

## CV, excerpta

### 1) Introduzione

**Nome:** Bocchiola Daniele

**Luogo e data di nascita:** Milano, 18-1-1972

**Nationalità:** Italiana

#### Indirizzo:

**C/o Politecnico di Milano:** +39-02-2399-6223

**Fax:** +39-02-2399-6207

**e-mail:** [daniele.bocchiola@polimi.it](mailto:daniele.bocchiola@polimi.it)

#### url:

<https://sites.google.com/view/daniele-bocchiola/home-page>

[https://www.researchgate.net/profile/Daniele\\_Bocchiola](https://www.researchgate.net/profile/Daniele_Bocchiola)

<https://www.linkedin.com/in/daniele-bocchiola>

<https://www.climatelab.polimi.it>

#### Lingue parlate

Buona conoscenza dell'Inglese, parlato e scritto.

Buona conoscenza dello Spagnolo, parlato e scritto

Conoscenza di base di Russo e Francese.

#### Indici scientifici (2000-2023).

Pubblicazioni #: 101(ISI), 106(SCOPUS), 100+ (G-Scholar).

H-index: 30 (ISI), 31 (SCOPUS), 37 (ResearchGate), 37 (G-Scholar). i10-

Index(G-Scholar): 76.

#### Indicizzato nel Top2% dei ricercatori a livello mondiale.

Science-wide author databases of standardized citation indicators 2023:

<https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/6>



Milano, Febbraio 2024

*Daniele Bocchiola*

## Riassunto

Daniele Bocchiola è Professore Associato di Costruzioni Idrauliche e Marittime ed Idrologia presso il Politecnico di Milano. Si è laureato al Politecnico di Milano ed ha ricevuto un PhD in Ingegneria Idraulica dal Politecnico di Milano, parzialmente svolto al MIT, Cambridge USA. Insegna Infrastrutture Idrauliche (Servizi Idrici a Rete) (BS), *Water Resources Management* (MS) e *Mountain Hydrology and Climate Change* (PhD).

Il suo campo di studio include la valutazione della risorsa idrica, dell'impronta idrica in agricoltura, dell'eco-idrologia, con particolare attenzione agli effetti del cambiamento climatico ed al ciclo idrologico nelle aree montane.

E' autore di circa 150 contributi, tra libri, capitoli, articoli su rivista nazionale ed internazionale (100+), atti e sommari di interventi a convegni. Editore di diverse riviste scientifiche nell'ambito della risorsa idrica e cambiamenti climatici.

Coordina diversi progetti di ricerca in Europa, Sud America, Asia.

Coopera con diversi istituti scientifici, tra gli altri con il comitato EVK2CNR per la ricerca in alta quota (*SHARE: Stations at High Altitude for Research on the Environment*). Partecipa a missioni di campo sulle Alpi, nelle Ande, in Karakorum, Himalaya, Caucaso. Socio del CGI, Comitato Glaciologico Italiano. Dirige il gruppo di ricerca *Poli-High* al Politecnico di Milano. E' coordinatore del *Climate-Lab* del Politecnico di Milano.

## Principali pubblicazioni scientifiche negli ultimi 10 anni

- 1) Ravazzani, G., Bocchiola, D., Groppelli, B., Soncini, A., Rulli, M.C., Colombo, F., Mancini, M., Rosso, R., *Continuous stream flow simulation for index flood estimation in an Alpine basin of Northern Italy*, Hydrological Sciences Journal, 60(6), 1013-1025, 2015. <http://www.tandfonline.com/doi/full/10.1080/02626667.2014.916405#>, . 5-year IF 1.86. ISI, SCOPUS.
- 2) Nana, E., Corbari, C., Bocchiola, D., *A model for crop yield and water footprint assessment: study of maize in the Po valley*, AGSYS, 127, 139-149, 2014. 5 year IF: 3.28. ISI, SCOPUS
- 3) Salerno, F., Gambelli, S., Viviano, G., Thakuri, S., Guyennon, N., D'Agata, C., Diolaiuti, G., Smiraglia, C., Stefani, F., Bocchiola, D., Tartari, G., *High alpine ponds shift upwards as average temperatures increase: a case study of the Ortles-Cevedale mountain group (southern Alps, Italy) over the last 50 years*, Global and Planetary Change, 120, 81-91, 2014. DOI: 10.1016/j.gloplacha.2014.06.003. 5 year IF: 4.75. ISI, SCOPUS
- 4) Bocchiola, D., *Long term (1921-2011) changes of Alpine catchments regime in Northern Italy*, Advances in Water Resources, 70, 51-64, 2014. DOI: 10.1016/j.advwatres.2014.04.017. <http://authors.elsevier.com/sd/article/S0309170814000840>. 5 year IF: 3.53. ISI, SCOPUS
- 5) Bocchiola, D., Rosso, R. *Safety of dams against floods in Italy*, Adv. Water Resour., 71, 23-31, 2014. <http://www.sciencedirect.com/science/article/pii/S0309170814001006>. 5 year IF: 3.53. ISI, SCOPUS
- 6) Addimando, N., Nana, E., Bocchiola, D., *Modelling pasture dynamics in a Mediterranean environment: a case study in Sardinia*, ASCE Journal of Irrigation and Drainage Engineering, 10.1061/(ASCE)IR1943-4774.0000818, 04014063. 5 year IF: 1.59. ISI, SCOPUS, 2015. <http://ascelibrary.org/doi/pdf/10.1061/%28ASCE%29IR.1943-4774.0000818>
- 7) Palazzoli, I., Maskey, S., Uhlenbrook, S., Nana, E., Bocchiola, D., *Impact of prospective climate change upon water resources and crop yield in the Indrawati basin, Nepal*. Agricultural Systems, 133, 143-157, 2015. 5 year IF: 3.28. ISI, SCOPUS. <http://dx.doi.org/10.1016/j.agsy.2014.10.016>
- 8) Soncini A., Bocchiola, D., Confortola, G., Bianchi, A., Rosso, R., Mayer, C., Lambrecht, A., Palazzi E., Smiraglia C., Diolaiuti G., *Future hydrological regimes in the upper Indus basin: a case study from a high altitude glacierized catchment*, Journal of Hydrometeorology, 16(1), 306-326, 2015. IF 5 years: 3.93. ISI, SCOPUS
- 9) U. Minora, A. Senese, D. Bocchiola, A. Soncini, C. D'agata, R. Ambrosini, C. Mayer, A. Lambrecht, E. Vuillermoz, C. Smiraglia, G. Diolaiuti, *A simple model to evaluate ice melt over the ablation area of glaciers in the Central Karakoram National Park, Pakistan*, Annals of glaciology, 56(70), 202-216, 2015. Special issue: Contribution of glaciers and ice sheets to sea-level change: observations, modelling and prediction, IF 2014: 2.52. <http://www.igsoc.org/annals/56/70/a70a206.html>. ISI, SCOPUS
- 10) Bocchiola, D., *Impact of potential climate change on crop yield and water footprint of rice in the Po Valley of Italy*, Agricultural Systems, 139, 223-237, 2015. 5 year IF: 3.28, <http://www.sciencedirect.com/science/article/pii/S0308521X15300135>. ISI, SCOPUS
- 11) Migliavacca, G. Confortola, A. Soncini, G. A. Diolaiuti, C. Smiraglia, G. Barcaza, D. Bocchiola, *Hydrology and potential climate changes in the Rio Maipo (Chile)*, Physical Geography and Quaternary Dynamics, GFDQ, 38(2), 155-168, 2015. 5 years IF: 0.652. [http://gfdq.glaciologia.it/038\\_2\\_05\\_2015](http://gfdq.glaciologia.it/038_2_05_2015). ISI, SCOPUS
- 12) Minora, U., D. Bocchiola, C. D'Agata, D. Maragno, C. Mayer, A. Lambrecht, E. Vuillermoz, A. Senese, C. Compostella, C. Smiraglia, G. Diolaiuti, *Glacier area stability in the Central Karakoram National Park (Pakistan) in 2001-2010: The "Karakoram Anomaly" in the spotlight*, Progress in Physical Geography, 40, 629-660, 2016. doi: 10.1177/0309133316643926. ISI, SCOPUS. 5-year IF 4.49.
- 13) Bocchiola, D., Senese, A., Mihalcea, C., Mosconi, B., D'Agata, C., Smiraglia, C., Diolaiuti, G., *An ablation model for debris covered ice: the case study of Venerocolo Glacier (Italian Alps)*, Physical Geography and Quaternary Dynamics, GFDQ, 38(2), 113-128, 2015. 5 years IF: 0.652. [http://gfdq.glaciologia.it/038\\_2\\_02\\_2015](http://gfdq.glaciologia.it/038_2_02_2015). ISI, SCOPUS
- 14) Minora, U., D. Godone, S. Lorenzini, C. D'Agata, D. Bocchiola, G. S. Barcaza, C. Smiraglia, G. A. Diolaiuti, *2008-2011 snow cover area (SCA) variability over 18 watersheds of the Central Chile through MODIS data*, Physical Geography and Quaternary Dynamics, GFDQ, 38(2), 169-174, 2015. 5 years IF: 0.652. [http://gfdq.glaciologia.it/038\\_2\\_06\\_2015](http://gfdq.glaciologia.it/038_2_06_2015). ISI, SCOPUS
- 15) Viganò, G., Confortola, G., Fornaroli, R., Canobbio, S., Mezzanotte, V., Bocchiola D., *Future climate change may affect habitat in Alpine streams: a case study in Italy*, ASCE J. Hydrol. Eng., 10.1061/(ASCE)HE.1943-5584.0001293, 04015063, 21(2), 2016. IF 3 years: 1.59. ISI, SCOPUS
- 16) Bozza, A., Durand, A., Confortola, G., Allenbach, B., Bocchiola, D., *Potential of remote sensing and open street data for flood mapping in poorly gauged areas: a case study in Gonaïves, Haiti*, Applied Geomatics, 8, 117-131, 2016. <http://link.springer.com/article/10.1007/s12518-016-0171-x>. ISI, SCOPUS
- 17) Senese, A., Maugeri, M., Ferrari, S., Confortola, G., Bocchiola, D., Diolaiuti, G., *Modelling shortwave and longwave downward radiation and air temperature driving ablation at the Forni glacier (Stelvio national park, Italy)*, Physical Geography and Quaternary Dynamics, GFDQ, 39, 89-99, 2016.
- 18) Soncini A., Bocchiola, D., Confortola, G., Minora, U., Vuillermoz, E., Salerno, F., Viviano, G., Shrestha, D., Senese, A., Smiraglia, C., Diolaiuti, G., *Future hydrological regimes and glacier cover in the Everest region: the case study of the Dudh Koshi basin*, Science of the Total Environment STOTEN, 565, 1084-1101, 2016. <http://www.sciencedirect.com/science/article/pii/S0048969716310683> IF 5-years: 4.32.
- 19) Soncini, A., Bocchiola, D., Azzoni, R.S., Diolaiuti, G., *A methodology for monitoring and modeling of high altitude Alpine catchments*, Progress in Physical Geography, 41, 4, 393-420, 2017. DOI: 10.1177/0309133317710832. Online first. <http://journals.sagepub.com/doi/full/10.1177/0309133317710832>, IF 5-years: 4.49.
- 20) Bocchiola, D., *Agriculture and food security under climate change in Nepal: Mini-Review*, Advances in Plants and Agriculture Research, 6(6), 00237, 2017. DOI: 10.15406/apar.2017.06.00237
- 21) Bocchiola, D., Soncini, A., *Pasture modeling in mountain areas: the case of Italian Alps, and Pakistani Karakoram*, Agricultural Research and Technology, 8(3): 555736, 1-8, 2017. DOI: 10.19080/ARTOAJ.2017.08.555736, 2017.

- 22) Bocchiola, D., Soncini, A., Pelosi, M.G., *Effects of hydrological changes upon cooperation in transnational catchments: the case of Syr Darya*. Water International, 42, 1-22, 2017. DOI: 10.1080/02508060.2017.1376568. IF 2016: 1.54. Latest Articles. <http://www.tandfonline.com/doi/full/10.1080/02508060.2017.1376568>.
- 23) Aili, T., Soncini, A., Bianchi, A., Diolaiuti, G., D'Agata, C., Bocchiola, D., *Assessing water resources under climate change in high-altitude catchments: a methodology and an application in the Italian Alps*. Theoret. Appl. Climatol. 135, 135-156, 2019.
- 24) D'Agata, C., Soncini, A., Bocchiola, D., Maragno, D., Smiraglia, C., Diolaiuti, G. *Recent area and volume loss of Alpine glaciers in the Adda River of Italy and their contribution to hydropower production*, Cold Regions Science and Technology, 14, 172-184, 2018.
- 25) Bocchiola, D., Soncini, A., Senese, A., Diolaiuti, G., *Modelling hydrological components of the Rio Maipo of Chile, and their prospective evolution under climate change*. Climate 6(3), 57, 2018. <https://doi.org/10.3390/cli6030057>.
- 26) Akbari, H., Soncini, A., Dinpashoh, Y., Fakheri-Fard, A., Bocchiola, D., *Operation of two major reservoirs of Iran under IPCC scenarios during XXI Century*, Hydrol. Process., 2018, 1-18. <https://doi.org/10.1002/hyp.132>
- 27) Baldasso, V., Soncini, A., Azzoni, R.S., Diolaiuti, G., Bocchiola, D., *Recent evolution of glaciers in Western Asia in response to global warming: the case study of mount Ararat, Turkey*, Theoret. Appl. Climatol., 10.1007/s00704-018-2581-7, 1-15, 2019.
- 28) Capolongo, D., Refice, A., Bocchiola, D., D'Addabbo, A., Vouvalidis, K., Soncini, A., Stamatopulos, L., *Coupling multitemporal remote sensing with geomorphology and hydrological modeling for post flood recovery in the Strymonas dammed river basin (Greece)*. Science of the total Environment, 651(2), 1958-1968, 2019.
- 29) Bocchiola, D., Galizzi, M., Bombelli, G. M., and Soncini, A.: *Mapping snow avalanches hazard in poorly monitored areas. The case of Rigopiano avalanche, Apennines of Italy*, Nat. Hazards Earth Syst. Sci. Discuss., <https://doi.org/10.5194/nhess-2018-358>, in review, 2018.
- 30) Bocchiola, D., Brunetti, L., Soncini, A., Polinelli, F., Gianinetto M., *Impact of climate change on agricultural productivity and food security in the Himalayas: a case study in Nepal*, Agricultural Systems, 171, 113-125, 2019.
- 31) Bombelli, G., Soncini, A., Bianchi, A., Bocchiola, D. *Potentially modified hydropower production under climate change in the Italian Alps*, Hydrol. Proc., 33(17), 2355-2372, <https://onlinelibrary.wiley.com/doi/10.1002/hyp.13473>, 2019.
- 32) Stucchi, L., Bombelli, G.M., Bianchi, A., Bocchiola, D., *Hydropower potential of the Alpine cryosphere in the era of climate change. The case of a storage plant in Italy*. Water, 11, 1599, 2019. doi:10.3390/w11081599.
- 33) Colombo, N., Bocchiola, D., Martin, M., Confortola, G., Salerno, F., Godone, D., D'Amico, M., Freppaz, M., *High export of nitrogen and dissolved organic carbon from an Alpine glacier (Indren Glacier, NW Italian Alps)*", Aquatic Sciences AQSC, 81:74, 1-13, 2019. DOI: 10.1007/s00027-019-0670-z.
- 34) Bombelli, G.M., Soncini, A., Bianchi, A., Bocchiola, D., *Influence of climate change scenarios on energy price in the 21<sup>st</sup> century: a case study in Italy*. Climate, 7(10), 121, 2019. doi:10.3390/cli7100121.
- 35) Gianinetto, M. Aiello, M., Polinelli, F., Frassy, F., Rulli, M.C., Ravazzani, G., Bocchiola, D., Chiarelli, D.D., Soncini, A., Vezzoli, R., *D-RUSLE: a dynamic model to estimate potential soil erosion with satellite time series in the Italian Alps*, European Journal of Remote Sensing (TEJR). DOI: 10.1080/22797254.2019.166949, 1-20, 2019.
- 36) Casale, F., Bombelli, G.M., Monti, R., Bocchiola, D., *Hydro-power potential in the Kabul river of Afghanistan in the era of climate change*, Theoretical and Applied Climatology, 139, 1415-1434, 2020.
- 37) Gianinetto, M., Aiello, M., Vezzoli, R., Polinelli, F.N., Rulli, M.C., Chiarelli, D.D., Bocchiola, D., Ravazzani, G., Soncini, A., *Future Scenarios of Soil Erosion in the Alps under Climate Change and Land Cover Transformations Simulated with Automatic Machine Learning*, Climate, 8, 28, 2020. doi:10.3390/cli8020028
- 38) Bocchiola, D., Bombelli, B.M., Camin, F., Ossi, P.M., *Mass balance, and hydrology of Himalayan glaciers: a field study of the Khangri Nup (Khumbu, Everest)*, Water, 11, 433, 2020.
- 39) Mousavi, S.N., Júnior, R.S., Teixeira, E.D., Bocchiola, D., Nabipour, N., Mosavi, A., Shamsirband, S., *Predictive Modeling the Free Hydraulic Jumps Pressure through Advanced Statistical Methods*, Mathematics, 8(3), 323, 1-16, 2020. <https://doi.org/10.3390/math8030323>
- 40) Mousavi, S.N., Farsadzadeh, D., Salmasi, F., Hosseinzadeh Dalir, A., Bocchiola, D., *Analysis of minimal and maximal pressures, uncertainty and spectral density of fluctuating pressures beneath classical hydraulic jumps*, Water Supply, 20, 1909-21, 2020.
- 41) Mousavi, S.N., Bocchiola, D., *A novel comparative statistical and experimental modeling of pressure field in free jumps along the apron of USBR Type I and II dissipation basins*, Mathematics, 8 (12), 2155, 2020.
- 42) Bocchiola, D. Manara, M., Mereu, M., *Impact of prospective climate change on Run of River hydropower schemes in the Himalayas: the case study of the Dudh Koshi basin of Nepal*. Water, 12(8): 2625, 2020.
- 43) Duratorre, T., Bombelli, G.M., Menduni, G., Bocchiola, D. *Hydropower Potential in the Alps under Climate Change Scenarios*. The Chavonne Plant, Val D'Aosta. Water, 12, 2011, 2020.
- 44) Vione, D. N. Colombo, D. Said-Pullicino, D. Bocchiola, G. Confortola, F. Salerno, G. Viviano, S. Fratianni, M. Martin, D. Godone, M. Freppaz. *Seasonal variations in the optical characteristics of dissolved organic matter in glacial pond water*, Science of The Total Environment, 759, 2021, 143464. <https://doi.org/10.1016/j.scitotenv.2020.143464>
- 45) Fuso, F., Casale, F. Giudici, F. Bocchiola, D., *Future Hydrology of the Cryospheric Driven Lake Como Catchment in Italy under Climate Change Scenarios*, Climate. 2021, 9(1), 8; <https://doi.org/10.3390/cli9010008>.
- 46) Stucchi, L., Bignami, D.F., Bocchiola, D., Del Curto, D., Garzullino, A., Rosso, R., *Assessment of Climate-Driven Flood Risk and Adaptation Supporting the Conservation Management Plan of a Heritage Site. The National Art Schools of Cuba*, Climate, 9(2), 23, 2021. <https://doi.org/10.3390/cli9020023>.
- 47) Bombelli, G.M., Tomiet, S., Bianchi, A., Bocchiola, D., *Impact of prospective climate change scenarios upon hydropower potential of Ethiopia in GERD and GIBE Dams*. Water, 13(5), 716; <https://doi.org/10.3390/w13050716>, 2021.
- 48) Maruffi, L., Stucchi, L., Casale, F., Bocchiola, D., *Soil erosion and sediment transport under climate change for Mera River, in Italian Alps of Valchiavenna*, Science of The Total Environment, 806, 150651, 2022.
- 49) Bombelli, G.M., Confortola, G., Maggioni, M., Freppaz, M., Bocchiola, D., *Modelling of gliding avalanches: a case study in the North-Western Italian Alps*, Climate, 9(12), 171; <https://doi.org/10.3390/cli9120171>, 2021.

- 50) Casale, F., Fuso, F., Giuliani, M., Castelletti, A., Bocchiola, D., *Exploring future vulnerabilities of subalpine Italian regulated lakes under different climate scenarios: bottom-up vs top-down and CMIP5 vs CMIP6*, J. Hydrol. Reg. Studies, 38, 100973, 2021.
- 51) Bocchiola, D., Chirico, F., Soncini, A., Azzoni, R.S., Diolaiuti, G.A., Senese, A. *Assessment of recent flow, and calving rate of the Perito Moreno Glacier using LANDSAT and SENTINEL2 images*, Remote Sensing, 2022, 14(1), 52. <https://doi.org/10.3390/rs14010052>
- 52) Carletti, F., Michel, A., Casale, F., Bocchiola, D., Lehning, M., Bavay, M., *A comparison of hydrological models with different level of complexity in Alpine regions in the context of climate change*, HESS, Hydrol. Earth Syst. Sci., 26, 3447–3475, 2022, <https://doi.org/10.5194/hess-26-3447-2022>
- 53) Casale, F., Bocchiola, D. *Climate Change Effects upon Pasture in the Alps: The Case of Valtellina Valley, Italy*. Climate, 2022. <https://www.mdpi.com/2225-1154/10/11/173>
- 54) Fuso, F., Stucchi, L., Bonacina, L., Fornaroli, R., Bocchiola, D. *Evaluation of water temperature under changing climate and its effect on river habitat in a regulated Alpine catchment*. J. Hydrol., 616, 128816, 2023.
- 55) Chiarelli, D.D., Galizzi, M., Bocchiola, D., Rosso, R., Rulli, M.C., *Modelling Snowmelt influence on shallow landslides in Tartano valley, Italian Alps*, Science of The Total Environment, 856(1)158772, 2023.
- 56) Stucchi, L., Dresti, C., Bocchiola, D., *Centenary (1930–2023) climate, and snow cover changes in the Western Alps of Italy. The Ossola valley*, Climatic Change, 176(6), 1-24, 2023.
- 57) Stucchi L., Bocchiola D., Simoni, C., Ambrosini, S. R., Bianchi A., Rosso, R. *Future hydropower production under the framework of NextGenerationEU: the case of Santa Giustina reservoir in Italian Alps*, Renewable Energies, 215, 118980, 2023.
- 58) Stucchi L., Bocchiola D. *Environmental Flow Assessment using multiple criteria: A case study in the Kumbih river, West Sumatra (Indonesia)*, Science of The Total Environment, 901, 166516, 2023.
- 59) Ferrarin, L., Schulz, K., Bocchiola, D., Koch, F., *Morphological indexes to describe snow-cover patterns in a high-alpine area*. Ann. Glaciology, 1-12, <https://doi.org/10.1017/aog.2023.62>, 2023.
- 60) Fuso, F., Bombelli, G., Bocchiola, D., *Ex-post assessment of climate and hydrological projections. Reliability of CMPI6 outputs in Northern Italy*, Theoretical and Applied Climatology, 16(1), 1-20, DOI: 10.1007/s00704-023-04698-5, 2023.
- 61) Stucchi, L., Sharifi, A., Fugazza, D., Traversa, G., Diolaiuti, G.A., Bocchiola, D. *An algorithm to generate 2D riverbed bathymetry of an Alpine river for habitat suitability assessment*. STOTEN, 918, 170703, 2024.