



CIMA
Research
Foundation

ANNUAL REPORT 20 23





**CIMA Research Foundation
Annual Report 2023**

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all the CIMA Research Foundation staff!

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At CIMA Research Foundation, we often find ourselves having to seek out a balance. The internal and external pressures, strains and requests - just like the challenges, and the opportunities - drive us to constantly be on the move with dynamics where we need to balance energy, time and, above all, commitment.

We strive to create scientific documents of widespread interest, such as the Early Warning to Early Action Guidelines that we drew up for the IPA Floods and Fires (IPAFF) programme. Or the European Drought Risk Atlas for the EDORA project, in partnership with the Joint Research Centre (JRC), where we structured and systematized the scientific data and models. In parallel, we also try to help the people working in operations - the people who have to respond to an emergency - as in the case of the flood drill in Savona or the wildfire drill in Georgia (as part of the PPRD East3 programme).

A goal of these drills is to leave nobody behind, whether this means accompanying the most vulnerable inhabitants of remote Bagnara Calabria with the Italian Civil Protection Department (DPC) or including persons with disabilities within civil protection plans. Or in Ukraine where, coordinating with the Italian Red Cross, we have continued providing support through our daily weather bulletins. Or again in Sudan - that forgotten yet terrible turmoil that has forced us, along with the Italian Agency for Development Cooperation (AICS) and the Italian Ministry of Foreign Affairs and International Cooperation (MAECI), to change our support activities. I will not easily forget the embrace from the head of the Sudan Meteorological Authority at COP28, where her



Science as we understand it has to be placed at the service of society, but always with participation by the communities involved

thank you for our constant presence was an emotional one - these gestures remind us there are real people behind the numbers and the algorithms.

There are many people, such as the ones who were in Dubai for the world's most important environmental date, where we took part in various sessions. Or in New York with the head of the Italian Civil Protection Department during the UN assembly for the SDGs. Or at the WMO's World Meteorological Congress where we spoke on early warning systems for the Volta River basin countries. We waver between the typical tendency in science that drives us ever further on (sometimes at the cost of making mistakes) and the quest for what can be most useful during operations, even if that might be less innovative. And we try to find a middle ground, as in the case of fire forecasting and monitoring at the European Emergency Response Coordination Centre (ERCC), where we alternated with other colleagues within the Aristotle project; or in the international activities of our projects, which take us to address global-scale issues, through to providing tangible and operational responses in areas of Italy. So we find ourselves juggling between emergencies - such as the May floods in Emilia-Romagna and the Autumn ones in Tuscany - and careful attention to droughts and to snowfall as a water resource, which has steered us very much out of our comfort zone, but has allowed us to reach journalists, activists and policy-makers.

Readers browsing through this Annual Report will find data and information useful to building an overall picture of our activities, our actions, our skillset and, above all, the people behind these. Our work is the result of a group commitment, and I hope this team spirit transpires from these pages, revealing each individual's desire to give their best, and to mutually support each other. Not only while we carry out our activities, but also in the way these tasks are performed, because every one of us knows that we need the others' knowledge and skills to achieve and complete our group project, and to grow.

Therefore, I thank every single person at CIMA Research Foundation for the commitment, dedication and creativity that they have given over the course of the year, and likewise for knowing how to maintain this balance. And with the hope of continuing to meet future challenges with the attitude of people who do their best every day and offer their own contribution to safeguarding the environment and society.

Enjoy your reading!

01.

CIMA RESEARCH FOUNDATION



cima

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We have always been convinced of the importance of partnerships and sharing knowledge

CIMA RESEARCH FOUNDATION INTERNATIONAL CENTRE FOR ENVIRONMENTAL MONITORING

OUR FOUNDERS



Floods, droughts, forest fires and loss of biodiversity (terrestrial and marine). CIMA Research Foundation is a research organization that studies the risks related to these occurrences – all heavily influenced by climate change – while focusing in forecasting and preventing these risks.

Our work is based on data, mathematical models and the most recent artificial intelligence technology to forecast extreme weather and climate-related events, and simulate their impact, both in Italy and around the world. This means we are able to provide solid scenarios to act as the grounds to swiftly elaborate mitigation and adaptive action. Yet the approach we choose is not only top-down, i.e. merely releasing our generated results and information: we believe in involving the local population - and this sits at the heart of many of our activities connected with developing participatory civil protection plans. Lastly, part of our work focuses on the regulatory review of complex Italian and foreign institutional framework rules, legal compliance, legal risk analysis in risk management, and forensic investigation, as well as conflicts connected to the impacts of climate change.

These are essential aspects for addressing the legal implications and responsibilities involved when discussing risk, and are as complex as the risks themselves.

CIMA Research Foundation's roots date from the mid-1980s, when the then Minister of Civil Protection, Giuseppe Zamberletti, entrusted the study of risk mitigation strategies regarding landslides and floods to Franco Siccardi, an Engineering professor at the University of Genoa. Thanks also to the commitment from Bernardo De Bernardinis (Deputy Chief of the Italian Civil Protection Department at the time), this led to the Inter-university Centre for Environmental Monitoring.

These were the beginnings of what, in 2007, became CIMA Research Foundation, a non-profit research entity with the Civil Protection Department, Liguria Regional Administration, University of Genoa, and Savona Provincial Administration as founding partners. In 2019, ARPA Liguria also joined the Board of Directors.

The first milestone moment in our history was in 2012, when we were confirmed as a Competence Centre in the Civil Protection system for hydro-

meteorological and wildfire risks as well as in the legal sector on civil protection operators' responsibilities. This continued through to 2018, the year when we also became an operational organ of the Italian Civil Protection Department. Since 2020, we have been a member of the Italian national weather network ItaliaMeteo, while we have been a partner in the COSMO Consortium for weather modelling since 2021. We also have an office in Albania, set up in 2011, and can count on a staff of 149 people. We are members of CI3R (Italian Center for Research on Risk Reduction), the Copernicus Academy and Global Compact.

Over the years, we have not only become part of networks and initiatives of national and international prominence, but we have also expanded our research, which initially focused exclusively on hydro-meteorological hazards. In fact, today it extends to other risk-related branches, particularly those affected by climate change; and it includes not only monitoring, forecasting, assessment and mitigation, but also impact analysis. The heart to the civil protection support action in Italy, Europe and

various countries worldwide is our Situation Room, active 24 hours a day, 365 days a year. Just as we have expanded our research, we have also extended the area we operate over. Field missions and operational activities all over the world make up a vast portion of our work. We take a leading role in an ever greater number of international projects and partnerships, working in Africa, Latin America, the Balkans, Eastern Europe and Asia.

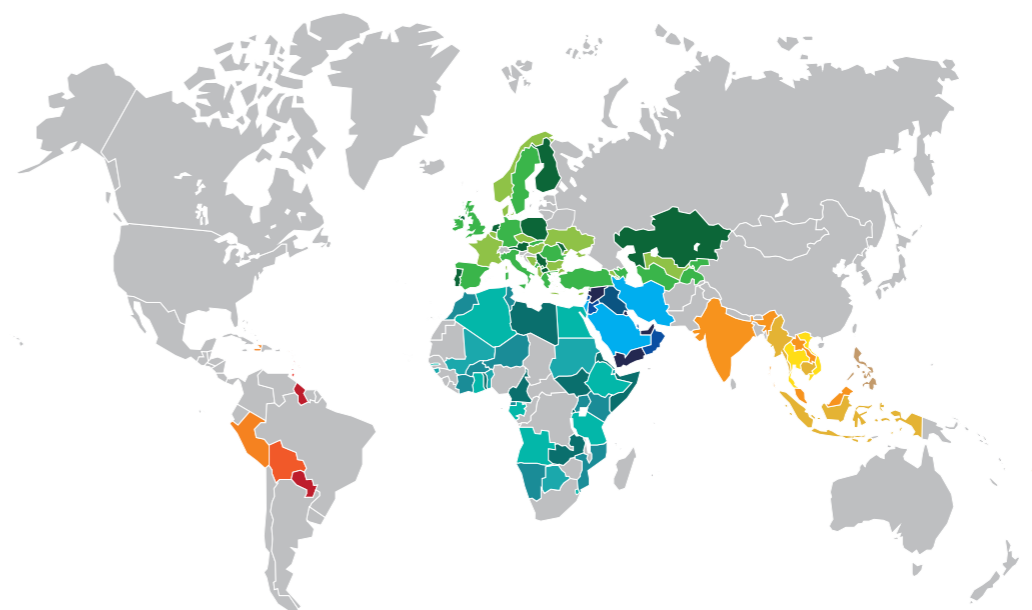
And so, on the one hand we have kept our close ties with national bodies, such as the Italian Ministry of Foreign Affairs and International Cooperation (MAECI), and the Italian Agency for Development Cooperation (AICS), as well as regional and local authorities, and this brings us nearer to communities and their needs. On the other, we now have well-established partnerships with the leading organizations managing risk and sustainable development: most of the CIMA Research Foundation projects are in fact carried out thanks to funding from United Nations agencies (UNDRR, WMO, UNDP, FAO, UNEP, UNOPS), the European Union, ESA and the World Bank.



The close connection between development and risk stems from the understanding that development cannot take place without an effective reduction in risk

WORLDWIDE

Our expertise originates from the risks - particularly floods and forest fires - faced by the various areas of Liguria. Yet if one thing has become clear, it is that risks ignore local, regional and national borders. We are part of a planet where every element is closely connected to others, and the natural disasters that occur in one part of the world also influence what happens elsewhere. Hence, our work cannot be limited to the contexts we are most familiar with, and we have chosen to put it at the service of Europe and many other areas of the world. This way, we have also created an opening for comparing ideas with colleagues around the globe, in that exchange of knowledge and dialogue residing at the heart of scientific research.

United Nations
Global Compact

8

STRATEGIC PROGRAMMES

15

DEPARTMENTS OF COMPETENCE

92

PROJECTS ACTIVE IN 2023

87

ORGANIZATIONS WE WORK WITH



People who make it possible to carry out our various activities and reach our goals

149
HUMAN RESOURCES
FROM VARIOUS
COUNTRIES
OF WHICH:

125
EMPLOYEES AND
CONTRIBUTORS
76 **49**
MEN WOMEN

13
PHD STUDENTS
5 **8**
MEN WOMEN

11
INTERNS
3 **8**
MEN WOMEN

THE VALUE OF PEOPLE

Our research is not abstract. It is the reality of the people who, with passion and curiosity, dedicate their time to this, day after day. Whether they be great or small, the results achieved by CIMA Research Foundation would not be possible without this team.

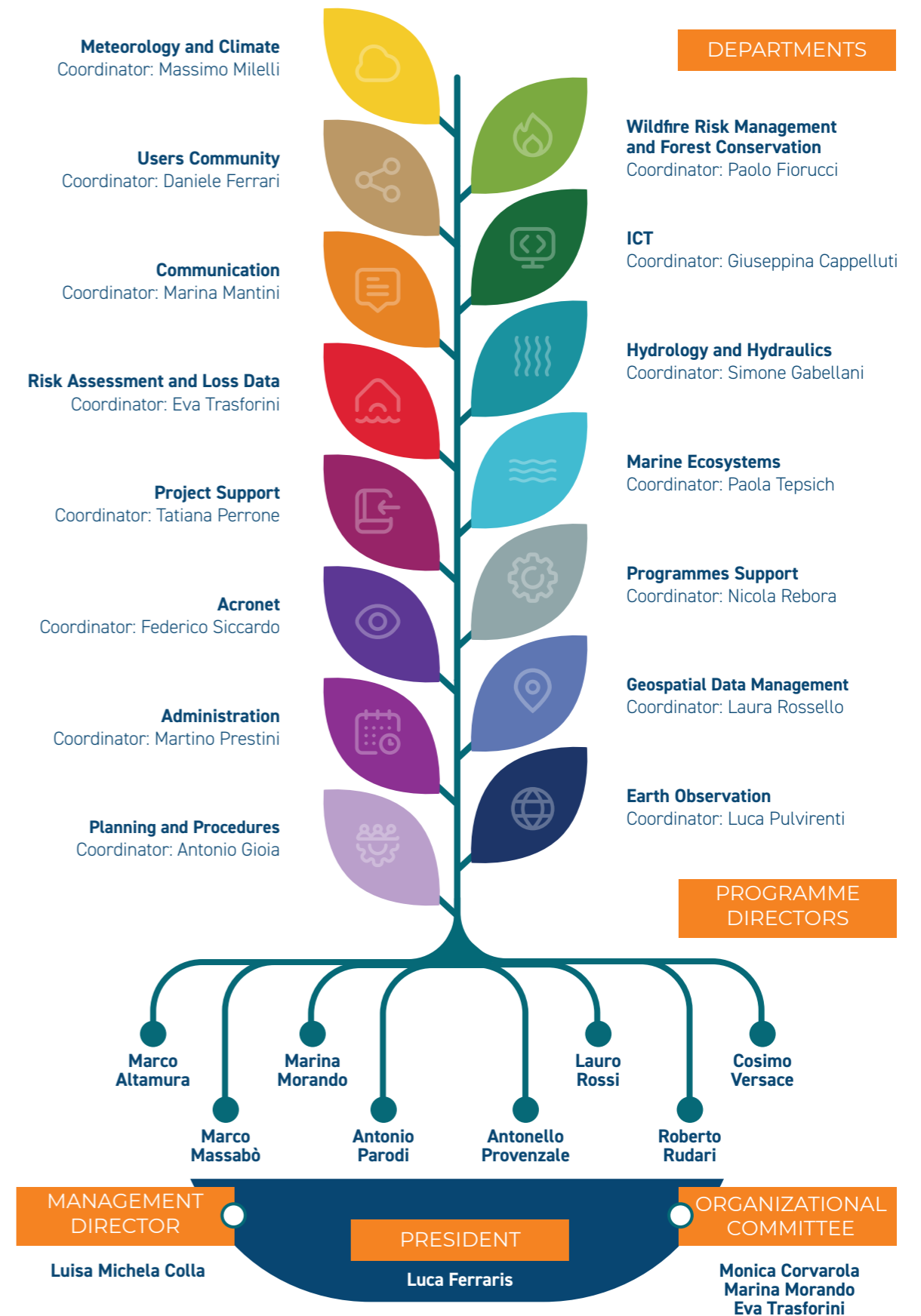
This is also why we constantly strive to improve our working environment. We do this both by ensuring welfare policies (flexible working hours for a better work-life balance, remote working, a company canteen, guest accommodation, a swimming pool, extensive private healthcare insurance), and by investing in training, not only for those who have been with us for many years (for instance, by providing language courses) but also for our youngest team members, who are offered internships and training opportunities. Some such examples are our Cetasmus programme and the University of Genoa PhD scholarships that we partially fund, and the training seminars we hold on a regular basis.

Underpinning this approach is CIMA Research Foundation's constant effort to ensure conditions of inclusion and equality, so that nobody is left behind. This commitment was formalized in 2021 with the drawing up of our Gender Equality Plan. This was followed in 2023 by *Linee Guida del Linguaggio Inclusivo* ('Guidelines for inclusive language'). Nonetheless, this aspect permeates and is developed in all our activities, and continues through various initiatives.



FIND OUT MORE ABOUT US:
<https://www.cimafoundation.org/en/human-resources/>

INTERNAL ORGANIZATION



MANAGEMENT AND ADMINISTRATION

BOARD OF DIRECTORS

Luca Ferraris - University of Genoa
 Laura G.M. Candela - ASI Italian Space Agency
 Paola Pagliara - Italian Civil Protection Department
 Pierangelo Olivieri - Savona Provincial Administration
 Giacomo Raul Giampedrone - Liguria Regional Administration
 Carlo Emanuele Pepe - ARPA Liguria

AUDIT COMMITTEE

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 Cristiano Russi - Liguria Regional Administration
 Gaetano Mignone - Italian Civil Protection Department

Additional auditor:

Fabrizio Valentini - Italian Civil Protection Department

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Franco Siccardi

SCIENTIFIC COMMITTEE

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 Fabio Castelli (Secretary)
 Roberto Rudari
 Marco Massabò
 Lauro Rossi
 Simone Gabellani
 Marco Altamura

DIRECTORS

Luisa Michela Colla
 Marco Altamura
 Marco Massabò
 Marina Morando
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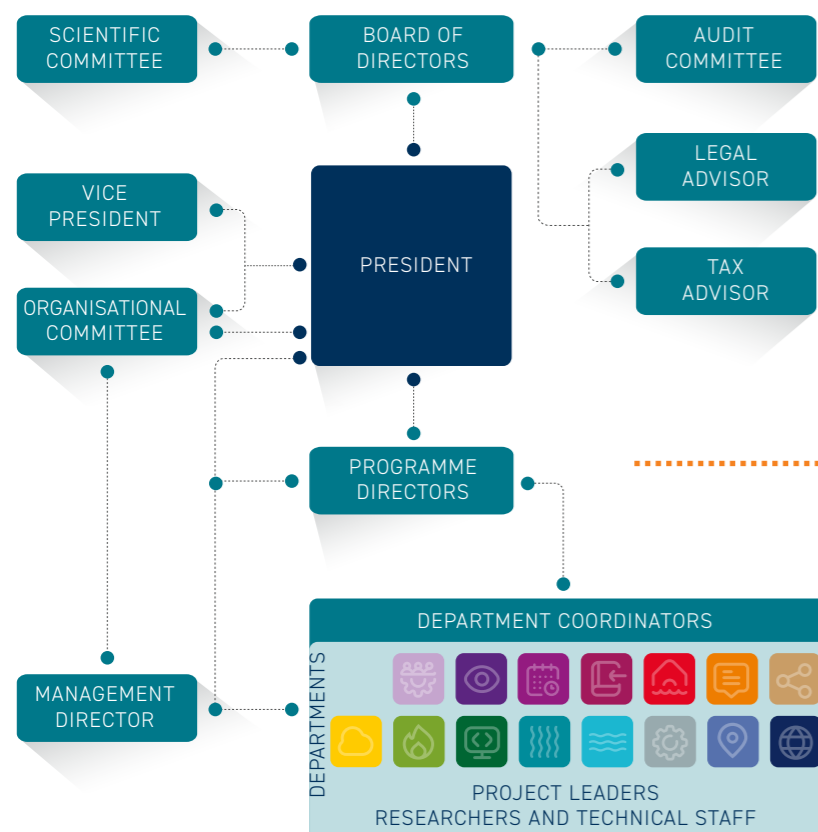
ORGANIZATIONAL COMMITTEE

Monica Corvarola
 Marina Morando
 Eva Trasforini

Antonio Parodi
 Cosimo Versace
 Antonello Provenzale
 Annalisa Bracco
 Anna Scolobig
 Marina Morando

Antonello Provenzale
 Lauro Rossi
 Roberto Rudari
 Cosimo Versace

ORGANIZATION STRUCTURE



FINANCIAL SECTION

BALANCE SHEET 2023

REVENUE

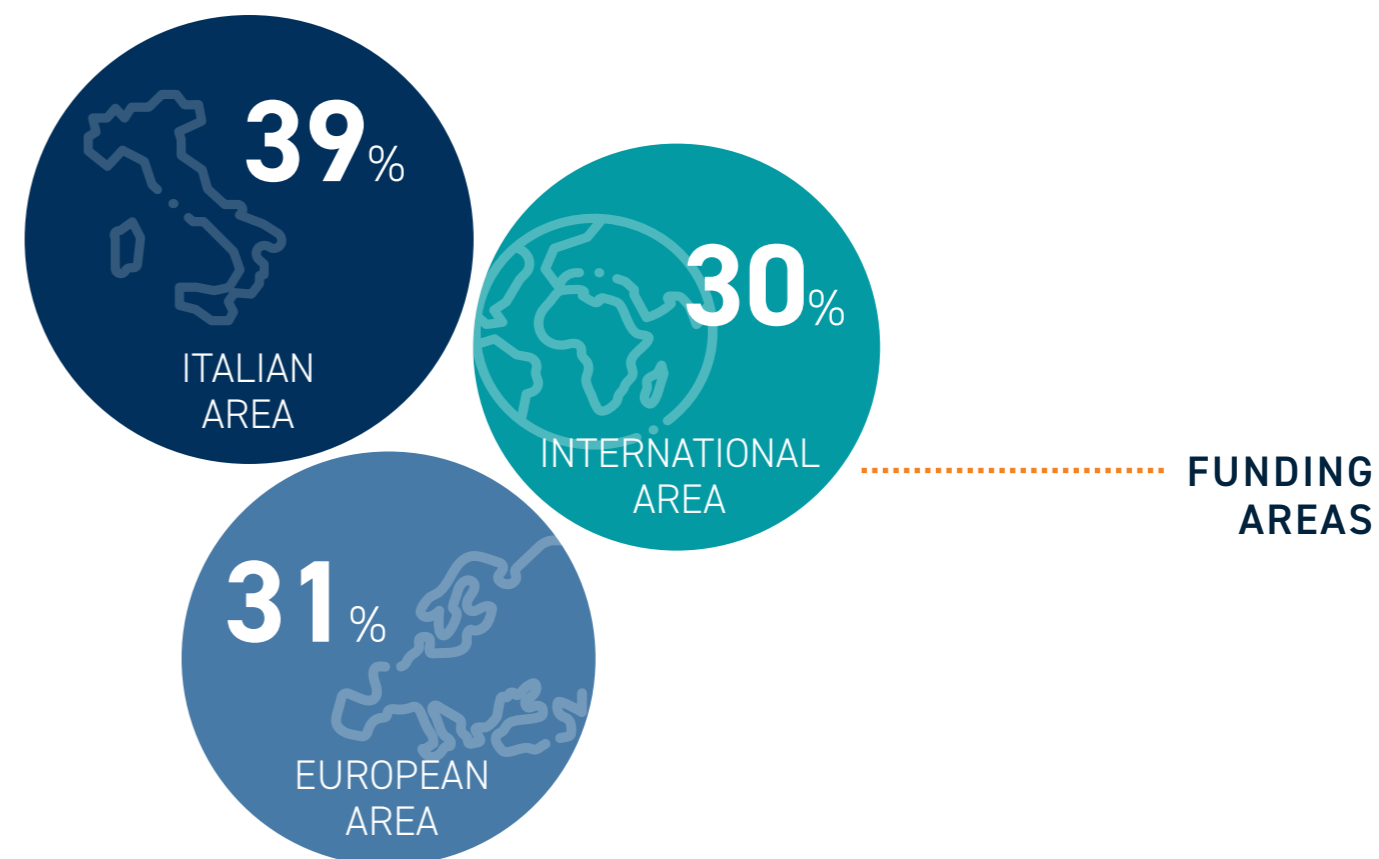
Revenue from projects	12.269.321,00 €
Revenues from donations and 5x1000	5.884,00 €
Total revenue	13.752.100,00 €

EXPENSES

Consumables (a)	281.143,00 €
Services (b)	4.645.331,00 €
Rentals (c)	299.209,00 €
Personnel (d)	7.575.121,00 €
Other operating expenditure (e)	672.789,00 €
Total expenditure (a+b+c+d+e)	13.473.593,00 €

PROFIT (NET OF TAXES)

229.310,00 €



02.

ACTIVITIES



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Eight research programmes, which guide our work and are based on the experience we have accrued over time

OUR RESEARCH

The different types of activities that we carry out locally, nationally and internationally require many (and diverse) skills, and often span a variety of research areas.

They nevertheless follow the same strategic direction, and these are our programmes, which represent the macro-areas addressed by our studies and projects.

This is the case of the **Intelligent Data Use in a Changing Climate** programme, which pivots on computational processing capabilities that can be applied to high-resolution space-time modelling (from nowcasting to climate modelling) and on the growing and now indispensable contribution from artificial intelligence techniques for climate scenario applications. Its data-centred approach means the programme supports the new paradigm on data and information sharing, in keeping with what is required by the international scientific community. This initiative also establishes cross-connections with the other CIMA Research Foundation programmes, because the modelling capabilities and knowledge of processes at a detailed local level, experience in data assimilation techniques, and the development of platforms for data sharing, integrated with techniques related to artificial intelligence enable their application both in impact-based real-time forecasting and for probabilistic multi-hazard profiles.

Another example of a highly technological programme is **Technological Development in the Digital Twins Era**. Here advanced research and technology are deployed to shorten the chain between research, application and full operation, to foster production automation and to provide an

overall better response to stakeholders' needs and to support environmental monitoring. This latter aspect has been achieved also thanks to the control units of CIMA Research Foundation's ACRONET - an open hardware system for monitoring local environmental parameters.

Although the study and management of climate risks are issues that intrinsically intertwine with all our activities, the focus on these is more pronounced in some of our programmes. This is the case of the **Emergent Nexus: Risk Resilience, Biodiversity and Ecosystem Functioning** programme centring on the 'emerging connection' between capacity for resilience to risks due to climate change, the loss of ecosystem services, biodiversity conservation, and functioning and preservation of ecosystem integrity. The programme is made up of two macro-areas: one focuses on biodiversity conservation; the other on accompanying the green transition, also by reviewing risk assessment to enable the resilience and adaptive capacity of 'green' and 'blue' businesses also to be taken into account.

More explicitly centred on adaptation and its advance is the programme **Capacity Development for Resilience & Climate Adaptation**, which has been developed based on the experience gained at numerous centres for emergency and risk management, first on a national scale and then internationally. Its main aim is the structuring of a support process for capacities in prevention, forecasting and adaptation to the impacts of climate change - a process to meet the goals of the Early Warning 4 All Initiative launched by the United Nations. The programme specifically aims to consolidate the experience accrued during our

activities and projects, so as to ensure long-lasting results.

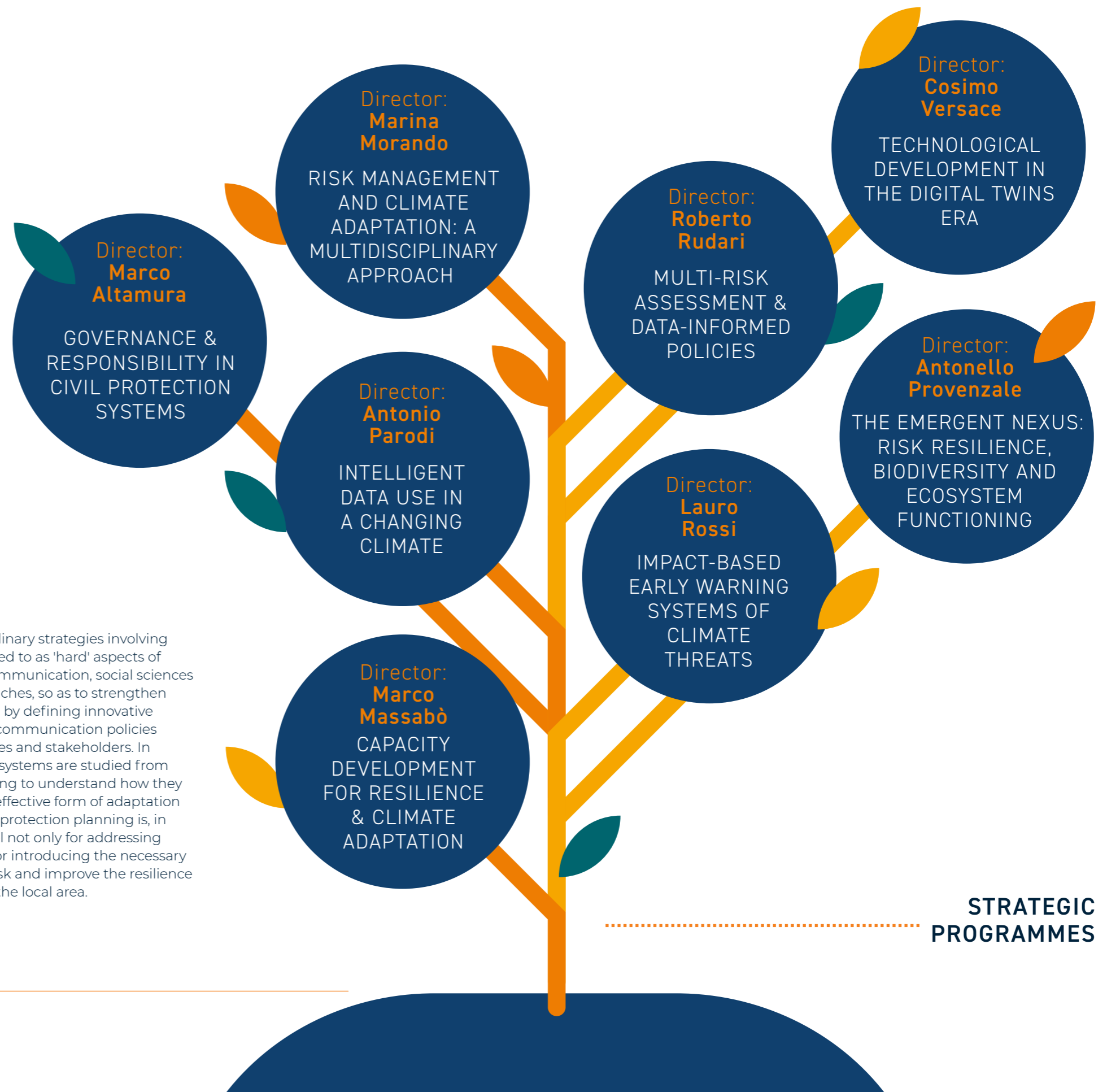
With the spotlight still on climate change, the **Impact-based Early Warning Systems of Climate Threats** programme instead involves the updating and development of EWS forecasting and monitoring components, since these systems are now widely recognized as vital tools for risk reduction and for detailed quantification of the impact of weather- and climate-related events (floods, droughts and wildfires). Striving to respond to the needs of different sectors and users, the programme aims to expand the forecasting range - from nowcasting to seasonal predictions - towards creation of seamless prediction systems.

Alongside research in the risk management sector are the activities more closely connected with the science-policy interface of the **Multi-Risk Assessment and Data-Informed Policies** programme: this aims to provide solutions for correct policies for managing risks resulting from extreme weather events, through a series of targeted actions, which range from national- and regional-level profiling to assessment of the repercussions on emerging issues at an international level. The programme is structured not only to take risks of different natures into account but also to consider their interactions and repercussions on society and the environment, without compromising consistency between assessment scale and accuracy, and managing to process the various levels of uncertainty.

Again connected to policy support for civil protection is the **Governance & Responsibility in Civil Protection Systems** programme pivoting on legal responsibility in civil protection action. The programme also aims to define an initial framework of adaptation legislative tools required in the Italian context, from a national to a local scale.

Just as closely connected with the subject of governance as it is with adaptation to climate change is the 'newcomer' among our programmes, **Risk Management and Climate Change Adaptation: a Multidisciplinary Approach**.

This applies multidisciplinary strategies involving not only what are referred to as 'hard' aspects of science, but also risk communication, social sciences and community approaches, so as to strengthen current risk governance by defining innovative risk management and communication policies that involve communities and stakeholders. In parallel, civil protection systems are studied from the standpoint of needing to understand how they should evolve to be an effective form of adaptation to climate change. Civil protection planning is, in this sense, seen as a tool not only for addressing emergencies but also for introducing the necessary measures to mitigate risk and improve the resilience of the community and the local area.

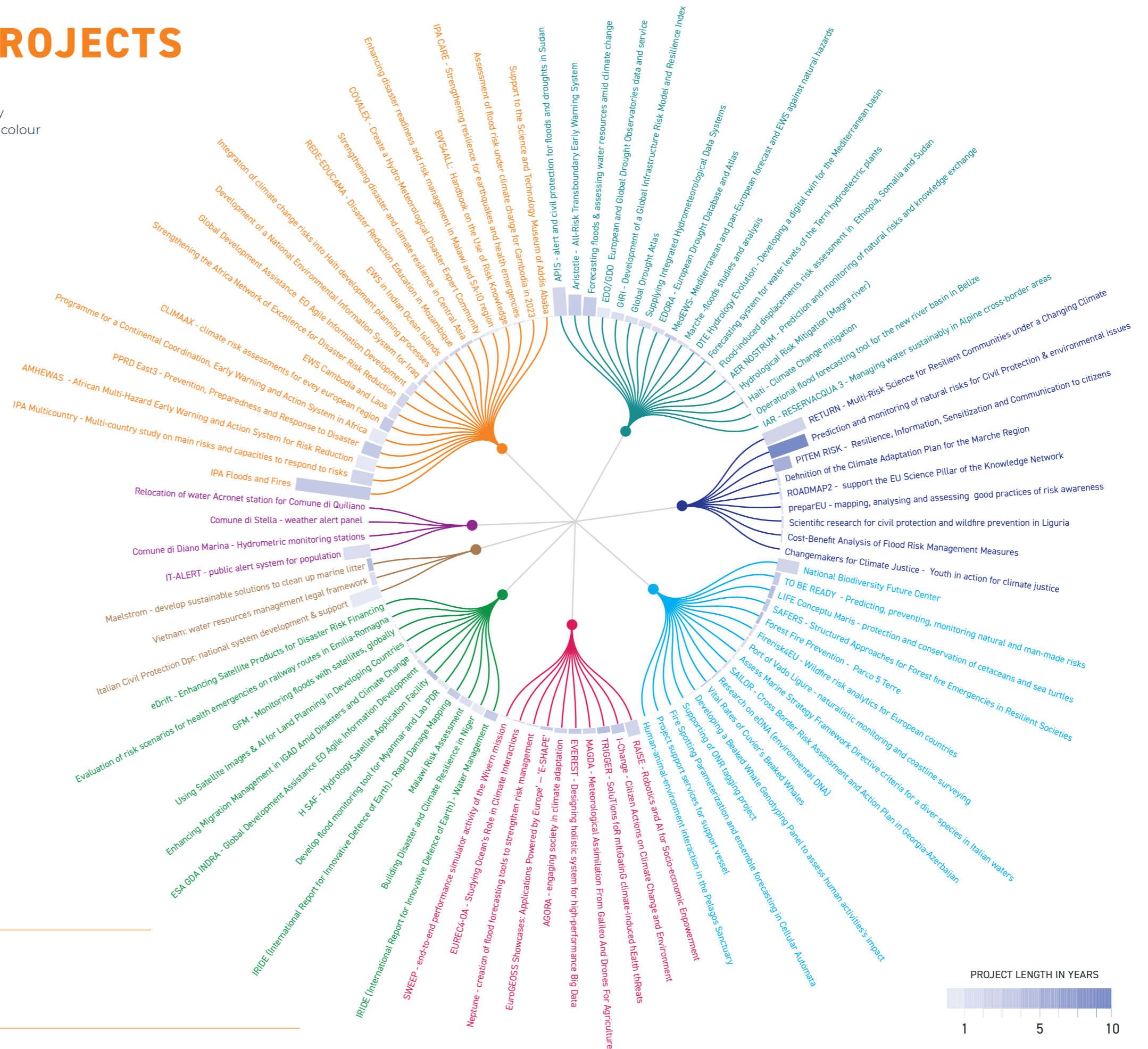


FIND OUT MORE ABOUT THE PROGRAMMES:
<https://www.cimafoundation.org/en/programmes/>

PROGRAMMES AND PROJECTS

These infographics represent the projects active in 2023, divided up by programme group. Bar length denotes project importance, while bar colour indicates the duration in years.

- CAPACITY DEVELOPMENT FOR RESILIENCE & CLIMATE ADAPTATION
- IMPACT-BASED EARLY WARNING SYSTEMS OF CLIMATE THREATS
- RISK MANAGEMENT AND CLIMATE ADAPTATION: A MULTIDISCIPLINARY APPROACH
- THE EMERGENT NEXUS: RISK RESILIENCE, BIODIVERSITY AND ECOSYSTEM FUNCTIONING
- INTELLIGENT DATA USE IN A CHANGING CLIMATE
- MULTI-RISK ASSESSMENT & DATA-INFORMED POLICIES
- GOVERNANCE AND RESPONSABILITY IN CIVIL PROTECTION SYSTEMS
- TECHNOLOGICAL DEVELOPMENT IN THE DIGITAL TWINS ERA



FIND OUT MORE ABOUT THE PROJECTS:
<https://www.cimafoundation.org/en/projects/>

HIGHLIGHTS 2023

Our technological innovation

The IT system that today enables the constant feeding and data-publishing of the myDEWETRA platform (the national version; the international version is myDewetra.world) is the outcome of applicative and technological evolution emerging from years of teamwork between the Italian Civil Protection Department (DPC) and CIMA Research Foundation, which developed the service and sees to its continuity.

Based on this experience, a complex analysis, design and development phase was begun to bring in **a new technological upgrade of the entire system so that, by incorporating the most recent IT developments, its front-end and back-end frameworks could evolve.** In parallel, the upgrade has also made the system 'containerizable', meaning it can be installed and run in any

deployment context structured in this way (for instance the DPC's server farm, or any cloud environment).

The project stems from the Civil Protection Department's specific need to manage myDEWETRA independently within its infrastructure perimeter. Particular attention has been given to cyber-security by design, in compliance with current regulations, so that the new portal can join the Italian National Cyber Security Perimeter (PNSC).

The re-engineering of the myDEWETRA portal has inevitably brought about the full rewriting of the applications within it as well as creation of any new implementations required in applying the new frameworks.

CIMA Research Foundation as a Competence Centre

As of 2012, CIMA Research Foundation has been a Competence Centre in the Civil Protection system for hydro-meteorological and wildfire risks as well as for the legal sector regarding civil protection operators' responsibilities.

We have acted as a competence centre for over ten years now, with this role becoming almost 'constitutional'. We conduct **two main types of activities: those of applied research, involving the tools and technical/scientific support for their constant improvement and updating; and operative activities as support to civil protection action.** In tangible terms, this role is performed partly through constant research, especially in the modelling context, which enables forecasts and risk monitoring to be fine-tuned. Among the most recent challenges, this aspect is, for instance, driving us to come up with hydrological modelling improvements in representing low water levels in rivers in relation to droughts, and likewise for the study of seasonal weather and climate forecasts.

On the other hand, the role involves risk monitoring and assessment, also with on-demand activation in the event of specific emergencies. This happened in 2023, for the floods that hit Emilia Romagna in May. In this case our researchers provided forecasts of rainfall and water flow volumes, and mappings of the flooded areas as well as water depths, so that

the impact could be evaluated.

If these are our most obvious activities performed as a competence centre, they are certainly not the only ones and nor are they the most important. In fact, over the years we have extended the range of activities we conduct, also including, for instance, those connected with participatory planning, communication (an example is the Italy-wide campaign I Don't Take Risks) and, as of 2024, also those on the use of UAV (unmanned aerial vehicles, often generically referred to as drones) for risk monitoring. This is without counting the support activities to the Italian Civil Protection Department at an international level, which include, among others, implementation of the myDEWETRA forecasting and monitoring platform in the countries that request its use.

This vast panorama of activities - also encompassing the underlying and constant groundwork in the IT maintenance and updating of the systems and models - contributes to the fully comprehensive provision of prompt and quality scientific and technical support to the Italian Civil Protection Department as much in the event of an emergency as in the work carried out during 'times of peace'.

myDEWETRA world
GO TO WEBSITE!

A Tool for Real Time Risk Assessment

myDEWETRA.world is an open-source, web-based system for real-time monitoring and forecasting of weather-related hazards like floods, droughts and wildfires. It allows the analysis and projection of hazard-related events in multiple space and time scales, also providing calculated **impact-oriented scenarios**.

The platform is designed to cover a wide range of potential end-users involved in **risk management, risk reduction and civil protection**. It works as single point of access to international risk-related data, collected and systemized within a single platform, and made **available at global, regional and local scale**. Upon formal agreement, authorized users can also integrate their own data and models, allowing for a wider interconnectedness among information from different sources.

SOME AVAILABLE GLOBAL DATASETS

BASILINE DATA	METEOROLOGICAL DATA	HYDROLOGICAL DATA	WILDFIRE DATA
Population	Weather stations network	Soil Water Index (Copernicus)	MODIS active fire
Critical infrastructures	Mapping of precipitation (CSMaP)	Global Flood Awareness System (GloFAS)	LSA-SAF fire detection
Hydrography	Drought Index (CSC)	European Flood Awareness System (EFAS)	RISICO World model
Land Use	Cloud Cover (MSG IR 10.8, GOES)	Global Flood Monitoring System (GIMS)	RISICO Europe model
Hazard maps	GLOBAL forecast system (GPS)		European Forest Information System (EFFIS)
Risk maps	WRF Europe		

MYDEWETRA IN THE WORLD

www.infomydewetra.world

SENDI FRAMEWORK
FORSECTOR RISK REDUCTION 2015-2020



HIGHLIGHTS 2023

TRIGGER

SoluTions foR mltiGatinG climate-induced hEalth thReats

Among research on the impacts of climate change, there is a growing focus on those on human health: the WHO estimates that by 2030 there will be between 1.7 and 4 billion people affected by direct harm from climate change, such as from heat waves and droughts. Knowing and keeping watch on these risks is essential for tackling them in the most effective way. This is, in fact, the purpose of the TRIGGER project, funded as part of the Horizon 2020 programme.

TRIGGER aims to identify, quantify and monitor the impacts of climate change-related environmental hazards on human health by collecting health, weather/climate, environmental and socio-economic data through user-friendly tools, also involving local populations in this task.



Begun in September 2022, the project sees CIMA Research Foundation involved in: analysing the exposure and health impact data; research on climate services for healthcare applications; analysis of long-term climate forecasts for human health. In addition, we have been tasked with identifying indicators that enable description of the relationship between climate change, health and socio-economic systems, along with creating an inventory of the monitoring and modelling tools. Within the TRIGGER context, CIMA Research Foundation also manages the Citizen Observatory archives built up over the course of the project, and these bring together the data from citizen science activities.

MAGDA

Meteorological Assimilation From Galileo And Drones For Agriculture

Agriculture is one of the sectors most affected by climate and weather events and, as such, by the climate crisis. The development of forecasting and monitoring technologies and tools can provide a significant contribution in mitigation. Active since 2022, the MAGDA research project aims **to develop a system to monitor the atmosphere and weather specifically for agricultural purposes**. The system is based on information from a variety of monitoring technologies and tools.



Alerts and warnings calculated on the basis of the collected data are issued through a farm management system, so as to promptly contact farmers and those operating in agriculture. The system also provides near real-time indications, working both as an early warning system and as a tool for irrigation planning.

CIMA Research Foundation contributes to this system through its meteorological know-how, and is responsible for WRF model-based simulations that aim to improve the short- and medium-term forecasting of extreme events by using assimilation techniques to process the observation data. Simulation validation is performed in three different study areas (in Italy, France and Romania), each of which features various crop types, enabling a comparison between different needs.

EDORA

European Drought Observatory for Resilience and Adaptation

Funded by the European Commission, EDORA is an initiative bringing together European and international research centres and universities, with coordination by CIMA Research Foundation under the supervision of the JRC. This consortium aims to **improve the European Union's drought resilience and adaptive capacity** by assessing hazards on different scales, analysing the data on the impacts in various sectors, and fostering the creation of and connections between observatories in the EU member states. Deployed for this is the European Drought Observatory - the EU dedicated platform for drought and related hydrological conditions.



As part of the EDORA project, in 2023 we coordinated and published the European Drought Risk Atlas, which provides qualitative and quantitative analysis of drought risk in Europe for current and future climate conditions. Based on impact chains and machine learning techniques, this atlas offers an overview of the risks and impacts of drought in five different systems and socio-economic sectors: agriculture, water supply, energy, river transportation and ecosystems.

Besides the atlas, the European Drought Impact Database (EDID) has also been created. Currently in its trial stage, this is a collection of objective and independent information on the drought damage recorded in the various socio-economic sectors (the same assessed in the atlas), and the damage data have been geolocalized and classed using a 'severity' scale (moderate, severe and extreme).

EDO – GDO

Products and service provision for European and Global Drought Observatories

In 2023 CIMA Research Foundation was tasked, along with the partner Deltares, to help ensure the continuity, development and harmonization of the European and Global Drought Observatories (EDO-GDO) service, which is part of the Copernicus Emergency Management Service. Implemented by the JRC, **the observatories supply constant and updated information on the presence, evolution, severity and potential impacts of droughts on a European and global scale**. The activities centre on creating operative products, ensuring their quality and their transfer to the JRC of the European Commission.

More specifically, we develop technological services that enable the retrieval, processing and quality control of the hydro-meteorological input data from various sources - satellites and modelling - as well as the data to support the efficient processing of meteorological, hydrological and agrological indicators of drought.



In line with other projects where we work on issues related to drought risk and impact prevention, these activities contribute to monitoring the presence and evolution of this occurrence that climate change is making ever more frequent and intense, particularly in the Mediterranean Basin.

HIGHLIGHTS 2023

Cambodia and Lao People's Democratic Republic (PDR): Reinforcing the capacities of meteorological and hydrological services and enhancing the early warning systems

Launched in 2005, the Climate Risk and Early Warning Systems (CREWS) Initiative combines the efforts and funding of the World Meteorological Organization (WMO), World Bank, Global Facility for Disaster Reduction and Recovery (GFDRR), and United Nations Office for Disaster Risk Reduction (UNDRR) with **the aim of increasing climate resilience and strengthening early warning systems in the countries that are most fragile and vulnerable to natural disasters.**



CIMA Research Foundation joined the partnership in 2023 through the project in Cambodia and Laos. This focuses on reinforcing hydro-meteorological services, warning systems and emergency response through capacity building intervention involving national and regional institutions in the two countries.

We conduct three specific activities in this context: generation of flood and drought risk profiles for the two nations; impact-based forecasts in three pilot basins in Cambodia, which will be tested during the monsoon season; national implementation of the myDEWETRA.world platform, the forecasting and monitoring system created by CIMA Research Foundation for the Italian Civil Protection Department, and which today is available in various countries.

Global Development Assistance Disaster Resilience – Agile EO Information Development

Sponsored by the European Space Agency (ESA), the Global Development Assistance (GDA) Agile EO Information Development (AID) Disaster Resilience programme provides **Earth observation (EO) tools to increase resilience to natural disasters and to map the various risk components.**

The project is based on close collaboration between various partners, researchers and experts in risk and Earth observations, and several international financial institutions (IFIs), particularly the World Bank (WB) and the Asian Development Bank (ADB). The goal of this partnership is to adapt existing services for the mapping of exposure, vulnerability, hazard degree and risk to the needs and initiatives of IFIs, applying the resulting services to real cases to test out their efficiency and to improve their technical capacity, so that they may be used independently.



Within this context, we have worked with various international programmes in a variety of pilot cases worldwide (including the Global Program for Disaster Risk Analytics, the Global Program on Nature-Based Solutions for Climate Resilience, and the Disaster Risk Financing and Insurance Program by the World Bank) as support in developing advanced nature-based risk analysis solutions and for creation of insurance tools for natural-origin catastrophes.

Addressing Drivers and Facilitating Safe, Orderly and Regular Migration in the Contexts of Disasters and Climate Change in the IGAD Region

The year 2023 saw us conclude our involvement in the programme *Addressing Drivers and Facilitating Safe, Orderly and Regular Migration in the Contexts of Disasters and Climate Change in the IGAD Region*, aimed at improving feasible management of regular migration in this African region by the Intergovernmental Authority on Development (IGAD). The region includes areas affected by conflict as well as by particular vulnerability to the effects of climate change.



In close collaboration with the IGAD Climate Prediction and Application Centre (ICPAC), we built a **modelling framework capable of estimating the volume of displaced persons under different sudden-onset disaster scenarios, particularly regarding floods and cyclones.** The model also took ongoing conflict into consideration and was devised to inform operative and policy decision-making processes in the member states of this region, also testing out any measures introduced to regulate and manage migration. In addition, while focusing on sudden-onset risks, the model was structured so that it could later be adapted to slower-onset hazards, such as droughts. To this end, data were collected on the socio-economic context, climate, and time series of environmental events; we used these in the model to simulate the effectiveness not only of the different mitigation actions, but also of investments and policy interventions by decision-makers.

NoE

Strengthening the Africa Network of centers of Excellence for DRR

Strengthening collaboration between African universities and institutions, providing scientific and technical know-how, innovation and capacity building to reinforce early warning systems, fostering development of policies to reduce natural disaster risks in Africa: these are the goals of the project Strengthening the African Network of Centers of Excellence for DRR, funded by the Italian Ministry of Foreign Affairs and International Cooperation (MAECI) and by the Italian Agency for Development Cooperation (AICS), and implemented by UNDRR and CIMA Research Foundation.



The project aim is to create a Network of Excellence (NoE) for Early Warning and Anticipatory Action, thus contributing to the EW4All Initiative, which aspires to reach the entire world population through warning systems by 2027. The NoE is a framework for cooperation between African and international centres of expertise that will jointly develop and deliver tools, services, products and training to African institutions dealing with disaster risk reduction.

CIMA Research Foundation was partnership leader for this project in 2023, contributing to creation and implementation of the NoE. Our work will continue in 2024 for a second phase, helmed by the Regional Centre for Mapping of Resources for Development of Kenya, working on three pilot countries (Ghana, Uganda and Mozambique): the aim is to strengthen African institutions' EWS and risk reduction capacities by developing training and mobilizing some members. Our team is also working on application of the CIMA Research Foundation Handbook on Risk Knowledge for Early Warning Systems.

HIGHLIGHTS 2023

Economics for disaster prevention and preparedness: wildfire risk analytics for European countries

Engaged by the World Bank within the Economics for Disaster Prevention and Preparedness initiative, in 2023 we took part in the *Wildfire Risk Analytics for European Countries* project, with **fire risk analysis for four European countries (Bulgaria, Croatia, Romania and Greece).**



Funded by DG ECHO, the study aim was to assess the costs and benefits of disaster resilience investments and their financing at national and European levels. CIMA Research Foundation provided the statistics on the impacts of wildfires in each country for the future decades. Deploying artificial intelligence tools, it also created wildfire susceptibility and hazard maps. Coupling hazard maps with specific categories of exposed elements led to the assessment of risk at a national level under both current and future climate conditions in Bulgaria, Croatia, Romania and Greece. Furthermore, we carried out risk assessment at high spatial (100 metres) and time (yearly) resolutions for the purpose of estimating evolution of the average annual losses caused by wildfires, divided up by risk category (population, forests, viability, buildings, etc.). The results of this work are featured in a dashboard developed as part of the project, and this enables consultation across the various climate change scenarios.

ARISTOTLE-eENHSP

enhanced European Natural Hazard Scientific Partnership

The ARISTOTLE-eENHSP project sees us involved in the **global-scale forecasting and monitoring of emergencies caused by floods and wildfires.** Funded by DG ECHO and led by the Italian National Institute of Geophysics and Volcanology (INGV), the project aims to provide the Emergency Response Coordination Centre (ERCC) of the European Commission with multi-hazard analysis (flooding, forest fires, extreme weather events, volcanic activity, earthquakes and tsunamis) regarding ongoing or predicted occurrences.



The project is structured on a rotation basis with other European institutions, to monitor each hazard. In the event of an emergency, ERCC might request activation to collect more specific data to support the strategies to implement.

CIMA Research Foundation has expanded its project involvement as of 2023, to deliver support to some of the new preventive action brought into the field by ERCC. One such example is the Emergency Response Coordination Centre Wildfires Support Team, which monitored and analysed critical situations from mid-June through to mid-September. Therefore, during the summer, and alternating with our Météo-France and IPMA (Portugal) partners, our experts provided their services to Brussels to analyse the potentially critical situations and their evolution, working both in routine monitoring and in activating emergency action, as in the case of the wildfires affecting Greece last July.

National Biodiversity Future Center (NBFC)

Focus on Solutions to reverse marine biodiversity loss and manage marine resources sustainably

The Mediterranean area is considered a biodiversity hotspot that human activity and climate change are threatening in a variety of ways. The Italian National Biodiversity Future Center (NBFC) is one of five national centres focusing on frontier research involving institutions and enterprises from all over Italy, and is financed within the Italian National Recovery and Resilience Plan (PNRR). **Its aim is to conserve, reinstate, monitor and value Italian and Mediterranean biodiversity, addressing the global challenges in protecting and restoring marine, coastal and terrestrial ecosystems.**



As in the other PNRR initiatives, the project is structured with eight spokes. Thanks to its marine biology research activities and its expertise in cetaceans, CIMA Research Foundation is involved for Spoke 2 - *Solutions to reverse marine biodiversity loss and manage marine resources sustainably.* Our three years' work on this project began in 2023 and sees us conducting numerous activities in mapping and assessing marine ecosystems, the species populating these and human impact on them.

Collectively, the various activities will enable us to build a picture of the Mediterranean marine environment and its state of health, thanks to the megafauna data collected and analysed, especially on large marine predators. Likewise, we will provide assessment of the protection and conservation measures already brought in or to be adopted in future.

Assessment of the marine strategy criteria for regular 'deep divers' in Italian waters

The EU Marine Strategy Framework Directive defines a joint approach and shared objectives for the protection and conservation of the marine environment. In addition, it requires the **monitoring of regular cetacean species in member states' waters, including what are also known as 'deep divers' - the species moving in very deep waters** and requiring specific monitoring strategies. CIMA Research Foundation has accrued lengthy experience in the study and monitoring of one of these species, the Cuvier's beaked whale (*Ziphius cavirostris*), and has thus been tasked by the Italian Institute for Environmental Protection and Research (ISPRA) with assessing species number, demographics, range, and distribution and habitat patterns, in accordance with the Directive.



Within this project context, CIMA Research Foundation has supplied a time series of past data on the presence and distribution of the Cuvier's beaked whale, obtained from combined methods (photo-identification, satellite tagging and photogrammetry). In addition, various sea missions have been carried out, and data on marine mammals have been collected, enabling us to provide estimates of the absolute numbers of Cuvier's beaked whales in the Ligurian and Northern Tyrrhenian seas over almost 20 years (2004-2023), and to assess distribution (also by age, sex and length). Furthermore, we have created distribution maps based on sighting and satellite tagging data.

RETURN

Focus on Communities' Resilience to Risks: Social, Economic, Legal and Cultural Dimensions

RETURN is one of the PNRR-funded projects for risk research, and is structured in eight parts (called spokes), each on a different theme. Together, these spokes deploy a multi-disciplinary approach to contribute to achieving the main project goals.



CIMA Research Foundation is involved for five of the spokes, and is co-leader of Communities' Resilience to Risks: Social, Economic, Legal and Cultural Dimensions. This spoke aims to **build a more resilient socio-economic model, fostering multi-level risk governance with participation by all the stakeholders involved in preparing for and adapting to risks**. Based on co-design and participation, this approach also involves research in the legal and regulatory field, as well as the application of innovative tools to establish technological measures, methods and policies for risk mitigation.

In pursuing these goals, we carried out a variety of activities in 2023 that led to the drawing up of guidelines for implementing multi-criteria analysis to assess and define priorities in risk reduction measures, also enabling stakeholders' perspectives and values to be taken into account. In addition, we contributed to a rational review of various decision-making approaches that include the community in risk reduction and adaptation to climate change. Likewise, we were involved in the drawing up of methodology guidelines for participatory approaches at the European Union level.

preparEU

Mapping and Feasibility Study

As assistance in the European Commission initiative on risk awareness and communication as an essential tool for targeting European citizens, we were tasked by DG ECHO to map and bring together the most prominent projects by EU member countries in the Civil Protection Mechanism, and to analyse these. This was with the **end goal of identifying 'good practices' while also assessing their scalability for pan-European action that could strengthen knowledge of risks, behaviour to adopt, and dissemination of a culture of self-preparedness in EU nations**.

Through a survey targeting the national civil protection institutions of the 26 member countries, along with semi-structured interviews and desk research, we identified 64 good practices in 25 countries. We then analysed 10 of these to gain a shortlist of 5 good practices that could be taken as models for their European-level 'scalability'.



The last stage of the analysis went into the details of the activities and tools proposed, based on the study of the variety of initiatives brought together and the needs of the individual countries, and these will become part of the risk awareness and communication activities planned for the coming years by the European Commission in agreement with participating countries.

03.

PUBLICATIONS



*Engaging with the scientific community has always been
an essential part of advancing research*

SHARING OUR KNOWLEDGE

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FOCUS REPORT 2023



European Drought Risk Atlas

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Displacement Risk: Assessment for Fiji and Vanuatu in current and future climate scenarios

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Establishing effective links between early warnings and early action: general criteria for floods

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Global Infrastructure Resilience Capturing the Resilience Dividend

This Work is a product of the Coalition for Disaster Resilient Infrastructure (CDRI) along with external contributions from multiple organizations.
https://cdri.world/upload/biennial/CDRI_Global_Infrastructure_Resilience_Report.pdf

TO KNOW MORE ABOUT OTHER PUBLICATIONS:
<https://www.cimafoundation.org/en/report/>
<https://www.cimafoundation.org/en/risk-profiles/>



04.

TRAINING



“

Getting ready to correctly manage natural risks, which, in the current context of climate change, are growing ever more frequent and devastating

TRANSMITTING OUR KNOWLEDGE

Training is central in our work. Some initiatives target the youngest generations, so as to equip them with the necessary knowledge and tools to competently address scientific research. Others pivot on those people who have been working in the sector for some time, because constant refresher and specialized training is essential when talking of risks and the ways to predict and prevent them. This is the founding principle that leads CIMA Research Foundation to devote much

of its resources to training, both in the academic sector and in capacity building for specific project activities. In this field too our approach is based on accessibility and inclusiveness. This is why we try to ensure an equal gender presence among students and interns, and we encourage participation by people from developing countries. In addition, we have created a specific e-learning platform to make access to our courses as easy as possible.

UNIVERSITY

Getting the new generations of researchers ready so that they can operate using all the necessary knowledge and tools in the natural risk management sector is a key point in CIMA Research Foundation's training activities. For this reason, and as part of the exchange activities arranged with the University of Genoa, we work with this further education institute on both a Master's degree and a PhD course. Again with the University of Genoa, in 2023 we began a partnership with the Department of Administrative Law for our research work in the legal sector. It is in this latter context that we have also teamed up with the UCSC University (Milan). As regards the further education conducted with the University of Genoa, we highlight:

The **NatRisk Master's Degree course**, which lasts two years and is entirely in English. It aims to shape professional figures capable of managing the various aspects of natural risks. Participants graduate

as engineers who can address the technical and operational aspects of the problems, thanks to cross-discipline risk management training, enabling them to engage with all the types of specialists working in the various sectors, from forecasting to prevention, and from monitoring to emergency management. The last semester is structured with an internship at the operational centres of the Italian Civil Protection Department, also for writing the final thesis.

The Doctorate in Security, Risk and Vulnerability is an advanced education course aimed at training up new generations of researchers capable of facing the security challenges of the future. More specifically, through the Risk, Climate Change and Sustainable Development curriculum, we offer a valuable opportunity for studies related to risk prevention and mitigation, placing these in a broader context of sustainable development, biodiversity conservation, and protecting the lives of humans and other species.

CIMA Research Foundation ensures teaching by experienced researchers and provides operational and scientific frameworks for PhD students. The programme stimulates networking with foreign universities, also for the issuing of a joint or multiple PhD qualification. In fact, one of the programme aims (and an added value) is creation of new partnerships and synergies with a view to international cooperation for global environmental and social sustainability.

FOR MORE INFORMATION ON THE DEGREE COURSE:
www.natrisk.unige.it

FOR MORE INFORMATION ON THE DOCTORATE:
<https://sicurezza.unige.net/>



46

STUDENTS ENROLLED ON
THE NATRISK MASTER'S
COURSE
A.Y. 2022/23

80%

STUDENTS ON THE MA-
STER'S COURSE IN PRO-
GRESS
A.Y. 2022/23

21

PHD STUDENTS ENROLLED
RCCSD CURRICULUM
A.Y. 2022/23

6

TOTAL PHD CURRICULA
A.Y. 2022/23

E-LEARNING

The year 2023 saw us develop, for the first time, e-learning courses for our external project partners, making our skills and experience in instructional design and media development available to these users too. The Italian Red Cross, Pelastusopisto (the Finnish Emergency Services Academy) and various other Italian and international organizations appointed us to create quality interactive contents, working as subject-matter experts in synergy with our team.

GO TO THE WEBPAGE!
<https://edu.cimafoundation.org/>



48

COURSES
AS OF 2023

7

LANGUAGES
AS OF 2023

1486

USERS
AS OF 2023

58

COUNTRIES
AS OF 2023

THE CETASMUS PROGRAMME

The CETASMUS initiative is a training experience focusing on methods for monitoring sea mammals, and involves students and researchers from all over the world. Its trainees take part in field trips on our Headwind catamaran and on the command bridge of ferries crossing the Mediterranean. They also attend lessons and workshops on the distribution and behaviour of cetaceans, and on sampling methods and data collection. During 2023, 14 young people from 7 countries took part in a total of 33 catamaran trips and 55 ferry crossings in 2023.

GO TO THE
WEBPAGE!



14

STUDENTS
IN 2023

7

COUNTRIES OF ORIGIN
IN 2023

33

HEADWIND TRIPS
IN 2023

55

FERRY CROSSINGS
IN 2023

HIGH QUALITY WHALE-WATCHING®

Since 2019, we have acted as the sole certifying body for Italy to grant the High Quality Whale-Watching® trademark (registered by ACCOBAMS and developed in conjunction with the Pelagos Agreement) to operators who carry out whale-sighting activities sailing from an Italian port. A certification request is made on a voluntary basis, and today 15 operators working in 7 different regions belong to our network. Each year this number grows, as does the commitment from the staff who propose people for training to gain company certification. The increasing use of this trademark is pivotal in defining a marine strategy: identifying the areas where whale-watching takes place is in fact crucial and, in this sense, the assistance from the operators themselves proves essential.

GO TO THE
WEBPAGE!



15

CERTIFIED OPERATORS
IN 2023

1

NEW OPERATORS
IN 2023

7

REGIONS INVOLVED
IN 2023

17

PEOPLE TRAINED
IN 2023

RISK AND CIVIL PROTECTION: THE LEGAL PERSPECTIVE

However much they might seem to belong to a niche segment if compared to the applied research and operational projects that we conduct, our activities in the analysis and study of the legal aspects connected with risk and civil protection have always been considerable, and stand as an essential branch of our work.

Besides resulting in numerous sector publications and various fruitful partnerships (particularly with the University of Genoa and the UCSC University), these activities have also been central in national conventions and webinars. Some of these initiatives have been tailored to sector stakeholders and technicians (as in the case of the course organized for ARPA Emilia Romagna, held in October, on the responsibility of functional centre operators during civil protection warning action), and others to the younger generations, in keeping with our firm conviction of the importance of involving and training tomorrow's adults.



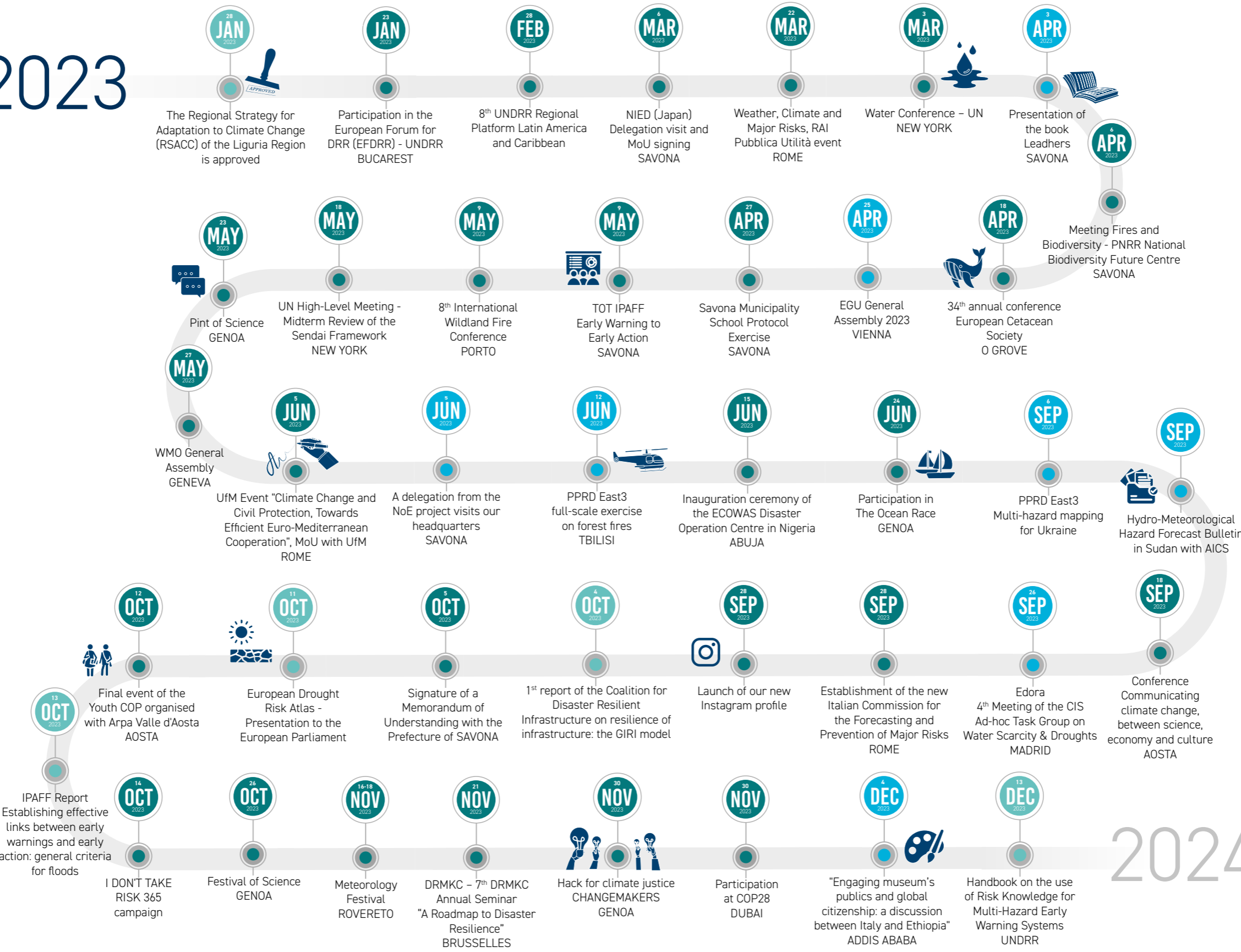
05.

EVENTS



ENGAGING THROUGH OUR EXPERTISE

2023



2024

A YEAR OF SNOW

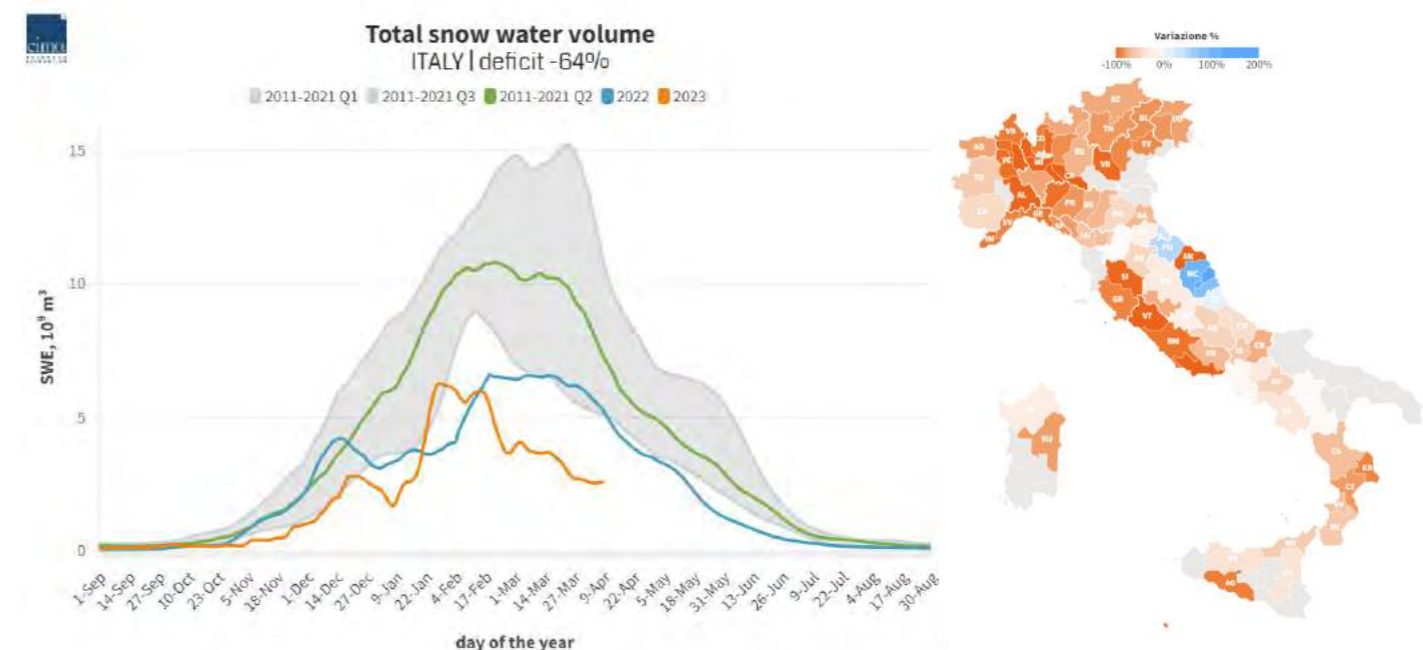
"Snow science often leads to predictive models that include snow deposition, snow melt, and snow hydrology - elements of the Earth's water cycle - which help describe global climate change."

Encyclopedia of Snow, Ice and Glacier

One of the monitoring activities regularly performed by CIMA Research Foundation focuses on snow – a fundamental 'reservoir' for the spring and summer months. A deficit in this water reserve, as has been seen in recent years, significantly contributes to exacerbating drought problems in Italy. First begun in 2022 but structured more extensively in 2023, we introduced a dissemination and information campaign involving the synergistic work of our Hydrology and Communication departments. Over the course of the winter, we created an 'update feature': this regularly publishes, on our social media channels and website, the collected data and their implications, especially in terms of drought risk. Accompanied by interactive graphs and maps, the data have been quoted by numerous national and international media outlets, generating strong engagement on social platforms, and illustrating the

interest this issue attracts among the public besides among sector experts and colleagues. We have also set up specific joint initiatives, such as LAB24 with the Il Sole 24 Ore newspaper, and with the RAI METEO public weather service.

For us, this work has been an opportunity to explore the potential of storytelling, by presenting some of our activities - technical but nonetheless of interest to the public - in a thematic way rather than as sporadic news items. The positive results and feedback stand as precious testimony of appreciation for this type of approach, also confirming the crucial role of collaboration between the research world and the communication realm to deliver effective and prompt data-based scientific communication capable of making complex scientific methods and concepts simple.



EW4ALL EARLY WARNINGS FOR ALL

"The facts are clear. Early warnings save lives and deliver vast financial benefits. I urge all governments, financial institutions and civil society to support this effort."

UN Secretary-General António Guterres



Although they can play a vital role in risk prevention benefiting entire populations, today early warning systems (EWS) are available only to about half the planet's countries.

The other half is mainly made up of regions of the world that are most affected by and exposed to natural disasters, which are often related to the negative impacts of climate change.

In March 2022, the United Nations Secretary-General António Guterres launched Early Warnings for All (EW4All) - an initiative co-led by WMO and UNDRR - precisely to fill this gap. Its ambitious goal is to succeed in protecting the entire world population against adverse weather/climate events by the year 2027.



THE INAUGURATION CEREMONY OF THE ECOWAS - CEDEAO "DISASTER OPERATION CENTRE" - ABUJA, NIGERIA

CIMA Research Foundation has always recognized the essential role played by EWS, and the organization works in Italy as well as in other parts of the world to improve these and make them more widespread, teaming up with WMO and UNDRR and other international organizations. It is therefore natural that many of our projects have also begun to formally contribute to achieving the EW4All Initiative goals.

Among the most recent and prominent examples are MedEWSa (Mediterranean and pan-European forecast and Early Warning System against natural hazards), which aims to provide innovative solutions to ensure prompt and accurate impact forecasts and impact-based EWS regarding various natural hazards.

Also exemplary is the work done in Sudan in partnership with AICS, as part of the APIS project, where the aim is implementation of an EWS to reduce damage and to strengthen risk management within the country, particularly related to flooding and drought. APIS also continued for the whole of last year despite the conflict that broke out in March 2023. However, the project actions had to be updated to cope with and respond to the country's new needs in this dramatic context.



KICK-OFF MEETING OF MEDEWSA PROJECT



NOE PROJECT - HIGH-LEVEL STUDY AND EXCHANGE VISIT
CIMA RESEARCH FOUNDATION HEADQUARTERS

The activities we conduct in four island states in the Indian Ocean also contribute to the EW4All Initiative: we analyse the multi-hazard Early Warning for Early and Anticipatory Action Systems (EW-EAAS), which are essential in an area that is so vulnerable to the effects of climate change.

Yet another is the AMHEWAS programme, which we work on together with AUC (African Union Commission) and UNDRR Africa, again with Italian funding from MAECI and AICS. This continues the scientific and technical support to the regional and continental situation rooms, within the context of an African EWS capable of coordinating action in the event of an emergency and the need for funding to the affected countries.

Following the same direction is our involvement in the Caribbean, in Saint Lucia, and in Laos and Cambodia, ranging from Latin America through to Asia but always with the aim of creating effective warning systems.

Within this framework and thanks to our research in various contexts that has been progressing over the years, we have created the Handbook on the Use of Risk Knowledge for Early Warning Systems, with



USE OF DRONES TO SUPPORT DISASTER RISK REDUCTION ACTIVITIES
UNDER THE APIS PROGRAMME - SUDAN

the involvement of UNDRR. This provides technical support to all the EW4All Initiative partners, and is a practical guide to improve quality, orientation and effectiveness of warning systems by drawing on knowledge of risks and hazards.

Lastly, so as to strengthen the EU Civil Protection Mechanism and specifically the EWS in the various countries, we are part of PPRDEast 3 (Prevention Preparedness and Response to natural and man-made Disasters in the Eastern Partnership countries - Phase 3), a programme involving Azerbaijan, Armenia, Georgia, Moldova and Ukraine, and which sees us provide our expertise in flooding and fires (also restructuring our actions, in conjunction with the Italian Red Cross, since the conflict began in February 2022). Likewise for the IPA Floods and Fires programme (in Albania, Bosnia Herzegovina, Kosovo, Montenegro, North Macedonia, Serbia and Turkey), where we coordinated the study Establishing effective links between early warnings and early action: general criteria for floods, setting out essential guidelines for the switchover from 'early warning' to 'early action' at a regional level.



IPA FLOODS AND FIRES OPERATIONAL TRAINING
FOR GROUND FOREST FIRE FIGHTING

THE I DON'T TAKE RISKS CAMPAIGN

"Behaviour models can save lives. Above all, drill procedures are not primarily for rescuers, but instead for residents, who find they might have to face such an event and need to know how to behave"

Giuseppe Zamberletti

Natural risks are common occurrences, especially in countries such as Italy, and therefore learning to live with them is essential in ensuring protection for all. Thanks to knowledge, awareness, and adaptive and mitigation actions (capacity building), the exposure to each of these occurrences and their possible hazardous implications can be reduced, thus also significantly lessening the risk.

This is the main goal of the nationwide communication campaign I DON'T TAKE RISKS 365. Active since 2011, this aims to encourage good civil protection practices through events, conferences and social media outlets. As of 2023, this has become a permanent campaign active all year round. Promoted by the Italian Civil Protection Department, the project saw CIMA Research

Foundation stand as partner in 2023 too, along with INGV (National Institute of Geo-physics and Volcanology), ANPAS (National Association of Public Assistance), ReLUI (Network of the University Laboratories of Seismic Engineering), the Conference of Italian Regions and Autonomous Provinces, and ANCI (Association of Italian Local Authorities). On 14 and 15 October 2023, the 13th edition of I DON'T TAKE RISKS reached over 700 Italian squares thanks to the help from volunteers - a factor never highlighted enough - who underwent training so they could pass on good practices throughout Italy. This initiative saw our involvement in organizing various activities, from volunteer training to monitoring in the squares, through to communication.



A SQUARE IN LIGURIA DURING THE 'I DON'T TAKE RISKS' CAMPAIGN 2023

UNIVERSAL CIVIL SERVICE

"How wonderful it is that nobody need wait a single moment before starting to improve the world."

Anna Frank

As can be read on the Department for Youth Policies and Universal Civil Service website, "universal civil service is an important opportunity for training and for the personal and professional growth for young people, who are an essential and vital resource for the cultural, social and economic progress of the nation".

For this reason, in 2023 CIMA Research Foundation decided to get involved in this experience for the first time, welcoming two volunteers into its Communication office to work on communication tasks in the project I don't take risks 365 (part

of the programme 'I don't take risks 365: civil protection good practices 2') supported by ANPAS (Italian National Association of Public Assistance) in partnership with the Italian Civil Protection Department. The project activities mainly involve developing multimedia contents for the 'I don't take risks' social media channels, but also include assistance in creating workshops and events connected with this campaign. One emblematic example of the results is the digital exhibition staged at the Genoa Science Festival.

SCEGLI UN'ESPERIENZA NELLA COMUNICAZIONE!

Fidati, con noi non rischi!

#iononrischio #CIMAnchiTu





Candidati sul sito
entro il 15 febbraio



INR 365- la comunicazione:
scopri come partecipare!









RESPONSIBILITY TOWARDS OUR LAND

"Science is but a perversion of itself unless it has as its ultimate goal the betterment of humanity"

Nikola Tesla

We feel very close to our local area, Liguria, and it is in fact here that we have learnt many of the lessons we now apply on an international scale. For this reason, we always try to give something back to the community, by hosting and taking part in events and conventions where we showcase (and aim to share) our expertise and know-how. In this perspective, and to the backdrop of the event The Ocean Race – The Grand Finale (Genoa, June 2023), we organized various edutainment activities gravitating around our projects. One of these was 'Whale Games', to discover the sea mammals present in the Pelagos Sanctuary and the threats putting them in danger, while trying to identify the necessary measures for conservation of marine environments.

The year 2023 also saw us first team up with the AIB Civil Protection - Finale Ligure forest firefighting group, taking the 'I'm Civil Protection Too' campaign to children's summer camps to teach youngsters and make them more aware of civil protection matters. As part of the I-CHANGE project and inspired by the Monopoly board game, we also created the Zero Emission City game: the aim is for players to take sustainable action (as individual citizens or through joint initiatives) and to mitigate climate change. Zero Emission City 'toured' the Science Festival in Genoa, the Meteorology Festival in Rovereto and schools in the province of Genoa, meeting with much positive feedback.



THE WHALE GAMES' WORKSHOP - THE OCEAN RACE, GENOA



I'M CIVIL PROTECTION TOO' SCHOOL CAMP - 2023 EDITION - FINALE LIGURE

GENDER EQUALITY PLAN

OUR JOURNEY TOWARDS INCLUSION, DIVERSITY AND GENDER EQUALITY

"Disasters don't discriminate, but people do... disasters reinforce, perpetuate and increase gender inequality, making bad situations worse for women."

UNISDR

CIMA Research Foundation formulated its Gender Equality Plan in 2021 and, since then, has consistently sought to take action to make equality and inclusion tangible concepts inside its organization and the projects it conducts. This process starts from within but also aims to influence spheres outside the foundation by fighting all forms of discrimination. Following in this direction, we published (in Italian only) our *Linee guida per un linguaggio inclusivo* in 2023. This is a set of guidelines serving not only as 'rules' for inclusive language in writing but that should also help us reflect every time we communicate in any manner. In this view, the

guidelines take into consideration not only written text but also, for instance, presentations and the use of images, as well as document accessibility.



DOCUMENT - GUIDELINES FOR INCLUSIVE LANGUAGE

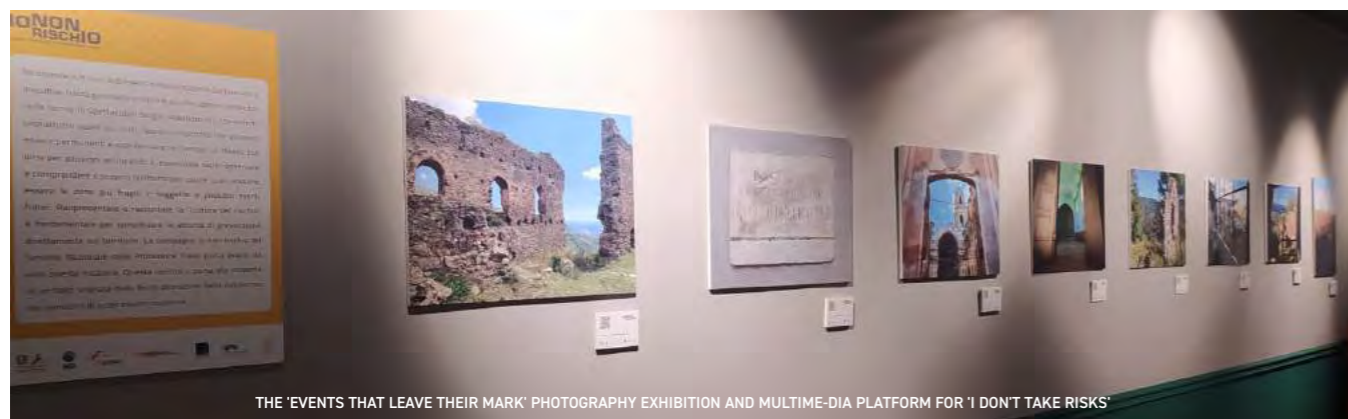
ART AS SCIENCE, SCIENCE AS ART.

"Art and science are terms which are frequently employed, yet the exact distinction between them is rarely understood; the one is often used instead of the other"

Johann Wolfgang Goethe

Narrating our work, and the scientific challenges we address at CIMA Research Foundation, through art is, for us, a way to communicate by bringing people closer, while conveying the uncertainties and technical aspects of our field of study through a language that (sometimes) does not even require words. This part of our activities was specifically enriched in 2023 through two shows. The first was 'Events That Leave Their Mark': an exhibition of photos, videos and interviews for discovering some of the Italian villages struck by natural disasters. Created as part of the I DON'T TAKE RISKS nationwide communication campaign for good civil protection practices, the show was open to

the public during the Genoa Science Festival 2023 (26 October - 5 November), in the wonderful Teatro Falcone venue at Palazzo Reale - one of the city's most renowned historic buildings. The second emerged as part of the I-CHANGE project, with the involvement of UIF (the Italian amateur photographers' union). It took photographers to become 'citizen scientists', with photography as a means of communication to spotlight climate change issues. During awareness events and initiatives as part of the project, the photos went on display to narrate the science, mitigation actions and adaptations to climate change through images of everyday life and nature.



ANNUAL REPORT 20 23



CIMA
Research
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