



American Meteorological Society

Abstract #375334

Turbulent Heat Fluxes Across the Lake-Air Interface in Case of Very Young Waves

Gabriella Lükő, Budapest University of Technology and Economics, Budapest, Hungary;
and P. Torma, T. Krámer, and T. Weidinger

Abstract Text:

Turbulent momentum and heat fluxes are major driving forces of lake hydro- and thermodynamics. Large, but still highly fetch limited lakes differ significantly from marine environments due to the developing wave field that is characterized by very young waves with typical wave age of 0.5-10 in our case. A few studies, including our recently published analysis, already showed that new wave related parameterizations are necessary to improve the estimation of momentum fluxes. We have recently launched an observational campaign in Lake Balaton to measure momentum, heat and water vapor fluxes using the eddy-covariance (EC) technique. Lake Balaton is the largest freshwater lake (596 km², mean depth of 3.2 m) in Central Europe with a typical fetch of 2-10 km. Our hydrometeorological observatory was deployed offshore in the westernmost basin with an average fetch of 3 km. Beside the EC set-up, upwelling and downwelling short- and longwave radiations were measured by a net radiometer, the heat content of the water column by a thermistor chain, and the sediment heat flux by heat flux plates in order to close the energy budget. In our analysis, we determine heat and water vapor transfer coefficients and roughness lengths and their dependence on wave state for fetch limited conditions, since waves were simultaneously recorded with an upward looking, bottom mounted ultrasonic surface tracker. On the one hand, the reliability of observed heat fluxes are quantified by the analysis of the energy balance. On the other hand, the observed evaporation are evaluated against water mass budget estimates on a monthly scale. The variability of heat fluxes and their environmental drivers are also analyzed at different timescales (hourly, diurnal, monthly) during the period that lasted from late spring to early fall (May to October 2019).

Abstract ID:

375334

Abstract Password:

217127

Program Selection:

24th Symposium on Boundary Layers and Turbulence

Submitter's E-mail Address:

torma.peter@epito.bme.hu

Preferred Presentation Format:

Oral

Enter in Student Competition

Y

First Presenting Author***Presenting Author***

Gabriella Lükő

Budapest University of Technology and Economics

Department of Hydraulic and Water Resources Engineering

Műegyetem rkp 3

Budapest, Hungary

Email: gabriella.luko@gmail.com

Alternate Email: gabmac19@gmail.com -- Will not be published

Student? Yes

Second author

Péter Torma

Budapest University of Technology and Economics

Department of Hydraulic and Water Resources Engineering

3 Műegyetem rkp., K building

Budapest, Hungary

Email: torma.peter@epito.bme.hu

Alternate Email: -- Will not be published

Student? No

Third author

Tamás Krámer

Budapest University of Technology and Economics

Department of Hydraulic and Water Resources Engineering

3 Műegyetem rkp., K building

Budapest, Hungary

Email: kramer.tamas@epito.bme.hu

Alternate Email: -- Will not be published

Student? No

Fourth author

Tamás Weidinger

ELTE University of Budapest

Department of Meteorology

Pázmány P. sétány 1/A,

Budapest, Hungary

Email: weidi@caesar.elte.hu

Alternate Email: weidi@caesar.elte.hu -- Will not be published

Student? No



Gabriella Lükő <gabriella.luko@gmail.com>

AMS 24BLT Acceptance Notification & New Deadline Information

meetings@ametsoc.org <meetings@ametsoc.org>

2020. május 26. 22:53

Válaszcím: ciannarilli@ametsoc.org

Címzett: gabriella.luko@gmail.com, gabmac19@gmail.com

Dear Gabriella Lükő,

Congratulations! Your abstract, "Turbulent Heat Fluxes Across the Lake-Air Interface in Case of Very Young Waves" has been accepted to the 24th Symposium on Boundary Layers and Turbulence.

Now that the 24th Symposium on Boundary Layers and Turbulence taking place in Šibenik, Croatia has been postponed to **12-16 July 2021**, we have important updates for you.

We ask that you please log into Presenters Corner and confirm or withdraw your presentation for the 2021 Conference by **30 September 2020**. If you can no longer attend this meeting, please withdraw your presentation. AMS will then remove your paper from the program and refund the card used for payment. Please note that if your presentation is withdrawn you will not be able to upload Supplementary Information. If your presentation is withdrawn after 30 September 2020, you will not receive a refund.

To do so:

1. Go to <https://ams.confex.com/ams/extra.cgi> by **30 September 2020**
2. Enter your paper ID 375334 and password 217127
3. Select either "Yes, I confirm I will be able to attend" or No, I will not be able to attend"
4. Click Save

Updated Deadlines:

30 September 2020 - Deadline for Accepted Authors to Confirm/Withdraw Presentations for 2021 Dates

30 October 2020 - Deadline for Program Chairs/Committee to Submit a Revised Call for Papers

1 February 2020 - Deadline for New Abstract Submissions*

1 March 2020 - Deadline for Program Chairs to Accept/Reject/Organize New Abstracts in Confex

15 March 2020 – New Abstract Acceptances are Sent; Program is Posted; Registration Opens

*If you wish to make revisions to an existing abstract please send the updated information to Cati Iannarilli (email: ciannarilli@ametsoc.org) by 1 February 2020. The Program Chairs will review and accept/reject these changes along with the new abstracts.

For information on AMS Meetings and COVID-19, visit our [website](#).

Please feel free to contact me with any questions or visit the conference [webpage](#) for more information.

Thank you,

Cati Iannarilli

AMS Meetings Coordinator