



New section of the T-MOSAiC Newsletter

In each newsletter we would like to highlight publications from T-MOSAiC colleagues that are relevant to T-MOSAiC themes, so please let us know when you have new articles that you would like to share with us. 'Extreme events' is one of the T-MOSAiC system-level themes, and recent publications on this subject include an article from the laboratory of Torben Christensen (cochair of the Arctic Trace Gas AG), one from the laboratories of Warwick Vincent (cochair of T-MOSAiC and member of Land & Water Processes AG) and Masaki Uchida (member of T-MOSAiC Steering Committee), and another from Christopher Arp and colleagues from the Land and Water Processes AG (see below for details).



NEWS

Special T-MOSAiC Issue of Arctic Science

The T-MOSAiC special issue of "*Arctic Science*" is open for submissions until March 2022. Please visit the T-MOSAiC website for updated information or contact the secretariat: <https://www.t-mosaic.com/>



Special T-MOSAiC Issue on Arctic Terrestrial Pollution

The T-MOSAiC special issue on Terrestrial Arctic pollution received 26 expressions of interest and the final form was submitted to the journal. This special issue received the support of AMAP that indicated a guest editor specialist on POPs. Therefore, the complete list of guest editors is: João Canário (University of Lisbon), Maribeth Murray (University of Calgary), Katrin Vorkamp (Aarhus University) and Scott Zolkos (WHRC, Harvard University).
Meanwhile, the IF of the journal increased from 5.7 to 6.792.



Partners

The Polar AOD (aerosol optical depth) network is comprised of an international group of researchers whose primary goal is the characterization of Arctic aerosols via photometric remote sensing (RS) methods. This means the measurement of columnar AOD spectra and the derivation of aerosol abundance, size and species properties (supported by other types of RS retrievals, modelling, etc.). An Arctic night aerosol characterization campaign (ANACC) was carried out in early February of 2020 at Ny Alesund, Svalbard. Starphotometer, moonphotometer and lidar measurements were acquired and a preliminary analysis was carried out to investigate the impact of vortex activity that led to extreme January conditions including an uncommonly cold stratosphere and an unprecedentedly shallow tropopause. The resulting PSCs (Polar Stratospheric Clouds) that eventually enabled record ozone-depletion in March were captured during ANACC (and later, during the March ozone-depletion period, over the PEARL observatory at Eureka, Nunavut, Canada). A follow-up DWD-led lunar photometer intercalibration campaign and workshop is being planned in September 2020 at the Lindenberg Observatory in Lindenberg, Germany, to further analyze comparability of instruments and methods in AOD nighttime retrievals.



CALLS

The T-MOSAIc/INTERACT call is still open until September 2020. Please consult the T-MOSAIc website if you would like to submit a proposal. The May evaluation for previously submitted proposals is now ongoing

T-MOSAIc



INTERACT

The call for abstracts for the Arctic Change 2020 Meeting is now open until September 8. Arctic Change is organized by our partner ArcticNet and aims to bringing together researchers and partners from around the world to discuss Arctic issues. This year's meeting will be virtual, from December 7 to 10, and several T-MOSAIc related scientific sessions are scheduled. More information is available at: <https://arcticnetmeetings.ca/ac2020/home>.

**ARCTIC
CHANGE
2020**

ACTION GROUP ACTIVITIES

Arctic Trace Gas AG

The T-MOSAIC Trace Gas Action Group is organizing a special session at AGU 2020. Please consider submitting an abstract yourself and help spread the announcement within your networks:

Arctic trace gas and carbon biogeochemistry: Connecting landscapes and quantifying fluxes using novel approaches @ AGU Fall Meeting 2020

<https://agu.confex.com/agu/fm20/prelim.cgi/Session/103495>



NEW ARTICLES RELEVANT TO T-MOSAIC THEMES

(T-MOSAIC collaborators in bold)

-  **Christensen, T.R.**, Lund, M., Skov, K., Abermann, J., Lopez-Blanco, E., Scheller, J., **Scheel, M.**, Jackowicz-Korczynski, M., Langley, K., Murphy, M.J. and Mastepanov, M., 2020. Multiple ecosystem effects of extreme weather events in the Arctic. *Ecosystems*. doi:10.1007/s10021-020-00507-6
-  **Bégin, P. N.**, **Tanabe, Y.**, Kumagai, M., **Culley, A. I.**, **Paquette, M.**, Sarrazin, D., **Uchida, M.**, and **Vincent, W.F.** 2020. Extreme warming and regime shift toward amplified variability in a far northern lake. *Limnology and Oceanography* 65: doi:10.1002/lno.11546
-  **Arp, C.D.**, **Jones, B.M.**, Hinkel, K.M., Kane, D.L., Whitman, M.S., and Kemnitz, R., 2020. Recurring outburst floods from drained lakes: an emerging Arctic hazard. *Frontiers in Ecology and the Environment*. doi: 10.1002/fee.2175