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The Massive Open Online Course: 'Atmospheric Research Infrastructures: Sharing the Future of Our Atmosphere' as an Innovative Tool for Atmospheric Science & Climate Change Education

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As part of the ATMO-ACCESS project, an innovative two-week Massive Open Online Course (MOOC) was hosted on the FUN (France Université Numérique) MOOC platform from January 20 to February 16, 2025.

This course offered an engaging and interactive platform for learners interested in exploring critical challenges related to air pollution and climate change. The first week provided participants with in-depth knowledge about atmospheric constituents such as reactive trace gases and greenhouse gases, aerosols and clouds, their sources, impacts, and complex interactions. The MOOC emphasised the crucial importance of data sharing and collaborative networks within the research community while showcasing advanced atmospheric research methodologies. Additionally, the second week introduced three key Atmospheric Research Infrastructures (ARIs): ACTRIS, IAGOS, and ICOS, providing participants with insights into their high-quality operational workflows. To support active learning, participants could self-assess their knowledge through several quizzes and earn an open badge by successfully completing a final quiz.

Feedback from participants and analysis of the MOOC's concluding survey revealed valuable insights into learner expectations, which will be presented during the session. These suggestions will guide the development of future iterations of the course, aiming at delivering a more effective, impactful and engaging learning experience.