

## IBRAHIMA DIOUF, PH.D.

*Lecturer | Climate and Health Researcher | International Consultant*

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### PROFILE

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

- **Climate and Health:**
    - Specialized in the study of climate-health interactions, with a focus on seasonal forecasting in West Africa and the impact of climate variability and change on vector-borne diseases, particularly malaria.
  - **Research and Capacity Building:**
    - Researcher at Cheikh Anta Diop University of Dakar and lecturer-researcher at the University of Labé in Guinea Conakry, actively involved in strengthening national capacities to address climate and health challenges, in collaboration with the Ministry of Health in Senegal.
  - **Consultancy and International Projects:**
  - Consultant for projects funded by UNICEF and USAID, focusing on health system resilience. Extensive experience enhanced by a collaboration with NOAA (National Oceanic and Atmospheric Administration) in the United States since 2017.
  - **Training and Supervision:**
    - Trainer and thesis supervisor at several universities in Senegal and Guinea, contributing to the education and mentoring of future generations of researchers.
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## EDUCATION

- **École Polytechnique Supérieure, Cheikh Anta Diop University of Dakar (ESP/UCAD)**  
Ph.D. in Climate and Health Impacts, January 2010 – November 2016
  - **École Polytechnique Supérieure, Cheikh Anta Diop University of Dakar (ESP/UCAD)**  
Master's Degree in Meteorology, Oceanography, and Arid Zones Management, January 2009 – December 2010
  - **Faculty of Science and Technology, Cheikh Anta Diop University of Dakar (FST/UCAD)**  
Master's Degree in Physics and Chemistry, January 2006 – December 2008
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## PROFESSIONAL AFFILIATIONS

- Lead Author – IPCC AR7 (Chapter Africa)
  - Expert Project: Delivering Inclusive Indicators for the Global Goal on Adaptation  
Organisation: International Institute for Environment & Development (IIED)
  - Co-chair of the Applied Malaria Modeling Network (AMMnet, Senegal)
  - Member of the American Meteorological Society (AMS)
  - Member of the African Meteorological Society (AfMS)
  - Member of the Standards Team for Official Statistics on Climate-Health Interactions
  - Member of the International Expert Centre on Climate Change and Health (IECCCH)
  - Contributing Author to the Thematic Document on Impacts and Adaptation for the International CMIP Project Office (CMIP-PO)
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## ACADEMIC, RESEARCH AND PROFESSIONAL EXPERIENCES

- **Lecturer-Researcher**, University of Labé, Guinea | Since Oct 2024  
Teaching and research activities focused on climate and health. Supervision of Master's and PhD students. Coordination of academic modules on environmental sciences.
- **Climate Expert**, Institut Pasteur de Dakar – WHO | Since May 2023  
Project on integrated surveillance and control of vector-borne diseases linked to climate change. Responsibilities include climate data analysis, contribution to risk mapping, and policy recommendations.
- **Consultant**, Ministry of Health and Social Action (MSAS) & Save the Children – UNICEF | Jun 2023–Aug 2024  
Involved in strengthening health system resilience in the face of climate-related risks. Led climate vulnerability assessments and supported strategy design.
- **Expert Climatique**, Centre de Suivi Écologique (CSE), Senegal | Aug 2023–Jan 2024  
Provided technical expertise on climate-health links. Conducted assessments on community vulnerability and contributed to adaptation policy planning.
- **Postdoctoral Researcher**, Ministry of Environment – NAP-GEF | Jul 2021–Dec 2023  
Contributed to Senegal's National Adaptation Plan. Designed and led training for

stakeholders. 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. Strengthened national data analysis capacities.
- **Postdoc & Associate Scientist**, NOAA CPC / UCAR, USA | Jul 2017–Jul 2021  
Led modeling activities 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 policies.
- **Postdoctoral Researcher**, Centre de Suivi Écologique (CSE), Senegal | Sep 2016–May 2017  
Analyzed impacts of climate change on vector-borne diseases in West Africa. Supported the creation of policy tools for adaptation.
- **PhD Researcher**, Universidad Complutense de Madrid (UCM), Spain | Oct 2012–Jul 2015  
Research under Erasmus Mundus: 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.
- **PhD 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 the integration of climate adaptation into national planning. Worked 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 intercontinental workshops.

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## SELECTED PUBLICATIONS

- Touré M., Sy I., **Diouf I.**, Gueye O., Bekele E., Bhuiyan M.A.E., Sambou M.J., Ndiaye P.N., Thiaw W.M., Badiane D., Niang A.D., Gaye A.T., Ndiaye O., Faye A. *Machine Learning-Based Prediction of Heatwave-Related Hospitalizations: A Case Study in Matam, Senegal*. International Journal of Environmental Research and Public Health, accepté le 16 juin 2025.
- **Diouf I.**, Fall P., Faye A., Diouf S., Diouf A.K., Barry M.B., Bodian A., Sall A. *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, accepté le 16 juin 2025.

- Diouf D., Martín-Rey M., Rodríguez-Fonseca B., **Diouf I.**, Dione C., Akinbobola A., Gaye A.T. *Influence of Environmental Variability on Meningitis in West African Countries: Pre- and Post-Vaccination*. *Frontiers in Environmental Health*, 2025, 4:1531076. <https://doi.org/10.3389/fenvh.2025.1531076>
- **Diouf I.**, Fall P., Diakhate M., Senghor H., Dieng M.D.B., Tompkins A.M., Arnault J., Sié A., Fersch B., Laux P., Schwarz M., Zabré P., Munga S., Khagayi S., **Diouf I.**, Kunstmann H. (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., Ndione 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, <http://dx.doi.org/10.46411/jpsoaphys.2023.016> 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. <https://www.mdpi.com/2414-6366/8/6/310>
- **Diouf I.**, Ndione 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. <https://doi.org/10.3390/atmos13030418>
- **Diouf I.**, Suárez-Moreno R., Rodríguez-Fonseca B., Caminade C., Wade M., Thiaw M.W., Deme A., Morse A.P., Ndione J.-A., Gaye A.T., Diaw A., Ndiaye M.K.N. (2021). *Oceanic Influence on Seasonal Malaria Incidence in West Africa*. *Weather, Climate, and Society*, 14. <https://doi.org/10.1175/WCAS-D-20-0160.1>
- **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. <https://doi.org/10.1007/s00704-021-03807-6>
- Kante I., **Diouf I.**, Millimono T., Kourouma J. (2021). *COVID-19 in Conakry, Guinea: Analysis and Relationship with Meteorological Factors*. *Atmospheric and Climate Sciences*, 11. <https://doi.org/10.4236/acs.2021.112018>
- 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. <https://doi.org/10.1371/journal.pone.0249199>
- **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). <https://doi.org/10.3390/atmos13010034>

- **Diouf I.**, Rodríguez-Fonseca B.R., Caminade C., Thiaw W.M., Deme A., Morse A.P., Ndione J.-A., Gaye A.T., Diaw A., Ndiaye M.K.N. (2020). *Climate Variability and Malaria over West Africa*. American Journal of Tropical Medicine and Hygiene, 102(5), 1037–1047. <https://doi.org/10.4269/ajtmh.19-0062>
  - Kante 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. <https://doi.org/10.4236/acs.2020.101001>
  - **Diouf I.**, Fonseca B.F., Deme A., Caminade C., Morse A.P., Cisse M., Sy I., Dia I., Ermert V., Ndione J.-A., Gaye A.T. (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. <https://doi.org/10.3390/ijerph14101119>
  - **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. <https://doi.org/10.1016/j.crv.2013.04.001>
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## CONFERENCES / WORKSHOPS

- Global Goal on Adaptation (GGA), SB62 UNFCCC, Bonn (Germany), June 2025
- Validation Workshop on Vulnerability Studies, Dakar (Senegal), May 2025 – Oral presentation on climate and health impacts
- FE2025 Malaria Modellers Capacity Building, Iba Der Thiam University, Thiès (Senegal), April 2025 – Trainer
- SOSEPIT 2nd Congress, Dakar (Senegal), April 2025 – Oral presentation on tropical diseases
- Pre-SB62 Strategic Meeting, Nairobi (Kenya), February 2025 – Participant with AGNES and partners
- Scientific Seminar, University of Labé (Guinea), December 2024 – Oral presentation on climate-health impacts
- Climate & Malaria Training, INES-Ruhengeri (Rwanda), December 2024 – Trainer with Expertise France
- MSc Seminar, UCM (Spain), November 2024 – Oral presentation on health impacts in Senegal
- 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 – Participation
- 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 and coordinator
  - 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 – Poster presentation and coordinator
  - 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 on climate and health
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## GRANTS & FUNDING

- EU FP7 (QWeCI, PREFACE)
  - GEF (NAP Support Project)
  - USAID / Save the Children / UNICEF
  - WHO – IPD Vector Project
  - NOAA Postdoc Fellowship (UCAR)
  - Erasmus Mundus Doctoral Grant
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## REFERENCES

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