



Institute of Environmental
Assessment and Water
Research

scientific report

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Edition

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Index



8	About us
10	Key moments of 2023–2024
13	Impact on society
16	Our global sampling record
18	Scientific highlights
23	2024. IDAEA in numbers
23	IDAEA community
24	Publications
25	Projects
25	Funding
26	Innovation and transfer
26	Training and scientific events
27	Communication and outreach
28	2023. IDAEA in numbers
28	IDAEA community
29	Publications
30	Projects
30	Funding
31	Innovation and transfer
31	Training and scientific events
32	Communication and outreach

The home of sustainable science

Creating the foundations
for a greener future.

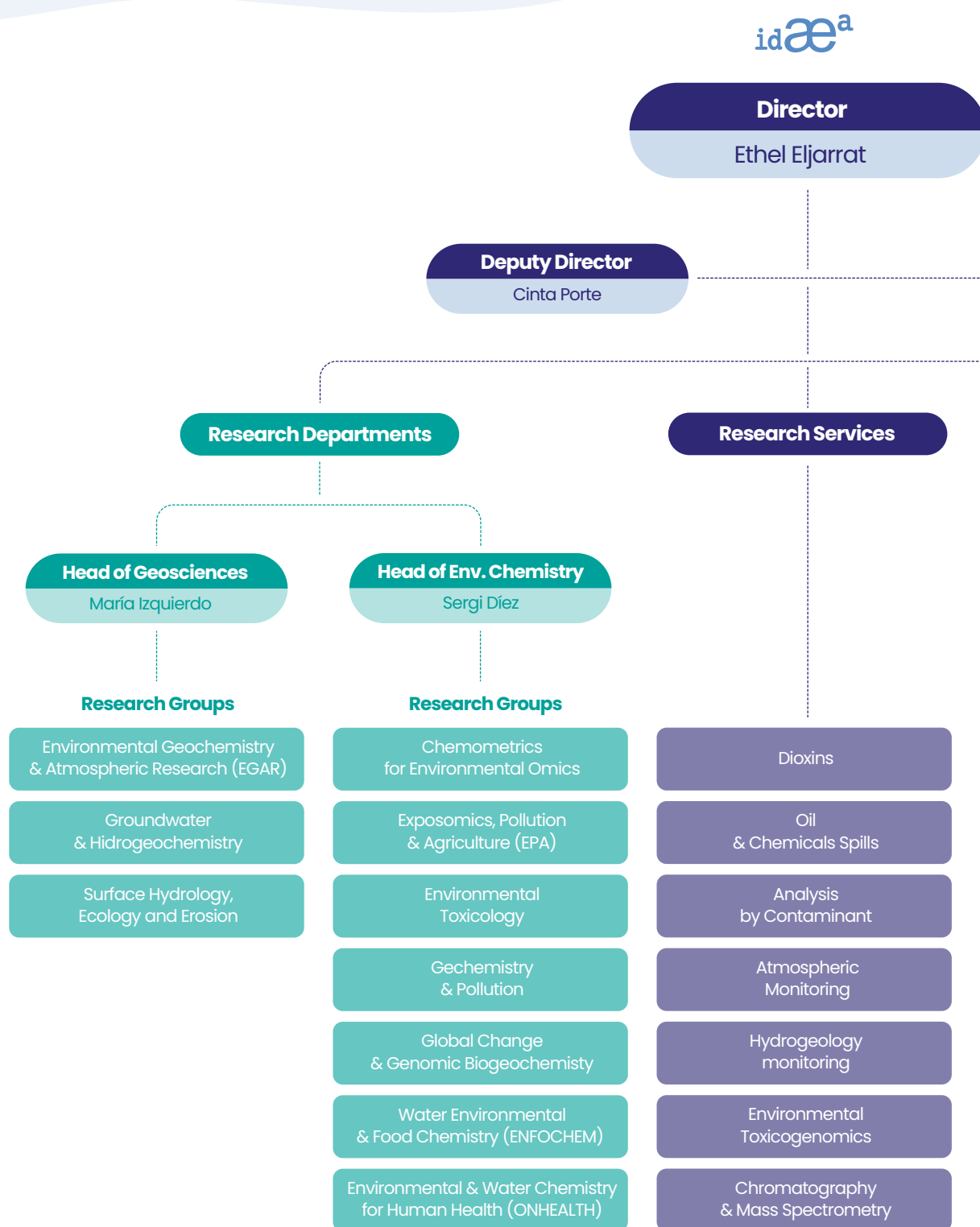


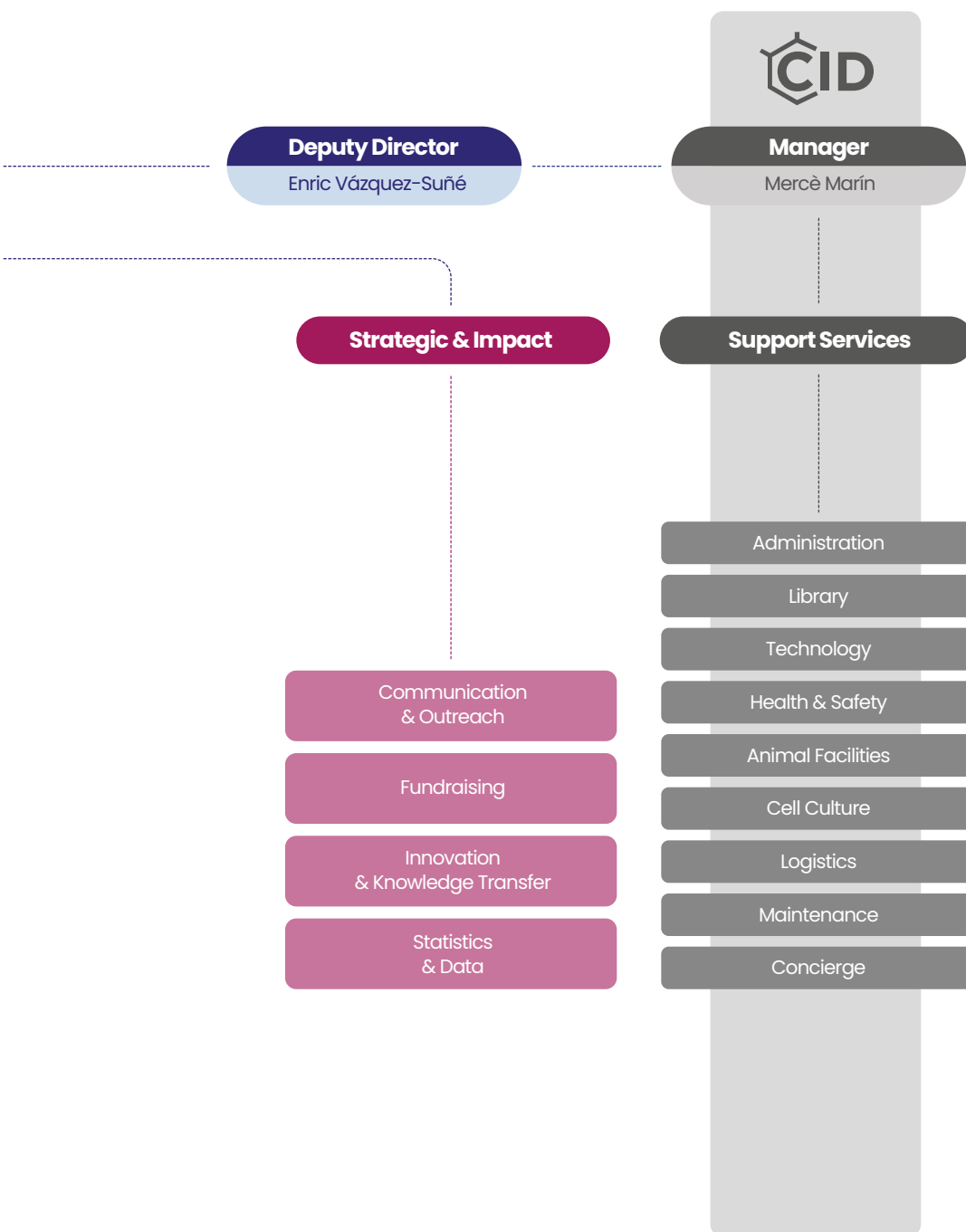
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IDAEA is a multidisciplinary research institute focused on the concept of **One Health**, where the health of humans, animals, plants, and the environment as a whole –including ecosystems– are closely interconnected and interdependent. We have the capacity and expertise to address interdisciplinary research challenges at both local and global scales. IDAEA is distinguished by its cross-cutting approach, with research areas that include chemistry, biology, toxicology, hydrology, and geology.

Since its foundation a decade ago, IDAEA has worked consistently to deliver excellent environmental research, guided by the principle that our scientific understanding of current threats to global ecosystems is best addressed through a holistic, systems-based perspective. We are also actively involved in providing expert advice in emergency situations, such as the pellet spill on the Galician coast or the flash flooding caused by the DANA in Valencia.

About us





Key moments 2023-2024



RESEARCH 28 APRIL 2023

The European Commission establishes ACTRIS as a European Research Infrastructure Consortium, with IDAEA as a member.

IDAEA is part of ACTRIS, a scientific platform for atmospheric research. The European Commission officially designated ACTRIS as a European Research Infrastructure Consortium (ERIC), strengthening its role in the study of aerosols, clouds, and trace gases.

With ACTRIS, scientists can better analyse the atmosphere, improving weather forecasts, health alerts, and climate change assessments.



RESEARCH 03 MAY 2023

IDAEA study shows that sugary drinks contain plasticiser levels 100 times higher than those in water.

A study by Julio Fernández Arribas, Teresa Moreno, and Ethel Eljarrat analysed the presence of organophosphate plasticisers in 75

samples of different beverages, including water, cola-type soft drinks, juices, wine, and hot drinks.

The results show that, on average, sugary beverages contain 100 times more of these plasticisers than water, which has the lowest levels. The study, published in Environment International, identified that plasticisers originate from both the packaging and the added sugar in the drinks.



TRANSFER 27 JUNE 2023

IDAEA contributes to the proposals to face drought and water scarcity in Catalonia.

After the Social Summit on Drought, in which IDAEA researchers Enric Vázquez-Suñé and Marc Teixidó participated, the organisations Aigua és Vida, Plataforma en Defensa de l'Ebre, Ecologistes en Acció, Ecologistes de Catalunya, and Grup de Defensa del Ter met with the President of the Generalitat at a National Water Board meeting to present their proposals to address drought and water scarcity in Catalonia.

Climate change projections indicate a reduction in water availability. According to these organisations, a new water management model is needed to change consumption patterns.



INSTITUTIONAL 06 JULY 2023

Ethel Eljarrat, new director of IDAEA-CSIC.

After five years as Director of the IDAEA, researcher Teresa Moreno stepped down and passed the role to Ethel Eljarrat. Under Moreno's leadership, the centre achieved the Severo Ochoa Accreditation of Excellence, establishing it as one of the leading environmental research institutes, both nationally and internationally.

Ethel Eljarrat took the lead of IDAEA for the next four years, addressing two main goals: Scientific Excellence and Knowledge Transfer.



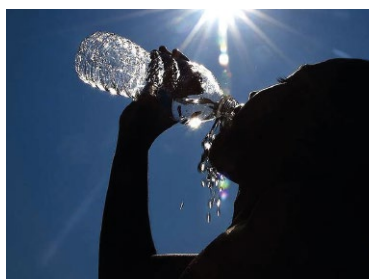
TRANSFER 18 JULY 2023

Two IDAEA projects awarded in the CSIC EBTon entrepreneurship program.

The IDAEA projects Ceramic Passive Samplers, developed by Sílvia Lacorte, and Recopps, led by Patricia Córdoba, have won the Pitch Competition session of the

EBTon programme, a CSIC initiative aimed at fostering the creation of new spin-offs based on CSIC technologies. The award came with €20,000 in funding.

The Ceramic Passive Samplers, developed by IDAEA researcher Sílvia Lacorte, detects organic contaminants in water over time, allowing a comprehensive assessment and versatile in its application. The Recopps, led by the IDAEA researcher Patricia Córdoba, consists of a recovery process of critical raw material from the copper industry.



RESEARCH 16 OCTOBER 2023

A new application monitors heat-related mortality in Spain.

The MACE web application calculates mortality associated with moderate, extreme, and excessive heat in Spain between June and August, using official data from the Daily Mortality Monitoring System (MOMO) and temperature records from the Spanish State Meteorological Agency.

Developed by Aurelio Tobías (IDAEA-CSIC), alongside researchers from the University of Valencia, and the Foundation for Climate Research, MACE is accessible online via the browser of any computer or electronic device.



OUTREACH 13 NOVEMBER 2023

Exploring the wonders of science: IDAEA hosts an engaging Open Day during Science Week.

IDAEA organised an engaging Open Day as part of Science Week, featuring workshops led by researchers Juliette Bedrossiantz, Mercè Garí, Marta Via, Carmen Bedia, along with communication officers Ana Sotres and Alicia Arroyo.

Visitors explored various scientific topics, such as air pollution, human exposure to mercury, the use of model organisms for ecotoxicology, and green solutions for groundwater pollution. The event aimed to bring science closer to the public through hands-on activities and discussions, showcasing IDAEA's research on environmental assessment and water quality.



RESEARCH 15 JANUARY 2023

A high-resolution methodology enables the quantification of micro and nanoplastics in bottled water.

There is a growing concern about the impact of micro- and nanoplastics on human health. The complexity of the materials, their small size, and limitations in methodology restrict their analysis and, consequently, regulation. A study led by Albert Vega-Herrera, Marta Llorca and Marinella Farré (IDAEA-CSIC), in collaboration with ISGlobal, developed a high-resolution methodology that allows the quantification of micro- and nanoplastics in plastic-bottled water. Extremely small plastic particles, ranging from 0.7 to 20 micrometres (μm), as well as the chemical additives released into the water, were quantified. The results showed an average concentration of 359 nanograms of micro- and nanoplastics per litre of water, a quantity comparable to that found in tap water in a previous study conducted by the same group.

Extremely small plastic particles, ranging from 0.7 to 20 micrometres (μm), as well as the chemical additives released into the water, were quantified. The results showed an average concentration of 359 nanograms of micro- and nanoplastics per litre of water, a quantity comparable to that found in tap water in a previous study conducted by the same group.



RESEARCH 14 FEBRUARY 2024

Tomás Aquino wins an ERC grant to understand the flow of water and contaminants in the soil.

IDAEA researcher Tomás Aquino was awarded a prestigious ERC Starting Grant to understand the transport of water, pollutants, and nutrients through the most superficial layer of the subsoil: the unsaturated zone.

His project, Uplift, awarded €1.5 million over five years, aims to develop models that allow for very accurate prediction of the flow of water, pollutants and nutrients through the unsaturated zone. By combining laboratory experiments, fieldwork, and mathematical modelling, the research will help predict the spread of contaminants and develop better environmental management strategies.



TRANSFER 04 JUNE 2024

Plastics in the Circular Economy; IDAEA and IATA hold a new "Itinerario Cicerón".

The Institute of Environmental Assessment and Water Research (IDAEA) and the Institute of

Agrochemistry and Food Technology (IATA), both belonging to the Spanish National Research Council (CSIC), organised a new "Cicerón" event in Barcelona. The research centres presented some of their most relevant scientific research on environmental pollution and the effects of plastics on human health.

The "Cicerón" program, which aims to connect science with society to create synergies to address common challenges, opened the doors of the IDAEA labs to companies, journalists and public administrations. The event was also attended by Ethel Eljarrat, Director of IDAEA; José María Lagarrón, IATA researcher; Ana Castro, Vice President of Innovation and Transfer of CSIC; Luis Calvo, CSIC delegate in Catalonia; and renowned CSIC researchers.



RESEARCH 02 SEPTEMBER 2024

Study shows the effectiveness of wetlands in removing antibiotics from wastewater treatment.

Antibiotic pollution in urban and industrial wastewater is a growing problem, especially in southern Europe, where the high consumption of these drugs and water scarcity exacerbate the situation. In this context, a study by IDAEA revealed that nature-based solutions (NBS), such as constructed wetlands, are emerging as effective technologies for improving water quality and reducing emerging contaminants.

The study showed that surface-flow constructed wetlands removed an average of 88% of the antibiotics present, while horizontal subsurface-flow wetlands removed 69%, significantly outperforming conventional technologies that combine sand filtration, ultraviolet light disinfection, and chlorination. The study showed that surface-flow constructed wetlands removed an average of 88% of the antibiotics present, while horizontal subsurface-flow wetlands removed 69%, significantly outperforming conventional technologies that combine sand filtration, ultraviolet light disinfection, and chlorination.



INSTITUTIONAL 18 SEPTEMBER 2024

More than 100 scientists and health professionals have urged the Spanish government and Congress to take decisive action against toxic chemicals.

Our consumption is toxic. With this strong statement, representatives of over 100 scientists and health professionals presented themselves this morning at the Spanish Congress and later at the Ministry of Health. They are the signatories of the Future Without Toxics Declaration, an initiative led by the Rezero Foundation that calls for urgent measures to address the alarming exposure to toxic substances from plastics and other everyday products. Among them is Ethel Eljarrat, Director of IDAEA-CSIC, who supports stricter policies to protect public health and the environment.

Impact on society



Science for policy

Turning scientific evidence into actionable policies is central to IDAEA's mission. Through active engagement with policymakers and public institutions, our researchers have contributed to reports, advisory documents and legislative processes at regional, national, and European level. A selection of policy-related outputs:



Hazards

- ⌚ Antibiotic residues in wastewater treatment plants and surface waters.
- ⌚ Tackling plastic pollution.



Water resources

- ⌚ When freshwater turns salty.
- ⌚ Droughts.



Air quality

- ⌚ Wildfires.
- ⌚ Recommendations to improve air quality.
- ⌚ Recommendations for the EU Air Quality Directive.

→ Our scientific expertise has supported institutions such as the European Commission, the Spanish Ministry of Health, the Spanish Ministry for the Ecological Transition and the Demographic Challenge, the World Health Organization, among others.



Responding to emergencies

Environmental emergencies demand rapid and informed responses. IDAEA has supported crisis management by providing expert analysis and data, drawing on our long-standing experience in incidents such as chemical spills, floods, and pollution disasters.

Photo by IDAEA-CSIC

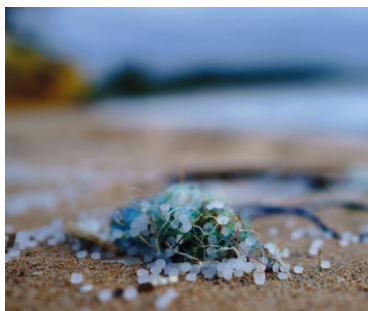


Photo by Sören Funk on Unsplash



December 2023

Spillage of plastic pellets near the Galician coast

IDAEA contributed to:

- Chemical characterisation of the plastic pellets.
- Analysing the impact of plastic pellet pollution on aquatic biota.
- Ethel Eljarrat served on the CSIC Emergency Committee and was one of three CSIC researchers designated to engage with the media.

Photos by Alejandro Muñoz – IDAEA-CSIC | CSIC-FBBVA Scientific Communication Grant 2023



October 2024

DANA floods in Valencia

Following the floods caused by the DANA (Depresión Aislada en Niveles Altos) in Aragón, Castilla-La Mancha, Andalusia, Catalonia, and especially Valencia, IDAEA has contributed to:

- Assessing air quality: The inhalable fraction of road dust was sampled and characterised. The IDAEA-CSIC Mobile Air Quality Monitoring Unit was deployed in Picanya for over three months, where atmospheric pollutant levels and particulate matter fractions were monitored and analysed (Andrés Alastuey, Fulvio Amato, and Xavier Querol).
- Analysing the presence of indicators in groundwater to detect the impact and sources on its quality. Sampling was carried out by Estanislao Pujades and Sergio Santana, whereas the analysis of organic contaminants of different classes was carried out by Sergio Santana, Nicola Montemurro, and Sandra Pérez.
- Determining tracers for source apportionment (Estanislao Pujades).
- Hydrogeological study on aquifer impact and its evolution (Enric Vázquez-Suñé).
- Analysing different families of organic pollutants in collected sludge and re-suspended dust, and evaluating their environmental and human impact (Ethel Eljarrat).



Interdisciplinary platforms

IDAEA contributes to the CSIC's Interdisciplinary Thematic Platforms (PTIs), collaborative initiatives designed to address complex societal challenges. These platforms connect research groups across disciplines and institutions, and promote innovation through partnerships with industry, administration and civil society.



Energy and industry



SusPlast

<https://pti-susplast.csic.es/>



SosEcoCir

<https://pti-sosecocir.csic.es/>

Earth system and oceans



Oceans

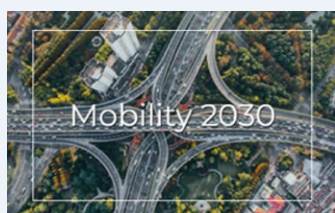
<https://pti-oceans.csic.es/>



PolarCSIC

<https://polarcsic.es/en/>

Digitalization and future society



Mobility 2030

<https://pti-mobility2030.csic.es/?lang=es>

Health and environment



Salud Global

<https://pti-saludglobal.csic.es/>



Our global sampling record

IDAEA's global sampling record spans all continents and environmental media, including air, water, soil, biota, and human samples. Explore the map to discover where our research teams have collected data to understand and address environmental challenges worldwide.

Argentina

Finland

Italy

Portugal

United States

China

France

Jordan

Romania

Artic

Denmark

Gambia

Mexico

Spain

Antarctica

Greece

Morocco

Sweden

Ireland

Netherlands

United Kingdom



ARGENTINA

 SOIL / ROCKS

CHINA

 AIR

 SOIL / ROCKS

DENMARK

 WATER

 SOIL / ROCKS

FINLAND

 AIR

FRANCE

 AIR

GAMBIA

 WATER

 ANIMAL

GREECE

 WATER

 SOIL / ROCKS

IRELAND

 AIR

 WATER

 SOIL / ROCKS

ITALY

 AIR

 WATER

 SOIL / ROCKS

JORDAN

 AIR

 SOIL / ROCKS

MEXICO

 WATER

MOROCCO

 AIR

 SOIL / ROCKS

NETHERLANDS

 AIR

PORTUGAL

 SOIL / ROCKS

ROMANIA

 AIR

SPAIN

 AIR

 HUMAN

 WATER

 SOIL / ROCKS

 ANIMAL

SWEDEN

 AIR

UNITED KINGDOM

 AIR

UNITED STATES

 SOIL / ROCKS

ARTIC

 AIR

 WATER

 SOIL / ROCKS

ANTARCTICA

 WATER

Scientific highlights

Here are the **12 most impactful scientific papers** published by IDAEA researchers during 2023 and 2024. Selected based on journal impact factor and citation count, these highlights reflect the diverse expertise and cutting-edge research of our teams across multiple environmental disciplines.

Climate →



Extreme temperatures linked to higher cardiovascular death risk.

A large international study showed that both extreme heat and cold significantly raise the risk of dying from cardiovascular conditions like heart attacks, strokes and heart failure. Analysing data from 567 cities in 27 countries, researchers found that cold days had the biggest impact, especially for heart failure.

Researcher Aurelio Tobías from IDAEA-CSIC was one of the authors of this study, which highlighted the growing health risks of temperature extremes in a changing climate.

Barrak Alahmad, Haitham Khraishah, Dominic Royé, ..., Aurelio Tobías, ..., Petros Koutrakis. (2023). **Associations Between Extreme Temperatures and Cardiovascular Cause-Specific Mortality: Results From 27 Countries.** *Circulation* 147 (1), 35–46.

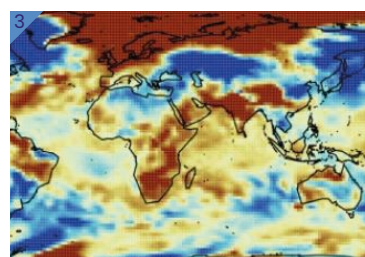


Extreme glacial cooling 1.12 million years ago ended the first human occupation of Europe.

The oldest human remains in Europe, found in the Iberian Peninsula, suggest that the first hominins arrived from southwest Asia 1.4 million years ago. The climate during this period was warm and humid, and it has been assumed that they survived in southern Europe by adapting to multiple climatic cycles, including the cold periods of the last 900,000 years.

However, a study conducted by an international team, including Joan Grimalt from IDAEA-CSIC, and published in *Science*, discovered the occurrence of previously unknown extreme glacial conditions around 1.12 million years ago. This challenges the idea of an early and permanent human occupation of Europe.

Vasiliki Margari, David A. Hodell, Simon A. Parfitt, ..., Joan O. Grimalt, ..., Polychronis C. Tzedakis. (2023). **Extreme glacial implies discontinuity of early hominin occupation of Europe.** *Science* 381, 6658.



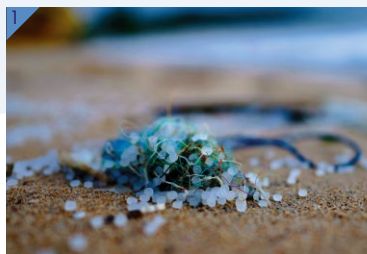
Climate models underestimate long-term regional temperature variability.

This review suggested that current climate models may underestimate natural temperature variability at regional scales over multidecadal to centennial timescales. While models and proxy data align globally, the study highlighted consistent mismatches at regional levels, where models showed less variability than historical reconstructions suggest.

The paper, which included contributions from IDAEA researcher Belén Martrat, underscored the need to enhance the simulation of long-term regional climate patterns and to refine how past temperature variations are reconstructed from natural archives.

Thomas Laepple, Elisa Ziegler, Nils Weitzel, ..., Belén Martrat, ..., Kira Rehfeld. (2023). **Regional but not global temperature variability underestimated by climate models at supradecadal timescales.** *Nature Geoscience* 16, 958–966

Plastic pollution →

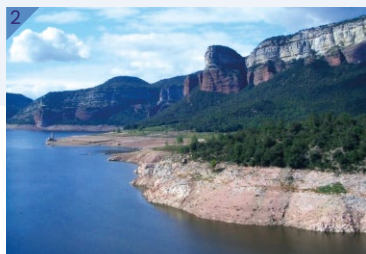


Microplastics detected in human tissues raise health concerns.

Microplastics are in all environmental compartments, including atmosphere, terrestrial, and aquatic environments as well as in marine organisms, foods, drinking water, and indoor and outdoor environments. They can enter the human body through the food chain and contaminated environment. Ingestion, inhalation, and dermal contact are the routes of their entry into the human body.

In this review article, which includes the contribution of IDAEA researcher Damià Barceló, the authors briefly summarised reports documenting the detection of microplastic in the human body, such as in stool, placenta, lungs, liver, sputum, breast milk, and blood. A concise overview of sample preparation and analysis methods for these human matrices was also provided. Finally, the article presented a summary of the effect of microplastics on human cell lines and health.

Damià Barceló, Yolanda Picó, Ahmed H Alfarhan. (2023). **Microplastics: Detection in human samples, cell line studies, and health impacts.** *Environmental Toxicology and Pharmacology* 101, 104204.



Plastic pollution: some lakes are worse impacted than oceans.

A study published in *Nature* revealed that some lakes and reservoirs around the world contain higher concentrations of plastic pollution than the so-called garbage patches in the oceans. These findings challenge the assumption that freshwater environments are less affected by plastic waste and highlight lakes as critical zones for monitoring global pollution.

The research was led by the University of Milano-Bicocca and involved nearly 80 scientists from across six continents. Miguel Cañedo-Argüelles, researcher at IDAEA, was one of the co-authors of the study, which included the Sau Reservoir in Catalonia among the sites with the highest levels of microplastics. The study underscored the urgent need to rethink pollution control strategies and protect freshwater ecosystems.

Veronica Nava, Sudeep Chandra, Julian Aherne, ..., Miguel Cañedo-Argüelles, ..., Barbara Leoni. (2023). **Plastic debris in lakes and reservoirs.** *Nature* 619, 317–322.



A preliminary study shows higher toxicity in compostable bags than in conventional plastic ones.

A study led by IDAEA and the IATA analysed the toxicity of compostable plastic bags, conventional plastic bags, and other recycled plastic bags in zebrafish cells.

Published in the *Journal of Hazardous Materials*, the results showed a high level of toxicity in compostable plastic bags, which increased with photodegradation: the alteration of plastic material by ultraviolet light. Although this was a preliminary study involving a small number of bags, the results were representative of degradation processes.

Tiantian Wang, Mahboubeh Hosseinzade, Alice Cuccagna, Rakhat Alakenova, Paula Casademunt, Alcira Reyes Rovatti, Amparo López-Rubio, Cinta Porte. (2023). **Comparative toxicity of conventional versus compostable plastic consumer products: An in-vitro assessment.** *Journal of Hazardous Materials* 459, 132123.

Soil, water and air pollution →



Crumb rubber surfaces in playgrounds and sport fields may release toxic plastics into the air and water.

This study highlighted how outdoor surfaces made from recycled rubber—commonly used in playgrounds and sports fields—can release micro- and nanoplastics and a wide array of plastic additives into the air and water after weathering and runoff events. Over two months, researchers monitored the materials under summer conditions, detecting airborne particles containing various plastic polymers and more than 50 additives, including flame retardants and UV filters. Led by IDAEA researchers Katerina Savva and Teresa Moreno, and carried out entirely by IDAEA scientists, the study also found that leachates from these materials can have toxic effects on freshwater organisms like *Daphnia magna* and *Chlorella vulgaris*. While concentrations causing harm in the lab were higher than expected in real environments, the findings raise important concerns about human and ecological exposure to plastic-related pollutants from these common urban surfaces.

Katerina Savva, Marta Llorca, Xavier Borrell, Ona Bertran-Solà, Marinella Farré, Teresa Moreno. (2024).

Granulated rubber in playgrounds and sports fields: A potential source of atmospheric plastic-related contaminants and plastic additives after runoff events. *Journal of Hazardous Materials* 479, 135697.



Tracking toxic Chromium: How industrial waste pollutes soil and groundwater.

This study explored how hexavalent chromium, Cr(VI), a highly toxic pollutant, is released and moves through soil contaminated by industrial waste. Through lab experiments, isotope analysis, and reactive transport modelling, the researchers identified the chemical forms of Cr(VI) in the soil and showed how it leaches into groundwater from specific industrial residues.

With contributions from Jordi Cama and Josep M. Soler, the work provided a detailed understanding of the geochemical processes driving Cr(VI) contamination.

Elina Ceballos, Jordi Cama, Josep M. Soler, Robert Frei. (2023). **Release and mobility of hexavalent chromium in contaminated soil with chemical factory waste: Experiments, Cr isotope analysis and reactive transport modeling.** *Journal of Hazardous Materials* 451, 131193.



Organic pollutants threaten aquatic ecosystems in high ecological value areas in Spain.

A total of 59 micropollutants were detected in 140 Important Bird Areas (IBAs) across Spain. These sites, identified by BirdLife International as having special protection status, were found to contain pharmaceuticals, pesticides, perfluorinated compounds, nicotine, and caffeine, among other chemicals, in the water samples analysed. The results indicate that agricultural activity and densely populated urban areas are the primary sources of pollution. The areas most significantly affected include La Campiña de Carmona (Seville), Los Saladares del Guadalentín (Murcia), and Las Hoces del Turia y Los Serranos (Valencia).

The research was carried out by Marta Dulsat-Masvidal and Sílvia Lacorte, from IDAEA-CSIC, in collaboration with IREC-CSIC-UCLM-JCCM, and the Spanish Ornithological Society (SEO/BirdLife). The study shed light on the environmental risks posed by chemical pollution in ecologically valuable wetlands.

Maria Dulsat-Masvidal, Carlos Ciudad, Octavio Infante, Rafael Mateo, Silvia Lacorte. (2023). **Water pollution threats in Important Bird and Biodiversity Areas from Spain.** *Journal of Hazardous Materials* 448, 130938



Soil Aquifer Treatment reduces toxicity risks from treated wastewater.

This study showed that enhanced Soil Aquifer Treatment (SAT) systems can significantly reduce the toxic effects of contaminants found in wastewater treatment plant effluents. By using bioassays with zebrafish embryos and human liver cells, researchers found that SAT systems—with or without reactive barriers—lowered biological toxicity by over 70%, alongside reducing emerging contaminants.

The paper was led by Claudia Sanz and Laia Navarro-Martín and involved numerous researchers from different IDAEA groups. Their findings support the potential of SAT as a sustainable method to improve water quality and protect both ecosystems and human health in water reuse scenarios.

Claudia Sanz, Adrià Sunyer-Caldú, Marta Casado, Sylvia Mansilla, Lurdes Martínez-Landa, Cristina Valhondo, Ruben Gil-Solsona, Pablo Gago-Ferrero, Jose Portugal, Silvia Díaz-Cruz, Jesús Carrera, Benjamin Piña, Laia Navarro-Martín. (2024).

Efficient removal of toxicity associated to wastewater treatment plant effluents by enhanced Soil Aquifer Treatment.

Journal of Hazardous Materials 465, 133377.



Assessing pollution in intermittent Mediterranean rivers impacted by wastewater.

This international study led by IDAEA researchers Olga Gómez-Navarro and Sandra Pérez explored how wastewater effluents affect the health of intermittent rivers in the Mediterranean—watercourses that don't flow year-round. By analysing twenty rivers across Spain, France, Italy, Algeria and Tunisia, the research team used a combination of chemical, ecological and hydrological indicators to evaluate anthropogenic stress.

Pharmaceuticals served as key markers of pollution, and the results revealed a consistent degradation of river health downstream. Particularly concerning were findings from Tunisia and Algeria, where water quality indicators showed the most compromised conditions, including exceedances of safety thresholds for several compounds.

Olga Gómez-Navarro, Anna Maria De Girolamo, Armin W. Lorenz, Samia Khadhar, Taha-Hocine Debieche, Francesco Gentile, Serge Chiron, Sandra Pérez. (2024).

Characterization of anthropogenic impacts in Mediterranean intermittent rivers with chemical, ecological and hydrological indicators. *Journal of Hazardous Materials* 480, 135951.



Experts demand national plans for indoor air quality.

Awareness of pollution is growing, and in recent years, policy reports have been published to recommend best practices, methods, data, and scientifically validated models. However, despite decades of research and advocacy, most countries still lack legally binding indoor air quality standards. The COVID-19 pandemic highlighted the crucial role of indoor air quality in human health.

In an article published in *Science*, in which IDAEA researcher Xavier Querol participated, scientists proposed that indoor air quality standards should be mandatory for public spaces, and homes should be designed and equipped to comply with these standards.

Lidia Morawska, Joseph Allen, William Bahnfleth, ..., Xavier Querol, ... Maosheng Yao. (2023). **Mandating indoor air quality for public buildings.** *Science* 383, 1418 – 1420.



**One Planet.
One Health.
One Science.**

idæ^a

IDAEA in numbers

2024

Here are the key figures illustrating IDAEA's performance in 2024. Explore data on our community, research output, projects, funding, innovation, outreach activities, training, and scientific events.

→ IDAEA community

Total staff

310



175



Women
56.5%



135



Men
43.5%

	Total	Women	Men
Principal Investigators	13	3	10
Senior researchers	44	21	23
Postdoctoral researchers	38	24	14
Predoctoral researchers	101	55	46
Technicians	82	50	32
Administrative staff	32	22	10

Visiting researchers

131



27%

Foreign
researchers

30

Nationalities



→ Publications

Total publications



520

Indexed
publications

341

D1

227

67.57 %

Q1

303

88.86 %



279

OPEN ACCESS

Publications in
journals with IF > 15

143

Distribution by subject areas

Environmental Science	207
Earth and Planetary Sciences	51
Chemistry	59
Biochemistry, Genetics and Molecular Biology	33
Agricultural and Biological Sciences	28
Medicine	32
Pharmacology, Toxicology and Pharmaceutics	23
Engineering	23
Chemical Engineering	21
Social Sciences	12
Physics and Astronomy	11
Computer Science	10
Multidisciplinary	4
Mathematics	9
Energy	4
Health Professions	1
Decision Sciences	2
Immunology and Microbiology	1
Materials Science	2
Business, Management and Accounting	1
Arts and Humanities	2
Economics, Econometrics and Finance	1

Publications led
by IDAEA researchers

129

Publications 1st
author woman

150



43.99 %

→ Projects

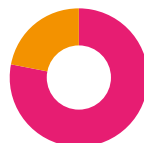
Total ongoing projects

225



22%

European or
international



78%

National

1



European Research Council
Established by the European Council

→ Funding

Total uptake for the next 3-4 years

27 M €



IDAEA revenue for 2023-2024

9.5 M €

61%

International

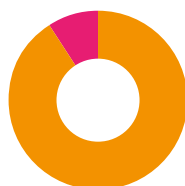


39%

National

91%

Public



9%

Private

→ Innovation and transfer

Contracts Total uptake of these contracts

48 → **2.1 M €**

Private funds

55%

★ Top 10 clients

Agència Catalana de l'Aigua	Sasemar
Agencia Estatal de Meteorología	IGN
Repsol Exploracion S.A.	Institut de Salut Global Barcelona
Eurofins Control Ambiental S.L.	SQM Salar, S.A.
Corporación Nacional del Cobre de Chile	Asociación Instituto de Investigación Sanitaria

→ Training and scientific events



PhD Thesis
defended

14



IDAEA
seminars

28



Seminars with
invited speaker

25%

→ Communication and outreach



Media appearances

255



Newsletter subscribers

171



Social media followers

13,648



7,210



3,719



2,275



444



Total attendees

1,215



Outreach activities

28

Activitiy	Total	Attendees
Conferences	8	301
Exhibitions	1	60
Guided Tours	4	120
Round tables / Debates	4	182
Trainings	1	21
Workshops	13	531
Total	28	1,215

IDAEA in numbers

2023

Here are the key figures illustrating IDAEA's performance in 2023. Explore data on our community, research output, projects, funding, innovation, outreach activities, training, and scientific events.

→ IDAEA community

Total staff

263



141



Women
53.6%



122



Men
46.4%

	Total	Women	Men
Principal Investigators	12	3	9
Senior researchers	40	18	22
Postdoctoral researchers	33	17	16
Predoctoral researchers	92	50	42
Technicians	59	34	25
Administrative staff	27	19	8

Visiting researchers

118



28%

Foreign
researchers

29

Nationalities



→ Publications

Total publications



471

Indexed
publications

350

D1

229

65.43%

Q1

304

86.86 %



327

OPEN ACCESS

Publications in
journals with IF > 15

118

Distribution by subject areas

Environmental Science	223
Earth and Planetary Sciences	70
Chemistry	56
Biochemistry, Genetics and Molecular Biology	47
Agricultural and Biological Sciences	35
Medicine	22
Pharmacology, Toxicology and Pharmaceutics	24
Engineering	24
Chemical Engineering	25
Social Sciences	7
Physics and Astronomy	6
Computer Science	6
Multidisciplinary	9
Mathematics	4
Energy	8
Health Professions	7
Decision Sciences	5
Immunology and Microbiology	3
Materials Science	1
Business, Management and Accounting	2
Veterinary	1
Neuroscience	1

Publications led
by IDAEA researchers

131

Publications 1st
author woman

149



42.57 %

→ Projects

Total ongoing projects

203



21%

European or
international



79%

National

1



European Research Council
Established by the European Council

→ Funding

Total uptake for the next 3–4 years

27 M €

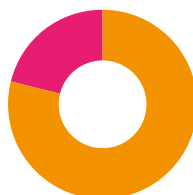


IDAEA revenue for 2023–2024

9.5 M €

79%

International

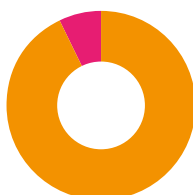


21%

National

93%

Public



7%

Private

→ Innovation and transfer

Contracts

Total uptake of these contracts

42 → 1.8 M €

Private funds

48%

★ Top 10 clients

Agència Catalana de l'Aigua	Sasemar
Agencia Estatal de Meteorología	IGN
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→ Training and scientific events



PhD Thesis
defended

16



IDAEA
seminars

17



Seminars with
invited speaker

29%

→ Communication and outreach



Media appearances

316



Newsletter subscribers

171



Social media followers

13,648



7,210



3,719



2,275



444



Total attendees

2,436



Outreach activities

46

Activitiy	Total	Attendees
Conferences	19	809
Exhibitions	1	400
Fairs	1	61
Guided Tours	2	73
Open Days	1	33
Round tables / Debates	6	460
Workshops	14	520
Other	2	80
Total	46	2,436



idæ^a

One Planet. One Health. One Science.

idæ^a

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