## Launching the monitoring of cloud variables: ACTRIS Topical Center for Cloud In Situ Measurements

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The impact of the changing climate on cloud properties is still not fully understood. To improve our knowledge and thus the representation of clouds in models, the goal of ACTRIS (Aerosol, Clouds and Trace gases Research Infrastructure) Topical Center CIS (Cloud In Situ) is to establish a monitoring network for key cloud properties.

CIS consists of four units to measure (1) ice nucleating particles, (2) cloud particle number and size distribution, (3) bulk cloud water chemistry, and (4) liquid water content and cloud droplet effective diameter. Those climate-relevant variables will be measured at research stations all over Europe that are frequently in clouds. In addition, mobile platforms such as instruments in containers, on airplanes and on unmanned aerial vehicles, will allow to conduct specific field observations on the CIS cloud variables. Moreover, atmospheric simulation chambers will allow to investigate aerosol-cloud interactions using highly instrumented facilities under controlled near-real atmospheric conditions.

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