

## AUTHOR INDEX

- |   |     |  |       |
|---|-----|--|-------|
| Anda, A. (Keszthely, Hungary) .....           | 145 | Lovas, K. (Budapest, Hungary) .....                | 203   |
| Baadshaug, O.H. (Ås, Norway) .....            | 129 | Lucchesini, P. (Firenze, Italy).....               | 69    |
| Barcza, Z. (Budapest, Hungary) .....          | 203 | Majkut, P. (Szeged, Hungary) .....                 | 265   |
| Bartolini, G. (Firenze, Italy) .....          | 69  | Manderscheid, H.J. (Braunschweig, Germany).79      |       |
| Benkő, D. (Veszprém, Hungary) .....           | 157 | Matyasovszky, I. (Budapest, Hungary) .....         | 177   |
| Churkina, G. (Jena, Germany) .....            | 203 | Matzarikis, A. (Freiburg im B., Germany) ...       | 221   |
| Dalezios, N.R. (Volos, Greece) .....          | 55  | Mihailovic, D. (Novi Sad, Serbia).....             | 1, 13 |
| Demény, A. (Budapest, Hungary).....           | 245 | Mirschel, W. (Müncheberg, Germany) .....           | 79    |
| Desjardins, R. (Ottawa, Canada) .....         | 103 | Molnár, A. (Veszprém, Hungary).....                | 157   |
| Dióssy, L. (Budapest, Hungary) .....          | 145 | Morgós, A. (Tokyo, Japan).....                     | 299   |
| Di Stefano, V. (Firenze, Italy) .....         | 69  | Motha, R.P. (Washington, U.S.A.) .....             | 117   |
| Domenikotis, C. (Volos, Greece) .....         | 55  | Nejedlik, P. (Bratislava, Slovak Republic) ..1, 47 |       |
| Dunkel, Z. (Budapest, Hungary).....           | 23  | Nendel, C. (Müncheberg, Germany) .....             | 79    |
| Eitzinger, J. (Vienna, Austria) .....         | 1   | Orlandini, S. (Firenze, Italy).....                | 1, 69 |
| Faragó, I. (Budapest, Hungary).....           | 189 | Pilet, S. (Lausanne, Switzerland) .....            | 245   |
| Ferenczi, Z. (Budapest, Hungary).....         | 189 | Puglisi, A. (Firenze, Italy) .....                 | 69    |
| Grant, B. (Ottawa, Canada) .....              | 103 | Shen, C.C. (Taipei, Taiwan ROC).....               | 245   |
| Grynaeus, A. (Budapest, Hungary).....         | 299 | Siklósy, Z. (Budapest, Hungary) .....              | 245   |
| Gulyás, Á. (Szeged, Hungary) .....            | 221 | Šiška, B.C. (Nitra, Slovak Republic) .....         | 135   |
| Haszpra, L. (Budapest, Hungary) .....         | 203 | Sivakumar, M.V.K. (Geneva, Switzerland)..          | 89    |
| Haugen, L.E. (Ås, Norway) .....               | 129 | Sivertsen, T.H. (Ås, Norway) .....                 | 1     |
| Havasi, Á. (Budapest, Hungary) .....          | 189 | Škvarenina, J. (Zvolen, Slovak Republic) ...       | 47    |
| Hidy, D. (Gödöllő, Hungary) .....             | 203 | Škvareninová, J. (Zvolen, Slovak Republic). 47     |       |
| Horváth, L. (Budapest, Hungary) .....         | 203 | Smith, W. (Ottawa, Canada).....                    | 103   |
| Hrvol', J. (Bratislava, Slovak Republic)..... | 47  | Somogyi, Z. (Budapest, Hungary) .....              | 203   |
| Imre, K. (Veszprém, Hungary) .....            | 157 | Stefanski, R. (Geneva, Switzerland).....           | 89    |
| Jakab, G. (Szarvas, Hungary) .....            | 265 | Sümegi, P. (Szeged, Hungary).....                  | 265   |
| Jann, A. (Vienna, Austria) .....              | 233 | Szenthe, I. (Budapest, Hungary).....               | 245   |
| Kazandjieva, V. (Sofia, Bulgaria) .....       | 1   | Takáč, J. (Bratislava, Slovak Republic) .....      | 135   |
| Kern, Z. (Budapest, Hungary) .....            | 299 | Thaler, S. (Vienna, Austria) .....                 | 1     |
| Kersebaum, K.C. (Müncheberg, Germany) ..      | 79  | Tomlain, J. (Bratislava, Slovak Republic) .....    | 47    |
| Kiss, A. (Szeged, Hungary) .....              | 315 | Töröcsik, T. (Szeged, Hungary) .....               | 265   |
| Kocsis, Zs. (Budapest, Hungary) .....         | 189 | Tsiros, E. (Volos, Greece) .....                   | 55    |
| Labancz, K. (Budapest, Hungary) .....         | 177 | Vučetić, V. (Zagreb, Croatia).....                 | 39    |
| Lalic, B. (Novi Sad, Serbia).....             | 13  | Weigel, H.-J. (Braunschweig, Germany).....         | 79    |
| Leél-Őssy, Sz. (Budapest, Hungary).....       | 245 | Wenkel, K.-O. (Müncheberg, Germany) .....          | 79    |
| Lin, Y. (Taipei, Taiwan ROC).....             | 245 | Zatykó, C. (Budapest, Hungary).....                | 265   |

## TABLE OF CONTENTS

### Papers

- Baadshaug, O.H. and Haugen, L.E.: Effect of climate change on growth potential in the mountainous region of southeast Norway .....* 129
- Barcza, Z., Haszpra, L., Somogyi, Z., Hidy, D., Lovas, K., Churkina, G., and Horváth, L.: Estimation of the biospheric carbon*

- dioxide balance of Hungary using the BIOME-BGC model..... 203
- Benkő, D., Molnár, A., and Imre, K.: Study on the size dependence of complex refractive index of atmospheric aerosol particles over Central Europe .....* 157
- Dióssy, L. and Angela Anda: Consequences*

of climate change on some maize characteristics in Hungary.....	145
<i>Dunkel, Z.</i> : Brief surveying and discussing of drought indices used in agricultural meteorology .....	23
<i>Eitzinger, J., Thaler, S., Orlandini, S., Nejedlik, P., Kazandjiev, V., Sivertsen, T.H., and Mihailovic, D.</i> : Applications of agroclimatic indices and process oriented crop simulation models in European agriculture .....	1
<i>Gulyás, Á. and Matzarikis, A.</i> : Seasonal and spatial distribution of physiologically equivalent temperature (PET) index in Hungary.....	221
<i>Jann, A.</i> : Reconciling the sequential probability ratio test with calibration ....	233
<i>Kern, Z., Grynaeus, A., and Morgós, A.</i> : Reconstructed precipitation for southern Bakony Mountains (Transdanubia, Hungary) back to 1746 AD based on ring widths of oak trees .....	299
<i>Kersebaum, K.C., Nendel, C., Mirschedl, W., Manderscheid, R., Weigel, H.-J., and Wenkel, H.-O.</i> : Testing different CO <sub>2</sub> response algorithms against a face crop rotation experiment and application for climate change impact assessment at different sites in Germany .....	79
<i>Kiss, A.</i> : Historical climatology in Hungary: Role of documentary evidence in the study of past climates and hydrometeorological extremes.....	315
<i>Kocsis, Zs., Ferenczi, Z., Havasi, Á., and Faragó, I.</i> : Operator splitting in the Lagrangian air pollution transport model FLEXPART .....	189
<i>Labancz, K. and Matyasovszky, I.</i> : Determination of ambient air pollution: Tasks, methods, approaches.....	177
<i>Motha, R.P.</i> : Developing and adaptation strategy for sustainable agriculture.....	117
<i>Mihailovic, D.T. and Lalic, B.</i> : Coupled land-air parameterization scheme (LAPS) and non-hydrostatic mesoscale model (NMM) for use in agricultural planning.	13
<i>Orlandini, S., Di Stefano, V., Lucchesini, P., Puglisi, A., and Bartolini, G.</i> : Current trends of agroclimatic indices applied to grapevine in Tuscany (Central Italy)..	69
<i>Siklós, Z., Demény, A., Szenthe, I., Leél-Őssy, Sz., Pilet, S., Lin, Y., and Shen, C.C.</i> : Reconstruction of climate variation for the last millennium in the Bükk Mountains, northeast Hungary, from a stalagmite record.....	245
<i>Šiška, B. and Takáč, J.</i> : Drought analysis of agricultural regions as influenced by climatic conditions in the Slovak Republic.....	135
<i>Sivakumar, M.V.K. and Stefanaki, R.</i> : Climate change mitigation, adaptation, and sustainability in agriculture.....	89
<i>Smith, W., Grant, B., and Desjardins, R.</i> : Some perspectives on agricultural GHG mitigation and adaptation strategies with respect to the impact of climate change/variability in vulnerable areas....	103
<i>Sümegi, P., Jakab, G., Majkut, P., Törőcsik, T., and Zatykó, C.</i> : Middle Age paleo-ecological and paleoclimatological reconstruction in the Carpathian Basin..	265
<i>Škvarenina, J., Tomlain, J., Hrvol', J., Škvareninová, J., and Pavol Nejedlík, P.</i> : Progress in dryness and wetness parameters in altitudinal vegetation stages of West Carpathians: Time-series analysis 1951–2007 .....	47
<i>Tsiros, E., Domenikiotis, C., and Dalezios, N.R.</i> : Sustainable production zoning for agroclimatic classification using GIS and remote sensing .....	55
<i>Vučetić, V.</i> : Secular trend analysis of growing degree-days in Croatia.....	39

## SUBJECT INDEX

### A

adaptation frameworks	89
adaptation strategies	89, 103, 117, VI
aerosol particles	157
agroclimatic	
- classification	55

- indices	1, 23, 69, 79, 135
agroclimatology	1, 23, 69, 79, 129, VI
agricultural	
- meteorology	23
- modeling	13, 79, 129, 145

- monitoring VI, 145
  - planning 1, 13, VI
  - regions 135
  - sustainability 89, 103, 117, VI
  - techniques 103
  - agriculture in Europe 1, 13, 55, 69
  - ambient air quality 177
  - anomalies in climate 315
  - assessment techniques 177
  - aridity index 1, 23, 55, 135
  - atmospheric aerosol 157
- B**
- Bakony Mountains 299
  - Balaton 299
  - BIOME-BGC model 203
  - biospheric carbon balance 203
  - Bükk Mountains 245
- C**
- calibration
    - of BIOME model 203
    - of observational series 233
    - real-time 233
  - Canada 103
  - canopy microclimate 145
  - carbon
    - assimilation 145
    - balance, biospheric 203
  - Carpathian Basin 245, 299, 315, 265
  - cave 245
  - Central Europe 157, 245, 299
  - change detection 233
  - change-point location 233
  - climate
    - anomalies 315
    - change 13, 39, 79, 299, 89, 103, 117, VI, 145, 315
    - effect on human body 221
    - historical 315, 265
    - indices 69, 135
    - of last thousand years 315, 265
    - paleoclimate 245, 265
    - reconstruction 315, 265
    - risks VI
    - scenario 103, 117, 129, 145
    - thermal human bioclimate 221
    - variability 69, 315
  - CO<sub>2</sub> effect 79, 103, 145
  - computational procedure 189
  - crop models 1, 13, 129, 145
  - crop yield 79, 129
- COST Action 734 1, VI
  - coupled land-air parameterization scheme 13
  - Croatia 39
  - cultivar, ley 129
- D**
- degree-day 23, 39
  - dendroclimatology 299
  - drought 47, 135
    - categories 23
    - definitions 23
    - historical 315
    - indices 23, 47, 135
    - in paleoclimatology 245, 299
    - radiation index 47, 145
- E**
- ecosystem
    - exchange 203
    - model 203
  - eddy covariance measurements 203
  - ecosystem model 203
  - emission
    - greenhouse gases 103
    - scenario 135
  - environmental modeling 13
  - ETEX experiment 189
  - evapotranspiration
    - actual 47, 135
    - deficit 135
    - potential 47, 135
    - relative 47
  - EU directives 177
  - Europe 1, 13, 189, 177
  - extinction coefficient 157
  - extreme weather events 315
- F**
- FACE experiment 299
  - frost 69, 129
- G**
- geochemistry 265
  - Germany 79
  - GIS 55
  - global circulation model 13
  - global warming 69, 103, 129, 145
  - grapevine (*Vitis vinifera*) 69
  - Greece 55
  - greenhouse gas emission 103, VI
  - growing degree-day 39
  - growing season 135

## H

- historical
  - climatology 315, 265
  - Hungary 299, 315
- Holocene 265
- Hungary 145, 221, 203, 177, 157, 245, 299, 315, 265
- hydrometeorological extremes 315
- hygroscopic growth 157

## I

- impact studies 315
- indices
  - agroclimatic 1, 69, 135, 145
  - aridity 23, 55
  - climate 69
  - drought 23, 135
  - PET 221
  - refractive 157
  - vegetation health 55
- initial condition 189
- IPCC 89
- Italy 69

## L

- Lagrangian model 189
  - latent heat flux 145
  - legislation 177
  - ley 129
  - linear trend 39
- 
- ## M
- macrofossils 265
  - maize 145
  - millennium 245
  - mitigation and adaptation frameworks 89, 103, 117, VI
  - mitigation
    - measures 103, 117
    - strategies 89, 103, 117, VI
  - model calibration 203
  - models
    - agricultural 13, 79
    - coupled land-air parameterization 13
    - crop 1, 13, 79, 129
    - denitrification-decomposition 103
    - ecological system 203
    - global circulation 13, 79, 135
    - Lagrangian 189
    - micro-meteorological 145
    - particle 189
    - plant disease 13

- process-based 103
  - regional circulation 13
  - soil-crop 79
  - PET index calculation 221
  - UV index 13
- mountainous area 129

## N

- net ecosystem exchange 203
- Norway 129

## O

- observational series calibration 233
- operator splitting 189

## P

- paleoclimate 245, 79, 265
- parameter estimation 233
- parameterization
  - coupled land-air 13
- particle model 189
- peatland development 265
- PET index 221
- phenology 69
- physiologically equivalent temperature 221
- physiological stress level 221
- plant
  - diseases 13
  - functional types 203
- policy 117
- pollen 265
- precipitation 23, 47, 145
  - in paleoclimatology 299
- preparedness 117
- probability ratio test 233
- process-based models 103

## R

- refractive index 157
- regional circulation model 13
- regrowth 129
- remote sensing 55
- Romania 315

## S

- Serbia 13, 315
- sequential
  - analisys 233
  - probability ratio 233
- size distribution of aerosol particles 157
- Slovakia 47, 135, 315
- splitting method 189
- stable isotopes 245

stalagmite	245	tree ring	245, 79
statistical methods in		trend, linear	39
- meteorological calibration	233	<b>U</b>	
- air quality estimation	177	upscaling	203
sustainability in agriculture	89, 103, 117, VI	UV radiation prediction	13
sustainable production zone	55		
<b>T</b>			
temperature		<b>W</b>	
- paleoclimatological	245, 299	water use	79
- physiologically equivalent	221	wintering	129
- rising	69, 79, 103, 129, 145	<b>Z</b>	
- threshold	39	zone	
thermal human bioclimate	221	- sustainable production	55
timothy	129	- water limited growth environment	55
trace elements	245		