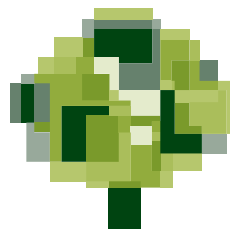




CREAF

Ecology moves us

ANNUAL REPORT 2022



CREAF

Ecology moves us

ANNUAL REPORT 2022

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Contributors:

Anna Ramon, Florencia Florido and Adriana Clivillé

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A person with dark hair tied back, wearing a yellow long-sleeved shirt and blue jeans, is crouching in a dense forest of large, vibrant green ferns. They are looking down at a dark, curled fern frond that stands out among the lighter green foliage. The scene is captured in a natural, outdoor setting with soft lighting.

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 in terrestrial ecosystems management and land-atmosphere interactions. Helping society mitigate global change, we design adaptation plans to boost biodiversity and build climate resilience.

“Through excellence in science we are driven to become a first-class research institution in the Mediterranean and worldwide. We push the frontiers of knowledge while addressing some of the most critical and complex socio-environmental challenges of the 21st 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 ecological research and its impact on society

Governing organizations

CREAF is a public research consortium comprising administrations, universities, and research entities.

In short

- Founded in 1987 by Decree No. 300/1987.
- Leader in Mediterranean ecosystems research.
- Close to 150 scientists and experts grouped in four research areas: biodiversity, global change, ecology and earth observation.
- Located within the campus of the Universitat Autònoma de Barcelona (UAB) in Spain.
- Independent research and practical solutions to global change effects in the Mediterranean for governments, NGOs, scientists, business and local communities.
- 70 research projects running worldwide
- Funded by governments, international and national research programs, private companies and as well as the philanthropic civil society.
- Publicly-governed by a board of trustees with representatives from different administrations, universities, and research entities.

BOARD OF TRUSTEES



WITH SUPPORT FROM



DISTINCTIONS



MEMBERS OF



CREAF'S GOVERNING COUNCIL



PRESIDENT OF THE GOVERNING COUNCIL

Ms. Teresa Jordà Roura, Catalan Minister for Climate Action, Food and Rural Agenda, delegated to Ms. Anna Barnadas, Secretary for Climate Action.

SECRETARY OF THE GOVERNING COUNCIL

Mr. Joan Pino Vilalta, Director of CREAM

CREAF'S GOVERNING COUNCIL MEMBERS

Mr. Javier Lafuente Sancho, Rector of the UAB, delegated to Mrs. Rosa Maria Sebastián Pérez, Vice-Rector for Innovation, Transfer and Entrepreneurship.

Mr. Joan Guàrdia Olmos, Rector of the UB, delegated to Mr. Jordi García Fernández, Vice-Rector for Research.

Ms. Maria Teresa Cabré Castellví, President of IEC, delegated to Mr Joandomènec Ros Aragonès.

Eloísa del Pino Matute, President of CSIC, delegated to Mr. Lluís Calvo Calvo, CSIC Catalonia Delegate.

Ms. Anna Sanitjas Olea, General Director for Forests.

Mr. Pere Sala Martí, , Director for The Landscape Observatory of Catalonia, Catalan Department of the Vicepresidency, Digital Policies and Land.

Mr. Marc Vilahur Chiaraviglio, General Director for Environment Policies and the Natural Environment.

Mr. Francesc Xavier Grau Vidal, Secretary for Universities and Research, delegated to Mr. Joan Gómez Pallarès, General Director for Research.

Mr. Joan Delort Menal, General Director for Fire Prevention, Extinction and Rescue.

Mr. Lluís Rovira Pato, Director of the CERCA institution.

CREAF'S EXECUTIVE COMMISSION

The Executive commission is appointed by the Governing Council and handles CREAM's day-to-day issues.

PRESIDENT OF THE EXECUTIVE COMMISSION

Mr. Joan Pino, Director of CREAM.

MEMBERS OF THE EXECUTIVE COMMISSION

Ms. Teresa Jordà i Roure, Consellera d'Acció Climàtica, Alimentació i Agenda Rural, Delegate in Ms. Anna Barnadas, Secretària d'Acció Climàtica.

Mr. Francesc Xavier Grau Vidal, Secretari d'Universitats i Recerca (DRU). Delegate in Mr. Joan Gómez Pallarès, Director General de Recerca. (DGR).

Ms. Anna Sanitjas, Direcció General de d'Ecosistemes Forestals (DACA).

Mr. Javier Lafuente Sancho, Rector de la UAB. Delegate in Ms. Rosa Maria Sebastián Vicerectora d'Innovació i Projectes Estratègics.

Mr. Joan Guàrdia Olmos, Rector de la UB. Delegate in Mr. Jordi García Fernández, Vicerector de Recerca.

Ms. Rosa María Menéndez López, Presidenta del CSIC. Delegate in Mr. Lluís Calvo Calvo de la Delegació del CSIC a Catalunya.

Scientific Committee



Pep Canadell

The Commonwealth Scientific and Industrial Research Organisation (CSIRO), Australia

John Grace

The University of Edinburgh, UK



Rob Jackson

Center on Global Change at Duke University, USA

Ivan Janssens

University of Antwerpen, Belgium



Ophélie Ronce

Institut des Sciences de l'Evolution de Montpellier, France

Bridget Emmett

UK Centre for Ecology and Hydrology, UK



Staff

SCIENTIFIC DIRECTOR

Pino Vilalta, Joan

SCIENTIFIC COORDINATOR

Pérez-Porro Rodríguez, Alicia

MANAGER

Escobar Prats, Joaquim

RESEARCHERS

CREAF Researchers

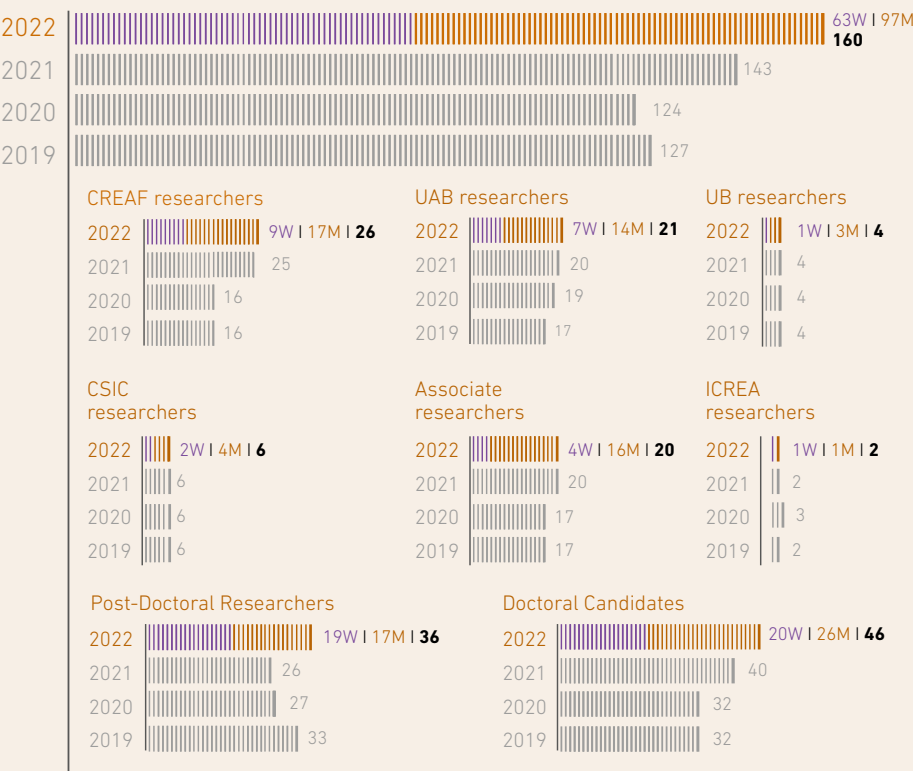
1. Andres Pastor, Pilar
2. Avila Castells, Anna
3. Basnou, Corina
4. Bosch Gras, Jordi
5. Broekman, Anne E.E.
6. Carabassa Closa, Vicenç
7. De Cáceres Ainsa, Miquel
8. Doblas Miranda, Enrique
9. Domingo Marimon, Cristina
10. Eritja Mathieu, Roger
11. Espelta Morral, Jose Maria
12. Gimeno Chocarro, Teresa Efigenia
13. Gracia Moya, Marc
14. Herrando Vila, Sergio
15. Lapiedra González, Oriol
16. Llusia Benet, Joan
17. Marcer Batlle, Arnald
18. Masó Pau, Joan
19. Mayol Martinez, Maria
20. Morán Ordóñez, Alejandra
21. Pesquer Mayos, Lluís
22. Pla Rabés, Sergi
23. Samso Campa, Roger
24. Sardans Galobart, Jordi
25. Vayreda Duran, Jordi

UAB Researchers

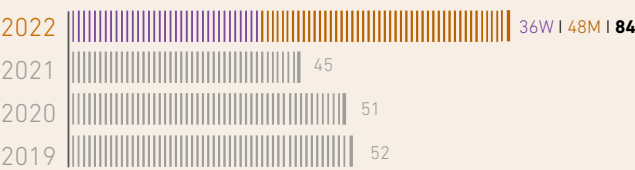
1. Alcañiz Baldellou, Josep M.
2. Casadesus Domene, Xavier
3. Claramunt López, Bernat

STAFF

Researchers



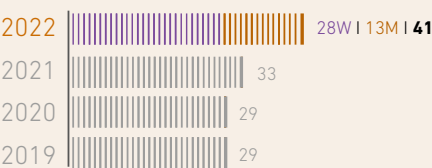
Technicians



UAB Staff



Administration



Total	Total	Total
2019 217	2020 212	2021 223



Total
2022 129W 158M 287

4. Cristobal Roselló, Jordi
5. Ferrandíz Rovira, Mariona
6. Garcia Callejas, David
7. Hernández Castellano, Carlos
8. Lloret Maya, Francisco
9. Marañón Jiménez, Sara
10. Martínez Vilalta, Jordi
11. Nogué Bosch, Sandra
12. Pino Vilalta, Joan
13. Piñol Pascual, Josep
14. Quevedo Dalmau, Lidia
15. Retana Alumbroeros, Javier
16. Riba Rovira, Miquel
17. Ribas Artola, Angela
18. Rodrigo Domínguez, Anselm
19. Saura Mas, Sandra
20. Terradas Serra, Jaume
21. Urbina, Ifigenia

UB Researchers:

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

CSIC Researchers:

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

Catalonian Institute For Research And Advanced Studies (ICREA) Researchers

1. Mencuccini, Maurizio
2. Andreu Hayles, Laia

Associated Researchers

1. Arnan Viadiu, Xavier
2. Bonal Andrés, Raúl
3. Calleja Alarcón, Juan Antonio
4. Castells, Eva

5. Coll Mir, Lluís
6. García Valdés, Raúl
7. González Martínez, Santiago C
8. Grau Fernandez, Oriol
9. Guerrieri, Rossella
10. Jump, Alistar
11. Lefebvre, Louis
12. Montoya, José M
13. Muñoz, Alberto
14. Ojeda Castro, Gerardo
15. Piera Fernández, Jaume
16. Roman Cuesta, Rosa M.
17. Solé Ollé, Jordi
18. Stefanescu, Constantí
19. Verger Ten, Aleixandre
20. Yañez Serrano, Ana Maria

Post-Doctoral Researchers

1. Anadon Rosell, Alba
2. Azpiazu Segovia, Celeste
3. Barba Ferrer, Josep
4. Batllori Presas, Enric
5. Cardador Bergua, Laura
6. D'adamo, Francesco
7. Descals Ferrando, Adrià
8. Fernandez De Uña, Laura
9. Fernandez Martinez, Marcos
10. Fraixedas Núñez, Sara
11. Fuzessy Franco, Lisieux
12. Giska, Iwona
13. Gómez Gener, Lluís
14. Hurtado Aragüés, Pilar
15. Jaime González, Luciana Andrea
16. Jiménez Liébanas, Laura
17. Jolles, Jolle Wolters
18. Lapiedra González, Oriol
19. Llovet Martín, Alba
20. Margalef Marrase, Olga
21. Mattana, Stefania
22. Melero Caverro, Yolanda
23. Ogaya Inurriagarro, Romá
24. Otsu, Kaori
25. Padullés Cubino, Josep

26. Peguero Gutiérrez, Guillermo
27. Poyatos Lopez, Rafael
28. Preece, Catherine
29. Ramírez Valiente, José Alberto
30. Rao, Mukund Palat
31. Roces Díaz, José Valen
32. Romero Sotoca, Estela
33. Roque Beni, Laura
34. Rotchés Ribalta, Roser
35. Sayol Altarriba, Ferran
36. Vilà Cabrera, Albert

Doctoral Candidates

1. Albacete Gonzalez, Sergio
2. Bateman Neubert, Alessandra
3. Boet Escarceller, Olga
4. Bookwalter, Jamie
5. Chowdhury, Faqru'l Islam
6. Codina Martínez, Gerard
7. Coello Sanz, Fernando
8. Cos Del Cacho, Adrià
9. Da Sois, Luca
10. Daiyoub, Angham
11. De La Casa Sánchez, Javier
12. Díaz Borrego, Raquel
13. Fagin Garcia, Elena
14. Fang, Jianbo
15. Fatecha, Brenda Veronica
16. Ferrin Guardiola, Miquel
17. Garcia Raventós, Aina
18. Jimenez Elvira, Nuria
19. Jolivet Baron, Anaïs
20. Martín Lorenzo, Daniel
21. Martinez Artero, Jordi
22. Móstiga Rodríguez, Maricel
23. Noguer Pérez, Laura
24. Olmo Gilabert, Rubén
25. Pei, Jiuying
26. Pesqueda, Argus
27. Pou Rosell, Marçal
28. Riera Domínguez, Marc
29. Rodríguez Miret, Xènia
30. Sánchez Dávila, Jesús
31. Sanchez Martinez, Pablo

32. Sancho Blanco, Gonzalo
33. Selwyn Álvarez, Miriam Andrea
34. Serrano Serrano, Tomàs
35. Silvestre Carbonell, Susana
36. Solà Vila, Oriol
37. Tan, Yu
38. Tie, Liheua
39. Torres, Karen
40. Vallicrosa Pou, Helena
41. Vives Ingla, Maria
42. Wanng, Qin
43. Yang, Fang
44. Yang, Kaijung
45. Zango Palau, Anna
46. Zhu, Jianxing

UAB Staff

1. Pacios, Carme
2. Ferrer, Meritxell

TECHNICIANS

CREAF Staff

1. Aguilera López, Javier
2. Alcover Comas, Joan Enric
3. Amoros Melich, Oleguer
4. Ayala Roque, Marta
5. Ballesteros Olivet, Xavier
6. Banque Casanovas, Mireia
7. Barnadas Serinanell, Marta
8. Bartrina Galan, Carme
9. Batalla Mercade, Meritxell
10. Batlle Morera, Amanda
11. Batlles Climent, Carles
12. Bhowmik, Swarup
13. Bianchi, Sabina Evelyn
14. Blanco Rodriguez, Miguel Angel
15. Brobia Ansoleaga, Alba
16. Broncano Atencia, Maria Jose
17. Burguillos Huertas, Antonio
18. Calaf Ramirez, Xavier
19. Caldach Fernandez, Sandra
20. Cano Gesé, Sergi
21. Casanovas Berenguer, Rosa

22. Casbas Pinto, Guillem
23. Cobo Ollero, Sandra
24. Comas Boronat, Lluís
25. Cuenca Lopez, Guillem
26. Duch Latorre, Irene
27. Escobar Rubies, Agustín
28. Español Escoda, Marc
29. Fernández Jané, María Beatriz
30. Fuentes López, Laura
31. García Bellostes, Clara
32. Giralt García, Berta
33. Gordillo Cerrada, Javier
34. Gras Garrido, Mónica
35. Guardia Calsina, Pol
36. Hernández Serrano, Ana
37. Home Mas, Orellys
38. Jover Benjumea, Miquel
39. Julià Selvas, Núria
40. Llorca Bayarri, Marc
41. López Mañas, Roger
42. Marco Tresserras, Jana
43. Margalef Marrase, Jordi
44. Márquez Balecillos, Guadalupe Del Valle
45. Márquez Tur, Laura
46. Martí Pino, David
47. Martín Hervás, Alba
48. Martín Martínez, Eneko
49. Mas Navarro, María
50. Maspons Ventura, Joan
51. Montero Estaña, Pau
52. Mossoll Clos, Galdric
53. Moya Pérez, Juan Miguel
54. Ortiz Tribó, Claudia
55. Padial Iglesias, Mario
56. Palau Maspons, Oriol
57. Pardell Sangrà, Didac
58. Pascual Sanchez, Diana
59. Pau García, Abel
60. Pla Ferrer, Eduard
61. Pla Montferrer, Magdalena
62. Pons Andreu, Matias
63. Prat Carrio, Ester
64. Prunera Olive, Joan

65. Rabassa Juvanteny, Joan
66. Raya Moreno, Irene
67. Rubio Esteve, Borja
68. Sala García, Javier
69. Serra Recasens, Maria Immaculada
70. Serral Montoro, Ivette
71. Serratosa Nuño, Eric
72. Soler Ruiz, Pol
73. Tamayo Moreno, Melodía
74. Tovar Rodríguez, Adriana
75. Verkaik Witteveen, Iraima
76. Vez Garzón, Marc
77. Vilella Antonell, Marc
78. Villero Pi, Daniel
79. Wiedmer, Antoine
80. Zuccarini, Paolo

Ecosystem Modelling Facility

1. Molowny Horas, Roberto
2. Granda García, Víctor

Facilities

1. Altarriba Simon, Xavier
2. Galiano Pérez, Lucía

RESEARCH MANAGEMENT OFFICERS

Administration and Project Management

1. Barceló Pérez, Marta
2. Del Hoyo Vinuesa, M Rosario
3. García Lopez, Cristina
4. Gimenez Cuadrado, Ainoa
5. Igarza Briones, Pablo
6. León Gil, Yolanda
7. Martín Fernández, M^a Elena
8. Martínez Bayarri, Judith
9. Massó Caeiro, Laura
10. Mayor Eixarch, Gerard
11. Mazón Cardona, Pilar
12. Nadal Borrás, Nuria
13. Pujol Mardones, Magdalena
14. Troyano Garriga, Eduardo
15. Vilar Navarro, Vanessa

Personnel

1. Gámez Jiménez, Paola
2. Morales Duran, David
3. Pizarroso Velasco, Maite

IT Services

1. Blanco Cabrera, Raúl
2. Carreño Leal, Carlos
3. Martínez Gómez, Daniel
4. Padilla Sanchez, Christian

Communication

1. Cliville Morato, Adriana
2. Couto Antelo, Verónica
3. De La Vega Perez, Diego Julian
4. Florido, Florencia Paula
5. Fraile Moreno, Laura
6. Gaya Gas, Gerard
7. Gimbert Alvarez, Alba
8. Guzmán Martín, Pau
9. Justamante Rodríguez, Ángela
10. Ordóñez Garcia, Jose Luis
11. Ramon Revilla, Anna
12. Soler Pastor, Nora

International Projects

1. Cunill Abancó, Monica
2. Roig Herrera, Olga

Societal Impact

1. Force Seguí, Laura
2. Sanchez Plaza, Ana Isabel

Talent and Gender

1. Rosas Torrent, M Teresa

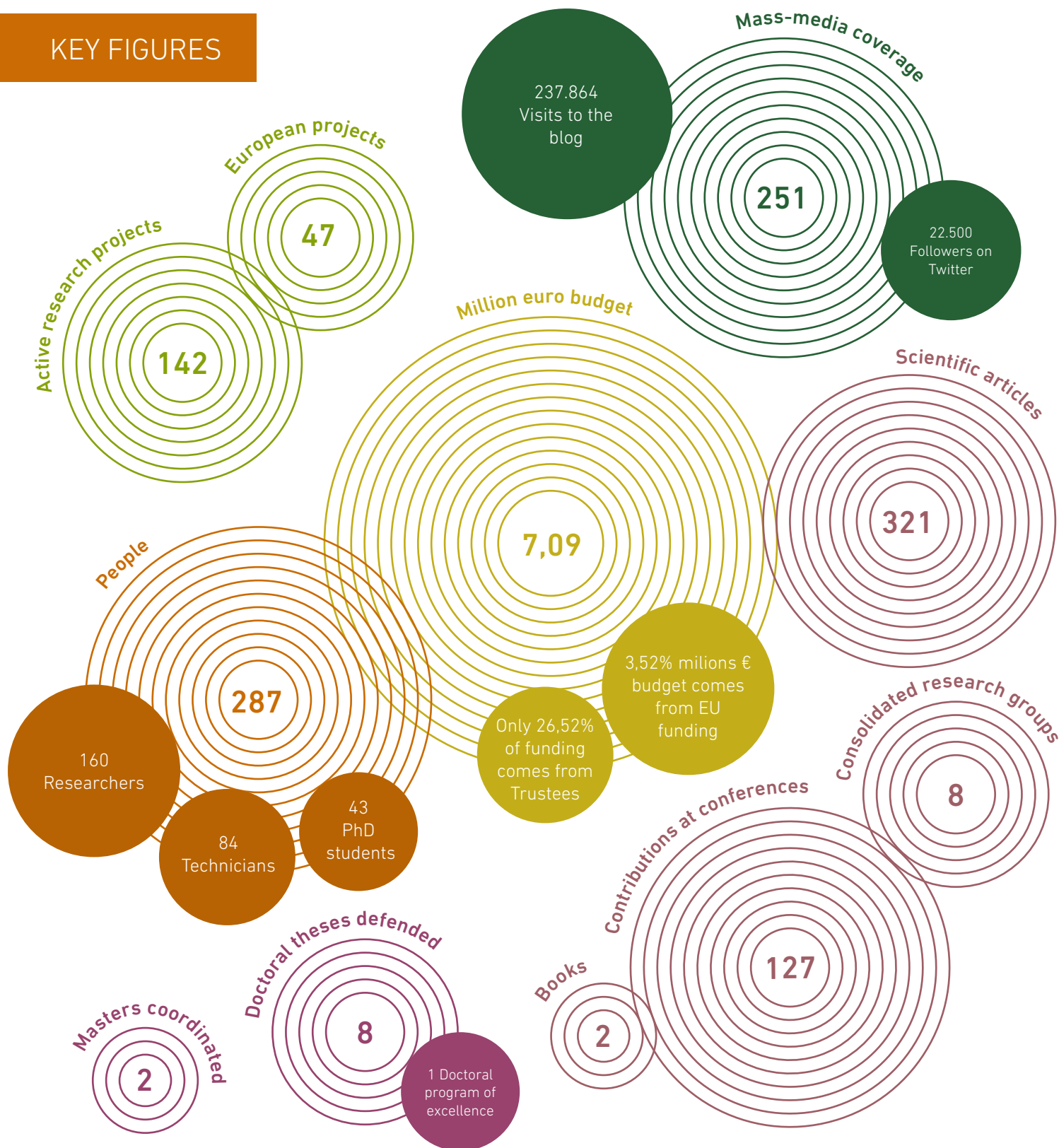
Philanthropy

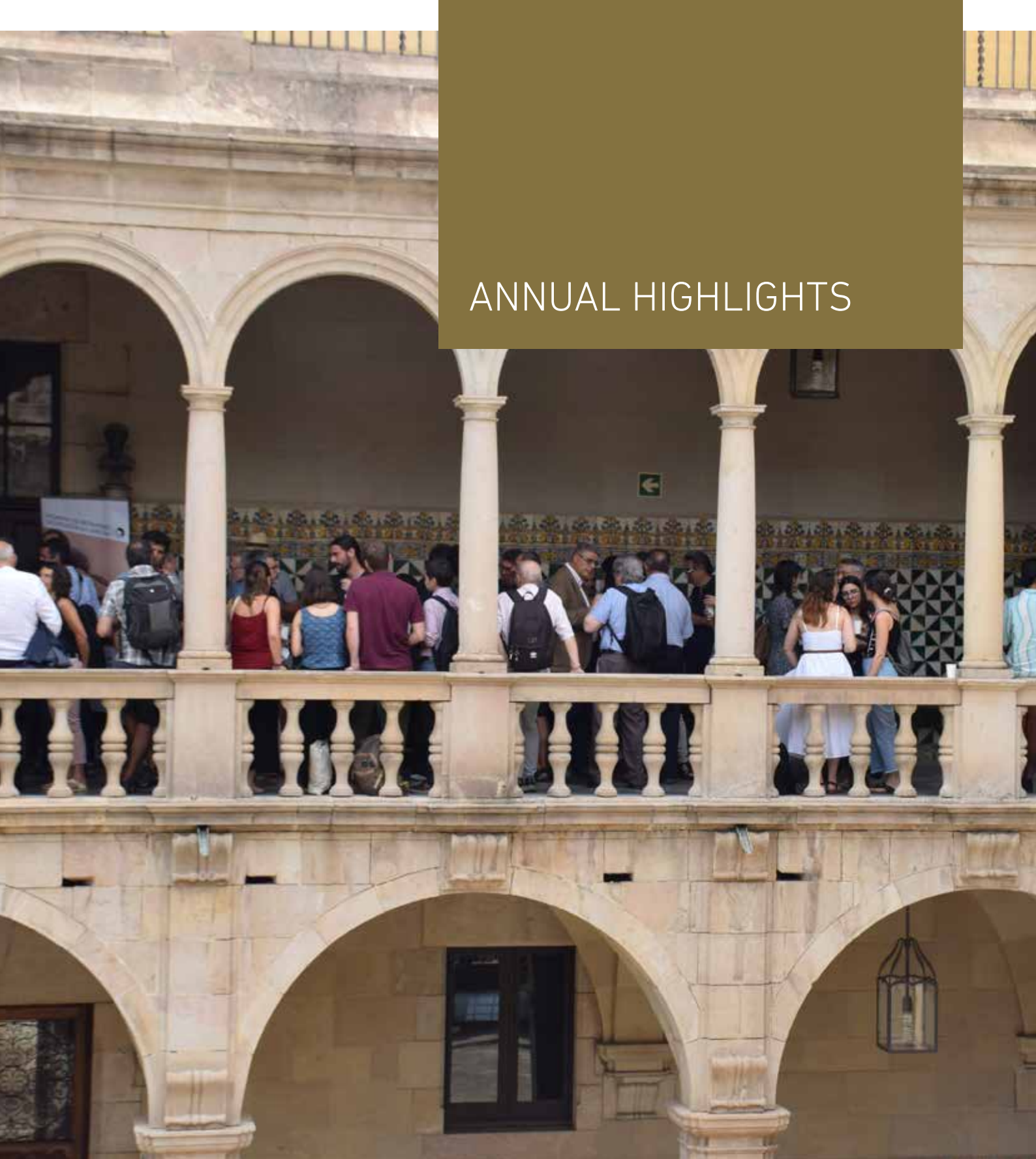
1. Cardona Barreña, Alicia

VISITING RESEARCHERS FROM NATIONAL AND INTERNATIONAL INSTITUTIONS

Marek Ruciński, Centrum Badań Kosmicznych Polskiej Akademii Nauk (Cbk Pan), Polonia
 Ewa Gromny, Centrum Badań Kosmicznych Polskiej Akademii Nauk (Cbk Pan), Polonia
 Dolors Armenteras, Universidad de Colombia
 Ismael Hernandez Valencia, Venezuela
 Maria Acuña, Universidad De Sonora, Mèxic
 Vaidehi Narsingh, Imec And University Of Antwerp
 Mehmet Said Özçelik, Isparta University Of Applied Sciences, Turquía
 Agnieszka Szczerba, University Of Gdansk. Poland
 William R. L. Anderegg, University Of Utah, Eua
 Marc Macias Fauria, Universitat D'oxford, Regne Unit

KEY FIGURES



A photograph of a historic building's interior courtyard. The upper level features a balcony with a stone balustrade and a series of arches supported by columns. A group of people is gathered on the balcony, looking towards the left. The lower level also has arches, with a dark doorway visible in the center. A lantern hangs from the ceiling on the right. A semi-transparent olive-green rectangle is overlaid on the upper right portion of the image, containing the text "ANNUAL HIGHLIGHTS" in white, all-caps, sans-serif font.

ANNUAL HIGHLIGHTS



The Minister agreed with CREAM staff on the need to create and implement ambitious policies on environmental issues. **Image:** CREAM

SPANISH MINISTER FOR ECOLOGICAL TRANSITION, TERESA RIBERA, VISITS CREAM

The visit was an opportunity to share the various lines of research at the centre and to explore how they can influence decision-making related to environmental policies. It was attended by CREAM's Director, Joan Pino, and some researchers representing expertise in ecology, forests, biodiversity, soil restoration, water management, agriculture and global change.

CREAM VISITS LA MONCLOA WITH THE 'GENERATION COP27' GROUP

CREAM researcher Jofre Carnicer and CREAM PhD student Maria Vives took part in a visit to La Moncloa as part of the 'COP27 Generation' call of the Ministry for Ecological Transition and the Demographic Challenge. The initiative aims to involve young scientists in the COP27, a key convention for political decisions on climate change held in November 2022 in Egypt.



Jofre Carnicer and Maria Vives visited COP27 together with a group of students from the University of Barcelona, as part of the 'Generation COP27' initiative **Image:** La Moncloa



The sessions are an opportunity to network and discover potential synergies with fellow colleagues and among different projects. **Image:** CREAM

CREAM'S INTERNAL 'VERMUT' SYMPOSIUMS KICK OFF WITH FORESTRY

In June 2022, 50 eager researchers and support staff opened CREAM vermut, a series of themed internal symposiums to share the centre's latest research on a specific topic. The sessions are an opportunity not only to learn and be up-to-date with each other's work, but also to network and discover connections and potential synergies with fellow colleagues and among different projects.

SYNTHESIS ACTIONS, AN OPPORTUNITY FOR INTERNATIONAL SCIENTIFIC COOPERATION

Collaboration and exchange of scientific knowledge at national and international level is the common thread of the Synthesis Actions, coordinated by CREAM researcher Maurizio Mencuccini. This initiative fosters innovative, interdisciplinary and wide-ranging collaborations between CREAM's researchers and international groups through workshops and reviews, both face-to-face and remotely.



The Synthesis Actions foster innovative collaborations between CREAM's research team and international groups on cutting-edge ecological issues. Image: CREAM



The members of the CADS are people of recognized prestige, representative of different academic, economic and social sectors. Image: CADS

JOAN PINO, NEW MEMBER OF THE CADS

CREAF's director, Joan Pino, has been appointed as members of the Consell Assessor per al Desenvolupament Sostenible de Catalunya (CADS). Among others, its functions are to promote knowledge transfer and dialogue between the government, academia and civil society, as well as to advise the government to promote education for sustainability.

BARCELONA CITY COUNCIL AND CREAM SIGN AN AGREEMENT TO PROMOTE THE CITY'S BIODIVERSITY OBSERVATORY

The Barcelona City Council and CREAM have signed an agreement to promote participation, reflection, exchange of experiences and synergy between the deployment of the Natura 2030 Plan and the CREAM Strategic Plan 2022-2026. Thanks to this agreement, the Barcelona Biodiversity Observatory will be created to improve conservation and increase knowledge about the species of fauna and flora present in the city.



The Biodiversity Observatory of Barcelona carries out the necessary studies to monitor the state and evolution of urban nature. Image: Óscar Giralt

INTERNATIONAL HIGHLIGHTS





This is the first year CREAM, as a research centre, acts as an observer institution at a biodiversity COP. **Image:** COP15

CREAF ATTENDS THE BIODIVERSITY CONFERENCE IN MONTREAL, COP15

CREAF attends for the first year the COP 15 for biodiversity held in Canada, as an observer institution. The members of the centre's delegation represent essential scientific bodies in the study and monitoring of biodiversity loss, as well as the scientific coordinator.

CREAF RESEARCHER PILAR ANDRÉS CHAIRS THE NEW CHAPTER OF SER LATIN AMERICA AND THE CARIBBEAN

The Society for Ecological Restoration launches its chapter specialized in Latin America and the Caribbean, chaired by CREAM researcher Pilar Andrés. It continues the internationalization's spirit of the Ibero-American and Caribbean Society for Ecological Restoration (SIACRE), based on scientific research, professional practice, social participation and public policies.



The new organization on ecosystems restoration is a network of networks. **Image:** Public domain.



This is the first year CREAM, as a research centre, acts as an observer institution at a biodiversity COP. **Image:** AMWAJ

CREAF JOINS THE AMWAJ ALLIANCE TO PROMOTE SUSTAINABLE WATER MANAGEMENT IN THE MEDITERRANEAN

The new alliance promotes and raises awareness of sustainable water management in the Mediterranean, with a special focus on the southern countries. The actions are mainly aimed at communicating current water-related challenges with impact and in a reliable manner.

ENVIRONMENTAL RESEARCH AND INNOVATION, THE FOCUS OF A MISSION TO FINLAND IN WHICH CREAM TAKES PART

CREAF is out of the 7 Catalan centres that visited various Finnish public entities in a visit promoted by the iCERCA institution. The aim of the trip is to establish alliances and identify new project opportunities, as scientific research is one of the references that Finland and the Nordic countries have managed to transmit to the world.



The visit focuses on establishing alliances and identifying new project opportunities in the field of environmental research and education. **Image:** iCERCA institution



CREAF is firmly committed to environmental science diplomacy and support for public policies. **Image:** CREAM

CREAF, AN OBSERVER ORGANIZATION AT THE NINTH SESSION OF THE PLENARY OF THE IPBES

As a part of our commitment to environmental science diplomacy and support for public policies, CREAM acts as an observer organization at the 9th session of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). Alicia Pérez-Porro, CREAM's scientific coordinator, and researchers Lluís Brotons and Daniel Villero represented CREAM at the Plenary.

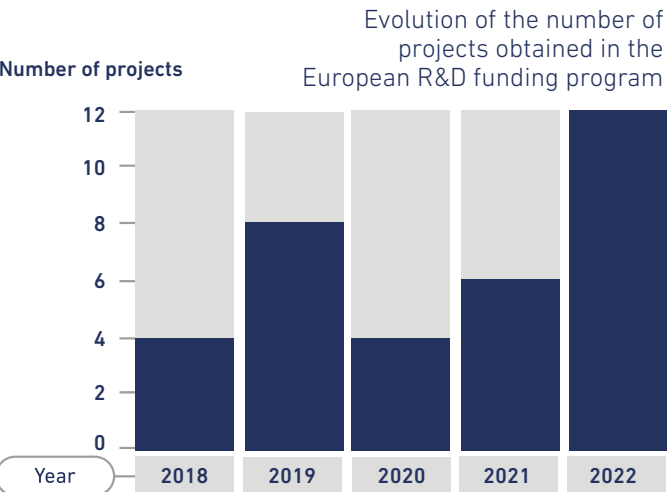
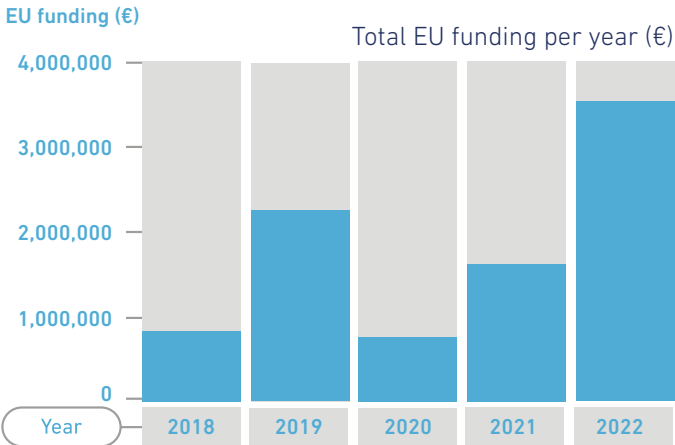
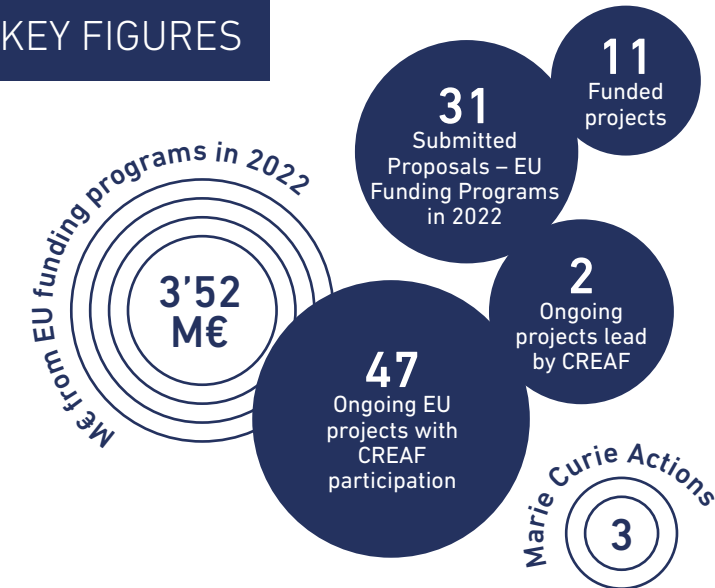
CREAF ATTENDS COP27 AS AN OBSERVER ORGANISATION, AS WELL AS TAKING PART IN SOME DEBATE SESSIONS

CREAF takes part in COP 27 on climate change to be held in Egypt in November 2022, as it has been an observer organisation of the UNFCCC since June this year. In addition, CREAM scientific coordinator Alicia Pérez-Porro, CREAM researcher & UB professor Jofre Carnicer, and pre-doctoral researchers Maria Vives Ingla and Angham Daiyoub take part in the event.

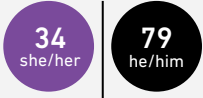


Science must have a voice in international multilateral conventions such as COPs, due to the scientific component of the issues being addressed and to inform the proposed solutions. **Image:** United Nations COP27

KEY FIGURES



Submitted proposals



21 Submitted proposal (12 coordinated by CREAM) 10 ||||| 3 || 21 ||||| 10

34 HORIZON EUROPE

15 Pillar 1- Excellent science

1 ERCs

1 ERC SyC

12 MSCA

12 MSCA IF-PF

1 INFRASTRUCTURES

1 | 1

3 || 9

3 || 9

1 | 1

12 Pillar 2- Societal challenges (Collaborative projects)

2 CLUSTER 5

6 CLUSTER 6

3 Mission soil

1 Mission Clima

1 | 1

2 || 1

1 |

3 LIFE + 2 || 1

1 INTERREG euro MED 1 |

13 Collaboratives projects funding scheme

1 Coordination & supporting Actions

6 Research & Innovation Actions

6 Innovation Actions

4 ||| 9

1 |

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JUSTICE, EQUITY,
DIVERSITY AND INCLUSION
(JEDI)

CREAF LAUNCHES #INSCIENCETOO, A CAMPAIGN TO HIGHLIGHT GENDER INEQUALITY IN SCIENCE

On the occasion of the International Day of Women and Girls in Science, CREAM launched a campaign to highlight gender inequality in science. The campaign featured a collection of satirical cartoons, drawn by Javier Royo, which represent different situations involving gender inequality that are unfortunately all too common in the world of science.

Led by CREAM's JEDI Committee and Communication Department, the campaign is based on 47 real experiences recounted anonymously by members of the Centre's staff, from which the illustrator drew inspiration. By recognizing the discrimination that occurs within the Centre itself, CREAM hopes that this campaign will be a first step towards removing the obstacles that women face in the research arena.

Additionally, on February 11th, Dr. Anna Lupon gave a CREAMTalk titled 'Towards Gender-Inclusive Conferences: Insights from the 1st SIBECOL Meeting', which was followed by an internal debate.



JEDI PLAN RENEWAL

In 2022, we renewed our JEDI action plan with the ambition of incorporating intersectionality to recognize how different social and cultural conditions, such as age, gender, class, disability, etc., interact simultaneously on inequalities and discriminations. The renewal involved a thorough diagnosis of the main nine axes that the plan is structured upon: (1) organizational culture, (2) gender dimensions in research, (3) inclusive communication, (4) structure of the organization, (5) selection, recruitment, and promotion, (6) working conditions, (7) occupational health, (8) work-life balance, and (9) microaggressions and sexual harassment.

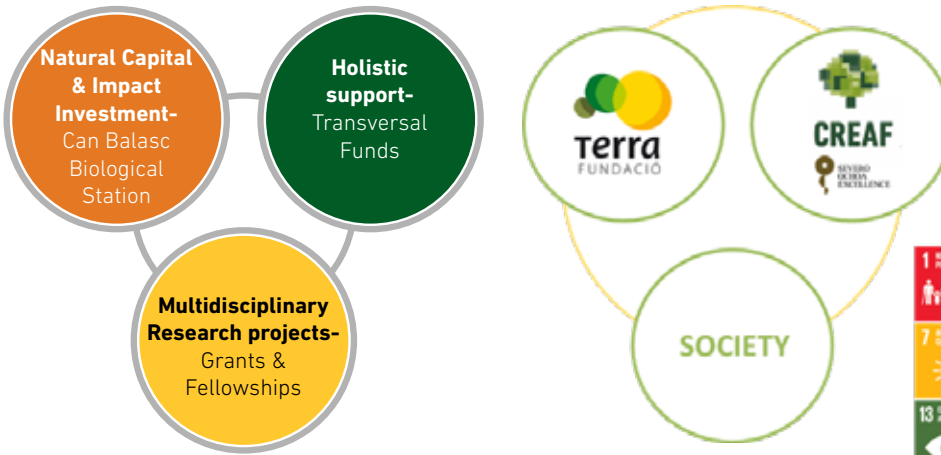
Additionally, we held an informative and participatory session open to staff to present the main results of the diagnoses and brainstorm about the next actions to include in the new plan.



PHILANTHROPY
AND PRIVATE SECTOR
ALLIANCES

SCIENTIFIC PHILANTHROPY

CREAF offers new opportunities for collaboration with the private entities and society. We want the knowledge and tools generated by our scientists to be useful for everyone



We are committed to **creating strategic partnerships** that contribute to achieving the global **Sustainable Development Goals (SDGs)**: working together towards early warning systems and sustainable solutions.



OUR PHILANTHROPY & STRATEGIC ALLIANCES OFFICE

We identify synergies & boost public-private collaborations

- Analysis of **key societal challenges and needs**
- Creation of **high impact value propositions** for the private sector
- **Framework Partnership Agreement CREAM-Fundació Terra** (our core partner foundation)
- Meetings with foundations and companies to promote new opportunities for **quintuple helix collaborations** (**intersectorial connections between entities and society**)
- Development of **new opportunities for people** to join and support our high quality science

We promote an institutional Philanthropic Culture

- First **Fundraising Professional Training** course with Management Support Team
- First **Participatory Internal Sessions**
- First **Fundació Terra Open Day**
- Reference base documentation: our '**Private Sector Ethics and Code of Conduct Code**'
- Implementation and technical training of CREAM's **first CRM tool** (efficient, centralised, secure and automated management to improve our relations with people and entities).



HIGHLIGHTS

LAUNCH OF OUR NEW 'FUTURE FORESTS FUND'

We inaugurate our first institutional philanthropic fund with a special focus on the social impact of our research (including public engagement actions based at Can Balasc Biological Station in Collserola Park), to boost public-private collaborations and engagement directly with nature. The fund will help promote CREAM's high impact Forest Ecology Research, mainly through: i. Research aid Fellowships (two support pathways both to Young and Senior Talent, so that they can continue to advance their research), and ii. Science Grants (promotion of applied forestry science, accompanied by an efficient work environment).



WE PARTICIPATE IN NATIONAL AND REGIONAL PHILANTHROPIC PROFESSIONAL NETWORKS

CREAF joins the Spanish Fundraising Association, **'Asociación Española de Fundraising- AEFr'**, as a Member Organisation and reference Science Philanthropy actor



We attend the XX National Fundraising Congress (Madrid), with over +500 professionals and business



Alicia Cardona, our Philanthropy & Strategic Alliances coordinator, continues to actively participate in **'Fundraising.cat'** At meetings and networking events. She also participates the new 'Motor work group' co-organising trainings and networking events, and engages in the 'Research Sector' Working Group to boost intersectoral collaborations.



DEPLOYMENT OF A NEW DIGITAL FUNDRAISING PROGRAM -CITIZENS AND ENTITIES-



People can now directly support our science (new transformative social pathways), through new digital pathways to allow for donations from entities and individuals, as a first key action within our new Digital Fundraising Program. Launch of our new Donors Community known as 'Mecenes CREAM'.

CONSOLIDATION OF OUR CORPORATIVE COLLABORATIONS PROGRAM

We continue to develop our corporate fundraising program with the renewal and start of new collaborative agreements and donations, and new strategic transfer contracts. The program focuses on Corporate Partnerships & mid Donors, based on the identification of entities whose values and core activity align with CREAM's mission and vision. We aim to improve, strengthen and develop collaborative private sector relations to boost intersectoral win-win collaborations.



CREATING CONNECTIONS - INTERSECTORIAL NETWORKING

We attended and participated in **+10 national intersectorial events**, including:



Our Philanthropy & Alliances Coordinator, Alicia Cardona, participated in R&D+i roundtable at the 'Unoconcinco – Alimentación Sostenible' event, Fundación Daniel y Nina Carasso (transformación sector alimentario, Madrid)



Our Science Coordinator, Alícia Pérez-Porro, participated in 'Fundació Caixa d'Enginyers' Podcast on 'IPCC and the Climate 'Emergency'.

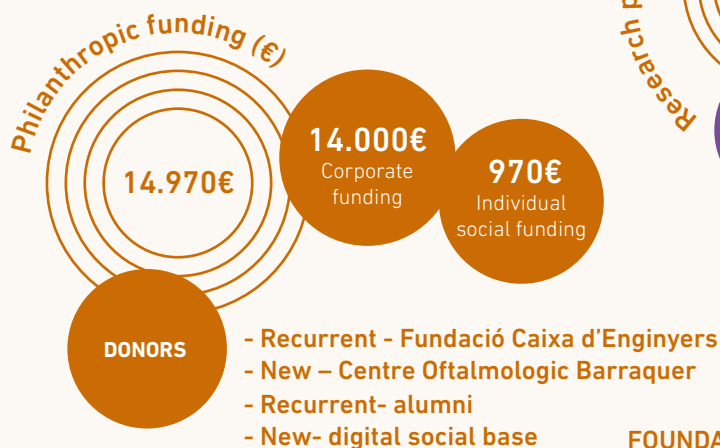


Participated in Ship2B Partners intersectorial Workshop

KEY FIGURES

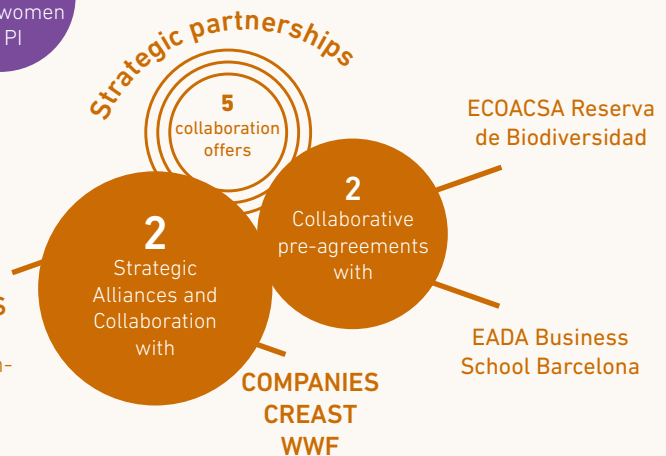
Total Philanthropic non-competitive funding

Overall % related to the centre's total external income



FOUNDATIONS

- INNOMNIUM
- Community Foundation
- Ship2B Foundation



STRATEGIC PARTNERSHIPS FOR THE GOALS

New and renewed strategic connections with the private sector.

OUR COMMUNITY

Corporate Donors



Fundació Caixa d'Enginyers renews its support to CREAM's citizen science

Renewed Corporate Collaboration Agreement, through CREAM's core partner Fundació Terra, to continue to enhance the transfer of CREAM's scientific knowledge directly to citizens, by boosting society's environmental engagement and involvement in science through cooperation -citizen science-.



Barraquer Ophthalmology Center supports CREAM's new Future Forests Fund

Corporate Collaboration Agreement, through CREAM's core partner Fundació Terra, to contribute to improving the situation of Mediterranean forests by helping us promote smart forest management, based on the centre's Forest Research and Young Predoctoral Talent. We join forces to protect the forests of the future. Philanthropic economic



Individual Donors

New CREAM's Donors Community ('Mecenes CREAM')



STRATEGIC ALLIANCES



OTHER COLLABORATORS



We would like to extend a special thank-you to our Community of Donors, Collaborators and other Strategic Allies, and a very special thank-you to our individual Donors too!

**THANK YOU FOR HELPING US MOVE ECOLOGY
AND PROTECT OUR FUTURE!**



Check **Appendices** -pag. 143- to see past and current private sector collaborators.



KNOWLEDGE AND TECHNOLOGY TRANSFER

KTT STRATEGY

In CREAM we share a true passion for a more holistic approach in research, where Knowledge and Technology Transfer (KTT) plays a crucial role. Our objective is to consolidate, enhance and promote the transfer of the centre's knowledge, products, and tools. In the end, we want our research to be useful to society!

Enrique Doblas has been involved in applying research to innovation since his postdoctoral years in Canada, where he worked in strong collaboration with forestry companies. This led him to join CREAM, coordinating a project about ecological conservation through sustainable exploitation. Since then, he has participated in different European projects to boost Mediterranean forestry innovation and empower sustainable development. Recently, he has become member of the experts team of the main business accelerator on climate change adaptation technologies in Spain.



OUR WORK TOWARDS THE PRIVATE SECTOR AND THE ADMINISTRATION

- Collaboration:
 - Attendance to intersectoral networking events
 - Meetings with local and international stakeholders: PRUAB, Barcelona, Generalitat, SOMMa, CERCA, CTFC, IRTA, CATs, Fundació Terra, Canada embassy, Cyprus Institute, MedCities, Global Water Partnership, Medwaves, IEMed, European Business & Biodiversity Platform...
 - Organization of events
- Strengthening the relationship with business accelerators
- Mapping the need of groups, people, and technologies: CREAM, IntegraPirineus, Azolla, Boscet, Oller, Hope!...



NETWORKING

We attended and participated in **several intersectoral events**, including:

- Participated in 'Congreso BIT'
- Participated in Ship2B Partners intersectoral Workshop & S2B DemoDays
- Attended the IX Ship2B Impact Forum "Leading Systems Change"



HIGHLIGHT

BETTER INTEGRATION OF ECOSYSTEM SERVICES IN TERRITORIAL DECISION-MAKING

We organized a high-level policy event concluding the Interreg PROGRESS project, which gathered top decision-makers from National and Regional governments from Hungary, Ireland, Romania, Latvia, Toscana (Italy) and Catalonia. The event took place at the Representation of the European Commission in Barcelona, and the sessions were opened by Ms. Anna Barnadas, Secretary of Climate Action of the Government of Catalonia, and Mr. Stefano Baccelli, Councillor for Infrastructures, Mobility and Territorial Government, for the Tuscany Region, Joan Pino, and Mr. Erwin Sweris, director of Interreg Europe programme. After these initial presentations the event continued in three thematic panels all related to ecosystem services governance at the regional and local level: Pollination services, Mapping and territorial analysis of ecosystem services, and Ecosystem services in urban environments. In parallel, the event allowed to present the deployment of the policy Action Plans in each of the 6 participating countries, which continue to implement the transfer of good practices in ecosystem service governance.

INSTITUTIONAL ALLIANCES

AMBASSADOR

creast.

KNOWLEDGE PARTNER



CREAF joins one more year Tech4Climate's Experts Committee as a Scientific Knowledge Partner, as part of our recently consolidated framework Strategic Partnership Agreement.

OTHER COLLABORATIONS



Scientific Knowledge CREAF collaborates with WWF to promote Science-based Climate Change Adaptation



KEY FIGURES

Total Strategic Knowledge and Tech Transfer (KTT) non-competitive funding, overall KTT funding overall % related to the centre's total external income in 2022 per year

Strategic private funding (€)

51.184€

A photograph of a tree trunk with a large, dark, charred section, suggesting a fire impact, with a mossy top and green foliage in the background.

IMPACT

FOSTERING MEANINGFUL RESEARCH IMPACT

CREAF has the institutional commitment to foster the mobilization and impact of research into the non-academic world to contribute facing the most pressing socio-environmental challenges. We aim at embedding impact progressively within our institutional and research strategies, projects, practices and culture. In order to do that, we support the building of collaborations and partnerships with non-academics and impact planning, delivery and assessment.

IMPACT STRATEGY

PROJECTS & RESEARCH

To **embed impact** from the **initial stages** of research conceptualization and **analyse** information on **impact achieved** by **previous research**.

TRACKING & VISIBILITY

To **demonstrate** and give **visibility** to the benefits CREAM's research to society beyond academia.

CREAF INSTITUTION

To foster the mobilisation and **impact** of research into the non-academic world as an **institutional commitment and mission**.

CAPACITY

To build and nurture **staff impact literacy** and competencies.

STAKEHOLDERS & SOCIETY

To establish **direct and meaningful interaction** with public administration, key stakeholders and citizens.



IMPACT CAPACITY BUILDING

Social Impact in HEU proposal: Impact Pathways

The Commission's proposal for Horizon Europe includes a groundbreaking approach for capturing and communicating impact - the Key Impact Pathways. In this hands-on workshop, we learned how this new approach aligns with a new level of ambition to boost the diversity of impact of EU research and innovation funding and how to best streamline our EU research proposals to meet this approach.



STAKEHOLDERS AND SOCIETY

STAKEHOLDER ENGAGEMENT AND KNOWLEDGE MOBILIZATION

Active participation in boards and committees



CONTRIBUTION TO CATALAN POLICIES AND ENVIRONMENTAL MANAGEMENT

CREAF's collaboration with the Catalan Government and other administrations has resulted in contributions to the Catalan Climate Change Law (Llei 16/2017), the 2030 Catalan Climate Change Strategy (ESCACC), the General Forestry Policy Plan (PGPF), the Catalan Rural Agenda, and the Pyrenees Climate Change Strategy (EPiCC), among others, paving the way for meaningful and significant impact of our research on environment and biodiversity policy and management.



CONTRIBUTION TO EUROPEAN AND INTERNATIONAL POLICIES

CREAF researchers are actively involved in IPCC, IPBES, and MedECC panels. In addition, CREAM is an observer organization of UNFCCC, UN-CBD, UNOC, and IPBES expanding our international scope and fostering engagement in research and science-policy interfaces.

HIGHLIGHTS

GREEN SCHOOLS IN CATALONIA DO CITIZEN SCIENCE AND NATURE PROJECTS

CREAF and the Green Schools Network supported by the Catalan government gave citizen science and nature training and support to teachers. Over 30 teachers have participated in such activities and 8 schools have incorporated one of CREAM's citizen science projects to do research about the natural environment.



ACTIVE PARTICIPATION IN THE FIRST CATALAN CITIZEN SCIENCE MONTH

In the fall, during the Citizen Science Month. CREAM participated in the Citizen Science Conference in the Catalan city of Sabadell with different sessions and activities.

SCIENCE CALLS ON THE EUROPEAN COMMISSION TO TAKE INTO ACCOUNT THE UNIQUENESS OF THE MEDITERRANEAN FOREST

Representing the MIDMACC project, coordinated by CREAM, Eduard Pla Ferrer and Diana Pascual have participated in a presentation to the European Commission of a series of policy recommendations by the partners of 8 Life project research groups in which CREAM is involved. The proposed actions are linked to the European Forestry Strategy 2030.



CITIZEN SCIENCE AND EDUCATION

The creation of CREAM's Citizen Science Working Group has boosted interactions and synergies among staff working in CS entailing, among others, the training of over 60 schools on CS and nature.



BOOSTING CITIZEN SCIENCE



NETWORKING

Societal Impact of Research renewing scientific culture.

CREAF has been an active member of Net4Impact, the first interdisciplinary network of the societal impact of research in Spain. Representing sciences such as ecology, the humanities, mathematics, engineering, and education, among others, this innovative project has contributed to increasing the societal impact of Spanish research with outreach and training events. CREAM played an active role organizing a webinar about the societal impact of research in ecology and the environment.

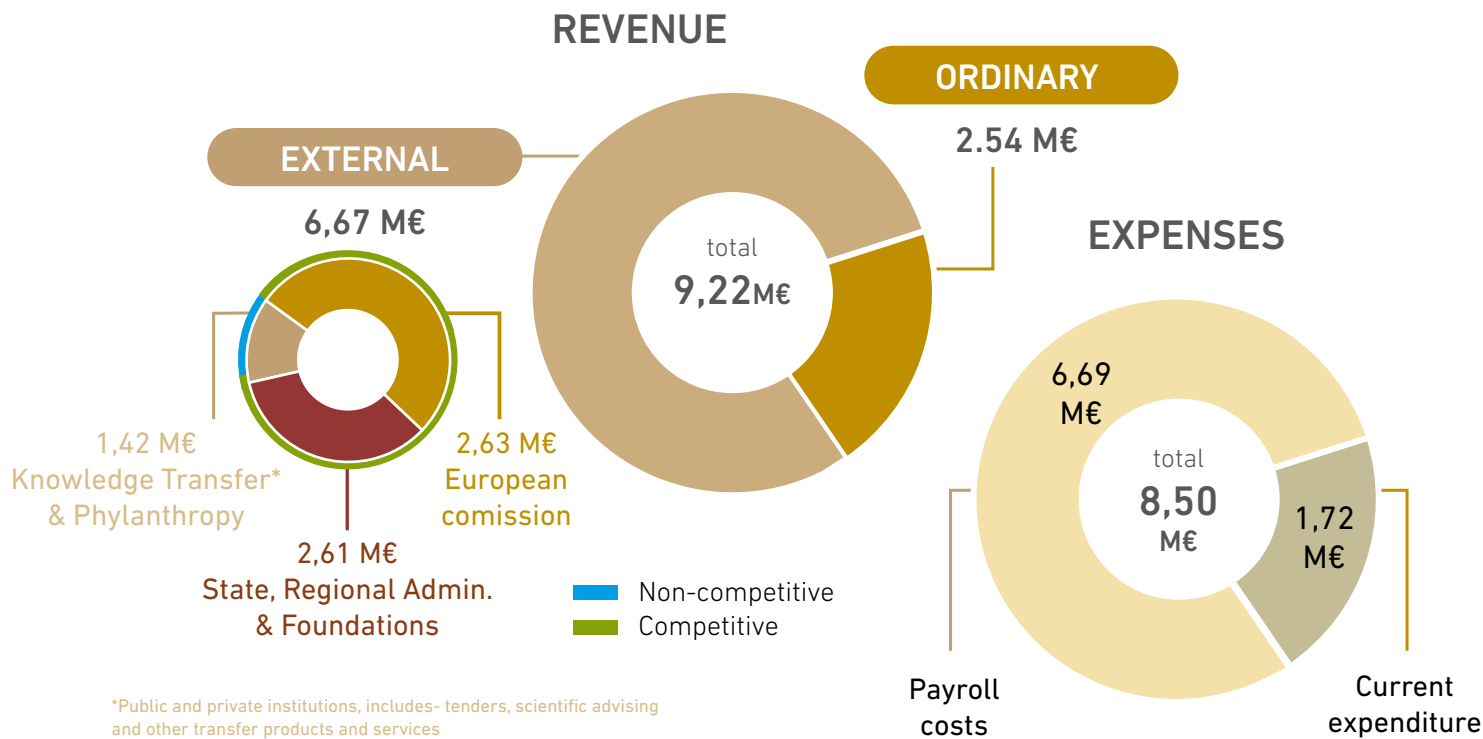


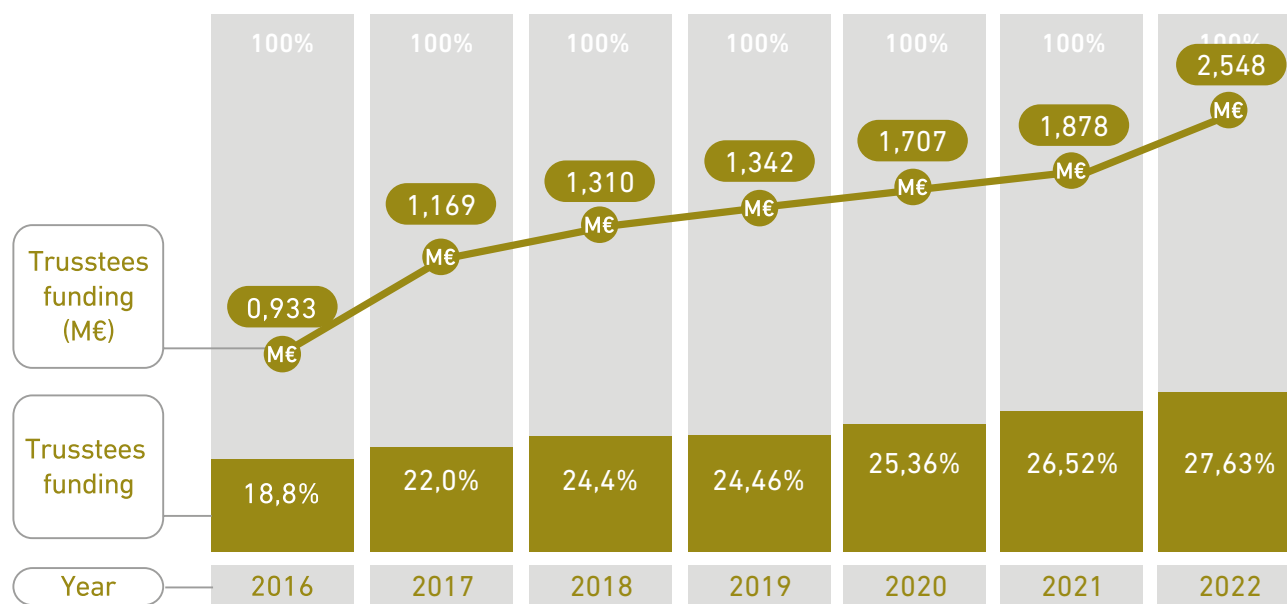
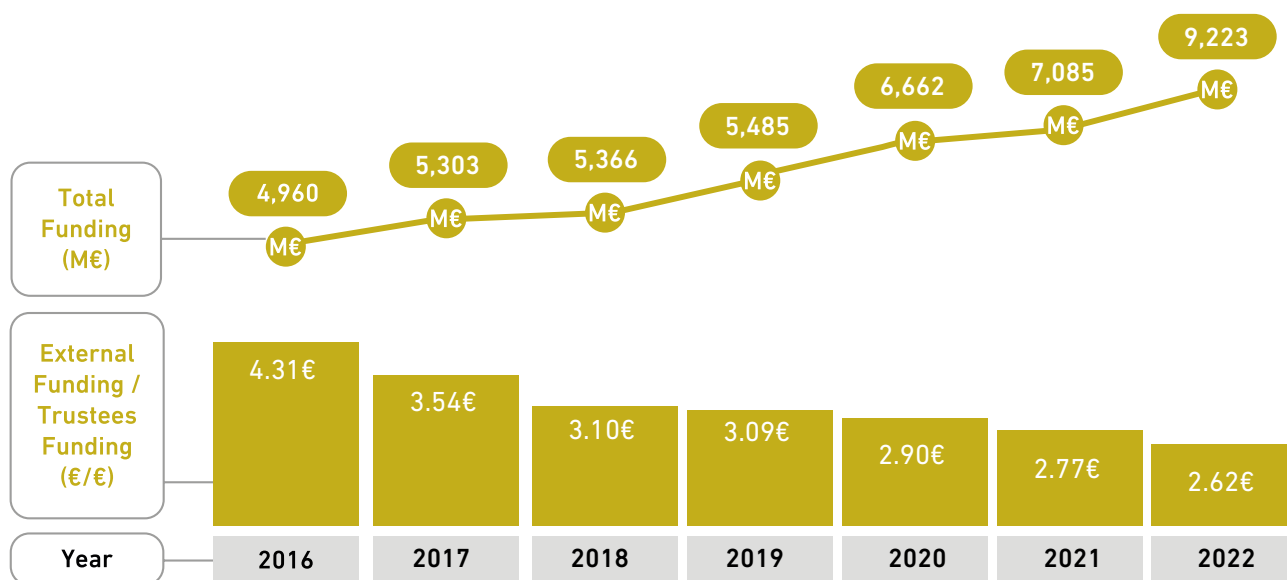
WEBINAR
IMPACTO SOCIAL DE LA INVESTIGACIÓN
EN ECOLOGÍA Y MEDIOAMBIENTE

FINANCIAL OVERVIEW



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

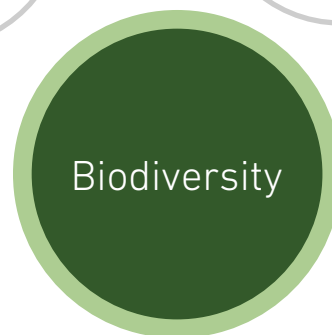
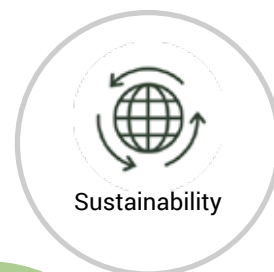
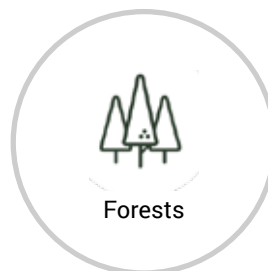




RESEARCH
HIGHLIGHTS

Our research has a global impact

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



Biodiversity

The Mediterranean Basin is the second largest biodiversity hotspot in the world. The loss of this biodiversity is one of the greatest environmental challenges society has been facing during the past few decades. Without biodiversity, it would be impossible to obtain the multitude of ecological goods and services we need to for survival.

At CREAM we study the mechanisms which generate and maintain **biodiversity** in terrestrial ecosystems. We analyze territorial patterns of biodiversity and biodiversity and its threats. We carry out studies of species and **plant and animal communities** that range from the molecular to the **ecosystem level**.

Research lines

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

SCIENTIFIC ADVANCES

December 15, 2022

The Observatory of Natural Heritage and Biodiversity updates the Living Planet Index for Catalonia

Wild species populations in Catalonia for which regular monitoring data are available have declined by an average of 24% over the last 20 years, according to the Living Planet Index Catalonia (LPI-Cat) 2022. The data are provided by the Observatory of Natural Heritage and Biodiversity. The LPI-Cat is promoted by the Department of Climate Action, Food and Rural Agenda of the Generalitat de Catalunya, coordinated by CREA, the Catalan Institute of Ornithology, the Museum of Natural Sciences of Granollers and the Spanish Herpetological Association.

.....



The Living Planet Index Catalonia 2022 is compiled from data on 321 species of butterflies, birds, mammals, amphibians, reptiles and fish from inland waters. **Image:** Xavier Florensa

December 1, 2022

Urban life, the secret of invasive parrots to expand and establish themselves in the Iberian Peninsula

Human habitats, our cities and road connections have been a springboard for the Argentine parrot, *Myiopsitta monachus*, and Kramer's parrot, *Psittacula krameri*, to become permanently established in the Iberian Peninsula, according to an article published in the journal *Diversity and Distributions*, led by CREA researcher Laura Cardador. This study reinforces an idea that the scientific community has been working on for some time: human habitats play a very important role in the expansion and permanence of invasive species. These habitats include cities, peripheral areas and infrastructures that connect all these anthropized areas.



Human habitats play an essential role in the expansion and permanence of invasive species in the city. **Image:** Vicente Zambrano

July 14, 2021

What makes some animals more intelligent than others?

A new study co-led by CREAM and CSIC researcher Daniel Sol, and published in the journal *Nature Ecology and Evolution*, shows for the first time that a higher number of neurons is related to one of the main forms of animal intelligence: the ability to innovate. This relation arises because the number of neurons in the animal brain comes from a disproportionate accumulation of more neurons in the pallium, the brain area involved in cognition. As a consequence of this accumulation of neurons, intelligent animals have larger brains than expected for their body size. The innovation dataset is the result of two decades of work by Prof. Louis Lefebvre, a psychologist at McGill University (Canada) and also co-leader of the study.



The study has analysed 111 species, which represents the largest sample of neuron numbers ever used in a single project. **Image:** Daniel Sol

SCIENCE FOR ENVIRONMENTAL MANAGEMENT

March 28, 2022

The endangered plant *Seseli farrenyi* quadruples its presence in Cap de Creus, Catalonia

The Department of Climate Action, Food and Rural Agenda of the Catalan government has confirmed the presence of new localities of *Seseli farrenyi* in the area of the Integral Natural. This plant is one of the most endangered species of endemic flora in danger in Catalonia, and its extinction would entail the planetary loss of the species, because it has not been described anywhere else in the world. The good news is twofold: in addition to the population growth, after 7 years of surveys and field work carried out by Sandra Saura Mas, CREAM and UAB researcher, a breeding population has been found where flowering plants of different sizes and ages have been identified.



The Cap de Creus *séseli* is critically endangered, grows exclusively in this protected area and is the most endangered endemic plant in Catalonia. **Image:** Arnald Mont de Palol.

HIGHLIGHTED BIODIVERSITY RESEARCH PROJECTS

4DRIVERS

Caracterización de los recursos genéticos forestales de *Pinus pinaster*.



Principal investigator:
José Alberto Ramírez
Budget: 94,450 €
Entity: Ministerio de Ciencia e Innovación
Period: 2022-2024

AGENTS

Adaptación al clima desde una perspectiva multivariante



Principal investigator:
José Alberto Ramírez Valiente
Budget: 72.600 €
Entity: Ministerio de Ciencia e Innovación
Period: 2022-2024

BEACON

Agro-environmental measures to improve pollination and pest control services in grapefruit and taro trees



Principal investigator:
Jordi Bosch / Anselm Rodrigo
Budget: 11.000 €
Entity: Innocent Drinks
Period: 2022-2023

BEECOEVO

Comportamiento animal: un modelador de las dinámicas eco-evolutivas en un planeta cambiante?



Principal investigator:
Oriol Lapiedra
Budget: 100.000 €
Entity: Ministerio de Ciencia e Innovación
Period: 2021-2023

CORVUSTRACK

Ecología espacial de la gralla a ambientes urbanos.



Principal investigator:
Daniel Sol Rueda
Budget: 5.000 €
Entity: Fundació Barcelona Zoo
Period: 2022

FEARISLAND

El factor por: conseqüències ecològiques i evolutives de la "masitud d'illa" en un planeta en canvi constant.



Principal investigator: Oriol Lapiedra
Budget: 153.670 €
Entity: Ministerio de Ciencia e Innovación
Period: 2022-2025

FISHME

Social and ecological effects of Fish removal in Mountain Ecosystems.



Principal investigator: Marisol Felip
Budget: 115,000 €
Entity: Ministerio de Ciencia e Innovación
Period: 2022-2025

REFLORA

Accions de recuperació d'hidròfits i halòfits protegits i amen del Parc Natural del Montgrí.



Principal investigator: Sandra Saura Mas
Budget: 11.479,88 €
Entity: Generalitat de Catalunya
Period: 2022

Check **Appendices** to see other Biodiversity research projects

Global Change

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

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

Research lines:

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

SCIENTIFIC ADVANCES

March 9, 2022

Drought in 2021 breaks two years of prosperity in Catalan forests

The year 2021 has been exceptionally drought throughout Catalonia, except for the southern half. According to the annual report DeBosCat, in 2021 only 1,440 forest hectares have been recovered, compared to the 10,300 that had healed in 2020, an extraordinarily rainy year. The recovered area is even more anecdotal when compared to the more than 15,000 ha that have worsened their situation. On the one hand, 68 new episodes of drought have been recorded, affecting almost 4,000 ha, and on the other hand, there are 11,900 ha that have already been affected by drought in previous years and have worsened.



Affection of planifolios by drought in the Alt Empordà area, in the north of Catalonia. **Image:** DeBosCat.

December 2, 2022

The warmest October in 70 years brings autumn blooms for wild plants and fruit trees all over Catalonia

Plants such as thyme, broom and fruit trees like almond, cherry, plum and pear have flowered a second time this autumn, according to the FenoCat network of the Meteorological Service of Catalonia (SMC) and the RitmeNatura citizen observatory of CREA. The scientific projects have also detected that once again this year the fall of the leaves has been delayed and the autumn colours have reached their peak later than usual. In fact, October has been the warmest month since at least 1950, looking at the Meteorological Service of Catalonia data. Thus, the average temperature this month in some areas of the country was up to 4 or 5 °C higher than the average value for the period 1961-1990.



Autumn observation by RitmeNatura observatory volunteers of a grey flycatcher on a branch that has lost its leaves in Barcelona. **Image:** David Gispert.

October 27, 2022

The 10 European cities whose temperatures have been most influenced by climate change over the last year include four in Spain

A new online tool launched by Climate Central helps measure the extent to which climate change affects daily temperatures around the world. The tool applies a new five-point scale called the Climate Shift Index (CSI), to establish the degree to which climate change has influenced local daily average temperatures. The 10 European cities whose temperatures have been most influenced by climate change over the last 12 months include four in Spain: Madrid, Barcelona, Valencia and Zaragoza. Based on the CSI, Climate Central has published '365 Days on a Warming Planet', a report that reveals the impact of human-driven climate



The 10 European cities whose temperatures have been most influenced by climate change over the last 12 months include four in Spain: Madrid, Barcelona, Valencia and Zaragoza. **Image:** Pixabay.

change on average temperatures for each day from 1 October 2021 to 30 September 2022 in more than a thousand cities across the planet.

SCIENCE FOR ENVIRONMENTAL MANAGEMENT

October 7, 2022

Drought and water scarcity, subject to public debate

With the aim of raising awareness of the connection between the occurrence of droughts, water use and the social use of water, the Citizen Drought Observatory has been set up, in which CREAM has participated since its creation in 2020. This two-way learning project aims to inform citizens about such a complex risk as drought and about the causes that explain our vulnerability to these events, as well as to find out what social perception we have about water scarcity and what preferences we have about the different measures for managing this resource.



Effects of drought and lack of water in Albolote, Granada. **Image:** Pilar Flores.

HIGHLIGHTED GLOBAL CHANGE RESEARCH PROJECTS

AGRICARBONICAT

Carbon agriculture in Catalonia.



Principal investigator:

Marc Gràcia / Pilar Andrés

Budget: 43,386 €

Entity: Generalitat de Catalunya

Period: 2022-2026

AGRIREGENCAT

Regenerative agriculture in Catalonia.



Principal investigator:

Marc Gràcia / Pilar Andrés

Budget: 195,200 €

Entity: Generalitat de Catalunya

Period: 2022-2026

ALFAWETLANDS

Wetland restoration for the future.



Principal investigator:

Josep Peñuelas

Budget: 7.967.115 €

Entity: EU

Period: 2022-2026

BOMFORES

Impulsant els models basats en processos per a projectar la dinàmica forestal i serveis ecosistèmics.



Principal investigator:

Miquel de Cáceres

Budget: 75.020 €

Entity: Ministerio de Ciencia e Innovación

Period: 2022-2024

Check **Appendices** to see other Global Change research projects

DENDROHIST

Evaluación de la actual crisis ambiental mediante archivos dendrocronológicos y históricos en la region Mediterranea de la Peninsula Ibérica.



Principal investigator:

Laia Andreu-Hayles

Budget: 181.500 €

Entity: Ministerio de Ciencia e Innovación

Period: 2022-2025

KALORET

Caracterització dels vincles entre el cicle de l'aigua i els cicles N-P-K en un món cada vegada més càlid.



Principal investigator: Estela Romero

Budget: 26.620 €

Entity: Ministerio de Ciencia e Innovación

Period: 2022-2024

NUTRIARID

Desenvolupar i aportar solucions per mitigar i adaptar-se als canvis en els elementomes dels organismes, comunitats i ecosistemes



Principal investigator:

Josep Peñuelas

Budget: 264.500 €

Entity: Ministerio de Ciencia e Innovación

Period: 2022-2024

TRACES

La capacitat de predir la resposta de les plantes a l'estrès.



Principal investigator:

Jordi Martínez Vilalta

Budget: 221.430 €

Entity: Ministerio de Ciencia e Innovación

Period: 2022-2026

Ecosystem functioning

Forests, shrubland, and other forest formations are dynamic, ever-changing systems subject to a myriad of natural processes and disturbances. All of these factors affect mortality, regeneration, and growth of the different species cohabiting within the ecosystem.

In this area, CREAM is renowned for building **forest inventories and databases**, and for developing mathematical models for developing forests. Integrating of these data into **global change models** helps plan new forest management strategies to preserve the natural, social and economic value of our forest ecosystems.

Research lines:

- Functional biogeography
- Chemical ecology, ecotoxicology, metagenomics, and metabolomics
- Soil function and restoration
- Atmosphere-biosphere interactions
- Water, carbon and nutrient stores and fluxes

SCIENTIFIC ADVANCES

March 30, 2022

Forest pests are becoming increasingly aggressive because of global warming

Climate change and drought are making it possible that even forests living in their most optimal environment, are affected by bore beetle infestation. According to an article recently published in Global Change Biology whose main author is researcher Luciana Jaime González, the great heat waves put forests at the limit of their resistance and expose them more to the attack of insects, a detonating mixture that then causes pest mortality in large forest masses. Global warming is leading to more and better



Scots pine (*Pinus sylvestris*) attacked by the borer beetle *Tomicus minor*.
Image: Luciana Jaime González

development of some forest pests, and it can lead to more severe droughts.

March 21, 2022

Heatwaves deaden the beat of central Europe's trees

The trunk of a tree beats: it shrinks in the daytime due to water loss and swells at night as it rehydrates via the tree's roots. That beat, according to a study published recently in Nature Communications, is weakened by heatwaves. The study found that in the summer of 2018, central European trees shrank twice as much as they would have in normal conditions because they lost too much water during the day, owing to the heatwave affecting the continent, and were unable to rehydrate sufficiently at night. The research didn't detect differences, relative to previous years, in the trees' growth during the heatwave and



The effect varies substantially depending on the species: the Scots pine (*Pinus sylvestris*) and, in particular, the Norway spruce (*Picea abies*) are less efficient and suffer much more during heatwaves. **Image:** Unsplash

drought of 2018, which occurred between mid and late summer.

March 11, 2022

The three vital signs of terrestrial ecosystems: vegetation growth, water-use efficiency and carbon-use efficiency

An international work including CREAM and led by Mirco Migliavacca -from the Max Planck Institute for Biogeochemistry (Germany)- puts forward three key indicators of how well terrestrial ecosystems are functioning. In order of importance, the first is maximum vegetation productivity and growth capacity; the second is how efficiently plants use water; and the third is how efficiently they use carbon. By monitoring those indicators, according to the article, it is possible



Maximum vegetation productivity and growth capacity, how efficiently plants use water, and how efficiently they use carbon are key to monitor vital signs of terrestrial ecosystems. **Image:** Public domain

to determine an ecosystem's state of health and predict its capability to adapt to, survive and thrive under changes in climate and environment. The study has been published in the renowned journal Nature.

SCIENCE FOR ENVIRONMENTAL MANAGEMENT

July 25, 2022

Regenerating the poor soils of the southern EU countries and the Mediterranean, key in fighting climate change

Transforming the agricultural sector, which generates 11% (429 megatonnes of CO₂-eq in 2019) of the EU's total GHG emissions, is vital, not only to mitigate climate change but also to guarantee food security in increasingly extreme environmental conditions. The Committee on Agriculture and Rural Development (AGRI) of the European Parliament commissioned a report from experts led by CREAM researcher Pilar Andrés, to learn about the potential of the EU's agricultural soils to sequester carbon, and how their capacity to do so can be increased. The report concludes



Agricultural soils contain 31% of the EU's total soil carbon stocks and have great potential to store more carbon. **Image:** Oregon State University. CC BY-SA 2.0.

that agricultural soils contain 31% of the EU's total soil carbon stocks and have great potential to store more carbon.

HIGHLIGHTED ECOSYSTEM FUNCTIONING RESEARCH PROJECTS

CARBINTER

Disturbances of the carbon cycle in high water basins mountain in response to a more intermittent hydrology.



Principal investigator: Lluís Gómez
Budget: 105.270 €
Entity: Ministerio de Ciencia e Innovación
Period: 2022-2024

STRESSBEE

Combined effects of exposure to pesticides and other stress factors in solitary bees.



Principal investigators:
 Jordi Bosch / Anselm Rodrigo
Budget: 194.810 €
Entity: Ministerio de Ciencia e Innovación
Period: 2022-2025

D-NESS

Evaluation of the role of denitrification as the most important sink of Nr in the European soil ecosystems.



Principal investigator:
 Àngela Ribas
Budget: 125.840,00 €
Entity: Ministerio de Ciencia e Innovación
Period: 2022-2025

TERRACARB

The fate of TERRestriAl forest CARBon from photosynthesis to structural biomass under climate change.



Principal investigators:
 Josep Peñuelas (Marie Curie Fellowship granted to Mukund Palat Rao)
Budget: 172.932,48 €
Entity: EU
Period: 2022-2024

SOCRATES

Sequential destabilization of C and N biogeochemical cycles in response to rising temperatures in the Sub-Arctic.



Principal investigator:
 Sara Marañón
Budget: 104.060,00 €
Entity: Ministerio de Ciencia e Innovación
Period: 2022-2025

BIOGEOMONT

The acceleration of biogeochemical cycles in high mountains during the Anthropocene.



Principal investigators:
 Jordi Catalan
Budget: 60.753,35 €
Entity: Organismo Autónomo de Parques Nacionales
Period: 2020-2023

Check **Appendices** to see other Ecosystem Functioning research projects

Earth Observation

Remote sensing and geographic information systems (GIS) allow territorial analysis, at large scales and with great resolution.

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 offer a public 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, opening large quantities of information about our natural heritage to discovery and analysis.

Research lines:

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

SCIENTIFIC ADVANCES

July 22, 2022

CREAF showcases its international leadership in standards development and environmental data quality improvement

CREAF took part in the Open Geospatial Consortium (OGC) Member Meeting, a global meeting that aims at promoting and sharing experiences related to the use of standards. One of its main goals is to exchange information and data between different countries, organizations and platforms. CREAM researchers Joan Masó, Kaori Otsu, Alba Brobia Ansoleaga and Núria Julià Selvas, members of the GRUMETS-UAB research group, shared their experience and results in standards development in two areas: geospatial information systems and citizen science platforms. The first one monitors the planet situation, and the



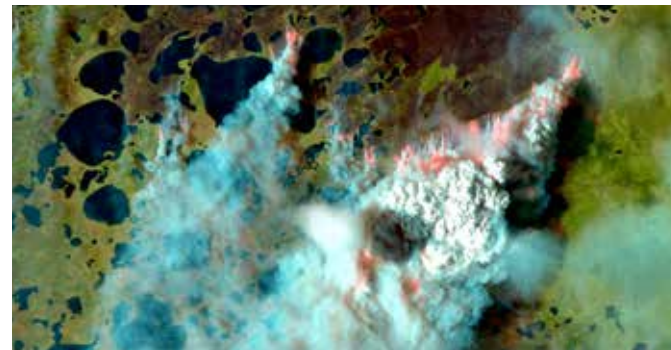
CREAF and GRUMETS-UAB researcher Joan Masó, with Nadine Alameh, CEO of the Open Geospatial Consortium (OGC). **Image:** Open Geospatial Consortium.

second one stores information about biodiversity and environmental parameters such as water or air quality.

November 4, 2022

Global warming in the Arctic increases megafires on the permafrost

A new study published in Science and led by researchers Adrià Descals and Josep Peñuelas, both scientists from CREAM and CSIC, shows that the increase in temperature is driving an exponential increase in fires in the Arctic. This raised concerns in the scientific community, as the Arctic has large areas of permafrost, a permanently frozen layer of subsoil that accumulates large amounts of carbon. Fires damage the permafrost and contribute to the release of carbon emissions in the form of greenhouse gases. With future warming, these enormous fires will be recurrent at the end of the century and will have different implications, both for



A 30 Km-wide wildfire in the Siberian Arctic, creating a pyro cumulus cloud, generated when a wildfire heats the air at a high temperature. **Image:** European Space Agency

the Arctic and for the global climate. The authors quantified the area burned in Siberia above the Arctic Circle, a region covering 286 million hectares.

SCIENCE FOR ENVIRONMENTAL MANAGEMENT

Juny 13, 2022

The Feno Centers network of the RitmeNatura citizen observatory is born

The citizen science observatory Ritme Natura awards 18 schools in Catalonia an accreditation for their continued commitment to monitoring the natural calendar of plants and animals near their area. This is what science calls phenology. More than 500 students have participated in various educational workshops, and have contributed almost 1,400 observations of 289 species of animals and plants. The three most observed species were the tree of love (*Cercis siliquastrum*), the hackberry (*Celtis australis*) and the cinnamon tree (*Melia azedarach*). The FenoCentres have demonstrated their sensitivity to climate change, as studying how nature's calendar is modified shows that the climatic emergency that we are experiencing directly alters living beings: plants advance the appearance of leaves and flowers, leaves fall later and swallows also arrive earlier.



The main objective of this initiative, which will last 2 and a half years, is to define a protocol for identifying, intervening and monitoring degraded land. **Image:** Pau Guzmán

HIGHLIGHTED EARTH OBSERVATION RESEARCH PROJECTS

AD4GD

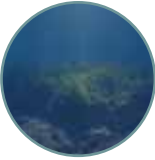
An Integrated, FAIR Approach for the Common European Data Space



Principal investigator: Joan Masó
Budget: 4.136.964,75 €
Entity: EU
Period: 2022-2025

ILIAD

Integrated Digital Framework FOR Comprehensive Maritime Data and Information Services



Principal investigator: Joan Masó
Budget: 48.250 €
Entity: EU
Period: 2022-2025

BIOAGORA

Bio Knowledge Agora: Developing the Science Service for European Research and Biodiversity Policymaking



Principal investigator: Lluís Brotons
Budget: 11.827.270 €
Entity: EU
Period: 2022-2027

OEMC

Open-Earth-Monitor Cyberinfrastructure



Principal investigator: Joan Masó
Budget: 12.720.045 €
Entity: EU
Period: 2022-2026

FenoAula

Citizen science, innovation and transfer to new generations in the phenological monitoring of climate change



Principal investigator: Joan Masó
Budget: 20.000 €
Entity: Fundación Española para la Ciencia y la Tecnología (FECYT)
Period: 2022-2023

BESTMAP

Behavioural, Ecological and Socio-economic Tools for Modelling Agricultural Policy



Principal investigator: Joan Masó
Budget: 3.995.811,25 €
Entity: EU
Period: 2019-2023

Check **Appendices** to see other Earth Observation research projects

CROSS-CUTTING TOPICS



Forests



Citizen science



Sustainability



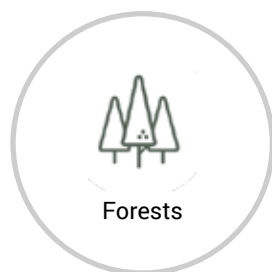
Big Data and
data quality



Ecosystem
services



Mediterranean
Basin



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

Featured news

May 25, 2022

How to prevent forest fires in suburbs

The guidebook 'The perimeter strips of protection against forest fires: execution, characteristics and maintenance' to prevent fires in suburbs has been published, as a collaboration between CREAM and the Diputació of Barcelona. The work includes good practices when planning, carrying out and maintaining a perimeter protection strip. It recommends which plant species should be left in the protection areas and which should be avoided (because they are highly flammable), which trees should be kept or cut according to their characteristics, and how erosion could be prevented.



The guidebook includes a series of illustrations of the best species of shrubs that must be kept in the strips. **Image:** José Luis Ordóñez & Nora Soler

Highlighted project

DISTRESS

Understanding the mechanisms behind tree responses to drought-induced stress with increasing tree size

Principal investigator: Jordi Martínez Vilalta

Budget: 245.732,16 €

Entity: EU

Period: 2019-2022





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

Featured news

September 9, 2022

The Green Schools Network offers training and support on citizen science with the help of CREAM

This is the driving force behind the new joint educational innovation project between the Department of Climate Action, Food and Rural Agency of the Generalitat de Catalunya and CREAM. Both entities start a process of accompaniment aimed at more than 800 Green Schools in Catalonia that aims to bring nature to the classrooms of secondary and vocational training through citizen science. Throughout the process, the centers that participate in this accompaniment will participate directly in its research and results on climate change, forests and biodiversity.



Science and nature together can be a tool for educational innovation.
Image: CREAM

Highlighted project

CITIOBS

Enhancing citizen observatories for healthy, sustainable, resilient and inclusive cities

Principal investigator: Joan Masó Pau

Budget: 4.991.205,00 €

Entity: EU

Period: 2023- 2026





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



The Consell Comarcal del Maresme includes different villages of the area, that declared the climate emergency some time ago. **Image:** Public domain

Featured news

February 24, 2022

CREAF participates in the new scientific committee to endorse the climate action strategy

The Consell Comarcal del Maresme promotes an adaptation and mitigation strategy engaging 30 municipalities, and collaborates with CREAF to design and implement the process since two years. To promote innovative governance and science into policy making, a Working Table for Adaptation to Climate Change (METACC) was created, including of a group of advisors, including CREAF researchers Mireia Banqué, Annelies Broekman, Eduard Pla and Sandra Saura.

Highlighted project

SILVODIVERS

Sustainable forest grazing: the mutual benefit between fire prevention management, forest conservation and extensive grazing.

Principal investigator: Sandra Saura Mas

Budget: 45.511,41 €

Entity: Generalitat de Catalunya

Period: 2021-2024





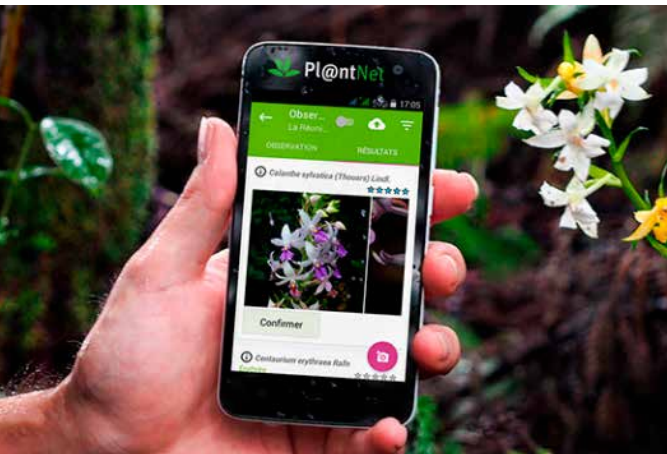
Big data offers great opportunities for research but also requires new approaches for managing it efficiently, rigorously and accurately, all depending on the particularities of associated thematic information. On the other hand, the quality of the alphanumeric and spatial information of the available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

Featured news

April 21, 2022

New research proves that Cos4Cloud technology boosts citizen science data quantity and quality

According to a new research study published in the academic journal Sustainability, the technology developed by the Horizon2020 Cos4Cloud project can substantially support networks of citizen observatories, that is, citizen science platforms that gather biodiversity and environmental observations (photos), to increase their data quality and quantity.



The Pl@ntNet app contributes to monitoring progress towards several SDG indicators. **Image:** Chloe Glad

Highlighted project

EOSC FOCUS

Supporting the development and coordination of activities of the EOSC Partnership.



Principal investigator: Lluís Pesquer

Budget: 4.599.653 €

Entity: EU

Period: 2022-2025



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



Dune vegetation on the beach of Castelldefels in full springtime. **Image:** Robert Ramos (AMB)

Featured news

May 6, 2021

Beaches in Barcelona's metropolitan area unexpectedly act as butterfly reserves

The third report of the mBMS, Barcelona's Metropolitan Butterfly Monitoring Scheme, contains some unexpected findings: the beaches in Barcelona's metropolitan area are not only inhabited by butterflies, but by butterfly communities unlike those found in the local parks. This means that the beaches act as reserves for certain species of butterflies. Some species found in only relatively small numbers in parks are more abundant at beaches, making such seaside environments especially important for biodiversity conservation in the metropolitan area.

Highlighted project

CANEM

Natural Capital Increase of the ski and mountain stations of the FGC.

Principal investigator: Bernat Claramunt

Budget: 107.311,70 €

Entity: Generalitat de Catalunya

Period: 2022





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



The scientific community warns that the world is facing multiple climate risks over the next two decades, which in the Mediterranean have already resulted in a warming of 1.5°C. **Image:** Public domain

Featured news

February 28, 2022

Drought and rising sea levels, the impacts of climate change that will most affect the Mediterranean basin

Human-induced climate change is causing dangerous and widespread disruption to nature and affecting the lives of billions of people around the world. People and ecosystems with the least capacity to cope are already the hardest hit, says the scientific community in the latest report of the Intergovernmental Panel on Climate Change (IPCC). The scientific community warns that the world is facing multiple climate risks over the next two decades, which in the Mediterranean have already resulted in a warming of 1.5°C (above the global average of 1.1°C).

Highlighted project

LIFE TRITÓ II

Life Tritó Montseny: Monitoring of habitat improvement actions and manual of good practices of the riparian forest.

Principal investigator: Jordi Vayreda

Budget: 8.421,60 €

Entity: Parc Natural del Montseny

Period: 2022



CONSOLIDATED RESEARCH GROUPS

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

Eco-evolutionary responses of animals to global change' (EcoEvoChange)



Biodiversity conservation under global change



Forest dynamics and wildfires

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



GECA Environmental Change Ecology Group

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





Global Ecology Unit

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



Grumets

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



PROTECSOLS Consolidated Research Group on Soil Protection

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



Response of terrestrial ecosystems to changing environmental gradients

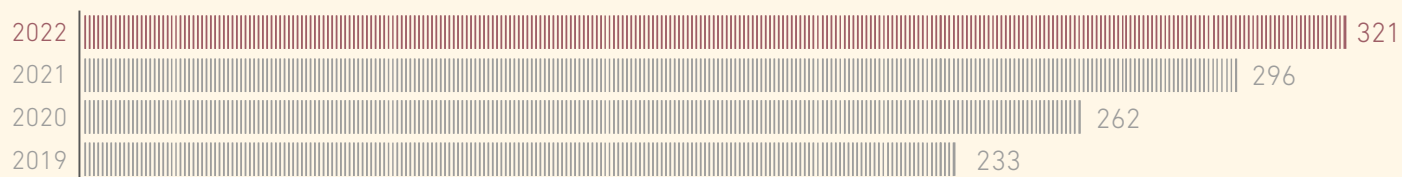
Research Group that includes researches devoted to study terrestrial ecosystems functioning. The group focuses on ecosystem responses to environmental changes that at large extent are determined by human activity and are often related to global change. These studies correspond to several topics and methodological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

A close-up photograph of a cluster of small, white flowers with prominent, yellow-tipped stamens. The flowers are in sharp focus in the foreground, while the background is blurred. A solid maroon rectangular box is positioned in the upper right corner of the image, containing the text "SCIENTIFIC OUTPUT" in white, uppercase letters.

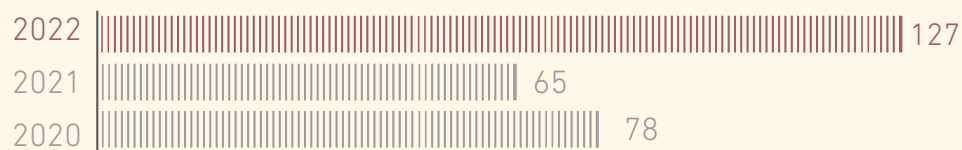
SCIENTIFIC OUTPUT

KEY NUMBERS

SCI publications



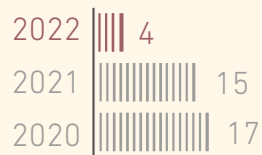
Contribution in national and international scientific conferences



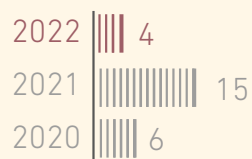
Books



Non SCI publications



Book chapters



Journals

JOURNAL	Article	Quartile	SJR index
Nature	1	1	20,96
Science	3	1	13,33
Annual Review of Plant Biology	1	1	8,13
Nature Climate Change	3	1	6,85
Nature Reviews Earth and Environment	3	1	6,19
Nature Geoscience	2	1	6,11
Nature Ecology and Evolution	5	1	5,37
Nature Plants	2	1	5,21
Trends in Ecology and Evolution	2	1	5,13
Nature Communications	8	1	5,12
Innovation	1	1	5,06
Science Advances	1	1	4,60
Ecology Letters	4	1	4,43
Biological Reviews	2	1	4,39
eLife	1	1	4,25
Earth System Science Data	1	1	4,24
Global Change Biology	15	1	4,07
Proceedings of the National Academy of Sciences of the United States of America	3	1	4,03
GigaScience	1	1	3,70
Frontiers in Ecology and the Environment	1	1	3,51
Water Research	2	1	3,34
ISPRS Journal of Photogrammetry and Remote Sensing	1	1	3,31
Ecological Monographs	2	1	3,27
Renewable and Sustainable Energy Reviews	1	1	3,23

JOURNAL	Article	Quartile	SJR index
Trends in Plant Science	1	1	3,21
Environmental Science and Technology	3	1	3,12
New Phytologist	5	1	3,05
National Science Review	1	1	2,97
Soil Biology and Biochemistry	2	1	2,93
npj Climate and Atmospheric Science	1	1	2,87
Current Biology	1	1	2,81
Molecular Ecology Resources	1	1	2,59
Journal of Hazardous Materials	1	1	2,57
Earth's Future	3	1	2,51
Atmospheric Chemistry and Physics	1	1	2,46
Communications Earth and Environment	1	1	2,46
Global Ecology and Biogeography	5	1	2,45
Scientific Data	2	1	2,41
IEEE Transactions on Geoscience and Remote Sensing	2	1	2,40
Ecography	3	1	2,37
Communications Biology	3	1	2,25
Geoscientific Model Development	1	1	2,23
Biological Conservation	2	1	2,15
Environmental Research Letters	3	1	2,12
Environmental Pollution	1	1	2,11
Functional Ecology	4	1	2,07
Journal of Ecology	5	1	2,07
Quarterly Review of Biology	1	1	2,06
Plant Cell and Environment	3	1	2,03

JOURNAL	Article	Quartile	SJR index
Ecology	2	1	1,96
Science of the Total Environment	18	1	1,95
Molecular Ecology	1	1	1,94
Geoderma	5	1	1,93
Journal of Animal Ecology	1	1	1,91
Proceedings of the Royal Society B: Biological Sciences	1	1	1,90
Climate Dynamics	2	1	1,85
Geophysical Research Letters	4	1	1,84
Hydrology and Earth System Sciences	1	1	1,78
Diversity and Distributions	2	1	1,73
Quaternary Science Reviews	1	1	1,70
Environmental Science and Policy	2	1	1,68
Journal of Environmental Management	4	1	1,68
Journal of Hydrology	1	1	1,67
International Journal of Qualitative Methods	1	1	1,66
Land Use Policy	1	1	1,66
Agriculture, Ecosystems and Environment	1	1	1,64
Environmental Research	1	1	1,64
Agricultural and Forest Meteorology	12	1	1,62
Biogeosciences	1	1	1,60
Cells	1	1	1,54
Sustainability Science	1	1	1,54
Agronomy for Sustainable Development	1	1	1,51
American Naturalist	1	1	1,49
Catena	3	1	1,47
Landscape Ecology	2	1	1,47

JOURNAL	Article	Quartile	SJR index
Limnology and Oceanography	1	1	1,47
Ecosystems	1	1	1,43
Ecological Indicators	5	1	1,40
Environmental Microbiology	1	1	1,39
Infectious Disease Modelling	1	1	1,38
Journal of Biogeography	2	1	1,37
Entomologia Generalis	1	1	1,32
Journal of Pest Science	1	1	1,31
Biogeochemistry	1	1	1,29
Journal of Geophysical Research: Biogeosciences	2	1	1,29
IEEE Geoscience and Remote Sensing Letters	1	1	1,28
Frontiers in Plant Science	3	1	1,23
Annals of Botany	1	1	1,21
Frontiers in Microbiology	1	1	1,19
Forest Ecology and Management	6	1	1,18
Applied Soil Ecology	2	1	1,16
BMC Plant Biology	1	1	1,16
Soil Ecology Letters	1	1	1,16
Land Degradation and Development	3	1	1,15
Plant and Soil	2	1	1,15
European Journal of Agronomy	1	1	1,14
Remote Sensing	2	1	1,14
Frontiers in Public Health	1	1	1,13
Frontiers in Marine Science	2	1	1,12
Ecological Processes	1	1	1,07
Ecosphere	1	1	1,07
Biodiversity and Conservation	1	1	1,05

JOURNAL	Article	Quartile	SJR index
Global Ecology and Conservation	1	1	1,05
European Journal of Soil Science	2	1	1,04
Tree Physiology	1	1	1,02
Journal of Vegetation Science	2	1	1,01
Oecologia	1	1	1,01
Scientific Reports	5	1	0,97
Fundamental Research	1	1	0,94
Insect Science	1	1	0,94
Animal Cognition	1	1	0,92
Ecological Informatics	1	1	0,92
Ecology and Evolution	1	1	0,92
Integrative and Comparative Biology	1	1	0,92
Behavioral Ecology and Sociobiology	1	1	0,91
Environmental Research Communications	1	1	0,89
European Journal of Soil Biology	1	1	0,89
PLoS ONE	2	1	0,89
American Journal of Botany	2	1	0,86
Biotropica	1	1	0,82
Ecohydrology	1	1	0,82
Physical Review E	2	1	0,82
City and Environment Interactions	1	1	0,81
Insects	2	1	0,79
Plants	1	1	0,79
Biology	1	1	0,78
Dendrochronologia	3	1	0,78
Environmental Science-Atmospheres	1	1	0,76
Applied Vegetation Science	1	1	0,74

JOURNAL	Article	Quartile	SJR index
European Journal of Forest Research	1	1	0,71
Animals	1	1	0,68
Journal of Plant Ecology	1	1	0,67
Agronomy	1	1	0,66
Sustainability (Switzerland)	1	1	0,66
Forests	5	1	0,65
Diversity	1	1	0,64
Journal of Integrative Medicine	1	1	0,63
Archives of Agronomy and Soil Science	1	1	0,60
Evolutionary Applications	1	2	1,37
Regional Environmental Change	1	2	1,10
Frontiers in Climate	1	2	0,76
Tellus, Series B: Chemical and Physical Meteorology	1	2	0,70
Land	1	2	0,65
European Journal of Wildlife Research	2	2	0,59
Flora: Morphology, Distribution, Functional Ecology of Plants	1	2	0,59
Mammal Research	1	2	0,55
BMC Research Notes	1	2	0,53
Annales de la Societe Entomologique de France	1	2	0,52
Journal of Hymenoptera Research	1	2	0,50
Avian Conservation and Ecology	1	2	0,48
Biodiversity Data Journal	2	2	0,46
Tropical Animal Health and Production	1	2	0,44
Reviews of Environmental Contamination and Toxicology	1	2	0,00

JOURNAL	Article	Quartile	SJR index
Acta Parasitologica	1	3	0,48
International Journal of Tropical Insect Science	1	3	0,38
Bulletin of Insectology	1	3	0,36
Photogrammetric Engineering and Remote Sensing	1	3	0,34
Journal of Entomological Science	1	3	0,25
Arxius de Miscellania Zoologica	1	4	0,20
Revista de Economía Institucional	1	4	0,15
Anthropocene Science	1		
Engineering Proceedings	1		
Galemys, Spanish Journal of Mammalogy	2		
Journal of Remote Sensing	1		

Scientific articles

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Data papers

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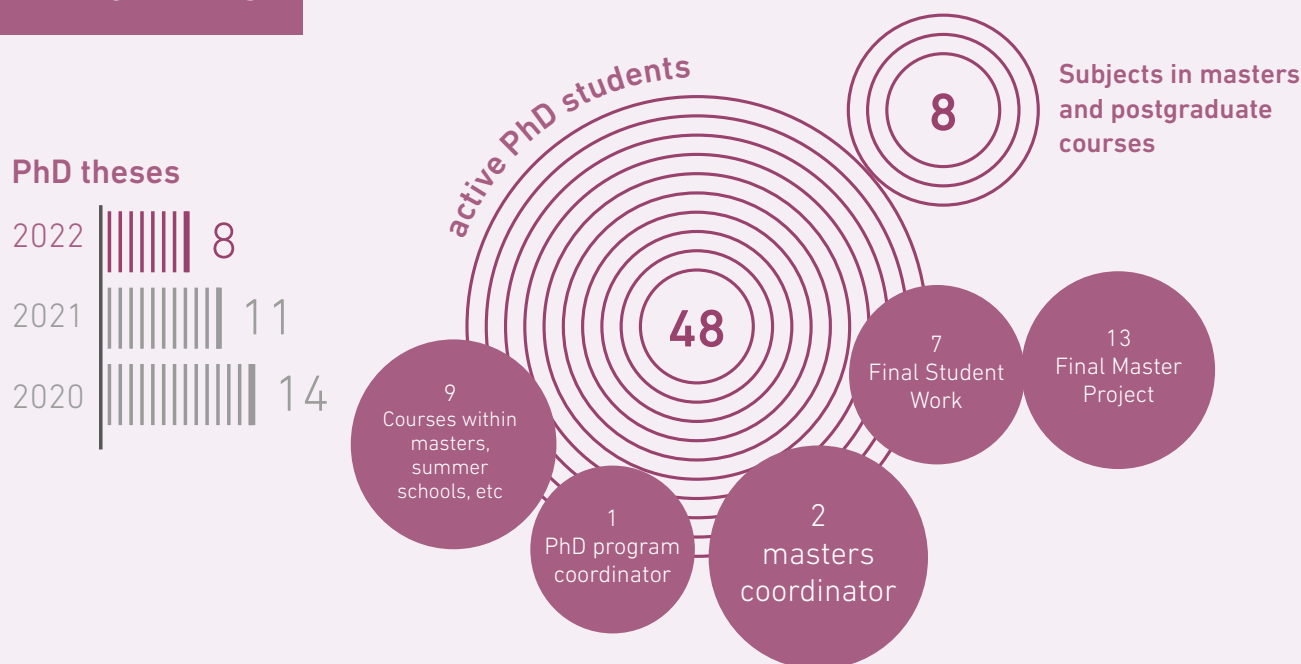
Book chapters

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TRAINING



KEY NUMBERS



PHD 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: Josep Piñol

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

PHD THESES

DESCALS, A. (2022). Remote sensing of the phenological changes and their drivers in the Northern Hemisphere. Universitat Autònoma de Barcelona. J Peñuelas i A Verger.

FUNES MESA, I. (2022) Assesment of the role of mediterranean agriculture as a carbon sink and diagnosis of climate change impacts : a baseline for exploring adaptation and mitigation strategies. J Vayreda, R Savé

GARRIDO SANZ, L. (2022). Large scale quantitative assessment of biodiversity using next-generation sequencing. Universitat Autònoma de Barcelona. MA Senar i J Piñol.

LA ROTA AGUILERA, MJ (2022) A new Socio-ecological Integrated Analysis for Agricultural Land Use Planning in Metropolitan Areas : Applications for Tropical (Cali, Colombia) and Mediterranean (Barcelona, Spain) Biocultural Landscapes J Manull, E Tello

LUO X. (2022) Nitrogen isotope in lake sediments and the loess sequence in China for nitrogen cycling and paleoclimate reconstruction. S Marañón-Jiménez

MARGALEF MARRASÉ, J. (2022) Nicho bioclimático y dinámica forestal asociada episodios de sequía. Universitat Autònoma de Barcelona. F Lloret

MASPONS VENTURA, J. (2022) Life History, Behaviour and Responses to Environmental Changes D Sol, R Molowny

SANCHEZ-PLAZA, A. (2022). Inclusion of adaptation to climate change in hydrological planning: methodological approach and application to case studies in the Mediterranean. Universidad Pablo de Olavide. P Paneque and J Retana

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: Bernat Claramunt.

Directors: Francisco Lloret, Anna Morton.

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

OFFICIAL MASTER IN REMOTE SENSING AND GIS

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

Coordinator: Xavier Pons.

Coordinator assistant: Cristina Cea

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

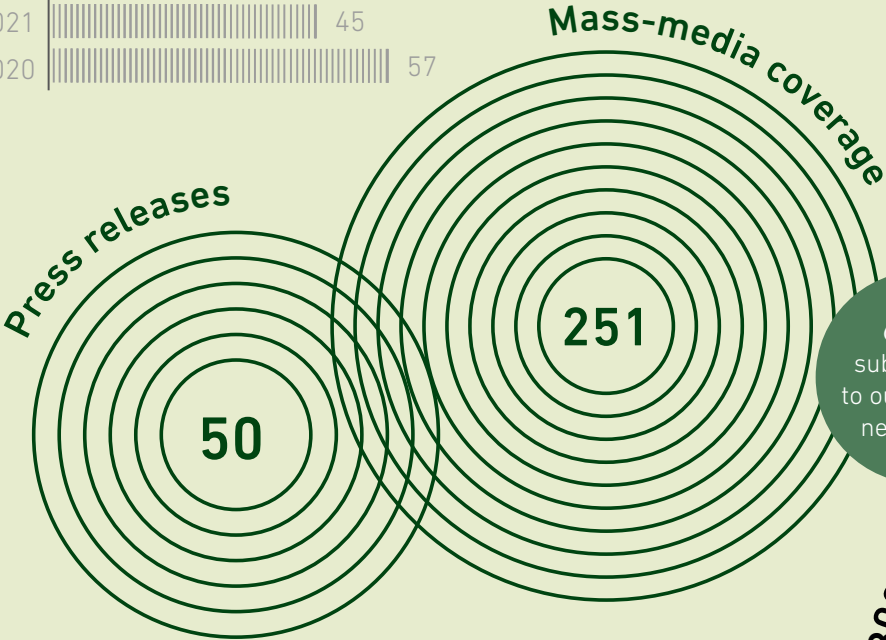
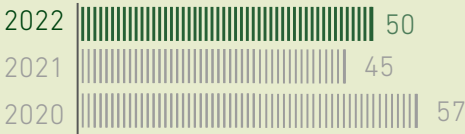
Check Annexes to see all Training activity of CREAM

COMMUNICATION AND OUTREACH



KEY NUMBERS

Press releases



6714
subscribers
to our monthly
newsletter

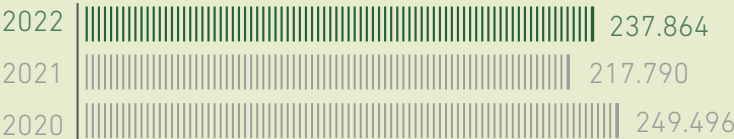


237.864 blog sessions



+ 190.195
unique blog
visitors

Blog
sessions



Twitter followers



Total
2022 | 22.500 followers

Total
2021 | 17.962 followers

Total
2020 | 15.022 followers



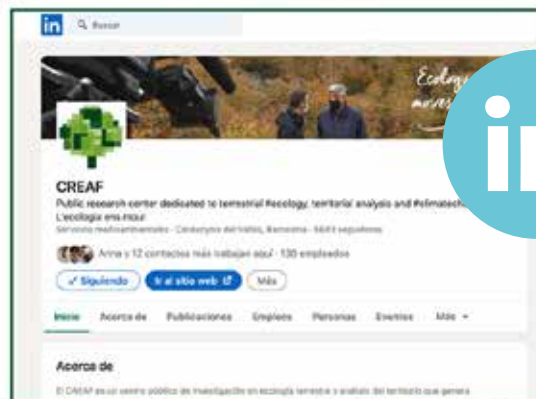
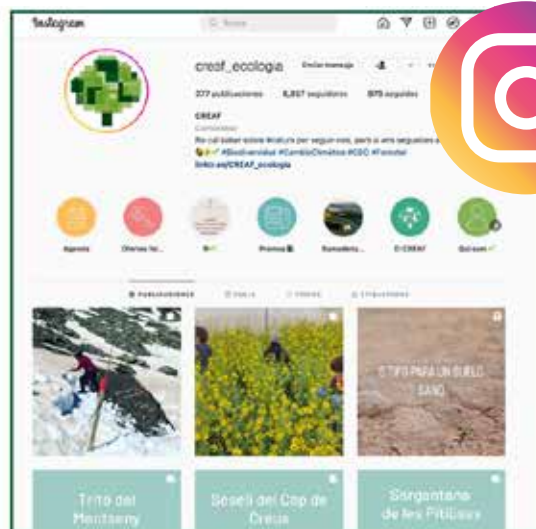
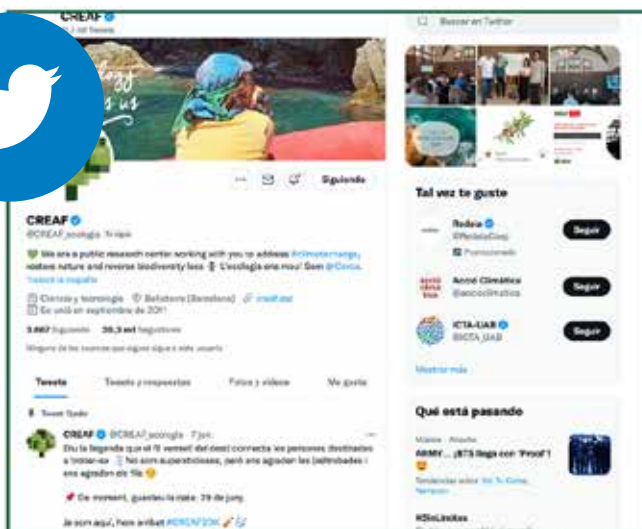
JOIN OUR GROWING COMMUNITY

EXPLORE

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

Connect

Our social media sites let you join in the conversation about trends and current affairs in Spain and worldwide issues and share ideas and information with your network.



KEY NUMBERS



Participation
as organiser in
other outreach
conferences



OUTREACH CONFERENCES OR TECHNICAL SEMINARS

Organized by CREA

XIX Seminar CREA-SCB-ICHN. Resilience to the environmental crisis: adaptation or collapse?

Venue: Barcelona

Date: 30 November 2022

Numbers of attendees: 150

CREA organisers: Josep Maria Espelta, Anna Ramon, Lluís Brotons, Joan Pino.

Jornada Anual Prismàtic: La natura com a solució enfront dels reptes ambientals

Venue: Barcelona

Date: 16 Desembre 2022

Numbers of attendees: 133

CREA organisers: Alba Gimbert, Verónica Couto, Anna Ramon.

Intermediate Pollinator Taxonomy course. SPRING project.

Venue: Autonomous University of Barcelona.

Date: December 2022.

Numbers of attendees: 18

CREA organisers: Verkaik I, Bosch J, Rodrigo A.

Intermediate Pollinator Taxonomy course. SPRING project.

Venue: Autonomous University of Barcelona.

Date: November 2022.

Numbers of attendees: 15

CREA organisers: Verkaik I, Bosch J, Rodrigo A.

Basic Pollinator Taxonomy course. SPRING project.

Venue: Rectoria de la Selva, Solsonès.

Date: May 2022.

Numbers of attendees: 19

CREA organisers: Verkaik I, Bosch J, Rodrigo A.

Basic Pollinator Taxonomy course. SPRING project.

Venue: Parc de la Font Roja, Alacant.

Date: May 2022.

Numbers of attendees: 15

CREA organisers: Verkaik I, Bosch J, Rodrigo A.

OUTREACH NEWS



Javier Peña is a science communicator specializing in climate change, responsible for the platform Hope! - Standing up for the planet. **Image:** Javier Peña

CREAF joins the advisory committee of Hope! *En pie por el planeta*

CREAF starts collaborating in 2022 in a stable way with Hope! - En pie por el planeta, a science outreach initiative led by Javier Peña, which has a global reach in Spanish-speaking regions. Our main involvement is to provide scientific knowledge on issues related to climate change, in addition to contributing to some specific actions. The joint work begins with a video on the potential of regenerative agriculture to mitigate climate change and regenerate degraded soils, which was recorded at the farm where CREAM coordinates the Life-Polyfarming project. CREAM is also part of the advisory committee of Hope!



CREAF and the Kylian Jornet Foundation promote a series of interviews with scientists to help raise awareness in schools about the loss of biodiversity. **Image:** CREAM

The athlete Kilian Jornet interviews Eduard Pla and Mariona Ferrandiz to talk about biodiversity.

Coinciding with the World Environmental Education Day, CREAM and the education area of the Kylian Jornet Foundation are promoting a series of interviews with scientists to help raise awareness in schools about the loss of biodiversity. The initiative 'We're losing biodiversity. Action!' had the involvement of CREAM researchers Eduard Pla and Mariona Ferrandiz, who talked about Mediterranean forests and fires and about biological diversity respectively. Kylian Jornet also discussed with the environmental consultant Josep M. Mallarach about the values of biodiversity, and dived into genetic biodiversity with Carlos Lalueza, researcher at the Institute of Evolutionary Biology.



CREAF and the Kylian Jornet Foundation promote a series of interviews with scientists to help raise awareness in schools about the loss of biodiversity.
Image: CREAM

‘The guardians of the wounded forests’ shows the rare primary forests from the tropics

The images by RUIDO Photo of the exhibition ‘The guardians of the wounded forests’ have been exhibited in the extraordinary surroundings of the Ciutadella Park in Barcelona. They are part of the PRIMARY project, carried out by RUIDO Photo, CREAM researcher Santi Sabaté, and CREAM’s Head of Communications, Anna Ramon. The initiative aims at focusing on the primary forests, those that remain mostly untouched by human action, and that nowadays are located mainly around the tropics. During 2019, 3.8 million hectares of primary tropical forest were burned in Brazil, the equivalent of a soccer stadium every six seconds. Besides the Amazon, the Congo Basin forests are the second largest area of tropical forest on the planet.

**Check Appendices to see more
 CREAM outreach activity**



ECOTONS – ART & ECOLOGICAL SCIENCE

CREAF has an Arts & Ecological Science residency driven internally by a group of science lovers who firmly believe in the benefits of its intersection with art.

This group of people create “Ecotons Art & Ecological Science residency” as an internal initiative working on different proposals and ideas around art and science. Ecotons are transition zones between different ecological communities, somewhat marginal places where different realities come into contact with each other, where tensions arise but also unexpected fertility.

CREAF and the Catalan creative factory La ESCOCESA have begun a stable collaboration through which Ecotons channels calls for research and artistic experimentation projects.

TEMPS AL BOSC. ATLES BIODIVERS D'INSTANTS POSSIBLES - 2022 ART & ECOLOGICAL SCIENCE RESIDENCY 2022- 2023

Rosa Llop and Gemma París's artistic research at CREAM has established a transdisciplinary collaboration between artists and CREAM scientists with the aim of speculating together about ways of conceptualizing time in relation with nature. The starting point was the biodiversity of the forest and its view of time as something provisional, extensive and cyclical that admits every possibility.

The artists explored, these concepts through various events called "drifts", experiences that propose going off the beaten path, in which diverse people from the fields of science, art, design, philosophy, poetry and history have participated together.

They have developed part of their research at Can Balasc biological station located in the heart of the forest of the Collserola Natural Park in Barcelona.

All their reflections have laid the groundwork for the future publication of a "Biodiverse atlas of possible moments". In this creation the artists will express their conclusions about the questioning of the accelerated pace of life and its contrast with the extensive and cyclical experience of nature.



Rosa Llop



Gemma París



APPENDICES

PUBLICATIONS

Non SCI publications

(published in journals without Impact Factor)

MOERSBERGER, H., MARTIN, JGC., JUNKER, J., GEORGIEVA, I., BAUER, S., BEJA, P., BREEZE, T., BROTONS, L., BRUELHEIDE, H., FERNÁNDEZ, N., FERNANDEZ, M., JANDT, U., LANGER, C., LYCHE, SOLHEIM, A., MAES, J., MOREIRA, F., PE'ER, G., SANTANA, J., SHAMOUN-BARANES, J., SMETS, B., VALDEZ, J., MCCALLUM, I., PEREIRA, HM., BONN, A. (2022) Europa Biodiversity Observation Network: User and Policy Needs Assessment. ARPHA Preprints. <https://preprints.arphahub.com/article/84517/>

PENUELAS, J., SARDANS, J (2022) N human inputs into the biosphere: nutrient imbalances and their impacts on environment, food security and human wellness. Proceedings of the XXI International Nitrogen Workshop. Halving nitrogen waste by 2030. 24th – 28th October 2022.

TERRADAS, J. (2022) Epidèmies: salut humana i salut ambiental. AUSA, XXX, 187-188: pp. 283-295. ISSN: 0210-5853 • ISSN-e: 2014-1246. <https://raco.cat/index.php/Ausa>

PINO I VILALTA, JOAN; BASNOU, CORINA; GORDILLO, JAVIER; MELERO, YOLANDA; ROTCHÉS, ROSER; ESPELTA MORRAL, JOSEP MARIA. (2022) «La infraestructura verda i la biodiversitat metropolitana». Papers: Regió Metropolitana de Barcelona: Territori, estratègies, planejament, 2022, Núm. 64, p. 104-116, <https://raco.cat/index.php/PapersIERMB/article/view/402339>.

Books and reports

PINO, J., FLORIDO, F., O'DRISCOLL, C., DOIMO, I., KONIJNENDIJK, C. (2022). EU Innovation Blueprint: Analysing factors influencing innovation within Urban Forestry. Erasmus + project Uforest Deliverable 3.3: EU Urban Forestry Blueprint. ISBN 9788894337839

LEDGER, S.E.H., RUTHERFORD, C.A., BENHAM, C., BURFIELD, I.J., DEINET, S., EATON, M., FREEMAN, R., GRAY C., HERRANDO, S., PULESTON, H., SCOTT-GATTY, K., STANEVA, A. AND MCRAE, L. (2022). Wildlife Comeback in Europe: Opportunities and challenges for species recovery. Final report to Rewilding Europe by the Zoological Society of London, BirdLife International and the European Bird Census Council. London, UK: ZSL. ISBN: 978-0-900881-94-7

LLORET F. (2022) La muerte de los bosques. Ed Arpa, Barcelona. ISBN 97884-18741-35-7

Book chapters

CARABASSA, V., I. RAYA, E. ÁLVAREZ, R. GONZÁLEZ, J. M. ALCAÑIZ, M. POUS (2022) ENMIENDAS ORGÁNICAS PARA LA ESTABILIZACIÓN DE TALUDES: EXPERIENCIAS PILOTO Y RESULTADOS A LARGO PLAZO, en X Simposio Nacional sobre Taludes y Laderas Inestables. Piñol, N., Hürlimann, M. (Ed.). ISBN: 978-84-123222-7-9

CARABASSA V., COLOMINA D., CORTINA J., GARCÍA R., MELERO, M., OLIET J., REY-BENAYAS J.M (2022) Estándares para la

certificación de proyectos de restauración de ecosistemas forestales mediterraneos. Sociedad Española de Ciencias Forestales. ISBN 978-84-941695-6-4 Kitzberger, T., Batllori, E., Lloret, F. (2022). Impact of Extreme Events on Terrestrial Ecosystems and Biodiversity. In: Levin S.A. (ed) Encyclopedia of Biodiversity 3rd edition Elsevier. doi:10.1016/B978-0-12-822562-2.00050-5 1

MASO, J. (2022) Geospatial Web Services. In Kresse W. and Danko D. (Eds.) Springer Handbook of Geographic Information Springer Handbooks, pp.493-530. : 2522-8692. DOI: 10.1007/978-3-030-53125-6. In Internet: <https://link.springer.com/book/10.1007/978-3-030-53125-6>

PREECE, C., GARGALLO-GARRIGA, A., SARDANS, J., ORAVEC, M., KLEM, K., URBAN, O., PEÑUELAS, J. (2022). Chapter 2 - Measuring root exudate metabolites in holm oak (*Quercus ilex*) under drought and recovery. In: Applied Environmental Metabolomics Community Insights and Guidance from the Field 2022, 48-59. Doi: 10.1016/B978-0-12-816460-0.00011-3.

Conferences

Member of the scientific committee of national and international conferences

Conference title: Session on Terrestrial ecosystem responses to global change: integrating carbon, nutrient, and water cycles in experiments and models at European Geoscience Union (EGU) general assembly. Place or format (if online): hybrid format online and in person in Vienna (Austria) Date: 22-26 May 2022. CREAM members in the scientific committee: Teresa E. Gimeno *Conference title: III Congrés d'Ornitologia de les Terres de Parla*

Catalana. Place or format (if online): Universitat de València, Burjassot, València (Spain). Date: 29, 30 and 31 October 2022 CREAM members in the scientific committee: Sergi Herrando, Sara Fraixedas

Poster contribution in national and international conferences.

ALFARO, T., RETANA, J., MARTÍNEZ-VILALTA, J. (2022), Efectos del cambio climático en los bosques templados de México, XV World Forestry Congress. Seoul, Republic of Korea. 2-6 May 2022.

BRUZZONE, L., AMODIO, A., BOVOLO, F., BROVELLI, M., CORSI, M., DEFOURNY, P., GAMBA, P., MOSER, G., OTTLÉ, C., PESQUER, L., RIFFLER, M. (2022) ESA CCI High Resolution Land Cover Products. ESA Living Planet Symposium, 23-27 May, Bonn (Germany).

CARABASSA V., OLIVA S., DOMENE X., BRANDON R., GONZÁLEZ F., REGALADO C., RITTER A., ARENCIBIA M.T., MARTEL G., MOTA A., VIERA G. (2022), Trees from the fog: restoring degraded landscapes using fog capture ecotechnologies. 12th European Conference on Ecological Restoration-SER Europe. Online. September.

CARABASSA, V., I. RAYA, E. ÁLVAREZ, R. GONZÁLEZ, J. M. ALCAÑIZ, M. POUS (2022) Enmiendas Orgánicas Para La Estabilización De Taludes: Experiencias Piloto Y Resultados A Largo Plazo, en X Simposio Nacional sobre Taludes y Laderas Inestables. 13 - 16 Septiembre de 2022, Granada

CHOWDHURY, F.I., ESPELTA, J.M., MARGALEF-MARRASE, J., JAIME, L., LLORET, F., (2022), Drought impacts the amount of lying deadwood and (dendro)habitats in *Pinus sylvestris* forests of Catalonia, EFI Mediterranean Network Forum 2022. Barcelona. 29 November – 1 December 2022.

D'ADAMO, F., ESPELTA, J.M., DE CÁCERES, M., ROCES-DÍAZ, J.V., GARCÍA-VALDÉS, R., LLORET, F., VILÀ-CABRERA, A., MARTÍNEZ-VILALTA, J. (2022), Disturbance regimes of Catalan forests (1986-2020): Who is commanding forest dynamics? EFI Mediterranean Network Forum 2022. Barcelona. 29 November – 1 December 2022.

DA SOIS, L., MARTÍNEZ-VILALTA, J., MENCUCCINI, M., CASTELLS, E. (2022) Is the leaf plant metabolism coupled with functional traits in responding to drought stress? British Ecological Society (BES) Annual Meeting 2022. Edinburgh, UK. 18 - 21 December 2022.

DA SOIS, L., MENCUCCINI, M., CASTELLS, E., SÁNCHEZ-MARTÍNEZ, P., MARTÍNEZ-VILALTA, J., (2022), Unravelling trait coordination in plant responses to drought, Multiscale Plant Vascular Biology, Gordon Research Conference. Newry, ME, United States. June 5 - 10 2022.

DÍAZ-DELGADO, R., PÉREZ-NAVARRO, M.A., LLORET, F. (2022) Drought-induced defoliation affects the climatic disequilibrium of recruit communities in Mediterranean shrubland. SFE2-GFÖ-EEF Meeting Ecology and Evolution: new perspectives and societal challenges. novembre Metz (France).

ESPELTA M, RAMÍREZ M, OLIVERAS P, PINO J, DOMENE X (2022) Soil carbon stocks increase in oak forests along an afforestation chronosequence: not only time matters. 13th European Conference on Ecological Restoration. SER Europe. 5-9 September 2022, Alicante, Spain.

ESPELTA, J.M., JAEGER, E., SELWYN, M., D'ADAMO, F., JAIME, L., LLORET, F., MARTÍNEZ-VILALTA, J., SENF C. (2022), Modelling forest ecosystem services resilience to drought and assessing its drivers in Catalonia, EFI Mediterranean Network Forum 2022. Barcelona. 29 November – 1 December 2022.

GARCIA-RAVENTÓS, A., LAPIEDRA, O., SOL, D. (2022) Behavioural decisions rather than environmental conditions explain reproductive success in a long-lived social bird. 2nd Meeting of the Iberian Ecological Society (SIBECOL), July 3-8, Aveiro (Portugal).

GROMNY, E., HAARPAINTNER, J., ALEKSANDROWICZ, S., JENEROWICZ, M., WOZNIAK, E., PESQUER, L., CHULEK, M., STARCZEWSKI, D., PAWLAK, Z. (2022) Land cover change analysis around the Mtendeli refugee camp in Tanzania. ESA Living Planet Symposium, 23-27 May, Bonn (Germany).

HERRANDO S., PINO J., BROTONS L., PLA M., POU N., BOTA G., VILLERO D., RAMON A., ORDÓÑEZ J.L., GUAL G., BEJARANO L., SINZ DE LA MAZA P. (2022). The natural heritage and biodiversity observatory of Catalonia. Alternet Conference. Ghent, June 2022.

HAMMONG, W. ET A. (INCL. MARTÍNEZ-VILALTA, J.) (2022), The global vulnerability of plant xylem, Multiscale Plant Vascular Biology, Gordon Research Conference. Newry, ME, United States. June 5 - 10 2022.

JAIME, L., BATLLORI, E., LLORET, F. (2022). Measuring forest resistance to biotic disturbances. 2nd Meeting SIBECOL. Aveiro (Portugal). July.

LLOVET A., LLURBA, R., ALJAZAIRI, S., IBAÑEZ, M., SEBASTIÀ, M.T., RIBAS, A. (2022). Links between plant sown diversity and water and nutrient use efficiency in a Mediterranean grassland. SIBECOL/ AIL meeting, Aveiro (Portugal), 3–8 July 2022.

MARGALEF-MARRASE, J., JAIME, L. MOLOWNY, R., LLORET, F. (2022) Mid-term resilience of *Pinus sylvestris* stands affected by drought-induced die-off. 2nd Meeting SIBECOL. Aveiro (Portugal). July.

MARTINS, C., AZPIAZU, C., FRANCATI, S., DINDO, M L., BOSCH, J, BURGIO, G., SGOLAstra, F.. (2022). Beyond bees: toxicity of a neonicotinoid insecticide in three dipteran pollinators. 9th European Congress of Apidology (EurBee). Belgrade, September.

MASÓ, J., MATHEUS, A., OTSU, K. (2022) Towards the Integration of interdisciplinary Citizen Science communities. ECSA Conference 2022, 6-8 Oct, Berlin (Germany).

MONTERO, P.; DOMINGO, C.; MASÓ, J.; MAZZETTI, P.; TARANTINO, C.; DORADO, B.; CARABASSA, V. (2022) Monitoring passive restoration of burned lands through remote sensing tools. 13th Conference of the European Society for Ecological Restoration. 5 – 9 Sept. 2022, Alacant

OLMO-GILABERT, R., COMAS, L., DOMENE, X., FERNÁNDEZ-MARTÍNEZ, M., RETANA, J. (2022) The Catalonia Plot System for Terrestrial Biodiversity Monitoring (SISEBIO) as a tool for the long-term assessment of global change impacts. II Meeting of the Iberian Ecological Society & XIV AEET Meeting, 2-8 July 2022, Aveiro, Portugal.

PLA FERRER, E., PASCUAL SÁNCHEZ, D., NADAL ROMERO, E., ZABALZA MARTÍNEZ, J., LASANTA, T., ARANDA, X., DE HERRALDE, F., BORRÀS CALVO, G., CANTOS FONT, G., RETANA, ALUMBREROS J., BARRANTES DÍAZ O., REINÉ VIÑALES, R., LANA-RENAULT, N., RUÍZ FLAÑO, P., GARCÍA BALAGUER, E. (2022). Alternativas para la adaptación al cambio climático y la recuperación socioeconómica de las zonas de media montaña de La Rioja, Aragón y Cataluña. Congreso Forestal Español. Lleida (Spain). 27 June – 1 July 2022.

RESENTE, G., TROUILLIER, M., ANADON-ROSELL, A., GILLERT, A., SCHARNWEBER, T., WILMKING, M. (2022) The effect of flooding on height growth and wood anatomy of pedunculate oak (*Quercus robur* L.). TRACE 2022. Erlangen (Germany), 24-27 May.

SAURA-MAS, S., PALAU, C. (2022) Retranslocation of three endangered and protected aquatic plant species in Mediterranean wetlands. 1st International Plant Translocation Conference – IPTC. June

SELWYN, M., ESPELTA, J.M., & PINO, J. (2022) Increasing tree species diversity to enhance forest resilience: A task for animal seed dispersers? EFI Mediterranean Network Forum 2022. Barcelona. 29 November – 1 December 2022

SERRAL, I., MASÓ, J., MANAKOS, I., MATERA, M., BASILE, M., JULIÀ, N. (2022) Closing the gap in Water Quality datasets for Copernicus Services. The WQeMS solution for harmonized and FAIR product. 2022 EUROGEO Annual Meeting and Conference, 7-9 Des, Athens (Greece).

SGOLASTRA, F., BOGO, G., BORTOLOTTI, L., FOCKS, A., MEDRZYCKI, P., MOLOWNY-HORAS, R., BOSCH, J. (2022). Assessing synergism and time-reinforced toxicity of an insecticide-fungicide mixture in three bee species. 9th European Congress of Apidology (EurBee). Belgrade, September.

SOLÉ, P., CARABASSA, V., ALCAÑIZ, J.M. (2022) Evaluación de las propiedades físicas y químicas de diferentes tecnosuelos de cantera usados para la restauración de hábitats mediterráneos. VII Jornades de BioRecerca. 7-10 Jun. 2022, Cerdanyola del Vallès.

Oral contribution in national and international conferences

ALBACETE, S., G. SANCHE, C. AZPIAZU, F. SGOLASTRA, A. RODRIGO, J. BOSCH. (2022). Interaction between climate change and pesticide exposure in solitary bees. XII Spanish National Congress of Applied Entomology (SEEA). Málaga, October.

ANADON-ROSELL A., CASANOVAS A., NINOT J.M., ILLA E., PÉREZ-HAASE A., KREYLING J., MARTÍNEZ-VILALTA J., WILMKING M. (2022) Sources of trait variability in clonal shrubs along elevation gradients in the Pyrenees. International Mountain Conference 2022. Innsbruck (Austria), 11-15 September

ANDRÉS, P. (2022) Knowledge co-construction in an uncertain world. Lessons learned from landscapes in crisis. Invited talk to the EIP-AGRI brokerage event "Get involved in the EU Mission: A Soil Deal for Europe" Brussels (Belgium) 8-9 June 2022

ANDRÉS, P., DOBLAS-MIRANDA, E., MATTANA, E., FONT, F. (2022) Regenerative viticulture as a tool for climate mitigation, soil fertility recovery and soil biodiversity preservation. Oral presentation. 2nd Meeting of the Iberian Ecological Society (SIBECOL). University of Aveiro. Aveiro (Portugal) July 3-6.

ANDRÉS, P., DOBLAS-MIRANDA, E., MATTANA, E., RIBAS, A., BONMATI, A., ROVIRA, P., ROMANYÀ, J. (2022). Struggling for climate neutrality in Europe: carbon sequestration as an opportunity for large scale restoration of agricultural soils. Invited side event in the 13th Conference of SER Europe. University of Alicante. Alicante (Spain), September 5-9.

ANDRÉS, P., DOBLAS-MIRANDA, E., ROVIRA, P., RIBAS, À., BONMATÍ A, ROMANYÀ J, MATTANA S. (2022) Large scale restoration of the EU agricultural soils: the opportunity of carbon farming in the post 2020 Common Agricultural Policy. Invited presentation to the workshop "Save our soils - Decision Supporting tools towards SDG's policy implementation". Horizon 2020 LANDSUPPORT Project. University Federico II Portici, Napoli (Italy) 27-28 April.

ANTON, M, HERRANDO, S, BROTONS, L. (2022). Living Planet Index for Catalonia: The role of monitoring data in the evaluation of the state of nature. 22nd Conference of the European Bird Census Council (EBCC). Lucerne, Switzerland. April.

ARNELA, M., FERRANDIZ-ROVIRA, M., FREIXES, M., GARCIA, D., MARTÍNEZ-SUQUÍA, C., PARÉS, M., SERRA, O., VIDAÑA-VILA, E., ALSINA-PAGES, R. (2022) Conscious Walk Methodology Design for Acoustic, Air Quality and Biodiversity Evaluation in Urban Environments. 9th International Electronic Conference on Sensors and Applications. Online. November

ARRIGA, N., PENUELAS, J., BRUNETTI, M., COCOZZA, C., DELL'ACQUA, A., GODED, I., MANCA, G., MATTEUCCI, M., NOCETTI, M., SCARTAZZA, A., GIOVANNELLI, A. (2022) Two decades of carbon, water and energy flux measurements at a Mediterranean forest: fluxes and tree rings comparison for *Pinus pinaster* Ait. and *Pinus pinea* L. AGU Fall meeting, Chicago, USA, 12-16 December, 2022.

AZPIAZU C., S. HINAREJOS, G. SANCHO, S. ALBACETE, F. SGOLASTRA, C. MARTINS, X. DOMENE, A. RODRIGO, J. BOSCH. (2022) A method to feed solitary bees (*Osmia* spp.) in toxicology laboratory experiments. XII Spanish National Congress of Applied Entomology (SEEA). Málaga, October.

BACHOFEN, C., POYATOS, R., FLO, V., MARTÍNEZ-VILALTA, J., MENCUCCHINI, M., GRANDA, V., GROSSIORD, C. (2022). Adjustments of European tree populations to stand structure and climate drives their transpiration sensitivity to soil and atmospheric drought. Ecological Society of America -Canadian Society for Ecology and Evolution Conference, 14-19 Aug 2022, Montreal, Canada.

BADIA, A., SEGURA, R., VENTURA, S., PEÑUELAS, J., VILLALBA, G. (2022) How green infrastructures impact on urban air quality over Barcelona. 13th International Conference on Air Quality - Science and Application. Thessaloniki, Greece. 27 June - 1 July 2022.

BLANCO-SÁNCHEZ, M., RAMÍREZ-VALIENTE, J.A., RAMOS-MUÑOZ, M., PÍAS, B., FRANKS, S.J., ESCUDERO, A., MATESANZ, S. 2022. Adaptive population differentiation is linked to local climate in populations of a gypsum specialist across its range. MEDECOS XV International Conference. Cape Town, South Africa.

BRIGHT, R.M., MIRALLES, D.G., POYATOS, R., EISNER, S. (2022) A critical evaluation of simple, flexible, and scalable models of daily transpiration in forested biomes. EGU General Assembly 2022, 23-27 May, Vienna, Austria.

CAILLERET, M., VEUILLIN, L., MARTIN, N., SIMONI, G., ROBERT, E., DE SOTO, L., JANSEN, S., MARTÍNEZ-VILALTA, J. (2022) Drought impacts on tree annual growth, vitality, and mortality risk, SFE2, GfÖ & EEF Joint Meeting – International Conference on Ecological Sciences. Metz, France. 21–25 November 2022.

CARABASSA V., COLOMINA D., CORTINA J., GARCÍA R., MELERO, M., OLIET J., REY-BENAYAS J.M. (2022) Estándares para la certificación de proyectos de restauración de ecosistemas forestales mediterráneos. VIII Congreso Forestal Español. 27 Jun. – 1 Jul. 2022, Lleida

CARABASSA, V., I. RAYA, E. ÁLVAREZ, R. GONZÁLEZ, J. M. ALCAÑIZ, M. POUS (2022) Enmiendas Orgánicas Para La Estabilización De Taludes: Experiencias Piloto Y Resultados A Largo Plazo, en X Simposio Nacional sobre Taludes y Laderas Inestables. 13 - 16 Septiembre de 2022, Granada

CARABASSA, V., M. POUS, E. ÁLVAREZ, R. GONZÁLEZ, I. RAYA, J. M. ALCAÑIZ (2022) Technosols for slope stabilization and ecosystem services maximization: pilot experiences and long-term results. 13th Conference of the European Society for Ecological Restoration. 5 – 9 Sept. 2022, Alacant

CATALAN, J. ZUFIAURRE, A., FELIP, M., GIMÉNEZ-GRAU, P., PLA-RABÉS, S., CAMARERO, L. Seasonality enhances protist coexistence in planktonic oligotrophic communities. SIL 100. 36th SIL Congress. International Limnology Society. Berlin, 7–10 August 2022.

CHOWDHURY, F.I., BHUIYAN, R.H., DILSHAD, T., (2022), Forest landscape restoration improves tree coverage in Bangladesh's

Kutupalong Rohingya refugee camps, page 32, ALL-IUFRO Conference. Vienna, Austria. 21 – 23 September 2022.

DECHANT, B., PAVLICK, R., KATTGE, J., SCHNEIDER, F.D., BUTLER, E.E., MORENO, A., VAN BODEGOM, P., LEITÃO, P.J., PRENTICE, I.C., VALLICROSA, H., REICH, P.B., CAVENDER-BARES, J. (2022) Quantifying the global representativeness of foliar trait observations: current state and future potential. AGU Fall meeting, Chicago, USA, 12–16 December, 2022.

DESCALS, A., VERGER, A., YIN, G., BÓRNEZ, K., FILELLA, I., PEÑUELAS, J. (2022). Reducing uncertainties in land surface phenology for improved modelling of vegetation-climate dynamics. Living Planet Symposium 2022. May 23–27, 2022, Bonn, Germany

DOMINGO-MARIMON, C., CARABASSA, V., MASÓ, J., SERRAL, I. (2022) Remote Sensing solutions for monitoring Natural Based Solutions in drylands. 2022 EUROGEO Annual Meeting and Conference, 7–9 Dec, Athens (Greece).

FERNÁNDEZ-MARTÍNEZ, M., PEÑUELAS, J., CHEVALLIER, F., CIAIS, P., OBERSTEINER, M., RÖDENBECK, C., SARDANS, J., VICCA, S., YANG, H., SITCH, S., FRIEDLINGSTEIN, S., ARORA, S.K., GOLL, D.S., JAIN, A.K., LOMBARDOZZI, D.L., MCGUIRE, P.C., JANSSENS, I.A. (2022). Climate change and the destabilisation of global land carbon sinks. SIBECOL – AIL Meeting 2022. 2nd Meeting of the Iberian Ecological Society (SIBECOL), XXI conference of the Iberian Association of Limnology (AIL), 21st National Congress of the Portuguese Ecological Society (SPECO). Aveiro, Portugal 3rd– 8th July, 2022.

FERNÁNDEZ-MARTÍNEZ, M., PREECE, C., CORBERA, J., CANO, O., GARCIA-PORTA, J., SARDANS, J., JANSSENS, I.A., SABATER, F., PEÑUELAS, J. (2022). On the influence of evolutionary history, environment and species coexistence on bryophyte elemental composition. SIBECOL – AIL Meeting 2022. 2nd Meeting of the Iberian Ecological Society (SIBECOL), XXI conference of the Iberian Association of Limnology (AIL), 21st National Congress of the Portuguese Ecological Society (SPECO). Aveiro, Portugal. 3rd– 8th July, 2022.

FERNÁNDEZ-MARTÍNEZ, M., PEÑUELAS, J., CHEVALLIER, F., CIAIS, P., OBERSTEINER, M., RÖDENBECK, C., SARDANS, J., VICCA, S., YANG, H., SITCH, S., FRIEDLINGSTEIN, S., ARORA, S.K., GOLL, D.S., JAIN, A.K., LOMBARDOZZI, D.L., MCGUIRE, P.C., JANSSENS, I.A. (2022). Are global carbon sinks destabilising? 64th annual symposium of the International Association of Vegetation Science. Madrid, Spain. ECOSTAB special session, 27th June – 1st of July, 2022.

FERNÁNDEZ-DE-UÑA, L., MARTÍNEZ-VILALTA J., McDOWELL N.G., POYATOS R. (2022), Height-related sap-flow responses to VPD: a global-scale analysis of tree function under drought, Xylem International Meeting (XIM5). Würzburg, Germany. September 19-21 2022.

FERRANDIZ-ROVIRA, M., SERRA, O., NOYA, J., GARCÍA, D., PARÉS, ME. Hotspot detection of transformation opportunities for both biodiversity and people in three school neighborhoods in Barcelona (2022). Urban transitions. Sitges. November.

FRAIXEDAS, S. (2022). Importància del mostreig espacial per a la determinació de l'abundància i distribució poblacional d'aus. Plenay talk at III Congrés d'Ornitologia de les Terres de Parla Catalana. València (Spain). October.

FUCHSLUEGER, L., RANITS, C., LUGLI, L., FERNANDEZ, P.R., VALLICROSA, H., VAN LANGENHOVE, L., VERRYCKT, L., RAMIREZ-ROJAS, I., BRÉCHET, L., STAHL, C., ASENSIO, D., LLUSIÀ, J., CANARINI, A., MARTIN, V., VERBRUGGEN, E., PEÑUELAS, J., RICHTER, A., JANSSENS, I., AND THE IMBALANCE P TEAM. (2022) Phosphorus additions increase microbial phosphorus accumulation and carbon turnover in tropical soils in French Guiana. ATBC conference, Cartagena, Colombia, 10-14 July, 2022.

GIMENO, T. E., MORENO-MATEOS, D., MATESANZ, S., FANIN N., WINGATE L., PORRAS J., RODRÍGUEZ-UÑA A. (2022) Changes in the composition of ectomycorrhizal fungal communities and the water uptake of European beech forests across a natural precipitation gradient. European Geoscience Union (EGU) General Assembly, Viena (Austria) & Online. May

GOLL, D., CIAIS, P., TANAKA, K., AMANN, T., HARTMANN, J., VICCA, S., JANSSENS, I.A., PENUELAS, J., OBERSTEINER, M., CHANG, J., LI, W., ELKER, S., BUERMANN, W. (2022). Carbon dioxide removal from enhanced weathering by ecosystem responses topowdered rock. 2ndInternational Conference on Negative CO2EmissionsJune 14-17, 2022, Chalmers University of Technology, Gothenburg, Sweden.

GRAU, O., ET AL. (2022) Biogeochemical responses of plants, soils and microbes to permafrost degradation in a subarctic peatland. SessionCR5.2–Thawingpermafrost - stabilization versus decomposition of organic matter?EGU22-747. Vienna , Austria, 3–8 April 2022.

GROMNY, E., HAARPAINTNER, J., ALEKSANDROWICZ, S., JENEROWICZ-SANIKOWSKA, M., WOŹNIAK, E., PESQUER MAYOS, L., CHULEK, M., STARCZEWSKI, D., PAWLAK, Z.(2022) Analiza zmian pokrycia terenu wokół obozu uchodźców Mtendeli w Tanzanii. XXV Ogólnopolska Konferencja Fotointerpretacji i Teledetekcji. Online, 28-30 November

GUERRIERI, R., MATTANA, S., CALÍZ, J., BARCEL, A., CASAMAYOR, E., ELUSTONDO, D., HELLSTEN, S., MATTEUCCI, G., MERILA, P., MICHALSKI, G., NICOLAS, M., THIMONIER, A., VANGUELOVA, E., VERSTRAETEN, A., WALDNER, P., WATANABE, M., PEÑUELAS, J., MENCUCINI, M. (2022). Occurrence of nitrification in tree canopies of European forests as proved by oxygen isotope and metabarcoding analyses. XIII Congresso Nazionale SISEF, Alberi-Foreste-Biodiversità: dal New Green Deal alla Farm to Fork Strategy. Orvieto (TR), 20-22 Febbraio 2022

HERRANDO, S. (2022). Canvis en la distribució i evolució de les poblacions d'ocells a Europa i a la Mediterrània. Plenay talk at III Congrés d'Ornitologia de les Terres de Parla Catalana. València (Spain). October.

HERRANDO, S. (2022). Hasiera emateko hitzaldia: Hegaztien atlasen ezaugarriak, aplikazioak eta eboluzioa. Características, aplicaciones y evolución de los atlas de aves. Conferencia inaugural del III Congreso Ornitológico de Euskadi. Donostia (Spain). November.

HERRANDO, S., FRAIXEDAS, S., VOŘÍŠEK, P., KELLER, V., BROTONS, L., MARTÍ, D., STANEVA, A. & BURFIELD, I. (2022). Towards improved population estimates: comparing abundance data from the European Breeding Bird Atlas 2 with estimates from the European Red List of Birds. 22nd Conference of the European Bird Census Council (EBCC). Lucerne, Switzerland. April.

JENEROWICZ-SANIKOWSKA, M., WOŹNIAK, E., GROMNY, E., DOMINGO-MARIMON, C., FOKS-RYZNAR, A., RUCIŃSKI M, KRUPIŃSKI M, ALEKSANDROWICZ S, PESQUER MAYOS L. (2022) Kartowanie Typów Funkcjonalnych Ekosystemów w Afryce Środkowej z wykorzystaniem danych radarowych Sentinel-1 . XXV Ogólnopolska Konferencja Fotointerpretacji i Teledetekcji. Online, 28-30 November

JENEROWICZ-SANIKOWSKA, M., WOZNIAC, E., GROMNY, E., DOMINGO-MARIMON, C., FOKS-RYZNAR, A., RUCINSKI, M., KRUPINSKI, M., ALEKSANDROWICZ, S., PESQUER, L. (2022) Mapping Ecosystem Functional Types in Central Africa using radar Sentinel-1 data.

Jacek Wolski, Edyta Regulska, Andrzej Affek (Eds.) IGI PAN, Warsaw. IALE 2022 European Landscape Ecology Congress, 11-15 Jul, Warsaw (Poland) + online.

JUNTILA, S., DESCALS, A., FILELLA, I., PEÑUELAS, J., SAARINEN, N., BRANDT, M., WIGNERON, J.P., VASTARANTA, M., (2022). Quantifying global vegetation water content dynamics of forest biomes using L- and X-band vegetation optical depth. ForestSAT 2022, August 29 – September 3, Berlin, Germany (oral).

KONINGS, A. ET AL. (INCL. MARTÍNEZ-VILALTA J.) (2022), Detecting Forest Response To Drought With Microwave Observations Of Vegetation Water Content, 4th Carbon from Space 2022. Frascati, Italy. 25 - 28 October 2022 (hybrid event).

KRÖEL-DULAY, G., MOJZES, A., SZITÁR, K., BAHN, M., BATÁRY, P., BEIER, C., BILTON, M., DE BOECK, H.J., DUKES, J.S., ESTIARTE, M., HOLUB, P., JENTSCH, A., KAPPEL SCHMIDT, I., KREYLING, J., REINSCH, S., STEENBERG LARSEN, K., STERNBERG, M., TIELBÖRGER, K., TIETEMA, A., VICCA, S., PEÑUELAS, J. (2022) Field experiments underestimate aboveground biomass response to drought. Frontiers in experimental research on changing environments. 7-9 July, Leipzig / Bad-Lauchstädt, Germany.

LERNER, D., FERNANDEZ MARTINEZ, M., LIVNE-LUZON, S., BELMAKER, J., PEÑUELAS, J., KLEIN, T. (2022). The global drivers of tree range-edge hotspots. IBS Vancouver 2022, January 8-12, 2022.

LIU, D., ZHANG, C., OGAYA, R., PEÑUELAS, J. (2022). Intensification of experimental climate and nitrogen addition on the sensitivity of shrubland communities globally. Session BG3.4 – Terrestrial ecosystem responses to global change: integrating experiments and models to understand carbon, nutrient, and water cycling. EGU22-747. Vienna , Austria, 3–8 April 2022.

LLOVET A., LLURBA, R., ALJAZAIRI, S., IBAÑEZ, M., MATTANA, S., SEBASTIÀ, M.T., RIBAS, A. (2022). Potential role of plant diversity in optimising nitrogen cycling in a Mediterranean grassland. N workshop, Madrid (Spain), 24–28 October 2022.

LLORET, F., HURTADO, P. (2022) An operational framework to assess and promote resilience: application in forest social-economical systems. 2nd Meeting SIBECOL. Aveiro (Portugal) July (Invited Oral Communication).

LLORET, F., HURTADO, P., JAIME, L., ESPELTA, J.M. (2022) An operational framework for unifying the study and the implementation of resilience in ecological systems. SFE2-GFÖ-EEF Meeting Ecology and Evolution: new perspectives and societal challenges. Novembre. Metz (France).

MARAÑÓN-JIMÉNEZ S., VERBRUGGEN E. (2022). Proposal of a joint and “minimal” design for a transplantation experiment in ForHot. FutureArctic/ForHot 2022 Annual Workshop. Reikiavik (Iceland) October

MARCEY, A., CHAPMAN, A.D., WIECZOREK, J.R., PICÓ, F.X., URIBE F., WALLER J. AND ARIÑO A.H. Spatial uncertainty in data from Natural History Collections as mediated by GBIF. Implications for ecological research. Through the door and through the web: releasing the power of natural history collections onsite and online. Society for the Preservation of Natural History Collections. Edinburgh, Scotland, UK. June 5-10, 2022

MARGALEF, O., ET AL. (2022). Late Holocene permafrost development triggers hydrological and geochemical changes in subarctic peatlands (Abisko, 68°N). SSP2.4 – Polar climate and environmental change throughout geological time. EGU22-747. Vienna, Austria, 3–8 April 2022.

MARTÍNEZ-VILALTA, J. (2022), Connecting Water Use and Drought Response Strategies With Vulnerability to Drought-induced Mortality, AGU Fall Meeting. Chicago (USA). 12-16 December 2022.

MATHEUS, A., OTSU, K., AND MASÓ, J. (2022) Towards an Interdisciplinary Citizen Science Interoperable Service in EOSC. EGI Conference. Prague (Czechia), 19-23 September.

MATHEUS, A., OTSU, K., AND MASÓ, J. (2022) Towards an Interdisciplinary Citizen Science Interoperable Service in

EOSC. EOSC Symposium. Prague (Czechia), 14-17 November

MATHEUS, A., OTSU, K., MASÓ, J. (2022) Best Practice for using SensorThings API with Citizen Science. 123rd OGC Member Meeting, 13-17 June, Madrid (Spain).

MATTANA S, LLOVET A, CHIN-PAMPILLO J, MONDINI C, ALCAÑIZ JM, DOMENE X, RIBAS A (2022) Gasifier biochar long term effect on N cycling genes and GHGs emission in Mediterranean agroecosystem. II Meeting of the Iberian Ecological Society & XIV AEET Meeting, 2-8 July 2022, Aveiro, Portugal.

MENDOZA, G. & CATALAN, J. Lake density across altitude shapes macroinvertebrate biodiversity in mountain areas. SIL 100. 36th SIL Congress. International Limnology Society. Berlin, 7-10 August 2022.

MIGGLIACCA, M., ET AL. (2022) The major axes of terrestrial ecosystem functions derived from ecosystem scale flux observations. EGU22-747. Vienna, Austria, 3–8 April 2022. Miralles, D.G., Koppa, A., Rains, D., Hulsman, P., Poyatos, R. (2022) A hybrid model of global land evaporation. EGU General Assembly 2022, 23-27 May, Vienna, Austria.

MONTERO, P.; ALCAÑIZ, J.M., CARBONELL, X., MESTRES, J.M., MARCO, C., CARABASSA, V. (2022) Comparison between active and passive restoration in extractive activities. 13th Conference of the European Society for Ecological Restoration. 5 – 9 Sept. 2022, Alacant

MU, Z., LLUSIÀ, J., ZENG, J., ZHANG, Y., ASENSIO, D., YANG, K., YI, Z., WANG, X., PEÑUELAS, J. (2022) An Overview of the Isoprenoid

Emissions from Tropical Plants. (2022) Asia Oceania Geosciences Society. 1-5 August, 2022. (on line)

OLMO-GILABERT R, COMAS L, RETANA J, FERNÁNDEZ-MARTÍNEZ M, DOMENE X (2022) Biodiversity spatial patterns in key soil organisms as influenced by abiotic drivers using DNA metabarcoding in Catalonia. II Meeting of the Iberian Ecological Society & XIV AEET Meeting, 2-8 July 2022, Aveiro, Portugal.

OTSU, K., AND MASÓ, J. (2022) Could AI replace human intelligence? A systematic review on citizen science. ECSA Conference 2022. Berlin (Germany), 6-8 October

PASCUAL SÁNCHEZ, D., PLA FERRER, E., RETANA ALUMBREROS, J. (2022). Experiencias de gestión forestal adaptativa para reducir la vulnerabilidad del bosque a los impactos del cambio climático. Congreso Forestal Español. Lleida (Spain). 27 June – 1 July 2022.

PEAUCELLE, M., SABATE GIL, C., PEÑUELAS, J., VERBEECK, H., GISLER, J., VITASSE, Y. (2022) Uncertainties in predicting budburst timing when using local or gridded temperature compared to bud tissue temperature. PHENO-2022, Phenology at the crossroads. 20-24 June, Avignon, France.

PEGUERO, G.,...PENUELAS, J. (2022). Nutrient scarcity strengthens soil fauna control over leaf litter decomposition in tropical rainforests. SSS4.2 - Embracing the role of soil fauna in biogeochemical cycling. EGU22-747. Vienna, Austria, 3-8 April 2022.

PENUELAS, J. (2022) Remote Sensing of land cover, biodiversity and greenhouse

gas exchange in wetlands. ALFAwetlands kick off meeting, Wetland restoration for the future. 14.-15.6.2022, Luke, Helsinki, Finland.

PENUELAS, J. (2022). Recent global decline in the effects of CO₂ and nitrogen fertilization on vegetation growth. XVII FISV Congress 3R: Research, Resilience, Reprise Reggia di Portici (Naples), Italy. 14-16 September 2022. Key general conference.

PENUELAS, J. (2022). Those other elements: carbon and nitrogen interactions with phosphorus. Sustainable Phosphorus Alliance, May 10th, 2022. (on line)

PENUELAS, J. (2022)sTRAITS: Integrating in-situ, upscaled and air- and spaceborne observations of plant traits. 07 - 10 June 2022. iDiv, Puschstraße 4, 04103 Leipzig (on line)

PENUELAS, J., SARDANS. N human inputs into the biosphere: nutrient imbalances and their impacts on environment, food security and human wellness. XXI International N Workshop, Madrid, 24th- 28th October 2022. Invited conference

PEÑUELAS, J. (2022) Chair of the Session 1: FutureArctic ESR mini-conference – part I. The FutureArctic/ForHot 2022 Annual Workshop. "Joint Ecosystem Assessment on the Effects of Natural Soil Warming and N-input Manipulation on Subarctic Grasslands and Forests". Reykjavik, Iceland. In situ 10-14 Oct 2022

PÉREZ-NAVARRO, M.A., LLORET, F., MARTINEZ-VILALTA, J. ESPELTA, J.M. (2022) Multifunctional approaches to assess forest plantations success: The case of pine plantations in Spain. 2nd Meeting SIBECOL. Aveiro (Portugal). July.

PÉREZ-NAVARRO MA, LLORET F, PINO J, ESPELTA JM. (2022) Being in or out the climatic niche influences the performance of Pinus plantations in Spain. 13th SERE CONFERENCE. Alacant, Sept. 2022.

PERIS-MORENTE, E., ANTON, M., HERRANDO, S., BURGAS, D. (2022). A new project to monitor forest-dwelling raptors in

Catalonia – A methodological approach. 22nd Conference of the European Bird Census Council (EBCC). Lucerne, Switzerland. April.

PESQUER, L., DOMINGO-MARIMON, C., BROEKMAN, A., DE STEFANO, L., NINYEROLA, M. (2022) Co-designing climate services for drought management in the Guadalquivir River Basin. EGU22-13425. DOI: 10.5194/egusphere-egu22-13425. <https://doi.org/10.5194/egusphere-egu22-13425>. EGU General Assembly 2022, 23-27 May, Vienna (Austria).

PESQUER, L., DOMINGO-MARIMON, C., ESPELTA, JM., PINO, J. (2022) Spatio-temporal analysis of Ecosystem Functional Types in relation to land cover changes. Jacek Wolski, Edyta Regulaska, Andrzej Affek (Eds.) IALE 2022 European Landscape Ecology Congress. Book of Abstracts (pp. 146), IGI-PZ PAN, Warsaw. IALE 2022 European Landscape Ecology Congress, 11-15 Jul, Warsaw (Poland) + online.

PINO, J., PALMERO-INIESTA, M., PADIAL-IGLESIAS, M., GONZÁLEZ-GUERRERO, O., PESQUER, L., DOMINGO-MARIMON, C., NINYEROLA, M., PONS, X., ESPELTA, JM. (2022) The role of recent (1985-2014) patterns of land abandonment and environmental factors in forest establishment and growth of secondary forest in the Iberian Peninsula. Jacek Wolski, Edyta Regulaska, Andrzej Affek (Eds.) IALE 2022 European Landscape Ecology Congress. Book of Abstracts (pp. 148), IGI-PZ PAN, Warsaw. IALE 2022 European Landscape Ecology Congress, 11-15 Jul, Warsaw (Poland) + online.

POYATOS, R., FATECHA, B., FLO, V., GRANDA, V., DE CÁCERES, M., ANDEREGG WRL., BITTENCOURT, P.B., FISHER, R., JUNTILA, S., KONINGS, A., MIGLIAVACCA, M., MIRALLES, D.G., NELSON, J., NOVICK, K., ROWLAND, L., MENCUCCINI, M., MARTÍNEZ-VILALTA J. (2022). Tree water use resilience from sap flow data: towards a characterisation of tree drought responses in their temporal context. 5th Xylem International Meeting, Würzburg, Germany, 19-21 Sep 2022.

POYATOS, R., MARTÍNEZ-VILALTA, J. (2022), Potential and challenges of sap flow monitoring, Tree Net 10-year

anniversary conference: Forest growth research - state of the art and future perspectives. Bad Bubendorf, Switzerland. 27-28 June 2022.

PRAT, E., MASÓ, J., DOMINGO-MARIMON, C., GAYA, G., GUZMÁN, P., SERRAL, I., GIRALT, B. (2022) FenoTwin: the Digital Twin of phenology. PHENOLOGY 2022, 20-24 Jun, Avignon (France).

RAMÍREZ-VALIENTE, J.A. Phenotypic plasticity of hydraulic traits in a global change context. 2022. Xylem International Meeting (XIM5). Würzburg, Germany. Xylem International Meeting (XIM5). Würzburg, Germany. September 19-21 2022. Invited keynote talk.

RAMOS-MUÑOZ, M., BLANCO-SÁNCHEZ, M., PÍAS, B., RAMÍREZ-VALIENTE, J.A., BENAVIDES, R., ESCUDERO, A., MATESANZ, S. 2022. Is population differentiation and plasticity to drought affected by the co-occurrence of warming and competition in a dominant gypshophile? MEDECOS XV International Conference. Cape Town, South Africa. September 5-9 2022.

RAO, M.P., PACHECO-SOLANA A, GRIFFIN KL, JENSEN J, PEDERSON N, ORYAN B, NIXON T, RODRÍGUEZ-CATÓN M, ANDREU-HAYLES L, HISE J, PEÑUELAS J, MAGNEY T, ET AL. (2022) When do oak trees grow?. AGU Fall meeting, Chicago, USA, 12-16 December, 2022.

RODRÍGUEZ-MIRET, X., PELLETIER, E., FELIP, M. CATALAN, J. Cell molecular bases of freshwater diatoms segregation along pH gradients: an experimental approach. SIL 100. 36th SIL Congress. International Limnology Society. Berlin, 7-10 August 2022.

ROTCHÉS-RIBALTA, R., BASNOU, C., FUENTES, L., MELERO, Y., RIERA, M., PINO, J. (2022) Trends of biological invasions in Catalonia: 12 years of EXOCAT. Oral presentation. 2nd Meeting of the Iberian Ecological Society (SIBECOL) & 14th Meeting of the AIL. University of Aveiro. Aveiro (Portugal). 3-6 July 2022.

SANCHEZ-MARTINEZ, P., ACKERLY, D., MENCUCCINI, M., MARTÍNEZ-VILALTA, J., DEXTER, K., DAWSON, T. (2022), A unified framework to study trait syndromes evolution and perform data imputations at different scales, British Ecological Society (BES) Annual Meeting 2022. Edinburgh, UK. 18 - 21 December 2022.

SANCHO, G., S. ALBACETE, C. AZPIAZU, F. SGOLAstra, A. RODRIGO, J. BOSCH. (2022). A phototactic method to evaluate sublethal pesticide effects in solitary bees. XII Spanish National Congress of Applied Entomology (SEEA). Málaga, October.

SAURA-MAS, S., PALAU, C. (2022) Translocació de flora amenaçada i protegida en zones humides mediterrànies amb una durada. Jornada PATT Reintroducció de flora amenaçada: claus per a l'èxit. Octubre

SELWYN, M., ESPELTA, J.M., & PINO, J. (2022) Tree species diversity increase in Catalan forests is associated to forest history, connectivity, and management. 13th SERE Conference. Society for Ecological Restoration. 5-9 September 2022

SERRAL, I., MASÓ, J., JULIÀ, N., MANAKOS, I., MILIS, G., PESQUER, L. (2022) Applying water requirements into metadata in the era of SDGs and Essential Variables: semantics, quality parameters and discoverability in the

GEM+. EGU General Assembly 2022 Conference Abstracts: EGU22-5490. DOI: 10.5194/egusphere-egu22-5490. <https://doi.org/10.5194/egusphere-egu22-5490>. EGU General Assembly 2022, 23-27 May, Vienna (Austria).

SÖLLINGER, A., ET AL. (2022) Physiological responses of soil microorganisms to weeks, years, and decades of soil warming. SSS4.5 - Soil microbial responses to environmental stress and climate change. EGU22-747. Vienna, Austria, 3-8 April 2022.

VÁCLAVÍK, T., BECKMANN, M., BEDNÁR, M., BRDAR, S., CORD, A., DOMINGO-MARIMON, C., GOSAL, A., LANGERWISCH, F., PAULUS, A., ZIV, G. (2022) Farming system archetypes for modelling impacts of agricultural policies. Jacek Wolski, Edyta Regulaska, Andrzej Affek (Eds.) IALE 2022 European Landscape Ecology Congress. Book of Abstracts (pp. 282), IGI PAN, Warsaw. IALE 2022 European Landscape Ecology Congress, 11-15 Jul, Warsaw (Poland) + online.

VOŘÍŠEK, P., HERRANDO, S., KALYAKIN, M., KELLER, V. (2022). How to fill the geographical gaps in a coverage of Europe by generic bird monitoring schemes?, 22nd Conference of the European Bird Census Council (EBCC). Lucerne, Switzerland. April.

WERNER, M., MASI, I., EMERTON, R., PECHLIVANIDIS, I., SCHAAFSMA, M., PESQUER, L., DI BALDASSARE, G., VAN DEN HOMBERG, M., BAGLI, S., GAMTKITSULASHVILI, M., DE STEFANO, L., GRÄLER, B., BELA, G., TZIMAS, A. (2022) I-CISK: Towards a social and behaviourally informed approach to co-producing climate services. EGU22-10661. DOI: 10.5194/egusphere-egu22-10661. <https://doi.org/10.5194/egusphere-egu22-10661>. EGU General Assembly 2022, 23-27 May, Vienna (Austria).

WERNER, M., MASI, I., EMERTON, R., PECHLIVANIDIS, I., SCHAAFSMA, M., PESQUER, L., DI BALDASSARE, G., VAN DEN HOMBERG, M., MAZZOLI, P., GAMTKITSULASHVILI, M., DE STEFANO, L., GRÄLER, B., BELA, G., TZIMAS, A. (2022) Seaming together a patchwork of knowledges: toward coproducing social and behaviourally informed climate services. EMS Annual Meeting Abstracts Vol. 19, EMS2022-536. EMS Annual Meeting 2022, 4-9 Sep, Bonn (Germany).

YÁÑEZ-SERRANO, A.M., SECO, R., FILELLA, I., LLUSIA, J., PEÑUELAS, J., PORTILLO-ESTRADA, M., JANSSENS, I., PEREZ, N., VIA, M., CANNALS, A., QUEROL, X., ALASTUEY, A.(2022)Online long term observations of Volatile organic compounds in the Iberian Peninsula. ACTRIS Science Conference, 11-13 may (on line).

ZHANG, G., MAO, Z., MAILLARD, P., BRANCHERIAU, L., GÉRARD, B., ENGEL, J., FORTUNEL, C., HEURET, P., MAEGHT J-L., MARTÍNEZ-VILATA J., STOKES A. (2022), Trade-offs among hydraulic, mechanical and storage traits in stem and root xylem across tree species and climates, Annual Meeting of the Society for Tropical Ecology. Montpellier, France. June 7-9 2022.

ZHANG, W., JUNG, M., MIGLIAVACCA, M., POYATOS, R., MIRALLES, D.G., EL-MADANY, T., CARVALHAIS, N., REICHSTEIN, M., NELSON, J.A. (2022) Implications of underestimated eddy covariance evapotranspiration at high relative humidity for partitioning into transpiration and evaporation. EGU General Assembly 2022, 23-27 May, Vienna, Austria.

ZUCCARINI, P. ET AL. (2022) Drivers and dynamics of the timing of foliar senescence in temperate deciduous forest trees at their southern limit of distribution in Europe. SFE2-GfÖ-EEF joint meeting, Ecology and Evolution: New perspectives and societal challenges. Metz, France, 21-25 November 2022 (oral).

Datasets and software

MOSQUERA, P.V.; HAMPEL, H.; VÁZQUEZ, R.F.; CATALAN, J.(2022) Cajas Lake Chemistry Data – Survey 2014-2015. Zenodo. <https://doi.org/10.5281/zenodo.6506282>.

Outreach publications (remember there is an impact section with a specific section for guidelines, reports and technical documents. Here we ask only for outreach)

BANQUÉ, M., BARBA, J., FLORIDO, F., VILÀ, A. (2022). Què és un refugi climàtic? Guia per a l'Escola J.M. Peramàs de Mataró dins el Projecte Magnet de la Fundació Bofill.

CASANOVAS-BERENGUER, R., PEÑUELAS, J. (2022). Primavera avanzada: consecuencias del cambio climático en los árboles- Advanced springs: consequences of the climate change in trees. UABdivulga

CANTOS G., MUÑOZ J., PASCUAL D., BORRÀS G (2022)Coneixem els riscos que produeix el canvi climàtic en zones de muntanya mitjana?. Prismatic Leaflet. <http://www.prisma-tic.cat/projectes/coneixem-els-riscos-que-produeix-el-canvi-climatic-en-zones-de-muntanya-mitjana>

HURTADO, P., ESPELTA, J.M., LLORET, F., 2022. Deliverable 1.1. Inventory of forest resilience indicators and metrics reported in the literature with an assessment on their applicability to RESONATE case studies. Horizon 2020 project RESONATE, project no. 101000574, European Forest Institute.

LLORET, F. (2022) “La muerte de los bosques”, nou llibre de Francisco Lloret. Uabdivulga. <https://www.uab.cat/web/detall-de-noticia/la-muerte-de-los-bosques-nou-llibre-de-francisco-lloret-1345469002000.html?noticiaid=1345862181326>

LLORET, F. (2022) La muerte de los bosques. Ethic. <https://ethic.es/2022/06/la-muerte-de-los-bosques-arboles-francisco-lloret-arpa/>

MARTÍNEZ-VILALTA, J. ROSAS, T., MENCUCCINI, M. (2021), La predicció del futur dels boscos a canvis en el clima. UABdivulga 17/02/2022.

NAKHLE, P., PASCUAL, D. (2022) Montclima: Prevention and management of natural risks. Stories of European cooperation - Youngsters building together a better Europe. Pp-18-21. Valencia.

PINO J. (2022). Urban Forests: nature in a small pot. <https://www.uforest.eu/news/insights/barcelona-green-infrastructure/>

PINO J., ESPELTA J.M., PLANA E. (2022). El paisatge del futur, nous equilibris bosc/ agricultura. Dossier Tècnic 120: "Canvi climàtic i la seva incidència en el sector primari", Pp 28-32. DACC.

ROTCHÉS-RIBALTA, R. (2022). Com planificar la gestió d'espècies invasores? Nous manuals de l'EXOCAT. Cafè prismàtic. 10 de maig.

SAURA-MAS, S. (2022). Acció Climàtica impulsa un projecte per recuperar tres espècies de flora de les comarques gironines en perill d'extinció. Desembre

SAURA-MAS, S. (2022). Bioblitz UAB: Ciencia ciudadana para conocer la biodiversidad del campus. UAB notícies. Juny

SAURA-MAS, S. (2022). El Cap de Creus cuadriplica en un año los ejemplares de una planta en peligro de extinción. La Vanguardia

SAURA-MAS, S. (2022). Impulsen la recuperació de tres plantes en perill d'extinció a l'Empordà. L'Empordà. Desembre

SAURA-MAS, S. (2022). La presencia de una planta en peligro se cuadruplica en el Cabo de Creus (Gerona). Agencia EFE.

SAURA-MAS, S. (2022). Severe Drought, Heat Upended Research This Summer Researchers scramble to adapt as bouts of severe heat and aridity increasingly become the norm. The Scientist

SAURA-MAS, S. (2022). Una planta en extinció al cap de Creus es refà. El punt Avui

TERRADAS, J. (2022) Adéu a un amic: en la mort d'Antoni Escarré. <https://blog.creaf.cat/noticies/adeu-al-amic-antoni-escarre/> <https://blog.creaf.cat/es/noticias/adios-al-amigo-antonio-escarre>

TERRADAS, J. (2022) Els boscos en l'Antropocè. Muntanya, 940: 58-67.

TERRADAS, J. (2022) Epidèmies: salut humana i salut ambiental. AUSA, XXX, 187-188: pp. 283-295. ISSN: 0210-5853 • ISSN-e: 2014-1246. <https://raco.cat/index.php/Ausa>

TERRADAS, J. (2022) La vida, com es fa? <https://blog.creaf.cat/coneixement/la-vida-com-es-fa/> <https://blog.creaf.cat/es/conocimiento/la-vida-como-se-hace/>

TERRADAS, J. (2022) Mirades filosòfiques sobre l'Antropocè. <https://blog.creaf.cat/seccions/els-apunts-den-jaume-terradas/> Miradas filosóficas sobre el Antropoceno. <https://blog.creaf.cat/es/secciones/los-apuntes-de-terradas/>

TERRADAS, J. (2022) Un país que cal adaptar. Serra d'Or, 756: 20-23, desembre.

TRAINING

Subjects in masters and postgraduate courses (only subjects in others masters outside CREAM sphere)

Com fer un pla de comunicació. UVic. Postgrau en comunicació científica. Anna Ramon

Disturbance regimes and forest management in protected natural areas. Ecosystem Management, Master in protected natural areas, UAH-Fundación González Bernáldez. Madrid Autonomous University 2021. Josep Maria Espelta.

Ecologia del Sòl. Máster Interuniversitari en Gestió de Sòls i Aigües, Universitat de Lleida-Universitat Autònoma de Barcelona-Universitat de Barcelona-Universidad Pública de Navarra. Xavier Domene, Sara Marañón-Jiménez.

Enfocaments interdisciplinaris en la Salut Planetària. Master in Planetary Health. UOC, UPF and ISGlobal. Eduard Pla

Fundamentals on biology. UAB. Master in secondary education. Sandra Saura Mas

Riscos Geològics i Restauració Ambiental. Máster Interuniversitari en Gestió de Sòls i Aigües, Universitat de Lleida-Universitat Autònoma de Barcelona-Universitat de Barcelona-Universidad Pública de Navarra. Vicenç Carabassa, M. Zarroca..

Rehabilitació de sòls. Máster Interuniversitari en Gestió de Sòls i Aigües, Universitat de Lleida-Universitat Autònoma de Barcelona-Universitat de Barcelona-Universidad Pública de Navarra. Rosa Poch , Vicenç Carabassa.

Biologia evolutiva de vertebrats. Master Biodiversitat. UB. Yolanda Melero

Courses or workshops or seminars within masters, summer schools, meetings, etc.

Climate and global change related threatens, and forest management as adaptation measure for forest ecosystems. Class in the Master Degree in Environmental Change. University of Girona. Girona. 21 March 2022. Eduard Pla Ferrer.

Experiencias en gestión forestal adaptativa en bosques mediterráneos. Curso de Adaptación de Áreas Protegidas. Programa EmpleaVerde de la Fundación González-Bernáldez (FUNGOBE). Online. 3 March 2022. Eduard Pla Ferrer.

Ecometabololomics of plants and animals in a changing worldCNR - ISAFoM Istituto per i Sistemi Agricoli e Forestali del Mediterraneo, Portici, Napoli, Italy. September 16, 2022. Josep Peñuelas.

Guided visit to Requesens pilot experience of LIFE MIDMACC project. Master in Terrestrial Ecology and Biodiversity Management (UAB). CREAM. Requesens, Girona, Spain. 11 November 2022. Eduard Pla Ferrer

Mapping biodiversity pressures: constrains of thematic generalization. 3rd Research School on Forest Ecology and Management JRU – CTFC/AGROTECNIO/CERCA. Solsona. 27-28 October 2022. Magda Pla

New approaches in mine reclamation: linking geomorphology with soil and vegetation management. Pan-European Network for

Climate Adaptive Forest Restoration and Reforestation PEN-CAFoRR (CA19128). Training School. Madrid-Barcelona. 5-8 July 2022 Vicenç Carabassa.

Physical, chemical and biological laws limit the increasing rates of carbon sequestration by the biosphere. Nanjing University of Science and Technology (on line). May 26, 2022. Josep Peñuelas.

Remote Sensing of phenology Universidad Complutense de Madrid. October 26, 2022. Josep Peñuelas.

Opportunities raised by isotope techniques in paleocology and soil Sciences. Czechglobe. Nov 3, 2022. Josep Peñuelas.

Final Master Project (Diploma d'Estudis Avançats)

ALONSO M. (2022) Impact of Warming on the Nitrogen Cycle in High Latitudes: Using Geothermal Gradients in Iceland as a Natural Laboratory. Máster in Biodiversidad Terrestre y Conservación de Islas. University of La Laguna. 2022-23.

BARNADAS M. (2022) Toxicity of an insecticide-fungicide-adjuvant mixture in a solitary bee. Autonomous University of Barcelona. C. Azpiazu, J. Bosch.

CAI, M. (2022) Identifying The Spatial Structure of Urban Activity Based on Nighttime Light and POI Data. Universitat Autònoma de Barcelona. Cristina Domingo-Marimon (Màster en Geoinformació)

FERRER D. (2022) Revegetation trials in the restoration of a calcareous quarry. Màster en Gestió de Sòls i Aigües (UAB, UB, UdL, UPN) Carabassa V.

LUCERO GONZALEZ L. (2022) Uso de drones en los cálculos volumétricos de restauración de minas a cielo abierto. Màster en SIG i Teledetecció (UAB) Carabassa V.

MARTÍN, A. (2022). The influence of nitrate pollution on elemental and isotopic composition of hygrophytic bryophytes. University: Universitat Autònoma de Barcelona. Directors: Marcos Fernández-Martínez i Josep Penuelas

PÉREZ GARCÍA M. (2022) Seguimiento Del Crecimiento De La Vegetacion Enla Restauracion De Minas A Cielo Abierto Combinando Datos Lidar Y Dron. Màster en SIG i Teledetecció (UAB)) Carabassa V.

MARTÍNEZ, P (2022) Ajustes del xilema de dos especies subarbusculares de la tundra a lo largo de un gradiente latitudinal: una aproximación a nivel intraindividual. Universidad Rey Juan Carlos, Máster en técnicas de conservación de la biodiversidad y ecología. Directores: Ana I. García-Cervigón, Alba Anadon-Rosell.

RUSSELL MALPICA M. (2022) Uso de drones en la modelización del relieve en restauraciones de actividades extractivas y su integración en el entorno. Màster en SIG i Teledetecció (UAB) Carabassa V. Supervision of the MSc thesis:

SÁNCHEZ MONTALBAN J.L. (2022) Generación de una base de áreas radiométricamente pseudoinvariantes (PIAs) mediante Google Earth Engine. Universitat Autònoma de Barcelona. Joan Cristian Padró and Lluís Pesquer

SOLÉ BORONAT P. (2022) Evaluation of the physical and chemical properties of different quarry Technosols used for the restoration of Mediterranean habitats. 2022.. Màster en Gestió de Sòls i Aigües (UAB, UB, UdL, UPN). Carabassa V.

TOL, H. (2022) Remote-sensing based trait characterization of phytophagous insects breeding sites – building a data base. Universitat Autònoma de Barcelona. Cristina Domingo-Marimon, Gerard Talavera

BUONAFEDE, L. (2022). Ecological filtering of butterfly assemblages by urban environments and the mediating role of species traits. Università degli Studi Firenze. Yolanda Melero, David García. Tutor: Leonardo Dapporto.

Final Student Work (projecte final de carrera)

BENITO, P (2022). Proposta i anàlisi d'escenaris de reducció del vehicle motoritzat privat a Mataró. Smart Cities Degree, UAB. Cristina Domingo-Marimon, Alaitz Zabala.

CHOLBI, J. (2022). La ciutat dels 15 minuts. Cas pràctic de València. Smart Cities Degree, UAB. Cristina Domingo-Marimon

FERNÁNDEZ, A. (2022). Situació de les espècies en perill d'extinció a Catalunya a través de contes infantils educatius. Environmental Biology Degree, UAB. Director Sandra Saura Mas

FERNÁNDEZ, M. (2022). Especies de aves de interés en el Campus de la UAB ¿Cuáles son? ¿Cómo y dónde podemos observarlas? ¿Cómo conservarlas? Biology Degree, UAB. Director Sandra Saura Mas

JIMÉNEZ, X. (2022). Elaboració de millores en un taller d'educació ambiental: canvi climàtic i espècies invasores. Environmental Biology Degree, UAB. Director Sandra Saura Mas

MARTORELL N- (2022) Prevenció i millora de la gestió d'incendis al parc Natural de la Serra de Collserola Biology Degree, UAB. Anselm Rodrigo.

SELLAS, T. (2022). Impacte sobre la implantació d'una Zona de Baixes Emissions (ZBE) a Sabadell. Smart Cities Degree, UAB. Cristina Domingo-Marimon, Alaitz Zabala.

AWARDS

Awards and distinctions received by members of CREAF

Premio mejor contribución. Simposio Nacional de Estabilización de Taludes y Laderas Inestables. 13-16 Sept 2022. Granada Carabassa V.,

Ecology and Evolution in Spain Leader Award. 2022. Peñuelas, J. Josep Peñuelas occupies the 1st position in the ranking of leading ecology and evolution scientists of Spain (Research.com). 2022.

Highly cited scientist in ecology/environment, and plant and animal sciences of Claryvate. 2022. Peñuelas, J.

Highly Cited Researcher 2022 in Plant and Animal Sciences (Clarivate analytics). Jordi Martínez-Vilalta.

Award to the best early career poster during the SIBECOL/AIL meeting. Aveiro (Portugal). 2022. Llovet, A.

OUTREACH, TRANSFER AND IMPACT ACTIVITIES

Participation in the organization of other outreach conferences or seminars of knowledge transfer

Image capture standards and guidelines

Venue: Heraklion, Crete

Date: May 18-22, 2022

Number of attendees: ~ 50

CREAF membres involved as co-organizer: Marcer A.

Digitisation in Italy, WG2-WG5 MOBILISE Cost Action Joint Workshop

Venue: Padua, Italy.

Date: September 12-13, 2022

Numbers of attendees: 50

CREAF membres involved in organising: Marcer A.

Net4Impact Final Conference. Societal Impact of Science.

Venue: INSTITUTO DE CIENCIAS MATEMÁTICAS (ICMAT)- CAMPUS CANTOBLANCO UAM, Madrid.

Date: 03/06/2022

CREAF membres involved as co-organizer: Sanchez-Plaza A. Broekman A.

Societal Impact of Research in Ecology and Environment.

Venue: Webinar

Date: 11/03/2022

CREAF membres involved as co-organizer: Sanchez-Plaza A, Broekman A.

MONTCLIMA project Seminar: Strategies for managing and preventing soil erosion and adaptive practices in the SUDOE space.

Venue: Bilbao, Spain

Date: 05/07/2022

CREAF membres involved as co-organizer: Pascual D., Pla E

MONTCLIMA project Seminar: Transnational seminar on Strategies for torrential floods prevention and management in mountain areas of southwest of Europe

Venue: Andorra La Vella, Andorra

Date: 21-22/09/2022

CREAF membres involved as co-organizer: Pascual D., Pla E

Participation as speaker in outreach conferences or knowledge transfer seminars

Regenerative viticulture: living soils for climate mitigation and wine production". Invited contribution to the on-line webinar on "Regeneration and Conservation of Viticultural Soils". Wine Technological Platform & Interprofesional de Vino España & Agrobank. March 29. 2022. Andrés P.

Uforest. Smart City Expo World Congress 2022. Barcelona. November 17th. Ferrandiz-Rovira, M.

La muerte de los bosques. Centre d'Art i Natura. Farrera. 19 agost 2022. Lloret F.

La muerte de los bosques Ciclo "Repensando el mañana". Espacio Fundación Telefónica. Madrid. 14 juliol 2022. Lloret F.

Somos conscientes del valor de un bosque? Ciclo BBVA Aprendemos juntos 2030. Setembre 2022. Lloret, P.

Pandèmia i globalització: el concepte d'una salut. Capítol Català del Club de Roma. Palau Macaya, 12 de desembre Terradas, J.

STEM training for teachers. Viladecans foundation and EDUSCOPI.online, 18/05/2022. Pla E. Fagins E., de la Casa, J.

L'arbre i el bosc: una mirada oberta. IX Cerimònia de lliurament de títols de Doctor/a i de premis Extraordinaris de Doctorat de la UAB, Bellaterra. 3rd June 2022. Martínez-Vilalta. J.

Converses amb Paula Bruna i Jordi Martínez-Vilalta: la catàstrofe quotidiana, cicle NEO. Cosmocaixa Museum, Barcelona. 18th February 2022. Jordi Martínez-Vilalta. Bosch J. Teacher of the Basic bee taxonomy course. Spanish Pollinator Monitoring Scheme. MITECO-TRAGSA. Madrid. September 2022.

Presentació de l'Atles de mamífers de Catalunya. Organització 1r any de mostreig. Museu de Ciències Naturals de Granollers. 30 April 2022. Herrando S.

L'emergència en l'àmbit de la biodiversitat, within the presentation of the magazine EMERGÈNCIES (Crític ed). L'Espluga de Francolí. 29 May 2022. Herrando S. Anna Ramon

Aplicacions del mapa d'hàbitats per a la infraestructura verda local. Llars Mundet, Diputació de Barcelona, Barcelona. 17 November 2022. Herrando S.

Presèntació de l'Atles de mamífers de Catalunya. Resultats 1r any de mostreig. Museu de Ciències Naturals de Granollers. 19 November 2022. Herrando S.

Biodiversitat edàfica com a motor de l'agricultura regenerativa. Jornada Sòls i Agricultura Regenerativa. SECS-ICEA-IEC. ETSEA-Universitat de Lleida, Lleida, 2 Desembre 2022. Domene.X.

Sistema de Parcel·les de Seguiment de la Biodiversitat Terrestre (SISEBIO). X Trobada d'Estudiosos del Parc Natural de Sant Llorenç del Munt i l'Obac, 22-23 November 2022, Sant Vicenç de Castellet, Barcelona, Spain. Domene X, Olmo R, Comas, LL., Retana J.

Physical, chemical and biological laws limit the increasing rates of carbon sequestration by the biosphere. Nanjing University of Science and Technology (on line). May 26. Peñuelas, J.

Visit and meetings and seminars with scientists of the CNR - ISAFoM Istituto per i Sistemi Agricoli e Forestali del Mediterraneo, Portici, Napoli, Italy. September 16, Peñuelas, J.

Remote Sensing of phenology. Universidad Complutense de Madrid. October 26 Peñuelas, J

Opportunities raised by isotope techniques in paleocology and soil Sciences. Czechglobe. Nov 3. Peñuelas, J.

Analysis of vegetation dynamics based on climate drivers. EOTIST InfoDay I. CPKPAN Warsaw (Poland).08/11/2022 Domingo-Marimon,C.

Com minimitzar el risc d'un gran incendi forestal: del medi natural al nucli urbà. Jornada tècnica PATT. VI Jornada de les Guílleries: Aigua i Territori. Sant Hilari Sacalm, Spain. 24 February 2022. Pla E.

Gestió adaptativa del paisatge agrosilvopastoral: l'experiència a les proves pilot del projecte LIFE MIDMACC. Technical Seminar of OPCC-ADAPYR: Forest and adaptation to climate change in Catalonia. On-line. 10-11 May 2022. Pla E.

Gestión forestal para la prevención del riesgo de incendio, LIFE MIDMACC. 4º Coloquio Internacional sobre cambio climático en zonas de montaña. Bilbao, Spain. 19 May 2022. Pascual D.

Boscós i sostenibilitat. una nova mirada des dels serveis ecosistèmics. Fòrum de Joves Talents de Catalunya 2022 “El bosc i el canvi climàtic” Berga, Spain, 30 June 2022. Pla E.

Pilot case of adaptive forest management in a priority area: Montnegre Corredor, Catalonia, Spain. MONTCLIMA Final Seminar: Climate and natural hazards in the mountains of the SUDOE. Toulouse, France. 23-24 November 2022. Pla E.

Participation in science outreach and educative programme Científiks, in the V Scholar quiz of videogames design aimed to bring the scientific research closer to students of Primary Education. Organized by the Department of Research and Universities of the Generalitat de Catalunya and Eduxarxa. (<https://cientificsenjoc.cat/>) Marañón-Jiménez S.

MAKING AN IMPACT THROUGH:

Participation in meetings or activities organised by administrations, the private sector or other social agents to advice or provide guidance based on the results of your research/scientific experience

Territoris resilients” Jornada La nova ruralitat. Territoris resilients i dona emprenedora”. Fundació Pimec i Pallars Actiu. R. Monestir Santa Maria Poblet, 26 octubre 2022. Francisco Lloret.

Membre de la Comissió Permanent del Consell de Protecció de la Natura, Generalitat de Catalunya. Francisco Lloret.

Membre del Patronato del Parc Natural del Alt Pirineu. Francisco Lloret.

President de la Comissió Científica del Parc Natural del Alt Pirineu. Francisco Lloret.

Development of the Observatori del Patrimoni Natural i la Biodiversitat de Catalunya <https://observatorinatura.cat/> CREAF members involved: Lluís Brotons, Sergi Herrando, Dani Villero, Magda Pla, José Luis Ordóñez, Anna Ramon, David Martí, Nora Soler, Laura Fraile

PIKSEL, Integrated Knowledge Portal for Sustainable Ecosystem and Territorial Management. Online: <https://piksel-web.cimne.com/> CREAF members involved: Magda Pla, Lluís Brotons, Joan Pino

Participation in the Public Consultation on the New EU soil strategy. Alcañiz J.M., Domene X., Marañón-Jiménez S., Carabassa V.

Participation in the Public consultation of the Spanish Waste Law. Alcañiz J.M., Carabassa V.

SHIP2B Impact Forum, Ship2B, Barcelona (November 2022) E. Doblas.

MedCities General Assembly, MedCities, Cyprus (November 2022) E. Doblas.

Sessions sectorials sobre la descarbonització de l’economia catalana”, Comitè d’Experts sobre Canvi Climàtic (Experts on Climate Change Committee of the Catalanian Government), online (September 2022) E. Doblas.

Participation in the EFI Mediterranean Network Forum 2022 to launch the Mediterranean Forest Research Agenda - MFRA 2030. Barcelona, 29 November-1 December 2022. Espelta, JM.

Reunión para la elaboración de los Estándares para la certificación de proyectos de restauración de ecosistemas forestales mediterráneos. On-line. 21 Oct 2022. Carabassa V.

EU Green Week event: A step forward in Forest policy: the Mediterranean perspective. Presentation of a Position

Paper developed by 8 LIFE projects, Brussels, Belgium. Date: 31/05/2022. CREAM members involved: Pla E., Pascual D.

Mapping the loss of farmland birds for supporting discussion for the EU Nature Restoration Law. Venue: Joint Research Centre of the European Commission, online meeting Date: 19 July 2022. CREAM members involved: Herrando S., Fraixedas S. & Brotons LL.

Harmonization of biodiversity monitoring projects in Catalonia and the network of protected areas Venue: **Department of Climate Action of the Catalan Government,** Barcelona Date: 1 July 2022 CREAM members involved: Herrando S., Martí D., Villero D. & Brotons LL.

Indicators for the Catalan Strategy of Biodiversity 2030 Venue: Department of Climate Action of the Catalan Government, Barcelona. Date: 20 September 2022 CREAM members involved: Pla M, Herrando S. & Brotons LL.

Production of reports, guides, handbooks, other transfer materials, or policy briefs

ANDRÉS P, DOBLAS-MIRANDA E, ROVIRA P, BONMATÍ A, RIBAS À, MATTANA S, ROMANYÀ J (2022) Research for AGRI Committee – Agricultural potential in carbon sequestration-Humus content of land used for agriculture and CO₂ storage. European Parliament, Policy Department for Structural and Cohesion Policies, Directorate-General for Internal Policies of the Union PE 699.656 - June 2022

VERGER, A.; DESCALS, A. ALGORITHM Theoretical Basis Document: Leaf Area Index (LAI), Fraction of Absorbed Photosynthetically Active Radiation (FAPAR) and Fraction of green vegetation cover (FCOVER) Collection 300m, version 1.1. Issue 1.10. Copernicus Global Land Operations - Lot I, Vegetation and Energy, CGLOPS-1. Report for contract nº 199494 (JRC) Pages, Initial: 1 final: 83 Year: 2022 Link: <https://land.copernicus.eu/global/products/lai>

WOLFS, D.; VERGER, A.; VAN DER GOTEN, R.; SÁNCHEZ-ZAPERO, J. Product User Manual: Leaf Area Index (LAI), Fraction of Absorbed Photosynthetically Active Radiation (FAPAR) and Fraction of green vegetation cover (FCOVER) Collection 300m, Version 1.1. Issue 1.20. Copernicus Global Land Operations - Lot I, Vegetation and Energy, CGLOPS-1. Report for contract nº 199494 (JRC) Pages, Initial: 1 final: 57 Year: 2022 Place of publication: (BELGIUM) Link: <https://land.copernicus.eu/global/products/lai>

BROEKMAN A., BANQUÉ M., SAURA S., PLA E. Report validating the Adaptation plan of the Mesa d'Adaptació al Canvi Climàtic del Maresme.

BOSCH J, STEFANESCU C, ROQUER-BENI L, RODRIGO A, ALINS G. Diagnosis document of the Strategic Plan for Pollinator Conservation in Catalonia. Els pol·linitzadors silvestres a Catalunya; Informe sobre estatus, amenaces i àmbits prioritaris d'actuació per a la seva conservació. Departament d'Acció Climàtica, Alimentació i Agenda Rural. Generalitat de Catalunya. Barcelona. 2022.

RODRIGO A., BOSCH J. Guide and tool for adaptation of road infraestructur edges and peri-urban areas for the conservation of pollinator insects. (Cooperative agreement with the Department of Climate Action, Food and Rural Agenda of the Catalan Government). 2022

RODRIGO, A. VERKAİK I., BOSCH J. Report on the determination of pollinator distribution and diversity in Paratge Natural d'Interés Nacional de Poblet 2022

RODRIGO, A. VERKAIK I., BOSCH J. Assesment report of bee diversity in the Montseny Natural Park Diputació de Girona. 2022

MATHEUS A, BREDEL H, OTSU K, VAN DER SCHAAF H, CHOUET M, AND MASÓ J. Best Practice for using SensorThings API with Citizen Science. OGC Best Practice. OGC 21-068. <http://www.opengis.net/doc/bp/21-068>

MASO J, ST. LOUIS JJ. OGC API - Tiles - Part 1: Core. OGC 20-057. <https://docs.ogc.org/is/20-057/20-057.html>. November 2022

MASO J (2022, January) OGC Testbed17: Could Optimized GeoTIFF specification. OGC: 21-025. DOI: <http://www.opengis.net/doc/PER/t17-D046>. In Internet: <https://docs.ogc.org/per/21-025.html>

HERRANDO S., BROTONS LL., VILLERO D., ORDÓÑEZ JL, RAMON A., MARTÍ D., SOLER N. The Living Planet Index in Catalonia 2022. Online: <https://observatorinatura.cat/lpi/> CREAf members involved:

PLA M, BROTONS LL, PINO J. Mapes de risc a la freqüentació humana per al corriol camanegre, possidònia i coralls Online: <https://piksel.cimne.com/Models/Biodiversitat>

PLA M, BROTONS LL, PINO J. VILLERO, D. Indicators for the Catalan Strategy of Biodiversity 2030. Online: <https://observatorinatura.cat/lpi/>

PLA M, BROTONS LL, PINO J. VILLERO, D Sensitivity: synergies with the Observatori del patrimoni natural i la biodiversitat to improve the species sensitivity to drivers of change matrix.

PLA M, BROTONS LL, Biodiversity drivers of Change in Catalonia (CANVICAT)

LLORET, F "La mort dels boscos" Natura Llibres. Alins. 27 juliol 2022.

Participation in projects and activities involving co-creation of knowledge together with diverse stakeholders including administrations, private entities etc. (e.g. living labs)

Los servicios climáticos: Una herramienta para adaptarnos a los riesgos por sequía en contexto de cambio climático

Venue: Salón de Actos CICAP, Pozoblanco (Córdoba, Spain) Date: 25 Octubre 2022 CREAf membres involved: Annelies Broekmann, Lluís Pesquer, Ester Prat

Co-disseny del navegador del projecte H2020 BESTMAP

Venue: Departament d'Acció Climàtica, Alimentació i Agenda Rural. Gran Via de les Corts Catalanes, 612-614 08007 Barcelona Date: 21/03/2022 CREAf membres involved: Joan Masó, Annelies Broekmann, Cristina Domingo-Marimon

3rd meeting of the stakeholders Catalan Regional Committee of LIFE MIDMACC project

Venue: On-line Date: 15/02/2022 CREAf membres involved: Diana Pascual, Eduard Pla (coordination and development of the meeting) Stakeholder's participants: 19 stakeholders from 16 institutions, 8 stakeholders from administration, 6 stakeholders from Universities or research centre, and 5 stakeholders from private sector.

3rd meeting of the stakeholders Riojan Regional Committee of LIFE MIDMACC project

Venue: On-line Date: 22/02/2022 CREAf membres involved: Coordination and

development of the meeting Stakeholder's participants: 10 stakeholders from 8 institutions, 3 stakeholders from administration, 3 stakeholders from Universities or research centre, and 4 stakeholders from private sector.

3rd meeting of the stakeholders Aragonese Regional Committee of LIFE MIDMACC project

Venue: On-line Date: 03/03/2022 CREAM members involved: Diana Pascual, Eduard Pla (coordination and development of the meeting) Stakeholder's participants: 17 stakeholders from 13 institutions, 4 stakeholders from administration, 4 stakeholders from Universities or research centre, 2 stakeholders from municipalities, and 7 stakeholders from private sector.

3rd meeting of the stakeholders Supra-Regional Working Group of LIFE MIDMACC project

Venue: On-line Date: 28/04/2022 CREAM members involved: Diana Pascual, Eduard Pla (coordination and development of the meeting) Stakeholder's participants: 8 stakeholders from 6 institutions, 4 stakeholders from administration, 2 stakeholders from Universities or research centre, and 2 stakeholders from private sector.

Plans, strategies or management activities (by diverse administrations, policy actors or by the private sector) that have incorporated, or been informed by, your research. Please specify how.

Proposta de nova gestió de les zones d'interès natural de la ciutat de Barcelona.

CREAM members involved: Sergi Herrando, Mariona Ferrandiz, Josep Maria Espelta, Joan Pino How: Our research has been taken into account to define actions to improve the value and ecosystem services of natural areas in the city of Barcelona

Participation in multilateral platforms (e.g. IPBES, IPCC, etc).

Members of the COLOSS Task Force, APITOX.

Coordination of a ring test on the development of pesticide chronic exposure protocols for solitary bees. Azpiazu C, Bosch J.

Participation in IPBES with the roles of Observer and Europe and Central Asia assessment-Lead author, Scenarios and models assessment-Coordinating lead author. Lluís Brotons.

Participation in IPBES with the role of Pollination assessment-Review editor. Jordi Bosch.

Participation in other inter-sectorial (public-private) events/platforms/initiatives (i.e. round tables, debates, symposiums, workshops, interviews, committees etc.):

ANDRÉS, P. Since January 2022. Chair of SER-IAC, the Iberoamerican and Caribbean Chapter of the SER (Society for Ecological Restoration) <https://www.ser.org/page/Chapters>.

CATALAN, J. 2022. Member of the coordination group on "Mountain aquatic biodiversity" within the Global Mountain Biodiversity Assessment (GMBA)

VERGER A. Moderador Mesa redonda La Teledetección en el sector público y privado (1,5h), Escuela Teledetección como herramienta global, Universidad Internacional Menéndez Pelayo, 22/07/2022, Santander. Activity model: Chairman. Scope: International. Year: 2022

PATENTS AND PRODUCTS

Participation in the creation or development of a specific product, tool and/or methodology.

How to cite: Near Real-Time estimation of Global LAI, FAPAR and Cover Fraction products from Sentinel-3 at 300m resolution

CREAF members and project or contract involved. Type of implication and short description of product. Aleixandre Verger, Adrià Descals. CGLOPS1 project. Biophysical products generated from satellite data at the global scale.

How to cite: Long term time series of LAI, FAPAR and Cover Fraction products from AVHRR data from 1981 to 2018

CREAF members and project or contract involved. Type of implication and short description of product. Aleixandre Verger. LONGLOVE project. 40 years of biophysical products at the global scale from historical AVHRR data.

WE WOULD LIKE TO THANK ALL OF OUR CURRENT AND PAST PRIVATE SECTOR COLLABORATORS, INCLUDING:

Foundations/Associations

- European Climate Foundation
- Fundación Delegación De La Fondation De France En España (Fundación Carasso)
- WWF España
- Fundació Emys
- Fundación Bancaria “La Caixa”
- BBVA Foundation
- Fundesplai (Fundació Catalana De L'esplai)
- Fundació Terra
- Fundació Universitària Balmes (Universitat De Vic)
- Associació Sèlvans
- La Paniquella Associació Naturalista
- Associació Leader Illa De Menorca
- Ass. Inst.català D'ornitologia - Museu Ciències Naturals Bcn
- Aidimme - Instituto Tecnológico
- Innomnium Community Foundation
- Fundació Universitat Autònoma De Barcelona (EUTDH)
- Fundació PIMEC
- Fundación Ramón Areces

Business

- Innocent Drinks Uk Ltd
- Lokimika SA
- Familia Torres (Miquel Torres SA)
- Promsa (Promotora Mediterranea-2, S.A.)
- Ecoacs Reserva De Biodiversidad
- Girbau Consulting
- Ecostudi Sima
- Apatura Iris S.L.
- Aprèn, Serveis Ambientals, SL
- Ricoh España, S.L.U.
- Wildbiene + Partner AG
- Evenflow EU
- Aula Magna Business School AMBS
- DKV Seguros

Other

- Creaf's Alumni
- Creaf's Digital Social Base
- Uk Centre For Ecology & Hydrology
- laeden
- National Geographic Society
- Earthwatch Institute, Inc
- Open Geospatial Consortium, Inc - Open Geospatial Consortium (Europe) Ltd.
- Cecot
- Pontificia Universidad Javeriana
- Patronat de la Muntanya de Montserrat
- Stichting IHE Delft Institute for Water Education
- German Centre for Integrative Biodiversity Research (iDiv) Halle-Jena-Leipzig - Christian Wirth
- Union for the Mediterranean
- EADA Business School Barcelona

ACTIVE PROJECTS IN 2022

PROJECT NAME	ACRONYM	PRINCIPAL INVESTIGATOR	BUDGET	FUNDING ENTITY	PERIOD
Caracterización de los recursos genéticos forestales de Pinus pinaster: importancia de la variación genética y plasticidad fenotípica para responder a un ambiente más seco	4DRIVERS	José Alberto Ramírez	95.450,00 €	Ministerio de Ciencia e Innovación	2022-2024
All Data 4 Green Deal - An Integrated, FAIR Approach for the Common European Data Space	AD4GD	Joan Masó	4.136.964,75 €	EU	2022-2025
Adaptación al clima desde una perspectiva multivariante: el papel de la selección natural y la demografía sobre la variación genética y la plasticidad de rasgos funcionales	AGENTS	José Alberto Ramírez	72.600,00 €	Ministerio de Ciencia e Innovación	2022-2024
Agricultura del Carboni a Catalunya	AgriCarboniCat	Marc Gràcia / P.Andrés	43.386,00 €	Generalitat de Catalunya	2022-2026
"Agricultura Regenerativa a Catalunya "	AgriRegenCat	Marc Gràcia / P.Andrés	195.200,00 €	Generalitat de Catalunya	2022-2026
Wetland restoration for the future	ALFAWETLANDS	Josep Peñuelas	7.967.115,00 €	EU	2022-2026
El gradient pH-alcalinitat en l'espai i el temps, un marc ecològic per a la biodiversitat de les aigües continentals.	ALKALDIA	Jordi Catalán	202.070,00 €	Ministerio de Ciencia e Innovación	2020-2023
Infrastructure for Marine and Inland Water Research	AqualNFRA	Lluís Pesquer	7.601.825,00 €	EU	2023-2026
BBDD modelització	BBDD modelització	Jordi Vayreda	65.000,00 €	Generalitat de Catalunya	2022
Reconnectant ciutadania i natura per mesurar els efectes del canvi climàtic a Barcelona	BCN Reconnecta	Joan Masó	21.029,12 €	Ajuntament de Barcelona	2022-2023
Mesures agroambientals per afavorir els serveis de pol·linització i control de plagues en pomera i taronger	BEACON	Jordi Bosch Anselm Rodrigo	11.000,00 €	Innocent Drinks	2022-2023
Assessing the role of land use legacies and management in forest resilience to climate change disturbances	Beca Inphinit Faqrul Islam Chowdhury	Faqrul Islam Chowdhury	115.092,00 €	Fundació Bancària La Caixa	2022-2025
The role of behavior in evolution: an empirical study in the context of rapid environmental change	Beca Postdoctorado Junior Leader FBLC "la Caixa" 2020 - Oriol Lapiedra	Oriol Lapiedra	303.900,00 €	Fundació Bancària La Caixa	2020-2023
Elemental Stoichiometry to understand Biodiversity-Ecosystem Functioning relationships: ES-BEF	Beca Postdoctorado Junior Leader FBLC "la Caixa" 2021 - Marcos Fernández	Marcos Fernández	303.900,00 €	Fundació Bancària La Caixa	2021-2024
Impact of climate-enhanced hydrological intermittency on the carbon cycle of high-mountain watersheds	Beca Postdoctorado Junior Leader FBLC "la Caixa" 2021 Lluís Gómez	Lluís Gómez	297.900,00 €	Fundació Bancària La Caixa	2021-2024

PROJECT NAME	ACRONYM	PRINCIPAL INVESTIGATOR	BUDGET	FUNDING ENTITY	PERIOD
Comportamiento animal: un modelador de las dinámicas eco-evolutivas en un planeta cambiante?	BEECOEVO	Oriol Lapiedra	100.000,00 €	Ministerio de Ciencia e Innovación	2021-2023
Ecologia evolutiva del comportament	BEHAVIOUR	ORIOL LAPIEDRA	7.000,00 €	National Science Foundation	2020-2022
Behavioural, Ecological and Socio-economic Tools for Modelling Agricultural Policy	BESTMAP	Joan Masó	3.995.811,25 €	EU	2019-2023
Bateries biodegradables i compostables per agricultura de precisió i sistemes d'energia descentralitzats	BIDEKO	Xavier Domene Vicenç Carabassa Sara Marañón	125.816,00 €	Ministerio de Ciencia e Innovación	2021-2024
Intel·ligència de dades de ciència ciutadana i massives per lluitar contra les malalties trameses per mosquits	BIG MOSQUITO BYTES	Frederic Bartumeus	135.080,00 €	Fundació Bancària La Caixa	2019-2022
Bio Knowledge Agora: Developing the Science Service for European Research and Biodiversity Policymaking	BIO-AGORA	Lluís Brotons	11.827.270,00 €	EU	2022-2027
Canvis en els estocs, fluxes i la estequiometria de bioelements (N:P:K) en el sistema planta-sòl associats a l'increment de l'aridesa (BIO-ARID)	BIO-ARID	Jordi Sardans	114.950,00 €	Ministerio de Ciencia e Innovación	2021-2024
La aceleración de los ciclos biogeoquímicos en la alta montaña durante el Antropoceno.	BIOGEOMONT	Jordi Catalán	60.753,35 €	Organismo Autónomo de Parques Nacionales	2020-2023
Impulsant els models basats en processos per a projectar la dinàmica forestal i serveis ecosistèmics associats a escales entre el rodal i la regió	BOMFORES	Miquel de Cáceres	75.020,00 €	Ministerio de Ciencia e Innovación	2022-2024
Investigació, innovació per l'increment del capital natura de les estacions d'esquí i muntanya d'FGC.	CANEM (FGC)	Bernat Claramunt	107.311,70 €	Generalitat de Catalunya	2022
Gestió i avaluació de la composició química i l'acidesa de la precipitació de Catalunya	"CARACTERITZACIÓ PLUGES"	Anna Àvila	30.000,00 €	Generalitat de Catalunya	2022
Pertorbacions del cicle del carboni a les conques d'alta muntanya en resposta a una hidrologia més intermitent	CARBINTER	Lluís Gómez	105.270,00 €	Ministerio de Ciencia e Innovación	2022-2024
Agricultural potential in carbon sequestration, humus content of land used for agriculture and co2 storage (eu-27)	CARBOFOOD	Pilar Andrés	71.377,00 €	EUROPEAN PARLIAMENT	2021-2024
Comité d'experts pel canvi climàtic	CECC	Anabel Sánchez	100.000,00 €	Generalitat de Catalunya	2022
Actuacions en infraestructures científico-tecnològiques del sistema CERCA i pel desenvolupament d'una plataforma d'accés a les mateixes.	CERCA-GINYS	Lucía Galiano	23.000,00 €	CERCA	2021-2023

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Conectivitat dels ecosistemes forestals i riparis de l'espai SUDOE	CERES	Jordi Vayreda	1.272.214,00 €	EU	2018-2022
Copernicus Global Land Service – Framework Contract for the operation, evaluation and evolution of the Global Land component of the Copernicus Land Service.	C-GLOPS1	Aleixandre Verger	307.635,24 €	EU	2015-2023
Implicació dels centres educatius en la conservació de la natura	CIENCIA CIUTADANA	Anabel Sánchez Anna Ramon	35.000,00 €	Generalitat de Catalunya	2022
Suport projectes de Ciència ciutadana i conservació de la natura	CIENCIA CIUTADANA	Joan Pino	10.000,00 €	Generalitat de Catalunya	2022
Enhancing Citizen Observatories for healthy, sustainable, resilient and inclusive cities	CitiObs	Joan Masó	4.991.205,00 €	EU	2023-2026
Collaborative Learning in Research, Information-sharing and Governance on How Urban tree-based solutions support Sino-European urban futures'	CLEARING HOUSE	Corina Basnou	4.986.463,75 €	EU	2019-2023
Comportament i persistència de la població sota canvis ambientals	COG-BUFFER	Daniel Sol	194.810,00 €	Ministerio de Ciencia e Innovación	2021-2024
Caracterización y conservación de espacios forestales de alto valor ecológico y de su conectividad ecológica	CONNECTFOR	Jordi Vayreda	878.273,76 €	EU	2019-2022
CO-producing Nature-based solutions and restored Ecosystems: transdisciplinary neXus for Urban Sustainability	CONEXUS	Corina Basnou	4.999.940,00 €	EU	2020-2024
Mapes connectivitat Delta	CONNECTIVITAT DELTA	Joan Pino	66.390,00 €	Generalitat de Catalunya	2022
Ecologia espacial de la gralla a ambients urbans	CORVUSTRACK	Daniel Sol	5.000,00 €	Fundació Barcelona Zoo	2022
Co-designed Citizen Observatories Services for the EOS-Cloud	COS4CLOUD	Joan Masó Anna Ramon	5.999.055,75 €	EU	2019-2023
Global decoupling of COVID-19 infection and activities from lockdown to post-lockdown period using observations from the space	COVID NOX	Josep Peñuelas	198.000,00 €	AGAUR	2021-2022
Una evaluación basada en datos de las respuestas a la sequía de los árboles y del uso del agua de los bosques a nivel global	DATAFORUSE	Rafael Poyatos	142.780,00 €	Ministerio de Ciencia e Innovación	2019-2022
Monitoring network for observing the status of Catalanian forest	DEBOSCAT	Jordi Vayreda Jordi Martinez Vilalta	35.000,00 €	Generalitat de Catalunya	2022
Evaluación de la actual crisis ambiental mediante archivos dendrocronológicas y históricos en la region Mediterranea de la Peninsula Ibérica	DENDROHIST	Laia Andreu Hayles	181.500,00 €	Ministerio de Ciencia e Innovación	2022-2025

PROJECT NAME	ACRONYM	PRINCIPAL INVESTIGATOR	BUDGET	FUNDING ENTITY	PERIOD
Estudi, l'anàlisi i divulgació de resultats de treballs silvícoles i de la dinàmica forestal resultants dels programes de prevenció d'incendis, restauració i millora forestal de la Diputació de Barcelona	DINFORREST	Josep Maria Espelta	97.550,00 €	Oficina Tècnica de Prevenció Municipal d'Incendis Forestals - DIBA)	2018-2022
Comprensió dels mecanismes subjacents a les respostes dels arbres a l'estrès per sequera en funció de la mida de l'arbre	DISTRESS	Jordi Martinez Vilalta (Marie Curie Fellowship granted to Laura Fernández de Uña)	245.732,16 €	EU	2019-2022
Evaluació del rol de la desnitrificació com embornal més important de Nr en els Ecosistemes edàfics europeus	D-NESS	Àngela Ribas	125.840,00 €	Ministerio de Ciencia e Innovación	2022-2025
Uso del agua y estrategias de resistencia a la sequía a distintas escalas: desde los mecanismos homeostáticos a la dinámica regional de la vegetación	DRESS	Jordi Martinez Vilalta	193.600,00 €	Ministerio de Ciencia e Innovación	2018-2022
Wildlife in the Andorran Pyrenees (II)	EARTHWATCH PIRINEU (II)	Bernat Claramunt	345.973,28 €	EarthWatch Institute	2016-2022
Fomento de la adaptación al cambio global en sistemas agrícolas y forestales a largo plazo: multifuncionalidad como criterio	ECOFARMERS	Xavier Domene	194.810,00 €	Ministerio de Ciencia e Innovación	2021-2024
Impactes del canvi climàtic sobre les reserves i els fluxos de nutrients i efectes retroactius sobre els ecosistemes i cultius	ELEMENTAL CLIMATE	Josep Peñuelas	112.000,00 €	Fundación Ramón Areces	2021-2023
Impactes dels canvis globals antropogènics a les reserves i fluxes de bioelements sobre els ecosistemes i els humans - Elementalshift	ELEMENTAL-SHIFT	Josep Peñuelas	332.750,00 €	Ministerio de Ciencia e Innovación	2020-2022
Conseqüències a llarg termini dels canvis ambientals en la biodiversitat: incorporació de life history traits i dimensió temporal a l'avaluar i predir la pèrdua de complexitat funcional i filogenètica	ENVIRON-CHANGE	Daniel Sol (Marie Sktodowska-Curie Individual Fellowships granted to Lisieux Fuzessy)	160.932,48 €	EU	2021-2023
El suport al desenvolupament i la coordinació de les activitats de l'Associació EOSC	EOSC FOCUS	Lluís Pesquer	4.599.653,00 €	EU	2022-2025
Capacitació en Ciència i Tecnologia de l'Observació de la Terra al Space Research Centre de la Polish Academy of Science	EOTIST	Lluís Pesquer	896.875,00 €	EU	2020-2023
European Alliance on Interdisciplinary Learning and Business Innovation for Urban Forests	ERASMUS UFOREST	Corina Basnou	969.314,00 €	EU	2021-2023
EuroGEOSS Showcases: Applications Powered by Europe	E-SHAPE	Joan Masó	15.876.336,75 €	EU	2019-2023

PROJECT NAME	ACRONYM	PRINCIPAL INVESTIGATOR	BUDGET	FUNDING ENTITY	PERIOD
"Europa Biodiversity Observation Network: integrating data streams to support policy"	EUROPABON	Lluís Brotons	2.994.318,75 €	EU	2020-2023
Spread to natural environment of the most planted alien plants in the green areas in Barcelona	EXO BCN 2	Joan Pino	103.683,69 €	Ajuntament de Barcelona	2017-2022
EXOCAT	EXOCAT	Joan Pino	61.000,00 €	Generalitat de Catalunya	2022
Anàlisi de canvis de cobertes del sòl	FACTORS DE CANVI	Xavier Pons Lluís Brotons	125.000,00 €	Generalitat de Catalunya	2022
El factor por: conseqüències ecològiques i evolutives de la "masitud d'illa" en un planeta en canvi constant	FearIsland	Oriol Lapiedra	153.670,00 €	Ministerio de Ciencia e Innovación	2022-2025
Ciència ciutadana, innovació i transferència a les noves generacions en el seguiment fenològic del canvi climàtic	FENOAULA	Joan Masó	20.000,00 €	FECYT	2022-2023
FenoTwin - El gemelo digital de fenología	FENOTWIN	Joan Masó	30.000,00 €	Fundación Española para la Ciencia y la Tecnología (FECYT)	2021-2022
Under the surface: uncovering the role of individual differences in how fish populations deal with severe droughts	FISHINDROUGHT	Jolle Jolles	18.658,00 €	National Geographic Foundation	
Social and ecological effects of Fish removal in Mountain Ecosystems	FishMe	Marisol Felip	115.000,00 €	Ministerio de Ciencia e Innovación	2022-2025
Improving access to F0Rest GENetic resources Information and services for end-USers	FORGENIUS	Maurizio Mencuccini	7.000.000,00 €	EU	2021-2025
"Farmer clusters for Realising Agrobiodiversity Management across Ecosystems"	FRAMEWORK	Joan Masó	7.997.600,76 €	EU	2020-2025
Efectes comportamentals i poblacionals d'aplicacions autoritzades de fungicides sobre pol·linitzadors de fruiters: estudis de laboratori, semi-camp i camp	FUNKY	Anselm Rodrigo Jordi Bosch	199.650,00 €	Ministerio de Ciencia e Innovación	2019-2022
Una ullada al futur àrtic: equipar un experiment natural únic per a la recerca d'ecosistemes de pròxima generació	FUTURE ARTIC	Josep Peñuelas	3.965.109,84 €	EU	2019-2023
Aprendiendo del pasado para dar las respuestas de gestión al cambio global: tendencias recientes observadas y evaluación del riesgo de perder SE y biodiversidad forestales	GREEN-RISK	Javier Retana	112.409,00 €	Ministerio de Ciencia e Innovación	2021-2024
Avaluació de la contaminació als horts urbans de Barcelona	HORTS4U	Corina Basnou	28.633,00 €	Barcelona Regional	2019-2022

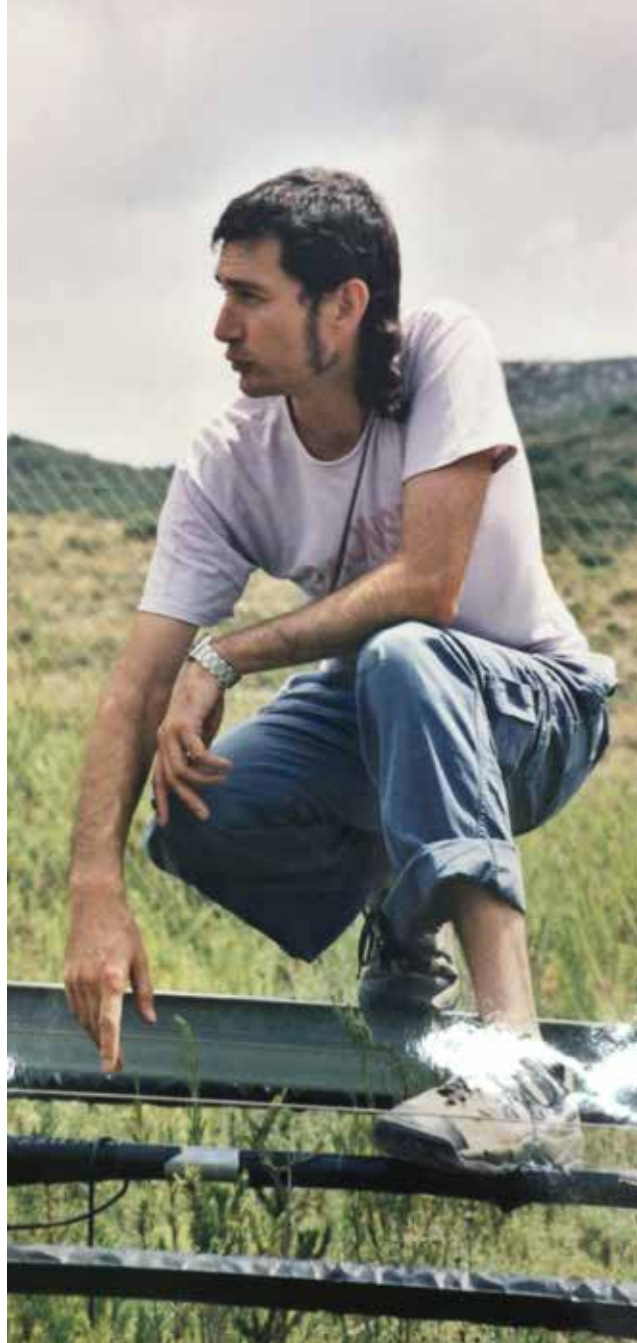
PROJECT NAME	ACRONYM	PRINCIPAL INVESTIGATOR	BUDGET	FUNDING ENTITY	PERIOD
Iniciativa de Canvi Climàtic de l'ESA. Variables Climàtiques Essencials: Cobertes del Sol d'elevada resolució espacial	HRLandCoverCCI	Lluís Pesquer	184.953,00 €	University of Trento	2018-2022
Innovating Climate Services through integrating scientific and local knowledge.	I-CISK	Lluís Pesquer	4.998.806,88 €	EU	2021-2025
Integrated digital framework for comprehensive maritime data and information services	ILIAD	Joan Masó	48.250,00 €	EU	2022-2025
Indicador LPI-CAT	INDICADOR LPI-CAT	Lluís Brotons	60.000,00 €	Generalitat de Catalunya	2022
Science-based INtegrated FORest Mitigation mAnagement made operational for Europe	INFORMA	Santi Sabaté	5.337.547,50 €	EU	2022-2026
Infraestructura verda	INFRAESTRUCTURA VERDA	Joan Pino	50.000,00 €	Generalitat de Catalunya	2022
Incorporació dels principis de gestió i compartició de dades de GEOSS en suport de l'entorn europeu	InSituGEO	Joan Masó	45.220,00 €	EU	2021-2023
PRoMoting the Governance of Regional Ecosystem ServiceS	INTERREG PROGRESS	Enrique Doblas	1.640.000,00 €	EU	2019-2023
Caracterització dels vincles entre el cicle de l'aigua i els cicles N-P-K en un món cada vegada més càlid	KALORET	Estela Romero	26.620,00 €	Ministerio de Ciencia e Innovación	2022-2024
Creació i desplegament del Laboratori Metropolità d'Ecologia i Territori de Barcelona (LET-BCN)	LET-BCN	Joan Pino	123.790,00 €	IERMB	2018-2022
Implementació d'una biorefineria mediterrània per impulsar la gestió forestal mitjançant la generació de productes de valor afegit	LIFE BIOREFORMED	Jordi Vayreda	53.853,00 €	EU	2020-2024
Estratègies de Gestió Forestal Innovadores per millorar la Biodiversitat dels Boscos Mediterranis. Incentius i Eines de Gestió	LIFE BIORGEST	Jordi Vayreda	1.576.374,00 €	EU	2018-2023
Mid-mountain adaptation to climate change	LIFE MIDMACC	Javier Retana	2.595.725,00 €	EU	2019-2024
Reforestation & Climate Change Mitigation: tests, evaluation and transfer of innovative methods based on fog collection.	LIFE NIEBLAS	Vicenç Carabassa	127.610,00 €	EU	2020-2024
Soluciones basadas en la naturaleza para mejorar la adaptación de los bosques al cambio climático	LIFE REDBOSQUES_CLIMA	Jordi Vayreda	1.569.661,00 €	EU	2021-2025
Life Tritó Montseny: Seguiment de les actuacions de millora d'hàbitat i manual de bones pràctiques del bosc de ribera	LIFE TRITÓ II	Jordi Vayreda	8.421,60 €	Parc Natural del Montseny	2022

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Gestió Forestal per a la millora de la biodiversitat (derivat del LIFE BIORGEST)	LIFE-BIORGEST	Jordi Vayreda	40.000,00 €	Generalitat de Catalunya	2022
Low-carbon society: an enhanced modelling tool for the transition to sustainability	LOCOMOTION	Santi Sabaté Jordi Solé	6.315.865,00 €	EU	2019-2023
De islas a trampas: Dinámicas metapoblacionales en la ciudad y su mediación a través de los atributos de las especies y de las condiciones del ambiente	MEDYCI	Yolanda Melero	106.480,00 €	Ministerio de Ciencia e Innovación	2021-2024
Variación microclimática y resiliencia de los sumideros de carbono forestales al calentamiento global.	MICROCLIM	Jofre Carnicer	95.832,00 €	Ministerio de Ciencia e Innovación	2021-2024
Tractament SIG de la informació ambiental i territorial	MIRAMON	Xavier Pons	60.000,00 €	Generalitat de Catalunya	2022
Monitoratge i modelització integrats en un sistema d'alerta de la vulnerabilitat climàtica en boscos de muntanya	MODOSIN	Entic Batllori	48.773,80 €	Ministerio para la transición ecológica (Organismo Autónomo Parques Nacionales)	2019-2022
Model sistematitzat d'anàlisi i gestió d'ús públic. Gestió de la sobre-freqüentació en espais de bany de conques internes de les Comarques Gironines	ModSAGUP	Lluís Pesquer	2.696,36 €	Diputació de Girona - Fundació Privada Emys	2021-2022
Montclima: clima y riesgos naturales en las montañas del sudoe	MONTCLIMA	Javier Retana	1.051.358,47 €	EU	2019-2022
Estat de naturalització i estratègia per la biodiversitat del municipi de Viladecans	NAT_VILADECANS	Joan Pino	34.630,60 €	Ajuntament de Viladecans	2021-2022
Els nous boscos ibèrics: paper ecològic i vulnerabilitat potencial al canvi climàtic	NEWFORLAND	Joan Pino Josep M.Espelta	160.930,00 €	Ministerio de Ciencia e Innovación	2019-2022
Remote sensing oriented nature based solutions towards a NEW LIFE FOR DRYLANDS	NEWLIFE4DRYLANDS	Joan Masó Vicenç Carabassa	490.073,00 €	EU	2021-2023
Desenvolupar i aportar solucions per mitigar i adaptar-se als canvis en els elementomes dels organismes, comunitats i ecosistemes.	NUTRIARID	Josep Peñuelas	264.500,00 €	Ministerio de Ciencia e Innovación	2022-2024
OBSERVATORI	OBSERVATORI	Lluís Brotons Anna Ramon	287.000,00 €	Generalitat de Catalunya	2022
Canvi global i boscos - OCCC (Projecte Forestfuture)	OCCC	Jordi Vayreda	30.000,00 €	Generalitat de Catalunya	2022
Open-Earth-Monitor Cyberinfrastructure	OEMC	Joan Masó	12.720.045,00 €	EU	2022-2026

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Paleolimnologia: tècniques i aplicacions	PALEO	Jordi Catalán	98.245,68 €	CEDEX / Instituto Pirenaico de Ecología / Diversos	2017-2022
Research and innovation in the control and restoration process of mining activities	PEDRERES	Josep Maria Alcañiz	45.000,00 €	Generalitat de Catalunya	2022
'According to nature' - solutions to reduce risk in mountain landscapes	PHUSICOS	Pilar Andrés	9.472.200,00 €	EU	2018-2022
Desenmascarant les invasions biològiques: conseqüències de la proliferació de serps invasores per una sargantana endèmica al Mediterrani	PODARCIS	Oriol Lapiedra	24.800,00 €	National Geographic Foundation	2020-2022
Pol.Linització	POL.LINITZACIÓ	Jordi Bosch Anselm Rodrigo	20.000,00 €	Generalitat de Catalunya	2022
Primary. Vulneracions de drets i desforestació del bosc tropical primari (Catalunya)	PRIMARY	Anna Ramon	20.000,00 €	Ajuntament de Barcelona i Agència Catalana de Cooperació al Desenvolupament	2020-2022
Primary. Vulneracions de drets i desforestació del bosc tropical primari (Catalunya)	PRIMARY II	Anna Ramon	8.000,00 €	Ajuntament de Barcelona	2022
Prismàtic, plataforma de coneixement per la gestió del patrimoni natural i de la biodiversitat	PRISMÀTIC	Anna Ramon	30.000,00 €	Generalitat de Catalunya	2022
PYMEDEAS (BBDD modelització)	PYMEDEAS	Jordi Solé	50.000,00 €	Generalitat de Catalunya	2022
Patrons regionals de variabilitat genotípica i fenotípica associats a l'adaptació a Taxus baccata L	READAPT	Maria Mayol	137.940,00 €	Ministerio de Ciencia e Innovación	2021-2024
Accions de recuperació d'hidròfits i halòfits protegits i amenaçats del Parc Natural del Montgrí, les Illes Medes i el Baix Ter (PNMBT)	REFLORA	Sandra Saura	11.479,88 €	Generalitat de Catalunya	2022
Resiliència de comunitats llenyoses en front de perturbacions associades al canvi climàtic i nínxol climàtic de les espècies	RESIBIO	Francisco Lloret	116.523,00 €	Ministerio de Ciencia e Innovación	2021-2024
Millora de la resiliència dels boscos i la cadena de valor forestal mitjançant propostes ecològiques i socioeconòmiques	RESONATE	Josep Maria Espelta	4.994.062,50 €	EU	2021-2025
Sensibilització sobre la diplomàcia científica a la Mediterrània - Licitació - autoritat contractant: Unió per la Mediterrània	SCIDIPMED	Alicia Pérez Porro	18.000,00 €	Union for the mediterranean	2021-2022
Protocol de modificació de segues	SEGUES	Jordi Bosch Anselm Rodrigo	30.000,00 €	Generalitat de Catalunya	2022

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Serveis ecosistèmics	SERVEIS ECOSISTÈMICS	Joan Pino	50.000,00 €	Generalitat de Catalunya	2022
Acreditació Severo Ochoa	SEVERO OCHOA	Javier Retana	4.000.000,00 €	Ministerio de Ciencia e Innovación	2019-2023
La silvopastura sostenible: el benefici mutu entre la gestió per la prevenció d'incendis, la conservació dels boscos i la ramaderia extensiva	SILVODIVERS	Sandra Saura	45.511,41 €	Generalitat de Catalunya	2021-2024
Sisebio	SISEBIO	Javier Retana	135.000,00 €	Generalitat de Catalunya	2022
Desestabilització seqüencial de cicles biogeoquímics de c i n en resposta a l'augment de temperatures al subàrtic	SOCRATES	Sara Marañón	104.060,00 €	Ministerio de Ciencia e Innovación	2022-2025
Programa de monitoratge per a la recuperació dels pol·linitzadors	SPRING	Jordi Bosch Anselm Rodrigo	405.000,00 €	Helmholtz (Comissió Europea)	2021-2023
Efectes combinats de l'exposició a plaguicides i altres factors d'estrès en abelles solitàries	STRESSBEE	Jordi Bosch Anselm Rodrigo	194.810,00 €	Ministerio de Ciencia e Innovación	2022-2025
Sown forage mixtures for sustainable agroecosystems in the Mediterranean area	SUSFORAGE	Àngela Ribas	88.910,00 €	Ministerio de Ciencia e Innovación	2021-2024
Towards understanding the temporal dimension of the invasion process (TEMPOINVASIONS): implications for restoration	TEMPOINVASIONS	Sandra Nogué	155.250,00 €	Ministerio de Ciencia e Innovación	2022-2024
The fate of TERRestrial forest CARBon from photosynthesis to structural biomass under climate change	TERRACARB	Josep Peñuelas (Marie Curie Fellowship granted to Mukund Palat Rao)	172.932,48 €	EU	2022-2024
Incorporant la coordinació entre trets i la seva història evolutiva per millorar la capacitat de predir la resposta de les plantes a l'estrès	TRACES	Jordi Martínez Vilalta	221.430,00 €	Ministerio de Ciencia e Innovación	2022-2026
Water scenarios For Copernicus Exploitation	WATERFORCE	Lluís Pesquer	2.999.575,00 €	EU	2021-2023
Climate-smart rewilding: ecological restoration for climate change mitigation, adaptation and biodiversity support in Europe	wildE	Josep Maria Espelta	8.555.016,25 €	EU	2023-2026
Copernicus Assisted Lake Water Quality Emergency Monitoring Service	WQEMS	Joan Masó	1.499.506,25 €	EU	2021-2023
Xarxa boscos dinamica natural	XARXA BOSCOS	Jordi Vayreda	35.000,00 €	Generalitat de Catalunya	2022
Fomento de la bioeconomía y la resiliencia climática en los paisajes mediterráneos	BIORESILMED	Joan Pino	1.701.709,79 €	Fundación Biodiversidad	2023-2025

PROJECT NAME	ACRONYM	PRINCIPAL INVESTIGATOR	BUDGET	FUNDING ENTITY	PERIOD
Scenarios for protecting european avian redistributions	SPEAR	Lluís Brotons	209.100,00 €	Ministerio de Ciencia e Innovación	2022-2025
Desplegament del Pla Natura Barcelona 2030	PLA NATURA	Joan Pino	150.000,00 €	Ajuntament de Barcelona	2022-2026
Construint comunitats educatives i culturals envers l'emergència climàtica	PRIMARY BCN	Anna Ramon	35.000,00 €	Ajuntament de Barcelona	2022-2023
Science-based communication for the ecological transition	SCICOMMCLIMA	Anna Ramon	40.280,00 €	European Climate Foundation	2022-2023
Restoration, conservation, and resilience of mountain pine (Pinus uncinata) forests on limestone in the Pyrenees	LIFE UNCINATA	Jordi Vayreda	2.802.325,17 €	EU	2022-2027



In memory of **Marc Estiarte**, 27/09/2022



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