

PERSONAL INFORMATION

Adrian Bogdan Antonescu




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Date of birth 17 July 1980

WORK EXPERIENCE

Oct 2023 – present **Lecturer, PhD supervisor**

Faculty of Physics, University of Bucharest

Courses taught: “Atmospheric Physics”, “Meteorology”, and “Atmospheric Remote Sensing”.

May 2023 – present **Researcher**

National Institute for Earth Physics

Oct 2018 – Jul 2023 **Associate Lecturer**

Faculty of Physics, University of Bucharest

Nov 2022 – present **Consultant/Researcher ClimExRo project**

Future Climate Research SRL

str. Blăjel 13, București, România

The objective of the “Extreme Weather Events in the Future Climate of Romani” (ClimExRo, climex.ro) project, supported by the European Climate Foundation, is to evaluate how the characteristics of extreme weather events in Romania — including their spatial and temporal distribution, frequency, intensity, and duration — might change due to climate change.

Mar 2018 – Nov 2022 **Senior Researcher (CSI)**

National Institute of Research and Development for Optoelectronics INOE2000

str. Atomîștilor 409, Măgurele, România

- Specialized in the remote sensing of clouds and precipitation. I serve as the Principal Investigator for the Măgurele Cloudnet station (<https://cloudnet.fmi.fi>).
- Led the project titled “Understanding Convective Storms and Their Perils in the Current and Future Climate”, which was funded by Proiectul Nucleu III–Tinere Echipa 2019.
- A contributing team member of the FRM4RADAR 94 GHz Miniature Network for EarthCARE Reference Measurements. This project, under the aegis of the European Space Agency, aims to establish a network for the validation, verification, and calibration of EarthCARE cloud profile measurements using ground-based, high-quality remote sensing observations.
- Representing Romania as a team member in the research infrastructure (RI) ACTRIS (Aerosols, Clouds, and Trace Gases). ACTRIS is a pan-European research infrastructure that centralizes efforts amongst European partners for the observation of aerosols, clouds, and trace gases.

Jun 2016 – Dec 2017 **Postdoctoral Researcher**

Centre for Atmospheric Science, The University of Manchester

Simon Building, Oxford Road, Manchester, United Kingdom

I was a member of the project team for “What’s the Worst That Can Happen? Re-examining the Most Destructive Convective Storms over Europe” led by Prof. David M. Schultz and financed by the Risk Prediction Initiative of the Bermuda Institute of Ocean Sciences. Within this initiative, I constructed climatologies of convective storms across Europe and analyzed their impacts. Additionally, I contributed with analytical insights into the tornado outbreak on 24–25 June 1967 in Western Europe, notably through a GIS analysis of the resulting damage.

Jan 2014 – May 2016 **Postdoctoral Researcher**

Centre for Atmospheric Science, The University of Manchester
Simon Building, Oxford Road, Manchester, United Kingdom

My research, titled “Assessing the Threat of Severe Convective Storms over Europe” and funded by the AXA Research Fund, utilized newly developed pan-European datasets (such as severe weather reports) for the first time. The objectives were to: i) map spatial and temporal distributions of severe weather events, ii) deepen our understanding of the factors influencing these distributions across Europe, and iii) design physically-based conceptual models for convective storms, thereby enhancing our comprehension and prediction capabilities.

Dec 2010 – Dec 2013 **Postdoctoral Researcher**

Centre for Atmospheric Science, The University of Manchester
Simon Building, Oxford Road, Manchester, United Kingdom

The objective of the TROSIAD project (“Tropopause Folding, Stratospheric Intrusions and Deep Convection”), led by Prof. Geraint Vaughan and Prof. David M. Schultz, was to construct a conceptual model that connects tropopause folds and tropopause-level cyclonic anomalies to the emergence of deep convection. The model aimed to assist operational meteorologists in enhancing weather forecasts. Within the TROSIAD project, I participated in measurement campaigns, including radiosonde launches from Capel Dewi, Wales, and contributed to the subsequent analysis of those measurements.

Jan 2006 – Dec 2010 **Research Meteorologist**

Romanian National Meteorological Administration
șo. București–Ploiești 97, București, România

I was a part of a team that developed and implemented short-range weather forecasting techniques. I have also managed the Romanian National Lightning Detection Network.

Apr 2004 – Dec 2005 **Short-range weather forecaster**

Romanian National Meteorological Administration
șo. București–Ploiești 97, București, România

Short-range weather forecaster for southern Romania.

EDUCATION

2022 **Habilitation - Thesis: “Tornadoes in Europe”**

Faculty of Physics, University of Bucharest, București, România

2007 – 2010 **PhD - Thesis: “Cloud-to-ground lightning activity of convective storms in Romania” supervisor Prof. Sabina Ștefan**

Faculty of Physics, University of Bucharest, București, România

2003 – 2005 **Master - Thesis: “Use of cloud-to-ground lightning data in severe convective storms forecasting” supervisor Prof. Sabina Ștefan**

Faculty of Physics, University of Bucharest, București, România

1999 – 2003 **Bachelor in Physics**

Faculty of Physics, University of Bucharest, București, România

PERSONAL SKILLS

Organisational/managerial skills

- Deputy Director of the European Severe Storms Laboratory (ESSL) (2016 – present)
- Director of the Romanian Association of Meteorology and Education (ARMAE) (2021 – present)
- member of the American Meteorological Society (2015 – present)
- member of the Royal Meteorological Society (2017 – present)
- member of the International Commission on History of Meteorology (2009 – present)
- Committee Member:
 - 2023 Member of the Organizing Committee for the 11th European Conference on Severe Storms, 9–12 May, Bucharest, Romania.
 - 2022 Co-organiser of the mini-European Conference on Severe Storms, 27–28 Sep, online event.
 - 2019 Member of the Scientific Program Committee for the 10th European Conference on Severe Storms, 4–8 Nov, Kraków, Poland.
 - 2017 Chair of the Scientific Program Committee for the 9th European Conference on Severe Storms, 18–22 Sep, Pula, Croatia.
 - 2017 Co-organiser of the European Severe Storms Laboratory Summer School on Severe Convection, 28 Aug–1 Sep, Wiener Neustadt, Austria.
 - 2015 Member of the Scientific Program Committee for the 8th European Conference on Severe Storms, 18–22 Sep, Wiener Neustadt, Austria.
 - 2015 Chair of the session “Storms, Supercells, and Tornadoes”, 8th European Conference on Severe Storms, 18–22 Sep, Wiener Neustadt, Austria.
 - 2013 Chair of the session “Forecasting”, 7th European Conference on Severe Storms, 3–7 Jun, Helsinki, Finland.
 - 2013 Member of the Organizing Committee of the Workshop on “Understanding and Representing Atmospheric Convection Across Scales”, 28–30 Jan, Devon, United Kingdom
 - 2010 Chair of the Local Organizing Committee of the 6th European Conference on Radar in Meteorology and Hydrology, 6–10 Sep, Sibiu, România

Communication skills

- Interviews:
 - Radio: Featured on BBC Paul Hudson’s Weather Show, BBC Johnny I’Anson show, various BBC local stations, Radio România Cultural, Radio Europa FM, Radio Romania Actualități, Green Report (podcast).
 - Television: Appeared on BBC Northwest, That’s Manchester, Digi24, Antena 1, Antena 3, TVR2, TVR Info, ProTV, EuroNews România, Prima TV, B1 TV.
 - Online Publications: Interviewed by International Business Times, The Conversation, Press One, Diaspora News, Vice, HotNews.
- Expert contribution: Participated as an invited expert on “Planeta ești tu!” — a Digi24 TV show dedicated to climate change..
- Publications: I have contributed or written articles on my research and other topics for The Irish Times, The Guardian, Geographical Magazine, Sciences et Avenir, The Conversation, and InfoClima.
- Public Talks: Delivered presentations for the general public at: Science Uncovered, Manchester Museum, UK; Pint of Science Festival, Manchester, UK; Manchester Science Festival, Manchester, UK; Kirkby SciBar, Kirkby, UK; Măgurele Science and Technology Summer School, Măgurele, Romania; Romanian Association for Applied Meteorology and Education, Bucharest, Romania; American Meteorological Society (online), Bucharest Science Festival, Bucharest, Romania.

Reviewer/Member in Editorial Boards

- Reviewer: I reviewed manuscripts for (selection) *Monthly Weather Review*, *Atmospheric Research*, *International Journal of Climatology*, *Journal of Geophysical Research*, *Earth Interactions*, *Journal of Applied Meteorology and Climatology*, *Meteorologische Zeitschrift*, *Remote Sensing of Environment*, *Meteorology, and Atmospheric Physics*, *Global and Planetary Change*, *Theoretical and Applied Climatology*, *Meteorological Applications*, *Current Climate Change Reports*, *Natural Hazards*, *Bulletin of the American Meteorological Society*, *Atmosphere*, *Weather and Forecasting*, *Advances in Science and Research*, *Journal of Climate*, *Natural Hazards and Earth System Sciences*, *Remote Sensing*.
- Associate Editor (2019–present) for *Weather, Climate, and Society*.
- Associate Editor (2015–2022) for *Monthly Weather Review*.

- Teaching**
- I am currently teach the courses on "Atmospheric Physics" and "Meteorology" for the Master programme at the Faculty of Physics, University of Bucharest, Romania (2023–present).
 - I instruct the "Atmospheric Dynamics" course at the "Henri Coandă" Airforce Academy, Braşov, Romania (2019–present).
 - I was invited to lead a workshop on poster presentations for second-year PhD students at the Leeds York NERC Doctoral Training Partnership, Leeds, United Kingdom (2017).
 - From 18–29 August 2016, I conducted introductory lectures (totalling 42 hours) on mesoscale meteorology at Nanjing University of Information Science and Technology (NUIST, China). This was part of a collaboration between NUIST and the University of Manchester (2016).
 - I contributed video interviews on conference and poster presentations to the "Creating Effective Conference Presentations Workshop", a segment of the Graduate and Researcher Programme at the University of Manchester, United Kingdom (2015).
 - I was an invited speaker for Cyclone Week, an online training event for forecasters sponsored by EUMetTrain, under the auspices of EUMETSAT, in June 2012.
 - Between June and August 2012, I took part in the "Teaching for Researchers" course at the University of Manchester, UK. This course targeted research staff aspiring to roles in higher education teaching.
 - During my doctoral studies, I taught introductory sessions on severe convection, thermodynamics, atmospheric electricity, and weather forecasting for junior meteorologists at the Romanian National School of Meteorology, Bucharest, Romania (2007–2010).

Mother tongue Romanian

| Other languages | UNDERSTANDING | | SPEAKING | | WRITING |
|-----------------|---------------|---------|--------------------|-------------------|---------|
| | Listening | Reading | Spoken interaction | Spoken production | |
| English | C2 | C2 | C2 | C2 | C2 |
| French | B2 | C1 | B1 | B1 | B1 |

Levels: A1 and A2: Basic user – B1 and B2: Independent user – C1 and C2: Proficient user
[Common European Framework of Reference for Languages](#)

Computer skills – R, \LaTeX , Adobe Illustrator proficient user

RESEARCH PROJECTS

- Project Leader**
- *Understanding convective storms and their perils in the current and future climate* (euro 90,000) founded through Proiectul Nucleu III–Tinere Echipe 2019, Romania (2019–2022).
 - *Assessing the Threat of Severe Convective Storms over Europe* (euro 120,000) founded by AXA Research Fund, The University of Manchester, United Kingdom (2014–2015)

CONFERENCES AND SEMINARIES

- Invited talks (Selected)**
- **B. Antonescu**, 2020: Tornadoes in Europe: What is the worst that could happen? Workshop: Convective Storm Risk, European Severe Storms Laboratory, 24–26 Nov 2020, online.
 - **B. Antonescu**, 2020: Climatology of observed severe convective storms and their impacts. Workshop: Convective Storm Risk, European Severe Storms Laboratory, 24–26 November 2020, online.
 - **B. Antonescu**, P. Groenemeijer, T. Kühne, D. M. Schultz, T. Púčik, and A. Holzer, 2020: Tornadoes in Europe: What we have learned so far. 54th Congress of the Canadian Meteorological and Oceanographical Society, 25 May–15 Jun, Ottawa, Canada.

PUBLICATIONS (SELECTED)

- [1] **B. Antonescu**, D. Ene, M. Boldeanu, S. Andrei, L. Mărmureanu, C.A. Marin, and R. Pîrloagă. "Future changes in heatwaves characteristics in Romania". In: *Theor. Appl. Climatol.* 153 (2023), pp. 525–538.
- [2] **B. Antonescu**, L. Mărmureanu, J. Vasilescu, C.A. Marin, S. Andrei, M. Boldeanu, D. Ene, and A. Ţilea. "A 41-years bioclimatology of thermal stress in Europe". In: *Int. J. Climatol.* 41 (2021), pp. 3934–3952.

- [3] **B. Antonescu**, T. Púčik, and D.M. Schultz. “Hindcasting the First Tornado Forecast in Europe: 25 June 1967”. In: *Wea. Forecasting* 35 (2020), pp. 417–436.
- [4] **B. Antonescu**, D.M. Schultz, H.M.A.M. Ricketts, and D. Ene. “Theories on tornado and waterspout formation in ancient Greece and Rome”. In: *Weather Clim. Soc.* 11 (2019), pp. 889–900.
- [5] **B. Antonescu**, H.M.A.M. Ricketts, and D.M. Schultz. “100 Years later: Reflecting on Alfred Wegener’s contributions to tornado research in Europe”. In: *Bull. Amer. Meteor. Soc.* 100 (2019), pp. 567–578.
- [6] **B. Antonescu**, J.G. Fairman Jr., and D.M. Schultz. “What’s the worst that could happen? Re-examining the 24–25 June 1967 tornado outbreak over Western Europe”. In: *Weather Clim. Soc.* 10 (2018), pp. 323–340.
- [7] **B. Antonescu** and F. Cărbunaru. “Cloud-to-ground lightning fatalities in Romania”. In: *Weather Clim. Soc.* 10 (2017), pp. 241–252.
- [8] **B. Antonescu**, D. M. Schultz, A. Holzer, and P. Groenemeijer. “Tornadoes in Europe: An Underestimated Threat”. In: *Bull. Amer. Meteor. Soc.* 98 (2017), pp. 713–728. (cited in the latest IPCC report).
- [9] **B. Antonescu**, D. M. Schultz, F. Lomas, and T. Kühne. “Tornadoes in Europe: A synthesis of the observational datasets”. In: *Mon. Wea. Rev.* 144 (2016), pp. 2445–2480. (cited in the latest IPCC report).
- [10] **B. Antonescu** and A. Bell. “Tornadoes in Romania”. In: *Mon. Wea. Rev.* 143 (2015), pp. 689–701.
- [11] **B. Antonescu**, G. Vaughan, and D. M. Schultz. “A five-year radar-based climatology of tropopause folds and deep convection over Wales, United Kingdom”. In: *Mon. Wea. Rev.* 141 (2013), pp. 1693–1707.
- [12] **B. Antonescu**, S. Burcea, and A. Tănase. “Forecasting the onset of cloud-to-ground lightning using radar and upper-air data in Romania”. In: *Int. J. Climatol.* 33 (2013), pp. 1579–1584.
- [13] **B. Antonescu** and S. Burcea. “A cloud-to-ground lightning climatology for Romania”. In: *Mon. Wea. Rev.* 138 (2010), pp. 579–591.

Books – **B. Antonescu**, 2017: Tornadoes in Europe: Depictions from 1555 to 1910. Blurb, 100 pp.

Chapters in books – Brooks, H.E., C.A. Doswell III, X. Zhang, A.M. Chernokulsky, E. Tochimoto, B. Hanstrum, E. de Lima Nascimento, D.M. Sills, **B. Antonescu**, and B. Barrett, 2018: A Century of Progress in Severe Convective Storm Research and Forecasting. Meteorological Monographs, 59, 18.1–18.41.

Citations – 43 peer-review articles between 2010–2023 with 690 citations since 2010 / *h*-index 14 according to Web of Science (Web of Science ResearcherID: G-5057-2010) and 991 citations since 2010 / *h*-index 17 according to Google Scholar.

January 5, 2024

Bogdan Antonescu

