



european Network on Extreme fiRe behaviOr
COST Action CA22164

Navigating the fire environment to ignite preparedness and readiness for extreme wildfires

SCIENCE COMMUNICATION PLAN

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Revision History

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0.5	22.04.2024	Renata Martins Pacheco	Third Internal review by WG4 co-leader
1.0	30.04.2024	Theodore M. Giannaros	Final version approved by the Action MC

PREAMBLE

COST Action NERO, CA22164, was conceived with the goal of uniting wildfire researchers and practitioners to address the escalating challenges posed by wildfires that exhibit extreme fire behavior. The proposal to create this network was founded on the fact that, although there have been significant advances in recent decades in understanding extreme fire behavior, the deep knowledge gained falls short in predicting the intensity and size of recent extreme events. Therefore, NERO recognizes that there is still much work needed to advance our capability to identify those situations where extreme fire behavior may occur.

Central to NERO is the challenge of **increasing fire operatives and public awareness of extreme fire behavior**. In that regard, at the core of this Science Communication Plan lies a profound recognition of the imperative need to disseminate research findings, insights, and innovations derived from NERO's collaborative endeavor in understanding extreme fire behavior. The Science Communication Plan you are reading acknowledges that the pursuit of knowledge alone is insufficient. It must be accompanied by a robust framework for communication, which ensures the accessibility, relevance, and applicability of the produced knowledge to diverse groups of stakeholders and the public.

The importance of this Science Communication Plan cannot be overstated. It defines the **strategy of effective communication and outreach** to amplify the impact of the Action outcomes.

IMPORTANT NOTICE

The Science Communication Plan is developed updated, and its implementation is monitored under the overall supervision of the WG4 Leader and Science Communication Coordinator (Ljiljana Šerić) and in close collaboration with WG4 co-leader (Renata Martins Pacheco) and other relevant contributors.

1. Summary

The COST Action NERO, CA22164, addresses five main challenges:

- Coordinating international research on extreme fire behavior.
- Making research outcomes directly applicable to extreme fire behavior prediction.
- Actively engaging practitioners in the co-creation of knowledge and the development of novel tools.
- Fostering capacity-building through improved, coordinated training activities.
- Increasing fire operatives and public awareness of extreme fire behavior.

NERO will address the specified challenges by consolidating European experts' knowledge on extreme fire behavior. It will do so by **fostering collaboration between wildfire researchers and practitioners** within the context of its structured network.

The success and overall impact of NERO depend heavily on the **effective dissemination and exploitation** of the network's outcomes. Acknowledging this, the present Science Communication Plan defines a **multifaceted strategy** for communicating, disseminating, and valorizing the Action results. This strategy emphasizes the **consistent, coherent, and timely** sharing of NERO's research outcomes and innovations to a **diverse** group of preidentified **target audiences** to maximize the impact of the Action and to facilitate the engagement of stakeholders in the uptake of scientific knowledge.

To achieve the overarching aim of maximizing the impact of the Action and securing the engagement of stakeholders, as well as to increase awareness of both the public and fire operatives, the Science Communication Plan of NERO builds upon the following components:

- **Science Communication Coordinator:** Within our Action, the appointed Science Communication Coordinator is responsible for overseeing the implementation of NERO's communication and outreach strategy. The Science Communication Coordinator plays a pivotal role in coordinating communication activities, liaising with stakeholders and coordinators of other fire-related projects/initiatives, and ensuring alignment with the Action objectives regarding communication and outreach.
- **Dedicated Working Group (WG):** Our Action encompasses a WG devoted to communication and outreach (WG4). This WG serves as a collaborative space for exchanging best practices in communication, developing communication tools, and supporting outreach activities. Further, this WG entails the creation of a specialized Fire Science Communication Team devoted to communicating fire science related to extreme wildfires (both active and historical events) to the media and the public.

- **Social Media:** We will leverage the power of social media platforms to communicate research findings, raise awareness among the public, and foster engagement of stakeholders with the Action network. Effective use of social media channels will allow for reaching a broader audience, while triggering and facilitating discussions on key topics related to the challenges of NERO.
- **Synergies Team:** We will create a team dedicated to identifying and maximizing opportunities for collaboration within and outside the Action. This team will focus on fostering synergies between other fire-related projects/initiatives and NERO to amplify the overall impact.
- **Fire Science Communication Team:** This team will be appointed with the aim of providing concise, coherent, and timely fire science information to the media and broader audiences. It will mainly focus on active extreme wildfires that may occur throughout the lifetime of the Action, but it will also address media/public requests on historical events.

The Science Communication Plan of NERO introduces the different means and channels of communication that are and will be implemented throughout the lifetime of the Action. The plan also identifies the diverse target audiences of the communication and outreach strategy that NERO will implement. The Science Communication is a living document. Throughout the lifetime of the Action, we will closely monitor dissemination and communication activities and adapt our strategy to better suit the evolving needs of the Action.

2. General Aim and Target Audiences

The pursuit of knowledge alone is insufficient. It must be accompanied by effective communication and outreach that ensures the accessibility, relevance, and applicability of the knowledge to diverse groups of stakeholders and the public. This principle is central to the Science Communication Plan of NERO, which aims at setting up and implementing a communication, dissemination, and valorization strategy that will maximize the impact of the Action. The specific objectives related to communication, dissemination, and valorization of Action outcomes are summarized as follows:

- **Public outreach:** To raise awareness about the Action, its challenges and goals, and the importance of NERO in advancing our understanding of extreme fire behavior to enhance preparedness and response. For this, we will establish key messages that highlight the added value of NERO's activities concerning the challenges posed by the occurrence of extreme fire behavior.
- **Engaging researchers with practitioners:** To bridge the gap between researchers and practitioners, engaging them in co-creating knowledge and the co-producing tools and services that enhance preparedness and response for wildfires exhibiting extreme fire behavior. To this end, we will stress out the practical implications of NERO's outcomes and innovations, focusing on the concept of "science serving practice".
- **Informing stakeholders and policymakers:** To inform relevant stakeholders and policymakers on the progress and advancements in the field of extreme fire behavior. For this, we will focus on communicating the potential societal, environmental and economic impacts of exploiting NERO's knowledge to enhance preparedness and response for wildfires showing extreme fire behavior.
- **Raising awareness:** To raise fire operatives' and public awareness of extreme fire behavior. To achieve this, we will disseminate easily understandable information on the Action outcomes, highlighting the significance of better understanding extreme fire behavior for safer and more effective response strategies.

It becomes understandable from the above objectives that NERO identifies a diverse range of target audiences that includes practitioners, the scientific community (in particular young researchers), policymakers and stakeholders, and the public. To reach out to these target audiences, we will leverage different approaches and activities, including (but not limited to):

- Participation in high-level international scientific conferences and workshops.
- Organization of meetings, training schools, and webinars.

- Consistent communication of the Action updates, outcomes, and activities through the Action website and its official social media channels.
- Publication of papers in high-level, peer-reviewed international scientific journals.
- Publication of a White Paper toward the end of the Action.
- Regular exchange of information with other fire-related projects/initiatives.

3. Plan for the Communication of Action Results

To ensure effective communication of the Action results, we will employ the following tools:

- **Website:** The official website of NERO (available at <https://nero-network.eu>) will serve as the central hub for information related to the Action, its objectives, activities, and outputs.
- **Social media:** We have created official accounts of NERO on LinkedIn (NERO Network), X/Twitter (@NEROnetwork), Facebook (NERO Network), and YouTube (@NERO-Fire-Network). These social media channels will be used to engage with a wider audience. All network members will be encouraged to follow these accounts, and efforts will be made to increase their visibility. Regular posting (2 – 3 times per week) and active engagement with relevant content will form the key strategy for enhancing NERO’s presence on social media platforms. In particular, our initial social media strategy builds upon the following:
 - **“Did You Know Monday”:** Every Monday, we will share scientifically accurate facts related to extreme fire behavior. Each post will feature a brief description of the fact with a link to the relevant literature supporting it. Additionally, we will include a thought-provoking question to encourage engagement and interaction with our audience.
 - **“Throwback Thursday”:** On Thursdays, we will revisit past events and lessons learned related to NERO’s research efforts. This will involve highlighting key milestones, insights, or outcomes from previous studies or other fire-related projects. By reflecting on our journey and achievements, we aim to provide valuable insights and foster a deeper understanding of the challenges and opportunities in the field of wildfire science.
 - **“Important Dates Acknowledgement”:** We will acknowledge important dates, such as the International Firefighters' Day (May 4th), the Wildfire Community Preparedness Day (First Saturday in May), the World Environment Day (June 5th), the International Day of Forests (March 21st), the Fire Prevention Week (Second week of October), the International Women's Day (March 8th), and the Earth Day (April 22nd), with appropriate post.
- **Press Releases:** Young researchers will be encouraged to collaborate on preparing press releases for fire-prone areas, providing valuable insights and expertise to local communities and stakeholders. This initiative aims to raise awareness and disseminate accurate information about fire-related issues. This initiative will also enhance the visibility of emerging researchers within the community. To achieve this, we will establish a Fire Science Communication Team comprising 5 - 8 NERO members. Their primary

responsibility will be to create concise reports on ongoing significant wildfires, providing essential information to be communicated to the mass media through a local NERO member serving as a media contact. This proactive approach will secure greater exposure for the Action and elevate the profiles of young researchers, increasing their visibility within the field.

In addition to the above communication tools, we have developed the following communication products:

- **Action Logo and Visual Identity:** The logo and visual identity of NERO (available at <https://nero-network.eu/resources>, under Graphics) will be prominently featured in all communication materials to establish the brand recognition.
- **Templates:** We will create Word (.docx) and PowerPoint (.pptx) templates to ensure consistent and professional appearance of the Action documents and presentations.

Table 1. Timeline for the development, production, and use of communication tools.

N	Tool	Launch date	End date	Milestone	Action outcome	Responsible
1	Website	2024	2027	Website created	Promotion of the action, its results. Raising awareness about the topic.	Action Chair, Science communication coordinator, Science communication co-coordinator
2	LinkedIn account	2024	2027	LinkedIn account created	Promotion of the action, its results. Raising awareness about the topic.	Action Chair, Science communication coordinator, Science communication co-coordinator
3	Facebook Account	2024	2027	Facebook account created	Promotion of the action, its results. Raising	Action Chair, Science communication coordinator,

					awareness about the topic.	Science communication co-coordinator
4	Twitter/X account	2024	2027	Twitter/X account created	Promotion of the action, its results. Raising awareness about the topic.	Action Chair, Science communication coordinator, Science communication co-coordinator
5	Youtube account	2024	2027	Youtube account created	Promotion of the action, its results. Raising awareness about the topic.	Action Chair, Science communication coordinator, Science communication co-coordinator
6	Media reports	2024	2027		Promotion of the action, its results. Raising awareness about the topic.	

4. Plan for the Dissemination of Action Results

The dissemination activities of NERO focus on making the Action outcomes accessible to and usable among peer scientists and practitioners, co-creating the knowledge while remaining committed to the principles of Open Science and Open Access. Depending on the target audience, language will be customized accordingly. Technical language and detailed methodologies will be used in dissemination through scientific publications and conference presentations, and professional language will be used in training schools. Accessible language and infographics will be used to engage and inform non-specialist audiences.

To implement the principles of Open Science and Open Access, we will strive to publish research outcomes to high-level open-access journals and/or repositories (e.g., Zenodo). Data, methods, and tool sharing will be strongly encouraged within NERO, while we will ensure compliance with intellectual property rights and licensing agreements.

A tentative list of dissemination products of NERO is as follows:

- **Action Poster and Brochure:** The poster and brochure of NERO (available at <https://nero-network.eu/resources>, under Dissemination Materials) will be exploited to promote publicity of the Action at events, conferences, and other networking activities.
- **Scientific Publications:** Submission of manuscripts to high-level open-access journals and international conferences throughout the lifetime of the Action.
- **Training Schools:** Organization of training schools to secure dissemination of Action outcomes and to proactively engage with practitioners.
- **Webinars:** Organization of regular (monthly) webinars to foster exchange of knowledge and to promote the dissemination of Action advancements.

To ensure maximization of dissemination impact, targeted conferences and journals' special issues will be posted and regularly updated on the website of the Action and its social media channels. Call for papers will be distributed via NERO mailing lists in timely manner.

List of NERO related publications will be regularly updated in special section of NERO website. At the end of the action we will compile all publications into a deliverable product (List of NERO-supported publications in international peer-reviewed scientific journals and international or/and national conferences).

The participants included in dissemination are as follows:

- **Working Group 1:** Participants of WG1 will be responsible for the publication of data collections and the development of a scientific database (NERO fire database) to ensure accessibility and transparency in our research.

- **Working Group 2:** Participants of WG2 will strive on publishing theoretical analyses and backgrounds and processes, providing a comprehensive understanding of our scientific methodologies and frameworks. NERO case study manual – a protocol to guide the systematic analysis of the occurrence of extreme fire behavior as a deliverable will compile the research of fire analysis. Reconstruction of known historical fires will also be published as the results of WG2 participants.
- **Working Group 3:** This WG is dedicated to creating tools for training schools, equipping educators and practitioners with the necessary resources to incorporate our research findings into educational programs effectively.
- **Working Group 4:** This WG maintains collaboration with other projects and activities, takes charge of editing content for communication and outreach purposes, ensuring that our message is conveyed clearly and effectively to diverse audiences.

Last, NERO has already established and will maintain active communication channels with other fire-related projects/initiatives, enhancing the dissemination of the Action results.

5. Plan for the Valorization of Action Results

The valorization strategy of NERO will encompass comprehensive plans for the development and implementation of new practices, tools, and policies in addressing the development of extreme fire behavior in wildfires. This strategy is designed to translate research findings into tangible outcomes that benefit society and improve preparedness and response.

To ensure this, participants will develop NERO training courses on extreme fire behavior - Open-source training material focusing on extreme fire behavior. The training material will be delivered by the end of the action and open for the audience.

NERO will prioritize the development of advanced tools and models for predicting and monitoring fire behavior. This may involve the integration of remote sensing data, weather forecasts, and machine learning algorithms. The valorization strategy will outline the research and development process for creating these tools, including data collection, model development, validation, and deployment. Fostering collaborations with start-up and spin-off companies to ensure long-term sustainability of results will be envisioned.

Deliverable for ensuring this will be published - NERO handbook on predicting extreme fire behavior: Synthesis of knowledge, tools, and methods for anticipating the occurrence of extreme fire behaviour.

Finally we will deliver a NERO White Paper - A synthesis of the knowledge gained and advancements made during the lifetime of NERO, with particular emphasis on the exploitation of the network's outcomes for improving fire management, firefighter training and safety, and public safety planning.

By integrating these components into its valorization strategy, NERO aims to facilitate the translation of scientific research into practical solutions that address the complex challenges of wildfire management. Through collaborative efforts and interdisciplinary approaches, NERO seeks to empower communities, practitioners, and policymakers to effectively mitigate wildfire risks and build resilience in the face of changing environmental conditions.