

Dr Jean HOUNKPE – CV

I. Personal information

- Name(s): Jean
- Surname: Hounkpè
- Expertise: Disaster Risk Reduction - Flood Forecasting - Risk Hotspots Modelling
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II. Education

- **2013 – 2016:** PhD in Climate Change and Water Resources, West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL), National Water Institute (INE), University of Abomey Calavi (UAC), Benin Republic / Department of Geography, University of Bonn, Germany.
- **2009 – 2011:** Master in Hydrology and Integrated Water Resources Management, International Chair in Mathematical Physics and Applications (CIPMA, UNESCO Chair), University of Abomey Calavi (UAC), Benin Republic.
- **2005 – 2009:** Master's in physical sciences, option: Physic, Faculty of Sciences and Techniques, University of Abomey-Calavi, Benin.

III. Knowledge and Skills

- Areas of Expertise: Disaster risk assessment; Disaster risk reduction (DRR) and management, Climate change and land use change impact assessment, Hydrology; Integrated water resources management.
- Analytical skills: Hydrological modelling; Multivariate, inferential and descriptive statistical methods.
- Computer skills: Microsoft office; hydrologic and Hydraulic software (HEC-RAS, SWAT, HBV, GR4J, WASIM etc.); GIS, remote sensing, statistical software package and programming languages (ArcGIS, QGIS, R, Matlab, Pascal etc.).

IV. Employment history

- **Jul. 2018 – to date: Researcher** – Consultant in disaster risk reduction, West Africa Science Centre for Climate Change and Adapted land use (WASCAL), WASCAL Competence Center, Ouagadougou, Burkina Faso.
- **2016 – to date:** Lecturer of Statistical Mathematics, Statistical Inference, Multivariate Statistics, Programming with R, Hydrological Modelling, Tools for Hydrological Modelling, National Water Institute, University of Abomey Calavi, Benin.
- **2013 – 2016:** Junior researcher, West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL), National Water Institute (INE), University of Abomey Calavi (UAC), Benin / Department of Geography, University of Bonn, Germany.
- **2007 – 2012:** Secondary School Teacher, Abomey Calavi, Benin.

V. Research Interests

My research interests include disaster risk mitigation (hazard, vulnerability and risk assessment), preparedness (forecast and early warning system), response and recovery, strategies to strengthen DRR (capacity building), hydrological and hydraulic modelling, climate change and land use change impact assessment,

VI. Contribution to research projects/Institutions

Through my education, internship opportunities, trainings and professional career, I have gained research experience in flood risk and vulnerability assessment as well as strategies to reduce negative flood effects in the context of climate change. During my PhD in climate change and water resources within the WASCAL program, I investigated the impact of climate change and land use change on flood hazards in Ouémé River (West Africa) through hydrological multi-modelling approach and statistical analyses. The results of these studies on extreme precipitation events, high discharge events, flood vulnerability assessment, change in water balance components (etc.), published in peer review journals, will help to manage and adapt to the increasing flood risks in the region. For nearly one year and half (since July 2018), I have been working at the Competence of Centre (CoC) of WASCAL in Ouagadougou, on several projects related to pluvial and riverine flood risk assessment; climate and environmental services delivering across the ECOWAS member countries. For the implementation of these projects, I have been working and interacting with a variety of stakeholders from local level (community members

including Farmers) to country level (national institutions and agencies in ECOWAS Member countries). Works undertaken that best illustrate our achievements and capabilities are as follows:

Name of assignment or project (international competitive call): Capacity building in support of weather, water and climate services in Mali and Niger

Year: 2019-2020

Location: Mali and Niger

Funder: World Bank

Positions held: Technical project coordinator, Team Member, Expert in DRR

Activities performed: 1- Provide guidance to the World Bank for strengthening technical and human capacity of all relevant stakeholders in Mali and Niger; 2- provide tailored short courses to strengthen the technical capacity of the technical experts of the national hydrometeorological services in Mali and Niger; 3- Provide guidance to the World Bank on investment planning for effective weather, water and climate services in Mali and Niger..

Name of assignment or project (international competitive call): Disaster Risk Reduction Practice Research and Capacity Building Support to ECOWAS

Year: 2018-2019

Location: 15 ECOWAS countries

Funder: World Bank

Positions held: Team Member, Expert in DRR

Activities performed: 1- Conduct a baseline study on trans-boundary floods and disasters in the ECOWAS region; 2- Develop a regional flood forecasting system integrating existing regional and national systems and provide guidance on open data management; 3- Develop a policy note on a regional (ECOWAS) approach for post disaster recovery and reconstruction planning (including Post Disaster Needs Assessments), capacity building and support through institutions in the region, such as universities; 4- Facilitate training and capacity enhancement for the ECOWAS Commission and experts from member states related to flood forecasting, disaster preparedness and post disaster recovery planning; 5- Provide guidance on strengthening the academic network related to disaster risk management across different disciplines in West Africa and contribute to relevant regional conferences.

Name of assignment or project (international competitive call): Participatory assessment of flood-related disaster prevention and development of an adapted coping system in Ghana

Year: 2018 - 2022

Location: Ghana

Funder: German Ministry of Education & research through IKARIM "Disaster and Risk Management" call

Positions held: Team Member, Expert in DRR, Hydro Department, WASCAL

Activities performed: (1) Investigate the current status, gaps, weaknesses, and challenges of the flood risk management and strategy; (2) identify possible actions on reducing the flood-related risk at national level; (3) develop and implement an innovative web-based DSS tool for an inter/trans-disciplinary participatory decision-making process.

Name of assignment or project (international competitive call): Managing new risks and opportunities of agricultural development of African floodplains

Year: 2016-2019

Location: Senegal and Burkina Faso

Funder: French Ministry of Foreign Affairs under AGRICORA programme (Agriculture and climatic risk management, tools and research in Africa)

Positions held: Technical and administrative assistant, Expert in Hydroclimate risk assessment

Activities performed: 1- Analysis of the evolution of agricultural development policies in floodplains 2- Regional and participatory diagnosis of the diversity of exploitation conditions in floodplains and the problems encountered on a sample of representative sites in the region and intervention policies 3- Assessment of hydro-climatic hazards and the effects of developments on water regimes in floodplains and lowland areas 4- Assessment of current risk management modalities and adaptive and resilient capacities of production systems and communities 5- Strengthening the capacities of national research and stakeholder organizations.

VII. Capacity Building

Supervision/mentorship of thesis

- MSc. And Bachelor students: 7

VIII. Measures of Esteem

Jean Hounkpè was awarded the Benin government fellowship from 2005 to 2009 and the WASCAL Fellowship in 2013. Bossa has been serving as a reviewer for several peer-reviewed scientific journals including Water Journal (mdpi), Physics and chemistry of the earth, Natural Hazards, etc.

IX. Selected publications

Peer-reviewed:

- Bossa, A. Y., **Hounkpè, J.**, Yira, Y., Serpantié, G., Lidon, B., Fusillier, J. L., Sintondji, L. O., et al. Managing new risks and opportunities of agricultural development of African floodplains: Hydro-climatic risks and implications for rice production. **Under Review** in Climate Journal (2nd Round).
- Almoradie, A., de Brito, M. M., Evers, M., Bossa, A., Lumor, M., Norman, C., Yacouba, Y., **Hounkpè, J.** Current flood risk management practices in Ghana: gaps and opportunities for improving resilience. **Under Review** in J. Flood Risk Manag.
- **Hounkpè, J.**, Diekkrüger, B. & Afouda, A. A., Sintondji, L. (2019) Land use change increases flood hazard: a multi - modelling approach to assess change in flood characteristics driven by socio - economic land use change scenarios. *Nat. Hazards*. Springer Netherlands. doi:10.1007/s11069-018-3557-8
- Serpantié, G., Dorée, A., Fusillier, J., Moity-maizi, P., Lidon, B., Douanio, M., Sawadogo, A., Bossa, A. Y., **Hounkpè, J.**, (2019) Nouveaux risques dans les bas-fonds des terroirs soudanais. Une étude de cas au Burkina Faso. *Cahiers Agricultures* 28(19). doi:10.1051/cagri/2019020
- **Hounkpè, J.**, Diekkrüger, B. and Afouda A., (2018): Challenges in Calibrating Hydrological Models To Simultaneously Evaluate Water Resources And Flood Hazard: A Case Study Of Zou Basin, Benin. *Episodes Journal* 41(2). doi:10.18814/epiugs/2018/018010.
- Mat Jan A., Shabri A., **Hounkpè J.** and Badyalina B. (2018): Modelling Non-stationary Extreme Streamflow in Peninsular Malaysia. *International Journal of Water*, 12(2), 116–140.
- Atidegla CS, Sintondji LO, **Hounkpè J**, Kpadonou E (2017) Effets Du Labour Mécanisé Successif Sur Le Statut Nutritif Du Sol Et Le Rendement Du Riz Pluvial Dans La Commune d’Abomey Calavi (Sud Bénin). *European Scientific Journal* 13:341–357. doi: 10.19044/esj.2017.v13n30p341
- Badou D. F., Kapangaziwiri E., Diekkrüger, B., **Hounkpè J.** & Afouda, A. A. (2016): Evaluation of recent hydro-climatic changes in four tributaries of the Niger River basin (West Africa). *Hydrological Sciences Journal*, 62(5), 715-728, doi: 10.1080/02626667.2016.1250898.
- **Hounkpè J**, Diekkrüger B, Badou DF, Afouda AA (2016) Change in Heavy Rainfall Characteristics over the Ouémé River Basin, Benin Republic, West Africa. *Climate*, 4, 15, 1–24. doi:10.3390/cli4010015
- **Hounkpè J**, Diekkrüger B, Badou D, Afouda A (2015) Non-Stationary Flood Frequency Analysis in the Ouémé River Basin, Benin Republic. *Hydrology* 2:210–229. doi: 10.3390/hydrology2040210
- **Hounkpè J.**, Afouda A., Diekkrüger B., Hountondji F. (2015): Modelling extreme streamflows under non-stationary conditions in Ouémé river basin, Benin, West Africa (in: *Hydrological Sciences and Water Security: Past, Present and Future*), doi:10.5194/piahs-366-143-2015
- **Hounkpè, J.**, Afouda, A. A. & Diekkrüger, B. (2015) Use of climate indexes as covariates in modelling high discharges under nonstationary condition in Ouémé River. *E-proceedings 36th IAHR World Congress*, 1–5. Retrieved from <http://89.31.100.18/~iahrpapers/85339.pdf>.

Book chapters and Reports:

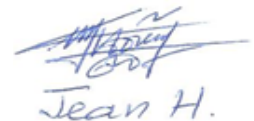
- **Hounkpè, J.**, Bossa, A. Y., Yira, Y., Fusillier, J., DA, S. A. & Keita, A. (n.d.) Fonctionnement hydrologique et hydraulique du bas-fond réaménagé de Bankandi dans la province du loba, Burkina Faso. In : *Agriculture et*
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Gestion des Risques Climatiques (Agricora) (B. Sultan, Y. A. Bossa, S. Salack & M. Sanon, eds.). IRD, **Ongoing edition**.

- Yira Y., Bossa Y. A., **Houngpè, J.**, et al. : Aménagements de bas-fonds en DCN: challenges d'implémentation dans le Sud-ouest du Burkina Faso In : *Agriculture et Gestion des Risques Climatiques (Agricora)* (B. Sultan, Y. A. Bossa, S. Salack & M. Sanon, eds.). IRD, **Ongoing edition**.
- **Houngpè, J.**, Diekkrüger, B., Badou, D. F., Bossa, A. Y., Lawin, E. A., Adoungpè, J. & Afouda, A. A. (2019) How Does Climate and Land Use Change Influence Flood Hazard in Benin? In: Regional Climate Change Series: Floods (B. Y. J. Adegoke, M. B. Sylla, A. Y. Bossa, K. Ogunjobi & J. Adoungpè, eds.), 44–49. doi:10.33183/2019.rccs.p44.
- Sintondji, L., Badou, F., Ahouansou, M., **Houngpè, J.**, Assogba Balle, R., Gaba, C. & Vissin, E. (2019) Etude de Vulnérabilité Sectorielle face aux changements climatiques au Bénin, Secteur : Ressources en Eau. Abomey Calavi, Benin. https://climateanalytics.org/media/pas-pna_benin_va_ressources_en_eau.pdf
- Badou, F. D., **Houngpè, J.**, Yira, Y., Ibrahim, M. & Bossa, A. Y. (2019) Increasing Devastating Flood Events in West Africa: Who is to Blame? In: Regional Climate Change Series: Floods (B. Y. J. Adegoke, M. B. Sylla, A. Y. Bossa, K. Ogunjobi & J. Adoungpè, eds.), 84–90. Accra, Ghana. doi:10.33183/2019.rccs.p84.

Certification

I certify that (1) to the best of my knowledge and believe, this CV correctly describes me, my qualifications, and my experience.



Jean H.

Date: 25/October/2019