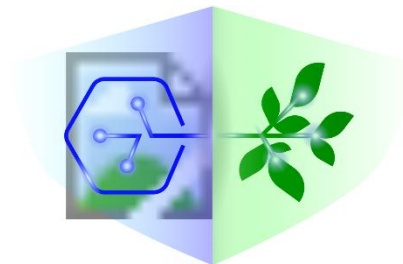


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DTEclimate

Digital Twin Earth Intelligence for Climate Changes

DTEClimate, ctr. nr. 760008/30.12.2022

D 4-5.5 Scientific articles

Prepared By	Moldovan Iren Adelina Constantin Angela	23.12.2025
		Date
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		Date

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ProjectName
DTEClimate, ctr. no. 760008/30.12.2022
REACTIVE D4-5.5 Scientific articles

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1. Overview

The activities of the management and dissemination working package (WP4-5) are directly related to all the other WPs by an efficient coordination through all the scientific, administrative, financial, communication, exploitation and outreach actions that are necessary for the accomplishment of the objectives, of each work packages and tasks within the budget and time specified, and for progressing and finalizing of the deliverables and milestones.

The final products from each WP deliverable will be disseminate to the scientific community, public authorities and civil society.

Specific objectives of this working package are:

- 1) to ensure a constant monitoring of the scientific and technical developments of the project and status and quality of the deliverable;
- 2) to guarantee the correct administrative and financial functioning of the project;
- 3) to maintain the relations with involved partners (+ co-financing partner) regarding the evolution of the activities and project objectives;
- 4) to ensure communication with beneficiaries of the project.

One of the important task of this WP is: T4-5.4 -Dissemination and exploitation actions. Main activities of the dissemination and exploitation strategy plan are:

- 1) Workshops, training events and demonstrations between scientists, end users (and local authorities) and stakeholders to communicate the scientific knowledge;
- 2) Publications in scientific ISI journals and presentations at the main specific national and international conferences.

2. Introduction

The REACTIVE project (The research centre for climate change due to natural disasters and extreme weather events) aims to advance multidisciplinary research on environmental and geophysical monitoring, focusing on the interactions between seismic, acoustic, and atmospheric processes in the context of climate change and natural hazards.

The dissemination and exploitation activities were designed to:

- 1) Ensure broad visibility of the project's scientific achievements;
- 2) Promote the integration of REACTIVE results into the European and international research landscape;
- 3) Facilitate the use of the project's outcomes in operational and research infrastructures;

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- 4) Support knowledge transfer, policy relevance, and public awareness related to natural hazard monitoring and environmental resilience.

This deliverable (D4-5.5) summarizes the dissemination and exploitation actions carried out during the implementation period (2023–2025), highlighting peer-reviewed publications and conference participation, and the use of project results within and beyond the REACTIVE consortium.

3. Scientific Dissemination Activities

3.1 Peer-reviewed publications (ISI journals) – Annex 1

During 2023–2025, REACTIVE researchers authored and co-authored over **20 peer-reviewed papers** published in leading international journals, including *Journal of Geophysical Research: Atmospheres, Earth, Planets and Space, Applied Sciences, Tectonophysics, Global and Planetary Change, Geophysical Journal International, and Aerosol Science and Technology* (See Annex 1) Several of these articles explicitly acknowledged the support of the REACTIVE project (funded under the "*Competence Center for Climate Change Digital Twin for Earth forecasts and societal redressment: DTEClimate*"), while others were authored by consortium members as a direct continuation of the project's scientific objectives.

Key examples acknowledging DTEClimate support include:

- Toader et al. (2025), *Applied Sciences*, addressing environmental geochemical monitoring;
- Ghita et al. (2025), *Earth, Planets and Space*, on aftershock analysis and forecasting;
- Kühne et al. (2025), *Weather, Climate, and Society*, addressing lightning fatalities in Europe;
- Borleanu et al. (2024), *Geophysical Journal International*, on seismic attenuation tomography;
- Datcu et al. (2023), *IEEE IGARSS Proceedings*, on Digital Twin Earth for climate adaptation.

Other papers—while not formally acknowledging the DTE grant—align with REACTIVE's research topics and demonstrate the extended scientific productivity of its teams in areas such as seismic attenuation, seismo-acoustic monitoring, GNSS applications, climate change impacts, and multi-hazard assessment.

In addition, **six manuscripts** acknowledging DTEClimate support **are currently under review** in high-impact journals (*Physics of the Earth and Planetary Interiors, Natural Hazards and Earth*

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System Sciences, Earth and Planetary Science Letters, Solid Earth), further extending the project's visibility.

Two of the **REACTIVE** publications have provided particularly valuable insights into the relationship between **climate change, extreme weather events, and their societal impacts**.

The study by **Kühne et al. (2025)**, "*Lightning Fatalities in Europe (2001–2020)*" published in *Weather, Climate, and Society*, presents the first comprehensive continental-scale analysis of lightning-related fatalities across Europe in the context of a changing climate. Using harmonized datasets and long-term meteorological records, the authors identified clear spatial and temporal trends in lightning occurrence and associated casualties. The paper highlighted that while the overall number of fatalities has decreased due to improved awareness and warning systems, **regional disparities persist**, particularly in southern and eastern Europe, where exposure and vulnerability remain higher.

This study represents a major contribution to understanding **climate-driven hazards and human vulnerability**, offering evidence-based input for risk management and adaptation policies.

Similarly, **Cristian et al. (2024)**, in "*A Thunderstorm Climatology of Romania (1941–2022)*" (*Romanian Reports in Physics*), provided a long-term national perspective on convective storm activity and its recent intensification.

By analyzing more than eight decades of meteorological observations, the authors demonstrated that **severe thunderstorms have become more frequent and more spatially widespread**, particularly after the 1980s, consistent with the observed increase in surface temperature and atmospheric moisture.

These findings directly support the REACTIVE project's objectives to link atmospheric processes with environmental hazards and contribute to the development of **climate-resilient early-warning systems** in Romania.

Together, these two studies bridge the gap between **climatological trends and hazard assessment**, showcasing how REACTIVE results advance both scientific understanding and practical risk mitigation strategies.

3.2 National and international conferences (Annex 3)

REACTIVE results were widely disseminated through participation in several prestigious international conferences and scientific meetings, ensuring strong visibility across geophysical, atmospheric, and climate research communities.

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In 2024, project members presented at major events such as the **European Geosciences Union (EGU) General Assembly** in Vienna and the **39th General Assembly of the European Seismological Commission (ESC)** in Corfu.

These contributions addressed topics including **infrasound signals generated by lightning, the influence of Black Sea storms on seismic noise, spatial-temporal variation of the seismic b -value during the 2023 Târgu Jiu earthquake sequence, and the modernization of macroseismic data collection and public reporting in the digital era.**

At the 9th Geoscience International Symposium (Bucharest, 2024), the REACTIVE consortium introduced *The Research Center for Climate Change due to Natural Disasters and Extreme Weather Events* project, while additional papers explored **citizen-science approaches for reporting extreme events and comparative assessments of national rapid-feedback systems for earthquake intensity mapping.**

In 2025, dissemination intensified, with REACTIVE teams contributing to multiple international events, reflecting the project's interdisciplinary nature and growing international visibility.

IAGA/IASPEI Joint Scientific Meeting (Lisbon, 2025) – included **nine oral and poster presentations** covering topics such as **seismic source characterization, 3D attenuation tomography in the South Carpathian Bend, seismo-acoustic and GNSS monitoring of record-breaking storms over the Black Sea, and the analysis of ionospheric anomalies detected by the INFREP network preceding regional earthquakes.**

These presentations emphasized the integration of seismological and atmospheric observations to improve understanding of lithosphere-atmosphere coupling and its relevance for natural hazard assessment.

Geoscience 2025 (Bucharest) – featured **seven oral and poster contributions** addressing **severe storm dynamics, thermal stress and human vulnerability across Europe, multi-hazard assessment and adaptation, and hydrological loading effects on seismic noise.**

One of the team member of the **REACTIVE** project: *Iren-Adelina Moldovan* presented “**Natural Hazard Assessment in the Siutghiol Lake Area from the Western Black Sea Coast**”, which analyzed the interplay between local seismicity, hydrological variability, and coastal processes. This research, developed within the framework of the **Act4D-Eutrophication subproject of the DTEClimate**, provided new insight into how environmental stressors and geophysical factors jointly influence eutrophication processes in lacustrine systems.

23rd International Balkan Workshop on Applied Physics (IBWAP 2025, Constanța) – included **three presentations** focused on seismic hazard, environmental monitoring, and compound events. Oral and poster contributions discussed **the climatology of compound**

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meteorological events in Romania and comparative methods for mapping seismic intensity from observed and instrumental data, or expanding REACTIVE’s multidisciplinary perspective by combining seismic, hydrological, and environmental data to assess ecosystem vulnerability to geophysical forcing.

Across these meetings, REACTIVE research showcased a unique integration of **seismology, atmospheric sciences, remote sensing, and environmental monitoring**, positioning the consortium at the frontier of Digital Twin Earth applications for climate and hazard studies. Participation in these international forums significantly strengthened the project’s visibility within major European research initiatives such as **Topo-Europe, AdriaArray, and EPOS-ON**, while also enhancing collaboration between research teams and offering valuable presentation opportunities for **early-career scientists** involved in the project.

3.3 Quantitative overview (See Annexes 1-3)

Type of output	Number (2023–2025)	Examples
ISI journal papers	20+	<i>JGR, SRL, GJI, Applied Sciences, Forests, Weather, Climate & Society</i>
Papers acknowledging DTE	9	Toader et al., Ghita et al., Kühne et al., Borleanu et al., Datcu et al., Cristian et al.
Papers in review/in press acknowledging DTE	5	<i>PEPI, NHESS, EPSL, Solid Earth</i>
International conferences	5 major meetings	EGU, IASPEI, Geoscience, IBWAP, IGARSS
Oral/poster presentations	30+	Detailed in Annex 3
Book chapters	1	Springer, 2024
National reports	1	<i>State of the Climate in Romania 2025</i>

4. Other Dissemination and Communication Activities

Beyond the scientific community, REACTIVE contributed to public awareness and knowledge dissemination through targeted communication efforts:

- **National scientific report contribution:** The chapter “*Severe storms in Romania in the context of climate change*” (B. Antonescu and D. Ene) was included in *State of the Climate*

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in Romania 2025, a publication coordinated by national authorities and officially launched in October 2025.

- **Public presentations and outreach:** Project researchers participated in national workshops and interdisciplinary events addressing climate resilience, natural hazard monitoring, and environmental impacts.
- **Cross-sectoral communication:** Collaboration with national agencies (e.g., meteorological and environmental institutions) facilitated data sharing and integration of REACTIVE methodologies into broader monitoring frameworks.

5. Exploitation of Results

The REACTIVE project results have been effectively integrated and extended through multiple scientific and infrastructural pathways:

- **Integration into European infrastructures:** Datasets, methodologies, and software developed under REACTIVE contribute to *EPOS-RO*, *TOPO-EUROPE*, *Adria Array*, and related European initiatives on seismological and environmental data sharing.
- **Scientific synergy:** REACTIVE results supported ongoing and new projects such as *TOPO EUROPE and TOPO Transylvania*, *MULTICARE*, and *EPOS-ON*, reinforcing Romania's position in international hazard research.
- **Methodological transfer:** Machine learning approaches for signal discrimination, seismo-acoustic monitoring protocols, and GNSS-based deformation analyses are being implemented in operational networks of NIEP.
- **Capacity building:** The project trained early-career researchers and engineers in multidisciplinary techniques combining seismology, atmospheric sciences, and remote sensing, ensuring long-term scientific continuity.

These exploitation outcomes underline the sustainability and transferability of REACTIVE outputs toward both scientific and applied domains.

6. Impact and Future Directions

The dissemination activities under REACTIVE resulted in a visible and measurable scientific impact:

- **Enhanced visibility** of Romanian geophysical research through publications in leading journals and participation in major international events;

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- **Strengthened interdisciplinary collaboration** between seismic, atmospheric, and climate researchers across Europe;
- **Increased national capacity** for multi-hazard and environmental monitoring through upgraded methodologies and data integration;
- **Creation of a knowledge base** supporting future Digital Twin Earth applications for hazard and climate resilience.

Future dissemination will focus on:

- Publishing ongoing results from 2025–2026 analyses, particularly seismo-acoustic storm observations and mantle structure modeling;
- Continuing participation in *AdriaArray* and *EPOS* dissemination frameworks;
- Promoting open data access and interlinking REACTIVE datasets with European research infrastructures;
- Extending collaboration with academic and operational partners to exploit the Digital Twin Earth platform in risk assessment and environmental modeling.

7. Conclusions

Over the 2023–2025 implementation period, REACTIVE achieved substantial visibility and impact through high-quality publications, extensive participation in international conferences, and cross-disciplinary collaborations.

The integration of its results into national and European research infrastructures demonstrates the project's scientific maturity and long-term sustainability.

The dissemination and exploitation activities have successfully fulfilled their objectives by enhancing awareness, fostering knowledge transfer, and contributing to the broader goals of climate resilience and hazard reduction under the Digital Twin Earth Programme.

8. Annexes

8.1 Annex 1 Papers in WoS indexed journals (ISI - Web Of Science)

2025 – 9 papers

1. Pásztor, M., Sindelarova, T., **Ghica, D.**, Mitterbauer, U., Liashchuk, O., Lacanna, G., Maurizio Ripepe, and István Bondár (2025). Automatic signal discrimination using machine learning on the data from the Central and Eastern European infrasound network.

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- Journal of *Geophysical Research: Atmospheres*, 130, e2025JD044047.
<https://doi.org/10.1029/2025JD044047>
2. **Toader, V. E., Ionescu, C., Moldovan, I. A.,** Marmureanu, A., Lingvay, I., & Mihai, A. (2025). Evolution of the Seismic Forecast System Implemented for the Vrancea Area (Romania). *Applied Sciences*, 15(13), 7396, <https://doi.org/10.3390/app15137396> (with acknowledgement to the DTEClimate project)
 3. Ionita, M., **B. Antonescu**, C. Roibu, and V. Nagavciuc. 2025. "Drought's Grip on Romania: A Tale of Two Indices." *International Journal of Climatology* 45, no. 9: e8876. <https://doi.org/10.1002/joc.8876>.
 4. Ghita, C., Enescu, B., Marinus, A., **Moldovan, I. A., Ionescu, C.,** Constantinescu, E. G., & An, L. (2025). Aftershock analysis and forecasting for the crustal seismicity in Romania. *Earth, Planets and Space*, 77(1), 48. <https://doi.org/10.1186/s40623-025-02174-0>. (with acknowledgement to the DTEClimate project)
 5. Kühne, T., **Antonescu, B.,** Groenemeijer, P., & Púčik, T. (2025). Lightning Fatalities in Europe (2001–20). *Weather, Climate, and Society*, 17(2), 205-215. <https://doi.org/10.1175/WCAS-D-24-0038.1> (with acknowledgement to the DTEClimate project)
 6. Ardeleanu, L., Neagoe, C., **Moldovan, I. A.,** & Coman, A. (2025). Site-Specific Terms For Prediction Of Ground Acceleration From Vrancea (Romania) Intermediate-Depth Earthquakes. *Romanian Reports in Physics*, 77(3), <https://doi.org/10.59277/RomRepPhys.2025.77.708>.
 7. Bălă, A., Gheablău, C., & Arion, C. (2025). Ground motion amplifications for Bucharest based on 3D geological model and assigned geophysical properties. *ANNALS OF GEOPHYSICS*, 68(3)
 8. Mărmureanu, L., Marin, C.A., Vasilescu, J., Petit, J.E., Amodeo, T., Truong, F., **Antonescu, B.,** Minguillon, M.C., Green, D.C., Zainab, B. and Ovadnevaite, J., 2025. Evaluation of aerosol chemical speciation monitor response to different mixtures of organic and inorganic aerosols. *Aerosol Science and Technology*, 59(1), pp.16-33, <https://doi.org/10.1007/s00484-025-03043-x>.
 9. Mărmureanu, L., B. Antonescu, D. Ene, S. Andrei, and R. Turcu, 2025: Changes in the thermal stress across Europe between 1940–2023. *International Journal Biometeorology*. <https://doi.org/10.1007/s00484-025-03043-x>. (with acknowledgement to the DTEClimate project)

2024 – 6 papers

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1. Burghilea, G. B., Mărmureanu, L., Iorga, G., & **Antonescu, B.** (2024). Comparison of PM10 Levels in Three of the Most Polluted Cities in Romania over the Periods Related to Lower Traffic—Implications for Human Health. *Applied Sciences*, 14(18), 8169.
2. Cristian A.N., Zuzeac M, Ciocan G, Iorga G.A, **Antonescu B.** A thunderstorm climatology of Romania (1941–2022). *Rom. Rep. Phys.* 2024 Jan 1;76:710, <https://doi.org/10.59277/RomRepPhys.2024.76.710> (with acknowledgement to the *DTEClimate project*)
3. Constantin, F., Popescu, E., Chirițoi, G., Popescu, F., Nicolin-Țaczek, A., **Năstase, E., & Muntean, A.** (2024). Local Monitoring Of TEC Using GNSS Services Over Romania. *Romanian Journal of Physics*, 69, 805.
4. Jianu, O., Drăgoicea, M. (2024). Moving Towards Smart Visualization for Smart City Services: A Systematic Literature Review in Earthquake Engineering. In: West, S., Meierhofer, J., Buecheler, T. (eds) Smart Services Summit. SMSESU 2023. Progress in IS. Springer, Cham. https://doi.org/10.1007/978-3-031-60313-6_15 - Capitol in carte cu ISBN 978-3-031-60312-9 ISBN 978-3-031-60313-6 (eBook) <https://doi.org/10.1007/978-3-031-60313-6>
5. **Borleanu, F., Petrescu, L.,** Placinta, A. O., Magrini, F., Grecu, B., Radulian, M., & De Siena, L. (2024). Seismic attenuation tomography of Eastern Europe from ambient seismic noise analysis. *Geophysical Journal International*, 236(1), 547-564. <https://doi.org/10.1093/gji/ggad408> (with acknowledgement to the *DTEClimate project*)
6. Ionita, M., P. Vaideanu, **B. Antonescu, C.** Roibu, Q. Ma, and V. Nagavciuc (2024) Examining the Eastern European extreme summer temperatures of 2023 from a long-term perspective: the role of natural variability vs. anthropogenic factors. *Natural Hazards and Earth System Science*, 24, 4683–4706, <https://doi.org/10.5194/nhess-24-4683-2024>. (with acknowledgement to the *DTEClimate project*)

2023 – 8 papers

1. Kalmár, D., **Petrescu, L.,** Stipčević, J., Balázs, A., Janos Kovacs, I., & AlpArray and PACASE Working Groups. (2023). Lithospheric Structure of the Circum Pannonian Region Imaged by SToP Receiver Functions. *Geochemistry, Geophysics, Geosystems*, 24(9), e2023GC010937.
2. **Petrescu, L.,** Plăcintă, A. O., **Borleanu, F.,** Radulian, M., & Cioflan, C. (2023). Past earthquake simulations using ambient seismic noise in Vrancea, Romania. *Seismological Research Letters*, 94(5), 2373-2383, <https://doi.org/10.1785/0220230072>.
3. **Toader, V. E., Ionescu, C., Moldovan, I. A., Marmureanu, A.,** Brisan, N. S., Lingvay, I., & Mihai, A. (2023). The results and developments of the radon monitoring network in seismic areas. *Atmosphere*, 14(7), 1061, <https://doi.org/10.3390/atmos14071061>. (with acknowledgement to the *DTEClimate project*)

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4. **Petrescu, L.**, Popa, M., & Radulian, M. (2023). Shallow seismic structure around the Vrancea Seismic Zone from joint inversion of ambient noise H/V ratios and surface wave dispersion. *Tectonophysics*, 859, 229897, <https://doi.org/10.1016/j.tecto.2023.229897>.
5. **Borleanu, F., Petrescu, L.**, Seghedi, I., Thomas, C., & De Siena, L. (2023). The seismic attenuation signature of collisional orogens and sedimentary basins within the Carpathian Orogen. *Global and Planetary Change*, 223, 104093, <https://doi.org/10.1016/j.gloplacha.2023.104093>.
6. **Constantin, A. P., Manea, L. M., Diaconescu, M., Moldovan, I. A.**, Intensity And Macroseismic Maps Of The Latest Moderate Sized Vrancea Earthquakes, Romanian Reports In Physics, Volume 75, Issue 2, Article Number 702, 2023.
7. **M. Datcu, D. Faur, E. Mamut, I. Nedelcu, C. Ionescu and L. Miron**, "Digital Twin Earth for Climate Change Adapation: An AI based Federated System," *IGARSS 2023 - 2023 IEEE International Geoscience and Remote Sensing Symposium*, Pasadena, CA, USA, 2023, pp. 1392-1395, doi: 10.1109/IGARSS52108.2023.10281684. *(with acknowledgement to the DTEClimate project)*
8. **Tolea, A., Grecu, B., Neagoie, C., Moldovan, I. A., & Toader, V. E.** (2023). Seismic noise analysis in the microseismic and high-frequency domain at the burar seismic stations. *Rom. Rep. Phys*, 75(3), <https://doi.org/10.59277/RomRepPhys.2023.75.705>.

Papers under review or accepted in WoS indexed journals (ISI - Web Of Science) – 5 papers

1. **Petrescu, L.**, Kalmar, D., Kovacs, I., Effects of subduction and slab stagnation on the Mantle Transition Zone: a perspective from ambient seismic noise, In review at PEPI
2. **Petrescu, L., Antonescu, B., Nistor S., Floroiu I., Ene D., Ghica D., Ionescu C., Anghel A., Datcu M.**, Seismo-acoustic and GNSS monitoring of a record-breaking storm in the Black Sea: Evidence of climate change and intensifying natural hazards, In review at NHESS
3. **Petrescu, L., Borleanu, F.**, Celis, S., Kalmar, D. Mantle flow and deformation of the eastern Adria subduction: new insights from Adria Array seismic anisotropy, In review at EPSL.
4. Muntean A., **Petrescu, L.**, B. Ambrosius, Felix B., **E. Nastase**, I. Munteanu , Persistent Deformation in a Post-Collisional Stable Continental Region: Insights from 20 Years of cGPS in Romania, In review at Solid Earth
5. Bărăscu A., **Antonescu B., Ene D.**, Ionita M., Rusze O., Kuhne T., Bell A., An updated tornado climatology for Romania, Monthly Weather Review, American Meterological Society, *accepted. (with acknowledgement to the DTEClimate project)*

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8.2 Annex 2. Papers in journals indexed in international data bases (BDI)

1. **Constantin A.P.**, Diaconescu M., Macro seismic study of major trans-border historical earthquake-effects on Romania, Bulletin of the Geological Society, Special Publication No. 11, pg.88-90, **2023**, Publisher: Geological Society of Greece, 00024, ISBN: 978-618-86841-1-9, ISSN: 2945-1426. *(with acknowledgement to the DTEClimate project)*
2. **Moldovan I.A.**, Oros E., Vanciu Rău A., **Constantin A.P.**, Diaconescu M., Manea M.L., Lungu M., Macro seismic Effects of the Seismic Sequence Starting on 22nd of May 2023 in the Western Part of Romania, Bulletin of the Geological Society, Special Publication No. 11, 2023, Publisher: Geological Society of Greece, 00027, ISBN: 978-618-86841-1-9, ISSN: 2945-1426. *(with acknowledgement to the DTEClimate project)*

Starea Climei în România 2025, Capitolul “Furtunile severe din România în contextul schimbărilor climatice”, Bogdan Antonescu și Dragoș Ene. Acest raport a fost lansat oficial pe 20 octombrie.

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8.3 Annex 3 Conferences

2024 – 8 presentations

1. **Daniela Ghica, Bogdan Antonescu**-Infrasound from lightning measured in northern Romania-EGU 2024, Viena, Austria,14–19 aprilie 2024 (poster).
2. Andreea Tolea, **Bogdan Grecu, Iren Adelina Moldovan, Victorin Toader, Cristian Neagoe**- Black Sea storm influence on ambient seismic noise recorded by stations located in Romania and neighboring countries, The 39th General Assembly of the European Seismological Commission - ESC 2024, Corfu, Grecia, 22-27 septembrie 2024 (poster).
3. Cristian Ghita, Bogdan Enescu, Alexandru Marinus, **Iren Adelina Moldovan**, Constantin Ionescu, Eduard Gabriel Constantinescu- The spatial and temporal variation of seismic b value of the crustal seismic sequence from February 13th, 2023 in Targu Jiu area (Romania), The 39th General Assembly of the European Seismological Commission - ESC 2024, Corfu, Grecia, 22-27 septembrie 2024 (poster).
4. **Iren-Adelina Moldovan, Liviu Manea, Angela Petruta Constantin**, Cristian Ghita, **Constantin Ionescu**- The evolution of macroseismology in Romania in the internet period, The 39th General Assembly of the European Seismological Commission - ESC 2024, Corfu, Grecia, 22-27 septembrie 2024.
5. **Constantin Ionescu, Laura Petrescu, Angela Petruta Constantin, Daniela Ghica, Iren Adelina Moldovan, Eduard Nastase, Bogdan Grecu, Victorin Toader, Bogdan Antonescu, Ovidiu Jianu, Dragos Ene, Adrian Brezilianu**, THE RESEARCH CENTER FOR CLIMATE CHANGE DUE TO NATURAL DISASTERS AND EXTREME WEATHER EVENTS (REACTIVE PROJECT), The 9th Edition of the GEOSCIENCE International Symposium , p 82-83, 14-16 November 2024, Bucharest, Romania.
6. **Angela Petruta Constantin, Liviu Marius Manea, Iren Adelina Moldovan**, Mihail Diaconescu, **Constantin Ionescu**, COMPLEX ISSUES AND COMPARISON BETWEEN NIEP'S APPLICATIONS "RAPID FEEDBACK" AND "DYFI?" ONLINE QUESTIONNAIRES, The 9th Edition of the GEOSCIENCE International Symposium, p. 86-87, 14-16 November 2024, Bucharest, Romania.
7. **Ovidiu Jianu, Iren-Adelina Moldovan, Bogdan Antonescu, Ionescu Constantin, Liviu Manea**, Eduard Constantinescu, CAPTURING THE IMPACT OF EXTREME EVENTS THROUGH CITIZEN REPORTS, The 9th Edition of the GEOSCIENCE International Symposium, p 84-85, 14-16 November 2024, Bucharest, Romania.
8. **Iren-Adelina Moldovan, Victorin Toader**, Mihai Anghel, Pier Francesco Biagi, Hans Ulrich Eichelberger, Mohammed Boudjada, Liviu Manea, Andrei Mihai, Bogdan Antonescu, INVESTIGATION OF IONOSPHERIC ANOMALIES IN THE VLF/LF

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2025 – 23 presentations

1. **Constantin, A., Brezulianu, A.-I., Gavrilă, M., Barbuta, D.-E., Ionescu, C., and Toader, V.:** DTEClimate: A Digital Platform for Real-Time Geospatial Intelligence and Climate Monitoring, EGU General Assembly 2025, Vienna, Austria, 27 Apr–2 May 2025, EGU25-20014, <https://doi.org/10.5194/egusphere-egu25-20014>, 2025.
2. **Moldovan, I.-A., Toader, V. E., Eichelberger, H. U., Biagi, P. F., Boudjada, M., Anghel, M., Manea, L. M., Mihai, A., and Antonescu, B.:** Investigation of VLF/LF electromagnetic wave propagation as recorded by the receivers of the INFREP network, EGU General Assembly 2025, Vienna, Austria, 27 Apr–2 May 2025, EGU25-10351, <https://doi.org/10.5194/egusphere-egu25-10351>, 2025.
3. **Ionescu, C., Antonescu, B., Petrescu, L., Constantin, A. P., Ghica, D., Nastase, E., Grecu, B., Toader, V., Moldovan, I. A., Ene, D., and Anghel, M. N.:** When Climate Meets Seismology: Exploring Multi-Hazard Risks in a Changing Planet, EGU General Assembly 2025, Vienna, Austria, 27 Apr–2 May 2025, EGU25-16008, <https://doi.org/10.5194/egusphere-egu25-16008>, 2025.
4. **Borleanu, F., Petrescu, L., Neagoe, C., Kampřová Exnerová, H., Ionescu, C., Lukeřová, R., Vecsey, L., Schiffer, C., Diaconescu, M., Silvennoinen, H., Jianu, O., Vuorinen, T., Fojtiková, L., Plomerová, J., Nagel, T., Mihalache, M., Jedlička, P., Ionescu, D., Toanca, M., Kotek, J., Dragomir, A., and Kolínský, P.:** Enhancing Romania's Seismic Monitoring Capabilities: Insights from the Temporary Stations deployed within AdriaArray, EGU General Assembly 2025, Vienna, Austria, 27 Apr–2 May 2025, EGU25-20431, <https://doi.org/10.5194/egusphere-egu25-20431>, 2025.
5. **Ghica, D., Antonescu, B., and Ene, D.:** Using Romanian infrasound observations to analyze thunderstorms generated by extratropical cyclones over the Black Sea, EGU General Assembly 2025, Vienna, Austria, 27 Apr–2 May 2025, EGU25-5592, <https://doi.org/10.5194/egusphere-egu25-5592>, 2025.
6. **F. Borleanu, L. Petrescu, M. Mihai, C. Schiffer, R. Lukeřová, C., Neagoe, L.** De Siena and the AdriaArray Seismology Group, *Crustal Heterogeneity and Fluid Signatures from 3D Seismic Attenuation Imaging in the South Carpathian Bend Region*, IAGA / IASPEI Joint Scientific Meeting 2025, Lisabona, Portugalia, 31.08-06.09.2025
7. **F. Borleanu, L. Petrescu, A.O.Placinta, I.A. Moldovan, B. Enescu,** *Characterizing Seismic Activity in the Carpathian Foreland: Insights from Tectonic and Anthropogenic*

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- Sources Using Advanced Learning techniques and Seismic Monitoring*, IAGA / IASPEI Joint Scientific Meeting 2025, Lisabona, Portugalia, 31.08-06.09.2025
8. **Petrescu L., Antonescu B., Nistor S., Ene D., Ghica D., Ionescu C.**, Seismo-acoustic and GNSS monitoring of a record-breaking storm in the Black Sea: Evidence of climate change and intensifying natural hazards, IAGA / IASPEI Joint Scientific Meeting 2025, Lisabona, Portugalia, 31.08-06.09.2025
 9. Muntean A., **Petrescu L.**, Ambrosius, B., **Borleanu, F., Nastase, E.**, Munteanu, I. Seismicity and strain rates in the Carpathian region: Integrating GPS data, focal mechanisms, and fault systems, IASPEI Joint Scientific Meeting 2025, 31 august – 5 septembrie 2025. (poster)
 10. Kalmar, D., **Petrescu L.** et al Crust and Mantle Structure of the wider Pannonian Basin region: Insights from Receiver Function Analysis, IASPEI Joint Scientific Meeting 2025, 31 august – 5 septembrie 2025. (oral)
 11. **Toader V., Ionescu C., Moldovan I.A.**, Marmureanu A., Mihai A., Interdisciplinary monitoring of seismic precursor factors, IAGA / IASPEI Joint Scientific Meeting 2025, Lisabona, Portugalia, 31 .08-06.09.2025.
 12. **Toader V., Moldovan I. A.**, Mihai A., Enescu B., Ghita C., Boudjada M., Eichelberger H. U., Comprehensive Spatio-Temporal Statistical Investigations of Seismicity in Correlation with Geophysical Field Variations, IAGA / IASPEI Joint Scientific Meeting 2025, Lisabona, Portugalia, 31 .08-06.09.2025.
 13. **Moldovan I. A.**, Partheniu R., Diaconescu M., **Constantin A.P.**, Constantinescu E., Ionescu C., Assessing The Influence Of Seismic Activity On Eutrophication Processes In Freshwater Systems: A Case Study Of Siutghiol Lake And The Western Black Sea Coast, The 23rd International Balkan Workshop on Applied Physics and Materials Science, July 9- 12, 2025 CONSTANTA, ROMANIA.
 14. **Constantin A. P.**, Diaconescu M., **Moldovan I.A.**, Partheniu R., Ionescu C., Comparison Between Observed And Instrumental Seismic Intensity For Romanian Earthquakes, The 23rd International Balkan Workshop on Applied Physics and Materials Science, July 9- 12, 2025 CONSTANTA, ROMANIA.
 15. Bratu, C.R., **Antonescu,B., Dragos Ene**, Compound Events In Romania (1951-2024), 23rd International Balkan Workshop on Applied Physics and Materials Science, Book Of Abstracts Ovidius University Press Constanta, Editors: Rodica Vladoiu, Aurelia Mandes Vaduva, Virginia Dinca Balan July 9- 12, 2025 Constanta, Romania, S5 P1, Pg. 101, 2025

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Geoscience 2025 - <https://geosymposium.org/elements/agenda/> - In this recent conference, there have been a session where researchers from REACTIVE Project have presented their most important results

1. Seismo-Acoustic Observation Of The Explosive Sources At Near-Regional Distance (Russia–Ukraine Conflict) – **Daniela Ghica** – Oral
2. Strengthening Nuclear Hazard Monitoring Through Atmospheric Radioxenon Isotopes Measurements In Romania – **Luminița Mărmureanu, Dragoș Ene, Constantin Ionescu, Daniela Ghica, Reynold Suarez, Derrick Seiner** – Oral
3. Seasonal Variations Of Hv Ratios Of Seismic Noise Across Romania: Insights Into Soil Moisture And Hydrological Loading – **Laura Petrescu, Roberto Ortega, Daniela Carciumaru, Natalia Poiata, Bogdan Grecu, Andreea Tolea, Constantin Ionescu, Iren-Adelina Moldovan** – Oral
4. Thermal Stress Trends And Human Vulnerability In Europe (1940–2023). Implications For Climate Resilience And Sustainable Development – **Dragoș Ene, Luminița Mărmureanu, Bogdan Antonescu, Simona Andrei, Raluca Turcu** - Oral
5. Severe Storms In Romania: Hazard, Impact, Adaptation – **Bogdan Antonescu, Dragoș Ene, Constantin Ionescu, Angela Constantin** - Oral
6. Natural Hazard Assessment In The Siutghiol Lake Area From The Western Black Sea Coast – **Iren-Adelina Moldovan, Raluca Partheniu, Mihail Diaconescu, Angela-Petruta Constantin, Eduard Constantinescu, Constantin Ionescu** - Oral
7. Monitoring Extreme Events In The Black Sea Area – **Victorin-Emilian Toader, Constantin Ionescu, Iren-Adelina Moldovan, Alexandru Marmureanu** – Poster
8. Evolution Of Compound Events In Romania (1951-2024) – **Cătălina Bratu, Bogdan Antonescu, Dragoș Ene** - Poster

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