

## IX Encontro Sul Brasileiro de Meteorologia

# Presentation of the Special Edition of the IX South Brazilian Meteorology Meeting

## Apresentação da Edição Especial do IX Encontro Sul Brasileiro de Meteorologia

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### ABSTRACT

The IX South Brazilian Meteorology Meeting (IX ESBMET), with the theme “Innovation, Entrepreneurship and Professional Performance in Meteorology”, was organised by the Undergraduate and Postgraduate Meteorology Programs, in collaboration with the Santa Catarina Meteorology Association (ACMet), in the city of Santa Maria, Rio Grande do Sul, on 22-24 March, 2023. The event included sessions for the dissemination of technical and scientific papers in poster format, in addition to lectures, short courses and round tables. The Scientific Committee evaluated the papers presented during the event and selected the 12 best papers. These papers have been extended and have undergone a new peer review by the Scientific Committee of the IX ESBMET for publication in this special edition of the journal *Ciência e Natura*.

**Keywords:** Regional meteorology; Professional training; Complementary training; Meteorology

### RESUMO

O IX Encontro Sul Brasileiro de Meteorologia (IX ESBMET), com o tema “Inovação, Empreendedorismo e Atuação Profissional em Meteorologia”, foi organizado pelos Programas de Graduação e Pós-Graduação em Meteorologia, em colaboração com a Associação Catarinense de Meteorologia (ACMet), na cidade de Santa Maria, Rio Grande do Sul, nos dias 22 e 24 de março de 2023. O evento contou com sessões de divulgação de trabalhos técnicos e científicos em formato de pôster, além de palestras, minicursos e mesas redondas. A Comissão Científica avaliou os trabalhos apresentados durante o evento e selecionou os 12 melhores trabalhos. Estes trabalhos foram ampliados e passaram por uma nova avaliação da Comissão Científica do IX ESBMET para publicação nesta edição especial da revista *Ciência e Natura*.

**Palavras-chave:** Meteorologia regional; Capacitação profissional; Formação complementar, Meteorologia

We are pleased to present this special issue of Science and Nature journal, dedicated to the publication of the articles selected at the IX Brazilian Meteorological Meeting (IX ESBMet), held in the city of Santa Maria, Rio Grande do Sul, from March 22 to 24, 2023. The event is hosted by the Undergraduate and Graduate Course in Meteorology of Federal University of Santa Maria (UFSM), in partnership with the Santa Catarina Meteorological Association (ACMet), under the theme “Innovative, Entrepreneurial and Professional Practices in Meteorology”.

Held every two years in cities in the southern region of Brazil that offer meteorology courses, ESBMET aims to strengthen links between students, professionals and researchers in the field, promote the exchange of technical and scientific knowledge, and discuss professional challenges in the face of growing market demands and regional climate change. This edition has established itself as a dynamic space for the construction of applied meteorology, linked to technological innovation and the social impact of meteorological information.

The ninth edition exceeded expectations both in terms of the number of participants, with a total of 157 registered, and in terms of its territorial coverage, with representatives from the North, Northeast, Southeast and Uruguay, although ESBMET was originally designed to involve the meteorological community of southern Brazil. This scenario highlights not only the relevance of the proposed theme, but also the success of the edition in extending the meteorological debate beyond regional boundaries.

The program included a variety of activities such as lectures, round-table discussions, short courses, technical visits, and scientific poster sessions. Special emphasis was placed on applying emerging technologies such as Artificial Intelligence to weather forecasting and discussing professional training within the World Meteorological Organisation (WMO) Region III. In addition, the event appreciated the presence of UFSM graduates through short 10-minute presentations on their work in

the job market and promoted a weather forecasting competition for undergraduate practical training.

The selection of the papers published in this special issue resulted from the Scientific Committee having evaluated the posters presented during the event. Twelve papers were selected from the 71 presented. They cover a wide range of topics relevant to contemporary meteorology, reflecting the diversity of research carried out by the Brazilian meteorological community. Topics range from the climatology of tornadoes in the South of the country to applied analyses of CO<sub>2</sub> fluxes in regional biomes, convective parameterisation in regional models and using low-cost weather stations in smart cities. Also noteworthy are studies that address rainfall variability in strategic agricultural areas, such as MATOPIBA, and analyses of the tropospheric ozone layer influenced by climate variability phenomena.

The diversity of topics reflects the collective effort of researchers to respond to the challenges of an increasingly interdisciplinary meteorology, with integration of environmental, economic and social issues. The publication of these articles in a national scientific journal of an interdisciplinary character is, besides the recognition of the quality of the work, the consolidation of ESBMET as one of the most important regional forums for scientific dissemination in atmospheric science.

We would like to thank the authors and reviewers for their voluntary efforts, their dedication and their scientific rigour, as well as the supporting institutions that have made this event possible. I'd also like to acknowledge the fundamental contribution of the UFSM undergraduate and postgraduate students and meteorologists in the general organisation of this event, in broadcasting the lectures online and in supporting the short courses. May this special issue be a stimulus for the continuation of innovative research and for the strengthening of meteorology in southern Brazil and neighbouring countries.

## Authorship contributions

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Contribution: Writing – review & editing, Conceptualization, Funding acquisition, Project Administration

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