

IBRAHIMA DIOUF, Ph.D.

Lecturer-Researcher in Climate & Health | International Consultant | IPCC AR7 Lead Author

Cheikh Anta Diop University (ESP/UCAD), Senegal • University of Labé (UL), Guinea

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Portfolio: scientific-hub-lab.github.io/Dr-Ibrahima-Diouf | Hugging Face: huggingface.co/idiouf

EDUCATION

Ph.D. - Climate and Health Impacts

ESP/UCAD

Jan. 2010 - Nov. 2016

Master's - Meteorology, Oceanography, Arid Zones Management

ESP/UCAD

Jan. 2009 - Dec. 2010

Master's - Physics and Chemistry

Faculty of Science and Technology,
UCAD (FST/UCAD)

Jan. 2006 - Dec. 2008

PROFESSIONAL AFFILIATIONS

- Francophone Team Lead, HMST - Global Fund (Senegal, Niger, CAR, Guinea-Bissau)
- Lead Author, IPCC AR7 (Chapter 7 - Africa), Working Group II
- Expert, IIED - Inclusive Indicators for the Global Goal on Adaptation
- Co-Chair, Applied Malaria Modeling Network (AMMnet, Senegal)
- Member, American Meteorological Society (AMS)
- Member, African Meteorological Society (AfMS)
- Member, Standards Team for Official Statistics on Climate-Health Interactions
- Member, International Expert Centre on Climate Change and Health (IECCCH)
- Contributing Author, CMIP Project Office (CMIP-PO)

TECHNICAL SKILLS

Software & Programming

MS Office, MATLAB, R, Python, GIS, Linux, FORTRAN, MS-DOS

Modelling & Data Analysis

Observations and model output; LMM, VECTRI, S4CAST, CPT, CMT

AI & Machine Learning

Machine learning applied to climate-health forecasting

PROFILE

- Over 15 years of interdisciplinary experience in climate and health research, with strong expertise in climate variability, vector-borne disease modelling, and health system resilience.
- Ph.D. in Climate and Health Impacts, focused on seasonal forecasting, climate modelling, and public health risk in West Africa.
- Extensive experience on national and international projects funded by the European Union (EU FP7), USAID, WHO, UNICEF, NOAA, and IRD.
- Proven record in academic teaching, project coordination, scientific writing, and stakeholder engagement.
- Currently Lead Author for Chapter 7 (Africa), IPCC Seventh Assessment Report (AR7), Working Group II.

AREAS OF EXPERTISE

- Climate & Health: Climate-health interactions, seasonal forecasting in West Africa, and the impact of climate variability and change on vector-borne diseases, particularly malaria.
- Research & Capacity Building: Researcher at Cheikh Anta Diop University of Dakar and lecturer-researcher at the University of Labé, Guinea, strengthening national capacity to address climate and health challenges in collaboration with Senegal's Ministry of Health.
- Consultancy & International Projects: Consultant on UNICEF- and USAID-funded projects focused on health system resilience; ongoing collaboration with NOAA since 2017.
- Training & Supervision: Trainer and thesis supervisor across universities in Senegal and Guinea, mentoring the next generation of climate-health researchers.

ACADEMIC, RESEARCH & PROFESSIONAL EXPERIENCE

Lecturer-Researcher - University of Labé, Guinea *(since Oct. 2024)*

- Teaching and research on climate and health; supervision of Master's and Ph.D. students; coordination of academic modules in environmental sciences.

Climate Expert - Institut Pasteur de Dakar - WHO *(since May 2023)*

- Integrated surveillance and control of vector-borne diseases linked to climate change: climate data analysis, risk mapping, and policy recommendations.

Consultant - Ministry of Health and Social Action (MSAS) & Save the Children - UNICEF *(Jun 2023 - Aug 2024)*

- Strengthened health system resilience to climate-related risks; led climate vulnerability assessments and supported strategy design.

Climate Expert - Centre de Suivi Écologique (CSE), Senegal *(Aug 2023 - Jan 2024)*

- Provided technical expertise on climate-health links; conducted community vulnerability assessments and contributed to adaptation policy planning.

Postdoctoral Researcher - Ministry of Environment - NAP-GEF *(Jul 2021 - Dec 2023)*

GRANTS & FUNDING

- EU FP7 (QWeCI, PREFACE)
- GEF (NAP Support Project)
- USAID / Save the Children / UNICEF
- NOAA Postdoctoral Fellowship (UCAR)
- Erasmus Mundus Doctoral Grant

LANGUAGES

French

Native / full professional proficiency

English

Advanced professional proficiency

Spanish

Upper-intermediate proficiency

- Contributed to Senegal's National Adaptation Plan; designed and led stakeholder training; developed educational materials and advised ministries on adaptation data use.

Consultant & Trainer - African Population and Health Research Center (APHRC) - GPSDD *(May - Aug 2023)*

- Designed and delivered training on sustainable development data for health professionals, strengthening national data-analysis capacity.

Postdoc & Associate Scientist - NOAA CPC / UCAR, USA *(Jul 2017 - Jul 2021)*

- Led modeling on malaria and climate variability in Africa; developed early-warning tools; coordinated international collaborations on climate-health simulations.

Researcher - PREFACE - Universidad Complutense de Madrid (UCM), Spain *(Nov 2013 - Oct 2017)*

- Studied the tropical Atlantic's influence on public health in West Africa; integrated climate indicators into health policy.

Postdoctoral Researcher - Centre de Suivi Écologique (CSE), Senegal *(Sep 2016 - May 2017)*

- Analyzed climate change impacts on vector-borne diseases in West Africa; supported development of adaptation policy tools.

Ph.D. Researcher - Universidad Complutense de Madrid (UCM), Spain - Erasmus Mundus *(Oct 2012 - Jul 2015)*

- Investigated oceanic and climate determinants of seasonal malaria dynamics in the Sahel.

Researcher - UCM - UCAD Collaboration *(May 2013 - Oct 2014)*

- Updated resources for the Laboratory of Atmospheric and Ocean Physics (LPAO-SF); contributed to cooperative research and student mentoring.

Ph.D. Researcher - University of Liverpool - QWeCI *(Jan 2010 - Jul 2013)*

- Built malaria-climate databases and tested dynamic disease models; integrated seasonal forecasts into public health systems across West Africa.

Researcher - Africa Adaptation Programme (AAP) - INTAC *(Jan 2010 - Jul 2012)*

- Supported integration of climate adaptation into national planning, working with multidisciplinary teams and government stakeholders.

Researcher - CORDEX-Africa - SSEESS, WCRP, SMHI *(Jan 2016 - Jul 2022)*

- Analyzed downscaled climate projections and modeled malaria responses in West Africa; contributed to peer-reviewed publications and international workshops.

PUBLICATIONS

- Diouf, I. et al. (2026). Spatio-Temporal Changes in Extreme Precipitation over Guinea Using CMIP6 Climate Projections. *International Journal of Climatology* - in review.
- Diouf, I. et al. (2026). Environmental Factors Associated with Malaria During the Rainy Season 2011-2016: The Case of Djiddah Thiaroye Kao Pikine, Dakar, Senegal. *Environmental and Water Sciences, Public Health & Territorial Intelligence* - in review.
- Diouf, I. et al. (2026). Impact of Climate Change on Malaria Incidence in Senegal and Nigeria: A Machine Learning Approach. *Frontiers in Artificial Intelligence (Machine Learning Section)* - in review.
- Diouf, I. et al. (2026). Climate Change and Malaria Control in Africa: Country Experiences and Strategic Responses - in review.

- Diouf, I. et al. (2026). Meningitis Variability in West Africa: Changes and Drivers - in review.
- Maraun, D., Bojovic, D., Parker, W., Shepherd, T.G., Sobolowski, S., Caminade, C., Dosio, A., Gutowski, W.J., Sörensson, A., Diaz, L.B., Diouf, I., et al. (2026). The Importance of Accounting for Stakeholder Values, Power Relationships and Language in Constructing Relevant and Trustworthy Climate Information. *Earth's Future*, 14(1), e2024EF005618.
- Diouf, I., Fall, P., Faye, A., Diouf, S., Diouf, A.K., Barry, M.B., et al., & Sall, A. (2025). Assessment of Spatio-Temporal Trends in Rainfall Indices in Senegal: Validation of CMIP6 Models over the Historical Period and Projections under Future Climate Scenarios. *Climate*, 13(12), 247.
- Ruane, A.C., Pascoe, C.L., Teichmann, C., Brayshaw, D.J., Buontempo, C., Diouf, I., et al. (2024). CMIP7 Data Request: Impacts and Adaptation Priorities and Opportunities. *Geoscientific Model Development*, 18(23), 9497-9540.
- Goudiaby, O., Bodian, A., Dezetter, A., Ogilvie, A., Diouf, I., & Ndiaye, P.M. (2025). Hydrological Evaluation of Gridded Rainfall Products for Streamflow Simulation in West Africa. *Journal of Hydrology: Regional Studies*, 62, 102984.
- Talla, C., Diarra, M., Diouf, I., Thiam, M.S., Gaye, A., Barry, M.A., et al., & Loucoubar, C. (2025). Impact of Climatic Factors on Malaria in Senegal Based on the Surveillance System between 2015 and 2022. *Frontiers in Tropical Diseases*, 6, 1631996.
- Touré, M., Sy, I., Diouf, I., Gueye, O., Bekele, E., Bhuiyan, M.A.E., et al. (2025). Machine Learning-Based Prediction of Heatwave-Related Hospitalizations: A Case Study in Matam, Senegal. *International Journal of Environmental Research and Public Health*, 22, 1349.
- Diouf, D., Martín-Rey, M., Rodríguez-Fonseca, B., Diouf, I., Dione, C., Akinbobola, A., & Gaye, A.T. (2025). Influence of Environmental Variability on Meningitis in West African Countries: Pre- and Post-Vaccination. *Frontiers in Environmental Health*, 4, 1531076.
- Diouf, I., Fall, P., Diakhaté, M., Senghor, H., Dieng, M.D.B., Tompkins, A.M., et al. (2024). Process-Based Atmosphere Hydrology-Malaria Modeling: Performance for Spatio-Temporal Malaria Transmission Dynamics in Sub-Saharan Africa. *Water Resources Research*, 60(6), e2023WR034975.
- Goudiaby, O., Bodian, A., Dezetter, A., Diouf, I., & Ogilvie, A. (2024). Evaluation of Gridded Rainfall Products in Three West African Basins. *Hydrology*, 11(6), 75.
- Diouf, I., Sy, I., Ndioune, J.-A., & Gaye, A.T. (2024). An Overview of Climate Change Impacts on the Health Sector for the Research Program of the National Adaptation Plan Support Project in Senegal. *J. P. Soaphys*, Vol 3, N°2 (2023), C23N22.
- Diouf, I., Sy, I., & Diakhate, M. (2024). Assessing Climate Change Impacts on Public Health in Haiti: A Comprehensive Study of Disease Distribution, Modeling, and Adaptation Strategies. *Frontiers in Tropical Diseases*, 4, 1287499.
- Fall, P., Diouf, I., Deme, A., Diouf, S., Sene, D., Sultan, B., & Janicot, S. (2023). Enhancing Understanding of the Impact of Climate Change on Malaria in West Africa Using VECTRI and Bias-Corrected CMIP6 Data. *Microbiology Research*, 14(4), 2148-2180.
- Fall, P., Diouf, I., Deme, A., Diouf, S., Sene, D., Sultan, B., Famien, A.M., & Janicot, S. (2023). Bias-Corrected CMIP5 Projections for Climate Change and Assessments of Impact on Malaria in Senegal under the VECTRI Model. *Tropical Medicine and Infectious Disease*, 8(6), 310.
- Diouf, I., Ndioune, J.-A., & Gaye, A.T. (2022). Malaria in Senegal: Recent and Future Changes Based on Bias-Corrected CMIP6 Simulations. *Tropical Medicine and Infectious Disease*, 7(11), 345.

- Fall, P., Diouf, I., Deme, A., & Sene, D. (2022). Assessment of Climate-Driven Variations in Malaria Transmission in Senegal Using the VECTRI Model. *Atmosphere*, 13, 418.
- Diouf, I., Suárez-Moreno, R., Rodríguez-Fonseca, B., Caminade, C., Wade, M., Thiaw, M.W., et al. (2021). Oceanic Influence on Seasonal Malaria Incidence in West Africa. *Weather, Climate, and Society*, 14.
- Diouf, I., Gbenga, J.A., Abiodun, M.A., Christopher, L., Joyce, M.S., Pascal, Y., Ndione, J.-A., & Emiola, O.G. (2021). Impact of Future Climate Change on Malaria in West Africa. *Theoretical and Applied Climatology*, 1-13.
- Kanté, I., Diouf, I., Millimono, T., & Kourouma, J. (2021). COVID-19 in Conakry, Guinea: Analysis and Relationship with Meteorological Factors. *Atmospheric and Climate Sciences*, 11.
- Faye, M., Dème, A., Diongue, A.K., & Diouf, I. (2021). Impact of Different Heat Wave Definitions on Daily Mortality in Bandafassi, Senegal. *PLoS ONE*, 16(4), e0249199.
- Diouf, I., Sy, S., Senghor, H., Fall, P., Diouf, D., Diakhate, M., Thiaw, M.W., & Gaye, A.T. (2021). Potential Contribution of Climate Conditions on COVID-19 Transmission over West and North African Countries. *Atmosphere*, 13(1).
- Diouf, I., Rodríguez-Fonseca, B.R., Caminade, C., Thiaw, W.M., Deme, A., Morse, A.P., et al. (2020). Climate Variability and Malaria over West Africa. *American Journal of Tropical Medicine and Hygiene*, 102(5), 1037-1047.
- Kanté, I.K., Sall, S.M., Badiane, D., Diouf, I., Dieng, A.L., Diaby, I., & Guichard, F. (2020). Analysis of Rainfall Dynamics in Conakry, Guinea. *Atmospheric and Climate Sciences*, 10(1), 1.
- Diouf, I., Fonseca, B.F., Deme, A., Caminade, C., Morse, A.P., Cisse, M., et al. (2017). Comparison of Malaria Simulations Driven by Meteorological Observations and Reanalysis Products in Senegal. *International Journal of Environmental Research and Public Health*, 14(10), 1119.
- Diouf, I., Deme, A., Ndione, J.-A., Gaye, A.T., Rodríguez-Fonseca, B., & Cissé, M. (2013). Climate and Health: Observation and Modeling of Malaria in the Ferlo (Senegal). *Comptes Rendus Biologies*, 336(5-6), 253-260.

CONFERENCES & WORKSHOPS

- Second Lead Author Meeting (LAM2), IPCC AR7 Working Group II - Nassau, Bahamas, 18-22 May 2026
- GGA Implementation Workshop, IIED - Addis Ababa, Ethiopia, 1-3 April 2026
- Developing a Shared African Climate Literacy (CORDEX-Africa Workshop 2), University of Cape Town - South Africa, 24-26 March 2026
- Technical Assistance Missions on Climate & Health - HMST (Global Fund), 2026: Senegal (2-8 Feb.), Burundi (9-15 Feb.), CAR (16-22 Feb.), Niger (23-27 Feb.), Guinea-Bissau (13-18 March)
- Expert Meeting on Climate Change and Health, Wellcome Trust - London, UK, 27-29 January 2026
- IPCC AR7 First Lead Author Meeting - Paris, France, 1-5 December 2025
- Annual Meeting, Climate Sensitive Infectious Disease (CSID) Network - Kanchanaburi, Thailand, July 2025
- Global Goal on Adaptation (GGA), SB62 UNFCCC - Bonn, Germany, June 2025
- Validation Workshop on Vulnerability Studies - Dakar, Senegal, May 2025 (Oral presentation)
- FE2025 Malaria Modellers Capacity Building, Iba Der Thiam University - Thiès, Senegal, April 2025 (Trainer)

- SOSEPIT 2nd Congress - Dakar, Senegal, April 2025 (Oral presentation)
- Pre-SB62 Strategic Meeting - Nairobi, Kenya, February 2025
- Scientific Seminar, University of Labé - Guinea, December 2024 (Oral presentation)
- Climate & Malaria Training, INES-Ruhengeri - Rwanda, December 2024 (Trainer)
- MSc Seminar, Universidad Complutense de Madrid (UCM) - Spain, November 2024 (Oral presentation)
- 8th World One Health Congress - Cape Town, South Africa, September 2024 (Poster presentation)
- Climate & Health Conference - Labé, Guinea, July 2023 (Keynote speaker)
- ICTP-IAEA Workshop - Trieste, Italy, May 2023 (Oral presentation)
- CIBiosDA-1 - Abidjan, Côte d'Ivoire, November 2022 (Oral presentation)
- COVID-19 & Climate Symposium - Online, August 2020 (Poster presentation)
- 100th AMS Meeting - Boston, USA, January 2020 (Oral presentation)
- 99th AMS Meeting - Phoenix, USA, January 2019 (Oral presentation)
- Global Climate Variability Symposium - Ankara, Turkey, April 2019 (Oral presentation)
- S2D Forecast Conference - Boulder, USA, September 2018 (Poster presentation)
- AGU Fall Meeting - Washington, DC, USA, December 2018
- CLIVAR PIRATA-PREFACE - Paris, France, December 2016 (Oral presentation)
- ANACIM-NOAA Workshop - Dakar, Senegal, July 2016 (Oral presentation)
- ESP Young Researchers Day, UCAD - Dakar, Senegal, June 2016 (Oral presentation)
- 2nd One Medicine One Science Conference - Minnesota, USA, April 2016 (Poster presentation)
- EGU General Assembly - Vienna, Austria, April 2016 (Poster presentation)
- Science & Innovation Fair - Dakar, Senegal, November 2015
- CAMES Scientific Days (JSDC-2) - Dakar, Senegal, November 2015 (Oral presentation)
- Modeling & Climate Variability Colloquium - Liège, Belgium, July 2015 (Poster presentation)
- AIC 2014 Conference - Dijon, France, July 2014 (Poster presentation)

REFERENCES

Dr. Wassila Mamadou Thiaw NOAA Center for Weather and Climate Prediction, Climate Prediction Center 5830 University Research Court, College Park, Maryland 20740, USA - wassila.thiaw@noaa.gov

Prof. Amadou Thierno Gaye Cheikh Anta Diop University, École Supérieure Polytechnique Laboratory of Physics of Atmosphere and Ocean - Siméon Fongang (LPAO-SF), BP 5085 Dakar-Fann - atgaye@ucad.edu.sn

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