

Hajnalka Breuer

Publications list – January 2014

- Cumulated impact factor: 7.1
- Articles in refereed journals (in Hungarian): 15 (6)
- Teaching materials: 2
- Conference paper (in Hungarian): 9 (7)
- Conference abstracts (in Hungarian): 22 (7)
- Poster presentations on international conferences: 13
- Other papers: 7
- Oral presentations on international conferences, scientific institutes: 4
- Oral presentations on national (Hungarian) conferences: 4

Articles in refereed journals

- Breuer, H.**, Ács, F., Horváth, Á., Laza, B., Matyasovszky, I., Weidinger, T., Rajkai, K., 2012: A sensitivity study on the soil parameter-boundary layer height interrelationship. ISRN Meteorology, doi:10.5402/2012/786592
- Breuer H.**, Ács, F., Laza, B., Horváth, Á., Matyasovszky, I., Rajkai, K., 2012: Sensitivity of MM5 simulated planetary boundary layer height to soil dataset: comparison of soil and atmospheric effects. *Theoretical and Applied Climatology*, 109(3-4), 577-590. (IF=1.684)
- Breuer H.**, Ács F., Rajkai K., Horváth Á., 2011: Connection between the soil's hydraulic properties and the planetary boundary layer height. *Agrokémia és Talajtan*, 61(1), 9-28 (in Hungarian).
- Breuer H.**, Ács F., Rajkai K., Horváth Á., 2011: Effect of soil hydrophysical properties on convective precipitation. *Agrokémia és Talajtan*, 60(2), 309-324. (in Hungarian)
- Breuer H.**, Ács F., 2011: Water balance in Hungary in the 20th century, based on a multi-layer soil model. *Agrokémia és Talajtan*, 60 (1), 65-86. (in Hungarian)
- Breuer, H.**, Ács, F., 2010: Surface resistance estimation of some crops using different climate, soil-, and vegetation-specific data. *Időjárás*, 114(3), 203-215. (IF=0,189)
- Ács, F., Horváth, Á., **Breuer, H.**, Rubel, F., 2010: Sensitivity of local convective precipitation to parameterization of the field capacity and wilting point soil moisture contents. *Időjárás*, 114 (1-2), 39–55. (IF=0,189)
- Ács, F., Horváth, Á., **Breuer, H.**, Rubel, F., 2010: Effect of the soil hydraulic characteristics on the local convective precipitation. *Meteorologische Zeitschrift*, 19(2), 1–11, DOI 10.1127/0941-2948/2010/0435 (IF=1,257)
- Horváth, Á., Ács, F., **Breuer, H.**, 2009: On the relationship between soil, vegetation and severe convective storms: Hungarian case studies. *J. Atmos. Res.*, 93, 66–81, doi:10.1016/j.atmosres.2008.10.007 (IF=1,456)
- Ács, F., Horváth Á., **Breuer, H.**, 2008: The role of soil on weather. *Agrokémia és Talajtan*, 57(2), 225–238. (in Hungarian)
- Szász, G., Ács, F., **Breuer, H.**, 2007: Estimation of surface energy and carbon balance components using a Thornthwaite-based approach in the vicinity of Debrecen. *Időjárás*, 111, 239–250.

- Ács, F., **Breuer, H.**, Szász, G., 2007: Estimation of actual evaporation and soil water content in the growing season. *Agrokémia és Talajtan*, 56, 217–236. (in Hungarian)
- Ács, F., **Breuer, H.**, 2006: Modelling of soil respiration in Hungary. *Agrokémia és Talajtan*, 55(1), 59–68.
- Szász, G., Ács, F., **Breuer, H.**, Szalai, Sz., 2006: Modeling of climate and net ecosystem exchange in Debrecen. *Cereal Research Communication*, 34(1), 9–12. (IF=0,3)
- Ács, F., **Breuer, H.**, Tarczay, K. Drucza, M., 2005: Modelling the relationship between soil and climate. *Agrokémia és Talajtan*, 54(3-4), 257–274. (in Hungarian)

University textbooks

- Ács, F., **Breuer, H.**, 2013: Biophysical climate classification methods. Eötvös Loránd University, Budapest, Hungary. 131 pp.
- Bartholy, J., **Breuer, H.**, Pieczka, I., Pongrácz, R., Radics, K., 2013: Renewable energy (Eds.: Bartholy, J., Pieczka, I), Eötvös Loránd University, Budapest, Hungary. 131 pp.

Conference papers

- Szelepcsényi, Z., **Breuer, H.**, Ács, F., Sümegi, P., 2013: Expected climate of the Carpathian Basin by Thornthwaite's method, based on bias-corrected ENSEMBLES simulations. In: *Environmental problems in the Carpathian Basin: II. International climate conference* (Eds.: Schmidt Petra), Idresearch Kft. - Publikon Kiadó, Pécs, Hungary. 75–80, ISBN:978-615-5001-89-5. (in Hungarian)
- Nagy, J., Bartholy, J., Pongrácz, R., Pieczka, I., Hufnagel, L., **Breuer, H.**, 2013: Analysis of the impacts of global warming on European terrestrial wild mammals' range areas in the 21st century using ENSEMBLES climate simulations. In: *"Science for Sustainability" International Scientific Conference for PhD Students* (Eds.: Neményi Miklós, Varga László, Facskó Ferenc, Lőrincz Ildikó), University of West Hungary, Sopron, Hungary, 155–159. ISBN:978 963 334 103 2.
- Ács, F., Gyöngyösi, A.Z., **Breuer, H.**, Rajkai, K., 2013: The impact of soil texture and land use on land-surface: Atmosphere interactions in an anticyclonic weather type. *Növénytermelés* 62(Suppl.), 437–440.
- Rajkai, K., Ács, F., **Breuer, H.**, 2012: How does the soil affect the weather? In: *Soil-water-vegetation interrelationship in the cultivations* (Eds.: Lehoczky Éva), HAS CAR Institute for Soil Sciences and Agricultural Chemistry, Budapest, 41–44. ISBN:978-963-89041-6-4. (in Hungarian)
- Nagy, J., Bartholy, J., Pongrácz, R., Pieczka, I., Hufnagel, L., **Breuer, H.**, 2012: The effect of expected climate change in Europe on the range areas of wild vertebrate animals by ENSEMBLES model simulations. In: *Conference of Environmental Doctorate Schools*, Eötvös Loránd University, Budapest, Hungary, 107–117. ISBN:978-963-284-242-4. (in Hungarian)
- Nagy, J., Bartholy, J., Pongrácz, R., Pieczka, I., **Breuer, H.**, Hufnágel, L., 2012: Analysis of the effect of expected regional climate change in Europe on the range areas of wild vertebrate animals using ENSEMBLES model simulations. In: *HUNGEO 2012: XI. World Meeting of Hungarian Earth Sciences Specialists: up-to-date education of earth sciences – competitive*

economy: conference book (Eds.: Mika J, Dávid Á, Pajtókné Tari I, Fodor R), Eszterházy Károly Főiskola, Eger, Hungary, 229–234. (in Hungarian)

- Nagy, J., Bartholy, J., Pongrácz, R., Pieczka, I., **Breuer, H.**, Hufnágel, L., 2012: Analysis of the effect of expected regional climate change in Europe on the range areas of wild mammals using ENSEMBLES model simulations. In: *11th International Conference on Applications of Natural, Technological and Economic Sciences* (Eds.: Mesterházy B), University of West Hungary, Sopron, Hungary, 36–42. ISBN:9-639290-69-6. (in Hungarian)
- Ács, F., Horváth, Á., Geresdi, I., **Breuer, H.**, 2006: The relationship between surface and cloud processes. In *Cloud physics and Micrometeorology, 32th Hungarian Meteorological Scientific Days, 2006*, (Eds.: T. Weidinger and I. Geresdi), *Hungarian Meteorological Service*, Budapest, Hungary (ISBN 978-963-7702-97-6), 40-52. (in Hungarian)
- Ács F., **Breuer, H.**, 2006: : The soil-climate relationship from the point of view of Thornthwaite. Celebrative studies in honor of Keveiné Bárány Ilona. Eds: Andrea Kiss, Gábor Mezősi, Zoltán Sümeghy, *SZTE Department of Climatology and Landscape ecology, SZTE Department of Physical Geography and Geoinformatics, Szeged*, ISBN 963-482-782-9, pp. 788, 35-43. (in Hungarian)

Conference abstracts

- Folyovich, A., Biczó, D., Fülöp, A., Németh, Á., **Breuer, H.**, Béres-Molnár, K.A., Varga, V., Vadasdi, K., Kaszás, N., Bartholy, J., 2013: Role of extreme outdoor temperature in the development of acute ischaemic stroke. *Journal of Neurology*, 260(Suppl. 1), s82.
- Folyovich, A., Biczó, D., Fülöp, A., Németh, Á., **Breuer, H.**, Béres-Molnár, K.A., Varga, V., Vadasdi, K., Toldy, G., Bartholy, J., 2013: Role of weather fronts in the outcome of acute ischaemic stroke. *Vascularis Neurológia*, 5(Suppl. 1), p. 22. (poster) (in Hungarian)
- Szelepcsényi, Z., **Breuer, H.**, Sümegi, P., 2013: Climate change in the last century in the Carpathian Basin by Holdridge's life zone method. In: *XII. International conference on applications of nature, engineering and economical sciences* (Eds.: Füzesi, I., Puskás, J.), University of West Hungary, Sopron, Hungary, p. 6. ISBN:963 9290 69 6. (in Hungarian)
- Nagy, J., Bartholy, J., Pongrácz, R., Pieczka, I., Hufnágel, L., **Breuer, H.**, 2013: How the range areas of European wild mammals will change by the end of the 21st century? In: *XII. XII. International conference on applications of nature, engineering and economical sciences* (Szerk.: Füzesi I, Puskás J), University of West Hungary, Sopron, Hungary, p. 10. ISBN:963 9290 69 6. (in Hungarian)
- Breuer, H.**, Gombos, K., Rákos, A., Biczó, D., Fülöp, A., Németh, Á., Bartholy, J., Folyovich, A., 2013: The effect of air pollution and weather fronts on the incidence of acute stroke. In: *XII. International conference on applications of nature, engineering and economical sciences* (Eds.: Füzesi, I., Puskás, J.), University of West Hungary, Sopron, Hungary. p. 31, ISBN:963 9290 69 6. (poszter) (in Hungarian)
- Nagy, J., Bartholy, J., Pongrácz, R., Pieczka, I., **Breuer, H.**, Hufnágel, L., 2013: How may the regional climate change redraw the European terrestrial wild mammals' living territory in the 21st century? *Geophysical Research Abstracts*, 15, p. 13796.
- Breuer, H.**, Ács, F., Horváth, Á., Németh, P., Rajkai, K., 2013: Validation of WRF simulated PBL height and soil moisture in dry summer conditions. 13th Annual Meeting of the European Meteorological Society (EMS)/ 11th European Conference on Applications in Meteorology

(ECAM), 9. September – 13. September 2013, Reading, United Kingdom, EMS2013-659. (poszter)

- Breuer, H.**, Ács, F., Gyöngyösi, A.Z., Rajkai, K., 2013: Behavior of planetary boundary layer height in long lasting anticyclonic weather period. In: *Book of Abstracts of the 10th Int. Conf. on Agrophysics*, 5–7 June, 2013. Lublin, Poland.
- Biczó, D., Fülöp, A., Németh, Á., **Breuer, H.**, Béres-Molnár, K.A., Varga, V., Vadasdi, K., Kaszás, N., Bartholy, J., Folyovich, A., 2013: Role of outside temperature on the development of acute ischaemic stroke. *Vascularis Neurológia*, 5(Suppl. 1), p. 18. (in Hungarian)
- Béres-Molnár, K.A., Biczó, D., Fülöp, A., Németh, Á., **Breuer, H.**, Varga, V., Vadasdi, K., Kaszás, N., Bartholy, J., Folyovich, A., 2013: The short-term effect of air pollution on the development of acute ischaemic stroke. *Vascularis Neurológia*, 5(Suppl. 1) p. 17. (in Hungarian)
- Nagy, J., Bartholy, J., Pongrácz, R., Pieczka, I., Hufnagel, L., **Breuer, H.**, 2012: How the possible living territories of the European terrestrial wild vertebrates are projected to change due to the global warming? In: *BIOCLIMATE 2012: Bioclimatology of Ecosystems: international scientific conference* (Eds.: Věra Kožnarová, Soňa Sulovská, Lenka Hájková), Czech University of Life Sciences, Prague, pp. 76-77. ISBN:978-80-213-2299-8.
- Nagy, J., Bartholy, J., Pongrácz, R., Pieczka, I., **Breuer, H.**, Hufnagel, L., 2012: Analysis of regional climate change impacts on European terrestrial wild mammal's living territory in the 21st century based on ENSEMBLES simulations. *Geophysical Research Abstracts*, 14 (11972), Paper 1029-7006. (poszter)
- Breuer, H.**, Ács, F., Laza, B., Gyöngyösi, A.Z., Richter, P., Matyasovszky, I., Horváth, Á., Rajkai, K. 2012: Effect of soil parameter differences on planetary boundary layer properties. 12th Annual Meeting of the European Meteorological Society (EMS)/ 9th European Conference on Applied Climatology (ECAC), 10. September – 14. September 2012, Lodz, Poland. EMS2012-260.
- Breuer, H.**, Ács, F., Horváth, Á., Laza, B., Matyasovszky, I., Weidinger, T., Rajkai, K.: 2011: Field experiments and numerical simulations for investigating soil and planetary boundary layer interrelationships in Hungary – WRF case studies. 11th Annual Meeting of the European Meteorological Society (EMS)/ 10th European Conference on Applications in Meteorology (ECAM), 12. September – 16. September 2011, Berlin, Germany. EMS2011-309. (poszter)
- Breuer, H.**, Ács, F., Laza, B., Horváth, Á., Matyasovszky, I., Weidinger, T., Rajkai, K.: 2011: Planetary boundary layer height sensitivity to soil hydraulic parameters:MM5 simulations. 11th Annual Meeting of the European Meteorological Society (EMS)/ 10th European Conference on Applications in Meteorology (ECAM), 12. September – 16. September 2011, Berlin, Germany. EMS2011-333. (poszter)
- Breuer, H.**, Ács, F., Rubel, F., Horváth, Á., 2009: The sensitivity of convective precipitation to soil texture distribution and soil hydraulic characteristics. 9th Annual Meeting of the European Meteorological Society (EMS)/ 9th European Conference on Applications in Meteorology (ECAM), 28. September – 2. October 2009, Toulouse, France. EMS2009-490. (poszter)
- Ács, F., **Breuer, H.**, Horváth, Á., 2008: The sensitivity of storms to soil hydraulic characteristics. 8th Annual Meeting of the European Meteorological Society (EMS), 7th European Conference on Applied Climatology (ECAC), 29. September – 3. October 2008, Amsterdam, The Netherlands. EMS2008-A-00085 (poszter)

- Horváth, Á., Ács, F., **Breuer, H.**, 2007: On the relationship between soil, vegetation and severe convective storms: A case study. 4th European Conference on Severe Storms, Abstracts book (Section 3, Number 25). (poszter)
- Ács, F., **Breuer, H.**, Szász, G., 2006: Modelling of actual evapotranspiration and soil water content in Hungary. 6th Annual Meeting of the European Meteorological Society (EMS)/ 6th European Conference on Applied Climatology (ECAC), 4–8. September 2006, Ljubljana, Slovenia. EMS2006-A-00352 (poszter)
- Horváth, Á., Ács, F., Geresdi, I., **Breuer, H.**, 2006: The relationship of storms and soil. 3th Hungarian Geographical Conference, 6-7. September 2006, Budapest, Hungary. (in Hungarian).
- Szász, G., Ács, F., **Breuer, H.**, Szalai, Sz., 2006: Estimating Debrecen's climate characteristics by a Thornthwaite-based approach. EGU – General Assembly, 2–7. April 2006, Vienna, Austria. EGU06-A-02434 (poszter)
- Ács, F., **Breuer, H.**, 2005: Relationship between the climate, evapotranspiration, and soil respiration in Hungary. 5th Annual Meeting of the European Meteorological Society (EMS)/ 7th European Conference on Applications of Meteorology (ECAM), 12–16. September 2005, Utrecht, The Netherlands. EMS05-A-00096 (poszter)

Other papers

- Ács, F., **Breuer, H.**, 2012: The role of soil in meteorology and climatology. *Légekör*, 57(4:2), 144-146. (in Hungarian)
- Breuer H.**, Laza B., Ács F., Rajkai K., Horváth Á., Weidinger T., 2011: Analysis of the relationship between the planetary boundary layer and soil textures. *Légekör*, 56(3), 103-110. (in Hungarian)
- Ács F., **Breuer, H.**, Szelepcsényi Z., Kozma I., 2010: Comparison of the Köppen's and Holdridge's Climate Classifications using a Global Scale Climate Dataset. *Légekör*, 55(3), 102-107. (in Hungarian)
- Ács, F., Szelepcsényi, Z., **Breuer, H.**, 2010: Comparison of the Köppen's and Thornthwaite's Climate Classifications using a Global Scale Climate Dataset. *Légekör*, 55(3), 93-102. (in Hungarian)
- Szelepcsényi, Z., **Breuer, H.**, Ács, F., Kozma, I., 2009: Biophysical climate classifications, part 2: applications in Hungary. *Légekör*, 54(4), 18–23. (in Hungarian)
- Breuer, H.**, 2009: The strength of the relationship between vegetation and atmosphere. *Légekör*. 54(3), 8–11. (in Hungarian)
- Szelepcsényi, Z., **Breuer, H.**, Ács, F., Kozma, I., 2009: Biophysical climate classifications, part 1: methods. *Légekör*, 54(3), 21–26. (in Hungarian)
- Ács, F., **Breuer, H.**, Horváth, Á., 2008: Essay on the relationship-system between the soil, vegetation and storms. *Légekör*, 53(4), 20–23. (in Hungarian)

Dissertations, research reports

- Breuer, H.**, 2012: The effect of soil hydrophysical properties to the convective precipitation and to the elements of water balance: meteorological and climatological analyses in Hungary. PhD Dissertation, Eötvös Loránd University, Budapest, Hungary, 116 pp. (in Hungarian)
- Breuer, H.**, 2008: Validation of MM5 modelled precipitation values with rain-gauge measurements in Hungary with respect to soil hydraulic parameterisation. Detailed summary of the work taken place during AÖU PhD Scholarship at the Veterinärmedizinische Universität, Wien, Austria. 40 pp.
- Breuer, H.**, 2007: Estimating of Evapotranspiration, soil moisture content and soil respiration in Hungary. MSc Thesis, Eötvös Loránd University, Budapest, Hungary, 93 pp., (in Hungarian)
- Breuer, H.**, 2007: Climatological modelling of evapotranspiration and soil water content in Hungary. 28th Hungarian Scientific Student Conference, Szeged, April 4-6, 28 pp, (in Hungarian)
- Breuer, H.** and Sz. Szalai, 2006: Modelling the climate of Debrecen, 10th Hungarian Higher-educational Environmental Science Student Conference, Eger, April 10-12, 18 pp, (in Hungarian).
- Breuer, H.**, 2005: Modelling of soil-climate relationship by Thornthwaite's method. 27th Hungarian Scientific Student Conference, Budapest, March 21-23, Hungary, 33 pp. (in Hungarian)

Oral presentations on national and international conferences

- Breuer, H.**, Ács, F., Gyöngyösi, A.Z., Rajkai, K., 2013: Behavior of planetary boundary layer height in long lasting anticyclonic weather period, 10th Int. Conf. on Agrophysics 5-7 June, 2013. Lublin, Poland.
- Ács F., Gyöngyösi A.Z., **Breuer H.**, and Rajkai K., 2013: The impact of soil texture and land use on land-surface/atmosphere interactions in an anticyclonic weather type. 12th Alps-Adria Scientific Workshop, 18 – 23 March 2013, Opatija, Croatia.
- Breuer, H.**, Ács, F., Laza, B., Gyöngyösi, A.Z., Richter, P., Matyasovszky, I., Horváth, Á., Rajkai, K. 2012: Effect of soil parameter differences on planetary boundary layer properties. 12th Annual Meeting of the European Meteorological Society (EMS)/ 9th European Conference on Applied Climatology (ECAC), 10. September – 14. September 2012, Lodz, Poland. EMS2012-260.
- Nagy, J., Bartholy, J., Pongrácz, R., Pieczka I., **Breuer H.**, Hufnágel, L., 2012: Analysis of regional climate change impacts on European terrestrial wild mammal's living territory in the 21st century based on ENSEMBLES simulations. XI. *International conference on applications of nature, engineering and economical sciences*, 19 May 2012., Szombathely, Hungary. (in Hungarian)
- Ács F., **Breuer H.**, Horváth Á., Laza B., Rajkai K., 2011: The effect of soil on the atmosphere: review of national modelling efforts. 37. *Hungarian Meteorological Scientific Days, Challenges of agrometeorology and its status in Hungary*, 24-25 November 2011., Budapest, Hungary. (in Hungarian)
- Ács F., **Breuer H.**, Horváth Á., Laza B. und Rajkai K., 2011: MM5-Simulationen der Boden-Atmosphäre Wechselwirkungsprozessen in Ungarn. 4. Österreichischen Meteorologentag, 3.-4. November, 2011, Klagenfurt, Österreich.

- Ács, F., Horváth, Á., **Breuer, H.**, 2007: The effect of soil-vegetation system on weather and climate. Hungarian Science Festival – Research trends in today’s Hungarian meteorology. 14, November, 2007, Debrecen. (in Hungarian)
- Ács, F., Horváth, Á., Geresdi, I., **Breuer, H.**, 2006: The relationship between surface and cloud processes. In: 32th Hungarian Meteorological Scientific Days, Cloud physics and Micrometeorology, Budapest. (in Hungarian)

Posters on international conferences

- Breuer, H.**, Ács, F., Horváth Á., Rubel, F., 2010: Effects of soil hydraulic properties on the convective precipitation and cloud formation: MM5 simulations in Hungary. European Research Course on Atmospheres (ERCA), Grenoble, France, 01.11–02.12.2010.
- Szász, G., Ács, F., **Breuer, H.**, Szalai, Sz., 2005: Climate of Debrecen from the point of view of Thornthwaite. 5th ALPS-ADRIA Scientific Workshop, 6–11. March 2006., Opatija, Croatia. (poszter)