

NSF BIOGRAPHICAL SKETCH

NAME: Lin, Xiaomao

ORCID: 0000-0002-0804-7853

POSITION TITLE & INSTITUTION: Professor, State Climatologist for Kansas, KSU

(a) PROFESSIONAL PREPARATION -(see PAPPG Chapter II.C.2.f.(a))

INSTITUTION	LOCATION	MAJOR / AREA OF STUDY	DEGREE (if applicable)	YEAR YYYY
Chengdu Uni. of Info. Tech.	Chengdu	Electrical Eng.	BENG	1986
China Agricultural Uni.	Beijing	Ag-Meteorology	MS	1991
University of Nebraska	Lincoln, NE	Ag-Meteorology	PHD	1999
University of Missouri	Columbia, MO	Biophotonics	Postdoctoral Fellow	2000 - 2001

(b) APPOINTMENTS -(see PAPPG Chapter II.C.2.f.(b))

2022 - present	Professor, State Climatologist for Kansas, KSU, Manhattan, KS
2017 - 2022	Associate Professor, State Climatologist for Kansas, KSU, Manhattan, KS
2013 - 2017	Assistant Professor/State Climatologist, Kansas State University, Manhattan, KS
2009 - 2013	Senior Instrumentation Scientist, LI-COR Biosciences Inc., Lincoln, NE
2008 - 2009	Instrumentation Scientist, Campbell Scientific Inc., Logan, UT
2002 - 2008	Res. Assistant Professor, University of Nebraska-Lincoln, Lincoln, NE
2000 - 2001	Post-doc, University of Missouri, Columbia, MO
1999 - 2000	Post-doc, University of Nebraska-Lincoln, Lincoln, NE
1992 - 1995	Lecturer, China Agricultural University, Beijing
1991 - 1991	Visiting Lecturer, China Meteorological Administration, Beijing
1986 - 1988	Teaching Assistant, China Agricultural University, Beijing

(c) PRODUCTS -(see PAPPG Chapter II.C.2.f.(c))

Products Most Closely Related to the Proposed Project

1. Lin X, Pielke Sr. RA., Mahmood R, Fiebrich CA., Aiken R. Observational evidence of temperature trends at two levels in the surface layer. Atmos. Chem. Phys.. 2016; 16. DOI: 10.5194/acp-16-827-2016
2. Lin X, Pielke Sr. RA., Hubbard KG., Crawford KC., Shafer MA., Matsui T. An examination of 1997-2007 surface layer temperature trends at two heights in Oklahoma. Geophysical Research Letters. 2007; 34. DOI: 10.1029/2007GL031652
3. Zambreski Z, Lin X, Aiken R, Kluitenberg G, Pielke Sr. RA.. Identification of hydroclimate sub-regions for seasonal drought monitoring in the Great Plains. Journal of hydrology. 2018; 567. DOI: 10.1016/j.jhydrol.2018
4. Kloesel K, Bartush B, Banner J, Brown D, Lemory J, Lin X, McManus G, Mullens E, Nielsen-Gammon J, Shafer M, Sorenson C, Sperry S, Wildcat D, Ziolkowska J. The U.S. Fourth National Climate Assessment. Reidmiller DR., Avery CW., Easterling DR., Kunkel KE., Lewis KLM, Maycock TK., Stewart BC., editors. Washington, DC, USA: U.S. Global Change Research Program; 2018. Chapter 23, Southern Great Plains; p.987-1035. DOI: 10.7930/NCA4.2018.CH23

5. Zuo G, Aiken RM., Feng N, Zheng D, Zhao H, Avenson TJ., Lin X. Fresh perspectives on an established technique: Pulsed amplitude modulation chlorophyll a fluorescence. *Plant-Environment Interactions*. 2022 February 25; 2022:1-19. DOI: 10.1002/pei3.10073

Other Significant Products, Whether or Not Related to the Proposed Project

1. Lin X, Hubbard KG.. Sensor and electronic biases/errors in air temperature measurements in common weather station networks. *Journal of Atmospheric and Oceanic Technology*. 2004; 21:1025-1032.
2. Xu L, Lin X, Amen J, Welding K, McDermitt D. Impact of changes in barometric pressure on landfill methane emission. *Global Biogeochemical Cycles*. 2014; 28(7):679-695.
3. Kutikoff S, Lin X, Evett S, Gowda P, Moorhead J, Marek G, Colaizzi P, Aiken R, Brauer D. Heat storage and its effect on the surface energy balance closure under advective conditions. *Agricultural and Forest Meteorology*. 2018; 265:56-69.
4. Zhang Y, Gowda P, Brown D, Rice C, Zambreski Z, Kutikoff S, Lin X. Time-varying trends in frost indicators in the US Southern Great Plains. *International Journal of Climatology*. 2021; 41(2):1264-1278.
5. White MA, Beurs KM, Didan K, Inouye DW, Richardson AD, Jensen OP, O'keefe J, Zhang G, Nemani RR, Leeuwen WJD, Brown JF, de Wit A, Schaepman M, Lin X, Dettinger M, Bailey AS, Kimball J, Schwartz MD, Baldocchi DD, Lee JT, Lauenroth WK. Intercomparison, interpretation, and assessment of spring phenology in North America estimated from remote sensing for 1982–2006. *Global Change Biology*. 2009 October; 15(10):2335-2359.

(d) SYNERGISTIC ACTIVITIES -(see PAPPG Chapter II.C.2.f.(d))

1. Research mentor to graduate students (11 MS and PhD) and post-docs (4) at the Office of State Climatologist for Kansas in Kansas State University. Emphasis on climate impacts on crops, bio-atmospheric instrumentation and sensors, and mesoscale climate modeling (2013 to present)
2. Taught an upperclass/graduate student level course: Agricultural Climatology which covers fundamentals of climate and climate change, surface climate data sources and satellite data sources, climate impacts on crops, ag-climate indicators, statistical data processing and modeling, remote sensing and climate modeling (2017 to present)
3. Developed an Acoustic Device Simulation (ADS) software tool for optimizations of 3D sonic wind fields in theory; a standalone NB308 software tool for in-depth eddy-covariance computation and visualizations in time, space, and spectral domains; a modeling tool for estimating satellite-based evapotranspiration (Landsat and MODIS); and a monthly Ag-Climate Update (ACU) product for Kansas citizens (2009 to present)
4. Developed the infrared thermometer (patented, 1992); chamber-based plant photosynthesis analyzer (patented, 1995); soil heat flux plate (certified in 1994); co-inventor the method and apparatus for measuring gas flux (patented, 2018). Current interests include devices for leaf-level gas exchanges and chlorophyll fluorescence emission (2010 to present)
5. Served as a member of WMO Climate Extreme Experts for the agricultural food security (2017), a community leader of Global Climate Change in the American Society of Agronomy, and a committee member of the American Association of State Climatologists for the Climate Change Statement and Policy (2017-present)