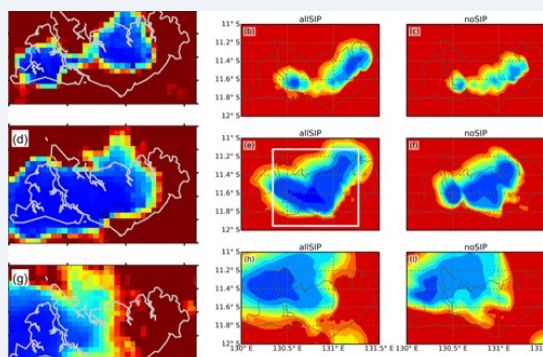




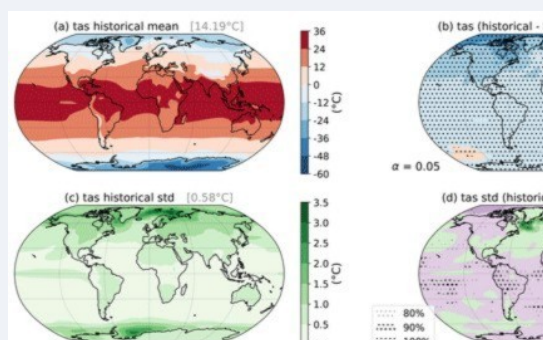
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Influence of secondary ice formation on tropical deep convective clouds simulated by the Unified Model

Sun et al.

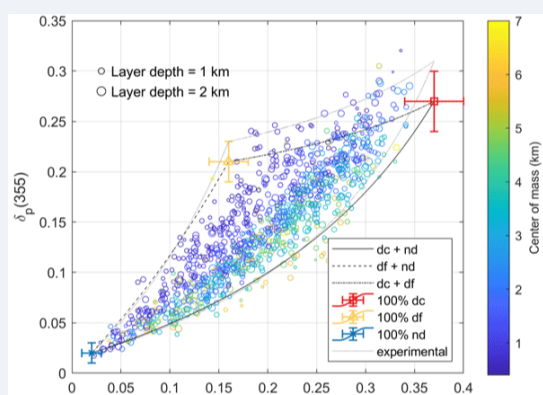
Atmos. Chem. Phys., 25, 18549-18569,
<https://doi.org/10.5194/acp-25-18549-2025>



Regional climate imprints of recent historical changes in anthropogenic Near Term Climate Forcers

Santos-Espeso et al.,

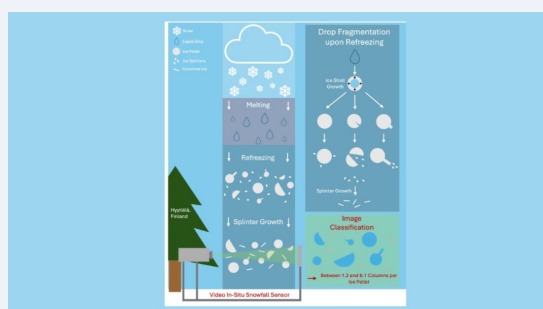
Earth Syst. Dynam., 16, 2161–2186,
<https://doi.org/10.5194/esd-16-2161-2025>



Decomposition of three aerosol components using lidar-derived depolarization ratios at two wavelengths

Shang et al.

Atmos. Meas. Tech., 19, 679–697
<https://doi.org/10.5194/amt-19-679-2026>



Efficient ice multiplication from freezing raindrop fragmentation

Pfeifer, N., Mom, B., Moisseev, D. et al.

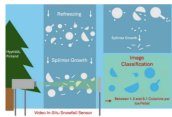
Commun Earth Environ 6, 942 (2025)
<https://doi.org/10.1038/s43247-025-02953-3>

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Science explained

NEWS



How freezing raindrops create extra ice in clouds

Researchers often measure far more ice crystals in mixed-phase clouds than there are ice-nucleating particles (INPs) to trigger their formation, suggesting that extra ice must come from other pathways. These pathways create new ice crystals without requiring INPs, and Pfister et al. analyzed one such process during a refreezing rain event in Finland.

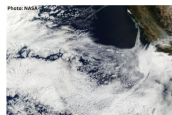
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Europe's polar research: a united call for stronger support

More than 40 coordinators of EU Polar Cluster projects have co-signed a joint letter to EU leaders and decision-makers, calling for continued investment in polar science to ensure Europe remains prepared, resilient, and a global leader in understanding and responding to climate change.

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The nighttime cloud effect

Aerosols have an uncertain climate impact because they interact with clouds in complex ways, especially low-level marine stratocumulus. These clouds behave differently day and night, yet most observations focus on daytime. A new analysis by Geoffrey Dwyer, Edward Gryspeerdt, and Yuhai Niu shows that the key processes actually occur at night.

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Cumulus clouds amplify boreal forest photosynthesis

Boreal forests, covering 14% of Earth's land, are key players in the climate system. They store carbon, regulate energy and water cycles, and release aerosols that interact with the atmosphere. A new study by Eshore et al., based on long-term observations at the SMEAR II station in Finland, shows that, in boreal forests, organic aerosols enhance photosynthesis under cumulus clouds.

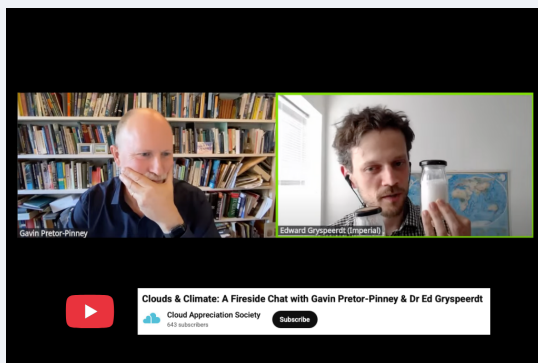
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Clouds & climate: a fireside chat



CERTAINTY researcher Ed Gryspeerdt joined Gavin Pretor-Pinney for a special online fireside chat on clouds and climate. They discussed the overall cooling effect of clouds on the planet, the special role of high clouds, the history of cloud research and the reasons why droplet size matters for cloud behaviour & climate.

[Watch the video](#)

EGU 2026



Join CERTAINTY researchers for session AS3.7 "Clouds, Aerosols, Radiation & Precipitation" and many more – More info soon.



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