

Koffi Djaman, Ph.D.

Associate Professor of Cropping Systems, Irrigation Technology and Water Conservation
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Education

- Ph.D., Agricultural Engineering with focus on Soil & Water Resources and Irrigation Engineering, University of Nebraska-Lincoln, USA.
- MS., Irrigation and water management, Institut Agronomique et Vétérinaire Hassan II, Rabat, Morocco.
- Agronomy Degree, College of Agronomy, University of Lomé, Togo.

Professional fields of expertise

- Soil and water resources and irrigation engineering: design, installation and management of drip, sprinkler, and surface irrigation systems
- Crop response to irrigation regimes and fertilization under subsurface drip, center pivot, and surface irrigation and rainfed systems under variety of tillage and management practices
- Smart agriculture: soil moisture sensors for precision irrigation
- Cropping systems, crop physiological/biophysical parameters and soil water characteristics
- Crop and reference evapotranspiration measurement and modeling
- Abiotic stresses management strategies to increase crop productivity and fertilizer use efficiency
- Interactions between Land Use/Land Cover changes, water resources and Climate Change
- Research and development - Education/Extension/Training.

Professional experience

- 2023 to present: Granted Tenure and Promoted to Associate Professor of cropping systems, irrigation technology and water conservation; New Mexico State University, Agricultural Science Center at Farmington, NM, USA.
- 2017 to 2023: Assistant Professor of cropping systems, irrigation technology and water conservation; New Mexico State University, Agricultural Science Center at Farmington, NM, USA.
- 2016-2017: Associate Principal Scientist, Agronomist at Africa Rice Center, Saint Louis, Senegal
- 2014 - 2016: Agronomist Field Fellow at Africa Rice Center, Saint Louis, Senegal.
- 2012 - 2014: Postdoctoral Research Scientist, University of Nebraska-Lincoln, Lincoln, USA.
- 2008 - 2011: Graduate research Assistant, University of Nebraska-Lincoln, Lincoln, NE, USA.
- 2005 - 2014: Lecturer in the College of Agronomy, University of Lomé, Togo.
- 2001 - 2004: Physics and Chemistry High School teacher, Togo.
- 1997 - 1998: Graduate student at Agronomic and Veterinary Institute Hassan II, Agadir, Morocco.
- 1999 - 2008: Water and soil management consultant at SARTORY, Lomé, Togo.
- 1996 - 1997: Internship on integrated pest control, Internat. Institute of Tropical Agriculture, Benin.

Academic Honors and Awards

- Certificate of Service as Guest Editor of Special Issue of Agronomy, MPDI, March 2023.
- Certificate of Service as Guest Editor of Special Issue of Agronomy, MPDI, March 2021.
- Certificate of Service as Guest Editor of Special Issue of Sustainability MPDI, May 2020.

- Certificate of Outstanding Contribution in Reviewing: Journal of Hydrology, April 2018
- Certificate of Outstanding Contribution in Reviewing: Agricultural Water Management, Dec. 2017
- Educational Aids Blue Ribbon Award from ASABE 2016
- Research assistantship, University of Nebraska: 2010-2011
- Fulbright Scholarship: 2008-2010
- Weston award 2009
- Diploma of Excellence, University of Lomé: 1997
- National Scholarship, Togo: 1990-1997

Professional Membership

- The Potato Association of America (PAA)
- Soil and Water Conservation Society (SWCS)
- American Society of Agronomy (ASA)
- Crop Science Society of America (CSSA)
- Soil Science Society of America (SSSA)
- American Society of Agricultural and Biological Engineers (ASABE)

Peer Reviewed Journal Publications

(Total peer reviewed articles: 100; Google Scholar citations: 3187, h-index: 32, i10 index: 72) (02/023/2024)

1. Koudahe K., Aguilar, J., **Djaman, K.**, Sheshukov, A. Evapotranspiration, fiber yield and quality, and water productivity of irrigated and rainfed cotton (*Gossypium hirsutum* L.) under semiarid climate. *Irrigation Science* (in press).
2. **Djaman K.**, D.S. Djaman, M. Darapuneni, N. Puppala. 2024. Plant nutrient removal and soil residual chemical properties as impacted by maize planting date and density. *PlosOne*. Doi.10.1371/journal.pone.0299193 (in press)
3. Darapuneni M., L. Lauriault¹, G. Martinez, **K. Djaman**, S. Dodla. 2024. Alfalfa response to various potassium fertilizers in a moderately low-potassium soil in arid New Mexico. *Agronomy*, *14*(1) 117; <https://doi.org/10.3390/agronomy14010117>
4. **Djaman K.**, A.T. Mohammed, K. Koudahe. 2023. Accuracy of estimated crop evapotranspiration using locally developed crop coefficients against satellite-derived crop evapotranspiration in a semiarid climate. *Agronomy* *13*(7), 1937; <https://doi.org/10.3390/agronomy13071937>.
5. Ndiaye P.M., Bodian, A., **Djaman, K.** 2022. Trend analysis of reference evapotranspiration and climate variables in the main hydrosystems of Senegal: Senegal, Gambia, and Casamance River Basins. <https://doi.org/10.5194/iahs2022-149>.
6. Shrestha B., M.K. Darapuneni, B.L. Stringam, K.A. Lombard, **K. Djaman**. 2023. Irrigation Water and Nitrogen Fertilizer Management in Potato (*Solanum tuberosum* L.): A Review. *Agronomy* **2023**, *13*(10), 2566; <https://doi.org/10.3390/agronomy13102566>.
7. **Djaman K.**, K. Koudahe. 2023. Discussion of “soil moisture or ET-based smart irrigation scheduling: a comparison for sweet Corn with sap flow measurements” by Gadson Asiimwe, Hadi Jaafar, Mustapha Haidar, and Roya Mourad. *Journal of Irrigation and Drainage Engineering*, *149*(2): 07022027. DOI.10.1061/(ASCE)IR.1943-4774.000178.
8. **Djaman K.**, K. Koudahe. 2023. Discussion of “Effects of biochar and residual plastic film on soil properties and root of flue-cured tobacco” by Chao Gao, Xiaohou Shao, Xu Yang, Xiuneng Li, and Wenbo Wu. *Journal of Irrigation and Drainage Engineering* *149*(2): 07022029. DOI. 10.1061/JIEDDH/IRENG-9919.

9. Darapuneni, M.K., L.M. Lauriault, G. Martinez, J.O. Idowu, **K. Djaman**. 2022. Yield potential and water use efficiency of alternate rotation crops in the semiarid environment of southwestern USA. *Applied Engineering in Agriculture* 38(6):845-851. Doi:10.13031/aea.15030.
10. **Djaman K.**, K. Koudahe, A.T. Mohammed. 2022. Dynamics of monthly and seasonal crop evapotranspiration of four major crops for Planning on a large commercial farm: case of the Navajo Agricultural Products Industry, New Mexico (USA). *Agronomy* 12(11) 2629; <https://doi.org/10.3390/agronomy12112629>.
11. **Djaman, K.** 2022. Corrigendum to 'Critical review of the impact of cover crops on soil properties'. *International Soil and Water Conservation Research*. <https://doi.org/10.1016/j.iswcr.2022.09.002>.
12. Irmak S., D. Brar, M.S. Kukal, L. Odhiambo, **K. Djaman**. 2022. Automated real-time irrigation analytics inform diversity in regional irrigator behavior and water withdrawal and use characteristics. *Agricultural Water Management* 272 (2022) 107837. <https://doi.org/10.1016/j.agwat.2022.107837>.
13. **Djaman, K.**; K. Koudahe, A. Saibou, M. Darapuneni, C. Higgins, S. Irmak. 2022. Soil water dynamics, effective rooting zone, and evapotranspiration of sprinkler irrigated potato in a sandy loam soil. *Agronomy* 12, 864. <https://doi.org/10.3390/agronomy12040864>.
14. Koudahe K., S.C. Allen, **K. Djaman**. 2022. Critical review of the impact of cover crops on soil properties. *International Soil and Water Conservation Research*, 10 (2022):343-354. <https://doi.org/10.1016/j.iswcr.2022.03.003>.
15. **Djaman K.**, K. Koudahe, H.D. Koubodana, A. Saibou, S. Essah. 2022. Tillage Practices in Potato (*Solanum tuberosum* L.) production: A Review. *American Journal of Potato Research*. 99:1–12. DOI:10.1007/s12230-021-09860-1.
16. **Djaman, K.**, S. Allen, D.S. Djaman, K. Koudahe, S. Irmak, N. Puppala, M.K. Darapuneni, S.V. Angadi. 2022. Planting date and plant density effects on maize growth, yield, and water use efficiency. *Environmental Challenges*, 6, 100417. <https://doi.org/10.1016/j.envc.2021.100417>.
17. Mokari E., D. DuBois, Z. Samani, H. Mohebzadeh, **K. Djaman**. 2022. Estimation of daily reference evapotranspiration with limited climatic data using machine learning approaches across different climate zones in New Mexico. *Theoretical and Applied Climatology*. **147**: 575–587. <https://doi.org/10.1007/s00704-021-03855-y>.
18. Koudahe K., A. Sheshukov, J. Aguilar, **K. Djaman**. 2021. Irrigation water management and productivity in cotton: A Review. *Sustainability* 13(18), 10070; <https://doi.org/10.3390/su131810070>.
19. Koubodana H.D., J. Adoukpe, K. Atchonouglo, **K. Djaman**, I. Larbi, Y. Lombo, K.E. Kpemoua. 2021. Modelling of streamflow before and after dam construction in the Mono River Basin in Togo-Benin, West Africa. *The International Journal of River Basin Management*. DOI:10.1080/15715124.2021.1969943.
20. **Djaman, K.**, S. Sanogo, K. Koudahe, S. Allen, A. Saibou, S. Essah. 2021. Characteristics of organically grown compared to conventionally grown potato and the processed products: A Review. *Sustainability*, 13, 6289. <https://doi.org/10.3390/su13116289>.
21. **Djaman, K.**, K. Koudahe, M.K. Darapuneni, S. Irmak. 2021. Chilling and heat accumulation by fruit and nut trees and flower bud vulnerability to early spring low temperatures in New Mexico: meteorological modeling approach. *Sustainability* 13(5), 2524; <https://doi.org/10.3390/su13052524>.
22. **Djaman K.**, M. O'Neill, L. Lauriault, M. Marsalis, K. Koudahe, M. K. Darapuneni. 2021. The dynamics of forage yield of different fall dormancy rating alfalfa cultivars in a semiarid climate. *Agric Res*, 10(3):378–389. DOI: 10.1007/s40003-020-00518-8.
23. **Djaman K.**, S. Irmak, K. Koudahe S. Allen. 2021. Irrigation management in potato (*Solanum tuberosum* L.) production: A Review. *Sustainability* 13(3), 1504; <https://doi.org/10.3390/su13031504>.
24. Darapuneni M.K., Idowu, O. J., Sarihan, B., Dubois, D. W., Grover, K., Sanogo, S., **Djaman, K.**, Lauriault, L. M. 2021. Growth characteristics of summer cover crop grasses and their relation to soil

- aggregate stability and wind erosion control in arid Southwest. *Applied Engineering in Agriculture*, 37(1): 11-23. doi: 10.13031/aea.13972.
25. **Djaman K.**, K. Koudahe, A. Bodian, L. Diop, P.M. Ndiaye. 2020. Long-term trend analysis in annual and seasonal precipitation, maximum and minimum temperatures in the southwest United States. *Climate*, 8(12), 142; <https://doi.org/10.3390/cli8120142>.
 26. Koudahe K., **K. Djaman**. 2020. Assessment of irrigation water requirement for major vegetable crops using FAO-56 Penman-Monteith and alternative climatic data models in northern Togo. *Journal of Agriculture and Horticulture Research*, 3(3):43-52.
 27. **Djaman K.**, C. Owen, K. Koudahe, M. O'Neill. Relationship between the relative maturity and grain yield of maize hybrids in northwest New Mexico for the 2003-2019 period. *Agriculture* **2020**, 10(7), 290; <https://doi.org/10.3390/agriculture10070290>.
 28. Koubodana H.D., J. Adoukpe, K. Atchouglo; K. Agboka, **K. Djaman**, K. Komi, D. Kouganame. 2020. Assessing water balance components contribution variation in the Mono River Basin, West Africa. *Internat. Journal Water Sciences and Environment Technologies* 5(1): 129-136.
 29. **Djaman K.**, D. Smeal, K. Koudahe, S. Allen. Hay yield and water use efficiency of alfalfa (*Medicago sativa* L.) under different irrigation and fungicide regimes in semiarid climate. *Water* **2020**, 12(6), 1721; <https://doi.org/10.3390/w12061721>.
 30. Ndiaye P.M., A. Bodian, L. Diop, A. Deme, A. Dezetter, **K. Djaman**, A. Ogilvie. 2020. Trend and sensitivity analysis of reference evapotranspiration in the Senegal River Basin using NASA meteorological data. *Water* **2020**, 12(7), 1957; <https://doi.org/10.3390/w12071957>.
 31. Ndiaye P.M., A. Bodian, L. Diop, A. Deme, A. Dezetter, **K. Djaman**. 2020. Evaluation and calibration of alternative methods for estimating reference evapotranspiration in the Senegal river basin. *Hydrology*. DOI: 10.3390/hydrology7020024.
 32. **Djaman K.**, L. Diop, K. Koudahe, A. Bodian and P.M. Ndiaye. 2020. Evaluation of temperature-based solar radiation models and their impact on Penman-Monteith reference evapotranspiration in a semiarid climate. *International Journal of Hydrology*. 2020;4(2):84-95. DOI: 10.15406/ijh.2020.04.00230.
 33. **Djaman K.**, L. Diop, K. Koudahe. 2020. Discussion of "Evaluation of temperature-based methods for the estimation of reference evapotranspiration in the Yucatán Peninsula, Mexico" by Victor H. Quej, Javier Almorox, Javier A. Arnaldo, and Rubén Moratiel. *Journal of Hydrological Engineering*. DOI: 10.1061/(ASCE)HE.1943-5584.0001951.
 34. **Djaman K.**, C.K. Owen, K. Koudahe, M. O'Neill. 2020. Evaluation of different fall dormancy rating alfalfa cultivars for forage yield in a semiarid environment. *Agronomy* 10(1), 146; <https://doi.org/10.3390/agronomy10010146>.
 35. **Djaman K.**, C. Higgins, S. Begay, K. Koudahe, S. Allen, K. Lombard, M. O'Neill. 2020. Seasonal occurrence of potato psyllid (*Bactericera cockerelli*) and risk of zebra chip pathogen (*Candidatus Liberibacter solanacearum*) in northwestern New Mexico. *Insects* 11(1), 3; <https://doi.org/10.3390/insects11010003>.
 36. **Djaman K.**, V. Mel, A. Boye, L. Diop, B. Manneh, R. El-Namaky, K. Koudahe, K. Futakuchi. 2020. Rice genotype and fertilizer management for improving rice productivity under saline soil conditions. *Paddy and Water Environment* 18:43-57. DOI: 10.1007/s10333-019-00763-w.
 37. **Djaman K.**, C. Higgins, M. O'Neill, Shantel Begay, Komlan Koudahe and Samuel Allen. 2019. Population dynamics of six major insect pests during multiple crop growing seasons in northwestern New Mexico. *Insects* 2019, 10, 369; doi:10.3390/insects10110369.
 38. **Djaman K.**, K. Koudahe. 2020. Discussion of "Response of taro to varying water regimes and soil textures" by M. Li; A.C.F. Deus; and L.C. Ming. *Journal of Irrigation and Drainage Engineering*, 146(2), DOI:10.1061/(ASCE)IR.1943-4774.0001440.
 39. **Djaman K.**, C. Higgins, S. Allen, K. Koudahe, K. Lombard. 2019. Tuber yield, water productivity and post-harvest quality of sprinkler-irrigated chip potato (*Solanum tuberosum* L.) under a semiarid climate. *Journal of Agriculture and Horticulture Research* 2(2) DOI: doi.org/10.33140/JAHR.02.02.03.

40. **Djaman K.**, K. Koudahe, M. **Darapuneni**. 2019. Preplant irrigation effectiveness and crop yield and water productivity: A Review. *Journal of Agriculture and Horticulture Research* 2(2) DOI: doi.org/10.33140/JAHR.02.02.02.
41. Darapuneni, M.K., L.M. Lauriault, S. Dodla, O.J. Idowu, K. Grover, G. Martinez, **K. Djaman**, and S. Angadi. 2019. Temporal variations in plant and soil characteristics following strip-till manure application. *Soil & Tillage Research*, 194: 104350. <https://doi.org/10.1016/j.still.2019.104350>.
42. Mel V.C., V.B. Bado, S. Ndiaye, **K. Djaman**, D.A.B. Nati, B. Manneh, K. Futakuchi (2019): Predicting rice yield under salinity stress using K/Na ratio variable in plant tissue, *Communications in Soil Science and Plant Analysis*, 50(11): 1321–1329. DOI: 10.1080/00103624.2019.1614605.
43. Irmak, S., M.S. Kukal, A.T. Mohammed, **K. Djaman**. 2019. Disk-till vs no-till maize evapotranspiration, microclimate, grain yield, production functions and water productivity. *Agricultural Water Management* 216: 177-195. <https://doi.org/10.1016/j.agwat.2019.02.006>.
44. **Djaman K.**, D.R. Rudnick, Y.D. Moukoubi, A. Sow, S. Irmak. 2019. Actual evapotranspiration and crop coefficients of irrigated lowland rice (*Oryza sativa* L.) under semiarid climate. *Italian Journal of Agronomy* <https://doi.org/10.4081/ija.2019.1059>.
45. Rudnick D.R., S. Irmak, C. West, I. Kisekka, T.H. Marek, J.P. Schneekloth, D. Mitchell McCallister, V. Sharma, **K. Djaman**, J. Aguilar, J.L. Chávez, M.E. Schipanski, D.H. Rogers, A. Schlegel. 2019. Deficit irrigation management of maize in the High Plains aquifer region: a review. *Journal of the American Water Resources Association*. DOI: 10.1111/1752-1688.12723.
46. **Djaman K.**, M O’Neill, C. Owen, K., Koudahe, K., Lombard . 2018. Evapotranspiration, grain yield, and water productivity of spring oat (*Avena sativa* L.) under semiarid climate. *Agricultural Sciences* 9, 1188-1204.
47. **Djaman K.**, M. O’Neill, L. Diop, A. Bodian, S. Allen, K. Koudahe, K. Lombard: 2018. Evaluation of the Penman-Monteith and other 34 reference evapotranspiration equations under limited data in a semiarid dry climate. *Theoretical and Applied Climatology* . DOI: 10.1007/s00704-018-2624-0.
48. Mel V.C., V.B. Bado, S. Ndiaye, **K. Djaman**, D.A.B. Nati, B. Manneh, K. Futakuchi. 2018. Suitable management options to improve the productivity of rice cultivars under salinity stress. *Archives of Agronomy and Soil Science*. doi.org/10.1080/03650340.2018.1552785.
49. **Djaman K.**, M. Sall, A. Sow, B. Manneh, S. Irmak. 2018. Impact of air temperature and relative humidity measured over rice and grass Canopies on Penman-Monteith reference evapotranspiration. *J. Irrigation and Drainage Engineering*. 145(1). [https://doi.org/10.1061/\(ASCE\)IR.1943-4774.0001362](https://doi.org/10.1061/(ASCE)IR.1943-4774.0001362).
50. Tao H., L. Diop, A. Bodian, **K. Djaman**, P.M. Ndiaye, Z. Yaseen. 2018. Adaptive neuro-fuzzy inference system model integrated with firefly optimization algorithm for evapotranspiration modeling: Regional case study in Burkina Faso. *Agricultural Water Management*. 208, 140-151 <https://doi.org/10.1016/j.agwat.2018.06.018>.
51. Koudahe K., **K. Djaman**, J. Adewumi. 2018. Evaluation of the Penman-Monteith reference evapotranspiration under limited data and its sensitivity to key climatic variables under humid and semiarid conditions. *Modeling Earth Systems and Environment*. Modeling Earth Systems and Environment. DOI: 10.1007/s40808-018-0497-y.
52. Irmak S., V. Sharma, A.T. Mohammed, **K. Djaman**. 2018. Impacts of cover crops on soil physical properties: field capacity, permanent wilting point, soil-water holding capacity, bulk density, hydraulic conductivity, and infiltration. *Transactions of the ASABE*, 61(4):1307-1321. <https://doi.org/10.13031/trans.12700>.
53. **Djaman K.**, M. O’Neill¹, C. Owen, D. Smeal, M. West, D. Begay, S. Allen, K. Koudahe, S. Irmak, K. Lombard. 2018. Long-term winter wheat seasonal irrigation amount, evapotranspiration, yield, and water productivity under semiarid climate. *Agronomy* 8(6), 96; <https://doi.org/10.3390/agronomy8060096>.
54. **Djaman K.**, V.C. Mel, F.Y. Ametonou, R. El-Namaky, M.D. Diallo, K. Koudahe. 2018. Effect of nitrogen fertilizer dose and application timing on yield and nitrogen use efficiency of irrigated hybrid rice under semi-arid conditions. *Journal of Agricultural Science and Food Research* 2018, 9:2. 1000223.

55. **Djaman K.**, M. O'Neill, C. Owen, Daniel Smeal, M. West, D. Begay, S.V. Angadi, K. Koudahe, S. Allen, K. Lombard. 2018. Seed yield and water productivity of irrigated winter canola (*Brassica napus* L.) under semiarid climate and high elevation. *Agronomy* 8(6), 90; <https://doi.org/10.3390/agronomy8060090>.
56. **Djaman K.**, V.C. Mel, A. Sow, R. El-Namaky, L. Diop, B. Manneh, K. Saito, K. Futakuchi, S. Irmak. 2018. Effects of alternate wetting and drying irrigation regime and nitrogen fertilizer on yield and nitrogen use efficiency of irrigated rice in the Sahel. *Water* 10(6), 711; <https://doi.org/10.3390/w10060711>.
57. **Djaman K.**, M. O'Neill, C.K. Owen, K. Koudahe, M. West, S. Allen, D. Smeal, K. Lombard, S. Irmak. 2018. Crop evapotranspiration, irrigation water requirement and water productivity of maize from meteorological data under semiarid climate. *Water* 2018, 10, 405; doi:10.3390/w10040405.
58. Bado, V.B., **K. Djaman**, V.C. Mel. 2018. Developing fertilizer recommendations for rice in Sub-Saharan Africa, achievements and opportunities. *Paddy & Water Environment*. <https://doi.org/10.1007/s10333-018-0649-8>.
59. **Djaman K.**, K. Lombard, K. Koudahe, S. Allen, M. O'Neill. 2018. Variability of the ratio of alfalfa to grass reference evapotranspiration under semiarid climate. *Irrigation & Drainage Systems Engineering*, 7:1. DOI: 10.4172/2168-9768.1000204.
60. **Djaman K.**, K. Koudahe, K. Lombard, M. O'Neill. 2018. Sum of hourly vs daily Penman-Monteith grass-reference evapotranspiration under semiarid and arid climate. *Irrigation & Drainage Systems Engineering*, 7:1, DOI: 10.4172/2168-9768.1000202.
61. **Djaman K.**, P.M Ndiaye, K. Koudahe, A. Bodian, L. Diop, M. O'Neill, S. Irmak. 2018. Spatial and temporal trend in monthly and annual reference evapotranspiration in Madagascar for the 1980-2010 period. *International Journal of Hydrology* :2(2); 110-120. DOI: 10.15406/ijh.2018.02.00058.
62. **Djaman K.** 2018. Closure to "Evaluation of Valiantzas' Simplified Forms of the FAO-56 Penman-Monteith Reference Evapotranspiration Model in a Humid Climate" by Djaman, K., D. Rudnick, V.C. Mel, D. Mutiibwa, L. Diop, M. Sall, I. Kabenge, A. Bodian, H. Tabari, and Suat Irmak. *Journal of Irrigation and Drainage Engineering*, 144(7). DOI: 10.1061/(ASCE)IR.1943-4774.0001316.
63. Bodian A., A. Dezetter, L. Diop, A. Deme, **K. Djaman**, A. Diop. 2018. Future climate change impacts on streamflow of two main west Africa river basins : Senegal and Gambia. *Hydrology*, 5(1), 21; doi:10.3390/hydrology5010021.
64. Diop L., A. Bodian, **K. Djaman**, Z.M. Yaseen, R.C. Deo, A. El-shafie, L.C. Brown. 2018. The influence of climatic inputs on stream-flow pattern forecasting: Case study of Upper Senegal River. *Environmental Earth Sciences* (2018) 77:182. <https://doi.org/10.1007/s12665-018-7376-8>.
65. Koudahe K., K.J. Adewumi, S.O. Awokola, A.A. Adekunle, **K. Djaman**, O.D. Akinyemi, O.M. Onagbesan. 2018. Impact of climate variability on crop yields in southern Togo. *Environment Pollution and Climate Change*. DOI: 10.4172/2573-458X.1000148.
66. Moukoumbi Y.D., R. El-Namaky, **K. Djaman**, D. Mbodj, B. Manneh. 2018. Alternate phenotype-genotype selection method for developing superior high yielding irrigated rice lines. *The Crop Journal* 6:191-201, doi:10.1016/j.cj.2017.08.010.
67. **Djaman, K.**, K. Koudahe, S. Allen, M. O'Neill, S. Irmak. 2017. Validation of Valiantzas' reference evapotranspiration equation under different climatic conditions. *Irrigation and Drainage Systems Engineering*, 2017, 6:3 DOI: 10.4172/2168-9768.1000196.
68. **Djaman K.**, S. Irmak. 2017. Evaluation of critical N and P models for maize under full and limited irrigation conditions. *Italian Journal of Agronomy*. 13(1):80-92. Doi: 10.4081/ija.2017.958.
69. **Djaman K.**, S. Irmak, M. Sall, A. Sow, I. Kabenge, 2017. Comparison of sum-of-hourly and daily time step standardized ASCE Penman-Monteith (ASCE-PM) grass-reference evapotranspiration in Western Africa. *Theoretical and Applied Climatology* DOI.10.1007/s00704-017-2291-6.
70. **Djaman K.**, K. Koudahe, K.K. Ganyo. 2017. Trend analysis in annual and monthly pan evaporation and pan coefficient in the context of climate change in Togo. *Journal of Geoscience and Environment Protection* 5, 41-56. DOI: 10.4236/gep.2017.512003.

71. **Djaman K.**, K. Koudahe, C.O. Akinbile, S. Irmak. 2017. Evaluation of eleven reference evapotranspiration models in semiarid conditions. *Journal of Water Resource and Protection*, 9, 1469-1490. <https://doi.org/10.4236/jwarp.2017.912094>.
72. Ndiaye P.M., A. Bodian, L. Diop, **K. Djaman**. 2017. Sensitivity analysis of the Penman-Monteith reference evapotranspiration to climatic variables: case of Burkina Faso. *Journal of Water Resource and Protection*, 9, 1364-1376. DOI: 10.4236/jwarp.2017.912087.
73. **Djaman K.**, V. Sharma, D.R. Rudnick, K. Koudahe, S. Irmak, K.A. Amouzou, J.M. Sogbedji. 2017. Spatial and temporal variation in precipitation in Togo. *International Journal of Hydrology* 1(4): 00019. DOI: 10.15406/ijh.2017.01.00019.
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Extension publications and research reports

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Conference Presentations

1. Saibou A., B. Schutte, K. Djaman, R. Pratt, J. Idowu. 2024. Using cover crops in transitioning from traditional agriculture to climate-adaptive organic farming in the southwestern US. New Mexico crop production Association conference. Ruidoso, NM. January 30, 2024.
2. Angadi S., Shanwad, U., **Djaman, K.** Assessing evapotranspiration improvements from circular buffer strips of native perennial grasses using OpenET. Advancing Earth and Space Sciences AGU23San Francisco, CA. December 2023.
3. Darapuneni, M. K., Idowu, O. J., **Djaman, K.**, Lauriault, L. M., Lehnhoff, E. A., Ayman, A. 2023. Edible dry bean potential in eastern New Mexico. ASA, CSSA, SSSA, St Louis, MO. November 2023.
4. Fademi, I., Ghimire, R., Djaman, K., Idowu, O. J., 2023. Evaluation of greenhouse gas emissions in an irrigated arid cropping system. ASA-CSSA-SSSA, St Louis, MO. October 2023.
5. Fademi, I., Omer, M. N., Ghimire, R., Djaman, K., Idowu, O. J., 2023 ASA, CSSA, SSSA International Annual Meeting. Cover Crops, Tillage, and Organic Amendment Effects on Selected Soil Quality Indicators in Irrigated Arid Cropping System," ASA, CSSA, SSSA, St Louis, MO. October 2023.
6. Shrestha, B. **Djaman, K.** Effects of irrigation and nitrogen management on potato (*Solanum tuberosum* L.) growth, yield, and water use efficiency. Potato Association of America 107th Annual Meeting, Charlotte Town, Canada. July 2023.
7. **Djaman, K.**, ASABE 2023, "Hay yield and water use efficiency of alfalfa under different irrigation and fungicide regimes in a semiarid climate," ASABE Annual meeting, Omaha, NE. July 2023.
8. Shrestha, B., **Djaman, K.** Effects of irrigation and nitrogen management on potato (*Solanum tuberosum* L.) growth, yield, and water use efficiency. ASABE Annual meeting, Omaha, NE. July 2023.
9. Shrestha B., **K. Djaman**, B. Stringam, M. Darapuneni, K. Lombard. Effects of Irrigation and Nitrogen Management on Potato (*Solanum tuberosum* L.) Growth, Yield, Quality, and Water Use Efficiency.

- New Mexico Water Resources Research Institute: 67th Annual New Mexico Water Conference. Convention Center, Las Cruces. October 26-27, 2022.
10. **Djaman K.**, Dynamics of Monthly and Seasonal Crop Evapotranspiration of Four Major Crops for Planning on a Large Commercial Farm: Case of the Navajo Agricultural Products Industry, New Mexico (USA). New Mexico Water Resources Research Institute: 67th Annual New Mexico Water Conference. Convention Center, Las Cruces. October 26-27, 2022.
 11. **Djaman K.** Soil Water Dynamics, Effective Rooting Zone, and Crop Evapotranspiration of Sprinkler Potato in a Sandy Loam Soil. 77th SWCS International Annual Conference. Soil and Water Conservation Society. Denver July 31-August 3, 2022.
 12. **Djaman K.** Soil water dynamics, effective root zone, and crop evapotranspiration of potato in a sandy loam soil. 2022 ASABE Annual International Meeting, Houston, TX, July 17-20, 2022.
 13. **Djaman K.**, and K. Koudahe. Regional calibration of Hargreaves-Samani equations for reference evapotranspiration estimation in an arid and semiarid region. 2022 ASABE Annual International Meeting. Houston, TX, July 17-20, 2022.
 14. Koudahe K., J. Aguilar, **K. Djaman**, M.B. Kirkham, D.J. Tomsicek, J. Thompson, B. Niere, F. Moghbel, F. Fazel, and A.Y. Sheshukov. Actual crop evapotranspiration and grass-reference crop coefficients of cotton under different irrigated and rainfed conditions. 2022 ASABE Annual International Meeting. Houston, TX. July 17-20, 2022.
 15. Bodian, A., P.M. Ndiaye, S.B. Diop, L. Diop, A. Dezetter, A. Ogilvie, **K. Djaman**. 2022. Evaluation and calibration of Twenty alternative methods for estimating reference evapotranspiration in main hydrosystems of Senegal: Senegal, Gambia and Casamance River Basins. The XIth Scientific Assembly of the International Association of Hydrological Sciences (IAHS 2022). Montpellier, France, 29 May 29 - June 3, 2022.
 16. Koubodana H.D., Moustapha Tall, R.M. Nonki, K. Djaman, N. Patel, K. Atchonouglo. Analysis of Historical Flood Frequencies and Magnitudes and Future Scenarios Forecasting in the Mono River Basin, West Africa. The XIth Scientific Assembly of the International Association of Hydrological Sciences (IAHS 2022). Montpellier, France, 29 May 29 - June 3, 2022.
 17. Ndiaye P.M., A. Bodian, S.B. Diop, L. Diop, A. Dezetter, A. Ogilvie, **K. Djaman**. Trend analysis of reference evapotranspiration and climate variables in the main hydrosystems of Senegal: Senegal, Gambia, and Casamance River Basins. The XIth Scientific Assembly of the International Association of Hydrological Sciences (IAHS 2022). Montpellier, France, 29 May 29 - June 3, 2022.
 18. Koudahe K., J. Aguilar, M.B. Kirkham, **K. Djaman**, A. Sheshukov. Assessment of Cotton Actual Evapotranspiration and Growth under Different Irrigation Technologies and Plant Densities Kansas Natural Resources Conference 2022. Manhattan, Kansas. February 3-4, 2022.
 19. **Djaman K.**, D. Begay, S.D. Djaman, S. Allen, and S. Irmak. Effect of planting dates and plant densities on crop growth, yield and yield components, and resources use efficiency of corn under sprinkler irrigation. ASABE 2021 Annual International Meeting.
 20. Koudahe K., J. Aguilar, M.B. Kirkham, **K. Djaman**, A. Sheshukov. Effect of irrigation technologies and plant densities on soil water dynamics and cotton growth parameters. Governor' Conference on the Future of Water in Kansas 2021. November 16-17, 2021.
 21. Ndiaye P.M., A. Bodian, L. Diop, A. Deme, A. Dezetter, **K. Djaman**, A. Ogilvie. 2021. Evaluation and calibration of reference evapotranspiration models in the S n gal River basin. Forth International Conference on Hydrology of the African large watersheds. Cotonou, Benin November 13-20, 2021.
 22. Darapuneni M., L. Lauriault, G. Martinez, **K. Djaman**. Yield potential and water use efficiency of various summer and winter alternate crops in a semi-arid environment. ASA-SSSA-CSSA Meeting. Salt Lake City UT, November 2021.

23. **Djaman K.**, K. Lombard. Growth and yield characteristics of two early potato cultivars under organic and conventional production systems. Research and Creativity Week 2021. New Mexico State University, Las Cruces. November 2-5, 2021.
24. **Djaman K.** Effect of planting dates and plant densities on crop growth, yield and yield components, and resources use efficiency of corn under sprinkler irrigation. Research and Creativity Week 2021. New Mexico State University, Las Cruces. November 2-5, 2021.
25. **Djaman K.**, and Charlie Higgins. Precision irrigation management and crop evapotranspiration of potato under center pivot. Research and Creativity Week 2021. New Mexico State University, Las Cruces. November 2021.
26. **Djaman K.**, Murali Darapuneni. Chilling and heat accumulation of fruit and nut trees and flower bud vulnerability to early spring low temperatures in New Mexico: meteorological approach. Research and Creativity Week 2021. New Mexico State University, Las Cruces. November 2-5, 2021.
27. **Djaman K.** Soil water dynamics, effective rooting depth, and crop water use of potato under precision irrigation water management. 66th Annual New Mexico Water Conference. October 26-28, 2021.
28. **Djaman K.**, and Charlie Higgins. Soil water dynamics and crop evapotranspiration of sprinkler irrigated potato in the commercial fields. ASABE 2021 Annual International Meeting. Virtual.
29. **Djaman K.**, K. Koudahe, M. Darapuneni, and S. Irmak. Chilling and heat accumulation of fruit and nut trees and flower bud vulnerability to early spring low temperatures in New Mexico: meteorological approach. ASABE 2021 Annual International Meeting. Virtual.
30. Koubodana H.D., J. Adounkpe, K. Atchonouglo; **K. Djaman** and I. Larbi. 2021. Streamflow response to combined impacts of land use, climate variability and dam management in the Mono River Basin, Togo-Benin, West Africa. Water Security and Climate Change Conference, 01-04 March 2021 Hanoi, Vietnam. Virtual.
31. **Djaman K.**, D. Begay, S.D. Djaman, S. Allen. 2020. Effect of planting dates and plant densities on crop growth, yield and yield components, and resources use efficiency of corn under sprinkler irrigation. ASA-CSSA-SSSA Meetings, Phoenix, AZ. Virtual: November 2020.
32. Darapuneni, M.K., L.M. Lauriault, S. Dodla, O.J. Idowu, K. Grover, G. Martinez, **K. Djaman**, and S. Angadi. 2019. Temporal variations in plant and soil characteristics following a single strip-till manure application. ASA-CSSA-SSSA International Annual Meetings. November 2019.
33. Mbodj D., B. Manneh, A. Kane, L. Laplaze, F. Ametonou, **K. Djaman**, S. Gaye, R. El-Namaky, A.G. Diedhiou. 2018. Varietal adaptation for beneficial rice-microbe interactions under aerobic and continuously flooded conditions. 5th International Rice Congress. October 15-17, 2018; Singapore.
34. Sarpong K.A., A. Salazar, A. Ortega, K. Telles, **K. Djaman**, M.K. O'Neill, D. Valles-Rosales, C.E. Brewer. 2018. Pyrolysis of Wood Excelsior Residues for Biochar and Renewable Energy Production. US Biochar Initiative Biochar 2018. Wilmington, Delaware, August 21, 2018.
35. **Djaman K.**, M. Sall, A. Sow, S. Irmak. Impact of Air Temperature and Relative Humidity Measured over Rice and Grass Canopies on Penman-Monteith Reference Evapotranspiration. 2018 ASABE international annual meeting, Detroit, MI. Wednesday, August 1, 2018.
36. Sarpong K.A., A. Salazar, A. Ortega, K. Telles, **K. Djaman**, M.K. O'Neill, D.J. Valles-Rosales, Catherine E. Brewer. 2018. Pyrolysis of Wood Excelsior Residues for Biochar and Renewable Energy Production. 2018 ASABE international annual meeting, Detroit, MI. Tuesday, July 31, 2018.
37. **Djaman K.**, V. Mel, L. Diop, A. Sow. 2018. Effects of Alternate Wetting and Drying Irrigation Regime and Nitrogen Fertilizer on Yield and Nitrogen Use Efficiency of Irrigated Rice in the Sahel. 2018 ASABE international annual meeting, Detroit, MI. Monday, July 30, 2018.
38. **Djaman K.**, M. O'Neill, L. Diop, A. Bodian, S. Allen, K. Koudahe, K. Lombard. 2018. Evaluation of the Penman-Monteith and other 34 Reference Evapotranspiration Equations under Limited Data in a Semiarid Dry Climate. The 73rd SWCS International Annual Conference: Culture, Climate, and Conservation. Albuquerque, NM. Tuesday, July 31, 2018.

39. Mel V.C. , B.V. Bado, S. Ndiaye, **K. Djaman**, D. A. B. Nati, B. Manneh. 2018. Gestion intégrée des nutriments et des variétés tolérantes pour la culture du riz sous stress salin. Conference: Doctoriales ED2DS Université de Thiès, Thies, Senegal. June 15, 2018.
40. **Djaman K.** 2018. Irrigation scheduling. “Responding to drought and water shortage” Workshop. Farmington, NM. May 15, 2018.
41. **Djaman, K.** 2018. Water and irrigation systems management, rainwater harvesting. “Its All about Gardening” workshops series. School and Family in Navajo Gardening for Health; Shiprock, NM, April 5, 2018.
42. **Djaman, K.** 2018. Water and irrigation systems management, rainwater harvesting. “Its All about Gardening” workshops series. School and Family in Navajo Gardening for Health; Crystal, NM, April 4, 2018.
43. **Djaman, K.** 2018. Deficit irrigation strategies for improving crop water use efficiency under semiarid dry climate. New Mexico State University, Graduate seminar, Las Cruces, March 9, 2018.
44. **Djaman K.,** B. Manneh. 2017. Progress report on the Bill-and-Melinda-Gates funded project “Stress-Tolerant Rice for Africa and South Asia (STRASA)”. New Delhi, India, May 2, 2017.
45. Diedhiou A.G., K. Assigbetse, I. Diedhiou, S. Pignoly, D. Mbodj, **K. Djaman**, D. Moukouanga, V.C. Mel, K. Ndiaye, A. Champion, P. Gantet, L. Cournac, A. Kane, B. Manneh, L. Laplaze. 2017. Impact of long-term fertilization on rhizosphere microbial communities in irrigated rice in West Africa. *Biodiversity and ecological engineering for sustainable intensification of agriculture*, April 24 - 26th 2017; Dakar, Senegal
46. **Djaman K.,** V.C. Mel, A. Sow, R. El-Namaky, B. Manneh, S. Kazuki, K. Futakuchi. 2017 Irrigation Water Saving Strategies to increase Water Productivity and Nitrogen Use Efficiency in the Paddy Field. The Sustainable Intensification Conference 2017: *Biodiversity and ecological engineering for sustainable intensification of agriculture*, April 24 - 26th 2017; Dakar, Senegal
47. **Djaman K,** V.C. Mel, A. Sow, R. El Namaky, L. Diop, B. Manneh, K. Saito, K. Futakuchi, S. Irmak. Effects of alternate wetting and drying irrigation regime and nitrogen fertilizer on yield and nitrogen use efficiency of irrigated rice in the Sahel. Stellenbosch, South Africa, October, 2017
48. **Djaman Koffi.** Land and water management to increase rice productivity: Laser leveling and Alternate Wetting and Drying irrigation technology. AfricaRice Science week, Cotonou, Benin, Febr. 2016.
49. Bado V.B., **K. Djaman**, V.C. Mel, D.A.B. Nati, A.B. Balde, B. Manneh, S. Irmak. Performance of salt-tolerant rice genotypes in salt-affected soil under integrated management options of nitrogen, zinc, gypsum. 2nd Minia International Conference for Agriculture and Irrigation in the Nile Basin Countries, Minia, Egypt March 23-25, 2015
50. Odhiambo, O.L., S. Irmak and **K. Djaman.** Impact of Watermark sensors position on irrigation management. ASABE Annual International Meeting, Dallas, TX, June 2012.
51. **Djaman, K.,** and S. Irmak. Maize evapotranspiration, yield production function, biomass, grain yield, harvest index, and yield response factors under full and limited irrigation; The Fall 2011 University and Industry Consortium Poster Session, Lincoln, NE, October, 2011.
52. **Djaman K.,** and S. Irmak. Plant nutrient (N, P, K) uptake, grain nutrient content, and soil nutrient dynamics under full and limited irrigation and rainfed maize production; Water for food conference, Lincoln, NE, May 2011
53. **Djaman K.,** and S. Irmak. Maize productivity under deficit irrigation and rainfed conditions; ASABE Annual International Meeting, Pittsburgh, Pennsylvania, June 2010.

Funded grants and contacts

1. Multi-barrier management strategies of Phytophthora blight in peppers and cucurbits. USDA-NIFA-SCRI. PI: Sanogo, Co-PI: Lozada, Ali, Babadoost, Crosby, Somenahally, Fedio, Xu, Barberan, Acharya, **Djaman**, Dufault. Award amount: **\$5,953,802**. Credit: 15%. Period of funding: Reporting period: September 1, 2023 – August 31, 2027.

2. Potatoes USA SNAC Trial 2023-2024. Potatoes USA. **Djaman K. (PI)**. Award amount: **\$23,500**. July 2023 – June 2024. Credit: 100%.
3. Improving forage yield of sorghum and millet under soil amendment and water saving irrigation strategies. **Djaman, K. (PI)**. Sponsored by Sterling Pacific Services LLC. Gift amount: **\$9,000**. 2023. Credit: 100%.
4. Bridging Traditional Agriculture and Climate-Adaptive Organic Agriculture in the Southwest. PI: Pratt; Co PI: Schutte, **Djaman**, Lombard, Patrick. 09/1/2022-08/31/2026. Total fund: **\$752,108**.
5. New Beginnings for Navajo Nation Students. PI: Lombard; Co-PI: **Djaman** as Co-PI. Reporting period: 09/1/2022 – 08/31/2025. Total fund: **\$138,472**.
6. Chip potato variety trial; Potatoes USA. PI: **Djaman**. Reporting Period: 08/01/2022 – 06/30/2023. Total Fund: **\$23,500**.
7. Chip potato variety trial; Potatoes USA. PI: **Djaman**; Co PI: Lombard. Reporting Period: 07/01/2021 – 06/30 2022. Total Fund: **\$23,500**.
8. Using soil microbes to improve nitrogen use efficiency and soil health. March 2001 –December 2022. **Djaman K. (PI)**. Sponsored by Pivot Bio. Award amount: **\$10,000**.
9. Water use efficiency, nitrogen dynamics and yield potential of edible dry beans and guar in a traditional winter wheat cropping system. PI: Darapuneni, CO-PI: **Djaman**, Idowu, Lauriault. Reporting period: 07/01/2021 – 06/30/2022. Award amount: **\$49,672**.
10. Chip potato variety trial; Potatoes USA. PI: **Djaman**; Co PI: Lombard. Reporting Period: 07/01/2020 – 06/30/2021. Total Fund: **\$23,000**.
11. Chip potato variety trial; Potatoes USA. PI: **Djaman**; Co PI: Lombard. Reporting Period: 06/30/2019 – 06/30/2020. Total Fund: **\$22,845**.
12. Chip potato variety trial; Potatoes USA. PI: **Djaman**; Co PI: Lombard. Reporting Period: 07/01/2018 – 06/30/2019. Total Fund: **\$22,845**.
13. Chip potato variety trial; Potatoes USA. PI: **Djaman**; Co PI: Lombard. Reporting Period: 07/01/2017 – 06/30/2018. Total Fund: **\$22,845**.
14. Biochars from Excelsior Woody Biomass Residues for Improved Poplar Production. PI: Dr. Brewer; Co-PI: Drs. Valles-Rosales, **Djaman**: Collaboration institutes Texas Pallets & Services (TP&S), Horizon City, TX, New Mexico Ties & Poles (NMTNP), Alamogordo, NM. Reporting Period: 03/01/2017- 03/31/2019. Total Fund: **\$269,535**.
15. Effect of soybean plant population on crop water use, yield and water use efficiency, and crop coefficient under full and limited irrigation and rainfed conditions. PI: Odhiambo. Co-Pi: Irmak, **Djaman**, Rudnick, Sharma. Funding organization: Nebraska Soybean Board. Reporting Period: 2013 - 2017; Total fund: **\$50,000**.
16. Impact of different irrigation regimes on corn growth parameter, yield, water use efficiency and nutrient uptake. PI: Irmak, Co-PIs: Mutiibwa, Odhiambo, Skaggs, **Djaman**, Eisenhauer. Funding organization: Nebraska Corn Board; Reporting Period: 01/01/2009-12/31/2012; Total Fund: **\$253,000**.

Graduates and undergraduate student advised.

1. Aminou Saibou, Ph.D. student, NMSU, Spring 2023 – present
2. Ibukunoluwa Fademi Ph.D. Student, NMSU, Spring 2023 - present
3. Isaac Appiah, MS student, NMSU 2023
4. Bhimsen Shrestha, MS student, NMSU Spring 2022 - present
5. Aquib Mohammed Ayman: MS student, NMSU Fall 2021 – 2023.
6. Komlan Koudahe, MS student, KSU Spring 2021 – Fall 2022
7. Esmail Mokarighahroodi, Ph.D. student, NMSU Fall 2020 – Fall 2021
8. Papa Malick Ndiaye, Ph.D. student, UGB Fall 2018 –Spring 2021
9. Kwabena Sarpong, MS student, NMSU Fall 2017-Spring 2019.
10. Akpabie-Akue Akoete, MS student, AfricaRice Spring - Summer 2017.

11. Ndao Ababacar, BS. Student, AfricaRice Spring - Summer 2016.
12. Beye El Hadj, BS. Student, AfricaRice Spring - Summer 2016.
13. Sy Fadel, BS. Student, AfricaRice Spring - Summer 2016.
14. Ndiaye Papa Malick, MS. Student, AfricaRice Spring - Summer 2016.
15. Drame Khalifa Ababacar BS. Student, AfricaRice I Spring - Summer 2015.
16. Sow Oumar BS. Student, AfricaRice Spring - Summer 2015.
17. Kane Ababacar BS. Student, AfricaRice Spring - Summer 2015.
18. Suhaibou Faye, MS. Student, AfricaRice Spring - Summer 2014.

Language skills

English and French: excellent speaking and writing

Websites

<https://pes.nmsu.edu/faculty/agronomy/koffi-djaman.html>

https://www.researchgate.net/profile/Koffi_Djaman

<https://scholar.google.com/citations?user=nUldMQkAAAAJ&hl=en>