

Fadji Zaoua Maina, Ph.D., Associate Research Scientist

NASA Goddard Space Flight Center, University of Maryland Baltimore County

[Personal website](#), [LinkedIn](#),

Hydrological Science Laboratory, NASA Goddard Space Flight Center, 8800 Greenbelt Rd, Greenbelt, MD 20771

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Professional Experience

Associate Research Scientist, NASA Goddard Space Flight Center, University of Maryland Baltimore County (Greenbelt, Maryland, USA)

December 2021 - Present

Associate Scientist, NASA Goddard Space Flight Center, Universities Space Research Association (Greenbelt, Maryland, USA)

August 2020 - November 2021

Postdoctoral Researcher, Lawrence Berkeley National Laboratory (Berkeley, California, USA)

March 2018 - August 2020

Postdoctoral Researcher, Politecnico di Milano (Milan, Italy)

February 2017 - March 2018

Postdoctoral Researcher, Laboratory of Hydrology and Geochemistry of Strasbourg, French National Center for Scientific Research (Strasbourg, France)

October 2016 - January 2017

Graduate Research Assistant, French Alternative Energies and Atomic Energy Commission (Cadarache & Strasbourg, France)

October 2013 - September 2016

Graduate Research Assistant, Laboratory of Hydrology and Geochemistry of Strasbourg, French National Center for Scientific Research (Strasbourg, France)

February 2013 - June 2013

Education

Ph.D. in Hydrology, University of Strasbourg (France) 2013 - 2016

- Dissertation title: Estimation of groundwater recharge by inversion in a complex hydrogeological system
- Thesis deemed exceptional by an international committee, Kepler Award 2017: “Chapitre Saint Thomas” Award for the University of Strasbourg best PhD Thesis in STEM

M.S. in Environmental Engineering, University of Strasbourg (France) 2011 - 2013

- Dissertation title: Comparison of models of pollutants transport in porous media
- Honor Student

B.S. in Geological Engineering, University of Fes (Morocco) 2008 - 2011

- Honor Student

Achievements and Awards

- [Led one of the top NASA Earth Science Discoveries of 2024](#), 2025
- NASA GSFC Hydrosphere, Biosphere, Geophysics Peer Award for Scientific Achievement, 2023
- Listed among the [25 Outstanding African Women Scientists](#) by the United Nations Economic Commission for Africa, 2022
- NASA GSFC Hydrosphere, Biosphere, Geophysics Peer Award for Scientific Achievement, 2021
- [Listed among the African Women of the year 2020 by the New African Women](#), 2020
- [Listed among the 100 most influential Africans, New African Magazine, a bestselling pan-African magazine](#), 2020
- [Forbes 30 Under 30, Class of 2020, 2020](#)
- Selected to present my research at the Science Translator Showcase at the California State Capitol, 2020

- Top downloaded paper, Hydrological Processes Journal, 2020
- Science SLAM finalist at Berkeley Lab, [link to the video](#), 2019
- [Rising Star in Civil and Environmental Engineering](#), Massachusetts Institute of Technology (MIT), 2019
- Rising Star in Hydrology, Gordon Research Conference, 2019
- Kepler Award “Chapitre Saint Thomas” Award for the University of Strasbourg’ best PhD Thesis in Science and Engineering, 2017
- Recipient of the French government excellence scholarship, 2012 - 2013
- Recipient of the Moroccan government excellence scholarship, 2008 - 2011

Publications

30. Maina, F.Z., Kumar S.V. “Global patterns of rain-on-snow and its impacts on runoff from past to future projections”. *Accepted. Nature Communications*.
29. Getirana A., Kumar Biswas N., Kumar S., Nie W., Ahmad S., Maina F.Z., Sakib N., Hossain M.S., Kumar Biswas R. Unsustainable groundwater-fed irrigation drives deltaic water scarcity and compound flooding. *Accepted. Nature Sustainability*.
28. Maina, F.Z., Rosen D., Abbaszadeh P., Yang C., Kumar S.V., Rodell M., Maxwell R. 2025. Integrating the interconnections between groundwater and land surface processes through the coupled NASA land information system and ParFlow environment. *Journal of Advances in Modeling Earth Systems*, 17, e2024MS004415. <https://doi.org/10.1029/2024MS004415>
27. Dennedy-Frank, P. J., Visser, A., Maina, F. Z., & Siirila-Woodburn, E. R. 2024. Investigating mountain watershed headwater-to-groundwater connections, water sources, and storage selection behavior with dynamic-flux particle tracking. *Journal of Advances in Modeling Earth Systems*, 16, e2023MS003976. <https://doi.org/10.1029/2023MS003976>
26. Maina, F.Z., Xue Y., Kumar S.V., Getirana A., McLarty S., Appana R., Forman B., Zaitchik B., Loomis B., Maggioni V., Zhou Y. 2024. “Development of a multidecadal land reanalysis over High Mountain Asia”, *Sci Data* 11, 827 (2024). <https://doi.org/10.1038/s41597-024-03643-z>
25. Maina, F.Z., Getirana, A., Kumar, S.V., Saharia M., Kumar B. N., McLarty S., Appana R. 2024. “Irrigation-driven groundwater depletion in the Ganges-Brahmaputra basin decreases the streamflow in the Bay of Bengal” *Commun Earth Environ* 5, 169. <https://doi.org/10.1038/s43247-024-01348-0>
24. Dollan I. J., Maina F. Z., Kumar S. V., Nikolopoulos E. I., Maggioni V. 2024. “An assessment of gridded precipitation products over High Mountain Asia” *Journal of Hydrology: Regional Studies*, <https://doi.org/10.1016/j.ejrh.2024.101675>
23. Maina, F. Z. and Kumar, S. V. 2024 “Anthropogenic Influences Alter the Response and Seasonality of Evapotranspiration: A Case Study Over Two High Mountain Asia Basins”. *Geophysical Research Letters*, 51, e2023GL107182, <https://doi.org/10.1029/2023GL107182>.
22. Siirila-Woodburn, E. R., Dennedy-Frank, P. J., Rhoades, A., Vahmani, P., Maina, F. Z., Hatchett, B., et al. 2023 “The role of atmospheric rivers on groundwater: Lessons learned from an extreme wet year”. *Water Resources Research*, 59, e2022WR033061. <https://doi.org/10.1029/2022WR033061>.
21. Maina, F. Z., Kumar S.V. 2023 “Diverging trends in rain-on-snow over High Mountain Asia” *Earth’s Future*, <https://doi.org/10.1029/2022EF003009>.
20. Maina, F. Z., Kumar, S. V., & Gangodagamage, C. 2022 “Irrigation and warming drive the decreases in surface albedo over High Mountain Asia”. *Scientific Reports*, 12(1), 16163. <https://doi.org/10.1038/s41598-022-20564-2>
19. Maina, F. Z., Kumar, S. V., Dollan, I. J., & Maggioni, V. 2022 “Development and evaluation of ensemble consensus precipitation estimates over High Mountain Asia”. *Journal of Hydrometeorology*, 1(aop). <https://doi.org/10.1175/JHM-D-21-0196.1>
18. Maina, F. Z., Rhoades, A., Siirila-Woodburn, E. R., & Dennedy-Frank, P.-J. 2022. “Projecting end-of-century climate extremes and their impacts on the hydrology of a representative California watershed”. *Hydrology and Earth System Sciences*, 26(13), 3589–3609. <https://doi.org/10.5194/hess-26-3589-2022>
17. Maina, F. Z., Wainwright, H. M., Dennedy-Frank, P. J., & Siirila-Woodburn, E. R. 2022 “On the similarity of hillslope hydrologic function: a clustering approach based on groundwater

changes”. *Hydrology and Earth System Sciences*, 26(14), 3805–3823. <https://doi.org/10.5194/hess-26-3805-2022>

16. Maina, F. Z., Siirila-Woodburn E., Dennedy-Frank P.J., 2022 “Assessing the interconnectivity between evapotranspiration and subsurface hydrology in mountainous watersheds” *Journal of Hydrology*, 608, 127620. <https://doi.org/10.1016/j.jhydrol.2022.127620>

15. Maina, F.Z., Kumar, S.V., Albergel, C., Mahanama S. P., 2022, “Warming, increase in precipitation, and irrigation enhance greening in High Mountain Asia”. *Commun Earth Environ* 3, 43. <https://doi.org/10.1038/s43247-022-00374-0>

14. Maina, F. Z., Riva. M, Guadagnini, A. 2021 “Impact of multiple-uncertainties on gravimetric variations within heterogeneous aquifers during pumping tests” *Adv. Water Resour.* 103978, ISSN 0309-1708, <https://doi.org/10.1016/j.advwatres.2021.103978>.

13. Maavara, T., Siirila-Woodburn, E.R., Maina F. Z., Maxwell, R.M., Sample, J.E., Chadwick, K.D., Carroll, R., Newcomer, M.E., Dong, W., Williams, K.H., Steefel, C.I., Bouskill, N.J. 2021 “Modeling geogenic and atmospheric nitrogen through the East River Watershed, Colorado Rocky Mountains.” *PLoS One*, <https://doi.org/10.1371/journal.pone.0247907>

12. Dobi, F.B., Kouakou, E.K., Nazoumou, Y., Abdou Boko, B., Edimo, S.N., Maina, F.Z., Konaté, M. 2021 “Aquifer Depletion in the Arlit Mining Area (Tim Mersoï Basin, North Niger)” *Water*, 13, 1685. <https://doi.org/10.3390/w13121685>

11. Li Z, Özgen-Xian I., Maina F. Z. 2020. “A mass-conservative predictor-corrector solution to the 1D Richards equation with adaptive time control” *J. Hydrol.* 125809

10. Maina, F. Z. and Siirila-Woodburn, E. R. 2020. “The Role of Subsurface Flow on Evapotranspiration: A Global Sensitivity Analysis” *Water Resour. Res.*, 56(7), e2019WR026612, doi:10.1029/2019WR026612.

9. Maina, F. Z., Siirila-Woodburn, E. R. and Vahmani, P. 2020. “Sensitivity of meteorological-forcing resolution on hydrologic variables” *Hydrol. Earth Syst. Sci.*, 24(7), 3451–3474, doi:<https://doi.org/10.5194/hess-24-3451-2020>

8. Maina, F. Z., Siirila-Woodburn E., Newcomer M., Xu Z., Steefel C. 2020 “Determining the impact of a severe dry to wet transition on watershed hydrodynamics in California, USA with an integrated hydrologic model” *J. Hydrol.* 580, 124358.

7. Graves, A., Rosa, L., Nouhou, A.M., Maina, F. Z., Adoum, D., 2019. “Avert catastrophe now in Africa’s Sahel” *Nature* 575, 282–286. <https://doi.org/10.1038/d41586-019-03445-z>

6. Maina, F. Z., Siirila-Woodburn E., 2019 “Watersheds dynamics following wildfires: nonlinear feedbacks and implications on hydrologic responses” *Hydrological Processes*, hyp.13568. <https://doi.org/10.1002/hyp.13568>.

5. Maina, F. Z., Guadagnini, A. 2018. “Uncertainty quantification and global sensitivity analysis of subsurface flow parameters to gravimetric variations during pumping tests in unconfined aquifers” *Water Resources Research*, 54, 501–518. <https://doi.org/10.1002/2017WR021655>

4. Maina F. Z., Ackerer P. 2017. “Groundwater flow parameter estimation using refinement and coarsening indicators for adaptive downscaling parameterization” *Adv. Water Resour.* 100, 139–152. doi:10.1016/j.advwatres.2016.12.013

3. Maina F. Z., Ackerer P. 2017. “Ross scheme, Newton–Raphson iterative methods and time-stepping strategies for solving the mixed form of Richards’ equation” *Hydrol Earth Syst Sci* 21, 2667–2683. doi:10.5194/hess-21-2667-2017

2. Maina F. Z., Ackerer, P., Younes, A., Guadagnini, A., Berkowitz, B., 2017. “Benchmarking numerical codes for tracer transport with the aid of laboratory-scale experiments in 2D heterogeneous porous media” *J. Contam. Hydrol.* doi:10.1016/j.jconhyd.2017.06.001

1. Maina F. Z., Delay F., Ackerer P. 2017. “Estimating initial conditions for groundwater flow modeling using an adaptive inverse method” *J. Hydrol.* 552, 52–61. doi:10.1016/j.jhydrol.2017.06.041

Publications (under review)

31. Maina, F.Z., Kumar S.V. “Comparative analysis of gridded precipitation products and the development of a blended product in the Andes and surrounding regions”

Invited Presentations

- 35. Maina, F.Z.** “Hydrological Shifts Under Climate and Human Influences: Insights From Modeling and Satellite Observations”, 2025, Invited Seminar, Stanford University, Stanford, California
- 35. Maina, F.Z.** “Advancing IDRO’s Mission with NASA’s Water Insight”, 2024, International Drought Resilience Alliance at the UNCCD COP16, Riyadh, Saudi Arabia
- 34. Maina, F.Z.** “Restoring land in West Africa’s transboundary basins: tackling climate and hydrological challenges”, 2024, G20 Land Initiative at UNCCD COP16, Riyadh, Saudi Arabia
- 33. Maina, F.Z.** “Reviving the Sahel: transformative approaches to land restoration and climate resilience”, 2024, Science Day at UNCCD COP16, Riyadh, Saudi Arabia
- 32. Maina, F.Z.** “Innovative applications of satellite data in water resource management”, 2024, [ComoLake Conferences](#), Cernobbio, Italy
- 31. Maina, F.Z.** “Deciphering the impacts of climate-human interactions on hydrology through satellite observations”, 2024, King Abdullah University of Science and Technology, Thuwal, Saudi Arabia
- 30. Maina, F.Z.** “Deciphering the impacts of climate-human interactions on hydrology through satellite observations”, 2024, JMSC, Strasbourg, France
- 29. Maina, F.Z.** “Creating a water atlas: a scientist’s odyssey across borders and disciplines”, 2024, ENGEES, Strasbourg, France
- 28. Maina, F.Z.** “The impacts of climate change and human management on the hydrology of High Mountain Asia”, 2024, George Mason University, Fairfax, Virginia, USA
- 27. Maina, F.Z.** “Providing transboundary solutions through innovative products overcoming the challenges of data sharing”, 2023, World Water Week, online & Stockholm, Sweden
- 26. Maina, F.Z.** “Etudier l’eau de l’espace”, 2023, Université Abdou Moumouni, Niamey, Niger
- 25. Maina, F.Z.** “Satellite observations reveal the responses of Asian water towers to a changing climate and agricultural activities”, 2023, Stanford University, Stanford, California, USA
- 24. Maina, F.Z.** “The impacts of a changing climate and human activities on the hydrology of High Mountain Asia”, 2023, Montclair State University, Montclair, New Jersey, USA
- 23. Maina, F.Z., Kumar S.V** “rain-on-snow events over High Mountain Asia”, 2022, AGU Fall Meeting, Chicago, Illinois, USA
- 22. Maina, F.Z., Kumar S.V., Albergel C., Mahanama S. P., Gangodagamage C.** “Disentangling the impacts of anthropogenic activities and changing climate on the land surface processes in High Mountain Asia”, 2022, AGU Fall Meeting, Chicago, Illinois, USA
- 21. Maina F.Z.** “On the use of space technology to tackle water scarcity issues”, 2022, [The Africa Aerospace and Defense Exhibition](#), Pretoria, South Africa
- 20. Maina F.Z.** “On the 21st century techniques to boost the achievement of groundwater related SDG targets”, 2022, [International Conference “Groundwater, key to the Sustainable Development Goals”](#), Paris, France
- 19. Maina F.Z.** “How does California’s new normal shape its hydrology?”, 2021, Rice University, Houston, Texas, USA
- 18. Maina F.Z.** “le parcours prestigieux d’une scientifique de Zinder (Niger)”, 2021, Webinar organized by region globale France, [link to the video](#).
- 17. Maina F. Z.** “Understanding the impacts of wildfires on water supply in California”, 2020, AGU fall meeting, San Francisco, California, USA
- 16. Maina F. Z.** “Sortir de l’ordinaire avec des choses ordinaires”, 2020, meeting organized by CIPMEN (The Incubator Center of Small and Medium Enterprises of Niger”, Niamey, Niger
- 15. Maina F. Z.** “The rise of water from wildfires”, 2020, “Fête de la Science” organized by DFI (Network for French PhDs in the USA) in partnership with the Office of Science of the French Embassy in the USA, Washington, District of Columbia, USA, [link to the video](#)
- 14. Maina F. Z.** “Understanding the impacts of a changing climate on water supply in California”, 2020, University of Pittsburgh, Pennsylvania, USA
- 13. Maina F.Z.** Washington Forum, 2020, Washington, District of Columbia, USA, [link to the video](#)
- 12. Maina F. Z.** “Understanding the impacts of a changing climate on water supply in California”, 2020, Summer Institute, University of Washington, Seattle, Washington, USA
- 11. Maina F. Z** “How do wildfires impact water supply in California?”, 2020, Midday Science Café, Berkeley, California, USA, [link to the video](#)

10. **Maina F.Z.** “Feedback between evapotranspiration and subsurface flow: a global sensitivity analysis”, SIAM Uncertainty Quantification 2020, Munich, Germany
9. **Maina F. Z.** “Introduction to modeling in hydrology” 2018, University of Niamey, Niamey, Niger
8. **Maina F. Z.** “Nigerien Women in Science” Africa Science Week 2018 with the parrainage of the First Lady of Niger, Niamey, Niger
7. **Maina F. Z.** “Introduction to modeling in hydrology” 2018, workshop at the University of Niamey (Niger)
6. **Maina F. Z.** “On the use of numerical models to understand water scarcity in Zinder (Niger)” 2018, University of Zinder, Zinder, Niger
5. **Maina F. Z.** “Calibrating an integrated hydrologic model using hydraulic heads” 2018, Lawrence Berkeley National Laboratory, California, USA
4. **Maina F. Z.** “Inverse problems in hydrology”, 2018, workshop at the University of Strasbourg (France)
3. **Maina F. Z.** “Estimation of groundwater recharge by inversion” 2016, University Pierre et Marie Curie, Paris, France
2. **Maina F. Z.** “Estimating initial conditions using inverse modeling” 2016, AquifR meeting, Paris, France
1. **Maina F. Z.** “Adaptive downscaling parameterization for inverse models” 2016, CEA, Cadarache, France

Conferences

25. **Maina, F.Z.**, NASA WaterInSight Team “Enhancing Precision Agriculture Through Innovative Fine-Scale Surface Meteorology”, 2025, Third U.S.-Africa Frontiers of Science, Engineering, and Medicine Symposium, Kigali, Rwanda
24. **Maina, F.Z.**, Rosen D., Abbaszadeh P., Yang C., Kumar S.V., Rodell M., Maxwell R. “Linking Groundwater and Land Surface Processes with the Coupled NASA Land Information System and ParFlow Framework”, 2025, AMS Annual Meeting, New Orleans, Louisiana, USA
23. **Maina, F.Z.**, Kumar S.V. “Rain-on-snow and its consequences on the hydrology from the historical period to the end of the century”, 2024, AGU Fall Meeting, Washington, DC, USA
22. **Maina, F.Z.**, Kumar S.V., Mocko D., Whitney K., Locke K. “Development of a fine-scale North American precipitation analysis for retrospective and operational applications”, 2024, AWRA, UCOWR, NIWR 60th Anniversary Joint Water Resources Conference, Saint Louis, Missouri, USA
21. **Maina, F.Z.**, Kumar S.V., Mocko D., Kemp E., Collins C., Beck J. “NLDAS-3, a fine scale surface meteorology dataset for North and Central America”, 2024, AGU Water Science Conference, Saint Paul, Minnesota, USA
20. **Maina, F.Z.**, Kumar S.V., Mocko D., Kemp E., Collins C., Beck J. “Development of a fine-scale North American precipitation analysis for retrospective and operational applications”, 2024, AMS Annual Meeting, Baltimore, Maryland, USA
19. **Maina, F.Z.**, Getirana A., Kumar S.V., Saharia M., Kumar B. N., McLarty S., Appana R. “A multivariate data assimilation to estimate the impacts of groundwater depletion in the Ganges-Brahmaputra on the Bay of Bengal’s streamflow”, 2023, AGU Fall Meeting, San Francisco, California, USA
18. **Maina, F.Z.**, Kumar S.V., Getirana A., Forman B., Zaitchik B., Loomis B., Maggioni V., Xue Y., Zhou Y. “Development of a multidecadal land reanalysis over High Mountain Asia”, 2023, AMS Annual Meeting, Denver, Colorado, USA
17. **Maina, F.Z.**, Kumar S.V., Albergel C., Mahanama S. P., Gangodagamage C. “Evaluation of the impacts of warming, greening, and irrigation on the surface albedo in High Mountain Asia”, 2022, AMS Annual Meeting, Houston, Texas, USA
16. **Maina, F. Z.**, Kumar S.V., Albergel C., Mahanama S. P. “Drivers of greening in High Mountain Asia: a multivariate analysis based on remote sensing data”, 2021, AGU Fall Meeting, New Orleans, Louisiana, USA
15. **Maina F. Z.**, Rhoades A., Siirila-Woodburn E., Dennedy-Frank J. “Impacts of end of century climate extremes on California hydrology”, 2020, AGU Fall Meeting, San Francisco, California, USA
14. **Maina F. Z.** “Understanding the impact of climate extremes and wildfires on Californian watersheds using an integrated hydrologic model”, 2019, MIT CEE Rising Stars workshop, Cambridge, Massachusetts, USA

13. **Maina F. Z.** “Sustainable water for an uncertain future”, German Academic International Network meeting, 2019, San Francisco, California, USA, [link to the video](#)
12. **Maina F. Z.**, Siirila-Woodburn E. “Nonlinear impacts of post-wildfire conditions on watershed hydrodynamics” Rising Star talk at Gordon Research Conference, Catchment Science, 2019, Andover, New Hampshire, USA
11. **Maina F. Z.**, Siirila-Woodburn E. “Nonlinear impacts of post-wildfire conditions on watershed hydrodynamics” Gordon Research Seminar, Catchment Science, 2019, Andover, New Hampshire, USA
10. **Maina, F. Z.**, Siirila-Woodburn E., Newcomer M., Xu Z., Steefel C. “Assessing the impact of climate extremes on watershed dynamics”, EGU General Assembly, 2019, Vienna, Austria
9. **Maina, F. Z.**, Siirila-Woodburn E., Vahmani P. “Impacts of meteorological forcing spatial resolution on hydrologic modeling”, AGU Fall Meeting, 2019, San Francisco, California, USA
8. **Maina, F. Z.**, Xu Z., Siirila-Woodburn E., “Sensitivity of simulated land surface processes to the spatiotemporal distribution of precipitation in mountainous areas: East River” Scientific Focus Area Retreat, 2019, Bodega Bay, California, USA
7. **Maina, F. Z.**, Siirila-Woodburn E., Dennedy-Frank P.J. “Quantifying water availability in the aftermath of a wildfire with an integrated hydrologic model”, Managed Aquifer Recharge Conference, California Department of Water Resources, 2019, Sacramento, California, USA
6. **Maina F. Z.**, Siirila-Woodburn E. “Watersheds dynamics following wildfires: nonlinear feedbacks and implications on hydrologic responses” Gordon Research Conference, Catchment Science, 2019, Andover, New Hampshire, USA
5. **Maina F. Z.**, Guadagnini A. “Global sensitivity analysis of subsurface flow parameters to gravimetric variations during pumping tests in unconfined aquifers”, Gordon Research Seminar, Flow and Transport in Permeable Media, 2018, Newry, Maine, USA
4. **Maina, F. Z.**, Siirila-Woodburn E., Newcomer M., Xu Z., Steefel C. “Watershed dynamics and connectivity from headwaters to groundwater”, AGU Fall Meeting, 2018, Washington, District of Columbia, USA, - elightning presentation
3. **Maina F. Z.**, Newcomer M., Xu Z., Woodburn E. “Using high resolution integrated hydrologic models and uncertainty quantification tools to understand dynamic watershed behavior across scales”, Gordon Research Conference, Flow and Transport in Permeable Media, 2018, Newry, Maine, USA
2. **Maina F. Z.**, Bildstein O., Ackerer P. “Can we simultaneously calibrate groundwater recharge and aquifer hydrodynamic parameters?”, EGU General Assembly, 2017, Vienna, Austria
1. **Maina F. Z.**, Bildstein O., Ackerer P. “Simultaneous estimation of groundwater recharge and hydrodynamic parameters for groundwater flow modeling”, VIII International Conference on Sensitivity Analysis of Model Output, 2016, Le Tampon, France

Professional Service

- Editor for HESS, 2023 - present
- Associate Editor for Scientific Report, 2023 - present
- Jury Member of the [UNESCO-AI Fozan Prize for the Promotion of Young Scientists in STEM](#), appointed by the UNESCO Director-General, 2022 - 2024
- NSF Career panelist for grant reviews, 2022, 2023
- NASA ROSES panelist for grant reviews, 2020, 2023
- User Working Group Member of [NSIDC](#), 2021 - present
- Member of AMS hydrology committee, 2021-present
- Editor for PloS Water, 2021 - present
- Associate editor for frontiers in climate, frontiers in water, and hydrogeology journal, 2021 - present
- Reviewer for NSF Career proposals, 2020 - present
- Reviewer for Nature Sustainability, Nature Communications, the Journal of Hydrology, Water Resources Research, Hydrology Earth and System Sciences, Geophysical Research Letter, JAMES, AMBIO, Hydrogeology Journal, Hydrological Sciences, Journal of Hydrometeorology, Communication Earth and Environment, One Earth, and MDPI journals

Languages

English: Fluent, **French:** Native, **Hausa:** Native, **Italian:** level B1 (Intermediate), **Arabic:** Reading and writing

Professional Societies

- American Geophysical Union, 2018 - present
- American Meteorological Society, 2021 - present

Other Experiences

- Panelist at the [French Development Agency Tech Talk](#) titled “Artificial Intelligence and Water Resources: Opportunities and Challenges”, online
- Attended the Technical Meeting of the World Meteorological Organization (WMO) Annual State of Global Water Resources Report Development Team, 2025, Geneva, Switzerland
- Panelist at the International Drought Resilience Observatory side event “Advancing Drought Resilience through Collaboration and Innovation” at UNCCD COP16, 2024, Riyadh, Saudi Arabia
- Panelist at the International Water Management Institute (IWMI) and the Economic Community Of West African States (ECOWAS) WaterTalk seminar “Role of AI and big data in shaping West Africa’s water future”, 2024, online.
- Panelist at the International Drought Resilience Observatory side event “The International Drought Resilience Observatory (IDRO) Unveiled: Revolutionizing Global Drought Resilience” at UN Drought Resilience +10 Conference, 2024, Geneva, Switzerland.
- Panelist at the high-level ministerial event “Elevating the Climate-Land-Nature-Drought-Nexus, from Climate COP28 to Land COP16” organized by UNCCD IDRA (International Drought Resilience Alliance) at the COP28, 2023, Dubai, United Arab Emirates.
- Panelist at UNESCO’s conference, Euro-Africa Water Days, 2023, Montpellier, France
- Led a 9-month mentoring program for Nigerien PhD students and postdocs, 2023 - present
- Selected by the magazine Forbes to attend [Reality Women](#), a leadership training for influential and inspiring women recognized on the Forbes 30 Under 30 List, 2022
- Attended the [Forbes 30/50 Women Summit](#), 2022, Abu Dhabi, United Arab Emirates
- Invited to the Sahelian concertation organized by [OCDE Sahel Club](#), 2021, Niamey, Niger
- Invited to a high-level panel on renewable energies in the Sahel by the United Nations Development Programme UNDP Senegal, 2021, online
- Invited to discuss girls’ education with the Deputy Secretary General of the United Nations, 2020, Niamey, Niger
- [Attended](#) the National Postdoc Association meeting, 2019, Orlando, Florida, USA
- Participated in the DWR workshop and summit “Planning For Change”, 2019, Tahoe City, California, USA
- Served as a judge for master student presentations at GEM conference, 2019, Chicago, Illinois, USA
- Invited to discuss with Congress members visiting Berkeley Lab, 2019, Berkeley, California, USA
- Invited to meet the President of National Academy of Sciences visiting Berkeley Lab, 2019, Berkeley, California, USA

Leadership Experience

- Team Lead for GESTAR II Hydrological Sciences Lab, 2022 - 2023.
- [Oasis initiative \(an organization aiming to advance women and girls education in Niger\) board member \(2020 - present\)](#)
- Lawrence Berkeley National Laboratory Postdoc Association (BLPA) – Communication and outreach committee coordinator (2018 - 2020)
 - Interview and write ‘[Coffee with postdocs](#)’ a blog post highlighting the contribution of Berkeley Lab postdocs to the breakthrough research of the Lab.
- Next Einstein Forum - Africa Science Week Niger - Communication and outreach committee coordinator (2018)

- Vice president of the youth parliament of Niger (2008)
 - Selected to represent Nigerien youth at the National Parliament of Niger

Selected Press Coverage

My research and scientific journey were highlighted by many international media such as Forbes, BBC, The Washington Post, RFI, and DW.

- [Irrigation reduces the streamflow in the Bay of Bengal](#)
- [Fadji Maïna, hydrologue à la NASA : il faut la parité hommes-femmes dans les sciences](#)
- [Data from NASA's NSIDC DAAC help scientists like Dr. Fadji Z. Maina research hydrological change in High Mountain Asia](#)
- [Niger-Born NASA Scientist Shares Her Story](#)
- [World's great science minds inspire Saudi students at Mawhiba event](#)
- [Explorer l'espace aux côtés de Fadji Maina](#)
- [Washington Forum: Faire face au changement climatique](#)
- [AGU Panel: Navigating Academic Waters Panel with AGU H3S: Navigating Non-Academic Waters](#)
- [Early Career Spotlight NASA GSFC, Dr. Fadji Maina](#)
- [Earth, Ocean, and Skies, insight from selected outstanding African women scientists](#)
- [One scientist's journey from Niger to NASA](#)
- [Dr. Fadji Maina, une étoile montante dans le paysage scientifique africain, Next Einstein Forum](#)
- [From Niger to Nasa, Dr. Fadji Zaouana Maina, a special interview featured in the United Nations Integrated Strategy for the Sahel 2020 magazine](#)
- [On International Women's Day, these atmospheric scientists inspire us](#)
- [Jusqu'où nous entraîneront les femmes de science?](#)
- [The African women who made 2020 their year, BBC News Africa](#)
- [Fadji Maina's journey from Zinder to Nasa, a podcast in Hausa](#)
- [Fadji Zaouana Maina: "Studio l'acqua alla Nasa e spero di salvare il mio Niger"](#)
- [Dr Fadji Maina, première scientifique de la NASA originaire du Niger, BBC News Afrique](#)
- [Fadji Maina, ses recherches séduisent la NASA, Amina Magazine numéro 599](#)
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- [Fadji Maina: 'Yar Nijar ta farko mai aiki a hukumar NASA ta Amurka](#)
- [Fadji: 'Yar Nijar A Cibiyar Sama Jannatin Amurka](#)
- [Le Président de la République, SEM Issoufou Mahamadou a eu mercredi 02 Septembre 2020, un entretien téléphonique avec Dr. Fadji Maina, la 1ère scientifique nigérienne à travailler à la NASA](#)
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- [Berkeley Lab study finds California wildfires increase runoff, groundwater](#)
- [Supercomputing Post-Wildfire Water Availability](#)

- [How California Wildfires Can Impact Water Availability](#), the news also appeared on [phys.org](#), [EurekAlert](#), [ScienceDaily](#), [ScienceBlog](#), [ScienceSprings](#), [Napawatersheds](#), [MavenNoteBook](#), etc.
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