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EDUCATION

Ph.D.	Geomorphology, University of Queensland, Australia	2008
B.Sc.	(Hons Class 1) Geographical Sciences, University of Queensland, Australia	2004
B.Sc.	Earth Science & GIS (Double Major), University of Queensland, Australia	2003

RESEARCH INTERESTS

Aeolian processes and impacts on Earth systems
Dryland degradation processes and climate-management interactions in social-ecological systems
Systems approaches to environmental assessment and modelling

PROFESSIONAL EXPERIENCE

USDA-ARS Jornada Experimental Range, NMSU, Research Associate Professor	2017 - Present
USDA-ARS Jornada Experimental Range, NMSU, Research Assistant Professor	2012 – 2017
CSIRO Ecosystem Sciences and Climate Adaptation Flagship, OCE Postdoctoral Fellow	2009 – 2011
University of Queensland, School of Geography, Planning & Architecture, Doctoral Student	2005 – 2008
Griffith University, Australian Rivers Institute, Research Assistant	2002 – 2008

HONOURS AND AWARDS

Cardiff University, School of Earth and Ocean Sciences, Visiting Research Fellow	2018
Awarded Make Our Planet Great Again (MOPGA) Short Stay Fellowship, France	2018
Griffith University, Atmospheric Environment Research Centre, Visiting Research Fellow	2012
Awarded Australian Postgraduate Award (APA)	2005 – 2008
Awarded Desert Knowledge Cooperative Research Centre Top-up Scholarship	2005 – 2008
Received Oral Presentation Award, Australian and New Zealand Geomorphology Group Conference	2008
Received International Conference on Aeolian Research (ICAR VI) Travel Grant	2006

PUBLICATIONS

Peer-Reviewed Journal Articles (*postdocs*, graduate students)

36. *Edwards BE*, **Webb NP**, Brown DP, Elias E, Peck, D, Pierson F, Williams CJ, Herrick JE, 2019. Climate change impacts on wind and water erosion on US rangelands: a review. *Journal of Soil and Water Conservation*. Accepted 15/12/2018.

35. Chappell A, **Webb NP**, Leys JF, Waters C, Orgill S, Eyres M, 2019. Soil organic carbon erosion is critical for Land Degradation Neutrality. *Environmental Science and Policy*. Accepted 14/12/2018.

34. Nauman TW, Duniway MC, **Webb NP**, Belnap J, 2018. Elevated dust emissions on the Colorado Plateau, USA: the role of grazing, vehicle disturbance, and increasing aridity. *Earth Surface Processes and Landforms*. Vol. 43, 2879-2914. doi:10.1002/esp.4457.

33. Bestelmeyer BT, Peters DPC, Archer SR, Browning DM, Okin GS, Sala OE, Schooley RL, **Webb NP**, 2018. The grassland-shrubland regime shift in the southwestern United States: misconceptions and their implications for management. *Biosciences*. Vol. 68, 678-60. doi:10.1093/biosci/biy065.

32. Chappell A, Lee, JA, Baddock MC, Gill TE, Herrick JE, Leys JF, Marticorena B, Petherick L, Schepanski K, Tatarko J, Telfer M, **Webb NP**, 2018. A clarion call for aeolian research to engage with global land degradation and climate change. *Aeolian Research*. Vol. 32, A1-A3. doi:10.1016/j.aeolia.2018.02.007.

31. *Galloza MS*, **Webb NP**, Bleiweiss MP, Winters C, Herrick JE, Ayers E, 2018. Exploring dust emission responses to land cover change using an ecological land classification. *Aeolian Research*. Vol. 32, 141-153. doi:10.1016/j.aeolia.2018.03.001

30. **Webb NP**, Pierre C, 2018. Quantifying anthropogenic dust emissions. *Earth's Future*. Vol. 6, 286-295. doi:10.1002/2017EF000766

29. Thomas DT, Moore AD, Bell LW, **Webb NP**, 2018. Ground cover, erosion risk and production implications of targeted management practices in Australian mixed farming systems: lessons from the Grain and Graze program. *Agricultural Systems*, Vol. 162, 123-135. doi:10.1016/j.agsy.2018.02.001

28. Chappell A, **Webb NP**, Guerschman JP, Thomas D, Mata G, Handcock RN, Leys JF, Butler H, 2018. Improving ground cover monitoring for wind erosion assessment using MODIS BRDF parameters. *Remote Sensing of Environment*, Vol. 204, 756-768. doi:10.1016/j.rse.2017.09.026

27. Mayaud JR, **Webb NP**, 2017. Vegetation in drylands: effects on wind flow and aeolian sediment transport. *Land*. 6, 64. doi:10.3390/land6030064

26. **Webb NP**, Marshall NA, Stringer LC, Reed MS, Chappell A, Herrick JE, 2017. Land degradation and climate change: building climate resilience in agriculture. *Frontiers in Ecology and the Environment*, Vol. 15, 450-459. doi:10.1002/fee.1530

25. Klose MR, Gill TE, **Webb NP**, Van Zee JW, 2017. Field sampling of loose erodible material: A new system to consider the full particle-size spectrum. *Aeolian Research*, Vol. 28, 83-90. doi:10.1016/j.aeolia.2017.08.003

24. **Webb NP**, Van Zee JW, Karl, JW, Herrick JE, Courtright EM, Billings BJ, Boyd R, Chappell A, Duniway MC, Derner JD, Hand, JK, Kachergis E, McCord SE, Newingham BA, Pierson FB, Steiner JL, Tatarko J, Tedela NH, Toledo D, Van Pelt RS, 2017. Enhancing wind erosion monitoring and assessment for US rangelands. *Rangelands*, Vol. 39, 85-96. doi:10.1016/j.rala.2017.04.001

23. Chappell A, **Webb NP**, 2016. Using albedo to reformulate wind erosion modelling, mapping and monitoring. *Aeolian Research*. Vol. 23, 63-78. doi:10.1016/j.aeolia.2016.09.006

22. **Webb NP**, Herrick JE, Van Zee JW, Courtright EM, Hugenholtz CH, Zobeck TM, Okin GS, Clingan SD, Cooper BF, Billings BJ, Boyd R, Duniway MC, Derner JD, Fox FA, Havstad KM, Heilman P, Ludwig NA, Metz LJ, Nearing MA, Norfleet ML, Pierson FB, Sanderson MA, Sharratt BS, Steiner JL, Tatarko J, Tedela NH, Toledo D, Unnasch RS, Van Pelt RS, Wagner L, 2016. The National Wind Erosion Research Network: Building a standardized long-term data resource for aeolian research, modeling and land management. *Aeolian Research*, Vol. 22, 23-36. doi:10.1016/j.aeolia.2016.05.005

21. Herrick JE, Beh A, Barrios E, Bouvier I, Coetzee M, Dent D, Elias E, Havstad KM, Hengl T, Karl JW, Liniger H, Matuszak J, Wangui Ndungu L, Obersteiner M, Shepherd KD, Urama KC, van den Bosch R, **Webb NP**, 2016. The Land-Potential Knowledge System (LandPKS): mobile apps and collaboration for optimizing climate change investments. *Ecosystem Health and Sustainability*, Vol. 2, 1-7. doi:10.1002/ehs2.1209

20. **Webb NP**, *Galloza MS*, Zobeck TM, Herrick JE, 2016. Threshold wind velocity dynamics as a driver of aeolian sediment mass flux. *Aeolian Research*, Vol. 20, 45-58. doi:10.1016/j.aeolia.2015.11.006

19. Shao Y, Bergametti G, Chappell A, Findlater P, Gillies J, Ishizuka M, Klose M, Kok J, Leys J, Lu H, Marticorena B, McTainsh G, McKenna-Neuman C, Nickling W, Okin G, Strong C, **Webb NP**, 2015. A Tribute to Michael R Raupach for Contributions to Aeolian Fluid Dynamics. *Aeolian Research*, Vol. 19, 37-54. doi:10.1016/j.aeolia.2015.09.004

18. Aubault H, **Webb NP**, Strong CL, McTainsh GH, Leys JF, Scanlan JC, 2015. Grazing impacts on the susceptibility of rangelands to wind erosion: the effects of stocking rate, stocking strategy and land condition. *Aeolian Research*. Vol. 17, 89-99. doi:10.1016/j.aeolia.2014.12.005

17. Li J, Okin GS, Tatarko J, **Webb NP**, Herrick JE, 2014. Consistency of wind erosion assessments across land use and land cover types: a critical analysis. *Aeolian Research*. Vol. 15, 253-260.doi:10.1016/j.aeolia.2014.04.007

16. Chappell A, **Webb NP**, Viscarra-Rossel R, Bui EN, 2014. Australian net (1950s-1990) soil organic carbon erosion: implications for CO_2 emission and land-atmosphere modelling. *Biogeosciences*. Vol. 11, 5235-5244. doi:10.5194/bg-11-5235-2014

15. **Webb NP**, Herrick JE, Duniway MC, 2014. Ecological site-based assessments of wind and water erosion: informing accelerated soil erosion management in rangelands. *Ecological Applications.* Vol. 24, 1405-1420. doi:10.1890/13-1175.1

14. **Webb NP**, Okin GS, Brown S, 2014. The effect of roughness elements on wind erosion: the importance of surface shear stress distribution. *Journal of Geophysical Research Atmospheres*. Vol. 119, 6066-6084. doi:10.1002/2014JD021491

13. Marshall, NA, Stokes, CJ, **Webb NP**, Marshall PA, Lankester A, 2014. Social vulnerability to climate change in primary producers: a typology approach. *Agriculture, Ecosystems and Environment*. Vol. 186, 86-93. doi:10.1016/j.agee.2014.01.004

12. **Webb NP**, Stokes CJ, Marshall NA, 2013. Integrating biophysical and socio-economic evaluations to improve the efficacy of adaptation assessments for agriculture. *Global Environmental Change*, Vol. 23, 1164-1177. doi:10.1016/j.gloenvcha.2013.04.007

11. Chappell A, **Webb NP**, Butler HJ, Strong CL, McTainsh GH, Leys JF, Viscarra Rossel R, 2013. Soil organic carbon dust emission: an omitted global source of atmospheric CO_2. *Global Change Biology*, Vol. 19, 3238-3244. doi:10.1111/gcb.12305

10. **Webb NP**, Strong CL, Chappell A, Marx SK, McTainsh GH, 2013. Soil organic carbon enrichment of dust emissions: magnitude, mechanisms and its implications for the carbon cycle. *Earth Surface Processes and Landforms*. Vol. 38, 1662-1671. doi:10.1002/esp.3404

9. **Webb NP**, Chappell A, Strong CL, Marx SK, McTainsh GH, 2012. The significance of carbon-enriched dust for global carbon accounting. *Global Change Biology,* Vol. 18, 3275-3278. doi:10.1111/j.1365-2486.2012.02780.x

8. **Webb NP**, Stokes CJ, 2012. Climate change scenarios to facilitate stakeholder engagement in agricultural adaptation. *Mitigation and Adaptation Strategies for Global Change*, Vol. 17, 957-973. doi:10.1007/s11027-011-9355-1

7. **Webb NP**, Stokes, CJ, Scanlan JC, 2012. Interacting effects of vegetation, soils and management on the sensitivity of Australian savanna rangelands to climate change. *Climatic Change*, Vol. 112, 925-943. doi:10.1007/s10584-011-0236-0

6. **Webb NP**, Strong CL, 2011. Soil erodibility dynamics and its representation for wind erosion and dust emission models. *Aeolian Research*, Vol. 3, 165-179. doi:10.1016/j.aeolia.2011.03.002

5. **Webb NP**, McGowan HA, 2009. Approaches to modelling land erodibility by wind. *Progress in Physical Geography*, Vol. 33(5), 587-613. doi:10.1177/0309133309341604

4. **Webb NP**, McGowan HA, Phinn SR, McTainsh GH, Leys JF, 2009. Simulation of the spatiotemporal aspects of land erodibility in the north-east Lake Eyre Basin, Australia, 1980-2006. *Journal of Geophysical Research Earth Surface*, 114, F01013, doi:10.1029/2008JF001097.

3. **Webb NP**, Phinn SR, McGowan HA, 2009. Visual assessment of the Australian Land Erodibility Model. *Journal of Arid Environments*, Vol. 73, 678-682. doi:10.1016/j.jaridenv.2009.01.014

2. **Webb NP**, McGowan HA, Phinn SR, Leys JF, McTainsh GH, 2009. A model to predict land susceptibility to wind erosion in western Queensland, Australia. *Environmental Modelling & Software*, Vol. 24, 214-227. doi:10.1016/j.envsoft.2008.06.006

1. **Webb NP**, McGowan HA, Phinn SR, McTainsh GH, 2006. AUSLEM (Australian Land Erodibility Model): A tool for identifying wind erosion hazard in Australia. *Geomorphology*, Vol. 78, 179-200. doi:10.1016/j.geomorph. 2006.01.012

Technical Reports and Manuals

2. **Webb NP**, Herrick JE, Van Zee JW, Hugenholtz CH, Zobeck TM, Okin GS, 2015. Standard Methods for Wind Erosion Research and Model Development: Protocol for the National Wind Erosion Research Network. USDA-ARS Jornada Experimental Range, Las Cruces, USA. ISBN 978-0-9755552-4-8.

1. Burnett, S, **Webb NP**, Herrick JE, 2012. Measurement, monitoring and prediction of wind and water erosion of coarse-textured soils at White Sands Missile Range. Final Report to the White Sands Missile Range Environmental Division. November 2012. 55 pp.

PROFESSIONAL SERVICE

Associate Editor: *Aeolian Research* 2015 – Present

Member: American Geophysical Union (AGU), European Geosciences Union, International Society for Aeolian Research.

Board of Directors: International Society for Aeolian Research (ISAR) 2014 – 2018

Journal Reviewer: Ad hoc reviewer for: Earth Surface Processes and Landforms; Aeolian Research; Agriculture, Ecosystems and Environment; JGR Earth Surface; Disasters; Science of the Total Environment, The Rangeland Journal; Journal of Arid Environments; Memoirs of the Queensland Museum; Mitigation and Adaptation Strategies for Global Change; Arid Land Research and Management; Weather, Climate and Society; Climatic Change; Plant and Soil; Journal of Geography and Regional Planning; Geomorphology; JGR Biogeosciences; CATENA; Geoderma; Soil Science Society of America Journal; Soil Biology and Biochemistry; Rangelands;

Land Degradation and Development, JGR Atmospheres, Ecosphere, Agricultural and Forest Meteorology, Restoration Ecology.

Proposal Reviewer: Army Research Office (ARO), Israel Science Foundation (ISF) Individual Research Grants, German Academic Exchange Service (DAAD) Postdoctoral Researchers International Mobility Experience, Natural Sciences and Engineering Research Council of Canada, Discovery Grants Program, National Science Foundation (NSF) Geomorphology and Land-Use Dynamics Program.

Miscellaneous:

- 73rd Soil and Water Conservation Society International Annual Conference (July 2018): Session convener
- (Session title: Southwest US Dust Monitoring and Mitigation Symposium)
- IX International Conference on Aeolian Research, Mildura, Australia (July 2016). Organising committee.
- American Geophysical Union (AGU) Fall Meeting, San Francisco, USA (December 2015): Session convener (Session title: Aeolian research at the interface of biophysical, sedimentary, and atmospheric processes)
- IX International Rangeland Congress, Rosario, Argentina (July 2011): Abstract reviewer.