1 Doctoral
program of
excellence

Member of 23
international
networks

Masters coordinated

2

Consolidated research groups

8



ANNUAL HIGHLIGHTS

Photo Xavier Pons, creator of MiraMon Photo (C) Abel Pau, CREAM

CREAF AND CTFC SIGNED A STRATEGIC ALLIANCE TO CREATE A JOINT RESEARCH UNIT

InForest has been created to promote innovation and added value within forestry research carried out in the Mediterranean. The objective is to contribute new knowledge, topics of study, and highly innovative methods to both the scientific community and greater society so that accurate projections can be made about the future evolution of forests in a context of rapid environmental change.



InForest

Science Inspiring
Future Forests

“This year the two leading Catalonia research centers of forestry research, signed an agreement to create a joint research unit which will make Catalonia the global reference for Mediterranean forest ecology.”

CELEBRATING 20 YEARS OF MIRAMON

Over the past 20 years, thousands of users in dozens of countries have trusted and used MiraMon in their professional and personal activities, generating ideas, products and results of great interest and importance in various fields. Currently MiraMon continues to progress in the fields of science, education and environmental management in which it originated, as well as in metadata, standardization and advanced computational methods, in order to give access to the best geoinformation for research, management and knowledge of the territory.



**mira
mon**[®]
GIS & RS 20years

“This 2014, MiraMon, the GIS and remote sensing software developed by the CREAM and the UAB, celebrates the twentieth anniversary of its creation. Twenty years of life, of maps, of code, of courses, of cartography, of remote sensing imagery, etc.”

CREAF ENTERS INTO SCIMAGO INSTITUTIONS RANKINGS

For the first time in its twenty-five years of history, CREAM has been included in the annual ranking carried out by SCImago Institutions Rankings (SIR) of the SCImago Research Group. The SIR report is the most complete classification of its kind for the analysis of institutions' research results.

The 2014 SIR indexed a total of 4851 entities worldwide and 243 at the national level, including universities, biomedical centers, and research centers. Of the 243 Spanish entities, the 2014 SIR places CREAM in the following position:

n° 24 in Spain for Excellence & Leadership
(n° 235 world) → 38,93%
n° 27 in Spain for Normalized Impact
(n° 505 world) → 9,95%
n° 28 in Spain for Excellence
(n° 329 world) → 46,18%
n° 30 in Spain for Q1
(n° 184 world) → 83,40%

n° 35 in Spain for Specialization
n° 51 in Spain for International Collaboration
n° 210 in Spain for Output
(dependent on the size)
n° 236 in Spain for Scientific Talent Pool
(dependent on the size)
n° 105 in Spain for Leadership sector
(dependent on the size)



SCIMAGO INSTITUTIONS RANKINGS

“Of the 243 ranked Spanish entities, four indicators place CREAM within the first 30 ranked positions. For those indicators which are not dependent on the size of the institution, CREAM is among the 50 best national institutions.”





INTERNATIONAL HIGHLIGHTS

LLUÍS BROTONS PARTICIPATES IN THE PLENARY SESSION OF THE IPBES AS REPRESENTATIVE FOR CATALONIAN RESEARCH ON BIODIVERSITY

“The reports of the IPBES need to be considered as key tools allowing politicians, managers, and society at large to quickly confront and deal with these environmental problems.”
Lluís Brotons



CREAF researcher Lluís Brotons participated in the third plenary session of the [Intergovernmental Platform on Biodiversity and Ecosystem Services \(IPBES\)](#). The IPBES is a counterpart organisation to the Intergovernmental Panel on Climate Change (IPCC), bringing together scientists and politicians to monitor the health of our ecosystems, from biodiversity to essential services provided to society. These sessions have the objective of informing and educating more than 120 global governments, non-governmental organizations, civil society groups, and the private sector of developments within the scope of the group's work programme. *The researcher is a member of this platform, representing the Catalanian research of CREAF and the Catalanian Forest Technology Centre in this third plenary session.*

CREAF COLLABORATES WITH THE OGC ON A STANDARD TO ENCODE

“The SWG's first task is to develop a conceptual model that will serve the purpose of creating one or more encodings for user feedback.”

Joan Masó, CREAF researcher, organizes the group Geospatial User Feedback Standards Working Group (SWG). The purpose of this SWG will be to reach consensus on a standard method for encoding users' comments on the results those users obtain when querying spatial databases.



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

Bernat Claramunt, researcher of CREAM, has entered into the core group of 6-8 people of the European Mountain Research Advocacy Network (MRI- Europe). He and other researcher will coordinate the future advocacy efforts of the MRI- Europe. The objective of these efforts is a common statement by the European mountain research community about what mountain research can contribute to the societal challenges defined in Horizon 2020. This might include highlighting key research topics. This common statement could be presented to the Horizon 2020 Programme Committee in form of a white paper on "The Role of European Mountain Research for Horizon 2020".



The Mountain Research Initiative
Advancing Global Change Research in Mountains

“MRI-Europe is a non-profit organization based in Switzerland that promotes and coordinates global change research in mountain regions all over the world. It consists of more than 2000 scientists representing regional networks and partner organizations across Europe”

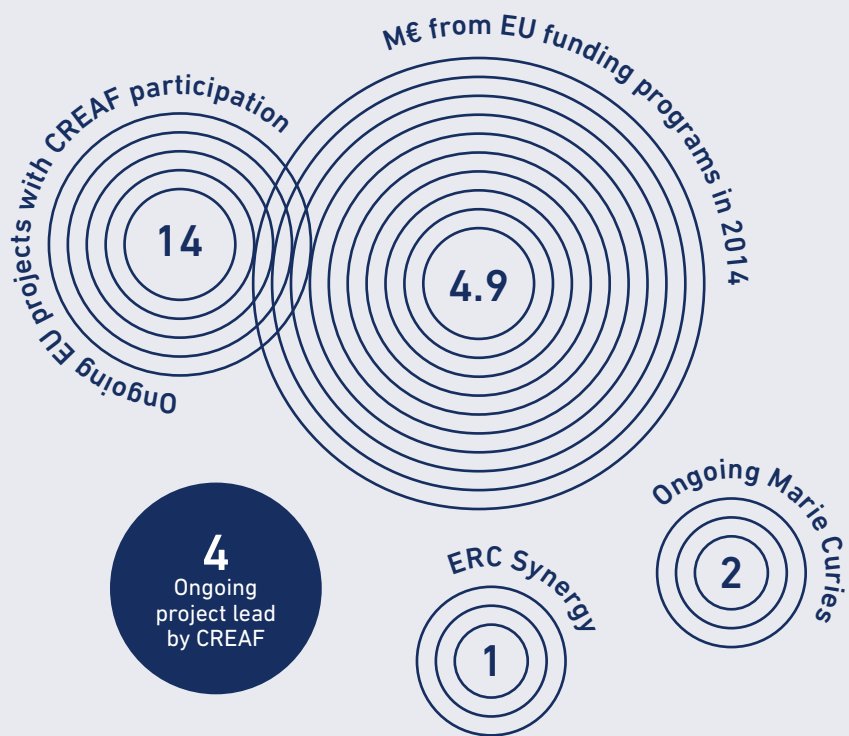
CREAF BECOMES PART OF ALTER-NET, EUROPE'S ECOSYSTEM RESEARCH NETWORK

ALTER-Net integrates research capacities across Europe: assessing changes in biodiversity, analysing the effect of those changes on ecosystem services and informing policymakers and the public about this at a European scale. The main goal of the network is to foster effective dialogue between scientists, policymakers and society about biodiversity and ecosystem research. Moreover, Altern-Net organizes training activities, encourage and coordinate problem-oriented dynamic research and develop the infrastructure for research, with a focus on long-term ecosystem research and monitoring.



“ALTER-Net currently brings together 27 leading institutes in 18 European countries.”

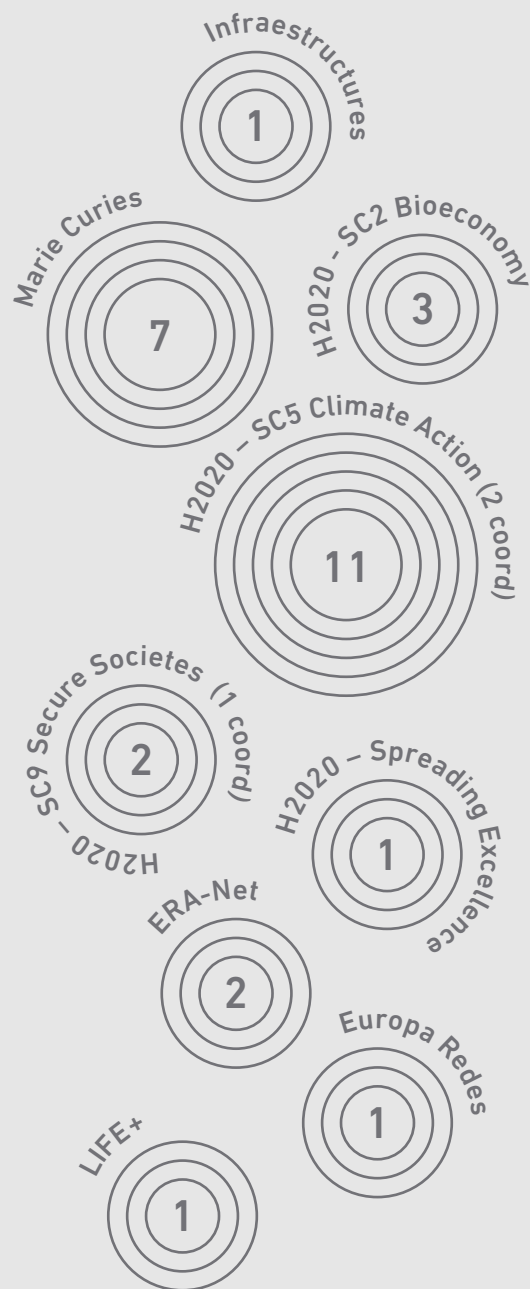
KEY FIGURES



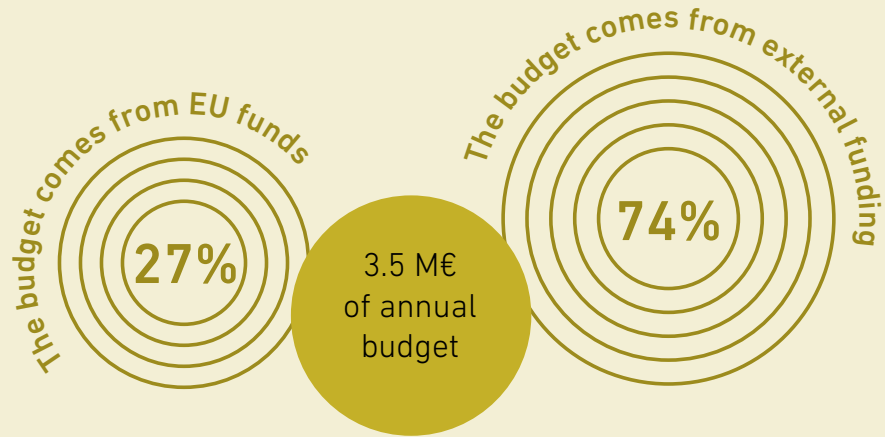
Funds obtained from European research programs (accumulated)



Submitted Proposals 2014

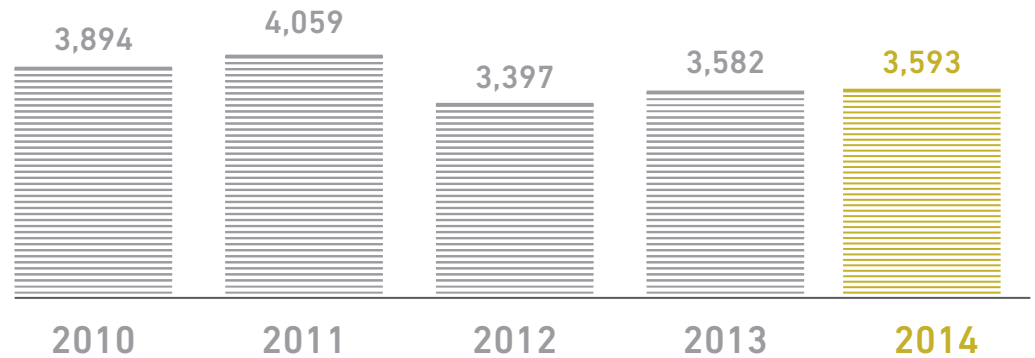


FINANCIAL OVERVIEW



Economic result

Income (M€)



Expenses (M€)

2010	-4,110	2011	-3,956	2012	-3,852	2013	-3,784	2014	-3,433
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Investment (M€)

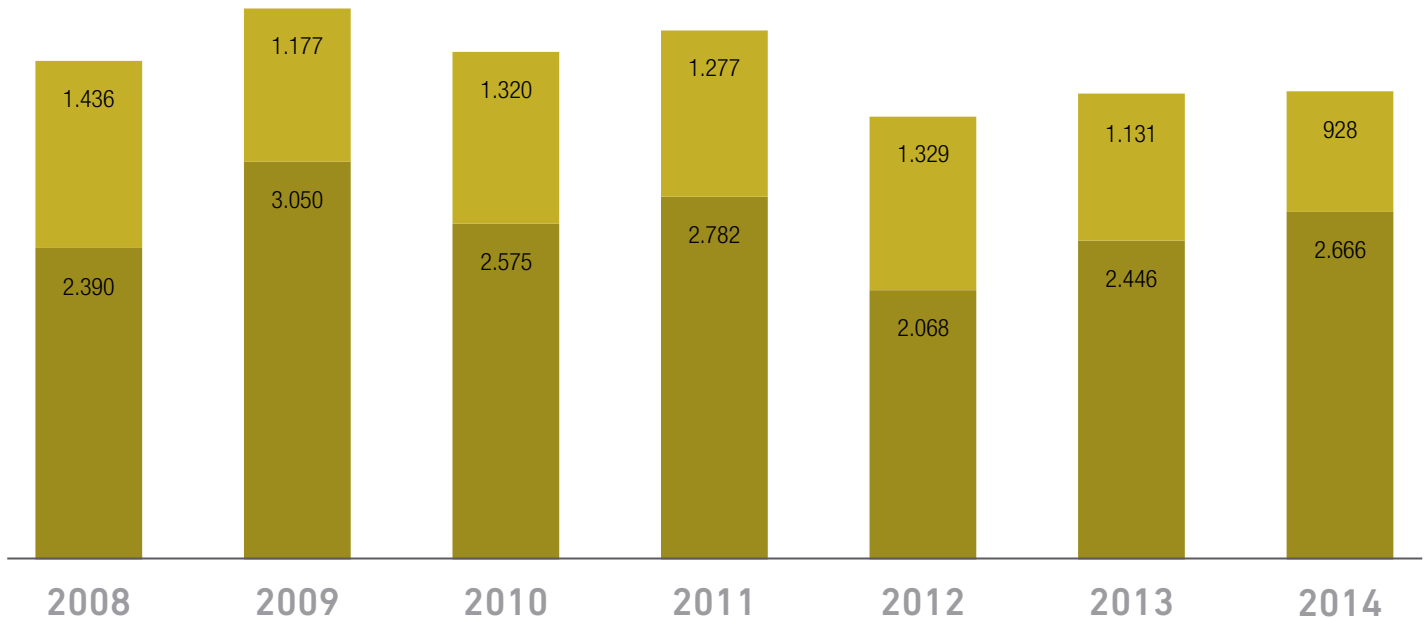
2010	-0,149	2011	-0,136	2012	-0,090	2013	-0,049	2014	-0,086
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Total External Funding

External funding	2012		2013		2014	
	€	%	€	%	€	%
Competitive projects	1.619.028	78%	1.919.115	78%	1.767.253	66%
European Commission	423.178	20%	551.552	23%	967.783	36%
National	1.195.850	58%	1.367.563	56%	799.470	30%
Other external Funding	448.641	22%	527.181	22%	898.504	34%
National	448.641	22%	463.593	19%	763.183	29%
International	0	0%	63.588	3%	135.320	5%
TOTAL	2.067.669	100%	2.446.296	100%	2.665.756	100%

External - Trustees

Trustees External Funding



A close-up photograph of two green leaves with prominent vein structures. The leaves are set against a dark background. A bright green rectangular overlay is positioned in the upper right quadrant, containing the text 'RESEARCH HIGHLIGHTS' in white, uppercase letters.

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

May 5th, 2014

An expedition coordinated by CREAM is rated by National Geographic as one of the fifty most important trips of your lifetime

“With me and my team, scientists and volunteers will study how climate change is effecting ecosystems of the Pyrenees, says the CREAM researcher Bernat Claramunt.”

The editors of the magazine National Geographic Traveler have distinguished the expedition, Wildlife of the Changing French Pyrenees, in the ninth annual list of “50 Tours of a Lifetime.” CREAM coordinates this scientific expedition, which is financed by the EarthWatch Institute and includes the participation of volunteers.

Photo (CC BY NC SA) CREAM



September 5th, 2014

Butterflies face greater risk of extinction at higher latitudes

“The study also demonstrates that when landscape structure is very diverse, populations fluctuate less. This result has important implications for conservation biology, indicating the necessity for protecting the mosaic nature of landscapes and avoids increasing uniformity, says CREAM associated researcher Constantí Stefanescu.”

20 years of data accumulated by the Butterfly Monitoring Schemes of the United Kingdom and Catalonia have served to demonstrate that butterflies which live at higher latitudes suffer more ups and downs in their population sizes. These fluctuations are related to the climate of the high latitudes, which are cold and unfavorable to these insects.

Photo (CC BY NC SA) CREAM



June 25th, 2014

Crows, pigeons, doves, and starlings are the birds best prepared for city living

“Knowing which birds are more or less prepared for city living is a priority for evaluating effects in a future which will only be increasingly urbanized, says Daniel Sol, researcher from CREAM.”

A study lead by researchers from CREAM and the CSIC published in Ecology Letters reveals that biodiversity loss in cities is not a result of chance alone, but rather the low tolerance of the majority of species to alterations brought about with urbanization.

Photo (CC BY NC SA) CREAM



March 5th, 2014

Omnivorous species are more resistant to the effects of fire

“Following the fire in the study area we realized that two new species of special conservation interest appeared, a species of snail and the red partridge, comment Santi Sabaté, researcher from CREAM.”

CREAF published in the journal PlosOne a scientific article related to changes in the composition and abundance of 274 animal species following August 2003 wildfires in Sant Llorenç del Munt i l'Obac Natural Park. The study shows that species which have a more varied diet are more resilient to the effects of wildfire because they can adapt their consumption to the few resources left available after the flames. Among the omnivorous animals best at resisting the effects of fire are ants and grasshoppers.

Photo (CC BY NC SA) Leoncio J.



February 17th, 2014

Acorns are better dispersed in forests that 'smell like' mice rather than like genets

“ This can affect the natural regeneration of plants due to the key role of these animals as seed dispersal agents, comments the CREAM researcher Josep Maria Espelta ”

A study published in the Functional Ecology journal indicates that rodents' detection of different kinds of danger using the olfactory sense changes the way in which acorns are found and managed.

Photo (CC BY NC SA) Luis Mata



HIGHLIGHTED BIODIVERSITY RESEARCH PROJECTS

iNaturalist II

iNaturalist Spain, creating community with case studies



Principal investigator:

Bernat Claramunt

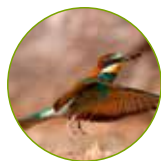
Budget: 25.000 €

Entity: FECYT

Period: 2014-2015

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

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

INVASIONS

Biological invasions in Catalonia



Principal investigator: Joan Pino

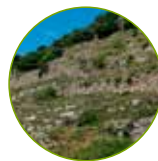
Budget: 40.000 €

Entity: Contracte-Programa Generalitat de Catalunya

Period: 2014

PRISMÀTIC

Knowledge platform for the management of biodiversity and the environment



Principal investigator:

Joan Pino/Anna Ramon

Budget: 36.000 €

Entity: FECYT

Period: 2014-2015

EXO_BCN

Analysis of the capacity of the most-planted exotic plant species in public green spaces in Barcelona to invade the natural environment



Principal investigator: Joan Pino

Budget: 13.125 €

Entity: Ajuntament de Barcelona

Period: 2014-2015

BIODIVERSITAT

Biodiversity monitoring in Catalan forests



Principal investigator: Marc Gràcia

Budget: 35.000 €

Entity: Contracte-Programa Generalitat de Catalunya

Period: 2014

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

December 15th, 2014

Close to 50% of phosphorus emitted to the atmosphere is a result of human activities

“ According Josep Peñuelas, more phosphorus in the air means more phosphorus deposited on the ground. This phosphorus can boost plant growth and the capacity to sequester atmospheric CO²”.

According to a study with CREAM's participation, China contributes 43% of this amount. For decades it had been thought that human activities were responsible for only around 5% of atmospherically-circulating phosphorus. This new approach suggests that human activities may be altering the phosphorus and carbon cycles to a degree which was not known.

Photo (CC BY SA) Lhoon



December 3rd, 2014

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

“Josep Peñuelas, research professor at CREAM and his team has demonstrated that if we do away with fungi and bacteria living on flowers, the quantity and composition of their perfume will be entirely changed”

According to a news study published by CREAM in Nature's Scientific Reports, the perfumers of the planet, the protagonists creating the most delicate floral aromas, are not just flowers but also the microorganisms and fungi which coat them.

Photo (CC BY NC SA) the justified sinner



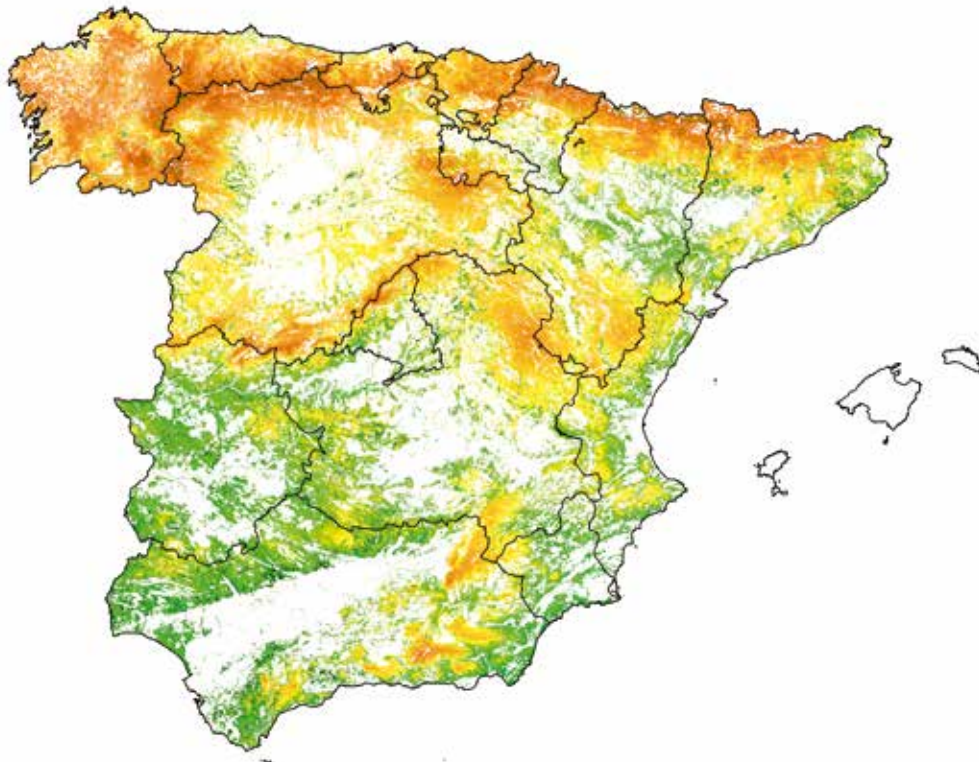
April 10th, 2014

Spain's forest soils have accumulated as much carbon as its population emits in 29 years

“According CREAM researcher Enrique Doblás, the results of the study show that forest soils maintain reservoirs of 2,544 million tons of carbon; this value is four times the quantity of carbon stored in forest biomass.”

A study published in the journal *Biogeoscience* is considered to be the most reliable estimate of carbon stocks in Spanish forest soils. Asturias, Galicia, Cantabria, and Basque Country are the regions with the greatest subterranean carbon concentrations. Murcia, Extremadura, and Andalusia are the communities with the least. Catalonia is positioned around the national average, with 8.8 Kg of carbon per square meter.

Map (c) CREAM



April 7th, 2014

Nutrient-rich forests absorb more carbon

“ According CREAM researcher Marcos Fernández forests’ capacity for sequestration of carbon from the atmosphere depends on the nutrients available in the soil”

According to new research published in the journal Nature Climate Change forests growing in fertile soils with ample nutrients are able to sequester about 30% of the carbon that they take up during photosynthesis. In contrast, forests growing in nutrient-poor soils may retain only 6% of that carbon; the remainder is returned to the atmosphere via respiration.

Photo (CC BY NC SA) CREAM



February 25th, 2014

CREAF coordinates the Catalanian Acid Rain Network

“Thanks to this collaboration, a record of rain chemical composition and contaminant deposition has been maintained for 16 years, says Anna Avila as a CREAM coordinator of this network”.

The Acid Rain Network (XPA) is a project coordinated by the CREAM since 1996, and is included in the Catalonia Department of Territory and Sustainability's Atmospheric Contamination Vigilance and Prediction Network (XVPCA).

Photo (CC BY NC SA) CREAM



February 26th, 2014

Spanish forests may end up emitting more CO₂ than they absorb

“*Adaptive management of forests to climate change is fundamental for mitigating negative impacts on forest ecosystems and the goods and services they provide to society, says Carles Gràcia, researcher from CREAM*”

According to a report on the application the forest simulation model GOTILWA+ developed by CREAM, there exists a high risk that a portion of Spanish forest ecosystems will turn into net emitters of carbon during the second half of the 21st century.

Photo (CC BY NC SA) CREAM



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

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

BEWATER

Making society an active participant in water adaptation to global change



Principal investigator: Javier Retana
Budget: 2.934.724 €
Entity: EU

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, CREAF 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

December 17th, 2014

Mediterranean forests to re-launch the creation of jobs, sustainable development, and the protection of ecosystems

“ According to Enrique Doblaz, CREAM researcher coordinating the project, regional certification is a long-term process but MENFRI is well positioned to act as link between PEFC and Maghreb countries”

The MENFRI project is working with the Programme for the Endorsement of Forest Certification International (PEFC), the world's largest forest certification system, to explore the possibility of a "Mediterranean forest" brand. MENFRI will begin with national certification schemes, knowledge exchange, provision of training on the subject, and the facilitation of several pilot projects.

Photo (CC BY NC SA) CREAM



November 27th, 2014

Coexist or perish, wildfire analysis says

“ According to Enric Batllori, CREAM researcher, if humans choose to live in fire-prone regions, fire must be managed on par with other naturally occurring hazards and research must seek to understand what factors and outcomes humans can and cannot affect”

CREAF has participated in a study published in the journal Nature that examines findings from three continents on government-sponsored fire fighting and land-use policies. The authors, including scientists from the natural and social sciences, conclude that these practices actually encourage development on inherently hazardous landscapes, amplifying human losses over time.

Photo (CC BY NC SA) CREAM



November 5th, 2014

Fungi and drought, a potentially fatal cocktail for forests

“*Jordi Martínez Vilalta explains the two classes of fungi which benefit from episodes of drought and how they colonize and end up killing trees through food and water starvation*”

A new scientific article published by members of CREAM in the journal *New Phytologist* reveals that when a forest is attacked by certain fungi during an episode of drought, tree mortality is significantly increased.

Photo (CC BY NC SA) Xevi Varela



September 16th, 2014

Fire itself can be a vaccine against catastrophic forest fires

“ According to Lluís Brotons, allowing some spontaneous fires to burn under controlled conditions could help to resolve this problem”

A recent study from CREAM warns that if continuous forest vegetative cover over large parts of the territory is not urgently reduced, catastrophic fires will become more and more common.

Photo (c) Adrián Regos



SIMWOOD: Sustainable, innovative forest use for Europe

“ According to Jordi Vayreda, SIMWOOD will identify existing socio-economic, technical and ecological barriers and identify solutions for wood mobilisation and analyse them with regards to the objectives set in the 14 model regions within the project”

CREAF participates in the EU project SIMWOOD (Sustainable Innovative Mobilisation of Wood). The project aims to promote a more efficient use of the available wood supply and bolster Europe's forestry and wood industry. Through a series of pilot projects, SIMWOOD is testing promising solutions and initiatives in close cooperation with local stakeholders.

Photo (CC BY NC SA) CREAM



November 6th, 2014

The expansion of the oaks “chokes” the forests of the Iberian Peninsula

“ According Jofre Carnicer, from CREAM, the holm oak woodlands are expanding in large areas and are colonizing the undergrowth of different species of pine trees”

A study conducted by researchers at the CREAM and published in the journal *Global Ecology* demonstrates that many pine populations of the Iberian Peninsula are in decline. A dense layer of holm oaks and other oaks creates a barrier to the establishment and growth of pine seedlings in most forests of the Iberian Peninsula. The study foresees a very unfavorable scenario for some pine species with predicted climate change, which would see the pines negatively affected by both the expansion of the holm-oak, as well as an increase in drought and fire.

Photo (CC BY NC SA) CREAM



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 Doblás
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

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: 2014

DEMORGEST

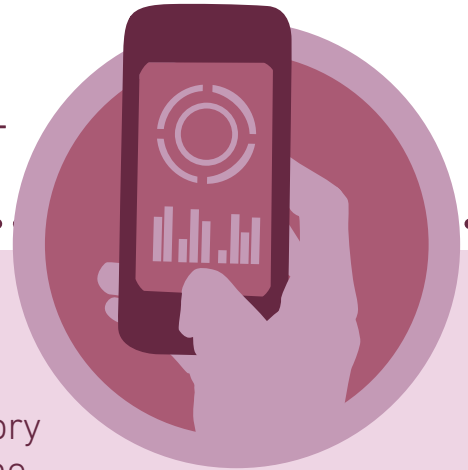
LIDAR-based inventory and diagnosis of strategic areas in southern Catalonia for the prevention of large forest fires



Principal investigator: Jordi Vayreda /Santi Sabaté
Budget: 43.128,77 €
Entity: Centre de la Propietat Forestal
Period: 2014

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

October 2nd, 2014

Studying the effects of climate change from space enters the Big Data era

“ According to Lluís Pesquer from CREAM, this new method represents a change in paradigm because it makes it possible to correct terabytes of images without dedicating much human resources”

A new method published in the International Journal of Applied Earth Observation and Geoinformation allows the automatic processing of thousands of satellite images taken by Landsat without manual intervention or the need of atmospheric data.

Photo (CC BY) Nasa Godard



December 1st, 2014

MiraMon at 20 years, closer to geoinformation 1994-2014

“ According to Xavier Pons, MiraMon creator, during these 20 years, thousands of users in dozens of countries have trusted and used the MiraMon in their professional and personal activities, generating ideas, products and results of great interest and importance in various fields”

This 2014, MiraMon, the GIS and remote sensing software developed by the CREAF and the UAB, celebrates the twentieth anniversary of its creation: twenty years of life, of maps, of code, of courses, of cartography, of remote sensing imagery, etc.

Photo (c) Abel Pau, CREAF



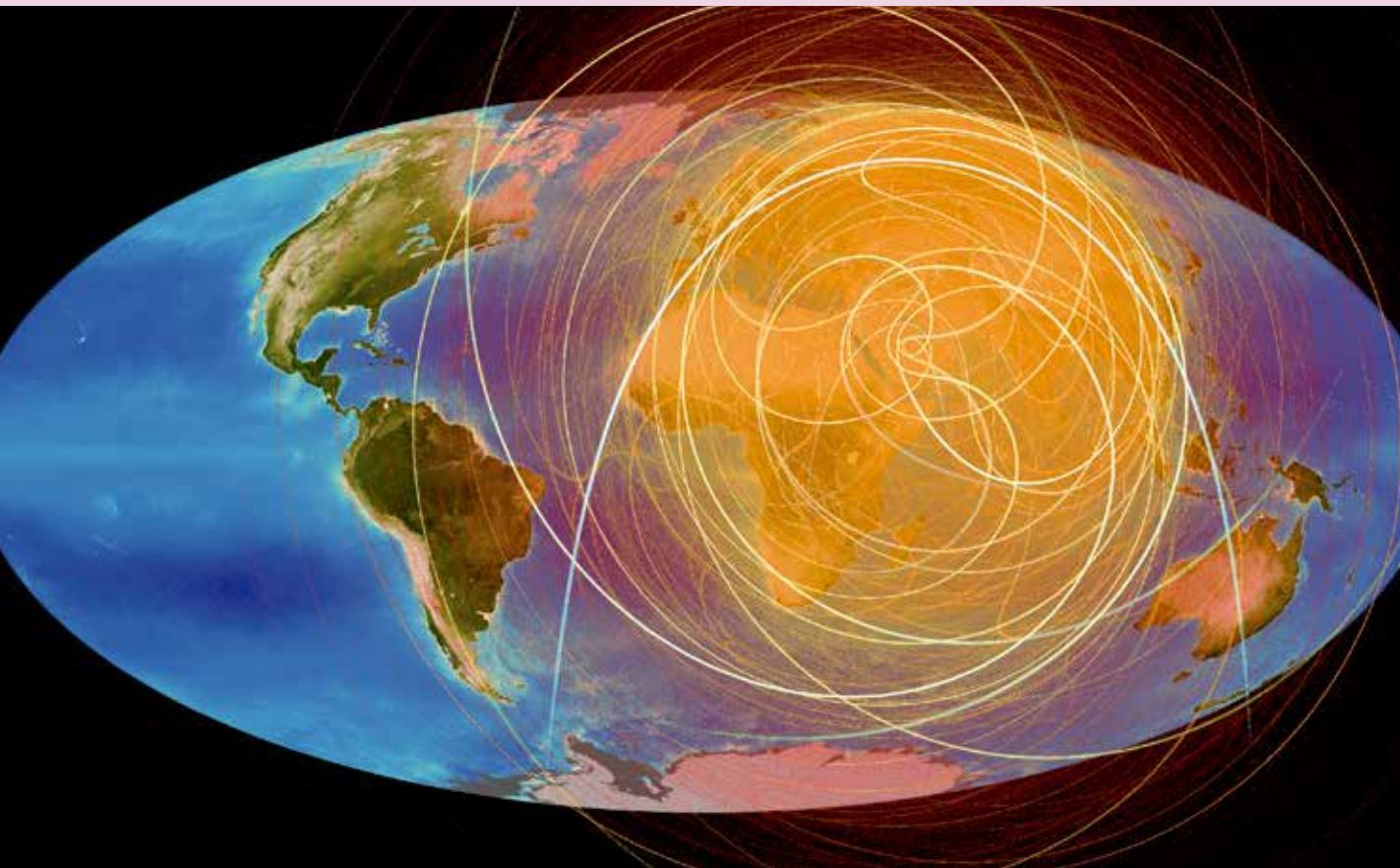
October 7th, 2014

CREAF collaborates with OGC on a standard for encoding users' comments on spatial databases

“The SWG will ensure that all standards are consistent with the OGC standards baseline and business plan, comments Joan Masó, researcher from CREAM”

CREAF organizes the Geospatial User Feedback Standards Working Group. The purpose of the Geospatial User Feedback SWG is to develop User Feedback standards.

Photo (OGC, CC BY) Donkey Hotey



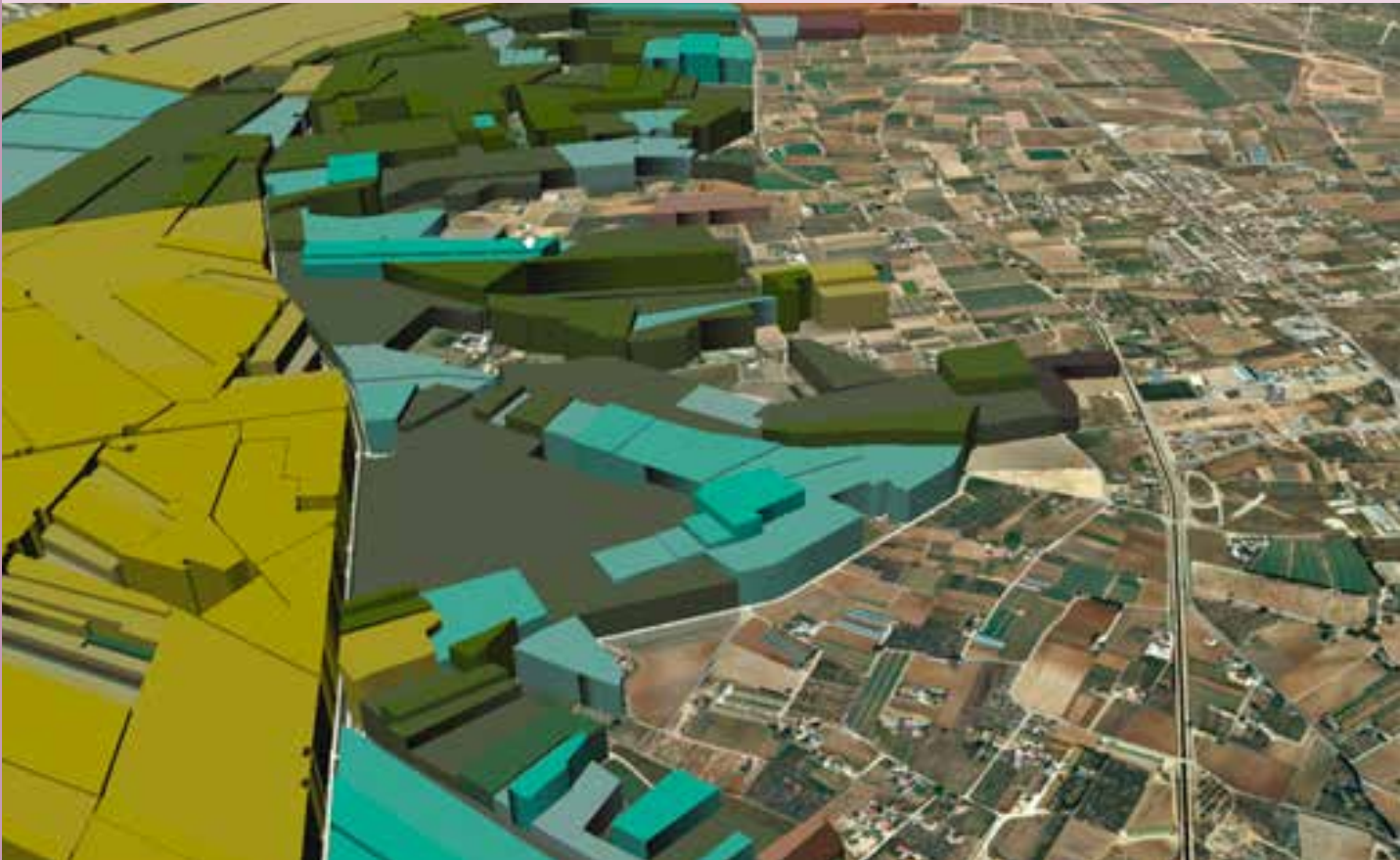
May 21st, 2014

You can help NASA improve the quality of its data

“ Now users can also check the quality of environmental data, says Joan Masó, researcher from CREAM”

CREAF has presented the final report of the European project GeoViQua, a project that will transform the global platform GEOSS by allowing users to improve environmental data provided to organizations like NASA or FAO. A specialized search engine and a color-coded label will help people to choose the most reliable data among that available.

Image (c) CREAM



April 2nd, 2014

In 50 years the province of Barcelona has quadrupled its urbanized surface area

“ According CREAM researcher Joan Pino the urbanizing boom has included transformation of 77,546 hectares (seven times the area occupied by the present city of Barcelona), which before were basically devoted to crops”

Comparing the 1956 Soil Cover Map of The Province of Barcelona, created collaboratively between CREAM and the Barcelona government, and the last edition of the Soil Cover Map of Catalonia (2009), it can be shown that in 50 years crop area has been reduced by 60%, while the urbanized surface area (cities, industry, transportation infrastructure, etc.) has multiplied by a factor of four. The province has gone from being a territory with a high proportion of crops (37%) and with little urban area (3%), to a very forested (50%) and urbanized area (13%).

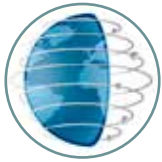
Photos (c) CREAM and ICGC



HIGHLIGHTED ENVIRONMENTAL AND TERRITORIAL ANALYSIS AND GIS RESEARCH PROJECTS

GeoViQua

QUALity aware Visualisation for the Global Earth
Observation system of systems



Principal investigator: Joan Masó
Budget: 3.266.804 €
Entity: EU
Period: 2011-2014

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

NOVFORESTS

Influences of climate, landscape, and biological
interactions in the formation of new Iberian forests



Principal investigator: Joan Pino
Budget: 181.350 €
Entity: Ministerio Economía y
Competitividad
Period: 2013-2015

MIRAMON

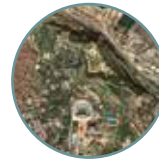
The geographic information system and remote sensing
software MiraMon



Principal investigator: Xavier Pons
Budget: 150.000 €
Entity: Contracte-Programa
Generalitat de Catalunya
Period: 2014

MCS56

Analysis of changes in ecological connectivity and risk of
fire spread



Principal investigator: Joan Pino
Budget: 50.000 €
Entity: Diputació de Barcelona
Period: 2014

LONGLOVE

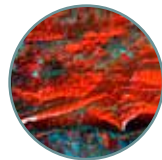
Long-term global vegetation monitoring



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

DinaCliVe

Análisis espaciotemporal de las cubiertas del suelo y del
estrés de la vegetación en la P. Ibérica a la luz de medio
Siglo (1975-2025) de dinámica climática y sus anomalías



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 Biodiversitat i Evolució en Ecosistemes Mediterranis

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.



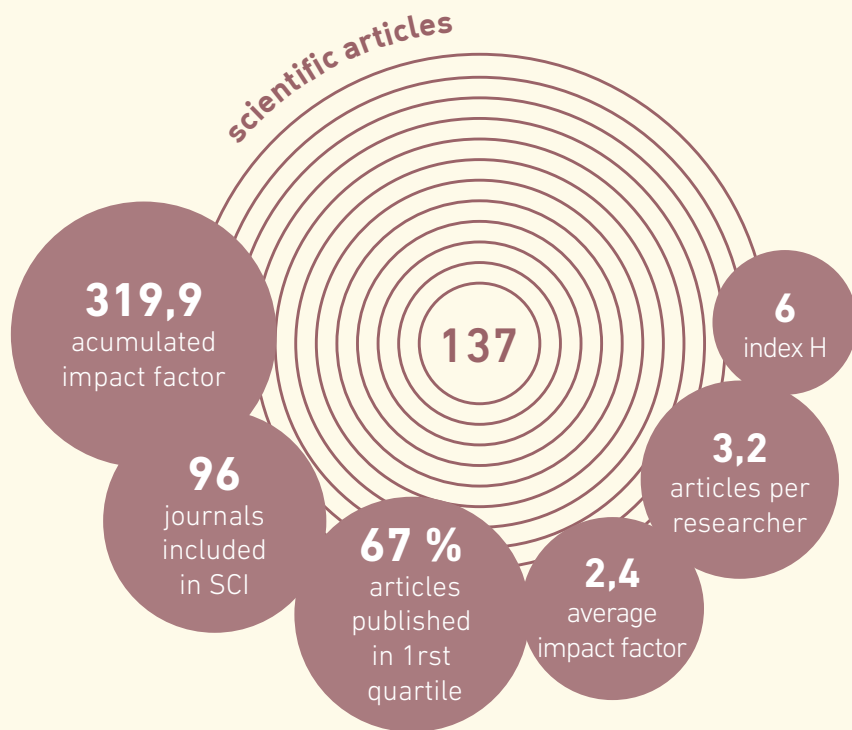
Response of terrestrial ecosystems to changing environmental gradients

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.

A close-up photograph of a bumblebee on a wooden surface. The bee is positioned in the lower-left quadrant, facing right. It has a black head and thorax, and a bright orange-red abdomen covered in fine hairs. Its wings are transparent with visible veins. The wooden surface is light brown and has a rough, textured appearance. A dark purple rectangular overlay is positioned in the upper-right quadrant, containing the text "SCIENTIFIC OUTPUT" in white, uppercase, sans-serif font.

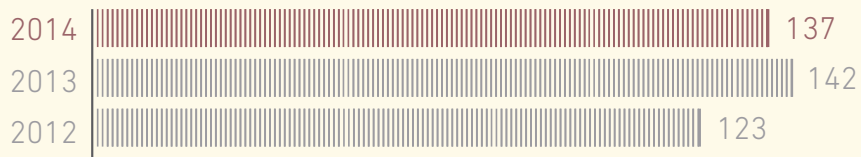
SCIENTIFIC OUTPUT

KEY NUMBERS



SCIENTIFIC OUTPUT

SCI publications



Non SCI publications



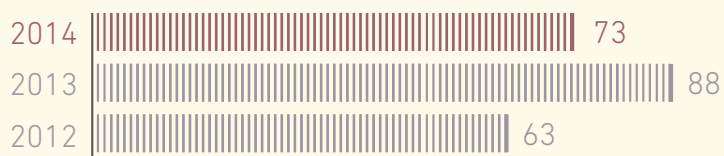
Books



Book chapters



Contribution in national and international scientific conferences



Journals

JOURNAL	Article	Quartile	Impact Factor
ACTA THERIOLOGICA	1	2n	1,161
AGRICULTURAL AND FOREST METEOROLOGY	1	1r	3,894
AGROFORESTRY SYSTEMS	1	2n	1,240
AMBIO	1	1r	2,973
ANNALS OF FOREST SCIENCE	1	2n	1,536
APPLIED SOIL ECOLOGY	3	2n	2,206
ATMOSPHERIC CHEMISTRY AND PHYSICS	1	1r	5,298
ATMOSPHERIC ENVIRONMENT	1	1r	3,062
ATMOSPHERIC MEASUREMENT TECHNIQUES	1	1r	3,206
BASIC AND APPLIED ECOLOGY	1	2n	2,389
BEHAVIORAL ECOLOGY AND SOCIOBIOLOGY	1	1r	3,049
BIOGEOSCIENCES	4	1r	3,753
BIOTROPICA	1	2n	2,082
BMC EVOLUTIONARY BIOLOGY	1	2n	3,407
BOTANICAL JOURNAL OF THE LINNEAN SOCIETY	1	1r	2,699
CLEAN - SOIL, AIR, WATER	1	2n	1,838
CLIMATE RESEARCH	1	2n	2,707
CLIMATIC CHANGE	2	1r	4,622
CONSERVATION BIOLOGY	1	1r	4,320
ECOGRAPHY	1	1r	4,207
ECOHYDROLOGY	1	1r	2,634
ECOLOGICAL INDICATORS	3	1r	3,230
ECOLOGY	1	1r	5,000
ECOLOGY AND EVOLUTION	1	3r	1,658
ECOLOGY LETTERS	1	1r	13,042

JOURNAL	Article	Quartile	Impact Factor
ECOLOGY OF FRESHWATER FISH	1	2n	1,590
ECOSPHERE	1	2n	2,595
ECOSYSTEMS	1	1r	3,531
ENVIRONMENT, DEVELOPMENT AND SUSTAINABILITY	1		
ENVIRONMENTAL AND EXPERIMENTAL BOTANY	1	1r	3,003
ENVIRONMENTAL CONSERVATION	1	2n	2,320
ENVIRONMENTAL POLLUTION	1	1r	3,902
EUROPEAN JOURNAL OF FOREST RESEARCH	2	2n	1,682
EUROPEAN JOURNAL OF FOREST RESEARCH			
EUROPEAN JOURNAL OF SOIL BIOLOGY	1	2n	2,146
FOREST ECOLOGY AND MANAGEMENT	3	1r	2,667
FOREST SYSTEMS	1	3r	0,620
FRONTIERS IN ECOLOGY AND EVOLUTION	1		
FUNCTIONAL PLANT BIOLOGY	1	1r	2,569
GEOCHIMICA ET COSMOCHIMICA ACTA	1	1r	4,250
GEODERMA	1	1r	2,509
GEOPHYSICAL RESEARCH LETTERS	1	1r	4,456
GLOBAL CHANGE BIOLOGY	3	1r	8,224
GLOBAL ECOLOGY AND BIOGEOGRAPHY	3	1r	7,242
HUMAN ORGANIZATION	1		
HYDROLOGICAL SCIENCES JOURNAL	1	2n	1,252
IEEE JOURNAL OF SELECTED TOPICS IN APPLIED EARTH OBSERVATIONS AND REMOTE SENSING	2	1r	2,827

JOURNAL	Article	Quartile	Impact Factor
INTERNATIONAL JOURNAL OF APPLIED EARTH OBSERVATION AND GEOINFORMATION	1	2n	2,539
INTERNATIONAL JOURNAL OF DIGITAL EARTH	1	2n	2,212
INTERNATIONAL JOURNAL OF REMOTE SENSING	1	2n	1,359
JOURNAL OF ANIMAL ECOLOGY	2	1r	4,726
JOURNAL OF ECOLOGY	1	1r	5,694
JOURNAL OF EVOLUTIONARY BIOLOGY	1	1r	3,483
JOURNAL OF FOREST ECONOMICS	1	1r	1,786
JOURNAL OF GEOPHYSICAL RESEARCH: ATMOSPHERES	1	1r	3,712
JOURNAL OF NATURAL HISTORY	1	3r	0,927
JOURNAL OF PLANT ECOLOGY	1	2n	2,284
JOURNAL OF SOILS AND SEDIMENTS	1	2n	2,107
JOURNAL OF THE ROYAL SOCIETY INTERFACE	2	1r	3,856
JOURNAL OF VEGETATION SCIENCE	1	1r	3,372
JOURNAL OF ZOOLOGY	1	1r	1,947
METHODS IN ECOLOGY AND EVOLUTION	1	1r	5,322
MICROBIAL ECOLOGY	1	1r	3,118
MOLECULAR ECOLOGY RESOURCES	1	1r	5,626
NATURE CLIMATE CHANGE	2	1r	15,295
NEW PHYTOLOGIST	5	1r	6,545
OECOLOGIA	1	2n	3,248
OIKOS	1	1r	3,559
PALAEOGEOGRAPHY PALAEOCLIMATOLOGY PALAEOECOLOGY	1	1r	2,752
PERSPECTIVES IN PLANT ECOLOGY, EVOLUTION AND SYSTEMATICS	1	1r	3,324

JOURNAL	Article	Quartile	Impact Factor
PHYTOTAXA	1	2n	1,376
PLANT AND SOIL	2	1r	3,235
PLANT BIOLOGY	4	2n	2,405
PLANT BIOSYSTEMS	2	2n	1,912
PLANT CELL AND ENVIRONMENT	1	1r	5,906
PLANT CELL AND ENVIRONMENT	1	1r	5,906
PLANT ECOLOGY	1	2n	1,640
PLANT ECOLOGY AND DIVERSITY	1	3r	1,140
PLANT SCIENCE	1	1r	4,114
PLOS ONE	10	1r	3,534
PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA	1	1r	9,809
REGIONAL ENVIRONMENTAL CHANGE	2	2n	2,260
REMOTE SENSING	1	1r	2,623
REMOTE SENSING OF ENVIRONMENT	1	1r	4,769
RESTORATION ECOLOGY	1	2n	1,991
REVISTA DE BIOLOGIA TROPICAL	1	4r	0,610
SCIENCE OF THE TOTAL ENVIRONMENT	1	1r	3,163
SCIENTIFIC REPORTS	2	1r	5,078
SOIL BIOLOGY AND BIOCHEMISTRY	2	1r	4,410
SOLID EARTH	1	2n	2,155
SPANISH JOURNAL OF AGRICULTURAL RESEARCH	1	3r	0,514
TREE PHYSIOLOGY	4	1r	3,405
TREES-STRUCTURE AND FUNCTION	2	1r	1,869
TRENDS IN PLANT SCIENCE	1	1r	13,479
	137		318,694

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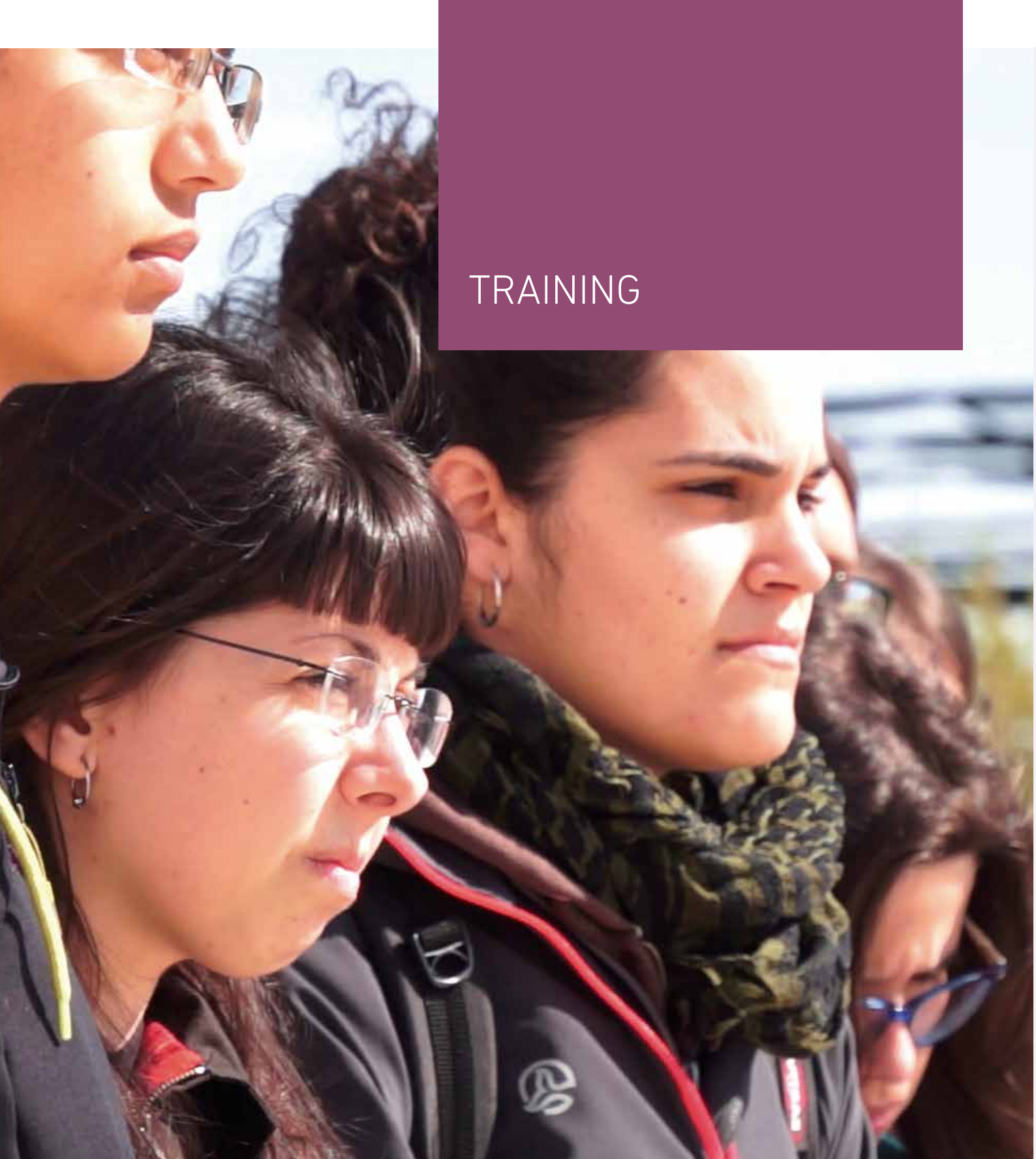
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Check Annexes to see all the scientific output of CREA

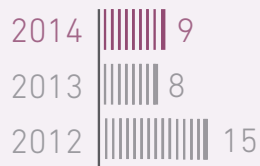


TRAINING

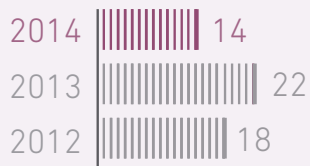
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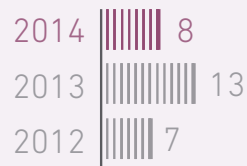
PhD Theses



Master Theses



Bachelor's degree research project



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 Àvila Castells, Jofre Carnicer Cols, Marc Estiarte Garrofé, Iolanda Filella Cubells, Joan Llusà Benet, Maurizio Mencuccini, Romà Ogaya Inurrigarro, 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 DEFENDED DURING 2014

Batriu E. (2014) *Marshland plant community assembly in the Llobregat Delta (La construcció de les comunitats vegetals de maresma al delta del Llobregat)*. Universitat de Barcelona. **Directors:** Joan Pino, Josep Maria Ninot.

Coll-Brunet M. (2014). *Large-scale assessment of defoliation and demography of Spanish forests along climatic gradients*. **Directors:** Josep Peñuelas, Xavier Pons, Jofre Carnicer.

Melas G. (2014) *Interactions between different types of biochar and soil microbial activity: the effects on the dynamics of labile organic matter and the behaviour of some pesticides*. CREAM and Universitat Autònoma de Barcelona. **Directors:** Oriol Ortiz, Josep Maria Alcañiz.

Morphopoulos C. (2014). *BVOC emissions and its mechanistic modelling*. Imperial Collage London. **Director:** Josep Peñuelas.

Pesquer L. (2014) *Contributions to the automatic analysis of big data in the context of GI Science*. Universitat Autònoma de Barcelona. **Director:** Xavier Pons.

Quevedo L. (2014). *Bosquines d'Arbutus unedo L.: increment de la seva presència pel règim de focs i efectes de la gestió silvícola postincendi sobre el seu creixement, reproducció i fauna associada*. Universitat Autònoma de Barcelona. **Directors:** Anselm Rodrigo, Xavier Arnan.

Rivera-Rondón C.A. (2014) *Diatom-based reconstruction of Late Glacial and Early Holocene environment in the Pyrenees*. Universitat de Barcelona. **Director:** Jordi Catalan.

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 Domene, Xavier Espadaler, Josep Maria Espelta, Marc Estiarte, Iolanda Filella, Fernando García, Carles Gracia, Marc Gràcia, Iñigo Granzow, Santiago Lavin, Francisco Lloret, Joan Llusà, 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 Dalmaes, 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

A close-up photograph of a person's hand holding a black camera. The person's face is blurred in the background, and the background is a bokeh of green and yellow light. A dark green rectangular box is overlaid on the right side of the image, containing white text.

COMMUNICATION
AND OUTREACH

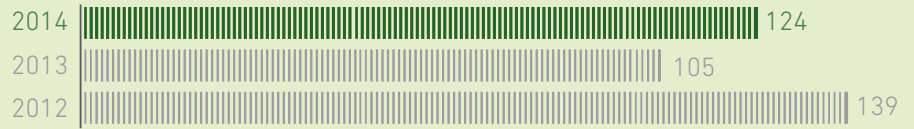
KEY NUMBERS

Press releases

35

+ 25.000
unic visitors
of our blog in
2014

Impacts in mass media

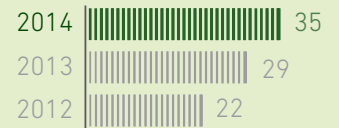


Impacts in mass media

124

2700
subscribers
to our monthly
newsletter

Press releases



followers on twitter



Total

2014 | 3900 followers

Total

2013 | 2700 followers

Total

2012 | 1300 followers



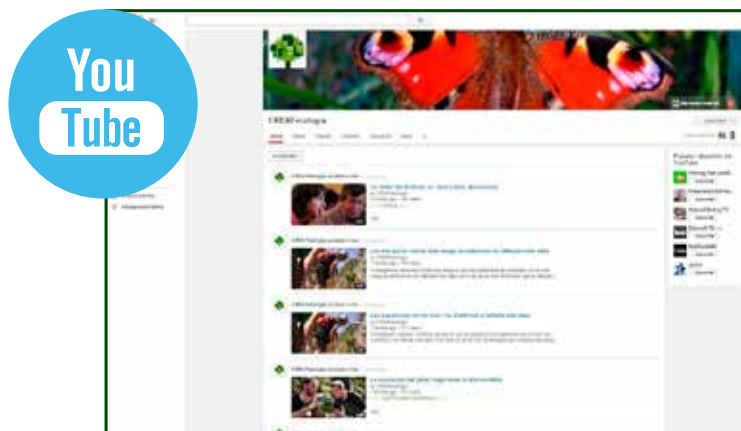
JOIN OUR GROWING COMMUNITY

EXPLORE

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

Connect

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



**HIGHLIGHTED
PRESS COVERAGE**

Especies exóticas invasoras «Alien» ya está dentro

«L'evolució dels animals i plantes en funció dels hàbitats i espais, així com les seves característiques i necessitats»

Les espècies exòtiques invasores són un dels principals factors de canvi global i de pèrdua de biodiversitat. A Catalunya, hi ha més de 100 espècies exòtiques invasores que afecten els ecosistemes i la biodiversitat local.




El mapa de les espècies invasores

18/05/2014 - ABC

Un almacén de basura debajo de los árboles

El estudio de las nuevas técnicas de explotación agrícola de castaños españolas a 20 años de transición de CO₂ de El Cidra a la gestión de los bosques van a ser para míster que llega a la atmósfera



18/04/2014 - El País

Tendències

L'expedició de la teva vida

Voluntaris de tot d'arreu fan part d'un projecte del Centre de Recerca Ecològica i del Paisatge

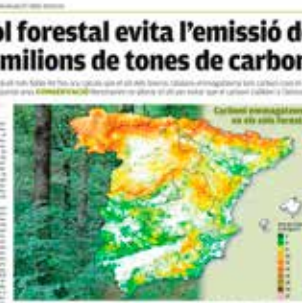


"Sóc ferreja dels meus fills"

20/07/2014 - La Vanguardia

El sol forestal evita l'emissió de 190 milions de tones de carboni

La foresta evita l'emissió de 190 milions de tones de carboni



Les dades

2,544	523	11,6
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11/04/2014 - El Punt Avui

El cambio climático modificará la fragancia de las flores

La variación del olor podría afectar al comportamiento de los polinizadores

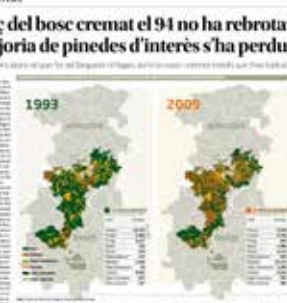


Las plantas que atraen a los polinizadores con su fragancia podrían verse afectadas por el cambio climático

22/07/2014 - El País

Un terç del bosc cremat el 91 no ha rebotat i la majoria de pinedes d'interès s'ha perdut

El 91 hi havia 245.000 hectàrees de bosc cremat, però només 80.000 s'han rebotat



01/08/2014 - Regió7

KEY NUMBERS



619
participants



As a publicly funded organisation, CREAM 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

XI JORNADA D'AVENÇOS EN ECOLOGIA (SCB).

Place: Blanes (Spain).

Date: October 24th, 2014

Number of attendees: 60

CREAF membres involved in organizing: Jordi Catalan.

BeWater workshop: First BeWater stakeholder workshop in la Tordera.

Place: Rectoria Vella, Sant Celoni (Spain).

Date: May 28th, 2014

Numbers of attendees: 30

CREAF membres involved in organising: Anabel Sánchez, Annelies Broekman, Diana Pascual, Eduard Pla.

BeWater workshop: Mapping the challenges of Global Change in la Tordera.

Place: Domus Sent Soví, Hostalric (Spain).

Date: December 12th, 2014

Numbers of attendees: 20

CREAF membres involved in organising: Anabel Sánchez, Annelies Broekman, Eduard Pla.

Interoperability Day.

Place: Lisboa (Portugal).

Date: November 7th, 2014

Numbers of attendees: 30

CREAF membres involved in organising: Joan Masó, Núria Julià.

JORNADA SCB-ICHN.. Què hem après dels grans incendis del 1994?

Place: Institut d'Estudis Catalans, Barcelona (Spain).

Date: November 11th, 2014

Numbers of attendees: 200

CREAF membres involved in organising: Josep Maria Espelta, Javier Retana, Anselm Rodrigo, Anna Ramón.



MiraMon 20 years: New horizons.

Place: Palau Robert, Barcelona (Spain).

Date: December 15th, 2014

Numbers of attendees: 100

CREAF membres involved in organising: Ester Prat, Joan Masó, Lluís Pesquer, Ivette Serral, Guillem Closa, Daniel Díaz, Núria Julià, Abel Pau.

Protocolo para la evaluación de la restauración de actividades extractivas, RESTOCAT. Jornada Técnica.

Place: Girona (Spain).

Date: November 20th, 2014

Numbers of attendees: 20

CREAF membres involved in organising: Vicenç Carabassa, Josep M. Alcañiz.

Technical seminar MiraMon 20 years. Closer to the geoinformation 1994-2014.

Place: Institut Cartogràfic i Geològic de Catalunya (ICGC), Barcelona (Spain).

Date: December 15th, 2014

Numbers of attendees: 97

CREAF membres involved in organising: Ester Prat, Joan Masó, Lluís Pesquer, Ivette Serral, Guillem Closa, Daniel Díaz, Núria Julià, Abel Pau.

Workshop Tutorial on quality models and tools for GEOSS common infrastructure.

Place: Centre International de Conférences de Genève (Switzerland).

Date: January 14th, 2014

Numbers of attendees: 30

CREAF membres involved in organising: Joan Masó, Ivette Serral, Daniel Díaz, Núria Julià.



Jornada Edafològica a Catalunya "Transcatalonia-2014", SECS - ICEA, Els sòls del Pallars Jussà (Conca Dellà i de Tremp).

Place: Tremp.

Date: October 4th, 2014

Numbers of attendees: 32

CREAF membres involved in organising: Josep Maria Alcañiz.

Check Annexes to see more CREAM outreach activity

A landscape photograph of a mountain range at sunset or sunrise. The sky is filled with soft, colorful clouds in shades of orange, yellow, and blue. The foreground is dominated by the dark silhouettes of trees and branches, creating a sense of depth and framing the view. A dark grey rectangular overlay is positioned in the upper right quadrant of the image, containing the word 'ANNEXES' in white, uppercase, sans-serif font.

ANNEXES

SCIENTIFIC OUTPUT ANNEXES

Non SCI publications

BARBA J., CURIEL YUSTE J., POYATOS R., JANSSENS I.A., LLORET F. (2014) Soil respiration shifts as drought-induced tree substitution advances from Scots pine to Holm oak forest. *Geophysical Research Abstracts*, vol. 16, EGU2014-10658, EGU General Assembly 2014. (Abstract).

JOVER M., SAURA-MAS S., BENEJAM L. (2014). *Hydrocotyle vulgaris* an endangered species rediscovered in Baix Empordà. *Butlletí de la Institució Catalana d'Història Natural*, 78: 81-82.

Book chapters

CHAPARRO D., VAYREDA J., MARTÍNEZ-VILALTA J., VALL-LLOSSERA M., BANQUÉ M., CAMPS A., PILES M. (2014). "SMOS and climate data applicability for analyzing forest decline and forest fires." In: *Geoscience and Remote Sensing Symposium (IGARSS) 6946613* (pp. 1069-1072).

RAPPARINI F., PEÑUELAS J. (2014) "Mycorrhizal fungi to alleviate drought stress on plant growth." In: Miransari M. (Ed). *Use of microbes for the alleviation of soil stresses*. Volume 1 (pp. 21-42). Springer. New York

TORRES-SALLAN G., ORTIZ O., CARABASSA V., ALCAÑIZ J.M. (2014) "Thermal and chemical approaches to assess the stability of a vine stock biochar and cattle manure compost applied to a vineyard soil." In: Macías F., Díaz-Raviña M., Barral M.T. (Eds) *Retos y oportunidades en la Ciencia del Suelo. VI Congreso Ibérico de la Ciencia del Suelo, Santiago de Compostela, 22-25 junio 2014* (pp. 627-630). Editorial Andavira, 672 pp. ISBN 978-84-8408-769-4.

GANGULY S, NEMANI RR, BARET F, BI J, WEISS M, ZHANG G, MILESI C, HASHIMOTO H, SAMANTA A, VERGER A, SINGH K, MYNENI RB. (2014). Green leaf area and fraction of photosynthetically active radiation absorbed by vegetation. In *Biophysical Applications of Satellite Remote Sensing*. Hanes J (ed.), Vol. XIV, pp. 53-70. Springer Science+Business Media, United States, ISBN: 978-3-642-25047-7.

Conferences

Member of the scientific committee of national and international conferences

ALCAÑIZ J.M. (2014). Member of the international scientific committee of the VI Congreso Ibérico de la Ciencia del Suelo. Santiago de Compostela (Spain). June 22-25th.

LLORET F. (2014). Member organizer of the session "Species-community assembly responding to global change in MTEs", Mediterranean Ecosystems International Conference MEDECOS XIII, "Crossing boundaries across disciplines and scales". Olmué (Chile). October 6-9th.

MASÓ J. (2014). V Jornadas Ibéricas de Infraestructuras de Datos Espaciais. (Lisboa) November 5-7th.

PEÑUELAS J. AND VERGER A. (2014). Member of the International Scientific Committee Global Vegetation Monitoring and Modeling (GV2M) conference. Avignon (France). February 3-7th.

PEÑUELAS J. (2014). Organizing committee-chairman of the workshop: Phosphorus Imbalance in the Terrestrial Biosphere Processes from Root to Globe Meeting. Montpellier (France). March 6-7th.

PEÑUELAS J. (2014). Chairman session Changing plant functions under global change (session in memory of Ray Fall). Biogenic hydrocarbons & the atmosphere. Gordon Research conference. Interactions in a changing world. Girona (Spain). June 29th-July 4th.

PEÑUELAS J. (2014). **Chairman of session Ecosystem dynamics and environmental impacts of P.** In the fifth International symposium of Phosphorus Dynamics in the Soil Plant Continuum. Montpellier (France). August 25-29th.

PEÑUELAS J. (2014). **Member of the international scientific comitee.** The IMBALANCE-P lecture in the fifth International symposium of Phosphorus Dynamics in the Soil Plant Continuum. Montpellier (France). August 25-29th.

PEÑUELAS J. (2014). **Member of the International Steering Committee.** 5th ISPPSP International Symposium on Phosphorus in Soils and Plants «*Facing Phosphorus Scarcity?*» Montpellier (France). August 25-29th.

Contribution in national and international scientific conferences

ADAMS H. AND THE MULTI-SPECIES MORTALITY REVIEW TEAM (2014). The physiology of tree mortality from drought. IUFRO World Congress 2014. Salt Lake City (USA). October 5-11th. (Oral presentation).

AGUADÉ D., POYATOS R., WILLIAMS M., NADAL D., MARTÍNEZ-VILALTA J. (2014). Implications of drought -induced forest dieback for the water balance of a Mediterranean mountain ecosystem. MedPine 5. Solsona (Spain). September 22-26th. (Poster).

AGUILLAUME L., LLOP E., PINHO P., MATOS P., AVILA A., BRANQUINHO C. (2014). Validating the current critical levels for ammonia in a Mediterranean forest area. Global Land

Project Open Science Meeting. Land transformations: between global challenges and local realities. Session num 16: Cascading interaction of global and long-term nitrogen cycles in coupled human and ecological system. Berlin (Germany). March 19-21th. (Oral presentation by invitation).

ALCAÑIZ J.M., UBALDE J.M., DOMENE X., CARABASSA V., CAÑIZARES R., RAYA I., MATTANA S. (2014). Algunos efectos de un biocarbón (biochar) de pino sobre la producción y calidad de la uva. EcoSostenibleWine 2014, 4ª Conferencia Internacional de Vitivinicultura Ecològica, Sostenible y Cambio Climàtico. INCAVI, VIMAC. Vilafranca del Penedés (Spain). November 26th. (Poster).

ALONSO-BLANCO C., AUSÍN I., MÉNDEZ-VIGO B., RAMIRO M., SAVIC M., MARCER A., PICÓ F.X. (2014). Searching for genes involved in climatic adaptation: contributions from *Arabidopsis* studies at a regional scale. Plant Biology Europe FESPB/EPSO 2014 Congress. Dublin (Ireland). June 22-26th. (Oral presentation).

ASENSIO D., GREENBERG J., GUENTHER A.B., MOLOWNY-HORAS R., LLUSIÀ J., PEÑUELAS J., MONSON R.K. (2014). Exploring the spatially varying relationships of soil VOC emissions in a subalpine conifer forest. Material & Methods Selected area and field sampling Environmental Factors. Biogenic hydrocarbons & the atmosphere. Gordon Research conference. Interactions in a changing world. Girona (Spain). June 29th-July 4th. (Oral presentation).

ÀVILA A. (2014). La Castanya (Montseny): a long term atmospheric deposition site for the study of effects to forested catchements. CAPERMED (Comitee on Air Pollution Effects Research on Mediterranean Ecosystems). Lisboa (Portugal). July 3-4th. (Oral presentation by invitation).

BARBA J., CURIEL-YUSTE J., POYATOS R., JANSSENS I.A., LLORET F. (2014). Soil respiration shifts as drought-induced tree substitution advances from Scots pine to Holm oak forest. European Geoscience Union General Assembly 2014. Viena (Austria). April 27th-May 2nd. (Oral presentation).

BARBETA A., OGAYA R., MEJÍA-CHANG M., RICO L., VOLTAS J., DAWSON T.E., PEÑUELAS J. (2014). Forest acclimation to drought: Structural, functional and epigenetic changes following a long-term drought experiment. Natural and human-assisted adaptation of forests to climatic constraints: the relevance of interdisciplinary approaches. Orléans (France). November 18-19th. (Poster).

BARET F., WEISS M., VERGER A., VERHOEF W. (2014). Comparing vegetation structural variables retrieval performances when using nadir viewing, multidirectional observations or albedo top of canopy reflectance. In J. Sobrino (Ed.), *Fourth International Symposium on Recent Advances in Quantitative Remote Sensing (RAQRS)*. Torrent, Spain: Publ. Univ. València, 22-26 September. (Oral presentation)

BARET F., FOURNIER A., VERGER A., COMAR A., DE SOLAN B., BURGER N., CHÉRON C. (2014). Interest of UAV and UGV systems for field high-throughput phenotyping. In *Third International Plant Phenotyping Symposium*. Chennai (India), 17-19 February (Oral presentation).

BARTRONS M., SARDANS J., PEÑUELAS J. (2014). Nutrient imbalance and food webs. Phosphorus Imbalance in the Terrestrial Biosphere Processes from Root to Globe Meeting. Montpellier (France). March 6-7th. (Poster).

CAMACHO F., SÁNCHEZ J., BARET F., WEISS M., VERGER A., LACAZE R., SMETS B. (2014). Quality Assessment and Continuous Quality Monitoring of SPOT/VGT LAI, FAPAR global products in the Copernicus Global Land Service. In *Land products validation and evolution workshop*. ESA Esrin, Frascati (Rome), Italy, 28-30 January. (Oral presentation)

CAMACHO F., SÁNCHEZ J., BARET F., WEISS M., VERGER A., LACAZE R., SMETS B., LATORRE C. (2014). Quality Assessment of LAI and FAPAR and FCover global products derived from SPOT/VGT data in the Copernicus Global Land Service. In *Global vegetation monitoring and modeling (available at <https://colloque.inra.fr/gv2m/Poster-Sessions/Poster-S7>)*. Avignon (France), 3-7 February. (Poster presentation)

CATALAN J. (2014). Una visión eco-evolutiva de los umbrales ambientales en la distribución de las especies. VI Congreso Nacional de Limnología. México DF (Mexico). November 14th. (Plenary lecture).

CHAPARRO D., VAYREDA J., MARTÍNEZ-VILALTA J., VALL-LLOSSERA M., BANQUÉ M., CAMPS A., PILES M. (2014). Regional-scale forest decline responds to climatic anomalies and remotely sensed soil moisture. IGARRSS Conference 2014. Québec (Canada). July 13-18th. (Oral presentation).

DE CÁCERES M., MARTÍNEZ-VILALTA J., COLL L., CASALS P., LLORENS P., PAUSAS J.G., BROTONS L. (2014). Evaluating plant drought stress at the regional level using forest inventory data and a water balance model. A Scientific Roadmap for Projections of Global Change Impacts on Forests. Sarajevo (Bosnia and Herzegovina). August 27-28th. (Poster).

DUCATEZ S., AUDET J.N., SOL D., LEFEBVRE L. (2014). Pace of life syndrome and cognitive strategies in birds. 15th International Behavioral Ecology Conference. New York (USA). July 31th-August 5th. (Oral presentation).

ESTIARTE M., OGAYA R., PEÑUELAS J. (2014). Biomassa en un matollar del Garraf després de 12 anys de sequera experimental. VII Trobada d'estudiosos del Garraf i d'Olèrdola. Begues (Spain). November 20th. (Poster).

ESTIARTE M., VICCA S., PEÑUELAS J. (2014). Metrics other than precipitation to describe the actual treatment in drought experiments. Some practical recommendations.

Integrating climate change experiments, data syntheses and modelling. 1st ClimMani COST action workshop. Aveiro (Portugal). November 12-14th. (Poster).

FUNES I., SAVÉ R., ARANDA X., MOLINA A., BATLLES C., RETANA J., COMAS L., GRACIA M., VAYREDA J., GRAU B., DE HERRALDE F., BIEL C. (2014). Aproximación cuantitativa al almacenamiento de carbono en cultivos forrajeros y de cereales en España. REMEDIA 2014. Valencia. April 11th. (Poster).

GARCIA N., SAVÉ R., BIEL C., MARTÍNEZ-VILALTA J. (2014). Individual traits underlying drought vulnerability in *Pinus sylvestris*. MedPine 5. Solsona (Spain). September 22-26th. (Poster).

GUENTHER A., SECO R., KASER L., YAKIR D., PEÑUELAS J., KARL T., POTOSNAK M., KIM S. (2014). Simulating volatile organic compound emission response to ecosystem stress in megan biogenic emission model. 4th iLEAPS Science Conference. 12-16 May, Nanjing China. (Oral presentation).

HEVIA V., FERNÁNDEZ E., BOSCH J., AZCÁRATE F.M., RODRIGO A., ORTEGA J., GONZÁLEZ J.A. (2014). Effects of a livestock drove road on pollination services in Mediterranean agroecosystems. NRG BEES Conference. Southampton (England). September 8-9th. (Poster).

KLEM K., RAJSNEROVÁ P., HOLUB P., PEÑUELAS J., URBAN O. (2014). Convergence of morphological and physiological traits of sun and shade leaves of European beech with increasing altitude. Integrating climate change experiments, data syntheses and

modelling. 1st ClimMani COST action workshop. Aveiro (Portugal). November 12-14th. (Poster).

LACAZE R, SMETS B, BARET F, WEISS M., RAMON D, WANDREBECK L, MONTERSLEET B, CALVET JC, ROUJEAN JL, CAMACHO F, TRIGO I, FREITAS S, JANN A, PAULIK C, TANSEY K, D'ANDRIMONT R, VERGER A.(2014). The operational 333 m biophysical products of the Copernicus Global Land Service. In J. Sobrino (Ed.), *Fourth International Symposium on Recent Advances in Quantitative Remote Sensing (RAQRS)*. Torrent, Spain: Publ. Univ. València, 22-26 September. (Oral presentation)

LLORET F., SAURA-MAS S., SAPÉS G.(2014). Climatic extreme variability as an environmental filter in Mediterranean shrublands. Mediterranean Ecosystems International Conference MEDECOS XIII. Crossing boundaries across disciplines and scales. Olmué (Chile). October 6-9th. (Oral presentation).

LUSH V., NÜST D., BASTIN L., MASÓ J., LUMSDEN J. (2014). GEO Label Web Services for Dynamic and Effective Communication of Geospatial Metadata Quality. European Geosciences Union General Assembly 2014 (EGU2014). Vienna (Austria). April 27th–May 02nd. (Poster).

MARCER A., PICÓ X. (2014). Assessing global change using meaningful genetic units: the case of the Iberian collection of natural populations of the model plant *Arabidopsis thaliana*. Workshop on Studying spatiotemporal patterns of genetic variation with species distribution models (SDM) in a context of global change. Sevilla (Spain). October 23th. (Oral presentation).

MARIJN VAN DER VELDE ET AL. (2014). African crop yield reductions due to increasingly unbalanced Nitrogen and Phosphorus consumption. European Geosciences Union General Assembly 2014 (EGU2014). Vienna (Austria). April 27th–May 02nd. (Poster).

MARTÍNEZ-VILALTA J. (2014). Climate change and disturbance risks in European forests: a view from the South. FRISK-GO

Kick-Off Workshop. Freiburg (Germany). January 13-16th. (Oral presentation).

MARTÍNEZ-VILALTA J. (2014). Drought-induced mortality in Mediterranean forests: some key questions and uncertainties. MedStress Workshop: MEDiterranean STRESS: The impact of environmental stress on Mediterranean trees. Birmensdorf, Zurich (Switzerland). May 19-21th. (Oral presentation).

MARTÍNEZ-VILALTA J. (2014). Topic 7: tree mortality. COST Action STReESS meeting, Topic 7 workshop. Estoril (Portugal). October 25th. (Oral presentation).

MARTÍNEZ-VILALTA J., POYATOS R., AGUADÉ D., GÓMEZ M., OLIVA J., GALIANO L., MENCUCCINI M. (2014). The process of drought-induced tree mortality in Mediterranean Scots pine populations. MedPine 5. Solsona (Spain). September 22-26th. (Oral presentation).

MASÓ J. (2014) Últimos avances en OGC. V Jornadas Ibéricas de Infraestructuras de Datos Espaciales. Lisboa, 5 - 7 November

MASÓ J. (2014) Nuevas actividades ILAF y AOB. V Jornadas Ibéricas de Infraestructuras de Datos Espaciales. Lisboa, 5 - 7 November

MASÓ J., CLOSA G., GIL Y. (2014). Applying W3C PROV to Express Geospatial Provenance at Feature and Attribute Level. 5th International Provenance and Annotation Workshop (IPAW). Cologne (Germany). June 9-13th. (Oral presentation).

MASÓ J., JULIÀ N. (2014). Cómo los desarrollos en la nube pueden acercar las infraestructuras de datos espaciales al ciudadano. El caso de NiMMBus: Un nuevo servicio de MiraMon para el alojamiento y publicación de datos geospaciales. V Jornadas Ibéricas de Infraestructuras de Datos Espaciales. Lisboa (Portugal). November 5-7th. (Oral presentation).

MASÓ J., NÜST D., DÍAZ D., CLOSA G., LUSH V., ZABALA A., NATIVI S. (2014). Including data quality concepts into the GEOSS

Portal. European Geosciences Union General Assembly 2014 (EGU2014). Vienna (Austria). April 27th-May 02nd. (Poster).

MAYOL M., BERGANZO E., BURGARELLA C., GONZÁLEZ-MARTÍNEZ S.C., GRIVET D., VENDRAMIN G.G., VINCENOT L., RIBA M. (2014). Environmental heterogeneity, demography and adaptive variation in English yew (*Taxus baccata* L.). IV International Yew Workshop. Management, conservation and culture of the yew forests in the Mediterranean forest ecosystems. Poblet (Spain). October 23-25th. (Oral presentation by invitation).

MENCUCCINI M. (2014). Plant functional responses to drought risks and management implications. II International conference of Silviculture. Florence (Italy). November 26-29th. (Oral presentation).

MENCUCCINI M. (2014). The significance of carbon cycle research for forest management. International conference on Research and Innovation in sustainable forestry to support the global bio-economy. Arezzo (Italy). March 26th. (Oral presentation).

MOLOWNY-HORAS R., MARCOS J.M., SANTOS P., LLORET F. (2014). Stand-level patterns of mortality of *Pinus sylvestris* in Northeast Spain. 5th International Conference on Mediterranean Pines MEDPINE 5. Solsona (Spain). September 22-26th. (Poster).

MORFOPOULOS C., PRENTICE C., PEÑUELAS J. (2014). A new model for plant volatile emissions based on plant energetic status. Biogenic hydrocarbons & the atmosphere. Gordon Research conference. Interactions in a changing world. Girona (Spain). June 29th-July 4th. (Poster).

NINYEROLA M., SEVILLANO E., SERRAL I., PONS X., ZABALA A., BASTIN L., MASÓ J. (2014). QualityML: a dictionary for quality metadata encoding. European Geosciences Union General Assembly 2014 (EGU2014). Vienna (Austria). April 27th–May 02nd. (Oral presentation).

OGAYA R., BARBETA A., BASNOU C., PEÑUELAS J. (2014). Les dades de satèl·lits com a eines de seguiment del desenvolupament i el decaïment forestal. Quartes jornades sobre el bosc de Poblet i les Muntanyes de Prades. Coneixements i experiències davant els reptes del canvi climàtic. Monestir de Poblet (Spain). November 15th. (Poster).

OGAYA R., PEÑUELAS J. (2014). Quinze anys de sequera experimental a l'alzinar de Prades. Experiències d'adaptació dels boscos al canvi climàtic. Paratge Natural de Poblet, Vimbodí, Tarragona (Spain). May 15th. (Poster).

OJEDA G., PATRÍCIO J., MATTANA S., ÀVILA A., VOLKMANN M., ALCAÑIZ J.M., BACHMANN J. (2014). Modification of biophysical soil properties by biochar amendments. IDS5 Biochar Soil Amendment for Environmental and Agronomic Benefits. 20th World Congress of Soil Science. Jeju (Korea). June 13-20th. (Poster).

OLIET J., TOCA A., FERNÁNDEZ L., VILLAR-SALVADOR P., MARTÍNEZ-VILALTA J., SAVÉ R., GRAU B., HERRALDE F., CASTRO J., JACOBS D. (2014). Comparison of the root, needle and xylem cold tolerance in four Iberian pines. MedPine 5. Solsona (Spain). September 22-26th. (Oral presentation).

PAPESCHI F., BIGAGLI L., MASÓ J., NATIVI S. (2014). Designing and implementing a Quality Broker: the GeoViQua experience. European Geosciences Union General Assembly 2014 (EGU2014). Vienna (Austria). April 27th–May 02nd. (Poster).

PEÑUELAS J., FILELLA I., ESTIARTE M., LLUSIÀ J., SARDANS J., OGAYA R., CARNICER J., RICO L., VERGER A., ASENSIO D., BARTRONS M., KEFAUVER S., BARBETA A., RIVAS-UBACH A., ACHOTEGUI A., GARGALLO-GARRIGA A., SPERLICH D., FARRÉ-ARMENGOL G., LIU D., ZHANG C., TAO S. (2014). Quantifying the responses of ecosystems and society in a world increasingly rich in N and C but limited in Phosphorus. Phosphorus Imbalance in the Terrestrial Biosphere Processes from Root to Globe Meeting. Montpellier (France). March 6-7th. (Poster).

PEÑUELAS J., BERGER M. (2014). Land Essential Climate Variables (ECV) available products and new products: questions and recommendations. Global Vegetation Monitoring and Modeling (GV2M) conference. Avignon (France). February 3-7th. (Poster).

PEÑUELAS J. (2014). PRI and remote sensing of vegetation gas Exchange. Global Vegetation Monitoring and Modeling (GV2M) conference. Session on Land Essential Climate Variables (ECV) available products and new products. Avignon (France). February 3-7th. (Poster).

PEÑUELAS J. (2014). Biological and environmental changes mediated by global change altered plant volatile emissions. Biogenic hydrocarbons & the atmosphere. Gordon Research conference. Interactions in a changing world. Girona (Spain). June 29th-July 4th. (Poster).

PEÑUELAS J., FILELLA I., ZHANG C., LLUSIÀ J., OGAYA R., LIU D., VERGER A., BALZAROLO M., VICCA S., FERNANDEZ-MARTINEZ M., JANSSENS I.A., GARBULSKY M., MARINO G., FARRÉ-ARMENGOL G. (2014). On the use of remote sensing techniques to assess forest gas exchange. ForestSAT conference: a bridge between forest sciences, remote sensing and geo-spatial applications. Riva del Garda (Italy). November 4-7th. (Invited final keynote speech).

PEÑUELAS J., JANSSENS I.A., CIAIS P., OBERSTEINER M. (2014). The IMBALANCE-P: Effects of phosphorus limitations on life, earth and society. Fifth International symposium of Phosphorus Dynamics in the Soil Plant Continuum. Montpellier (France). August 25-29th. (Invited special keynote speech).

PEÑUELAS J., JANSSENS I.A., CIAIS P., OBERSTEINER M. (2014). Studies on nutrient imbalances and phosphorous limitation in tropical ecosystems, in the frame of the IMBALANCE-P project. Annual LabEx CEBA meeting. Toulouse (France). October 13-14th. (Poster).

PESQUER L., NINYEROLA M., PONS X. (2014). Reducing spatial uncertainty in climatic maps through geostatistical analysis. European Geosciences Union General Assembly 2014 (EGU2014). Vienna (Austria). April 27th–May 02nd. (Poster).

PONS X., NINYEROLA M., GONZÁLEZ-GUERRERO O., CEA C., SERRA P., ZABALA A., PESQUER L., SERRAL I., MASÓ J., DOMINGO C., SERRA J.M., CRISTÓBAL J., HAIN C., ANDERSON M., VIDAL J. (2014). Preparing for global land cover & climate change mapping at detailed resolution. The design of a massive database from long time series of Landsat land cover products and in situ climate data. GV2M: Global Vegetation Monitoring and Modeling. Avignon (France). February 3-7th. (Poster).

PONS X., NINYEROLA M., GONZÁLEZ-GUERRERO O., CEA C., SERRA P., ZABALA A., PESQUER L., SERRAL I., MASÓ J., DOMINGO C., SERRA J.M., CRISTÓBAL J., HAIN C., ANDERSON M., VIDAL J. (2014). It's time for a crisper image of the Face of the Earth: Landsat and climate time series for massive land cover & climate change mapping at detailed resolution. European Geosciences Union General Assembly 2014 (EGU2014). Vienna (Austria). April 27th–May 02nd. (Poster).

ROBERTS C., BLOWER J., MASÓ J., DÍAZ D., GRIFFITHS G., LEWIS J. (2014). Communicating and visualizing data quality through Web Map Services. European Geosciences Union

General Assembly 2014 (EGU2014). Vienna (Austria). April 27th–May 02nd. (Poster).

RUTISHAUSER T., PEÑUELAS J., FILELLA I., GEHRIG R., SCHERRER S.C., RÖTHLISBERGER C. (2014). Abstract to the EGU General Assembly 2014: Synthesizing plant phenological indicators from multispecies datasets. EGU General Assembly 2014: CL3.11/AS4.24/BG5.6- EGU2014-8496. Vienna, Austria. April 27th–May 2nd. (Poster).

SALA A., MARTÍNEZ-VILALTA J., ASENSIO M.D., LLORET F., PALACIO, S., GALIANO L., HOCH G., PIPER F. (2014) A global analysis of the concentration and dynamics of non-structural carbohydrates in plants: does it matter under global change? Ecological Society of America (ESA) 99th Annual Meeting. Sacramento, California (USA). August 10-15th. (Oral presentation).

SAPÉS G., SERRA-DÍAZ J.M., LLORET F. (2014). Drought-induced Effects in Species' Bioclimatic Niche of Coexisting Mediterranean Shrubs. Society of American Foresters National Convention 2014. Salt Lake City, Utha (USA), October 8-11th. (Oral presentation).

SARDANS J., RIVAS-UBACH A., GARGALLO-GARRIGA A., URBINA I., BARTRONS M., PEÑUELAS J. (2014). Phosphorus and stoichiometry equilibrium and umbalances in plant-soil system. Phosphorus Imbalance in the Terrestrial Biosphere Processes from Root to Globe Meeting. Montpellier (France). March 6-7th. (Poster).

SARDANS J., CARNICER J., CIAIS P., FARRÉ-ARMENGOL G., FILELLA I., GARGALLO-GARRIGA A., JANSSENS I.A., OBERSTEINER M., RIVAS-

UBACH A., LLUSIÀ J., BARTRONS M., URBINA I., PEÑUELAS J. (2014). Phosphorus a pivotal element in plant-soil system stoichiometry: equilibrium and imbalances. Fifth International symposium of Phosphorus Dynamics in the Soil Plant Continuum. Montpellier (France). August 25-29th. (Oral presentation by invitation).

SAURA-MAS S., SAPERAS A., LLORET F. (2014). Intra-Specific variability of a Mediterranean basin seeder species (*Cistus albidus*) related to fire and drought. Mediterranean Ecosystems International Conference MEDECOS XIII. Crossing boundaries across disciplines and scales. Olmué (Chile). October 6-9th. (Poster).

SECO, R. ET AL. Comparable Monoterpene emission from pine forests across 500 mm precipitation gradient in the semi-arid transition zone. European Geosciences Union General Assembly 2014 (EGU2014). Vienna (Austria). April 27th–May 02nd. (Poster).

SOL D., SAYOL F. (2014). The evolution of innovativeness: exaptation or specialized adaptation? Workshop on innovation in Animals and Humans: Understanding the Origins and Development of Novel and Creative Behaviour. University of St Andrews (UK). November 3-4th. (Oral presentation).

TORRES-SALLAN G., ORTIZ O., CARABASSA V., ALCAÑIZ J.M. (2014). Thermal and chemical approaches to assess the stability of a vine stock biochar and cattle manure compost applied to a vineyard soil. VI Congreso Ibérico de la Ciencia del Suelo. Santiago de Compostela (Spain). June 22-25th. (Poster).

TORRES-SALLAN G., ORTIZ O., UBALDE J.M., SORT X., ALCAÑIZ J.M. (2014). El biocarbón (biochar): una forma de secuestrar carbono y de transferir menos contaminantes al subsuelo y acuíferos. III Jornada Ambiental 2014: Contaminación del agua en subsuelo. Torres & Earth and Universidad de Barcelona (Spain). May 28th. (Poster).

VAYREDA J., CHAPARRO D., BANQUÉ M., MARTÍNEZ-VILALTA J., VALL-LLOSSERA M. (2014). El decaimiento de los bosques a escala regional responde a las anomalías climáticas y a la humedad del suelo obtenida por teledetección. III Workshop Red Remedia 2014. València (Spain). April 10-11th. (Poster).

VAYREDA J. (2014). Millora del coneixement sobre la disponibilitat dels recursos per l'aprofitament de la biomassa forestal: de la planificació a la gestió del recurs a escala local. II Congrés d'Energia de Catalunya COENERCAT. Barcelona. June 26th. (Oral presentation).

VELDE, M., FOLBERTH, C., BALKOVIČ, J., CIAIS, P., FRITZ, S., JANSSENS, I., OBERSTEINER, M., SEE, L., SKALSKÝ, R., XIONG, W., PEÑUELAS, J. (2014). African crop yield reductions due to increasingly unbalanced Nitrogen and Phosphorus consumption. European Geosciences Union General Assembly 2014 (EGU2014). Vienna (Austria). 27 April – 02 May 2014. (Poster).

VERGER A., BARET F., WEISS M., FILELLA I., PEÑUELAS J. (2014). Quantification of leaf area index anomalies from global vegetation observations. Global Vegetation Monitoring and Modeling (GV2M) conference. Avignon (France). February 3-7th. (Oral presentation).

VERGER A, BARET F, WEISS M, SMETS B, LACAZE R, CAMACHO F. (2014). Near real time estimation of biophysical variables within Copernicus global land service. In *Global vegetation monitoring and modeling (available at <https://colloque.inra.fr/gv2m/Poster-Sessions/Poster-S7>)*. (ed.), Avignon (France), 3-7 February. (Poster presentation)

VERGER A, BARET F, WEISS M, SMETS B, CAMACHO F, LACAZE R. (2014). GEOV2/VGT: Near real time estimation of LAI, FAPAR

and cover fraction variables from VEGETATION data within Copernicus Global Land service. In J. Sobrino (Ed.), *Fourth International Symposium on Recent Advances in Quantitative Remote Sensing (RAQRS)*. Torrent, Spain: Publ. Univ. València, 22-26 September. (Poster presentation)

VERGER A., BARET F., FILELLA I., PEÑUELAS J. (2014). Anomalies and Trends in Vegetation Responses to Climate Change from Global Satellite Observations. In J. Sobrino (Ed.), *Fourth International Symposium on Recent Advances in Quantitative Remote Sensing (RAQRS)*. Torrent, Spain: Publ. Univ. València, 22-26 September.. (Poster presentation)

VERGER A., CHERON C., BARET F., VIGNEAU N. (2014). The potential of unmanned aerial vehicles for precision agriculture and phenotyping. In IEEE (Ed.), *International Geoscience and Remote Sensing Symposium (IGARSS)*. Québec (Canada). July 13-18th. (Oral presentation).

VERGER A., BARET F., FILELLA I., PEÑUELAS J. (2014). Global vegetation-climate dynamics from 30-year satellite observations. *International Geoscience and Remote Sensing Symposium (IGARSS)*. Québec (Canada). July 13-18th. (Poster).

VICCA S., FERNÁNDEZ-MARTÍNEZ M., LUYSSAERT S., CAMPIOLI M., PEÑUELAS J., JANSSENS I.A. (2014). Nutrient availability determines forests' carbon allocation and sequestration – a global synthesis. *European Geosciences Union General Assembly 2014 (EGU2014)*. Vienna (Austria). April 27th–May 02nd. (Poster).

VIGNEAU N, CHÉRON C, VERGER A, BARET F. (2014) Imagerie aérienne par drone: exploitation des données pour l'agriculture de précision. In, *Colloque scientifique francophone: Drones et moyens légers aéroportés d'observation* (Available at http://drone.teledetection.fr/articles/Vigneau_Airinov_RFPT.pdf). Montpellier (France), 24-26 Juin (Oral presentation)

VILÀ-CABRERA A., MARTÍNEZ-VILALTA J., RETANA, J. (2014). Regional variation in tree functional traits along wide

climatic and forest structural gradients. *MedPine 5*. Solsona (Spain). September 22-26th. (Oral presentation).

VICCA S, BALZAROLO M, FILELLA I, VERGER A, ZHANG C, PEÑUELAS J, JANSSENS I. (2014). Drought responses in forests of different leaf type and climate: how do remote sensing indicators reflect field measurements? In *Global vegetation monitoring and modeling (available at <https://colloque.inra.fr/gv2m/Poster-Sessions/Poster-S7>)*. Avignon (France), 3-7 February. (Poster presentation)

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WEISS M, BARET F, VERGER A. (2014). BELMANIP2: Enhancement of the CEOS-BELMANIP ensemble of sites used for the validation of land products from medium resolution sensors. In J. Sobrino (Ed.), *Fourth International Symposium on Recent Advances in Quantitative Remote Sensing (RAQRS)*. Torrent, Spain: Publ. Univ. València, 22-26 September. (Oral presentation)

Outreach publications

BANQUÉ M., CALLEJAS D., MARTÍNEZ-VILALTA J., MOLWNY R., RETANA J., VAYREDA J. (2014). *C-BOSC estocs de carboni i capacitat*

d'embornal dels boscos de catalunya. Papers de l'Oficina (OCCC).

BANQUÉ M., CHAPARRO D., MARTÍNEZ-VILALTA J., VAYREDA J. (2014). *Decaiment dels Boscos de Catalunya: DEBOSCAT*. Lithodora 2012, 10:

CURIE-YUSTE J., FLORES-RENTERÍA D.Y., BARBA J., FERNÁNDEZ-LÓPEZ M., LLORET F., MATTANA S., PEÑUELAS J., PIZANO C. (2014). *Los suelos terrestres, el reino de los microorganismos*. Naturalmente

GRACIA M., COMAS L., VAYREDA J. (2014). *Es pot fer gestió als Boscos Singulars?* Notícies de la Institució (ICHN), 116:

OLIVA J., MARTÍNEZ-VILALTA J. (2014). *Fongs patògens i mortalitat forestal induïda per sequera*. UAB Divulga, December, 2014.

PESQUER L. (2014). *Contributions to the Automated Analysis of Large Volumes of Data*. UAB Divulga. December 2014

PESQUER L. (2014) *Studying the effects of climate change from space enters the Big Data era*. UAB Newsroom.

RAMON A. PESQUER L., (2014). *Studying the effects of climate change from space enters the Big Data era*. UAB Newsroom

QUEVEDO L., RODRIGO A., ESPELTA J.M. (2014). La gestió post-incendi en bosquines d'arboç. Resultats del seguiment ecològic a termini mitjà. CREAM and Diputació de Barcelona.

QUEVEDO L., RODRIGO A., ESPELTA J.M. (2014). La gestión post-incendio en monte bajo de

madroño. Resultados del seguimiento ecológico a medio plazo. CREAM and Diputació de Barcelona.

RAMON A., PEÑUELAS J., JANSSENS I.A., CIAIS P., OBERSTEINER M. (2014). *Científics europeus s'uneixen per establir una nova diplomàcia del fòsfor*. UAB Divulga, December 2014.

SOL D. (2014). *Claves del éxito de las especies invasoras*. Ambienta, 109: 4-13.

Unpublished final report

BASNOU C., VAYREDA J., PINO J. (2014). "Serveis ecosistèmics de la infraestructura verda de l'Àrea Metropolitana de Barcelona: primera diagnosi." Informe inèdit. Barcelona Regional.

IZQUIERDO R., ÀVILA A. (2014). "Informe dels resultats de la Xarxa de pluja àcida. Any 2013."

PINO J., BASNOU C. (2014). "Anàlisi de les pressions sobre la biodiversitat a l'Àrea Metropolitana de Barcelona i de les seves tendències futures." Informe inèdit. Barcelona Regional.

BARET F, VERGER A, WEISS M. (2014). Algorithm theoretical basis document: leaf area index (LAI), Fraction of absorbed PAR (FAPAR) and fraction of vegetation cover (FCOVER) version 2.0 (GEOV2). *Gio Global Land Component - Lot 1. "Operation of the Global Land Component". Report for contract n° 388533 (JRC) (p. 72): INRA-CREAM*

FERNANDES R, PLUMMER S, NIGHTINGALE J, BARET F, CAMACHO F, FANG H, GARRIGUES S, GOBRON N, LANG ML, LEBLANC S, MERONI M, MARTINEZ B, NILSON T, PINTY B, PISEK J, SONNENTAG O, VERGER A, WELLES J, WEISS M, WIDLowski JL, SCHAEPMAN-STRUB G, ROMAN M, NICKESON J. (2014). Global Leaf Area Index Product Validation Good Practices In, *Committee on Earth Observation Satellites Working Group on Calibration and Validation Land Product Validation Sub-Group* (pp. 1-77)

SMETS B, VERGER A, BARET F, WEISS M. (2014). Product user manual: leaf area index (LAI), Fraction of absorbed PAR (FAPAR) and fraction of vegetation cover (FCOVER) version 2. *Glo Global Land Component - Lot I. "Operation of the Global Land Component". Report for contract n° 388533 (JRC)* (p. 39): VITO-CREAF-INRA

VERGER A, BARET F. (2014). Algorithm for estimating GAI and Cab from UAV data. Validation over wheat and rapeseed crops. Cerdanyola del Vallès: CREAM, Report for AgriUAV contract (32-572), p. 18.

TRAINING ANNEXES

SUBJECTS IN MASTERS AND POSTGRADUATE COURSES

Laboratorio de instrumentación. Máster Oficial en Teledetección. Universitat de València, Burjassot. 2014. Professor: Aleixandre Verger

Aplicaciones de Teledetección. Máster Oficial en Teledetección. Universitat de València, Burjassot. 2014. Professor: Aleixandre Verger

Ecologia del sòl. Màster Oficial Interuniversitari en Gestió de Sòls i Aigües (MAGSA), UdL, UB, UAB, UPN. Lleida. February 2014. Lecturers: Josep Maria Alcañiz, Xavier Domene.

Processos de degradació i rehabilitació de sòls. Màster Oficial Interuniversitari en Gestió de Sòls i Aigües (MAGSA), UdL, UB, UAB, UPN. Lleida. January 2014. Lecturer: Josep Maria Alcañiz.

Régimen de perturbaciones y gestión forestal en espacios naturales protegidos. Máster oficial en estudis territorials i de la població. Master en Espacios Naturales Protegidos UCM-UAM-Fundación González-Bernáldez. Madrid (Spain). 2014. Lecturer of the module: Josep Maria Espelta.

Riscos geològics i restauració ambiental. Màster Oficial Interuniversitari en Gestió de Sòls i Aigües (MAGSA), UdL, UB, UAB, UPN, Lleida, Abril 2013, Lecturers: Rogelio Linares, Josep Maria Alcañiz.

Sistemas de Información y Áreas Protegidas. Máster en Sistemas de Información Geográfica. Fundació Politècnica de Catalunya. Barcelona. 2014. Lecturer: Arnald Marcer.

Vegetation Analysis and Landscape Ecology. Master in Ecology, Environmental Management and Restoration. University of Barcelona (UB). Barcelona (Spain). 2014. Lecturer of the module: Joan Pino.

COURSES AND SUMMER SCHOOLS

Curs Sistema d'Informació Geogràfica (SIG-GIS) MiraMon. CREAM. Bellaterra. February-March 2014. Lecturers: Guillem Closa, Ester Prat.

Drought and vegetation shifts in terrestrial ecosystems. The Ramon Margalef Summer Colloquia 2014: "What Ecology can learn from natural and human-induced disturbances – A cross-system view". Generalitat de Catalunya. Barcelona, July 2014. Lecturer: Jordi Martínez-Vilalta.

Historia natural del ecosistema microscòpic. Curso pre-congreso VI Congreso Nacional de Limnología. México DF. Fecha 2014. Lecturer: Jordi Catalan.

Huella y perspectivas del cambio global en los ecosistemas de montaña. Máster de Cambio Global. Uni Universidad Internacional Menéndez Pelayo y Consejo Superior de Investigaciones Científicas. Mallorca. Fecha 2014. Lecturer and coordinator: Jordi Catalan.

Paleolimnology and Global Change. Margalef Colloquia: What ecology can learn from natural and human-induced disturbances. A cross-system view. Barcelona. Fecha 2014. Lecturer: J. Catalan.

Taller pràctic de metadades. Geocom. Barcelona (Spain). October 2014. Lecturer: Lluís Pesquer.

FINAL MASTER PROJECT

BADIA F. (2014) *Automatic Watershed Deliniation*. Master in Modelling for Science and Engineering. Universitat Autònoma de Barcelona. Director: **Lluís Pesquer**.

BOINOT S. (2014). *Réponse des matorrals méditerranéens aux événements climatiques extrêmes*. Máster IEGB, Université de Montpellier II. Directors: **Sandra Saura-Mas, Francisco Lloret**.

COMPÀ M. (2014). *The effect of climate warming on the phenology of Mediterranean butterflies*. Official Master's Degree in Terrestrial Ecology and Biodiversity Management. CREA and Universitat Autònoma de Barcelona. Directors: **Constantí Stefanescu, Jordi Martínez-Vilalta**.

CLOSA G. (2014), *An early warming system of flood risk using Meteorological information*. Master in Minerals Resources and Geological Hazards. Universitat Autònoma de Barcelona and Universitat de Barcelona. Directors: **Joan Masó, Joan Bach**.

CLOTET-FONS M. (2014). *Effects of past landscape and habitat changes in plant invasion provide evidence of an invasion credit*. Official Master's Degree in Terrestrial Ecology and Biodiversity Management. CREA and Universitat Autònoma de Barcelona. Directors: **Joan Pino, Corina Basnou**.

FERNÁNDEZ-JANE B. (2014). *Ontogenic changes in dental wear do not alter teeth functionality*. Official Master's Degree in Terrestrial Ecology and Biodiversity Management. CREA and Universitat Autònoma de Barcelona. Directors: **Bernat Claramunt, J. Galvany**.

FLO V. (2014). *Eight-year variability in flowering patterns in a Mediterranean scrubland: consequences on pollen-nectar composition*. Official Master's Degree in Terrestrial Ecology and Biodiversity Management. CREA and Universitat Autònoma de Barcelona. Directors: **Jordi Bosch, Anselm Rodrigo**.

HERREROS F. (2014). *Caracterización de los bosques nuevos de la provincia de Barcelona en términos de estructura, composición y edad del estrato arbóreo*. Máster oficial de Ecología, Gestión y Restauración del Medio Natural. Universitat de Barcelona. Directors: **Josep Maria Espelta, Joan Pino**.

HUGUET M. (2014). *Assessing recent (1956-1998) forest increase and its potential correlates in peninsular Spain*. Official Master's Degree in Terrestrial Ecology and Biodiversity Management. CREA and Universitat Autònoma de Barcelona. Directors: **Joan Pino, Lluís Brotons**.

PEREIRA E. (2014). *Response of fine root respiration to variations in biotic and abiotic factors in a mixed Mediterranean forest affected by drought induced secondary succession*. Official Master's Degree in Terrestrial Ecology and Biodiversity Management. CREA and Universitat Autònoma de Barcelona. Directors: **Jorge Curiel-Yuste, Josep Barba, Francisco Lloret**.

REVERTÉ S. (2014). *Relationship between floral color and pollinator composition in four plant communities*. Official Master's Degree in Terrestrial Ecology and Biodiversity Management. CREA and Universitat Autònoma de Barcelona. Directors: **Javier Retana, Jordi Bosch**.

RIERA M. (2014). *Senecio pterophorus from invasive populations do not grow more nor produce less defenses than native Individuals*. Official Master's Degree in Terrestrial Ecology and Biodiversity Management. CREA and Universitat Autònoma de Barcelona. Directors: **Eva Castells, Jordi Martínez-Vilalta**.

UBIRIA A. (2014). *Effects of wild boar's (Sus scrofa) rooting behavior on subalpine grasslands in Aiguestortes i Estany de Sant Maurici National Park (Catalonia, Spain)*. Official Master's

Degree in Terrestrial Ecology and Biodiversity Management. CREA and Universitat Autònoma de Barcelona. Directors: Carme Rosell, Josep Maria Espelta.

VALERO FERNÁNDEZ J.J. (2014). 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.

FINAL STUDENT WORK

BALART P. (2014). *The threat of the waste deposit of Garraf on the subterranean fauna of the massif (L'amenaça del depòsit de residus del Garraf sobre la fauna subterrània del Massís).* Universitat Autònoma de Barcelona. Director: Joan Pino.

DAURA-PICH O. (2014). *Revisió de l' Estat de conservació del margalló (Chamaerops humilis L.). Un cas d'estudi: distribució al Massís del Montgrí.* Universitat Autònoma de Barcelona. Director: Sandra Saura-Mas.

FERNÁNDEZ CARMONA J.D. (2014). Variación espacial en la polinización y el éxito reproductivo de una herbácea endémica: implicaciones para su conservación. Universitat Autònoma de Barcelona. Directors: José M. Gómez Reyes (Universidad de Granada) i Jordi Bosch Gras (CREAF).

FONCILLAS M. (2014). *Factors determining species richness of alien vascular plants in the Azores Archipelago (Factors determinants en la riquesa de les plantes vasculares invasores en l'arxipèlag de les Açores).* Universitat Autònoma de Barcelona. Director: Joan Pino.

LURGI RIVERA M. (2014). The assembly and disassembly of ecological networks in a changing world. Universitat Autònoma de Barcelona. Director: José M. Montoya Terán (ICM-CSIC). Tutor: Bernat Claramunt Lopez.

MARTÍN M. (2014). *Critical review on the designation process of Natural parks in Catalonia and improvement suggestions (Revisió crítica del procés de declaració dels parcs naturals a Catalunya i propostes de millora).* Universitat Autònoma de Barcelona. Director: Joan Pino.

MARTÍNEZ-RASCON M. (2014). *La influencia del foc i la gestió en la regeneració dels boscos de Quercus suber de l'Alt Empordà.* Universitat Autònoma de Barcelona. Director: Sandra Saura-Mas.

ORTEGA-SOLANA J. (2014). *Itinerari florístic al Parc Rural d'Anaga. Tenerife.* Universitat Autònoma de Barcelona. Director: Sandra Saura-Mas.

PIERA-PÉREZ L. (2014). *Impactes de l'agricultura sobre el medi ambient. Una realitat que ha de canviar.* Universitat Autònoma de Barcelona. Director: Sandra Saura-Mas.

PLANAS B. (2014). *Anàlisi i propostes d'educació ambiental al Parc natural de la muntanya de Montserrat.* Universitat Autònoma de Barcelona. Director: Sandra Saura-Mas.

OUTREACH ANNEXES

OUTREACH ACTIVITIES

Participation organizing outreach conferences

Interoperability Day

Place: Lisboa

Date: 7 November 2014

Numbers of attendees: 30

CREAF membres involved in organising:

Joan Masó, Núria Julià

XIII MEDITERRANEAN ECOSYSTEMS INTERNATIONAL CONFERENCE.

Place: Olmué (Chile).

Date: November 6-9th, 2014

Numbers of attendees: 300

CREAF membres involved in organising:

Sandra Saura.

Activity title: Training School on Plant Environmental Physiology Instrumentation, British Ecological Society, Society for Experimental Botany.

Place: Lisboa (Portugal).

Date: September 10-15th, 2014

Numbers of attendees: >100

CREAF membres involved in organising:

Maurizio Mencuccini.

Font i Quer, llavor de futur. Els reptes de la botànica catalana per al segle XXI

Place: Barcelona (Spain).

Date: December 11th, 2014

Numbers of attendees: 50

CREAF membres involved in organising:

Sandra Saura.

International Workshop EBD (CSIC)-CREAF - Studying spatiotemporal patterns of genetic variation with species distribution models (SDM) in a context of global change.

Place: Sevilla (Spain).

Date: October 23th, 2014

Numbers of attendees: 30

CREAF membres involved in organising: Arnald Marcer.

Jornadas de investigación sobre la conservación de Doñana.

Place: Sevilla (Spain).

Date: February 6-7th, 2014

Numbers of attendees: 150

CREAF membres involved in organising: Sandra Saura.

Participation as speaker in outreach conferences

BROEKMAN A. (2014). Water and global change: facing management challenges. Ecosystem Services Working group WSSTP. Oslo (Norway). November 18-19th.

CATALAN J. (2014). Cap una reconstrucció quantitativa del clima i espacialment explícita de la vegetació en els Pirineus Centrals. Seminari: De remats i pastors. Pinzellades d'història de l'alta muntanya pirinenca. Boí (Spain). May 25th.

CATALAN J. (2014). El canvi climàtic: per què ens ha de preocupar i ocupar. Seu de la UNED Barcelona Nou Barris. Barcelona (Spain). May 8th.

CATALAN J. (2014). El dilema de l'aigua en el canvi climàtic als Pirineus. Cicle conferències Sud'eau 2. Promovent la gestió local i participativa de l'aigua i els rius del sud-oest europeu. Vielha (Spain). August 7th.

CATALAN J. (2014). Història natural de l'ecosistema microscòpic. Cicle de conferències: La vida a les aigües dolces. Secció de Ciències Naturals del Museu de Mataró. Mataró (Spain). March 12th.

CATALAN J. (2014). Margalef reloaded. Act: Ramon Margalef, l'ecòleg global. Ramon Margalef (1919-2004), 10 anys recordant el mestre. Universitat Autònoma de Barcelona, Sala d'Actes de les Facultats de Ciències i Biociències. UAB. Bellaterra (Spain). May 8th.

CATALAN J. (2014). Margalef reloaded. Universidad Nacional Autónoma de México. Facultad de Ciencias. Conjunto Amoxcali, Sala Sotero Prieto 2. México DF (Mexico). November 21th.

DOBLAS-MIRANDA E. (2014). MENFRI: Un projecte de cooperació internacional per millorar la gestió forestal i fer front al canvi global al Mediterrani. Setmana de la Fusta de Catalunya. Barcelona (Spain). October 27-31th.

DOMENE X. (2014). Avaluació del risc ecològic de la contaminació dins del protocol de biodiversitat (hàbitats i espècies). Reunió del Grup de Treball del protocol MIRAT (Model d'Informe de Riscos Ambientals Tipus) de la Asociación Española de Fabricantes de Productos de Química Fina (AFAQUIM). Barcelona (Spain). June 13th.

DOMENE X., BASTOS A.C. (2014). Eco(toxico)logical risk assessment of biochars. Biochar COST Action Working Group, Management Committee and Stakeholders meeting. Edinburgh (UK). November 5-7th. (Oral presentation by invitation).

GARBULSKY M., PEÑUELAS J. (2014). Eficiencia en el uso de la luz y teledetección de procesos fisiológicos: de las hojas a la productividad primaria. Seminario IFEVA. Buenos Aires (Argentina). May 16th.

HINAREJOS S, DOMENE X, BOSCH J. 2014. Oral toxicity of dimethoate to adult *Osmia cornuta* using an improved laboratory feeding method for solitary bees. 12th Symposium ICP-PR Hazards of Pesticides to Bees. Ghent, 15-17 September 2014.

LLORET F. (2014). Mesa Redonda "To what extent does Biodiversity rule Productivity and Stability of Ecosystems?". Premi Ramon Margalef 2014. Scientific Forum, Facultat Biologia, Universitat de Barcelona, Barcelona (Spain). December 3rd.

LLORET F. (2014). Canvi global i règim d'incendis a Catalunya. XI Jornada CREAM-SCB-ICHN, "Què hem après dels grans incendis del 1994?" IEC, Barcelona (Spain). November 11th.

LLORET F. (2014). Resiliència de la vegetació als episodis de decaïment induïts per sequera. Departament d'Ecologia, Universitat de Barcelona, Barcelona (Spain). November 28th.

LÓPEZ B.C. (2014). Biodiversity, mountains and climate change. EarthWatch Summit 2014. Boston (USA). November 6-9th.

LÓPEZ B.C. (2014). iNaturalist app. Barcelona Citizen Science Day. Barcelona (Spain) June 11th.

LÓPEZ B.C. (2014). iNaturalist. Uso, usabilidad, limitaciones actuales y nuevas oportunidades. Estableciendo las bases de una plataforma de ciencia ciudadana en materia de biodiversidad. Vitoria-Gasteiz (Spain). May 22th.

MARTÍNEZ-VILALTA J. (2014). Forests and drought: drying up or high and dry? IGSSE Forum. Raitenhaslach (Germany). June 16-18th.

MARTÍNEZ-VILALTA J. (2014). Presenter and conductor of "Trobada entre David Tilman, premi Ramon Margalef 2014, i estudiants

de batxillerat de la Xarxa d'Escoles per a la Sostenibilitat de Catalunya (XESC)". ICM. Barcelona (Spain). December 4th.

MARTÍNEZ-VILALTA J., VAYREDA J., BANQUÉ M. (2014). Els boscos davant el canvi climàtic. Jornada tècnica. Canvibosc. Girona (Spain). June 16th.

MASÓ J. (2014). FenoDato. Proyecto FECYT. Encuentros en AEMET. Un nuevo enfoque en los ciudadanos: Ciencia ciudadana, redes sociales, observatorios ciudadanos. Madrid (Spain). November 21th.

PICÓ F.X., MARCER A., ALONSO-BLANCO C. (2014). Contribución de la genética de poblaciones al entendimiento y mitigación de los efectos del cambio global sobre la biodiversidad. XX Seminario de Genética de Poblaciones y Evolución. Granada (Spain). October 1-3rd.

PLA E. (2014). Algunes claus per entendre el canvi climàtic. Conference. Science in School Week. INS Vilamajor. Sant Pere de Vilamajor (Spain). November 19th.

PLA E. (2014). Life+ MEDACC project. Conference. Technical Meeting "Climate Change Incidence on the agriculture of the Muga watershed". Castelló d'Empúries (Spain). June 20th.

PLA E. (2014). The trophic network. Workshop. Science in School Week. CEIP l'Olivera. Sant Cugat del Vallès (Spain). March 25th and 28th.

PLA E. (2014). Water resources, water and global change. Conference. Technical Meeting CREAM-DTES. Barcelona (Spain). May 20th.

PLA E., SAVÉ R. (2014). Life+ MEDACC project. Conference. 6th Annual Meeting for Climate change knowledge update at Catalonia. Les Avellanes, Ós de Balaguer (Spain). June 26th.

RODRIGO A. (2014). Fauna i foc: sobreviure al foc és només el principi. XI Jornada CREAM-SCB-ICHN. Barcelona (Spain). December 18th.

SÁNCHEZ A., BROEKMAN A., PLA E. (2014). Water and global change: facing management challenges. Ecosystem Services meeting. Torre Agbar, Barcelona (Spain). November 4th.

SÁNCHEZ A. (2014). BeWater: Society Adapting to Global Change in the Mediterranean Basin. Barcelona Citizen Science Day. Barcelona (Spain). June 11th.

SOL D. (2014). Life history strategies to cope with human-induced rapid environmental changes. The Ramon Margalef International Summer Colloquia. Barcelona (Spain). July 7-18th.

TERRADAS J. (2014). Ecología para entender el mundo. Conferència "Lecciones Fernando González Bernáldez." Fundació F.G. Bernáldez Award. Paraninf de la Universidad de Alcalá de Henares (Spain). October 30th.

TERRADAS J. (2014). Notes sobre evolució: La teoria evolutiva i els avenços en Biologia molecular, Desenvolupament i Ecologia. IV Jornades sobre l'Ensenyament de la Biologia i Geologia. Taula Rodona sobre Projectes i recursos digitals europeus i locals en l'ensenyament de les ciències. Una oportunitat de ciència per i amb la societat? Cosmocaixa, Barcelona (Spain). October 25th.

TERRADAS J. (2014). Notícies sobre evolució. Presentació del llibre d'aquest títol a la Societat Catalana de Biologia, amb introducció de R. Guerrero. IEC, Barcelona (Spain). December 10th.

TERRADAS J. (2014). Ramon Margalef, l'evolució vista per un ecòleg. Jornada Margalef, l'ecòleg global. Sala d'Actes de Ciències i Biociències, UAB, Bellaterra (Spain). May 8th.

TERRADAS J., MARTÍNEZ-ALIER J. (2014). Els ecosistemes naturals: un recurs econòmic? Ecotendències. Debat moderat per Jordi Bigas. Cosmocaixa, Barcelona (Spain). May 20th.

VAYREDA J. (2014). CANVIBOSC: Vulnerabilitat de les espècies forestals al canvi climàtic. Barcelona. October.

VAYREDA J. (2014). El projecte DEBOSCAT i l'ànalisi dels inventaris forestals nacionals Jornada tècnica de Vimbodí i Poblet. Experiències d'adaptació dels boscos al canvi climàtic. Barcelona. May 15th.

VAYREDA J. (2014). Matins d'Innovació: Recerca en l'àmbit forestal a Catalunya. Activitats de recerca en el sector forestal a Catalunya. Santa Coloma de Farners (Spain). July 4th.

VAYREDA J. (2014). Cartografia LIDAR de vegetació forestal. Jornada Salamandra. Diputació de Barcelona. Barcelona. May.

PROJECT NAME	ACRONYM	Principal investigator	Budget	Entity	Period
Global initial operations of biosphere monitoring service	GIOBIO	Aleixandre Verger	20.833,00 €	EU (VITO)	2013-2014
Estimation of Agricultural variables from UAV data	AgriUAV	Aleixandre Verger	5.000,00 €	EU (Airinov)	2013-2014
Monitorització de la vegetació a llarg termini i escala global	LONGLOVE	Aleixandre Verger	45.000,00 €	Centre National d'Etudes Spatiales (CNES)	2014-2015
Caracterització de les pluges recollides en els col·lectors i analitzadors de deposició que pertanyen a la Xarxa de Vigilància i Previsió de la Contaminació Atmosfèrica de Catalunya propietat del DMAiH	CHARACTERITZACIÓ PLUGES	Anna Àvila	27.588,00 €	Contracte-Programa Generalitat de Catalunya	2014
Georeferenciació de les col·leccions del Museu de Zoologia	GEOMUSEU II	Arnald Marcer	4.749,25 €	Museu de Ciències Naturals de la Ciutadella - Institut de Cultura de Barcelona	2014
Sistema d'informació dels parcs de Catalunya	SIPARC	Arnald Marcer	40.000,00 €	Contracte-Programa Generalitat de Catalunya	2014
Biodiversitat i usos del sòl enfront el canvi climàtic en sistemes d'alta muntanya	EARTHWATCH PIRINEU	Bernat Claramunt	90.130,50 €	ECOTONS/ EARTHWATCH PIRINEU	2013-2016
iNaturalist España, ampliación de funcionalidades e integración de los usuarios en la mayor red internacional para grabar observaciones de la naturaleza y conectarse con otros naturalistas	iNaturalist	Bernat Claramunt	27.409,74 €	FECYT	2013-2014
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
Mediterranean Network of Forest Research and Innovation	MENFRI	Enrique Doblás	745.958,00 €	EU	2013-2016

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New and old World perspectives for forest ecology and management in a context of global change	NEWFORESTS	Denis Boglio (Centre Tecnològic Forestal de Catalunya) Principal investigator from CREAM: Enrique Doblas	405.300,00 €	EU	2013-2016
Efecto de episodios de sequía en la dinámica y el ensamblaje de comunidades vegetales forestales y arbustivas	SECADIN CGL	Francisco Lloret	122.850,00 €	Ministerio Economía y Competitividad	2013-2015
Resposta dels ecosistemes terrestres als canvis i gradients ambientals	SGR 2014-2016 LLORET	Francisco Lloret	43.200,00 €	AGAUR	2014-2016
Adaptive behavior of <i>C. elegans</i> in complex sensory environments	CELEGANS	Frederic Bartumeus	80.132,00 €	HFSP (Human Frontier Science Program)	2013-2014
Convenio de colaboración entre el CREAM 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
Red par el monitoreo del estado de la conservación y recuperación de bosques húmedos y secos en Latino América en el contexto de la deforestación aprobada evitada.	IBERO_REDD+	Javier Retana	30.000,00 €	CYTED	2011-2014
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) Principal investigator from CREAM: Javier Retana	2.548.841,00 €	EU	2013-2018
Making society an active participant in water adaptation to global change	BEWATER	Javier Retana	2.934.724,00 €	EU	2013-2017
CREAM, 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

PROJECT NAME	ACRONYM	Principal investigator	Budget	Entity	Period
Investigación Integrada en Resiliencia y Gestión Ambiental en el Mediterráneo	INFORMED	Javier Retana	88.400,00 €	Ministerio Economía y Competitividad	2014-2017
Dinàmica forestal i incendis	SGR 2014-2016 RETANA	Javier Retana	48.000,00 €	AGAUR	2014-2016
Emissions de volàtils per les plantes en un món canviant	AIRLICOVS	0	50.000,00 €	AIR LIQUIDE Foundation	2014-2016
QUALity aware Visualisation for the Global Earth Observation system of systems	GeoViQua	Joan Masó	3.266.804,00 €	EU	2011-2014
MODEL DE METADEDES DE PRESERVACIO DIGITAL A L'ICGC	PRESERVACART	Joan Masó	19.490,44 €	Institut Cartogràfic de Catalunya	2014
Observaciones fenológicas creadas y validadas por ciudadanos para el análisis científico del cambio	FENODATO	Joan Masó	33.000,00 €	FECYT	2014
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	2014-2017
Anàlisi dels canvis en la connectivitat ecològica i el risc de propagació del foc, i la seva repercussió en la conservació dels espais naturals protegits, en el marc del sistema d'informació territorial de la xarxa d'espais lliures (SITxell)	MCS56-B SITxell II	Joan Pino	50.000,00 €	Diputació de Barcelona	2014
Invasions Biològiques	INVASIONS BIOLÒGIQUES	Joan Pino	40.000,00 €	Contracte-Programa Generalitat de Catalunya	2014
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
Transferència Coneixement	TRANSFERÈNCIA CONEIXEMENT	Joan Pino/Anna Ramon	36.000,00 €	Contracte-Programa Generalitat de Catalunya	2014

PROJECT NAME	ACRONYM	Principal investigator	Budget	Entity	Period
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
Projecte Metodològic Sobre el Vol Fotogramètric de 1957	PMVF 1957	Joan Pino	12.000,00 €	Contracte-Programa Generalitat de Catalunya	2014
Inventari d'abelles de Catalunya	BeeCat	0	6.624,80 €	CONSORCI DEL MUSEU DE CIENCIES NATURALS DE BARCELONA	2014
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	2014-2017
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
Estudio ambiental del acondicionamiento del río Garona y lagos del municipio de Vielha e Mijaran. Desarrollo de una App para educación y concienciación ambiental sobre el agua.	SUDEAU	Jordi Catalán	29.887,00 €	Ajuntament de Vielha e Mijaran	2014
Grup d'Ecologia dels Canvis Ambientals	SGR 2014-2016 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
Descifrando el mecanismo de mortalidad inducida por sequia en árboles	DRIM	Jordi Martínez	124.630,00 €	Ministerio Economía y Competitividad	2011-2014
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	2014-2016

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Regional forest governance dialogues fostering conscious forest ownership and sustainable wood mobilisation in Europe	SIMWOOD	Roland Schreiber (Bayerische Landesanstalt für Wald und Forstwirtschaft) Principal investigator from CREAM: Jordi Vayreda	5.990.447,00 €	EU	2013-2017
Vulnerabilitat dels Boscos al Canvi Climàtic: seguiment d'episodis de decaïment Forestal a Catalunya	CANVI CLIMÀTIC I BOSCOS	Jordi Vayreda	90.000,00 €	Contracte-Programa Generalitat de Catalunya	2014
Suport a la metodologia de càlcul de les estadístiques forestals	ESTADÍSTIQUES	Jordi Vayreda	15.000,00 €	Contracte-Programa Generalitat de Catalunya	2014
Proposta de Xarxa de Boscos a Dinàmica Natural	XBEL	Jordi Vayreda	27.500,00 €	Contracte-Programa Generalitat de Catalunya	2014
Capacitat de la tecnologia LiDAR per a la creació de cartografia precisa de variables biofísiques dels matollars a Catalunya	LiDAR-Matoll	Jordi Vayreda	2.500,00 €	Contracte-Programa Generalitat de Catalunya	2014
DEBOSCAT. Vulnerabilitat dels Boscos al Canvi Climàtic: seguiment d'episodis de decaïment Forestal a Catalunya	SIBOSC (DEBOSCAT)	Jordi Vayreda	40.000,00 €	Contracte-Programa Generalitat de Catalunya	2014
Inventari Forestal Nacional	Inventari Forestal Nacional	Jordi Vayreda	30.000,00 €	Contracte-Programa Generalitat de Catalunya	2014
DEMORGEST: Inventari i diagnosi amb tecnologia LiDAR de les zones estratègiques per la prevenció de grans incendis forestals a la Catalunya Sud	DEMORGEST	Jordi Vayreda/Santi Sabaté	43.128,77 €	Centre de la Propietat Forestal	2014
Recerca i innovació en el procés i en el control de la restauració d'activitats extractives	PEDRERES	Josep Maria Alcañiz	39.000,00 €	Contracte-Programa Generalitat de Catalunya	2014
Protecció i rehabilitació de sòls	PROTECSOL	Josep Maria Alcañiz	25.245,41 €	diversos (serveis empreses)	2014

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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
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 (Ministerio Agricultura, Alimentación y Medio Ambiente)	2011-2014
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	19.130,00 €	Oficina Tècnica de Prevenció Municipal d'Incendis Forestals - DIBA)	2014-2017
Grup d'Ecofisiologia i efectes ecològics dels canvis ambientals	SGR 2014-2016 PEÑUELAS	Josep Peñuelas	48.000,00 €	AGAUR	2014-2016
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
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	2014-2017
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
Seguiment Biodiversitat	SEGUIMENT BIODIVERSITAT	Marc Gràcia	35.000,00 €	Contracte-Programa Generalitat de Catalunya	2014

PROJECT NAME	ACRONYM	Principal investigator	Budget	Entity	Period
Desenvolupar tècniques d'aplicació de branca verd estellat	BRF	Marc Gràcia	36.300,00 €	Diversos (serveis empreses, etc.)	2014
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
Biologia Evolutiva de plantes Mediterrànies	SGR 2009-2013 MAYOL	Maria Mayol	57.200,00 €	AGAUR	2009-2013
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
Matching soil biodiversity with global biogeochemical cycles	SOBIGLOBIC	Pilar Andrés	342.012,90 €	EU	2013-2016
Sistema d'Informació Geogràfica i programari de Teledetecció MiraMon	MIRAMON CP	Xavier Pons Principal investigator from CREAM: Núria Julià	150.000,00 €	Contracte-Programa Generalitat de Catalunya	2014
SIG del Centre de Biodiversitat de l'Institut d'Estudis Andorrans	ANDORRA PAÍS	Xavier Pons Principal investigator from CREAM: Núria Julià	2.250,00 €	Govern Andorrà	2014
Aplicació d'una metodologia per millorar la gestió de les àrees Xarxa Natura 2000 de Catalunya basada en la quantificació dels impactes dels canvis ambientals sobre els indicadors de la biodiversitat.	GESTIÓ XARXA NATURA	Xavier Pons Principal investigator from CREAM: Núria Julià/Lluís Pesquer	39.500,00 €	Contracte-Programa Generalitat de Catalunya	2014
"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

PROJECT NAME	ACRONYM	Principal investigator	Budget	Entity	Period
Grup de Recerca Consolidat Grup de Mètodes i Aplicacions de Teledetecció i Sistemes d'Informació Geogràfica	(GRUMETS) (2014 SGR 1491)	Principal investigator: Xavier Pons		Funding entity: Agència de Gestió d'Ajuts Universitaris i de Recerca, AGAUR, Generalitat de Catalunya	2014-2016
OGC Interoperability Program Initiative designated OGC	Web Services, Phase 10 (OWS-10)	Principal investigator: Joan Masó		Open Geospatial Consortium	2013-2014
DinaCliVe. Análisis espaciotemporal de las cubiertas del suelo y del estrés de la vegetacion en la P. Ibérica a la luz de medio Siglo (1975- 2025) de dinámica climática y sus anomalías	(CGL2012-33927)	Principal investigator: Xavier Pons		Ministerio de Economía y Competitividad	2012-2015



Consorti constituït per:

