



Serena Ceola - Curriculum Vitae

Personal information

Name Serena Ceola
Email serena.ceola@unibo.it
Nationality Italian
Date of birth January 11, 1984

Current position

Associate Professor

Department of Civil, Chemical, Environmental and Materials Engineering (DICAM), University of Bologna (UNIBO), Bologna, Italy

Research statement

Research interests As an environmental engineer with a strong background in hydrology, I am deeply interested in the analysis of hydrological processes related to ecological and human activities both on a local and on a basin-scale perspective. So far, my research activity has been mainly focused on (i) river flow dynamics, being one of the main controls of fluvial ecosystem processes, (ii) flood risk assessment, and (iii) anthropogenic and hydrologic interactions.

Research activities Stochastic analysis of hydrologic and hydraulic variables
Ecohydrological experimental activity
Stream ecology
Hydropower production
Analysis of remote sensing data for water resources sustainability and water-related risks
Flood risk assessment
Anthropogenic and hydrologic interactions

Employment

Sept 2022 – to date **Associate Professor**, DICAM, UNIBO, Bologna, Italy
Sept 2019 – Sept 2022 Senior Assistant Professor, DICAM, UNIBO, Bologna, Italy
Maternity leave: February 4, 2020 – September 18, 2020
Nov 2014 – Sept 2019 Junior Assistant Professor, DICAM, UNIBO, Bologna, Italy
Maternity leave: January 24, 2018 – July 31, 2018
Maternity leave: January 25, 2016 – June 25, 2016
Feb 2013 - Nov 2014 Postdoctoral Researcher, DICAM, UNIBO, Bologna, Italy

Education

- Jun 2009 – Dec 2012 **Ph.D., Doctoral Program "Environment"**, Doctoral School in Civil and Environmental Engineering (EDCE), Laboratory of Ecohydrology (ECHO), School of Architecture, Civil and Environmental Engineering (ENAC), École Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland.
Thesis title: **Hydrologic drivers and controls of stream ecological processes**. Advisor: Prof. A. Rinaldo (ECHO, EPFL); co-advisor: Dr. E. Bertuzzo (ECHO, EPFL). Degree awarded on November 7, 2012. The thesis has been awarded by the **EDCE PhD Mobility Award – Honorable Mention**. Part of the work has been published in *Water Resources Research*, *Ecohydrology* and *PLoS ONE*.
- Oct 2006 - Apr 2009 **MSc., Environmental Engineering**, Facoltà di Ingegneria, Università degli Studi di Padova (UNIPD), Padova, Italy.
Thesis title: **Contributi alla modellazione dei bacini idrografici come sistemi stocastici non lineari: caratterizzazione ed impatto sul regime idrologico** (*Catchments as nonlinear stochastic systems: characterization and impact on the hydrologic regime*). Advisor: Dr. G. Botter (UNIPD); co-advisor: Prof. A. Rinaldo (UNIPD). Mark: **110/110 cum laude**. The thesis has been awarded by the **MSc Degree Award "Claudio Bertuzzi" 2011**. Part of the work has been published in *Water Resources Research*.
- Oct 2003 - Jul 2006 **BSc., Environmental Engineering**, Facoltà di Ingegneria, UNIPD, Padova, Italy.
Thesis title: **Contributi alla risposta idrologica del fiume Muson dei Sassi** (*Contribution on the hydrologic response of Muson dei Sassi river*). Advisor: Prof. M. Marani (UNIPD); co-advisor: Dr. M. Ferri (Alto Adriatico Water Authority, AAWA). Mark: **110/110 cum laude**. The thesis has been carried out during the 3-month internship at AAWA, Venezia, Italy.

Qualifications

- 2017-2023 **National Academic Qualification as Associate Professor** sector 08/A1 – Hydraulic, Hydrology, Hydraulic and Maritime Constructions
- Dec 2013 **Qualification as Civil and Environmental Engineer**, UNIPD, Padova, Italy

Awards

- Apr 2019 **Hydrological Sciences Division Outstanding Early Career Scientist Award**, European Geosciences Union (EGU), Vienna, Austria
The award recognizes scientific achievements in the field covered by the related division, made by an early career scientist (PhD < 7 years). 1 awardee/year. <https://www.egu.eu/awards-medals/division-outstanding-ecs-award/2019/serena-ceola/>
- May 2017 Embassy of Canada award **Canada-Italy Innovation Award 2017**, Rome, Italy
The Award strengthens the ties between the two countries in the fields of Science, Technology and Innovation. 5 winners/year.
- Sept 2016 GII (Gruppo Italiano d'Idraulica - Italian Hydraulic Group) award **Evangelista Torricelli**, Bologna, Italy
Best Italian young (<35 years old) researcher in Hydraulic and Hydrology.
- Apr 2015 EGU 2015 **Young Scientist's Travel Award**, EGU General Assembly, 12-17 April 2015, Vienna, Austria
Economic support for the registration to the EGU General Assembly. Candidates are early career scientists (PhD < 7 years). Approximately 10 awardees/year.

- Dec 2013 Istituto di Studi Avanzati (ISA)-**UNIBO selected candidate for AXA Research Fund (ARF) - Postdoctoral Fellowships**
Sole candidate at UNIBO.
- Mar 2013 **Pigreco Party Special Award in FameLab Italy 2013**, Bologna, Italy
(<http://www.youtube.com/watch?v=4KVYUqProQI>)
Co-anchor in the radio programme "Pigreco Party" at Radio Città del Capo, Bologna, on May 28, 2013, talking about water resources
(<http://fmblue.formicablu.it/index.php?id=613>)
- May 2011 **MSc Degree Award Claudio Bertuzzi**, Istituto Veneto di Scienze, Lettere ed Arti (IVSLA), Venezia, Italy
The award recognizes the best Master Thesis in Environmental and Civil Engineering. 1 awardee/2 years.
- May 2011 **EDCE PhD Mobility Award – Honorable Mention**, Doctoral School in Civil and Environmental Engineering (EDCE), EPFL, Lausanne, Switzerland
The award supports PhD students mobility abroad. 2 awardees/year.

Publications

Serena Ceola is author of 27 articles in refereed journals, 3 book chapters, 4 conference proceedings (with review), and editor of a volume.

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Author-level metrics

	Citations (total #)	Article citations (average #)	H-Index
Scopus	1076	33.63	18
Web Of Science	1015	32.74	17

Books

- [b03] P.Mazzoglio, A. Domeneghetti, **S. Ceola**, Flood Detection and Monitoring with EO Data Tools and Systems (Chapter 9) in *Earth Observation for Flood Applications - Progress and Perspectives* (2021), Editor: Guy Schumann, ISBN 9780128194126
- [b02] N. Nagabhatla, T. Avellán, P. Pouramin, M. Qadir, P. Mehta, J. Payne, C. Stefan, S. Hülsmann, T. Abrate, G. Teruggi, F. Pischke, R. Oakes, **S. Ceola**, C. Cudennec, I. Deregibus, S. Kuisma, Physical and environmental dimensions (Chapter 2) in *The United Nations World Water Development Report 2019: Leaving no one behind* (2019), Director of the Publication S. Uhlenbrook, Editor-in-Chief R. Connor, ISBN 978-92-3-100309-7
- [b01] A. Montanari, **S. Ceola**, E. Baratti, A. Domeneghetti, A. Brath, Po River Basin (Chapter 116) in *Handbook of Applied Hydrology- Second Edition* (2017), Editor-in-Chief V. P. Singh, McGraw-Hill Education, ISBN 978-0-07-183509-1

Edited volumes

- [v01] A. Castellarin, **S. Ceola**, E. Toth, A. Montanari, editors (2014)
Evolving Water Resources Systems - Understanding, Predicting and Managing Water - Society Interactions, IAHS Publication 364, Proceedings of ICWRS2014, Bologna, Italy, June 2014, ISBN 978-1-907161-42-1

Journal articles under review

S. Ceola, G. Grandi, E. Bertuzzo

Geomorphology and hydroclimate control regional urban expansion

P.D. Wagner, D. Duethmann, J. Kiesel, S. Pool, M. Hrachowitz, **S. Ceola**, A. Herzog, T. Houska, R. Loritz, D. Spieler, M. Staudinger, L. Tarasova, S. Thober, N. Fohrer, D. Tetzlaff, T. Wagener, B. Guse

The unexploited treasures of hydrological observations beyond streamflow for catchment modelling

H. Kreibich et al. (including S. Ceola)

Panta Rhei: a decade of progress in research on change in hydrology and society

R. Biella, A. Shyrokaya, I. Pechlivanidis, D. Cid, M.C. Llasat, M. Wens, M. Lam, E. Stenfors, S. Sutanto, E. Ridolfi, **S. Ceola**, P. Alencar, G. Di Baldassarre, M. Ionita, M. Madruga de Brito, S. J. McGrane, B. Moccia, V. Nagavciuc, F. Russo, S. Krakovska, A. Todorovic, F. Tootoonchi, P. Trambauer, R. Vignola, and C. Teutschbein

The 2022 Drought shows the importance of Preparedness in European Drought Risk Management

R. Biella, A. Shyrokaya, M. Ionita, R. Vignola, S. Sutanto, A. Todorovic, C. Teutschbein, D. Cid, M.C. Llasat, I. Pechlivanidis, P. Alencar, A. Matanó, E. Ridolfi, B. Moccia, A. van Loon, D. Wendt, E. Stenfors, F. Russo, J.-P. Vidal, L. Barker, M. Madruga de Brito, M. Lam, M. Bláhová, P. Trambauer, R. Hamed, S.J. McGrane, **S. Ceola**, S. Jørgensen Bakke, S. Krakovska, V. Nagavciuc, F. Tootoonchi, G. Di Baldassarre, S. Hauswirth, S. Maskey, S. Zubkovych, M. Wens, and L. Merete Tallaksen

The 2022 Drought needs to be a Turning Point for European Drought Risk Management

R. Guo, H. Nguyen, S. Galelli, **S. Ceola**, A. Montanari

Bridging information from paleo-hydrological and climate model ensembles to assess long term hydrological drought hazard

Peer-reviewed journal articles

- [a27] I. Palazzoli, G. Lelli, **S. Ceola** (2024)
Land Cover and Spatial Distribution of Surface Water Loss Hotspots in Italy.
Sustainability, 16(18), 8021.
<https://doi.org/10.3390/su16188021>
- [a26] A. Domeneghetti, **S. Ceola**, A. Pugliese, S. Persiano, I. Palazzoli, A. Castellarin, A. Marinelli, A. Brath (2024)
Potential legacy of SWOT mission for the estimation of Flow-Duration Curves
Remote Sensing, 16(14)
<https://doi.org/10.3390/rs16142607>
- [a25] **S. Ceola**, J. Maard, G. Di Baldassarre (2023)
Drought and human mobility in Africa
Earth's Future, 11, e2023EF003510
<https://doi.org/10.1029/2023EF003510>

- [a24] A. Montanari, H. Nguyen, S. Rubinetti, **S. Ceola**, S. Galelli, A. Rubino, D. Zanchettin (2023)
Why the 2022 Po River drought is the worst in the past two centuries
Science Advances, 9, eadg8304
[10.1126/sciadv.adg8304](https://doi.org/10.1126/sciadv.adg8304)
- [a23] I. Palazzoli, A. Montanari, **S. Ceola** (2023)
Contribution of anthropogenic and hydroclimatic factors on the variation of surface water extent across the contiguous United States
Environmental Research Communications, 5, 051006
<https://doi.org/10.1088/2515-7620/acd510>
- [a22] W. Cao, J. Liu, **S. Ceola**, G. Mao, M.G. Macklin, A. Montanari, P. Ciais, Y. Yao, P. Tarolli (2023)
Landform-driven human reliance on rivers in imperial China
Journal of Hydrology, 620, 129353
<https://doi.org/10.1016/j.jhydrol.2023.129353>
- [a21] M.M. Kuglitsch, I. Pelivan, **S. Ceola**, M. Menon, E. Xoplaki (2022)
Facilitating adoption of AI in natural disaster management through collaboration
Nature Communications, 13, 1579
<https://doi.org/10.1038/s41467-022-29285-6>
- [a20] I. Palazzoli, A. Montanari, **S. Ceola** (2022)
Influence of urban areas on surface water loss in the contiguous United States
AGU Advances, 3, e2021AV000519.
<https://doi.org/10.1029/2021AV000519>
- [a19] **S. Ceola**, A. Domeneghetti, G. J.-P. Schumann (2022)
Unraveling long-term flood risk dynamics across the Murray-Darling basin using a large-scale hydraulic model and satellite data
Frontiers in Water, 3, 797259
<https://doi.org/10.3389/frwa.2021.797259>
- [a18] **S. Ceola**, F. Laio, A. Montanari (2019)
Global-scale human pressure evolution imprints on sustainability of river systems
Hydrology and Earth System Sciences, 23, 3933–3944 (Impact Factor, IF=4.936)
<https://doi.org/10.5194/hess-23-3933-2019>
- [a17] R. Paranunzio, **S. Ceola**, F. Laio, A. Montanari (2019)
Evaluating the effects of urbanization evolution on air temperature trends using nighttime satellite data (IF=2.046)
Atmosphere, 10(3), 117
<https://doi.org/10.3390/atmos10030117>
- [a16] Y. Fang, **S. Ceola**, K. Paik, G. McGrath, P.S.C. Rao, A. Montanari, J.W. Jawitz (2018)
Globally Universal Fractal Pattern of Human Settlements in River Networks
Earth's Future, 6, 1134-1145 (IF= 4.59)
<https://doi.org/10.1029/2017EF000746>
- [a15] **S. Ceola**, A. Pugliese, M. Ventura, G. Galeati, A. Montanari (2018)
Hydro-power production and fish habitat suitability: Assessing impact and effectiveness of ecological flows at regional scale
Advances in Water Resources, 116, 29-39 (IF=3.512)
<https://doi.org/10.1016/j.advwatres.2018.04.002>

- [a14] W. Mangini, A. Viglione, J. Hall, Y. Hundecha, **S. Ceola**, A. Montanari, M. Rogger, J.L. Salinas, I. Borzi, J. Parajka, (2017)
Detection of trends in magnitude and frequency of flood peaks across Europe
Hydrological Sciences Journal, Vol. 63(4), 493-512 (IF=2.061)
<https://doi.org/10.1080/02626667.2018.1444766>
- [a13] A. Elshorbagy, A. Lakhanpal, B. Raja, **S. Ceola**, A. Montanari, K.E. Lindenschmidt (2017)
Topography- and nightlight-based national flood risk assessment in Canada
Hydrology and Earth System Sciences, 21, 2219–2232 (IF=4.256)
<https://doi.org/10.5194/hess-21-2219-2017>
- [a12] **S. Ceola**, A. Montanari, T. Krueger, F. Dyer, H. Kreibich, I. Westerberg, G. Carr, C. Cudennec, A. Elshorbagy, H. Savenije, P. Van Der Zaag, D. Rosbjerg, H. Aksoy, F. Viola, G. Petrucci, K. MacLeod, B. Croke, D. Ganora, L. Hermans, M.J. Polo, Z. Xu, M. Borga, J. Helmschrot, E. Toth, R. Ranzi, A. Castellarin, A. Hurford, M. Brilly, A. Viglione, G. Blöschl, M. Sivapalan, A. Domeneghetti, A. Marinelli, G. Di Baldassarre (2016)
Adaptation of water resources systems to changing society and environment: a statement by the International Association of Hydrological Sciences
Hydrological Sciences Journal, 61, 2803-2817 (IF=2.061)
<http://dx.doi.org/10.1080/02626667.2016.1230674>
- [a11] M.P. Clark, B. Schaeffli, S.J. Schymanski, L. Samaniego, C.H. Luce, B.M. Jackson, J.E. Freer, J.R. Arnold, R.D. Moore, E. Istanbuloglu, **S. Ceola** (2016)
Improving the theoretical underpinnings of process-based hydrologic models
Water Resources Research, 52, 2350-2365 (IF=4.36)
<https://doi.org/10.1002/2015WR017910>
- [a10] **S. Ceola**, F. Laio, A. Montanari (2015)
Human-impacted waters: New perspectives from global high-resolution monitoring
Water Resources Research, 51, 7064–7079 (IF=4.36)
<https://doi.org/10.1002/2015WR017482>
- [a09] **S. Ceola**, B. Arheimer, E. Baratti, G. Blöschl, R. Capell, A. Castellarin, J. Freer, D. Han, M. Hrachowitz, Y. Hundecha, C. Hutton, G. Lindström, A. Montanari, R. Nijzink, J. Parajka, E. Toth, A. Viglione, T. Wagener (2015)
Virtual laboratories: new opportunities for collaborative water science
Hydrology and Earth System Sciences, 19, 2101-2117 (IF=4.256)
<https://doi.org/10.5194/hess-19-2101-2015>
- [a08] **S. Ceola**, F. Laio, A. Montanari (2014)
Satellite night-time lights reveal increasing human exposure to floods
Geophysical Research Letters, 41, 7184-7190 (IF=4.34)
<https://doi.org/10.1002/2014GL061859>
- [a07] S. Widder, K. Besemer, G.A. Singer, **S. Ceola**, E. Bertuzzo, C. Quince, W.T. Sloan, A. Rinaldo, T.J. Battin (2014)
Fluvial network organization imprints on microbial co-occurrence networks
Proceedings of the National Academy of Sciences of the United States of America, 11(35), 12799-12804 (IF=9.504)
<https://doi.org/10.1073/pnas.1411723111>
- [a06] **S. Ceola**, A. Montanari, D. Koutsoyiannis (2014)
Toward a theoretical framework for integrated modeling of hydrological change
WIREs Water, 1, 427-438 (IF=3.943)
<https://doi.org/10.1002/wat2.1038>

- [a05] **S. Ceola**, E. Bertuzzo, G. Singer, T.J. Battin, A. Montanari, A. Rinaldo (2014)
Hydrologic controls on basin-scale distribution of benthic invertebrates
Water Resources Research, 50, 2903-2920 (IF=4.36)
<https://doi.org/10.1002/2013WR015112>
- [a04] **S. Ceola**, E. Bertuzzo, L. Mari, G. Botter, I. Hödl, T.J. Battin, M. Gatto, A. Rinaldo (2014)
Light and hydrologic variability as drivers of stream biofilm dynamics in a flume experiment
Ecohydrology, 7, 391-400 (IF=2.755)
<https://doi.org/10.1002/eco.1357>
- [a03] R. Mutzner, E. Bertuzzo, P. Tarolli, S.V. Weijjs, L. Nicotina, **S. Ceola**, N. Tomasic, I. Rodriguez-Iturbe, M.B. Parlange, A. Rinaldo (2013)
Geomorphic signatures on Brutsaert base flow recession analysis
Water Resources Research, 49, 5462-5472 (IF=4.36)
<https://doi.org/10.1002/wrcr.20417>
- [a02] **S. Ceola**, I. Hödl, M. Adlboller, G. Singer, E. Bertuzzo, L. Mari, G. Botter, J. Waringer, T.J. Battin, A. Rinaldo (2013)
Hydrologic variability affects invertebrate grazing on phototropic biofilms in stream microcosms
PLoS ONE, 8(4): e60629 (IF=2.766)
<https://doi.org/10.1371/journal.pone.0060629>
- [a01] **S. Ceola**, G. Botter, E. Bertuzzo, A. Porporato, I. Rodriguez-Iturbe, A. Rinaldo (2010)
Comparative study of ecohydrological streamflow probability distributions
Water Resources Research, 46, W09502 (IF=4.36)
<https://doi.org/10.1029/2010WR009102>

Conference proceedings

- [p04] **S. Ceola**, A. Montanari, J. Parajka, A. Viglione, G. Blöschl, F. Laio (2016)
Human signatures derived from nighttime lights along the Eastern Alpine river network in Austria and Italy
Proceedings of the International Association of Hydrological Sciences. Proceedings of ICWRS2016, Bochum, Germany, June 2016 (IAHS Publ. 373, 2016), pp. 131-136
<https://doi.org/10.5194/piahs-373-131-2016>
- [p03] **S. Ceola**, F. Laio, A. Montanari (2015)
Human pressure on rivers is increasing worldwide and threatens water security
Hydrological Sciences and Water Security: Past, Present and Future. Proceedings of the 11th Kovacs Colloquium, Paris, France, June 2014 (IAHS Publ. 366, 2015), pp. 109-110
<https://doi.org/10.5194/piahs-366-109-2015>
- [p02] A. Montanari, **S. Ceola**, E. Baratti (2014)
Panta Rhei: an evolving scientific decade with a focus on water systems
Evolving Water Resources Systems: Understanding, Predicting and Managing Water–Society Interactions. Proceedings of ICWRS2014, Bologna, Italy, June 2014 (IAHS Publ. 364, 2014), pp. 279-284
<https://doi.org/10.5194/piahs-364-279-2014>

- [p01] **S. Ceola**, A. Pugliese (2014)
Regional prediction of basin-scale brown trout habitat suitability
Evolving Water Resources Systems: Understanding, Predicting and Managing Water–Society Interactions. Proceedings of ICWRS2014, Bologna, Italy, June 2014 (IAHS Publ. 364, 2014), pp. 26-31
<https://doi.org/10.5194/piahs-364-26-2014>

Conferences and seminars

The underlined name identifies the presenter

Invited talks at international conferences or seminars

- [s10] **S. Ceola**
Climate extremes and changes in human settlement patterns - a focus on droughts in Africa
U.S. National Academies of Sciences, Engineering and Medicine – Workshop on Climate Change and Human Migration: An Earth System Science Perspective
March 18-19, 2024, online
- [s09] **S. Ceola**
Model comparison protocol
DFG Scientific Network on “Identification and analysis of process limitations in hydrological model structures”
November 29-30, 2021, online
- [s08] **S. Ceola**
Hydrologic drivers and controls of stream ecological processes
Clemson University (USA), Seminar for the course BE 4240/6240 Ecological Engineering, February 18, 2021, online
- [s07] **S. Ceola**
Invited Panelist – AGU-JpGU-EGU Great Debate: What Is the Future Earth, Environmental, and Space Science, and Who Are the Future Scientists?
AGU Fall Meeting 2019, San Francisco, USA
- [s06] **S. Ceola**
A worldwide analysis of human-water interactions using satellite data
University of Bergen, Coastal Change 21 Workshop: Predicting flooding and challenging shorelines for the 21st century: Interaction and feedbacks between nature and society
October 31, 2019, Bergen, Norway
- [s05] **S. Ceola**
Human-impacted rivers: new perspectives from global high-resolution monitoring
EGU General Assembly 2019, Vienna, Austria (Lecture **Hydrological Sciences Division Outstanding Early-Career Scientist Award**)
- [s04] **S. Ceola**
Worldwide analysis of human-water interactions using nighttime lights
Global Institute for Water Security – University of Saskatchewan
September 5, 2017, Saskatoon, Canada (seminar delivered within the **Canada-Italy Innovation Award 2017**)
- [s03] **S. Ceola**
Human-impacted waters: temporal evolution of human proximity to rivers from global high resolution nighttime lights
Italian National Committee of IHP-UNESCO and MOXXI-LAHS Working Group Workshop “New insights for hydrological observations”
June 14, 2017, Perugia, Italy

- [s02] **S. Ceola**
A worldwide analysis of human exposure to floods by using satellite nighttime lights
EPFL Environmental Engineering Institute, Environmental Engineering Seminar Series, May 19, 2015, Lausanne, Switzerland
- [s01] **S. Ceola**, A. Montanari, F. Laio
A worldwide analysis of human exposure to floods by using satellite nighttime lights
EGU General Assembly 2015, Vienna, Austria
- Invited talks at national conferences or seminars**
- [t02] **S. Ceola**
La ricerca universitaria per la gestione e la manutenzione delle dighe: (1) Studio dell'effetto indotto da diversi scenari di Deflusso Minimo Vitale sul potenziale di produzione idroelettrica e sull'habitat fluviale dell'ittiofauna nella regione Marche
Open Day on Dams 2019: progettazione, gestione e manutenzione delle opere di sbarramento, Bologna, Italy, February 19, 2019
- [t01] **S. Ceola**
Antropizzazione degli ambiti fluviali: impatto sul rischio idrologico e sui processi ecologici
*XXXV Convegno nazionale di Idraulica e Costruzioni Idrauliche, Bologna, Italy, September 14-16, 2016 (Lecture **Evangelista Torricelli** Award)*
- International conferences**
- [i64] **S. Ceola**, G. Grandi, E. Bertuzzo
Leveraging inhomogeneous Markov chain models to simulate regional urban expansion as controlled by geomorphic and hydroclimatic drivers
AGU Fall Meeting 2024, Washington D.C.
- [i63] **S. Ceola**, J.Maard, and G. Di Baldassarre
Satellite-based analysis of the relationship between drought occurrence and human mobility across Africa
AGU Fall Meeting 2024, Washington D.C.
- [i62] **A. Montanari**, H. Nguyen, S. Rubinetti, **S. Ceola**, S. Galelli, A. Rubino, and D. Zanchettin
Why the 2022 Po River drought is the worst ever observed_
EGU General Assembly 2024, Vienna
- [i61] **R. Guo**, H. Nguyen, S. Galelli, **S. Ceola**, and A. Montanari
Past and future changes of streamflow in the European Alps
EGU General Assembly 2024, Vienna
- [i60] **S. Ceola**, J.Maard, and G. Di Baldassarre
Droughts influence changes in human settlement patterns in Africa
EGU General Assembly 2024, Vienna
- [i59] A. Montanari, **I. Palazzoli**, **S. Ceola**
Contribution of Anthropogenic and Climatic drivers to the Surface Water Extent Change in the Contiguous United States
EGU General Assembly 2023, Vienna
- [i58] **A. Domeneghetti**, L. Caroscio, **S. Ceola**
Potential applications of the Benford's Law for the investigation of hydrological time series alteration
EGU General Assembly 2023, Vienna

- [i57] **I. Palazzoli, S. Ceola**, P. Gentine
A Machine-Learning Model of Terrestrial Water Storage Changes at the Global Scale
EGU General Assembly 2023, Vienna
- [i56] **S. Ceola**, Johanna Mård, and Giuliano Di Baldassarre
Droughts influence patterns of human settlements in Africa
EGU General Assembly 2023, Vienna
- [i55] **I. Palazzoli**, W. Zhao, **S. Ceola**, P. Gentine
A Machine-Learning Model of Terrestrial Water Storage Changes at the Global Scale
AGU Fall Meeting 2022, Chicago & Online
- [i54] **I. Palazzoli, S. Ceola**, A. Montanari
Anthropogenic and Climatic Factors Contributing to the Change in Surface Water Extent across the Contiguous United States
AGU Fall Meeting 2022, Chicago & Online
- [i53] **S. Ceola**, J. Maard, G. Di Baldassarre
Exploring the interplay between human distance to rivers and drought events across Africa
LAHS XIth Scientific Assembly, Montpellier, France
- [i52] I. Palazzoli, A. Montanari, **S. Ceola**
Spatial influence of urban areas on surface water loss across the contiguous United States
LAHS XIth Scientific Assembly, Montpellier, France
- [i51] I. Palazzoli, A. Montanari, **S. Ceola**
Spatial distribution of surface water losses from urban areas across the contiguous United States
EGU General Assembly 2022, Vienna & online
- [i50] **S. Ceola**, G. Grandi, E. Bertuzzo
Geomorphic and hydrologic controls on urban expansion from 1992 to 2013 across North-East China
AGU Fall Meeting 2021, New Orleans & Online
- [i49] **S. Ceola**, J. Maard, G. Di Baldassarre
Exploring the interplay between human distance to rivers and drought events across Africa
AGU Fall Meeting 2021, New Orleans & Online
- [i48] **I. Palazzoli**, A. Montanari, **S. Ceola**
Contribution of Anthropogenic and Climatic Drivers on the Variation of Surface Water Extent Across the Contiguous United States
AGU Fall Meeting 2021, New Orleans & Online
- [i47] **I. Palazzoli, S. Ceola**
Spatial Influence of Urban Areas on Surface Water Loss Across the Contiguous United States
AGU Fall Meeting 2021, New Orleans & Online
- [i46] **H. Kreibich**, D. Yu, N. Brozovic, **S. Ceola**, C. Flint, M. Madruga de Brito, K. Quesnel, K. Schroter, D. Walker
Panta Rhei synthesis – A vision for human-water systems data
1st Socihydrology Conference 2021, Delft & Online

- [i45] **I. Palazzoli**, A. Montanari, **S. Ceola**
Influence of urban areas on surface water loss across the contiguous United States
1st Sociohydrology Conference 2021, Delft & Online
- [i44] **I. Palazzoli**, A. Montanari, **S. Ceola**
Influence of urban areas on surface water loss across USA watersheds
EGU General Assembly 2021, online
- [i43] **S. Ceola**, **I. Palazzoli**
Contribution of urbanization and climate variability on surface water depletion across USA watersheds
EGU General Assembly 2021, online
- [i42] **I. Palazzoli**, **S. Ceola**
Urbanization influence on surface water loss across USA watersheds
AGU Fall Meeting 2020, online
- [i41] **I. Palazzoli**, **S. Ceola**
Anthropogenic and climatic controls on surface water loss across USA
EGU General Assembly 2020, online
- [i40] **S. Ceola**, F. Laio, A. Montanari
Global-Scale Human Pressure Evolution Imprints on Sustainability of River Systems
AGU Fall Meeting 2019, San Francisco, USA
- [i39] **I. Palazzoli**, **S. Ceola**
Anthropogenic and climatic controls on surface water decrease across USA
AGU Virtual Poster Showcase 2019, online
- [i38] **S. Ceola**, G. Chiari, R. Genovesi, A. Montanari
The experience of Irriframe and Acqua Campus® innovations in irrigation systems across Italy
EGU General Assembly 2019, Vienna, Austria
- [i37] G. Grandi, **S. Ceola**, E. Bertuzzo
Geomorphic and hydrologic controls on urban expansion
EGU General Assembly 2019, Vienna, Austria
- [i36] **A. Domeneghetti**, **S. Ceola**, P. Colanzi, G. Schumann
Evaluation of flood risk evolution on the Murray-Darling Basin (Australia) from 1975 to 2014 combining a hydrodynamic model and remote sensing data
EGU General Assembly 2018, Vienna, Austria
- [i35] G. Galeati, **S. Ceola**, A. Pugliese, **A. Castellarin**, M. Ventura, A. Montanari
Hydropower Production and Fish Habitat Suitability: Impact and Effectiveness of Environmental Flow Prescriptions
AGU Fall Meeting 2017, New Orleans, USA
- [i34] **S. Ceola**, F. Laio, **A. Montanari**
Increasing human pressure on freshwater resources threatens sustainability at the global scale
AGU Fall Meeting 2017, New Orleans, USA
- [i33] **S. Ceola**, A. Pugliese, G. Galeati, **A. Castellarin**
Hydropower production and fish habitat suitability: impact and effectiveness of environmental flow prescriptions
LAHS Scientific Assembly 2017, Port Elizabeth, South Africa

- [i32] B. Arheimer, G. Boot, J. Calero, **S. Ceola**, F. Gyllensvärd, M. Hrachowitz, L. Little, A., R. Nijzink, J. Parajka, T. Wagener
The SWITCH-ON Virtual Water-Science Laboratory
EGU General Assembly 2017, Vienna, Austria
- [i31] **S. Ceola**, A. Ruggeri, A. Elshorbagy, F. Laio, A. Montanari
Remote sensing data as a proxy of the anthropogenic-induced pollution of river basins
EGU General Assembly 2017, Vienna, Austria
- [i30] **S. Ceola**, A. Pugliese, G. Galeati, A. Castellarin
Hydropower production and fish habitat suitability: impact and effectiveness of environmental flow prescriptions
EGU General Assembly 2017, Vienna, Austria
- [i29] **S. Ceola**, A. Montanari, F. Laio
Night-time lights as a proxy of human pressure on freshwater resources
EGU General Assembly 2017, Vienna, Austria
- [i28] Y. Fang, **S. Ceola**, K. Paik, G.S. McGrath, A. Montanari, P.S. Rao, J.W. Jawitz, K. McCurley
River Networks and Human Activities: Global Fractal Analysis Using Nightlight Data
AGU Fall Meeting 2016, San Francisco, USA
- [i27] B. Raja, A. Lakhanpal, A. Elshorbagy, S. Razavi, **S. Ceola**, A. Montanari
Framework for National Flood Risk Assessment for Canada
AGU Fall Meeting 2016, San Francisco, USA
- [i26] **S. Ceola**, A. Montanari, J. Parajka, A. Viglione, G. Bloeschl
Nightlights along the Eastern Alpine river network in Austria and Italy as a proxy of human presence
EGU General Assembly 2016, Vienna, Austria
- [i25] J. Parajka, W. Mangini, A. Viglione, Y. Hundecha, **S. Ceola**
Pan-European catalogue of flood events
EGU General Assembly 2016, Vienna, Austria
- [i24] **S. Ceola**, F. Laio, A. Montanari
Human-impacted waters: New perspectives from global high-resolution monitoring
Earth and Space Science AGU Virtual Poster Showcase 2015
- [i23] **S. Ceola**, A. Pugliese, A. Castellarin, G. Galeati
Impact of Alternative Environmental Flow Prescriptions on Hydropower Production and Fish Habitat Suitability
AGU Fall Meeting 2015, San Francisco, USA
- [i22] **S. Ceola**, F. Laio, A. Montanari
Human-impacted waters: temporal evolution of human proximity to rivers from global high-resolution nighttime lights
AGU Fall Meeting 2015, San Francisco, USA
- [i21] **S. Ceola**, F. Laio, A. Montanari
Satellite nighttime lights reveal increasing human exposure to floods worldwide
EGU General Assembly 2015, Vienna, Austria
- [i20] **S. Ceola**, A. Pugliese, A. Castellarin, G. Galeati
Impact of alternative environmental flow prescriptions on hydropower production and fish habitat suitability
EGU General Assembly 2015, Vienna, Austria

- [i19] **S. Ceola**, B. Arheimer, G. Bloeschl, E. Baratti, R. Capell, A. Castellarin, J. Freer, D. Han, M. Hrachowitz, Y. Hundecha, C. Hutton, G. Lindström, A. Montanari, R. Nijzink, J. Parajka, E. Toth, A. Viglione, T. Wagener
Virtual laboratories: new opportunities for collaborative water science
EGU General Assembly 2015, Vienna, Austria
- [i18] **A. Montanari**, **S. Ceola**, E. Baratti
Panta Rhei: an evolving scientific decade with a focus on water systems
Evolving Water Resources Systems: Understanding, Predicting and Managing Water–Society Interactions 2014, Bologna, Italy
- [i17] **S. Ceola**, A. Pugliese
Regional prediction of basin-scale brown trout habitat suitability
Evolving Water Resources Systems: Understanding, Predicting and Managing Water–Society Interactions 2014, Bologna, Italy
- [i16] **S. Ceola**, E. Bertuzzo, G. Singer, T.J. Battin, A. Montanari, A. Rinaldo
Spatially-explicit hydrologic controls on benthic invertebrate habitat suitability
EGU General Assembly 2014, Vienna, Austria
- [i15] **S. Ceola**, F. Laio, A. Montanari
How close do we live to streams and rivers? A spatio-temporal analysis of flood risk vulnerability using nightlight data
EGU General Assembly 2014, Vienna, Austria
- [i14] **T.J. Battin**, K. Besemer, S. Widder, G.A. Singer, **S. Ceola**, E. Bertuzzo, C. Quince, W.T. Sloan, A. Rinaldo
Fluvial network imprints on microbial diversity and community network topology
AGU Fall Meeting 2013, San Francisco, USA
- [i13] **R. Mutzner**, E. Bertuzzo, P. Tarolli, S.V. Weijs, L. Nicotina, **S. Ceola**, N. Tomasic, I. Rodriguez-Iturbe, M.B. Parlange, A. Rinaldo
Geomorphic signatures on Brutsaert base flow recession analysis: case study of 27 Swiss catchments
AGU Fall Meeting 2013, San Francisco, USA
- [i12] **S. Ceola**, F. Laio, A. Montanari
World-wide satellite night-light data as a proxy of society-hydrology interaction and vulnerability to flood risk
AGU Fall Meeting 2013, San Francisco, USA
- [i11] E. Bertuzzo, **S. Ceola**, G.A. Singer, T.J. Battin, A. Montanari, A. Rinaldo
Hydrologic controls on basin-scale distribution of benthic macroinvertebrates
AGU Fall Meeting 2013, San Francisco, USA
- [i10] **S. Ceola**, **A. Montanari**, F. Laio
Flood risk assessment by remote sensing estimation of spatial proximity of human settlements to river reaches
5th EGU Leonardo Conference 2013, Kos, Greece
- [i09] **S. Ceola**, E. Bertuzzo, L. Mari, G. Botter, I. Hödl, T.J. Battin, M. Gatto, A. Montanari, A. Rinaldo
Hydrologic and light variability as drivers of stream biofilm-invertebrate dynamics
EGU General Assembly 2013, Vienna, Austria
- [i08] **S. Ceola**, I. Hödl, M. Adlboller, G. Singer, E. Bertuzzo, L. Mari, G. Botter, T.J. Battin, M. Gatto, A. Rinaldo
Hydrologic variability enhances stream biofilm grazing by invertebrates
AGU Fall Meeting 2012, San Francisco, USA

- [i07] A. Rinaldo, M. Parlange, R. Mutzner, N. Tomasic, **S. Ceola**, E. Bertuzzo, I. Rodriguez-Iturbe
On the Brutsaert baseflow recessions and their geomorphic origins
Hydrologic discovery through physical analysis honoring the scientific legacies of Wilfried H. Brutsaert and Jean-Yves Parlange Symposium 2012, Cornell University, Ithaca, USA
- [i06] **S. Ceola**, E. Bertuzzo, L. Mari, G. Botter, I. Hödl, T.J. Battin, A. Rinaldo
Hydrologic drivers and controls of stream biofilm-grazer interactions
EGU General Assembly 2012, Vienna, Austria
- [i05] **S. Ceola**, E. Bertuzzo, L. Mari, G. Botter, I. Hödl, T.J. Battin, A. Rinaldo
Hydrologic drivers and controls of stream-biofilm grazer interactions
AGU Fall Meeting 2011, San Francisco, USA
- [i04] **S. Ceola**, G. Botter, E. Bertuzzo, L. Mari, I. Rodriguez-Iturbe, A. Rinaldo
Hydrologic controls on river trophic dynamics
EGU General Assembly 2011, Vienna, Austria
- [i03] A. Rinaldo, E. Bertuzzo, L. Mari, S. Suweis, **S. Ceola**, F. Carrara, I. Rodriguez-Iturbe
River networks as ecological corridors for species, populations and pathogens of water-borne disease
AGU Fall Meeting 2010, San Francisco, USA
- [i02] **S. Ceola**, G. Botter, E. Bertuzzo, L. Mari, I. Rodriguez-Iturbe, A. Rinaldo
Ecohydrological streamflow distributions and hydraulic food-chain models
AGU Fall Meeting 2010, San Francisco, USA
- [i01] **S. Ceola**, G. Botter, E. Bertuzzo, A. Porporato, I. Rodriguez-Iturbe, A. Rinaldo
Comparative study of ecohydrological probability distributions
Latsis Symposium 2010, Lausanne, Switzerland

National conferences

- [n08] I. Palazzoli, **S. Ceola**, A. Montanari
Urbanization effects on surface water loss across the contiguous United States
XXXVIII Convegno nazionale di Idraulica e Costruzioni Idrauliche, Reggio Calabria, Italy, September 4-7, 2022
- [n07] I. Palazzoli, **S. Ceola**
Anthropogenic controls on surface water loss across USA.
XXXVII Convegno nazionale di Idraulica e Costruzioni Idrauliche, 2021, online
- [n06] **S. Ceola**, F. Laio, A. Montanari
Global-scale human pressure evolution imprints on sustainability of river systems
Le Giornate dell'Idrologia della Società Idrologica Italiana, Bologna, Italy, September 16-18, 2019
- [n05] A. Domeneghetti, **S. Ceola**, P. Colanzi, G. Schumann
Evoluzione del rischio idraulico nel bacino del Murray-Darling (Australia) dal 1975 ad oggi: applicazione combinata di modelli idraulici e dati satellitari
XXXVI Convegno nazionale di Idraulica e Costruzioni Idrauliche, Ancona, Italy, September 12-14, 2018
- [n04] R. Paranunzio, F. Laio, **S. Ceola**, A. Montanari
Analisi dell'effetto dell'antropizzazione dei suoli sulla temperatura dell'aria mediante l'utilizzo di dati satellitari
XXXV Convegno nazionale di Idraulica e Costruzioni Idrauliche, Bologna, Italy, September 14-16, 2016

- [n03] **I. Soligno, S. Ceola, F. Laio, A. Montanari**
 Analisi della pressione antropica sul reticolo idrografico italiano tramite dati satellitari di luminosità notturna ad alta definizione
XXXV Convegno nazionale di Idraulica e Costruzioni Idrauliche, Bologna, Italy, September 14-16, 2016
- [n02] **S. Ceola, F. Laio, A. Montanari**
 Valutazione del grado di esposizione al rischio alluvionale mediante dati satellitari di luminosità artificiale
XXXIV Convegno nazionale di Idraulica e Costruzioni Idrauliche, Bari, Italy, September 8-10, 2014
- [n01] **S. Ceola, A. Montanari, F. Laio**
 Quanto viviamo vicino ai corsi d'acqua? Stima della distribuzione spaziale della presenza antropica da dati satellitari e valutazione del rischio idraulico
Le Giornate dell'Idrologia della Società Idrologica Italiana, Venezia, Italy, December 18-20, 2013

Scientific activities

Visiting positions

- Aug – Sept 2017 Visiting at University of Saskatchewan, Prof. A. Elshorbagy, Saskatoon (Canada). Development of the project “Rainfall- and income-driven human closeness to freshwater resources” within the **Canada-Italy Innovation Award 2017**.
- Jun - Sept 2011 Visiting at Biofilm and Ecosystem Research Group (BERG), Wasser Cluster Lunz (WCL), Lunz am See (Austria).
 Hydrologic, engineering design and coordination of a flume experiment, aimed at studying hydrologic influences on the interactions between stream algae and benthic invertebrates (collaboration among EPFL, University of Vienna and WCL, supported by **EDCE PhD Mobility Award – Honorable Mention**).

Research projects

- 2023-2025 **Research Unit Leader** Project “unveilINg pasT Events foR dROught risk mitiGATION – INTERROGATION” (Italian Ministry of University and Research, PRIN 2024 - Progetti di ricerca di Rilevante Interesse Nazionale) – 80 k€
- 2016 – 2020 **WP member** Project “Mitigating the Impacts of natural hazards on Cultural Heritage sites, structure and artefacts - MiChE” (Italian Ministry of Education, University and Research, PRIN - Progetti di ricerca di Rilevante Interesse Nazionale)
- 2013 - 2017 **WP member** Project "Sharing Water-related Information to Tackle Changes in the Hydrosphere for Operational Needs – SWITCH-ON" (EU collaborative project 603587, FP7-ENV-2013-two-stage)
- 2009 - 2012 **PhD student** Project "River networks as ecological corridors for biodiversity, populations and waterborne disease" (European Research Council ERC project 227612, principal investigator: Prof. A. Rinaldo)
- 2009 - 2012 **PhD student** Project "Hydrologic controls on ecological processes: river networks as corridors for biodiversity, populations and waterborne diseases" (Swiss National Science Foundation FNS project 124930, principal investigator: Prof. A. Rinaldo)

Organization of scientific conferences

2019-2021	EGU General Assembly, Convener of sessions <ul style="list-style-type: none"> - Hydroclimatic change and unchange: exploring the mysteries of variability, nature and human impact - Innovative sensing techniques for water monitoring, modelling, and management: Satellites, gauges and citizens
2018	EGU General Assembly 2018, Convener of sessions <ul style="list-style-type: none"> - Naturally trendy: natural (and non-natural) trends (and non-trends) in climate and hydrology - Innovative sensing techniques for water monitoring, modelling, and management: Satellite, gauges, and citizens - Innovative sensing techniques and data analysis approaches to increase hydrological process understanding
2017	EGU General Assembly 2017, Convener of sessions <ul style="list-style-type: none"> - Climatic variability and the hydrological cycle - Innovative sensing techniques and data analysis approaches to increase hydrological process understanding
2016	IDRA16 – XXXV National Assembly of Hydraulic and Hydraulic Constructions, Organizing Committee
2013 - 2014	Bologna IAHS 2014 - 6 th IAHS-EGU International Symposium on Integrated Water Resources Management "Evolving Water Resources Systems - Understanding, Predicting and Managing Water - Society Interactions" Organizing Committee
	Scientific memberships
2010 – to date	Member of the American Geophysical Society (AGU)
2010 – to date	Member of the European Geosciences Society (EGU)
2013 – to date	Member of the Italian Hydraulic Group (GII)
	Academic service
2023 – to date	Associate Editor for <i>Hydrology and Earth System Sciences</i> , <i>Water Resources Research</i> , <i>Frontiers in Water</i>
2013 – to date	Reviewer for <i>Nature Climate Change</i> , <i>Water Resources Research</i> , <i>Advances in Water Resources</i> , <i>Hydrological Processes</i> , <i>Hydrobiologia</i> , <i>Ecohydrology & Hydrobiology</i> , <i>Science of the Total Environment</i> , <i>International Journal of Applied Earth Observations and Geoinformation</i> , <i>Journal of Hydrologic Sciences</i> , <i>Water</i> , <i>Remote Sensing</i> , <i>Energies</i> , <i>Geosciences</i> , <i>Ecological Indicators</i> , <i>Applied Sciences</i> .
2022	Project Reviewer for the Swiss National Science, Switzerland.
2015	Project Reviewer for the Autonomous Province of Bolzano, Italy
2015	Reviewer of the PhD proposal "Socio-Hydrological dynamics in Bangladesh: Understanding the interaction between hydrological and social processes along the Brahmaputra floodplain" by Md Ruknul Ferdous, UNESCO-IHE, Delft, Netherlands.
2014	Editor of <i>Evolving Water Resources Systems - Understanding, Predicting and Managing Water - Society Interactions</i> , IAHS Publication 364, Proceedings of ICWRS2014, Bologna, Italy, June 2014.

Service in scientific associations

2017	Representative of the International Association of Hydrological Sciences (IAHS) within UNESCO World Water Development Report 2019 “Leaving No One Behind” https://en.unesco.org/water-security/wwap/wwdr/2019
	Service at University of Bologna
2015 – 2021	Member of the External Relations Committee, DICAM, UNIBO, Bologna, Italy
2015 – to date	Member of the Environmental Engineering Board, UNIBO, Bologna, Italy
2020 – 2022	Member of the Working Group UNA EUROPA, UNIBO, Bologna, Italy
2021 – 2024	Member of the Research Committee, DICAM, UNIBO, Bologna, Italy
2023 – to date	Director’s delegate on Open Sciences, DICAM, UNIBO, Bologna, Italy
2020 – to date	Member of the PhD Committee EIT4SEMM, UNIBO, Bologna, Italy
	Public engagement
May 2022	Siam News “A Mathematical Model to Analyze Shrinking Surface Water Bodies”. Invited blog about the scientific paper “Influence of Urban Areas on Surface Water Loss in the Contiguous United States” published in <i>AGU Advances</i> (see [a20] In the publication list). https://sinews.siam.org/Details-Page/a-mathematical-model-to-analyze-shrinking-surface-water-bodies
Mar 2022	Corriere di Bologna “Laghi e fiumi, lo studio dell’università di Bologna: vicino alle città si riducono e «soffrono»” by Federica Nannetti. Presentation to a general audience about the scientific paper “Influence of Urban Areas on Surface Water Loss in the Contiguous United States” published in <i>AGU Advances</i> (see [a20] In the publication list). https://corrieredibologna.corriere.it/bologna/cronaca/22_marzo_06/laghi-fiumi-studio-dell-universita-bologna-alle-citta-si-riducono-soffrono-0a99316-9d90-11ec-ad87-df1f86f5e3ed.shtml
Feb 2022	UNIBO Magazine “I fiumi e i laghi vicini alle città si ritirano più rapidamente”. Presentation to a general audience about the scientific paper “Influence of Urban Areas on Surface Water Loss in the Contiguous United States” published in <i>AGU Advances</i> (see [a20] In the publication list). https://magazine.unibo.it/archivio/2022/02/10/i-fiumi-e-i-laghi-vicini-alle-citta-si-ritirano-piu-rapidamente
Feb 2022	EOS Editor’s Highlight by Ana Barros. Presentation to a general audience about the scientific paper “Influence of Urban Areas on Surface Water Loss in the Contiguous United States” published in <i>AGU Advances</i> (see [a20] In the publication list). https://eos.org/editor-highlights/urbanization-and-surface-water-loss-go-together
Sept 2019	Young Hydrologic Society - Hallway Conversations https://younghs.com/2019/09/23/hallway-conversations-serena-ceola-september-2019/
Mar 2019	GeoLog in EGU Blogs. GeoTalk “Making their mark: how humans and rivers impact each other” - https://blogs.egu.eu/geolog/2019/03/15/geotalk-making-their-mark-how-humans-and-rivers-impact-each-other/?fbclid=IwAR2YCF6ycPaGJxqx2_3r4nujNWHka_pIo1iHQjOKE1WpU1AqkftHEmjQ_Xg

- Jun 2017 **Website of Department of Civil, Chemical, Environmental and Materials Engineering (DICAM).** News on the **Canada-Italy Innovation Award 2017** <http://www.dicam.unibo.it/it/archivio-news/serena-ceola-tra-i-vincitori-del-canada-italy-innovation-award-2017> (in Italian)
- Jun 2017 **UNIBO Magazine** “Vince il premio Canada-Italia per l’Innovazione e incontra Justin Trudeau”. News on the **Canada-Italy Innovation Award 2017** <http://www.magazine.unibo.it/archivio/2017/06/06/vince-il-premio-canada-italia-per-l-innovazione-e-incontra-justin-trudeau> (in Italian)
- Jun 2017 **Embassy of Canada:** awardees notification for the **Canada-Italy Innovation Award 2017** on the official website and social media (Facebook and Twitter) http://www.canadainternational.gc.ca/italy-italie/highlights-faits/2017/innovation_2017.aspx?lang=eng
<https://www.facebook.com/ambasciatadelcanada/posts/1392292250856515:0>
<https://twitter.com/CanadainItalia/status/872096152409300993>
- Apr 2017 **Interview during the EGU General Assembly 2017** taken by science writers of a German public radio (Deutschlandfunk) and of a geosciences website (planeterde.de) about the scientific research on human pressure on freshwater resources
- Sept 2016 **European Researchers Night** – “I fiumi e le luci della notte”, research story written by **Serena Ceola** and performed by the sand artist Nadia Ischia and the scientific communicator Danilo Cinti
- Feb 2016 **OggiScienza MeltingPod** – Podcast “Down to the river” - <https://soundcloud.com/oggiscienza/down-to-the-river> (in Italian)
- Oct 2015 **EOS Research Spotlight** - <https://eos.org/research-spotlights/night-lights-illuminate-human-presence-near-rivers>
- Sep 2015 **Cover image on Water Resources Research Volume 51, Issue 9** - <http://agupubs.onlinelibrary.wiley.com/agu/issue/10.1002/wrcr.v51.9/>
- Dec 2014 **GeoQ Newsletter**, Issue n. 12, December 2014 - Letter from the EGU President. Presentation to a general audience about the scientific paper "Satellite nighttime lights reveal increasing human exposure to floods worldwide" published in *Geophysical Research Letters* (see [a08] in the publication list). <http://www.egu.eu/newsletter/>
- Nov 2014 **WIRED-Science Graphic of the Week:** Nighttime Satellite Maps Show Increasing Flood Risks, By Nick Stockton. Presentation to a general audience about the scientific paper "Satellite nighttime lights reveal increasing human exposure to floods worldwide" published in *Geophysical Research Letters* (see [a08] in the publication list). <http://www.wired.com/2014/11/nighttime-maps-flood-risks/>
- Nov 2014 **UNIBO Magazine** "Rischio alluvione: aumentano gli insediamenti vicino ai corsi d'acqua" by Matteo Benni. Presentation to a general audience about the scientific paper "Satellite nighttime lights reveal increasing human exposure to floods worldwide" published in *Geophysical Research Letters* (see [a08] in the publication list). <http://www.magazine.unibo.it/archivio/2014/11/19/rischio-alluvione-in-una-mappa-laumento-degli-insediamenti-nei-pressi-dei-corsi-dacqua> (in Italian)

- Nov 2014 **AGU Blogosphere - GeoSpace** "Satellite nightlight images show flood exposure increasing worldwide" by Kate Wheeling. Presentation to a general audience about the scientific paper "Satellite nighttime lights reveal increasing human exposure to floods worldwide" published in *Geophysical Research Letters* (see [a08] in the publication list).
<http://blogs.agu.org/geospace/2014/11/13/satellite-nightlight-images-show-flood-exposure-increasing-worldwide/>
- Mar 2014 **Café Scientifique**, Bologna, Italy. Public seminar "Quanto beve il fiume? (How much does a river drink?)".
- May 2013 **Co-anchor in the radio programme "Pigreco Party"** at Radio Città del Capo, Bologna, talking about water resources.
<http://fmblue.formicablu.it/index.php?id=613> (in Italian)
- Mar 2013 **Finalist in FameLab Bologna 2013**
<https://www.youtube.com/watch?v=4KVYUqProQI> (in Italian)

Teaching activities

- Academic Year 2019-2020, 2020-2021, 2021-2022, 2022-2023, 2023-2024, 2024-2025 **Teacher of the course "Climate impact on tangible cultural heritage and water resources" (4 hours)**, PhD in Future Earth, Climate Change and Societal Challenges, UNIBO, Bologna, Italy
- A. Y. 2015-2016, 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022, 2022-2023, 2023-2024, 2024-2025 **Teacher of the course "Gestione delle Risorse Idriche M"**, Master Degree in Environmental Engineering (in Italian), UNIBO, Bologna, Italy
Student evaluation: 89.5% positive for A. Y. 2015/2016, 100% positive for AA. YY. 2016-2017, 2017-2018, 2018-2019, 2019-2020, 2020-2021, 2021-2022, 2022-2023, 2023-2024
- A. Y. 2022-2023, 2023-2024, 2024-2025 **Teacher of the course "Large-scale Water Structures"**, Master Degree in Civil Engineering (in English), UNIBO, Bologna, Italy
- A. Y. 2022-2023, 2023-2024, 2024-2025 **Teacher of the course "Advanced Hydrosystems Engineering – Module 2"**, Master Degree in Civil Engineering (in English), UNIBO, Bologna, Italy
- A. Y. 2021-2022 **Teacher of the course "Tecnologie per la mitigazione degli effetti del cambiamento climatico – Modulo 1"**, Minor in La sfida del cambiamento climatico (in Italian), UNIBO, Bologna, Italy
- A. Y. 2020-2021, 2021-2022 **Teacher of the course "Large-scale Water and Wastewater Structures"**, Master Degree in Civil Engineering (in English), UNIBO, Bologna, Italy
Student evaluation: 100% positive for A. Y. 2020/2021
- A. Y. 2018-2019 **Teacher of the course "Large-scale Water and Wastewater Structures – Module 1"**, Master Degree in Civil Engineering (in English), UNIBO, Bologna, Italy
Student evaluation: 100% positive for A. Y. 2018/2019
- A. Y. 2013 - 2014 and 2014 - 2015 **Seminars for the course "Advanced Hydrology & Water Resources Management"**, Prof. A. Montanari, Master Degree in Civil Engineering, UNIBO, Bologna, Italy
- A. Y. 2011 – 2012 and 2010-2011 **Teaching assistant (20 hours) for the course "Hydrology for Engineer"**, Prof. A. Rinaldo, ECHO, EPFL, Bachelor Degrees in Civil Engineering and Environmental Sciences and Engineering, EPFL, Lausanne, Switzerland

PhD Students advisory

- Nov 2023 – Oct 2026 Gianluca Lelli, PhD student within the PhD Program "Engineering and Information Technology for Structural and Environmental Monitoring and Risk Management - EIT4SEMM" UNIBO, Bologna, Italy. Advisor: **S. Ceola**

Nov 2018 – Jan 2022

Irene Palazzoli, PhD student within the PhD Program “Structural and Environmental Health Monitoring and Management – SEHM²” UNIBO, Bologna, Italy. Advisor: **S. Ceola**

Master Degrees Advisory

Academic Year 2020-2021

Sara Napoleone, “Stima con modelli idrologici del rischio idraulico del Rio Torriane” (*Hydraulic risk assessment of the Rio Torriane based on hydrological models*), Master Degree in Civil Engineering, UNIBO, Advisor: A. Montanari, CoAdvisor: **S. Ceola**

A. Y. 2020-2021

Gianluca Lelli, “Studio dell’influenza delle aree urbanizzate e irrigue sulla perdita di risorsa idrica superficiale in Italia” (*Influence of urban and irrigated areas on surface water loss across Italy*), Master Degree in Environmental Engineering (in Italian), UNIBO, Advisor: **S. Ceola**, Co-Advisor: I. Palazzoli

A. Y. 2020-2021

Michele Laffi, “Analisi delle interazioni tra dighe, densità di popolazione e caratteristiche climatiche a scala di bacino negli Stati Uniti d'America continentali” (*Basin-scale analysis of the interactions among dams, population density and climate characteristics across the contiguous United States*), Master Degree in Environmental Engineering (in Italian), UNIBO, Advisor: **S. Ceola**

A. Y. 2019-2020

Jacopo Venturi, “Caratterizzazione della frequenza degli estremi di precipitazione sub-giornalieri a Brindisi” (*Analysis of annual maximum rainfall events in Brindisi*), Bachelor Degree in Environmental Engineering (in Italian), UNIBO, Advisor: **S. Ceola**

A. Y. 2019-2020

Odillia Colarusso, “Valutazione del potenziale effetto di attrattività demografica di dighe localizzate negli Stati Uniti d'America” (*Assessment of the potential demographic attractiveness of dams across the United States of America*), Master Degree in Environmental Engineering (in Italian), UNIBO, Advisor: **S. Ceola**

A. Y. 2018-2019

Ezio Casciaro, “Dimensionamento di serbatoi per la raccolta di acque piovane destinate all’utilizzo irriguo in un orfanotrofio ad Allada (Benin)” (*Pluvial water collection for irrigation purposes: design of reservoirs for an orphanage in Allada (Benin)*), Master Degree in Environmental Engineering (in Italian), UNIBO, Advisor: **S. Ceola**

A. Y. 2018-2019

Alessandra Polerà, “Studio degli effetti della realizzazione di dighe sull’evoluzione spazio-temporale della densità abitativa negli Stati Uniti d'America” (*Effects of dam building on the spatio-temporal evolution of human density in the U.S.*), Master Degree in Environmental Engineering (in Italian), UNIBO, Advisor: **S. Ceola**

A. Y. 2018-2019

Arianna Ridolfi, “Evoluzione spazio-temporale della distribuzione della popolazione in relazione ad eventi alluvionali. I casi di India e Regno Unito” (*Spatio-temporal evolution of human population related to flood events: India and UK*), Master Degree in Environmental Engineering (in Italian), UNIBO, Advisor: **S. Ceola**, Co-Advisor: A. Montanari

A. Y. 2018-2019

Serena Rossi, “Mappatura della pericolosità idraulica da nubifragio mediante l’analisi di modelli digitali delle quote del terreno ad elevata risoluzione orizzontale” (*Flash flood hazard mapping by using high resolution DEM*), Degree in Environmental Engineering (in Italian), UNIBO, Advisor: A. Castellarin, Co-Advisors: S. Bagli, S. Persiano, **S. Ceola**

A. Y. 2018-2019

Dayane Silva Sallet, “Regional flood frequency analysis: evaluation of the design flood for 5 Brazilian dams”, Master Degree in Civil Engineering (in English), UNIBO, Advisor: **S. Ceola**, Co-Advisor: S. Persiano, A. Bonafé, L. Ruggeri

- A. Y. 2018-2019 Andrea Mazzola, “Evoluzione della pressione antropica sui corsi d’acqua del sud-est asiatico mediante dati satellitari” (*Evolution of anthropogenic pressure on river systems in South-East Asia by using satellite data*), Master Degree in Environmental Engineering (in Italian), UNIBO, Advisor: **S. Ceola**, Co-Advisor: I. Palazzoli
- A. Y. 2017-2018 Giulia Grandi, “Studio degli effetti di variabili idrologiche e geomorfiche sull’espansione urbana nel nord-est della Cina” (*Hydrologic and geomorphic controls of urban growth in the North-East of China*), Master Degree in Environmental Engineering (in Italian), UNIBO, Advisor: **S. Ceola**, Co-Advisor: E. Bertuzzo
- A. Y. 2017-2018 Valeria Amelii, “Evoluzione spazio-temporale della distribuzione della popolazione nel bacino del Limpopo in relazione a eventi di siccità” (*Spatio-temporal evolution of human population across the Limpopo river basin related to drought events*), Master Degree in Environmental Engineering (in Italian), UNIBO, Advisor: **S. Ceola**, Co-Advisor: G. Di Baldassarre, J. Maard
- A. Y. 2017-2018 Silea Cortecchia, “Evoluzione temporale del fabbisogno e del deficit irriguo delle principali colture in Italia: analisi mediante dati satellitari e modelli idrologici” (*Temporal evolution of agricultural water requirements across Italy: analysis based on satellite data and hydrologic models*), Master Degree in Environmental Engineering (in Italian), UNIBO, Advisor: **S. Ceola**
- A. Y. 2016-2017 Tamara Ricchi, “Influenza delle variabili idrologiche e socio-economiche sul livello di inquinamento dei corsi d’acqua: analisi globale mediante dati satellitari e modelli idrologici” (*Hydrologic and socio-economic drivers of riverine nutrient pollution: global analysis based on satellite data and hydrologic models*), Master Degree in Environmental Engineering (in Italian), UNIBO, Advisor: **S. Ceola**
- A. Y. 2016-2017 Fabio Gerardo Berterame, “Stime ad alta risoluzione dell’impronta idrica delle principali colture per il territorio italiano” (*High-resolution water footprint assessment for main crops across Italy*), Master Degree in Environmental Engineering (in Italian), UNIBO, Advisor: **S. Ceola**
- A. Y. 2016-2017 Girolamo Alaimo, “Possibili innovazioni del sistema di distribuzione della risorsa idrica nei canali di bonifica” (*Possible innovations of water resources distribution*), Master Degree in Environmental Engineering (in Italian), UNIBO, Advisor: **S. Ceola**
- A. Y. 2016-2017 Piera Colanzi, “Evoluzione del rischio idraulico nel bacino del Murray-Darling (Australia) dal 1975 ad oggi: applicazione combinata di modelli idraulici e dati satellitari” (*Flood risk evolution in the Murray-Darling river basin (Australia) from 1975 to 2014: application of hydraulic model and remote-sensing data*), Advisor: A. Domeneghetti, Master Degree in Civil Engineering (in Italian), UNIBO, Co-Advisor: **S. Ceola**
- A. Y. 2015-2016 Andrea Ruggeri, “Analisi di dati satellitari a scala globale per la stima dell’impatto antropico sull’inquinamento dei corsi d’acqua” (*Analysis of global scale satellite data to estimate the anthropogenic impact on river pollution*), Master Degree in Environmental Engineering (in Italian), UNIBO, Advisor: **S. Ceola**, Co-Advisor: A. Montanari
- A. Y. 2015-2016 Matteo Mancuso, “Antropizzazione dei corsi d’acqua italiani ed impatto sul rischio alluvionale: analisi mediante dati satellitari di luminosità artificiale notturna” (*Anthropogenic presence close to Italian rivers and impact on flood risk: analysis through satellite nighttime light data*), Master Degree in Environmental Engineering (in Italian), UNIBO, Advisor: **S. Ceola**, Co-Advisors: A. Montanari, A. Domeneghetti
- A. Y. 2015-2016 Luca Marchetti, “Nighttime lights as proxy for the spatial growth of dense urbanized areas”, Master Degree in Civil Engineering (in English), UNIBO, Advisor: A. Montanari, Co-Advisor: **S. Ceola**

- A. Y. 2015-2016 Matteo Ventura, “Studio del possibile impatto indotto da diverse ipotesi di rilascio del Deflusso Minimo Vitale (DMV) sull’ittiofauna dei corsi d’acqua Marchigiani” (*Induced effects of alternative environmental flows on fish habitat suitability in the Marche administrative district*), Master Degree in Environmental Engineering (in Italian), UNIBO, Advisor: A. Castellarin, Co-Advisors: **S. Ceola**, G. Galeati
- A. Y. 2014-2015 Giulia Sisca, “Studio dell’effetto indotto da diverse ipotesi di rilascio del deflusso minimo vitale (DMV) sul potenziale di produzione idroelettrica nella regione Marche” (*Induced effects of alternative environmental flows on hydropower production in the Marche administrative district*), Master Degree in Environmental Engineering (in Italian), UNIBO, Advisor: A. Castellarin, Co-Advisors: **S. Ceola**, G. Galeati, A. Pugliese

Activities in National and International Ph.D. Tribunals and other Evaluating Commissions

- Jun 2019 Member of the jury of the admission exam for the PhD course in Future Earth, Climate Change and Societal Challenge, UNIBO
- Mar 2019 Member of the jury of the final exam for the award of the PhD degree in Civil and Environmental Engineering at Università degli Studi di Padova
- Academic Year 2016-2017 Member and Secretary of the Examination Board of Master Degree in Environmental Engineering, UNIBO
- Jun 2017 Member of the Examination Board of the final Ph.D. defense of Roberta Paranunzio, at Politecnico di Torino
- May-Jun 2017 Member of the Examination Board for 2 engineer positions at Distretto delle Alpi Orientali, Venice

Certifications

- Jun 2013 Training course ArcGIS Desktop 10: Getting started with GIS, UNIPD, Padova, Italy
- Jun 2013 Training course ArcGIS Desktop 10: Geodatabase, Spatial and 3D Analyst, Modelbuilder, UNIPD, Padova, Italy
- Jun 2011 LabVIEW Core 1, EPFL, Lausanne, Switzerland
- Dec 2009 Professional Qualification for Civil and Environmental Engineer, UNIPD, Padova, Italy
- Jun 2008 Certificate IPSOA "Environmental Expert: Specialization Course", IPSOA Wolters Kluwer Group, Italy
- Mar 2003 First Certificate in English (FCE), University of Cambridge - ESOL Examination, Cambridge, England
- Sept 2001 European Computer Driving Licence (ECDL)

Personal skills

Languages

- Italian Mother tongue
- English Proficient user (CEF level¹: listening C1, speaking C1, writing C1)

¹ Common European Framework of Reference

French	Independent user (CEF level: listening B2, speaking B1, writing B1)
German	Basic user (CEF level: listening A0, speaking A0, writing A0)

Computer skills

Operating System	Windows, Mac OS, Linux
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Software	Matlab, ArcGIS, Office, LaTeX, Adobe Illustrator, LabView
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Bologna, December 16, 2024

Serena Ceola (digitally signed)