

Curriculum Vitae

Name: Minchao Wu
Date of Birth: 30th June 1980
Marital Status: Married with 2 children
Languages spoken: Mandarin (native), Cantonese (native), English (fluent), Swedish (limited)
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RESEARCH INTERESTS

- Vegetation dynamics and carbon cycle
- The impacts of land surface properties (soil moisture, topography and vegetated cover) on regional climate, e.g. vegetation influences on climatic extreme
- The mechanism of scale effects on inter-annual variability and extreme of regional climate
- Added values of high-resolution regional Earth system model to climate services

EDUCATION

02/2017: **Ph.D., Geobiosphere Science with Specialization in Physical Geography and Ecosystem Analysis**, Lund University, Sweden.
Main supervisors: Prof. Markku Rummukainen
Thesis: Land-atmosphere interactions and regional Earth system dynamics due to natural and anthropogenic vegetation changes

06/2011: **M.Sc., Environmental Studies and Sustainability Science**, Lund University, Sweden.

07/2004: **B.A., Computer science & Technology**, South China University of Technology, China.

RESEARCH EXPERIENCE

11/2017 - Present **Climate researcher**, the Rossby Centre, the Swedish Meteorological and Hydrological Institute, Sweden.

03/2017- 10/2017 **Research assistant**, Department of Physical Geography and Ecosystem Science, Lund University, Sweden.

06/2012-02/2017: **PhD candidate**, Department of Physical Geography and Ecosystem Science, Lund University, Sweden.
(8 months parental leave)

09/2011-11/2011: **Research assistant**, Centre for environmental and climate research (CEC), Lund University, Sweden.

PROFESSIONAL EXPERIENCE

- 01/2007-07/2009: **Senior software engineer** (permanent position), Global Technology Center, HSBC, Guangzhou, China
- 01/2005-12/2006: **Software engineer**, Global Technology Center, HSBC, Guangzhou, China
- 02/2003-11/2004: **Software engineer**, ZTE Corporation, Guangzhou, China

PARTICIPATION IN RESEARCH PROJECTS

- FCFA - FRACTAL: Future resilience for African cities and lands
- EU-FP7 - FUME: Forest fire under climate, social and economic changes

TEACHING

- Programming course of Matlab in Physical Geography and Ecosystem Science, Lund University, Sweden
- Examiners of master theses in Physical Geography and Ecosystem Science, Lund University, Sweden

GRANT

- Grants from COMPUTE research school in Faculty of Science, Lund University, Sweden

SOCIAL RESPONSIBILITY

- Member of Future Earth

KEY TECHNICAL AND PROFESSIONAL SKILL

- Ecosystem and climate model development with C, C++, Fortran, with parallel computing
- Big data post processing and analysis with Matlab, Python, CDO
- Others: SQL, shell script, ArcGIS etc.

PEER-REVIEWED JOURNAL ARTICLES

Ahlstrom, A., Canadell, J. G., Schurgers, G., **Wu, M.**, Berry, J. A., Guan, K., & Jackson, R. B. 2017. 'Hydrologic resilience and Amazon productivity'. *Nature Communications*, 8, 387. doi:10.1038/s41467-017-00306-z

Wu, M., Schurgers, G., Ahlström, A., Rummukainen, M., Miller, P. A., Smith, B., and May, W. 2017. 'Impacts of land use on climate and ecosystem productivity over the Amazon and the South American continent'. *Environmental Research Letters*, 12, 054016. doi:10.1088/1748-9326/aa6fd6

Wu, M., Schurgers, G., Rummukainen, M., Smith, B., Samuelsson, P., Jansson, C., Siltberg, J., and May, W. 2016. 'Vegetation–climate feedbacks modulate rainfall patterns in Africa under future climate change'. *Earth System Dynamics*, 7, 627-647. doi:10.5194/esd-7-627-2016

Wu, M., Knorr, W., Thonicke, K., Schurgers, G., Camia, A., and Arneth, A. 2015. 'Sensitivity of burned area in Europe to climate change, atmospheric CO₂ levels, and demography: A comparison of two fire-vegetation models. *Journal of Geophysical Research: Biogeosciences*, 120, 2256-2272. doi:10.1002/2015JG003036

CONFERENCE PRESENTATION

Wu, M., Schurgers, G., Rummukainen, M., Smith, B., Samuelsson, P., Jansson, C., Siltberg, J., and May, W. 'Vegetation–climate feedbacks modulate rainfall patterns in Africa under future climate change' The International Conference on Regional Climate, CORDEX 2016, Conference Abstracts. Stockholm, Sweden. 2016.(Oral presentation)

Wu, M., Smith, B., Schurgers, G., Siltberg, J., Rummukainen, M., Samuelsson, P. 'Vegetation-climate feedback causes reduced precipitation in CMIP5 regional Earth system model simulation over Africa' EGU General Assembly Conference Abstracts. Vienna, Austria. Vol. 15. 2013. (Poster)

Wu, M., Arneth, A., Knorr, W., Thonicke, K. 'Response of vegetation structure to extreme climate events in Europe: Analysis from fire regime perspective' Climate Extremes and Biogeochemical Cycles 2013, Conference Abstracts. Seefeld, Austria. 2013.(Poster)

BOOK AND BOOK CHAPTERS

Wu, Minchao. Land-atmosphere interactions and regional Earth system dynamics due to natural and anthropogenic vegetation changes. Doctoral Thesis. 2017 Jan Lund: Lund University, Faculty of Science, Department of Physical Geography and Ecosystem Science. 55 p.

Thonicke, K., Fyllas, N., Almut, A., Knorr, W., **Wu, M.** 2014 Jan 1 'Modeling vegetation and ecosystem responses to climate change and fire regime'. Chapter 14 in 'Forest fires under climate, social and economic changes in Europe, the Mediterranean and other fire-affected areas of the world'. Moreno, J. M. (ed.). Toledo: FUME, p. 32-33 2 p. 14

Thonicke, K., Almut, A., Knorr, W., **Wu, M.**, Fyllas, N. 2014 Jan 1 'Threats of projected changes in fire regime for newly affected areas'. Chapter 15 in Europe and Northern Africa in 'Forest fires under climate, social and economic changes in Europe, the Mediterranean and other fire-affected areas of the world'. Moreno, J. M. (ed.). Toledo: FUME, p. 34-35 2 p. 15

Wu, Minchao. Towards “Good Ecological Status”: Analysing the Nitrogen Lock-in in Danish Water Management, from A Transition Theory Perspective. Master Thesis. 2011 June Lund: Lund University, Faculty of Science, Lund University Centre for Sustainability Studies. 58 p.