

# Abdi-Basid ADAN

## Curriculum Vitae

### Profile

<b><u>Position:</u></b>	Ph.D. Candidate in Climate Science   Senior Statistician   Research Associate in Applied Statistical Methods for Multidisciplinary Research
<b><u>Home:</u></b>	Ambouli, Djibouti-City, Republic of Djibouti.
<b><u>Mobile:</u></b>	[+253.12.77.90.42] or [+253.77.86.82.20]
<b><u>Phone:</u></b>	[+253.21.34.10.27]
<b><u>E-mail:</u></b>	<a href="mailto:abdi-basid@outlook.com">abdi-basid@outlook.com</a> or <a href="mailto:mr.abdi.basid@gmail.com">mr.abdi.basid@gmail.com</a>
<b><u>ORCID:</u></b>	<a href="https://orcid.org/0000-0002-4641-743X">https://orcid.org/0000-0002-4641-743X</a>
<b><u>Google Scholar:</u></b>	<a href="https://scholar.google.com/scholar?hl=en&amp;as_sdt=0%2C5&amp;q=Abdi-Basid+ADAN&amp;btnG=">https://scholar.google.com/scholar?hl=en&amp;as_sdt=0%2C5&amp;q=Abdi-Basid+ADAN&amp;btnG=</a>

### Personal Information

- ✓ **Full Name:** Mr. Abdi-Basid IBRAHIM ADAN.
- ✓ **Born:** July 23, 1993 in Ali-Sabieh (Djibouti). Djiboutian nationality.
- ✓ **Languages:** French (fluent), English (fluent), Arabic (medium).
- ✓ **Leisure:** geopolitics; scientific journals; sports and science fiction.
- ✓ **Driver's License:** Category B.

## Education

2016 - 2018

**MASTER DEGREE**

in **Statistical and Econometric Methods**  
(High Honors | magna cum laude) -  
University Cheik Anta Diop of Dakar,  
Senegal.

2014 - 2015

**BACHELOR'S DEGREE**

in **Statistics and Computer Science**  
(High Honors | magna cum laude) -  
University of Djibouti.

2013 - 2014

**DIPLOMA**

in **Statistics and Computer Science**  
(With Honors | cum laude), University of  
Djibouti.

2011 - 2012

**BACCALAUREATE DIPLOMA**

in **Scientific Series** at State High School,  
Djibouti.

2008 - 2009

**LOWER SECONDARY SCHOOL  
CERTIFICATE**

in **General Studies** (High Honors | magna  
cum laude), College of Amboulie,  
Djibouti.

## Additional Education

- i. DL0110EN: Deep Learning with Python and PyTorch. a course of study offered by IBM, an online learning, edX (Free Online Courses, No Certificate) [**Aug 8, 2024-Sep 9, 2024**].
- ii. Regional Training Course on Equipment Maintenance, Repair and Calibration for All Systems in the Dosymetry Laboratories organized by the International Atomic Energy Agency (**AFRA-IAEA**) in Algiers, Algeria [**27 Nov-1 Dec 2022**].
- iii. Regional Higher Training in Radiation Protection and Safety of Ionizing Radiation Sources organized by the International Atomic Energy Agency (**IAEA**) in Rabat, Kingdom of Morocco (Free Online Courses, No Certificate) [**Nov 2020-Apr 2021**].
- iv. Foundations for Big Data, **MinesTelecom** – 04006, **FUN MOOC** (Free Online Courses, No Certificate) [**2021**].
- v. Scientific Integrity in Research Professions - Session 1, **University of Bordeaux** – 28007, **FUN MOOC** (Free Online Courses, No Certificate) [**2019**].
- vi. Regional Training on Energy Planning and Policy, organized by the Francophonie Institute for Sustainable Development (**IFDD** in French) in Djibouti [**08-19 Oct. 2018**].
- vii. English for Everyone - Spice up Your English - session 3, **Free University of Brussels** (ULB in French) - 44001S03, **FUN MOOC** (Free Online Courses, No Certificate) [**2017**].
- viii. Exploratory Multivariate Data Analysis - Session 3, **AgroCampus Ouest**-40001S03EN, **FUN MOOC** (Free Online Courses, No Certificate) [**2017**].
- ix. Survey and Inquiry Methods - Session 2, **Free University of Brussels** (ULB in French)-44002S02, **FUN MOOC** (Free Online Courses, No Certificate) [**2017**].
- x. Introduction to Econometrics, **Catholic University of Louvain**, Louv14x, **edX** (Free Online Courses, No Certificate) [**2017**].
- xi. Statistics and R, **Harvard University**, PH525.1x, **edX** (Free Online Courses, No Certificate) [**2017**].

## Professional Experience

**Feb-Apr 2024;  
Apr-May 2025 :**

Scientific visit to the Climate Research Center in Dijon (Burgundy region, France), as part of the project entitled “Temperature Variability in Djibouti from 1953 to 2023.” Funding: CERD. Collaboration with Pierre Camberlin and Ben Pohl (CRC).

**Oct 2022-Present:**

As an Associate Researcher at ORREC within CERD in Djibouti, I conduct statistical analyses to understand spatio-temporal climate variations and their interactions with phenomena such as cyclones, ENSO, and the IOD. My work includes long-term trend analysis, covariability of climatic parameters, and the use of satellite data and remote sensing. I contribute to international scientific publications and have trained fellow researchers in multivariate statistical methods using R through accelerated courses, supporting capacity building in climate data analysis and environmental research.

**May 2019-2022:**

In my role as a Research Associate at the Modeling Laboratory of the Institute of Earth Sciences (IST), housed within the Center for Studies and Research in Djibouti (CERD), I focused on addressing statistical analysis requirements for performance evaluation, risk simulation, and the modeling of renewable energies. I assessed the cost of renewable energy production in Djibouti and evaluated the investment profitability of national green energy projects. I also conducted studies on precipitation patterns at the national scale and evaluated atmospheric pollution dispersion in the Djibouti-ville region. Furthermore, I actively contributed to the publication of scientific articles.

**May 2018-2019:**

During my internship, I conducted an evaluation of the laboratories at the Institute of Earth Sciences (IST) within CERD. The assignment involved assessing the economic profitability of the laboratories’ activities, including the multiscale modeling laboratory, biochemistry laboratories, and geomaterials laboratory.

I also contributed to an Elsevier publication by assisting in estimating the economic cost of wind power production in the Republic of Djibouti, specifically for the Ghoubbet wind farm. This experience allowed me to apply advanced statistical methods to real-world challenges related to renewable energy economics and multidisciplinary research.

**April-June 2015:**

In the Chemistry Laboratory of the Center for Studies and Research in Djibouti (CERD), I served as a statistician. My task involved conducting comprehensive statistical analyses on physico-chemical samples of borehole water, aiming to comprehend the dynamics of groundwater evolution.

**21-31 Dec. 2014:**

At the Bank of Commerce and Industry of the Red Sea (BCIMR in French) in Djibouti, I engaged in a customer satisfaction survey assessing the quality of the bank's services. Additionally, I played a role in the digitization of data gathered during the field mission.

**May-June 2014:**

At the Health Information Service (SIS) of Dr. Chakib Saad Omar Pneumophysics Hospital (CSO) in Djibouti, I served as an assistant statistician working alongside a biostatistician. Our focus was on studying the national-level trends and variations in tuberculosis prevalence, comparing them with regional data.

**Extra-Professional Experience**

**Dec- Jan 2016:**

As a volunteer, I contributed to the activities of the Business Development Department (BD) within the Senegalese chapter of the International Association of Students in Economics and Commerce (AIESEC). In this capacity, my responsibility involved assisting the team in coordinating meetings focused on developing motivational and personal development courses.

**May-June 2014:**

Beyond my primary responsibility of monitoring national tuberculosis prevalence, I undertook a voluntary initiative to conduct a satisfaction survey among patients hospitalized for tuberculosis at Dr. Chakib Saad Omar Hospital for Pneumophysics in the Republic of Djibouti. The objective was to provide insights to hospital management regarding patients' requirements in terms of service quality, environment, food, and access to medication.

**Skills**

- ❖ **IT Tools:** Word, Excel, Access, and PowerPoint.
- ❖ **Software used:** R-Statistical, Matlab, Java Script, Python, SQL, SAS Stata, Eviews, SPSS, SPAD, Sphinx, Statistica, CsPro, Nesstar, ArcGis, ArcgisPro, Quantum Gis, Dev Info, ENVI, ERDAS, Rats, Gretl, GeoDa, CAST, Gams, OriginLab, Tanagra, AERMOD, Panoply; Geomatica; SNAP; Statgraphics, SigmaPlot, SDSM...etc.
- ❖ **Data Scientist:** Machine & Deep learning, Data visualization, Data mining
- ❖ **Modeling methods:** Artificial Neural Network, Bayes, Markov Chain, Monte Carlo, Multiple Linear Regression, Nonlinear Regression, Nonparametric Regression, Statistical Downscaling, Bias Correction, Classification, Clustering, Factor Analysis, etc.
- ❖ **Modeling fields:** Minimum and Maximum Temperature, Precipitation, Wind Speed, Solar Radiation, Atmospheric Dispersion of Pollutants, Potential of a Geothermal Well, etc.
- ❖ **Speaker and Writer.**

## Published Books

- 2018** *Economic Growth and Sustainable Development in Africa (Statistical and Econometric Analyzes)*, Volume 1, Amazon publishing, 2018<sup>1</sup>.
- 2017** *To His Majesty* (poem), Volume 2, Edilivre publishing, 2017<sup>2</sup>.
- 2017** *Tales on the Horn of Africa* (tales), Volume 1, Amazon publishing, 2017<sup>3</sup>.

## Published Scientific Works

**2024**

Dabar, O.A.; Awaleh, M.O.; Waberi, M.M.; Ghiasirad, H.; **Adan, A.-B.I.**; Ahmed, M.M.; Nasser, M.; Juangsa, F.B.; Guirreh, I.A.; Abdillahi, M.O.; Elmi, O.I. *Techno-economic and environmental assessment of green hydrogen and ammonia production from solar and wind energy in the Republic of Djibouti: A geospatial modeling approach*. **Energy Reports**, 2024, <https://doi.org/10.1016/j.egyr.2024.09.037>..

**2022**

1. Dabar, O.A.; **Adan, A.-B.I.**; Ahmed, M.M.; Awaleh, M.O.; Waberi, M.M.; Camberlin, P.; Pohl, B.; Mohamed, J. *Evolution and Trends of Meteorological Drought and Wet Events over the Republic of Djibouti from 1961 to 2021*. **Climate** 2022, 10, 148. <https://doi.org/10.3390/cli10100148>.

<sup>1</sup> <https://www.amazon.fr/Croissance-Economique-D%C3%A9veloppement-Durable-Afrique-ebook/dp/B07BNZBTT8>

<sup>2</sup> <https://www.eyrolles.com/Accueil/Auteur/abdi-basid-adan-274284/>

<sup>3</sup> <https://www.amazon.fr/Contes-sur-Corne-l'Afrique-ebook/dp/B01N5YEKW1>

2. Osman Awaleh, M.; **Adan, A.-B.**; Assowe Dabar, O.; Jalludin, M.; Mahdi Ahmed, M.; Abdillahi Guirreh, I. *Economic Feasibility of Green Hydrogen Production by Water Electrolysis Using Wind and Geothermal Energy Resources in Asal-Ghoubbet Rift (Republic of Djibouti): A Comparative Evaluation*. **Energies** **2022**, *15*, 138. <https://doi.org/10.3390/en15010138>.
3. **Adan, A.-B.**, As, O., Jalludin, M., M, M., & Elmi, M. I. (2022). Étude comparative du coût de production d'hydrogène vert par électrolyse de l'eau de mer avec les énergies éolienne et géothermique en République de Djibouti. *Science et Environnement*, 37(4), 6245. <http://www.scienceetenvironnement.dj>
4. Assowe Dabar, O.; Awaleh, M.O.; Waberi, M.M., **Abdi-Basid, A.I.** *Techno-economic assessment of wind resource for 2 electricity and hydrogen production in the Republic of Djibouti*. **Energy Report** **2022**, <https://doi.org/10.1016/j.egyr.2022.07.013>.

## 2021

Mahdi Ahmed, M., Osman Awaleh, M., Rozmaric, M., Blinova, O., **Ibrahim Adan, A.-B.**, Said Ismael, I., & Ali Chirdon, M. (2021). *Hg and 210Po in consumed fish of the Tadjoura Gulf (Djibouti): Levels and human health risk assessment*. **Marine Pollution Bulletin**, *172*, 112855. <https://doi:10.1016/j.marpolbul.2021.112855>.

## Ongoing Research Activities

**2025** Ongoing efforts involve the extended-term forecasting of climate variability, encompassing precipitation, temperature, and drought, specifically tailored for the Republic of Djibouti. This initiative employs global and regional models such as CMIP5, CMIP6, and CORE-CORDEX.



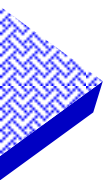
- 2025** Currently underway is an evaluation of the health and temporal-spatial dynamics of mangroves, focusing on NDVI (Normalized Difference Vegetation Index), in response to sea-level rise and extreme variations in precipitation and evapotranspiration.
- 2025** An ongoing investigation aims to assess the vulnerability of groundwater resources using the Multi-Criteria Decision-Making (MCDM) method. This approach examines the impact of various factors, such as climate change, land use, and precipitation variability, on groundwater resources. The goal is to develop an integrated model that supports sustainable aquifer management by considering multiple technical, environmental, and socio-economic criteria.

### Scientific Works Proposals

- 2023** Estimation of Lunar Surface Shock Effects and Optimization of Damping Scenarios: A Case Study in Response to NASA's Request for Proposal (*available on my ResearchGate page*).
- 2018** Industrialization in Developing Countries (*available on my ResearchGate page*).
- 2018** Simultaneous Equation Error Correction Model: Standard and Spatial Case in Panel Data (*available on my ResearchGate page*).
- 2018** New Forecasting Methodology: The “Adanic” Method (*available on my ResearchGate page*).

*Adan, A.-B. I.,*

1. **(2025)** Statistical analysis of environmental and climate data using pixel-wise multiple regression, OLS, and geographically weighted regression in R: Application to vegetation index (VI) and land surface temperature (LST) and potential evapotranspiration.
2. **(2024)** Preliminary multivariate statistical methods in geographical applications using R: PCA (rotated and unrotated), Hierarchical Cluster Analysis, K-means, Spatial Autocorrelation, Relative Weight Analysis, and Empirical Orthogonal Function Analysis.
3. **(2024)** Multi- and hyperspectral image processing for vegetation index calculation (GRVI, MVI, NDVI) from SPOT, SENTINEL-2, and MODIS remote sensing data using R.
4. **(2024)** Computation and characteristics of 14 drought indices (SPI, SPEI, PDSI, RAI, RD, ZSI, EDI, RDDI, PPN, HDSI, CZI, MCZI, PNI, and RDI) for daily and monthly data using R.
5. **(2024)** Accessing various climate data, manipulating different file formats, and downscaling GCM (CMIP5, CMIP6) and RCM (CORDEX, CORDEX CORE) models with a stochastic approach using R.
6. **(2023)** Estimation of lunar surface shock effects and optimization of damping scenarios: A case study responding to NASA's request for proposal.
7. **(2023)** Complementarity of time and space.
8. **(2022)** Multidisciplinary interpretation of precipitation: Principles and concepts, Part I.
9. **(2021)** Monte Carlo approach under the R programming language.
10. **(2021)** New perspectives on the cost of wind energy.

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11. **(2021)** Examination of climate change in precipitation and temperature using R software.
  12. **(2020)** Spirituality, Covid-19 and Ancestors: The failure of perception of reality in three dimensions.
  13. **(2020)** Evolution of the intelligence of the human species.
  14. **(2019)** An omnipresent omission in nature and its elements: Non-classical and non-quantum physical laws.
  15. **(2019)** Programming the Weibull distribution for wind potential analysis with R.
  16. **(2019)** Unpublished perspective on consciousness.
  17. **(2019)** What is the “Phematic”.
  18. **(2019)** The intuitive communication.
  19. **(2019)** The philosophy of time.
  20. **(2018)** Growth, CO2 emissions and income inequality: The case of North America.
  21. **(2018)** Integration and co-integration of variables.
  22. **(2018)** The “Ascientific” science.
  23. **(2018)** The unsolved mysteries of the universe.
  24. **(2018)** Analysis of qualitative data.
  25. **(2018)** The perception of the notion of time.
  26. **(2018)** Darwin’s concept, a partial and biased theory.
  27. **(2018)** The main foundations of the survey.
  28. **(2018)** The force of life.
  29. **(2018)** Cosmological model of the before Big Bang.
  30. **(2018)** The precepts of statistics.
  31. **(2018)** Principles of econometrics.
  32. **(2018)** Relevant information, prowess of data science, big data and artificial intelligence.
  33. **(2018)** Einstein’s false intuition.
  34. **(2018)** Weight, magnet and movement.

35. (2018) A staggering substance: luck.
36. (2017) Mathematics of algebra.
37. (2017) Principles of the soul.
38. (2016) The laws of probability in a few words.
39. (2009) The discoveries in mathematics of ADAN.

### **ACCESSIBLE VIA THE FOLLOWING PLATFORMS:**

- i. <https://www.researchgate.net/profile/Abdi-Basid-Adan>
- ii. <https://www.impactio.com/laboratory/ABIA>
- iii. <https://independent.academia.edu/AbdiBasidADAN>
- iv. [https://www.amazon.fr/s?i=stripbooks&rh=p\\_27%3AAbdi-Basid%2BAdan&s=relevancerank&text=Abdi-Basid+Adan&ref=dp\\_byline\\_sr\\_book\\_1](https://www.amazon.fr/s?i=stripbooks&rh=p_27%3AAbdi-Basid%2BAdan&s=relevancerank&text=Abdi-Basid+Adan&ref=dp_byline_sr_book_1)
- v. <https://research-nexus.net/author/1000993768/>
- vi. <https://abdibasidadan.blogspot.com/>
- vii. <https://sirabdibasidadan.blogspot.com/>

### **Country Visited**

**2000-ETHIOPIA | 2015-SENEGAL | 2019-MOROCCO | 2022-ALGERIA | 2024-FRANCE.**

**Abdi-Basid IBRAHIM ADAN**



**Updated Curriculum Vitae :  
The 07th/08/2025**