



Resisting and promoting peace through practices of “civilian science” in contexts of armed conflicts

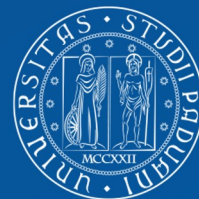
Anna Berti

Suman & Paolo

Giardullo



PADOVA
SCIENCE,
TECHNOLOGY
AND INNOVATION
STUDIES



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Armed conflicts as catalysers for civilian science

Actors, practices and strategies



“As humans reshape the landscape, we forget what was there before. Ecologists call this forgetting the ‘shifting baseline syndrome.’ Our newly shaped and ruined landscapes become the new reality”.

Anna Tsing et al. (eds.),
*Arts of Living on a Damaged Planet:
Ghosts and Monsters of the Anthropocene*
(University of Minnesota Press 2017).



Understanding environmental amnesia



Political Geography

Volume 20, Issue 5, June 2001, Pages 561-584



The political ecology of war: natural resources and armed conflicts

Philippe Le Billon  



Understanding environmental amnesia

Lost Words and Lost Worlds: Combatting Environmental Generational Amnesia

In: [Memory Studies Review](#)

Author: [Stef Craps](#)

Online Publication Date: 02 Aug 2024

Protecting War's Unseen Environmental Damage

In: [Nordic Journal of International Law](#)

Author: [Britta Sjöstedt](#)

Online Publication Date: 18 Feb 2025



Framing civilian science

Environmental citizen science	Civic environmental monitoring	Civilian science and civilian monitoring
<p>The practice in which non-professional participants contribute to data collection and in some cases data analysis to advance research in the environmental field.¹ <u>It always entails a scientific component</u> (e.g., systematic observations) and may be supported by professional scientists. Context: <u>peacetime</u>. <i>Note</i>: the reference to ‘citizenship’ is detached from its legal definition being rather a synonymous of ‘people’.</p>	<p>The use by ordinary people of monitoring devices such as sensors or their senses such as smell to detect environmental issues.² <u>It may or not entail a scientific component</u> (e.g., anecdotal observations). Context: <u>peacetime</u>.</p>	<p>The application of citizen science and civic monitoring methodologies to record and report environmental impacts caused by AC.³ <u>It includes both systematic data collection and analysis, and non-systematic observations</u> (e.g., based on personal stories or individual experiences). Context: <u>both during and after an AC</u>.</p>

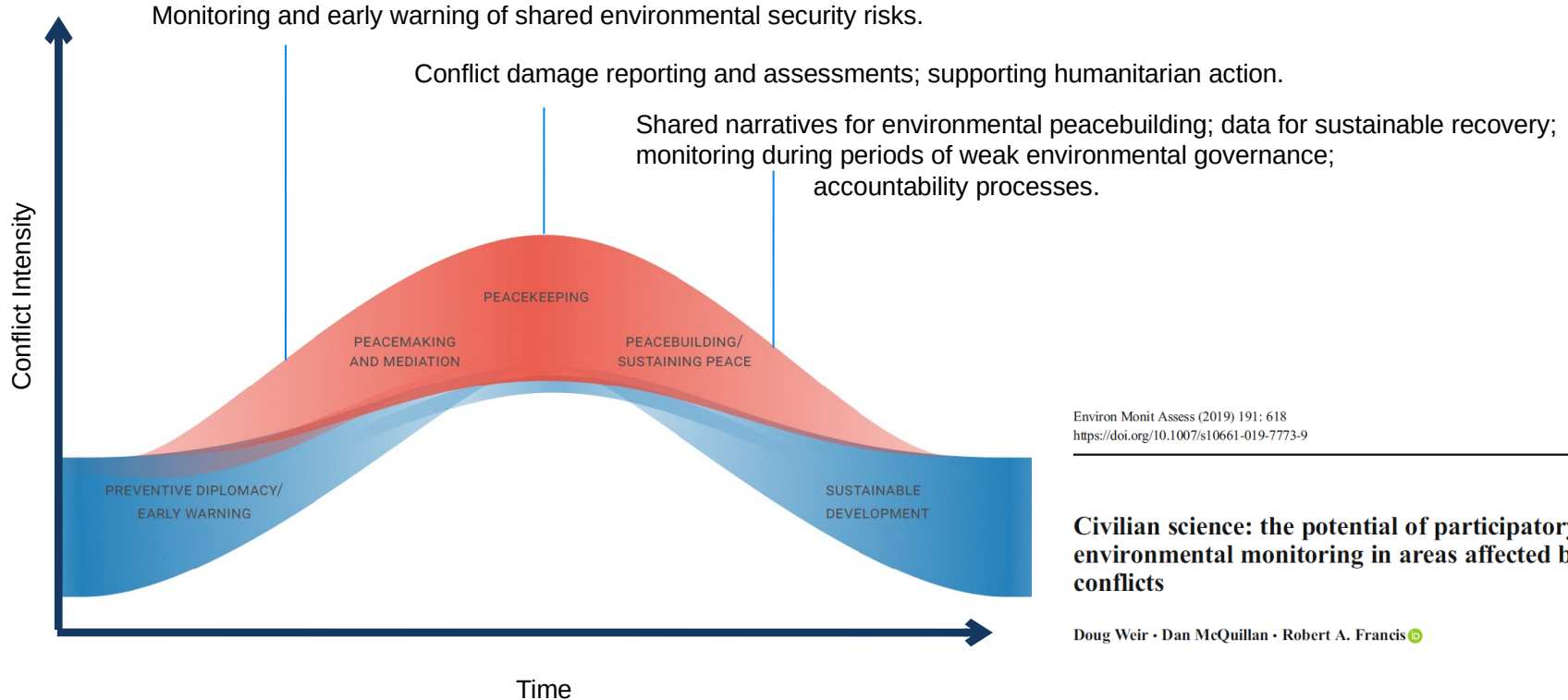
¹ Muki Haklay et al., ‘What Is Citizen Science? The Challenges of Definition’ in Katrin Vohland et al. (eds), *The Science of Citizen Science* (Springer 2021).

² Anna Berti Suman, *Civic Monitoring for Environmental Law Enforcement* (Edward Elgar 2024).

³ Doug Weir, Dan McQuillan & Robert Francis, ‘Civilian science: the potential of participatory environmental monitoring in areas affected by AC’ (2019) 191 *Environmental Monitoring and Assessment* 618.




Conflict cycle entry points for civilian science



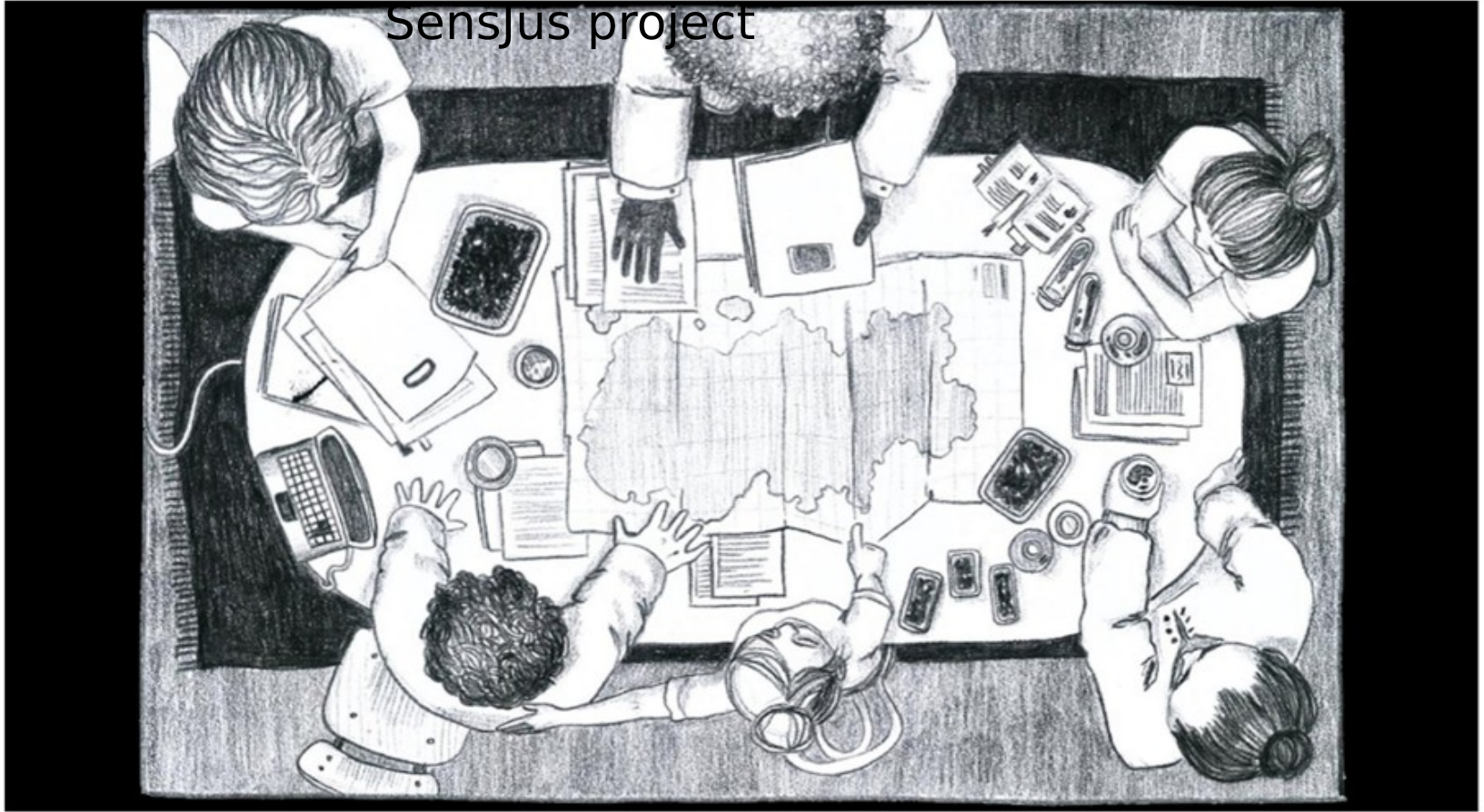
Environ Monit Assess (2019) 191: 618
<https://doi.org/10.1007/s10661-019-7773-9>

Civilian science: the potential of participatory environmental monitoring in areas affected by armed conflicts

Doug Weir • Dan McQuillan • Robert A. Francis 

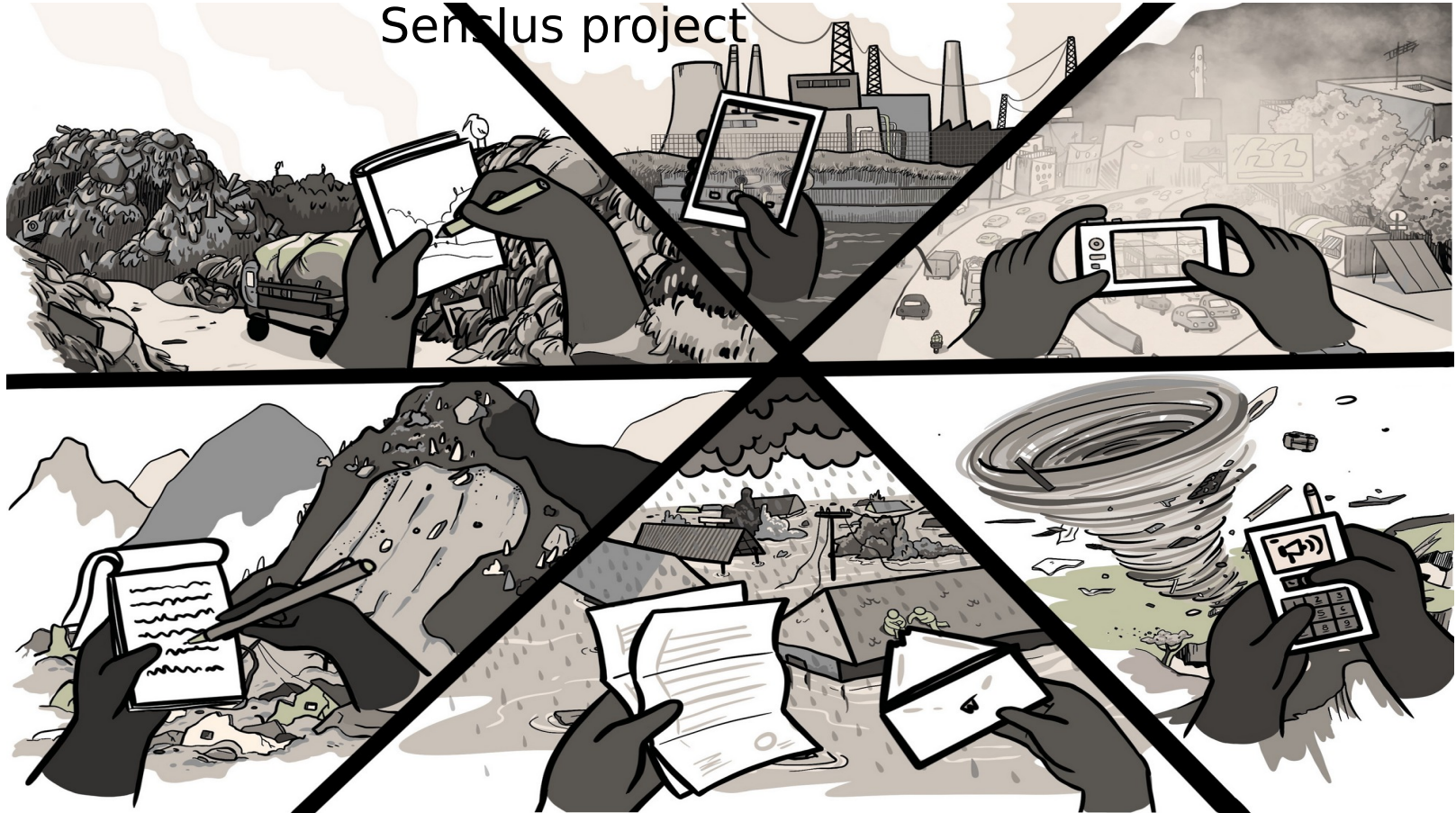


Credits: Alice Toietta Illustrator for the Sensjus project





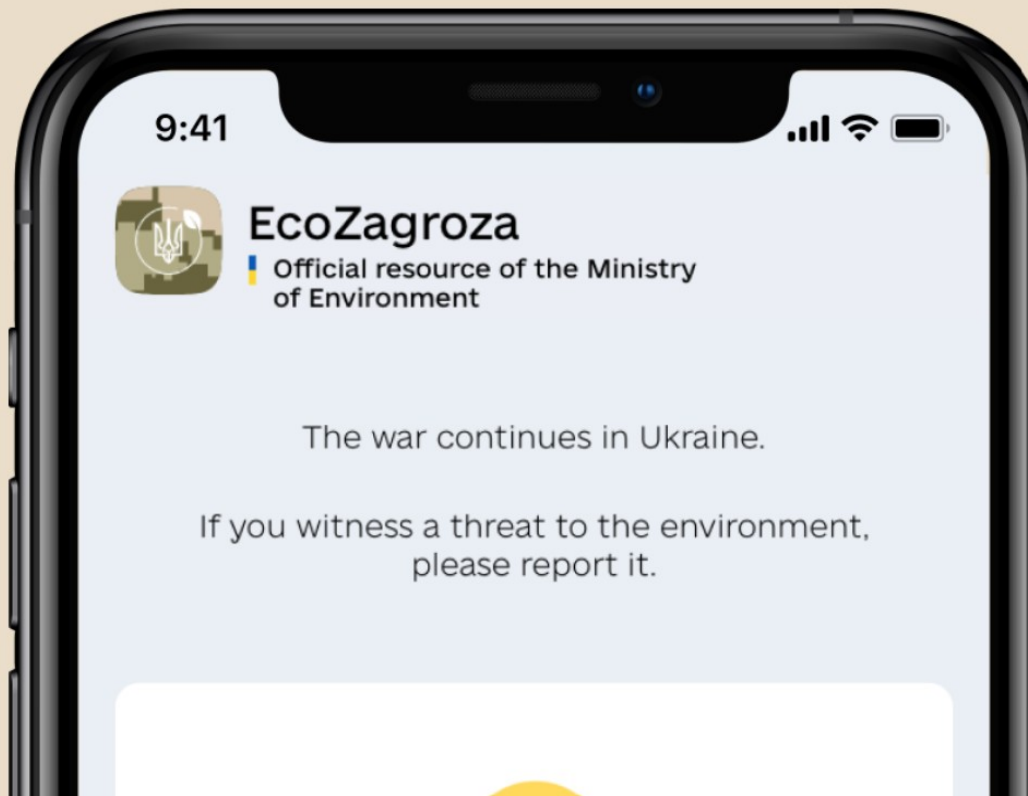
Credits: Alice Toietta Illustrator for the
Senslus project





Application

Download the app for your convenience.
Add data and follow the development of
the project





Kyiv / Brussels, 17 November 2023 – Greenpeace Germany, Greenpeace Central and Eastern Europe, and Ukrainian environmental group SaveDnipro have installed sensors to provide vital information on radiation levels in Ukraine in the event of major nuclear contamination.

Citizen Science Projects

The GROMADA project launched the student driven citizen science projects under the leadership of **ONU**. These projects aimed to apply citizen science principles for assessing various environmental issues in Ukraine, focusing on revealing the war damage to the local ecosystems. See below the projects. They are dived-in field-based projects taking place in the region of Odesa and desk-based projects.

The team of experts from all the GROMADA partners provided their state-of-the-art expertise on citizen science, environmental research and project development and worked with the students to analyze the data.



The Satellite Remote Sensing
Environmental Impact of the Kakhovka Dam Destruction
Due to War in Ukraine on the Coastal Waters of the Black Sea:
Hydrological and Satellite Data Assessment

student-driven citizen science project
March-May 2025

The poster features four images: a lighthouse on a pier, a view of the sea from a boat, a satellite in orbit, and a dam structure.











ASSESSMENT OF DAMAGE
TO NATURE RESERVE AREAS
DUE TO MILITARY AGGRESSION BY RUSSIA

student-driven citizen science project

European universities supporting legal and community capacities for Ukraine's environmental recovery
 GROMADA ERASMUS+ Project 2023-1-SE01-KA220-HEU-00071848
 2025



Register of Damage for Ukraine

[Homepage](#)

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Register of Damage Caused by the Aggression of the Russian Federation against Ukraine



Berti Suman, A. et al. (2024) Mapping gaps and opportunities for community engagement in environmental citizen science in Ukraine. Deliverable WP2A1 of the GROMADA Erasmus KA2 + project. Available at: <https://gromada-erasmus.eu/publications/mapping-gaps-and-opportunities-wp2a1/>



Mapping Gaps and Opportunities - WP2A1

Mapping gaps and opportunities

Community engagement through civic environmental monitoring and environmental citizen science in Ukraine



Credits: Alice Toietta Illustrator for the SensJus



Combating environmental amnesia
through civilian evidence

Monitoring from below as an act of
resistance



PALESTINE INSTITUTE FOR BIODIVERSITY & SUSTAINABILITY
OF BETHLEHEM UNIVERSITY

ABOUT US EXPLORE VISIT

Sustainable Human and Natural Communities.



— Towards environmental peacebuilding
Environmental protection as
foundational for peaceful
coexistence of peoples

Tandem Project

Exploring Urban Trees in Times of Crisis

Participatory Research

Sudan, like many countries from the Global South, faces severe environmental challenges, including the disproportionate effects of climate change and high levels of land degradation. Moreover, armed conflicts have further intensified environmental destruction, particularly through widespread deforestation and ecosystem damage.

Sudan's forests and biodiversity have been deeply affected by the ongoing conflicts. The country's vast savannas, woodlands, and riverine forests face increasing pressure due to war-driven displacement, deforestation, and resource exploitation as a result of troop movements and the settlement of displaced communities.

Trees have a special role to play in greening and cleaning our cities and urban areas. They cool down the microclimate, remove pollutants from



© Musab Abushama, Khartoum (Omdurman), Sudan

Disciplines Involved

Environmental Conservation, Geoscience

Project Title

Trees for Greening and Cleaning Cities in Sudan's Crisis Zones





Strengthening Collective Climate And Environment Action In Iraq



How can civilian science help society resist and flourish again even on ‘the ruins of a destroyed landscapes’?



ECSA WG on CS in conflict areas

- Launched April 2025
- Co-chairs Anna Berti Suman and Doug Weir
- 52 members

- Objectives:
 1. Explore potential.
 2. Identify and develop best practice.
 3. Identify context appropriate methodologies.
 4. Develop guidance for project effectiveness and participant safety.
 5. Promote CS opportunities to stakeholders.



European
Citizen Science
Association



Sign up: European Citizen Science Association (ECSA) Working Group on citizen science in areas affected by conflicts.

You don't have to be a member of ECSA, or in Europe.





Thank you for your attention. Questions?

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