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ATTO WORKSHOP - A RETROSPECT

June 18-20, 2018 in Jena, Germany



Last June, ATTO scientists gathered at the Max Planck Institute for Biogeochemistry in Jena, Germany. Almost 60 scientists from 20 research institutions and universities had followed the invitation from our German coordinator Sue Trumbore. The purpose of the workshop was to jointly compile the most urgent scientific questions to be addressed in the coming years. Working groups discussed the current state of their

research, their plans and goals for the future and gave updates on infrastructure and scheduling. And because strong personal relationships are the foundation of excellent science, the multinational research team made the most of their rare time together and extended the meeting into the evening hours with dinner and drinks to socialize and watch the soccer world cup - another joint passion of Germans and Brazilians!



NEW PUBLICATIONS

Peer-reviewed articles published between June and October 2018



Pöhlker et al. (2018):



Long-term observations of cloud condensation nuclei over the Amazon rain forest – Part 2: Variability and characteristics of biomass burning, long-range transport, and pristine rain forest aerosols, Atmos. Chem. Phys., 18[☞]

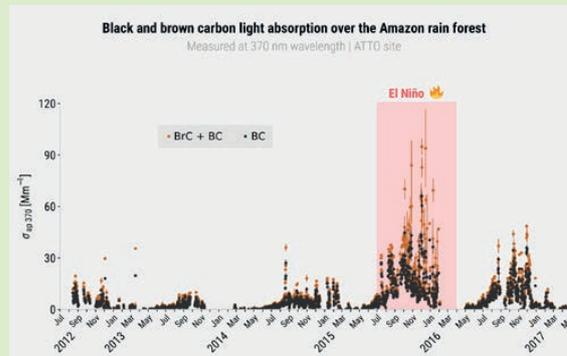
Four separate regimes of aerosol composition and associated cloud formation conditions in the ATTO region were defined that alternate throughout the year. Aerosols are

transported over long distances and arrive at the site in varying amounts through most of the year, including Saharan dust and smoke from biomass burning in the Amazon or Africa.

Saturno et al. (2018):

Black and brown carbon over central Amazonia: long-term aerosol measurements at the ATTO site, Atmos. Chem. Phys., 18[☞]

Aerosol concentration increased significantly during the El Niño of 2015-2016, when the dry season lasted longer than normal. Fires occurred much more frequently compared to other years, producing large amounts of black and brown carbon.



Santana et al. (2018):

Air turbulence characteristics at multiple sites in and above the Amazon rainforest canopy, Agricultural and Forest Meteorology 260-61[☞]

The lowermost air layer from the forest floor to about half the tree height is largely decoupled from the air in the upper part of the canopy and above. This process may limit the extent to which plant-emitted gases are transported out of the forest canopy into the atmosphere above.



Marra et al. (2018):

Windthrows control biomass patterns and functional composition of Amazon forests, Global Change Biology[☞]



Strong precipitation events, such as downbursts, are quite common in the tropics and often lead to snapped and uprooted trees. Even small windthrow events lead to changes in forest structure and composition that can still be seen decades later. Important in terms of climate change is that recovering forests favor tree species that store less carbon than those big old tree species that were killed during the blowdown.

Moran-Zuloaga et al. (2018):

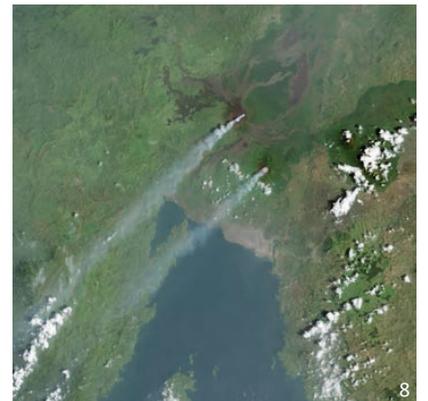
Long-term study on coarse mode aerosols in the Amazon rain forest with the frequent intrusion of Saharan dust plumes, Atmos. Chem. Phys., 18[☞]



In the dry season, coarse fraction aerosols are mainly derived from the rainforest. During the wet season Saharan dust, sea salt particles from the Atlantic and smoke from fires in Africa episodically make their way to the Amazon. It is estimated that 5-10 kg per hectare of dust are deposited in the ATTO region each year.

Saturno et al. (2018):

African volcanic emissions influencing atmospheric aerosols over the Amazon rain forest, Atmos. Chem. Phys., 18[☞]



The violent 2014 eruption of the Nyamuragira and Mount Nyiragongo volcanoes in Congo emitted a lot of SO₂. The particles could be registered in the Amazon basin, 10,000 km away, where they arrived about 2 weeks after the eruption. This observation is used to understand how gas and particle emissions are transported over the Atlantic Ocean.

ATTO GOES ONLINE

Follow us on on ATTOproject.org as well as on Facebook, Twitter, Instagram

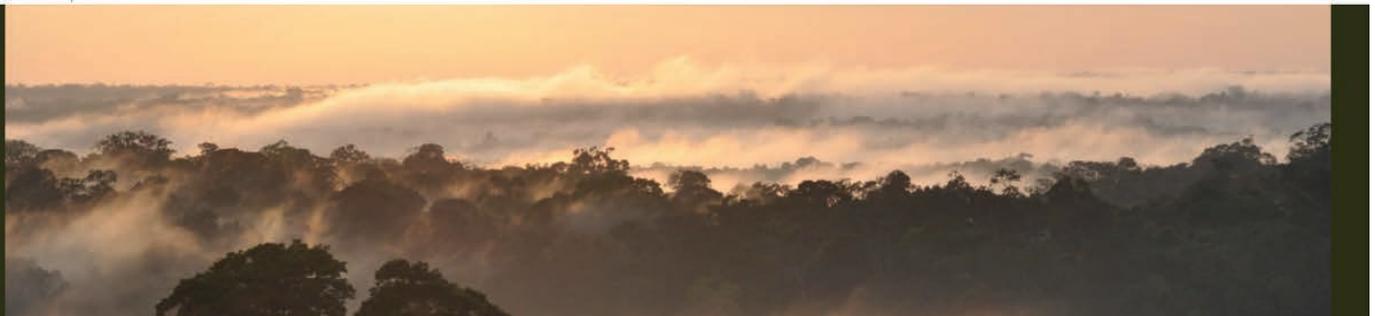


We have a new website and are on Facebook, Twitter and Instagram! All web presences provide information for ATTO consortium members, other likeminded scientists and the general public eager to learn more about climate and atmospheric research in the Amazon rainforest. Follow, like, share so we can spread word on our excellent research far and wide!

Website: www.ATTOproject.org



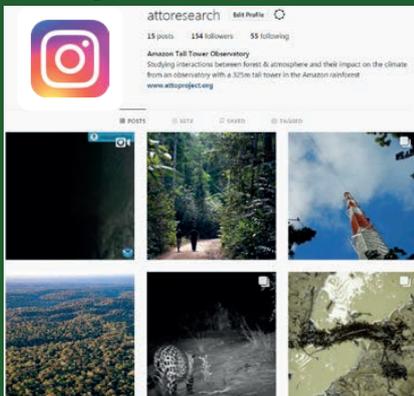
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Do you have pictures or anecdotes from the lab, field or office to share? Are you presenting ATTO data at a conference or event? Did a new scientist join your team or did students defend their thesis?

Please send an e-mail to iris.moebius@bgc-jena.mpg.de. The website and social media accounts will thrive with **YOUR contributions!**

EGU '19 AMAZON SESSION

Intact Amazon forest – a natural laboratory of global significance

At next year's EGU our ATTO team is chairing a session that aims at bringing together scientists who investigate the functioning of the Amazon and comparable intact forest landscapes across spatial and temporal scales by means of remote and in-situ observational, modeling, and theoretical studies. Researchers from a wide range of projects are invited to submit their contributions and we hope many from our ATTO team will take part!

Conveners: Lavrič, Araújo, Quesada, Sörgel
Codes: BG2.4 / AS3.35 / HS11.64 / SSS10.12



ATTO DATA PORTAL IS ONLINE

Submit your data now



The ATTO data portal is now available online and waiting for you to upload your data! The portal helps to make the ATTO data available for all consortium members as well as any other scientists. Furthermore, it will serve as an exchange platform of important information and provides access to the ATTO calendar. An introduction on how to register, how to upload and explore data as well as to assign rights to certain users can be found online and the ATTO Data Portal team will assist you with any questions or problems.

Following the newly implemented [data policy](#), everyone collecting data at ATTO is required to make their data available to other consortium members within 3 months, and to other scientists within 6 months of collection.

First data have been submitted, so visit ATTOdata.org, register and contribute your data today! Also, remember to fill out the [ATTO project form](#) and send it to attodbm@bgc-jena.mpg.de.



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NEW RAMAL

Road to ATTO was reconstructed



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After years of heavy trucks and lots of rain, the road to ATTO was in need of some care. Recently, it was reconstructed, making transport to the site much easier.

UPCOMING EVENTS

Conferences



AGU 2018: Washington D.C., USA, 9-14 December 2018

Presenters from the ATTO team are:

Botia: Tracking Nighttime Methane Signals at the Amazon Tall Tower Observatory ([B33A-04](#))

Guinoiseau: Dust source identification in the Amazon Basin combining chemical and isotopic approaches ([A21I-0113](#))

Marra: Wind-tree interactions in the Amazon (INVENTA): disturbance-dynamics and forest functioning ([B51C-04](#))

Mayne: Observations of cold pool properties during GoAmazon2014/5 ([U14B-06](#))

Pauliquevis: Viability Of Using Thermal Infrared Imagery To Obtain Cloud Properties In The Amazon Basin (ATTO Tower Site) ([A33H-2083](#))

EGU 2019: Vienna, Austria, 07-12 April 2019

Abstract submission open until 10 January 2019

Submit abstracts to the session „Intact Amazon forest – a natural laboratory of global significance“ ([BG2.4](#) / [AS3.35](#) / [HS11.64](#) / [SSS10.12](#))

esa's 2019 Living Planet Symposium: Milan, Italy, 13-17 May 2019

Abstract submission open until 11 November 2018

IUFRO 2019: Curitiba, Brazil, 29 September - 5 October 2019

Abstract submission open until 31 December 2018



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