

Scientific Curriculum of BONACCORSO Brunella

1. HIGHER EDUCATION AND EMPLOYMENT HISTORY

1999: Degree in Civil Engineering, University of Catania, Italy

2003: PhD in Hydraulic Engineering, University of Catania, Italy

2003-2011: Postdoc, Department of Civil and Environmental Engineering, University of Catania, Italy. Research programme: "Models for drought identification and stochastic characterization and definition of drought mitigation measures in water supply systems"

2011-2017 Assistant Professor (L. 230/2005), Department of Engineering, University of Messina, Italy

2018-2020: Senior Lecturer (L. 240/2010 art. 24 c.3 let. b), Department of Engineering, University of Messina, Italy

Since January 9, 2021, Associate Professor in 'Hydraulic and Maritime Constructions and Hydrology', Department of Engineering, University of Messina, Italy.

2. MAIN ACADEMIC INTERESTS

- Joint probability models and stochastic methods for space-time characterization of hydrological extremes at regional and continental scales;
- Drought and flood risk management and mitigation strategies;
- Development of flood and landslide early warning systems;
- Non stationarity analysis of extreme hydrological events;
- Hydrological and socio-hydrological modelling for flood forecasting in gauged and ungauged basins;
- Climate change impacts on water resources and hydrological extremes;
- Evaluation of climate models for climate change impact assessment at the catchment scale;

3. RESEARCH PROJECTS

3.1. International projects

Member of the research unit of the University of Catania within the projects:

- INCO-MED: "Water Resources Management under Drought Conditions" (Reference person: Prof. G. Rossi), 2002-2003.
- SEDEMED I "Sécheresse et Désertification dans le bassin Méditerranée" – European Programme INTERREG III B MEDOCC – Asse 4. mis. 4 (Reference person: Prof. G. Rossi), 2003-2004.
- MEDROPLAN: "Mediterranean Drought Preparedness and Mitigation Planning" - European Programme MEDA Water (Reference person: Prof. A. Cancelliere), 2003-2007.
- SEDEMED II "Sécheresse et Désertification dans le bassin Méditerranée" - European Programme INTERREG III B MEDOCC – Asse 4. mis. 4 (Reference person: Prof. G. Rossi), 2004-2006.

Member of the research unit of the University of Messina within the project:

- FLORIS "Innovative tools for improving FLOOD RISK reduction strategies" (UCPM 2018 Programme - Prevention in civil protection and marine pollution) (Reference person: Prof. G.T. Aronica), from January 2019-2021.

3.2. National Projects

Member of the research unit of the University of Catania within the projects:

- MIUR Progetto Strategico 449/97 Settore Risorse Idriche, Programma Metodologie di gestione delle risorse idriche nelle aree centro-meridionali (Reference person: Prof. G. Rossi), 2005.
- PRIN 2005 (Modello B - prot. 2005080490_004) "Previsione di indici di siccità e definizione di regole di esercizio di sistemi di approvvigionamento " (Reference person: Prof. A. Cancelliere), 2006-2008.
- PRIN 2007 (Modello A - prot. 20075WFE7P) "Gestione della siccità e variabilità climatica " (Coordinator: Prof. A. Cancelliere), 2008-2010.
- PRIN 2008 (Modello B - prot. 2008WXPRA2_002) "Effetti del cambiamento climatico sul bilancio idrico" (Reference person: Prof. G. Rossi/Prof. G. Pezzinga), 2010-2011.

Member of the research unit of the University of Messina within the project:

"Risk-based design of hydraulic infrastructures for flood risk reduction RIDES-IDRO" (Italian Ministry of Environment, Soil and Sea Protection)" (Reference person: Prof. G.T. Aronica), from January 2020 (ongoing).

4. RESEARCH AGREEMENTS

Comune di Messina - "Valutazione della pericolosità idraulica nel territorio Comunale di Messina, dei torrenti/fiumare: Galati, Mili, Larderìa, Zafferìa, San Filippo, Cumia-Bordonaro, Bisconte-Cataratti e Papardo" (reference person: Prof. G. T. Aronica), 2012-2013.

Osservatorio delle Acque della Regione Siciliana - "Attività di studi e ricerche per la realizzazione del sistema informativo idromorfologico ai fini dell'aggiornamento e la gestione del Piano di Tutela e la realizzazione del Sistema informativo e di monitoraggio unico a supporto della gestione del Distretto Idrografico. Direttiva Europea 2000/60 CE - D. Lgs. 152/2006" (reference person: Prof. G. T. Aronica), 2013-2014.

Sicilia e-Ricerca S.p.A - "Sviluppo di modelli previsionali di fenomeni idraulici e franosi con specifico riferimento all'allertamento per finalità di protezione civile per il costituendo Centro Funzionale Decentrato Multirischio della Regione Siciliana" (reference person: Prof. G. T. Aronica), dal 30-04-2014 al 17-01-2016.

AMAM S.p.A. - "Attività di studio e ricerca per la redazione di studi idrologici a supporto dell'istanza di rinnovo della concessione delle derivazioni di acque dal sistema di pozzi e gallerie "Bufardo-Torrerossa" e della domanda per l'utilizzo delle acque sorgentizie che alimentano l'acquedotto della "Santissima" del Comune di Messina, da parte di AMAM S.p.A., (reference persons: Proff. G. T. Aronica, Brunella Bonaccorso), 2017 -2020.

Comune di Messina – Dipartimento Politiche del Territorio e Dipartimento d'Ingegneria dell'Università degli studi di Messina "Studi sulla pericolosità e sul rischio idraulico di aree potenzialmente inondabili e verifiche idrauliche di opere di tombinamento nel territorio comunale di Messina" (reference person: Prof. G. T. Aronica), from April 2019 (ongoing).

AMAM S.p.A. - Attività di ricerca e studio per l'analisi e l'ottimizzazione dei sistemi di captazione per l'approvvigionamento idrico della "Città Metropolitana di Messina", (reference persons: Proff. G. T. Aronica, Brunella Bonaccorso), 2019-2020.

SICILIACQUE S.P.A. - Attività di ricerca e studio per lo sviluppo di un modello idrologico-idraulico del bacino idrogeologico di alimentazione del sistema acquedottistico Alcantara, (reference persons: Proff. G. T. Aronica, Brunella Bonaccorso), 2021-ongoing.

5. TEACHING

5.1 Academic courses

Hydrology (MS in Civil Engineering)

Water resources management (MS in Civil Engineering)

5.2 Seminars within PhD programme:

Probabilistic models and stochastic processes (PhD Programme in Civil, Environmental and Security Engineering, University of Messina and University of Reggio Calabria), 2016 and 2020

Drought analysis, forecasting and risk assessment (PhD Programme in Understanding and Managing Extremes, IUSS Pavia), 2018.

5.3 International teaching experience

Short course on "Methods and tools for drought analysis and forecasting", University of Thessaly, Volos (Greece) within the EU programme Erasmus + Mobility for Teaching, 2015.

Short course on "Drought analysis, forecasting and risk assessment", University of Sarajevo (Bosnia-Erzegovina), within the project NatRisk (Development of master curricula for NATural disasters RISK management in Western Balkan countries) ERASMUS+ KA2 CBHE, 2019.

5.4 Supervisor of PhD students

Iolanda Borzì (May 2020). Socio-Hydrological Modeling in a complex aquifer system for improving water resources management under climate and human-induced environmental changes. PhD Programme in Civil, Environmental and Security Engineering, cycle XXXII, University of Reggio Calabria and University of Messina (Co-supervisors: Prof. Murugesu Sivapalan, University of Illinois, Prof. Alberto Viglione, Polytechnic of Turin).

Beatrice Monteleone (April 2020). Design of a parametric insurance framework for drought. PhD Programme in Understanding and Managing Extremes (cycle XXXII) - Risk and Emergency Management Weather Related Risk, IUSS Pavia. (Co-supervisor: Prof. Mario L. Martina, IUSS Pavia).

5.5 Referee of PhD dissertation

- Michele Giglioni (2017). Hydrological drought prediction through a stochastic model. Dottorato di ricerca in Ingegneria Idraulica e Ambientale, XXIX ciclo, Sapienza Università di Roma (Tutor: Dott. Ing. F. Russo, Co-tutor: Prof. F. Napolitano).
- Annibale Vecere (2018). Near real-time flood loss estimation as a basis for risk financing mechanisms. Doctoral Programme in Understanding and Managing Extremes, XXXI ciclo, Scuola Universitaria Superiore IUSS Pavia (Supervisors: Dr. Mario Martina, Dr. Ricardo Monteiro).
- Roberta Maletta (2021). Approccio metodologico per la valutazione modulare della vulnerabilità finalizzata alla riduzione dei rischi naturali e antropici. Dottorato di ricerca in

Scienze ed Ingegneria per l'Ambiente, le Costruzioni e l'Energia (SIACE) XXXIII Ciclo, Università della Calabria (tutor: Prof. G. Mendicino).

- Nunziarita Palazzolo (2022). Improving modeling and simulation of rainfall-induced landslides: from prediction to post-failure dynamics. Doctoral Programme in Design, modeling and simulation in Engineering, XXXIV Cycle, University of Pavia (Supervisor: Prof. E. Creaco, Co-supervisors: Prof. A. Cancelliere, Dr. D.J. Peres, Dr. S. Manenti).

5.6 Member of Doctoral Examination Committee

- Marcello Arosio (2018). A modelling approach based on Graph Theory towards more holistic assessment of natural hazard risk of complex systems. Doctoral Programme in Understanding and Managing Extremes, XXXI ciclo, Scuola Universitaria Superiore IUSS Pavia (Supervisors: Dr. Mario Martina).
- Paola Nanni (2021). Green infrastructures as a climate change adaptation measure: community awareness and hydrological modeling of green roofs under different emission scenarios. Doctoral Programme in Assessment and mitigation of urban and territorial risks XXXIV cycle, University of Catania (Supervisor and co-tutor: Prof. A. Cancelliere, Prof.ssa R.E. Musumeci).
- Carmela Cavallo (2022). Monitoring freshwater environments by satellite data. Research Doctorate in Risk and Sustainability in Civil, Architectural and Environmental Engineering Systems, XXXIV cycle, University of Salerno (Supervisor: Prof. M.N. Papa).

6. ACADEMIC DUTIES

Reference person for the International Mobility of students attending the MS course in Civil Engineering.

Member of the Scientific Board of PhD Programme in Civil, Environmental and Security Engineering: University of Messina and University of Reggio Calabria, 2015 to date.

Guest Editor delle seguenti Special Issue:

- Recent advances in drought and water scarcity monitoring, modelling, and forecasting, Natural Hazard and Earth System Sciences (Copernicus Publications)

https://www.nat-hazards-earth-syst-sci.net/special_issue1032.html

- Analysis of Extreme Hydrometeorological Events, Resources (MDPI)

https://www.mdpi.com/journal/resources/special_issues/extreme_hydrometeorological_events

Co-editor dei seguenti volumi:

- Rossi, G., Vega, T., Bonaccorso, B. (2007). Methods and Tools for Drought Analysis and Management (pp. 420). Water Science and Technology Library. ISBN: 978-1-4020-5923-0. Springer, Dordrecht, The Netherlands.

<https://www.springer.com/us/book/9781402059230>

- Cancelliere, A., Bonaccorso, B., Peres, D.J. (2011). Gestione della siccità e variabilità climatica (pp. 184). Collana Idraulica e Idrologia. ISBN: 978-88-97181-12-5. EdiBIOS, Castrolibero (CS).

<http://www.edibios.it/GESTIONE-DELLA-SICCITA-E-VARIABILITA-CLIMATICA>

7. OTHER ACTIVITIES

Member of the Editorial board of Hydrology (MDPI) since March 2020.

Associate Editor of Natural Hazard and Earth System Sciences (NHESS, Copernicus) Since March 2022

Associate Editor of Hydrological Science Journal (Taylor & Francis) since May 2022.

Guest Editor of the Special Issues:

- Recent advances in drought and water scarcity monitoring, modelling, and forecasting, Natural Hazard and Earth System Sciences (Copernicus Publications). https://www.nat-hazards-earth-syst-sci.net/special_issue1032.html.

- Analysis of Extreme Hydrometeorological Events, Resources (MDPI). https://www.mdpi.com/journal/resources/special_issues/extreme_hydrometeorological_events

Co-editor of the books:

- Rossi, G., Vega, T., Bonaccorso, B. (2007). Methods and Tools for Drought Analysis and Management (pp. 420). Water Science and Technology Library. ISBN: 978-1-4020-5923-0. Springer, Dordrecht, The Netherlands. <https://www.springer.com/us/book/9781402059230>

- Cancelliere, A., Bonaccorso, B., Peres, D.J. (2011). Gestione della siccità e variabilità climatica (pp. 184). Collana Idraulica e Idrologia. ISBN: 978-88-97181-12-5. EdiBIOS, Castrolibero (CS). <http://www.edibios.it/GESTIONE-DELLA-SICCITA-E-VARIABILITA-CLIMATICA>.

8. MEMBERSHIPS

Member of the European Water Resources Association (EWRA)

Member of the European Geosciences Union (EGU)

Member of the European Drought Centre

Convener of EGU session “Drought and water scarcity: monitoring, modelling and forecasting to improve hydro-meteorological risk management”

Member of the Organizing Committee of the following conferences:

- IAHS STAHY International Workshop “Advances in statistical hydrology” 2010, Taormina (Italy), May 2010;
- 6th EWRA International Symposium Water Engineering and Management in a Changing Environment, Catania (Italy), June 2011;
- 15th Plinius Conference on Mediterranean Risks, Giardini Naxos (Italy), June 2016;
- Giornate dell'Idrologia 2017, Società Idrologica Italiana, Favignana, June 2017.

9. AWARDS

Young Scientist Outstanding Poster Paper (YSOPP) Award - Hydrological Science - EGU General Assembly 2009, 19-24/04/2009, Vienna. "Quality Control of Daily Precipitation data through Neural Networks" by Sciuto, G., Bonaccorso, B., Cancelliere, A. e Rossi, G.

Best Poster Giornate dell'Idrologia 2017, 21-24/06/2017, Favignana. “A new method for threshold selection in pot flood frequency analysis: application to Sicilian catchments” by Borzi, I., Bonaccorso, B. e Viglione, A.

MAIN PUBLICATIONS

Articles in peer-reviewed journals

Bonaccorso, B., Cancelliere, A., Rossi, G. (2003). An analytical formulation of return period of drought severity, *Stochastic Environmental Research and Risk Assessment* (Springer), 17: 157-174, ISSN: 1436-3240, DOI: 10.1007/s00477-003-0127-7.

Bonaccorso, B., Bordi, I., Cancelliere, A., Rossi, G., Sutera, A. (2003). Spatial Variability of Drought: An Analysis of the SPI in Sicily, *Water Resources Management* (Springer), 17(4): 273-296, ISSN: 0920-4741, DOI: 10.1023/A:1024716530289.

Bonaccorso, B., Cancelliere, A., Rossi, G. (2003). Network design for drought monitoring by geostatistical techniques. *European Water*, vol. 3/4, p. 9-15, ISSN: 1105-7580

Bonaccorso, B., Cancelliere, A., Rossi, G. (2005). Detecting trends of extreme rainfall series in Sicily, *Advances in Geosciences* (EGU), 2: 7-11, ISSN: 1680-7340.

Cancelliere, A., Di Mauro, G., Bonaccorso, B., Rossi, G. (2007). Drought forecasting using the Standardized Precipitation Index, *Water Resources Management* (Springer), 21(5): 801-819, ISSN: 0920-4741, DOI: 10.1007/s11269-006-9062-y.

Speranza, A., Delitala, A., Deidda, R., Corsini, S., Monacelli, G., Bonaccorso, B., Buzzi, A., Cancelliere, A., Fiorentino, M., Rossi, G., Ruti, P., Siccardi, F., (2006). Estremi nelle scienze ambientali, *L'Acqua*, 3: 19-30, ISSN: 1125-1255.

Iglesias, A., Bonaccorso, B., Moneo, M., Qurioga, S., Garrido A., (2007). Institutional and legal framework for drought management in Drought Management Guidelines. Technical Annex, Iglesias A., Moneo M. and Lopez-Francos A. (Eds.). *Options Méditerranéennes. Série B: Etudes et Recherches*, Numéro 58, CIHEAM, Zaragoza (Spain), pp. 35-59, ISSN: 1016-1228.

Bonaccorso, B., Cancelliere, A., Nicolosi, V., Rossi, G., Cristaudo, G., (2007). Methods for risk assessment in water supply systems in Drought Management Guidelines. Technical Annex, Iglesias A., Moneo M. and Lopez-Francos A. (Eds.). *Options Méditerranéennes. Série B: Etudes et Recherches*, Numéro 58, CIHEAM, Zaragoza (Spain), pp. 115-127, ISSN: 1016-1228.

Tsakiris, G., Cancelliere, A., Tigkas, D., Vangelis, H., Pangalou, D., Bonaccorso, B., Moneo, M., Nicolosi, V., (2007). Tools and models in Drought Management Guidelines. Technical Annex, Iglesias A., Moneo M. and Lopez-Francos A. (Eds.). *Options Méditerranéennes. Série B: Etudes et Recherches*, Numéro 58, CIHEAM, Zaragoza (Spain), pp. 135-164, ISSN: 1016-1228.

Bonaccorso, B., Cancelliere, A., Nicolosi, V., Rossi, G., Alba, I., Cristaudo, G., (2007). Application of the Drought Management Guidelines in Italy: The Simeto River Basin in Drought Management Guidelines. Technical Annex, Iglesias A., Moneo M. and Lopez-Francos A. (Eds.). *Options Méditerranéennes. Série B: Etudes et Recherches*, Numéro 58, CIHEAM, Zaragoza (Spain), pp. 305-342, ISSN: 1016-1228.

Di Mauro, G., Bonaccorso, B., Cancelliere, A., Rossi, G., (2008). Use of NAO index to improve drought forecasting in the Mediterranean area: application to Sicily region in Drought Management:

Scientific and technological innovations, Lopez-Francos, A. (Ed.), Options Méditerranéennes. Série A: Séminaires Méditerranéennes, Numéro 80, CIHEAM, Zaragoza (Spain), pp. 311-317, ISSN: 1016-121X.

Serinaldi, F., Bonaccorso, B., Cancelliere, A., Grimaldi, S. (2009). Probabilistic characterization of drought properties through copulas, *Physics and Chemistry of the Earth (Elsevier)*, 34: 596-605, ISSN: 1474-7065, DOI:10.1016/j.pce.2008.09.004.

Sciuto, G., Bonaccorso, B., Cancelliere, A., Rossi, G. (2009). Quality control of daily rainfall data with neural networks, *Journal of Hydrology (Elsevier)*, 364 (1-2): 13-22, ISSN: 0022-1694, DOI: 10.1016/j.jhydrol.2008.10.008.

Sciuto G., Bonaccorso, B., Cancelliere A., Rossi G. (2013). Probabilistic quality control of daily temperature data. *International Journal of Climatology*, 33 (5), pp. 1211-1227, ISSN: 0899-8418, DOI: 10.1002/joc.3506.

Bonaccorso, B., Peres D.J., Cancelliere A., Rossi G. (2013). Large Scale Probabilistic Drought Characterization Over Europe. *Water Resources Management*, 27 (6), pp. 1675-1692, ISSN: 0920-4741, DOI: 10.1007/s11269-012-0177-z.

Aronica G.T., Bonaccorso, B. (2013). Climate Change Effects on Hydropower Potential in the Alcantara River Basin in Sicily (Italy). *Earth Interactions*, 17 (19), pp. 1-22, ISSN: 1087-3562, DOI: 10.1175/2012EI000508.1.

Bonaccorso, B., Peres, D.J., Castano, A., Cancelliere, A. (2015). SPI-Based Probabilistic Analysis of Drought Areal Extent in Sicily. *Water Resources Management*, Volume 29(2), pp. 459-470, ISSN: 09204741, DOI: 10.1007/s11269-014-0673-4.

Bonaccorso, B., Cancelliere, A., Rossi, G. (2015). Probabilistic forecasting of drought class transitions in Sicily (Italy) using Standardized Precipitation Index and North Atlantic Oscillation Index. *Journal of Hydrology*, Volume 526, pp. 136-150, ISSN: 00221694, DOI: 10.1016/j.jhydrol.2015.01.070.

Bonaccorso, B., Aronica, G.T. (2016). Estimating Temporal Changes in Extreme Rainfall in Sicily Region (Italy), *Water Resources Management*, doi: 10.1007/s11269-016-1442-3.

Bonaccorso, B., Brigandì, G., Aronica, G.T. (2017). Combining regional rainfall frequency analysis and rainfall-runoff modelling to derive frequency distributions of peak flows in ungauged basins: A proposal for Sicily region (Italy), *Advances in Geosciences*, Volume 44, pp. 15-22, doi: 10.5194/adgeo-44-15-2017.

Brigandì, G., Aronica, G.T., Bonaccorso, B., Gueli, R., Basile, G. (2017). Flood and landslide warning based on rainfall thresholds and soil moisture indexes: the HEWS (Hydrohazards Early Warning System) for Sicily, *Advances in Geosciences*, Volume 44, pp. 79-88, doi: 10.5194/adgeo-44-79-2017, 2017.

Aieb, A., Madani, K., Scarpa, M., Bonaccorso, B., Lefsih, K. (2019). A new approach for processing climate missing databases applied to daily rainfall data in Soummam watershed, Algeria, *Heliyon* 5 (2019) e01247, doi:10.1016/j.heliyon.2019.e01247.

Borzi, I.; Bonaccorso, B.; Fiori, A. (2019). A Modified IHACRES Rainfall-Runoff Model for Predicting the Hydrologic Response of a River Basin Connected with a Deep Groundwater Aquifer. *Water*, 11(10), 2031; <https://doi.org/10.3390/w11102031>.

Bonaccorso, B. (2020) Discussion of “How to improve attribution of changes in drought and flood impacts”. *Hydrological Sciences Journal*, 65 (3), pp. 489-490, doi: 10.1080/02626667.2019.1701193.

Monteleone, B., Bonaccorso, B., and Martina, M. (2020). A joint probabilistic index for objective drought identification: the case study of Haiti, *Nat. Hazards Earth Syst. Sci. Discuss.*, 20, 471–487, <https://doi.org/10.5194/nhess-20-471-2020>.

Aieb, A., Lefsih, K., Scarpa, M., Bonaccorso, B., Cicero, N., Mimeche, O., Madani, K. (2020). Statistical modeling of monthly rainfall variability in Soummam watershed of Algeria, between 1967 and 2018. *Natural Resource Modeling*, 33 (4), art. no. e12288.

Morbidelli, R., García-Marín, A.P., Mamun, A.A., Atiqur, R.M., Ayuso-Muñoz, J.L., Taouti, M.B., Baranowski, P., Bellocchi, G., Sangüesa-Pool, C., Bennett, B., Oyunmunkh, B., Bonaccorso, B. et al. (2020). The history of rainfall data time-resolution in a wide variety of geographical areas, *Journal of Hydrology*, vol. 590, doi=10.1016/j.jhydrol.2020.125258.

Bonaccorso, B., Brigandì, G., Aronica, G.T. (2020). Regional sub-hourly extreme rainfall estimates in Sicily under a scale invariance framework. *Water Resources Management*, 34 (14), pp. 4363-4380.

Borzi, I., Bonaccorso, B., Aronica, G.T. (2020). The role of dem resolution and evapotranspiration assessment in modeling groundwater resources estimation: A case study in Sicily. *Water (Switzerland)*, 12 (11), art. no. 2980, pp. 1-15.

Peres, D.J., Senatore, A., Nanni, P., Cancelliere, A., Mendicino, G., Bonaccorso, B. (2020). Evaluation of EURO-CORDEX (Coordinated Regional Climate Downscaling Experiment for the Euro-Mediterranean area) historical simulations by high-quality observational datasets in southern Italy: Insights on drought assessment. *Natural Hazards and Earth System Sciences*, 20 (11), pp. 3057-3082.

Borzi, I., Bonaccorso, B. (2021). Quantifying Groundwater Resources for Municipal Water Use in a Data-Scarce Region. *Hydrology*, 8, 184.

Monteleone, B., Borzi, I., Bonaccorso, B., Martina, M. (2022). Developing stage-specific drought vulnerability curves for maize: the case study of the Po River basin. *Agricultural water management. Agricultural Water Management*, 269, art. no. 107713.

Bonaccorso, B., Cammalleri, C., Loukas, A., Kreibich, H. (2022). Preface: Recent advances in drought and water scarcity monitoring, modelling, and forecasting. *Natural Hazards and Earth System Sciences*, 22(6), pp. 1857-1862.

Books

Rossi, G., Vega, T., Bonaccorso, B. (2007). *Methods and Tools for Drought Analysis and Management* (pp. 420). ISBN: 978-1-4020-5923-0. Springer, Dordrecht, The Netherlands.

Cancelliere, A., Bonaccorso, B., Peres, D.J. (2012). *Gestione della siccità e variabilità climatica*, p. 1-176, Castrolibero, EdiBIOS, ISBN: 9788897181125.

Book chapters

Bonaccorso, B., Cancelliere, A., Di Mauro, G., Rossi, G. (2007). Drought identification and probabilistic characterization in Water Resources Assessment and Management under Water Scarcity Scenarios, La Loggia, G., Aronica, G.T. and Ciraolo, G. (Eds.), ISBN: 978-88-900282-8-1. CSDU, Milano, pp. 1-28.

Cancelliere, A., Di Mauro, G., Bonaccorso, B., Rossi, G. (2007). Stochastic forecasting of drought indices in Methods and Tools for Drought Analysis and Management, Rossi, G., Vega, T. and Bonaccorso, B. (Eds.), ISBN: 978-1-4020-5923-0. Springer, Dordrecht, The Netherlands, 62, pp. 83-100.

Rossi, R., Castiglione, L., Bonaccorso, B. (2007). Guidelines for planning and implementing drought mitigation measures in Methods and Tools for Drought Analysis and Management, Rossi, G., Vega, T. and Bonaccorso, B. (Eds.), ISBN: 978-1-4020-5923-0. Springer, Dordrecht, The Netherlands, 62, pp. 325-347.

Bonaccorso, B., Cancelliere, A., Rossi, G. (2007). Caratterizzazione del rischio di siccità: valutazione dei tempi di ritorno di siccità di fissata durata e/o severità in Siccità. Analisi, monitoraggio e mitigazione. Applicazioni in Sicilia a cura di Rossi, G., ISBN: 88-6093-026-X. Nuova Editoriale BIOS, Castrolibero (CS), pp. 149-172.

Bonaccorso, B., Cancelliere, A., Rossi, G. (2007). Criteri per la definizione di una rete idrometeorologica per il monitoraggio della siccità in Siccità. Analisi, monitoraggio e mitigazione. Applicazioni in Sicilia a cura di Rossi, G., ISBN: 88-6093-026-X. Nuova Editoriale BIOS, Castrolibero (CS), pp. 267-285.

Rossi, G., Castiglione, L., Bonaccorso, B. (2007). Misure di prevenzione e mitigazione degli impatti della siccità in Siccità. Analisi, monitoraggio e mitigazione. Applicazioni in Sicilia a cura di Rossi, G., ISBN: 88-6093-026-X. Nuova Editoriale BIOS, Castrolibero (CS), pp. 287-335.

Rossi, G., Bonaccorso, B., Nicolosi, V., Cancelliere, A. (2009). Characterizing drought risk in a Sicilian river basin in Coping with Drought Risk in Agriculture and Water Supply Systems, Iglesias, A., Garrote, L., Cancelliere, A., Cubillo, F., Wilhite, D.A. (Eds.), ISBN: 978-1-4020-9044-8. Springer, Dordrecht, The Netherlands, 26, pp. 187-219.

Bonaccorso B., Cancelliere A., Rossi G. (2012). Calibrazione di indici per il monitoraggio delle siccità in presenza di serie stazionarie e non stazionarie. In: Gestione della siccità e variabilità climatica. p. 19-38, Castrolibero, EdiBIOS, ISBN: 9788897181125.

B. Bonaccorso, A. Cancelliere, and G. Rossi (2012). Methods for Drought Analysis and Forecasting. In: Methods and Applications of Statistics in the Atmospheric and Earth Sciences. p. 150-184, Hoboken, John Wiley and Sons, ISBN: 9780470503447.

International conference papers

Bonaccorso, B., Cancelliere, A., Rossi, G., (2002). Network design for drought monitoring by geostatistical techniques, Proceedings of 5th International Conference "Water resources management in the era of transition", Athens 4-8 September, EWRA publ., ISBN : 960-87345-1-7.

Cancelliere, A., Bonaccorso, B., Rossi, G., Salas, J.D., (2003). On the probabilistic characterization of drought events, Proceedings of AGU Hydrology Days 2003, Fort Collins, March 31 - April 2.

Cancelliere, A., Di Mauro, G., Bonaccorso, B., Rossi, G., (2005). Stochastic forecasting of Standardized Precipitation Index, Proceedings of XXXI IAHR Congress on "Water Engineering for the future: Choice and Challenges", Seoul, Korea, 11-16 September 2005, pp. 3252-3260, IAHR publ., ISBN: 89-87898-24-5.

Cancelliere, A., Di Mauro, G., Bonaccorso, B., Rossi, G. (2007). Investigating the potential of NAO index to forecast droughts in Sicily, Proceedings of AGU Hydrology Days 2007, Fort Collins, USA, 19-21 March 2007, pp. 75-86.

Cancelliere, A., Di Mauro, G., Bonaccorso, B., Rossi, G. (2007). Can the use of NAO index improve the stochastic forecasting of drought?, Proceedings of XXXII IAHR International Conference on "Harmonizing the demands of art and nature in Hydraulics", Venice, Italy, 1-6 July 2007, IAHR publ., ISBN: 88-89405-06-6.

Cancelliere, A., Bonaccorso, B. (2009). Uncertainty analysis of the Standardized Precipitation Index in the presence of trend, Proceedings of AGU Hydrology Days 2009, Fort Collins, USA, 25-27 March 2009, pp. 1-13.

Cancelliere, A., Bonaccorso, B., Rossi, G. (2009). Estimation of extreme precipitation quantiles in non stationary series, Proceedings of the 8th International workshop on Precipitation in Urban Areas, St. Moritz, Switzerland, 10-13 December, 2009, ETH publ., ISBN: 978-3-909386-27-7.

Cancelliere, A., Bonaccorso, B., Rossi, G. (2010). Effect of trends on the estimation of extreme precipitation quantiles, Proceedings of AGU Hydrology Days 2010, Fort Collins, USA, 22-24 March 2010, pp. 27-36.

Bonaccorso B., Peres D.J., Castano A., Cancelliere A. (2013). SPI-based probabilistic analysis of drought areal extent in Sicily, in Proceedings of the 8th International conference Water Resources Management in an Interdisciplinary and Changing Context, Maia, R. Guerreiro de Brito, A., Seca Texeira, A, Tentugal Valente, J., Pego, J.P., (Eds). Porto 26-29 June 2013, Classica SA, ISBN 978-989-95557-7-8.

Bonaccorso, B., Aronica, G.T. (2015). Estimating Temporal Changes in Extreme Rainfall in Sicily Region (Italy), EWRA 2015 - Book of abstracts and Proceedings, Harmancioglu, N., Cetinkays, C.P., Gul, A., Barbaros, F., Guven, S.F., (Eds). Istanbul (Turkey), June 10-13, 2015, Dozul Eylul University publ., ISBN:978-975-441-442-4 vol. 09.9999.9030.000/DR.015.001.791, pp.1-16.

Cancelliere A., Bonaccorso, B. (2016). A non-stationary analytical framework for the probabilistic characterization of drought events, Proceedings of the 2016 World Environmental and Water Resources Congress, West Palm Beach, Florida (USA), May 22-26, 2016, ISBN: 978-078447985-8, pp. 350-358.

Cancelliere A., Bonaccorso, B. (2017). Uncertainty analysis of the standardized precipitation index within a non-stationary framework, Selected papers from the 2017 World Environmental and Water Resources Congress, Sacramento, California (USA), May 21-25, 2017, ISBN: 978-078448060-1, pp. 302-312.

Bonaccorso, B., Aronica, G.T. (2018). Hydrological monitoring of a small mountainous Mediterranean catchment: first experiences in the Giampilieri catchment in Sicily, Italy, Proceedings of the 5th IAHR Europe Congress “New Challenges in Hydraulic Research and Engineering”, Trento (Italy), 12-14 June 2018, ISBN: 978-981-11-2731-1, doi: 10.3850/978-981-11-2731-1_376-cd.

Borzi, I., Bonaccorso, B., Aronica, G.T. (2018). Performance Analysis of the Water Distribution System of the City of Messina Through Sustainability Indices. In G. La Loggia, G. Freni, V. Puleo and M. De Marchis (editors). HIC 2018. 13th International Conference on Hydroinformatics, vol 3, pp. 295—301, <https://doi.org/10.29007/sr9c>.