Matthew Francis McCabe
Professor of Remote Sensing and Water Security

King Abdullah University of Science and Technology
Division of Biological and Environmental Science and Engineering
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Prof McCabe's research focuses on issues related to water and food security, climate change impacts, precision agriculture, water resources monitoring and modeling, and the novel use of technologies for enhanced Earth system observation.

EDUCATION

University of Newcastle, Callaghan, NSW, Australia, 1998-2003
Ph.D. in Civil and Environmental Engineering
Advisor: Prof Jetse Kalma
Dissertation Title: Uncertainty modelling and regional scale estimation of evapotranspiration: Improving aquifer recharge prediction using remotely sensed surface temperatures

University of Newcastle, Callaghan, NSW, Australia, 1993-1997
B.E. (Hons) in Environmental Engineering
Advisor: Prof Jetse Kalma
Dissertation Title: Topographic analysis and assessment of erosion hazard prediction in the Williams River

PROFESSIONAL EXPERIENCE

2018 – Present	Full Professor of Remote Sensing and Water Security, Division of Biological and Environmental Science and Engineering, Environmental Sciences and Engineering Program, KAUST
	Full Professor, Division of Physical Sciences and Engineering, Earth Sciences and Engineering Program, KAUST
2017 – Present	Associate Director, Water Desalination and Reuse Center, KAUST
2017 – Present	Chief Science Officer, www.questfeed.com (KAUST pre-seed funded)
2012 – 2018	Associate Professor, Division of Biological and Environmental Science and Engineering, Environmental Sciences and Engineering Program, KAUST
2015 – 2018	Associate Professor, Division of Physical Sciences and Engineering, Earth Sciences and Engineering Program, KAUST
2014 – Present	Adjunct Associate Professor, School of Civil and Environmental Engineering University of New South Wales, Sydney, NSW Australia
2012	Associate Professor, School of Civil and Environmental Engineering, University of New South Wales, Australia

2011	Visiting Scientist, Department of Civil and Environmental Engineering, Princeton University, Princeton, New Jersey, USA
2011	Visiting Scientist, Geological Survey of Denmark and Greenland (GEUS), University of Copenhagen, Denmark
2009 – 2011	Guest Professor, Chinese Academy of Sciences, Key Laboratory of Water Cycle and Related Land Surface Processes
2008 – 2012	Senior Lecturer, School of Civil and Environmental Engineering, University of New South Wales, Sydney, Australia
2006 – 2008	Post-doctoral Researcher, International Space and Response (ISR-2)/Earth and Environmental Sciences (EES-6), Los Alamos National Laboratory, New Mexico, USA
2003 – 2006	Post-doctoral Researcher, Department of Civil and Environmental Engineering, Princeton University, Princeton, New Jersey, USA

RESEARCHER DIGITAL IDENTIFICATION

ORCID: 0000-0002-1279-5272

Web of Science Research ID: G-5194-2011

SCOPUS Author ID: 7202748891

Publons: https://publons.com/researcher/2772955/matthew-f-mccabe/

Google Scholar Page: https://scholar.google.com/citations?user=A3OuUiwAAAAJ&hl

HONORS AND SCHOLARLY AWARDS (Student or post-doc advisees are underlined)

2020 Distinguished Lecturer, "Innovation Pathways to Sustainability", University of Bonn

2019 Highly Cited Researcher, Thomson Reuters Web of Science Group (https://recognition.webofsciencegroup.com/awards/highly-cited/2019/)

2019 13 Thompson Scientific Highly Cited Papers (Top 1%)

2018 11 Thompson Scientific Highly Cited Papers (Top 1%)

2018 5 Research Fronts in Essential Science Indicators

2018 American Geophysical Union Outstanding Student Presentation Award – Bruno Aragon

2016 Inaugural Planet Ambassador, Planet Labs (www.planet.com), San Francisco, California, USA

2015 Winter Enrichment Program Postdoctoral Award for the poster by *El Magd A.* *and* ***McCabe MF*** *"Recharge regimes of the Saq aquifer system in Saudi Arabia"*

2015 MODSIM Student Award for the Oral Presentation by *Yin G, Mariethoz G and* ***McCabe MF*** *"A multiple-point geo-statistics method for filling gaps in Landsat ETM+ SLC-off images"*

2012 Thompson Scientific "Hot Papers in Geoscience" (papers in Top 0.1% cited publications; #76, 78)

2009 Chinese Academy of Sciences Foreign Visiting Expert Scholarship, Center for Agricultural Resources Research, Shijiazhuang, Hebei, China

2009 Tall Poppy Award of the Australian Institute of Policy and Sciences (NSW and ACT)

2005 – 2014 Numerous "ScienceDirect Top 25 Most Downloaded Paper" Awards

1997 Australian Institute of Engineers Civil and Structural Branch Prize (Newcastle) for Dux of Final Year Engineering

1997 Tony Herzog Prize for the Best Engineering Honors Thesis, University of Newcastle, Australia

PROFESSIONAL SERVICE AND AFFILIATIONS

2019 – Present Section Chief Editor, Frontiers in Artificial Intelligence

2018 – Present GCOS-TOPC Task Team on Climate Adaptations Observations

2017 – Present Editorial Board Member, MDPI Remote Sensing

2017 Guest Editor MDPI Remote Sensing "Advances in the remote sensing of terrestrial evaporation"

2017 – Present Management Committee, European Cooperation in Science and Technology (COST) Action, "Harmonization of UAS techniques for agricultural and natural ecosystems monitoring"

2017 – 2019 Invited Member, World Meteorological Organization, Global Climate Observing System, Terrestrial Observation Panel for Climate (GCOS-TOPC)

2016 Guest Editor for Hydrology and Earth System Sciences Special Issue in Honour of Eric F. Wood "Observations and modelling of land surface water and energy exchanges across scales".

2015 – Present Associate Editor, Frontiers in Earth Science

2015 – 2020 Chair of the Global Energy and Water Exchanges LandFlux Project

2015 – 2016 Vice-Chair, World Climate Research Programme, GEWEX Data and Assessment Panel

2013 – 2018 Editorial Board Member, MDPI Hydrology Journal

2013 – 2015 Member, World Climate Research Programme, GEWEX Data and Assessments Panel

2012 – 2016 Associate Editor, Journal of Hydrology

2009 – 2014 Scientific Steering Committee GEWEX Radiation Panel LandFlux Project

2008 – 2012 Member, World Climate Research Programme, GEWEX Radiation Panel

PROFESSIONAL REGISTRATION

Member of the American Geophysical Union (AGU)

Member of the European Geophysical Union (EGU)

Member International Association of Hydrological Sciences (IAHS)

UNIVERSITY SERVICE AND COMMUNITY OUTREACH

2020 – 2021 BESE Elected Representative, Academic Council, KAUST

2020 – KAUST Coronavirus Task Force on Research, Collaboration and Innovation

2020 – KAUST Coronavirus Task Force on Administration

2020 – Vice President, KAUST Red Sea Rugby Club

2020 – Local Partner for G20 Saudi Secretariat for Climate Systems Working Group (CSWG)

2019 – 2020 Presidents Air Quality Task Force

2019 – Deans Advisory Board, Division of Biological and Environmental Sciences and Engineering

2019 – Faculty and Staff Conflict of Interest Review Committee (FSCOIRC)

2019 ForeSight Leader, Future of Food & Water Security, KAUST Industry Advisory Board (KIAB)

2019 Frontiers Forum Science Unlimited Speaker, Precision Food and Water Security (see https://youtu.be/sPE-Lr8lB4c)

2019 Sci-Café Speaker "Water Security", KAUST (see https://youtu.be/Zgn8kiRVAqQ)

2019 Selection Committee, KAUST Distinguished Teaching Award

2018 KAUST Live, Water Research in the WDRC (see https://youtu.be/JaTnG9cOW44)

2018 - 2019 Member, KAUST Greenhouse Core Lab User Committee

2017 - Associate Director, Water Desalination and Reuse Center, KAUST

2017 Invited Faculty Speaker, KAUST Industry Advisory Board (KIAB)

2017 Sci-Café Speaker, "Growing Food for the Future", KAUST

2017 - 2020 Member of the Graduate Student Admission Committee, KAUST Environmental Sciences and Engineering Program

2017 Graduation Speaker, KAUST Work Internship and Student Experience (WISE) Program

2016	Scientific Committee, Symposium in Honor of Eric Wood, "Observation and Modeling Across Scales", Princeton, NJ USA, 2-3 June
2015	Member of the Faculty Search Committee, KAUST Environmental Sciences and Engineering Program, Division of Biological and Environmental Sciences & Engineering,
2015	Scientific Committee, European Space Agency Earth Observation for Water Cycle Science 2015, Frascati, Italy
2014	Invited Faculty Speaker, KAUST Industry Collaboration Program (KICP) Symposium
2014	Member of the Faculty Search Committee, KAUST Environmental Sciences and Engineering Program, Division of Biological and Environmental Sciences & Engineering,
2013 – 2014	Associate Director, Water Desalination and Reuse Center, King Abdullah University of Science and Technology (transition period during search for a new Center Director)
2013 – 2014	BESE Elected Representative, Academic Council, KAUST
2012	Member Teaching and Learning Committee, School of Civil and Environmental Engineering, University of New South Wales, Sydney, Australia
2011	Program Committee, 2012 Australian Meteorological and Oceanographic Society
2008 – 2012	Member of the Research Management Committee, School of Civil and Environmental Engineering, University of New South Wales, Sydney, Australia
2008 – 2012	Third Year Student Coordinator, School of Civil and Environmental Engineering, University of New South Wales, Sydney, Australia
2008 – 2011	Industrial Training Coordinator, School of Civil and Environmental Engineering, University of New South Wales, Sydney, Australia

REVIEWER FOR JOURNALS AND FUNDING AGENCIES

Journals: Nature; Nature Climate Change; Scientific Reports; Journal of Geophysical Research; Geophysical Research Letters, Journal of Hydrology; Water Resources Research; Advances in Water Resources; Journal of Hydrometeorology; IEEE Transactions on Geoscience and Remote Sensing; Remote Sensing of Environment, Hydrology & Earth System Sciences and many others.

International Expert Reviewer: US National Science Foundation; US National Institute of Water Resources; NASA Earth Science Fellowships; Space Research Organization of The Netherlands; Belgium Space Research and Applications Division of the Belgian Federal Science Policy Office; Academy of Sciences of the Czech Republic; Australian Research Council OzReader; Australian Research Council DECRA

RESEARCH FUNDING

NB. McCabe also undertakes a range of engineering and expert consulting activities that are not listed below. Further details can be provided upon request.

Projects listed below are only those that have been awarded: pending proposals not included.

Competitive Funding since arriving at KAUST (approx. $7.5M USD)

2020 – 2021 $440,000 (USD). Co-Principal Investigator [Lead-PI Carlos Duarte], KAUST Circular Carbon Initiative, "Pushing the boundaries of Nature Based Solutions: from local to global opportunities"

2019 – 2021 $1,100,000 (USD). Co-Principal Investigator [Lead-PI Ibrahim Hoteit], Center of Excellence for NEOM Research at KAUST, "A managing environment for sustainability hub"

2019 – 2021 $550,000 (USD). Co-Principal Investigator [Lead-PI Mark Tester], KAUST-KAU Initiative, "Identifying the genetic basis for salinity and heat tolerance in quinoa using drone-based sensing technologies"

2019 – 2021 €250,000 (EUR). International Investigator [PI Diego Miralles], Belgian Federal Scientific Policy Office (BELSPO), "ET-SENSE – High resolution terrestrial evaporation from Sentinels"

2018 – 2020 $600,000 (USD). Principal Investigator, KAUST Office of the Senior Vice President Research, Innovation and Economic Development, "Monitoring RPW infestation using thermal, hyperspectral and novel tracking techniques"

2018 – 2021 $1,000,000 (USD). Principal Investigator, KAUST Competitive Research Grant (CRG2017), "A new paradigm in precision agriculture: assimilation of ultra-fine resolution data into a crop-yield forecasting model"

2017 – 2019 $720,000 (USD). Principal Investigator, Kingdom of Saudi Arabia, Ministry of Environment, Water and Agriculture, "Estimating agricultural groundwater abstractions in Saudi Arabia" (*the only KAUST Faculty-led Government funded award*)

2016 – 2018 $350,000 (USD). Principal Investigator, KAUST Competitive Research Grant (CRG2016), "Unmanned aerial vehicles for enhanced monitoring: the future of precision agriculture"

2016 – 2019 $1,200,000 (USD). Co-Investigator [PI Ying Sun, KAUST], KAUST Competitive Research Grant (CRG2016) "Statistical Process Monitoring and Risk Assessment for Engineering and Spatial Environmental Applications"

2014 – 2020 $1,800,000 (USD). Principal Investigator, KAUST Center Collaborative Funding (CCF) - Water Desalination and Reuse Center, Theme D "Hydrologic Systems: Monitoring, Sensing and Modeling": Project 1 "Application of Improved Waters and the Effects on Crop Health, Productivity and Soil Structure"; Project 2 "Flood Hazard Assessment in Wadi Systems using Numerical Weather Prediction and Coupled Hydrological Modeling"

Competitive Funding prior to joining KAUST (approx. $3.5M + $30M multi-investigator)

2012 – 2014 $340,000 (AUD). Principal Investigator, Australian Research Council Discovery Project, McCabe MF and Wood EF "Closing the water cycle using land surface modelling, remote sensing, and an Australian hydrological observatory"

2012 $1,000,000 (AUD). Co-Investigator [PI Jeffrey Walker, Monash University], Australian Research Council Linkage Infrastructure Equipment Facility Project "A portable weather radar system for hydrological research"

2012 – 2014 €500,000 (EUR). International Principal Investigator [PI Catherine Prigent, Observatoire Paris], European Space Agency "Water cycle Modeling and Observation Strategy for Evapotranspiration (WACMOS-ET)"

2011 $255,000 (AUD) Principal Investigator [Co-PI Lixin Wang], University of New South Wales Vice Chancellors Research Fellowship on "Stable water isotopes for monitoring agricultural water use: stochastic modeling and field investigations"

2010 $156,000 (AUD). Co-Investigator [PI Jason Evans, UNSW], University of New South Wales Major Research Equipment and Infrastructure Initiative (MREII), "Computational server and associated data storage system for analysis of large climate model, satellite and in-situ observational datasets"

2010 $150,000 (AUD). Co-Investigator [PI Jason Middleton, UNSW], University of New South Wales Major Research Equipment and Infrastructure Initiative (MREII), "Airborne hyper-spectral camera for Earth observation"

2009 – 2014 $30,000,000 (AUD). Co-Investigator [PI Craig Simmons, Flinders University], Program Node Leader, Australian Research Council and the National Water Commission, "National Centre for Groundwater Research and Training: Surface water-groundwater-vegetation-atmosphere interactions"

2009 – 2012 $440,000 (AUD). Co-Investigator [PI Jeffrey Walker, Monash University], Australian Research Council Linkage Project (with Victorian Department of Primary Industries), "A new paradigm for improved water resource management using innovative water modeling"

2009 – 2012 $320,000 (AUD). Sole Principal Investigator, Australian Research Council Discovery Project, "Characterizing the hydrological cycle using water isotopes, land-surface models and satellite data", 2009-2012

PUBLICATIONS

Since graduating from my PhD in 2003, I have published **170+ papers** (approx. 10 per/year) in leading international peer-reviewed journals and more than 300+ other research contributions (conference presentations, abstracts etc.). My Hirsch-index is 41/47 (SCOPUS; Google Scholar). I am a **Web of Science Highly Cited Researcher**, which identifies scientists "who produce multiple papers ranking in the top 1% by citations for their field…demonstrating significant research influence among their peers".

Peer-Reviewed Journal Articles (*corresponding author; student or post-doc advisees are underlined)

Publications since arriving at KAUST (late 2012)

1. Johansen K, Morton MJL, Malbeteau Y, Aragon B, Al-Mashharawi S, Ziliani M, Angel Y, Fiene G, Negrao S, Mousa M, Tester MA and **McCabe MF** (2020) "Predicting biomass and yield in a tomato

phenotyping experiment using UAV imagery and random forest" Frontiers in Artificial Intelligence, doi.org/10.3389/frai.2020.00028

2. Ma C, Li X and **McCabe MF** (2020) "Retrieval of high-resolution soil moisture through combination of Sentinel-1 and Sentinel-2 data", Remote Sensing, 12(14), doi.org/10.3390/rs12142303

3. Miralles DG, Martens B, Beck HE and **McCabe MF** (2020) "Land evaporation" [in "State of the climate in 2019"], Bulletin of the American Meteorological Society, 101 (8), S9-S128, doi.org/10.1175/BAMS-D-20-0104.1

4. El Kenawy AM, Al Buloshi A, Al-Awadhi T, Al Nasiri N, Navarro-Serrano F, Alhatrushi S, Robaa SM, Dominguez-Castro F, McCabe MF, Schuwerack PM, Lopez-Moreno JI and Vicente-Serrano SM (2020) "Evidence for intensification of meteorological droughts in Oman over the past four decades", Atmospheric Research, 246, doi.org/10.1016/j.atmosres.2020.105126

5. Oriani F, **McCabe MF** and Mariethoz G (2019) " Downscaling multispectral satellite images without collocated high-resolution data: a stochastic approach based on training images" IEEE Transactions on Geoscience and Remote Sensing, doi.org/10.1109/TGRS.2020.3008015

6. Aragon B, Johansen K, Parkes S, Malbeteau Y, Al Mashharawi S, Al-Amoudi T, Andrade CF, Turner D, Lucieer A and **McCabe MF** "A calibration procedure for field and UAV-based uncooled thermal infrared instruments", MDPI Sensor, 20(11), doi.org/10.3390/s20113316

7. Tmušić G, Manfreda S, Aasen H, James M, Concalves G, Ben-Dor E, Brook A, Polinova M, Arranz JJ, Mészáros J, Zhuang R, Johansen K, Malbeteau Y, Pedroso de Lima I, Davids C, Herban S and **McCabe MF** "Current practices in UAS-based environmental monitoring", MDPI Remote Sensing 12(6), doi.org/10.3390/rs12061001

8. Franz TE, Pokal S, Gibson JP, Zhou Y, Gholizadah H, Amor Tenorio F, Rudnick D, Heeren D, **McCabe MF**, Ziliani M, Jin Z, Guan K, Pan M, Gates J and Wardlow B (2020) "The role of topography, soil, and remotely sensed vegetation condition towards predicting crop yield" Field Crop Research, 252, doi.org/10.1016/j.fcr.2020.107788

9. Lopez O, Johansen K, Aragon B, Li T, Houborg R, Malbeteau Y, AlMashharawi S, Altaf MU, Fallatah EM, Dasari HP, Hoteit I and **McCabe MF** (2020) "Mapping groundwater abstractions from irrigated agriculture: big data, inverse modeling and a satellite-model fusion approach", HESS-Discussions, doi.org/10.5194/hess-2020-50

10. Fisher JB Lee B, Purdy A,…[**McCabe MF**], et al. (2020) "ECOSTRESS: NASA's Next Generation Mission to Measure Evapotranspiration From the International Space Station, 56(4), doi.org/10.1029/2019WR026058

11. Johansen K, Duan Q, Tu YH, Searle C, Wu D, Phinn S, Robson A and **McCabe MF** (2020) "Mapping the condition of macadamia tree crops using multi-spectral UAV and worldview-3 imagery", ISPRS Journal of Photogrammetry and Remote Sensing, 165, doi.org/10.1016/j.isprsjprs.2020.04.017

12. Angel Y, Turner D, Parkes S, Malbeteau Y, Lucieer A and **McCabe MF** (2020) "Automated georectification and mosaicking of UAV-based hyperspectral imagery from push-broom sensors", Remote Sensing, 12(1), 34, doi.org/10.3390/rs12010034

13. Barreto MAP, Johansen K, Angel Y and **McCabe MF** (2019) "Radiometric assessment of a UAV-based push-broom hyperspectral camera", Sensors, 19, 4699; doi.org/10.3390/s19214699

14. Miralles DG, Martens B, Beck HE, Dolman AJ, Jimenez C, **McCabe MF** and Wood EF (2019) "Land evaporation" [in "State of the climate in 2018"], Bulletin of the American Meteorological Society 99(8), S34, doi:10.1175/2017BAMSStateoftheClimate.1.

15. Moghadas D, Jadoon JZ and **McCabe MF** (2019) "Spatiotemporal monitoring of soil moisture from EMI data using DCT-based Bayesian inference and neural network", Journal of Applied Geophysics, 169, doi.org/10.1016/j.jappgeo.2019.07.004

16. Ziliani MG, Ghostine R, Ait-El-Fquih B, **McCabe MF** and Hoteit I (2019), "Enhanced flood forecasting through ensemble data assimilation and joint state-parameters estimation", Journal of Hydrology, 577, 123924, doi.org/10.1016/j.jhydrol.2019.123924

17. El Kenawy AM, Lopez-Moreno JI, **McCabe MF**, Robaa SM, Dominguez-Castro F, Pena-Gallardo M, Trigo RM, Hereher ME, Al-Awadhi T and Vicente-Serrano SM (2019) "Daily temperature extremes over Egypt: spatial structures, temporal trends and driving forces", Atmospheric Research, 226, doi.org/10.1016/j.atmosres.2019.04.030

18. Johansen K, Morton MJL, Malbeteau Y, Aragon B, Al-Mashharawi S, Ziliani M, Angel Y, Fiene G, Negrao S, Mousa M, Tester MA and **McCabe MF** (2019) "Predicting biomass and yield at harvest of salt-stressed tomato plants using UAV imagery", International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences - ISPRS Archives, 42(2/W13), doi.org/10.5194/isprs-archives-XLII-2-W13-407-2019

19. Angel Y, Houborg R and **McCabe MF** (2019) "Reconstructing cloud contaminated pixels using spatio-temporal covariance functions and multi-temporal hyperspectral imagery", Remote Sensing, 11(10), doi.org/10.3390/rs11101145

20. **McCabe MF**, Miralles DG, Holmes TRH and Fisher JB (2019) "Advances in the remote sensing of terrestrial evaporation", Remote Sensing, 11(9), 1138, doi.org/10.3390/rs11091138

21. Shah SH, Houborg R and **McCabe MF** (2018) "A random forest machine learning approach for the retrieval of leaf chlorophyll content in wheat", Remote Sensing, 11(8), 920, doi.org/10.3390/rs11080963

22. Johansen K, Morton MJL, Malbeteau Y, Solorio B, Al-Mashharawi S, Ziliani M, Angel Y, Fiene G, Negrao S, Mousa M, Tester MA and **McCabe MF** (2019) "Unmanned aerial vehicle-based phenotyping using morphometric and spectral analysis can quantify responses of wild tomato plants to salinity stress", Frontiers in Plant Science, 29, doi.org/10.3389/fpls.2019.00370

23. El Kenawy, AM, **McCabe MF**, Gorelick SM, Lopez-Moreno JI, Hathal Y, Robaa SM, Hameed A, Jadoon KZ, Aboelmagd A, Eddenjal A, Vicente-Serrano SM (2019) "Spatial assessment of the performance of multiple high-resolution satellite-based precipitation datasets over the Middle East", International Journal of Climatology, 39(5), doi.org/10.1002/joc.5968

24. Johansen K, Erskine PD and **McCabe MF** (2019) "Using unmanned aerial vehicles to assess the rehabilitation performance of open cut coal mines", Journal of Cleaner Production, 209, doi.org/10.1016/j.jclepro.2018.10.287

25. Altaf MU and **McCabe MF** (2019) "A variational approach for parameter estimation based on balanced proper orthogonal decomposition", Computer Methods in Applied Mechanics and Engineering, 344, doi.org/10.1016/j.cma.2018.10.013

26. Ziliani MG, Parkes SD, Hoteit I and **McCabe MF** (2018) "Determining intra-season crop height dynamics using an unmanned aerial vehicle", Remote Sensing, 10, 2007, doi:10.3390/rs10122007

27. Aragon B, Houborg R, Tu K, Fisher JB and **McCabe MF** (2018) "CubeSats enable high spatiotemporal retrievals of crop-water use for precision agriculture", Remote Sensing, 10(12), doi.org/10.3390/rs10121867

28. Miralles DG, Martens B, Beck HE, Dolman AJ, Jimenez C, **McCabe MF** and Wood EF (2018) "Land evaporation" [in "State of the climate in 2017"], Bulletin of the American Meteorological Society 99(8), S37-S39, doi:10.1175/2018BAMSStateoftheClimate.1.

29. Malbeteau Y, Parkes S, Aragon B, Rosas J and **McCabe MF** (2018) "Capturing the diurnal cycle of land surface temperature using an unmanned aerial vehicle", Remote Sensing

30. Houborg R and **McCabe MF** (2018) "Daily retrieval of LAI and NDVI at 3 m resolution via the fusion of CubeSat, Landsat, and MODIS data", Remote Sensing, 10(6), 890, doi.org/10.3390/rs10060890

31. Johansen K, Raharjo T and **McCabe MF** (2018) "Using multi-spectral UAV imagery to extract tree crop structural properties and assess pruning effects", Remote Sensing, 10(6) 854, doi.org/10.3390/rs10060854

32. Manfreda S, **McCabe MF,** Miller PE, Lucas R, Pajuelo Madrigal V, Mallinis G, Ben Dor E, Helman D, Estes L, Caraolo G, Mullerova J, Tauro F, Isabel de Lima M, de Lima JLMP, Maltese A, Frances F, Caylor K, Kohv M, Perks M, Ruiz-Perez G, Su Z, Vico G and Toth B (2018) "On the use of unmanned aerial systems for environmental monitoring", Remote Sensing, 10(4), doi.org/10.3390/rs10040641

33. Talsma C, Good SP, Jimenez C, Martens B, Fisher J, Miralles D, **McCabe MF**, Purdy AJ (2018) "Partitioning of evapotranspiration in remote sensing based models", Agricultural and Forest Meteorology

34. Liu YY, Van Dijk AIJM, Miralles DG, **McCabe MF**, Evans JP, de Jeu R, Gentine P, Huete AR, Parinussa R, Wang L, Guan KG, Berry J and Rebestro-Coupe N (2018) "Enhanced canopy growth precedes senescence in 2005 and 2010 Amazonian droughts", Remote Sensing of Environment, 211, doi.org/10.1016/j.rse.2018.03.035

35. Houborg R and **McCabe MF** (2018) "A Cubesat Enabled Spatio-Temporal Enhancement Method (CESTEM) utilizing Planet, Landsat and MODIS data", Remote Sensing of Environment, doi.org/10.1016/j.rse.2018.02.067

36. Martin C, Parkes S, Zhang Q, Xiangliang Z, **McCabe MF**, Duarte CM (2018) "Use of unmanned aerial vehicles for efficient beach litter monitoring", Marine Pollution Bulletin, 131, doi.org/10.1016/j.marpolbul.2018.04.045

37. Houborg R and **McCabe MF** (2018) "A hybrid training approach for leaf area index estimation via Cubist and random forests machine-learning", ISPRS Journal of Photogrammetry and Remote Sensing, 135, doi:10.1016/j.isprsjprs.2017.10.004

38. de Vries AJ, Ouwersloot HG, Feldstein SB, Riemer M, El Kenawy AM, **McCabe MF** and Lelieveld J (2018) "Identification of extreme precipitation events in the Middle East using PV and IVT", Journal of Geophysical Research: Atmospheres, 123(2), doi: 10.1002/2017JD027587

39. **McCabe MF***, Solorio B, Houborg R, Mascaro J (2017) "Cubesats in hydrology: ultrahigh resolution insights into vegetation dynamics and terrestrial evaporation", Water Resources Research, 53, doi: 10.1002/2017WR022240

40. Moghadas D, Jadoon KJ and **McCabe MF** (2017) "Spatiotemporal monitoring of soil water content in an irrigated field using probabilistic inversion of time-lapse EMI data", Advances in Water Research, 110, doi:10.1016/j.advwatres.2017.10.019

41. Rosas J, Houborg R and **McCabe MF** (2017) "Sensitivity of Landsat-based surface temperature estimates to atmospheric profile data: a study using MODTRAN in dryland irrigated systems", MDPI Remote Sensing, 9(10), 988; doi:10.3390/rs9100988

42. Shah H, Houborg R and **McCabe MF** (2017) "Chlorophyll, carotenoid and SPAD measurement response to salinity and nutrient stress in wheat (Triticum aestivum L.)", MDPI Agronomy, 7(3), 61, doi:10.3390/agronomy7030061

43. Jadoon KZ, Altaf MU, **McCabe MF**, Hoteit I and Weihermuller L (2017) "Inferring soil salinity in a drip irrigation system from multi-configuration EMI measurements using Adaptive Markov Chain Monte Carlo", Hydrology and Earth System Sciences, doi:10.5194/hess-2016-299

44. Miralles DG, Martens B, Beck HE, Dolman AJ, Jimenez C, **McCabe MF** and Wood EF (2017) "Land evaporation" [in "State of the climate in 2016"], Bulletin of the American Meteorological Society 99(8), S34, doi:10.1175/2017BAMSStateoftheClimate.1.

45. Yin G, Mariethoz G, Sun Y and **McCabe MF** (2017) "A comparison of gap-filling approaches for Landsat-7 satellite data", International Journal of Remote Sensing 38:23, 6653-6679, doi:10.1080/01431161.2017.1363432

46. **McCabe MF***, Rodell M, Alsdorf DE, Miralles DG, Uijlenhoet R, Wagner W, Lucieer A, Houborg R, Verhoest NEC, Franz TE, Shi J, Gao H and Wood EF (2017) "The future of Earth observation in hydrology", Hydrology and Earth Systems Sciences 21, 3879-3914, doi:10.5194/hess-21-3879-2017

47. Houborg R and **McCabe MF** (2017) "Impacts of dust aerosol and adjacency effects on the accuracy of Landsat 8 and RapidEye surface reflectances", Remote Sensing of Environment, 194, 127-145, doi:10.1016/j.rse.2017.03.013

48. Fisher JB, Melton F, Middleton E, Hain C, Anderson M, Allen R, **McCabe MF**, Hook S, Baldocchi D, Townsend PA, Kilic A, Tu K, Miralles DG, Perret J, Lagouarde J-P, Waliser D, Purdy AJ, French A, Schimel D, Famiglietti JS, Stephens G and Wood EF (2017) "Global evapotranspiration: a critical variable linking ecosystem functioning, carbon and climate feedbacks, agricultural management, and water resources", Water Resources Research, 53(4), 2618-2626, doi:10.1002/2016WR020175

49. Altaf MU, Titi E, Gebrael T, Knio O, Zhao L, **McCabe MF**, Hoteit I (2017) "Downscaling the 2D Bernard convection equations using continuous data assimilation", Computational Geosciences, 21(3), 393-410, doi:10.1007/s1059

50. Evans J, Meng X and **McCabe MF** (2017) "Land surface albedo and vegetation feedbacks enhanced the Millennium drought in south-east Australia", Hydrology and Earth System Sciences., 21, 409-422, doi:10.5194/hess-21-409-2017

51. Yin G, Mariethoz G and **McCabe MF** (2017) "Gap-filling of Landsat-7 imagery using the direct sampling method", Remote Sensing, 9(1), 12; doi:10.3390/rs9010012

52. Lopez O, Houborg R and **McCabe MF** (2017) "Evaluating the hydrological consistency of satellite based water cycle components", Hydrology and Earth System Sciences, 21, 323-343, doi:10.5194/hess-21-323-2017

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Journal Articles Under Review (*corresponding author; student or post-doc advisees are underlined)

1. Lu Y, Chibarabada TP, **McCabe MF,** De Lannoy G and Sheffield J (2020) "Global parameter sensitivity analysis of the FAO-AquaCrop mode for dryland environments", Agric. Forest. Meteorol.

2. Schunter C, Bonzi L, Norstog J, Berumen ML, Angel YA, Parkes SD, **McCabe MF** and Ravasi T (2020) "Washed out to sea: desert fish populations defy hydrological constraints via ecological adaptation", Scientific Reports

3. El Kenawy AM, Lopez-Moreno JI, McCabe MF, Robaa SM, Dominguez-Castro F, Pena-Gallardo M, Trigo RM, Hereher ME, Vicente-Serrano SM (2020) "A comparison of spatiotemporal characteristics of climate modes over the main global mountain ranges and their large-scale driving forces"

4. Reihmer J, Gallo A, Mousa MAA, Morton MJL, Al-Mashhawari S, **McCabe MF**, Tester M and Mishra H (2020) "Super-hydrophobic sand mulches increase productivity and reduce water demand in desert agriculture", Science Advances

BOOKS, BOOK CHAPTERS & TECHNICAL REPORTS

1. **McCabe MF***, Prata AJ and Kalma JD (2002). "A comparison of brightness temperatures derived from geostationary and polar orbiting satellites", CSIRO Atmospheric Research Paper. No 63. 31pp. ISBN 0 643 06881 3. Aspendale, Victoria, Australia.

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PEER-REVIEWED CONFERENCE PROCEEDINGS (*Keynote Speaker; **Invited Speaker; *Oral Presentation; student or post-doc advisees are underlined)**

1. Angel Y, Houborg R and **McCabe MF** (2019) "Evaluation of surface reflectance retrieval methods for multitemporal hyperspectral data using a UAV-based pushbroom camera", International Soceity for Photogrammetry and Remote Sensing (ISPRS) UAV-g, Enschede, The Netherlands

2. Zilliani M, Parkes SP and **McCabe MF** (2019) "Reproducibility of digital terrain model from UAV for improved crop height estimation" International Soceity for Photogrammetry and Remote Sensing (ISPRS) UAV-g, Enschede, The Netherlands

3. Johansen K, Morton MJL, Malbeteau Y, Solorio BA, Al-Mashharawi S, Ziliani M, Angellopez Y, Fiene G, Negrao S, Mousa MAA, Tester MA and **McCabe MF** (2019) "Predicting biomass and yield at harvest of salt-stressed tomato plants using UAV imagery", International Soceity for Photogrammetry and Remote Sensing (ISPRS) UAV-g, Enschede, The Netherlands

4. Turner D, Lucieer A, **McCabe MF**, Parkes S and Clarke I (2017) "Pushbroom hyperspectral imaging from an umanned aircraft system (UAS): geometric processing workflows and accuracy assessment" in ISPRS Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences , UAV-g 2017, Bonn, Germany

5. Jadoon KZ, Moghadas D and **McCabe MF** (2017) "Probabilistic inversion of time-lapse EMI data for spatiotemporal monitoring of soil moisture", 23rd European Meeting of Environmental and Engineering Geophysics, Malmo, Sweden, 3-7 September 2017.

6. Schulte PZ, Spencer DA, Smith NG and **McCabe MF** (2016) "Development of a fault protection architecture based upon state machines", 67th International Astronautical Congress, Guadalajara, Mexico, Sept 26-30, 2016

7. **McCabe MF***, Houborg R and Lucieer A (2016) "High-resolution sensing for precision agriculture: from Earth-observing satellites to unmanned aerial vehicles", SPIE Remote Sensing, 9998-74, Edinburgh, Scotland, Sept 26-30th, 2016

8. Parkes SD, **McCabe MF**, Al-Mashhawari SK and Rosas J (2016) "Accuracy and reproducibility of crop surface maps extracted from Unmanned Aerial Vehicle (UAV) derived Digital Surface Maps", SPIE Remote Sensing, 9998-5, Edinburgh, Scotland, Sept 26-30th, 2016

9. Angel Y, Houborg R and **McCabe MF** (2016) "Removal of cloudy pixels from hyperspectral imagery using a non-separable and stationary spatio-temporal covariance model", SPIE Remote Sensing, 9998-91, Edinburgh, Scotland, Sept 26-30th, 2016

10. Houborg R, **McCabe MF**, Angel Y and Middleton EM (2016) "Detection of chlorophyll and leaf area index dynamics from sub-weekly hyperspectral imagery", SPIE Remote Sensing, 9998-41, Edinburgh, Scotland, Sept 26-30th, 2016

11. Altaf U, Jana R, Hoteit I and **McCabe MF** (2016) "Continuous data assimilation for downscaling large-footprint soil moisture retrievals", SPIE Remote Sensing, 9998-69, Edinburgh, Scotland, Sept 26-30th, 2016

12. Lopez O, **McCabe MF**, Houborg R (2015) "Evaluation of multiple satellite evaporation products in two dryland regions using GRACE", MODSIM 2015, Gold Coast, Australia, Nov 29 – Dec 2, 2015

13. Rosas J, Houborg R, **McCabe MF** (2015) "On the sensitivity of land surface temperature estimates in arid irrigated lands using MODTRAM", MODSIM 2015, Gold Coast, Australia, Nov 29 – Dec 2, 2015

14. **McCabe MF****, Ershadi A, Jimenez C, Miralles D, Michel D, Wood EF (2015) "Development and evaluation of global land surface flux records", MODSIM 2015, Australia, Nov 29 – Dec 2, 2015

15. **McCabe MF****, Houborg R, Rosas J (2015) "The potential of unmanned aerial vehicles for providing information on vegetation health", MODSIM 2015, Gold Coast, Australia, Nov 29 – Dec 2, 2015

16. Yin G, Mariethoz G, **McCabe MF** (2015) "A multiple-point geostatistics method for filling gaps in Landsat ETM+SLC-off images", MODSIM 2015, Gold Coast, Australia, Nov 29 – Dec 2, 2015

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NON-PEER REVIEWED CONFERENCE PROCEEDINGS (Full Papers Only) (*Keynote Speaker; **Invited Speaker; *Oral Presentation; student or post-doc advisees are underlined)**

1. Liu YY, de Jeu RAM, Evans JP, **McCabe MF** and Van Dijk AIJM (2011) "Discriminating between climate and human-induced land degradation in Mongolia (1988-2007)", *34th International Symposium on Remote Sensing of Environment,* Sydney, Australia, 10-15 April 2011

2. Evans JP, **McCabe MF**, Mueller B, Meng X and Ershadi A (2011) "A comparison of satellite evapotranspiration estimation efforts", *WIRADA Science Symposium.* 1-5 August, Melbourne, Australia.

3. Liu YY, de Jeu RAM, **McCabe MF**, Evans JP and Van Dijk AIJM (2011) "Comparing optical and microwave remote sensing based vegetation density over Mongolia for 1988-2006", *34th International Symposium on Remote Sensing of Environment*, Sydney, Australia, 10-15 April 2011,

4. Bormann K, Evans JP and **McCabe MF** (2011) "Evaluation of Australian Snow Cover Estimates using Satellite Based Observations for the period 2000-2010", *34th International Symposium on Remote Sensing of Environment,* Sydney, Australia, 10-15 April 2011.

5. Ershadi A, **McCabe MF**, Evans JP, Walker JP and Pipunic R (2011) "Estimation of evaporation using the surface energy balance system (SEBS) and numerical models", *34th International Symposium on Remote Sensing of Environment,* Sydney, Australia, 10-15 April 2011.

6. Liu YY, Evans JP, **McCabe MF**, Van Dijk AIJM and de Jeu RAM (2010) "Soil Moisture Estimates over Murray Darling Basin in Australia (1992-2008)", *Fourth International Workshop on Catchment-scale Hydrological Modeling and Data Assimilation,* 21-23 July, Lhasa, China.

7. Meng XH, Evans JP and **McCabe MF** (2010) "Impact of MODIS albedo on water cycle simulations over Australia's Murray-Darling Basin with WRF model", *Fourth International Workshop on Catchment-scale Hydrological Modeling and Data Assimilation,* 21-23 July, Lhasa, China.

CONFERENCE ABSTRACTS AND PRESENTATIONS (*Keynote Speaker; **Invited Speaker'; *Oral Presentation; student or post-doc advisees are underlined)**

Conferences after joining KAUST (late 2012)

1. Zilliani M, Johansen K, Tester MA and **McCabe MF** (2018) "3D dynamic morphological structure of a crop captured from a UAV", American Geophysical Union, Washington DC, December 10-14, 2018

2. Angel Y, Houborb R and McCabe MF (2018) "Evaluation of reflectance retrieval methods for hyperspectral data series using a UAV-based pushbroom camera", American Geophysical Union, Washington DC, December 10-14, 2018

3. Lopez O, Malbeteau Y, Aragon B, Al-Mashhawari S, Morton M, Tester M and McCabe MF (2019) "Examining salinity induced plant stress using UAV-based land surface temperature", American Geophysical Union, Washington DC, December 10-14, 2018

4. Rosas J, Ziliani M, Aiut-El-Fquih B, McCabe MF, Ghosting R, Hoteit I (2018) "Enhanced flood forecasting through ensemble data assimilation and joint state parameter estimation", American Geophysical Union, Washington DC, December 10-14, 2018

5. Mariethoz G, Oriani F and McCabe MF (2018) "High resolution downscaling of multi-band satellite images without co-located high-resolution data: a new approach based on training images", American Geophysical Union, Washington DC, December 10-14, 2018

6. Malbeteau Y, Anderson M, Schull M, Houborg R, Aragon B and McCabe MF (2018) "Quantifying crop water use by combining multi-sensor remote sensing data over a semi-arid region", American Geophysical Union, Washington DC, December 10-14, 2018

7. Huang D, McCabe MF, Aragon B, Houborg R and Miralles D (2018) "Using high spatial and temporal resolution satellites to quantify crop water use over dryland agriculture in Saudi Arabia", American Geophysical Union, Washington DC, December 10-14, 2018

8. Aragon B, Houborg R, Fisher J, McCabe MF and Huang D (2018) "Multi-temporal and spatial resolution water use retrievals over dryland irrigated fields", American Geophysical Union, Washington DC, December 10-14, 2018

9. McCabe MF and Houborg R (2018) "Harnessing advances in earth observation and machine learning for agricultural informatics", American Geophysical Union, Washington DC, December 10-14, 2018

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14. **McCabe MF**, Aragon B, Parkes SD, Mascaro J and Houborg R (2017) "Cubesats and drones: bridging the spatio-temporal divide for enhanced earth observation", American Geophysical Union, New Orleans, LA, December 11-15, 2017

15. Houborg R and **McCabe MF** (2017) "Fusing cubesat and Landsat 8 data for near-daily mapping of leaf area index at 3 m resolution", American Geophysical Union, New Orleans, LA, December 11-15, 2017

16. Ziliani M, Parkes SD, and **McCabe MF** (2017) "Observing crop-height dynamics using UAVs", American Geophysical Union, New Orleans, LA, December 11-15, 2017

17. Aragon B, Houborg R, Tu KP, Fisher J and **McCabe MF** (2017) "Evaporation using Planet cubesats and the PT-JPL model: a precision agriculture application", American Geophysical Union, New Orleans, LA, December 11-15, 2017

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39. Jimenez C, Miralles DG, Ershadi A, **McCabe MF**, Michel D, Siemann AL, Wood EF (2015) "Land surface evaporation over the tropics: estimations from the GEWEX LandFlux Initiative", International Conference on the Water and Energy cycles in the Tropics, 17-19 November 2015, Paris, France

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41. Jimenez C. et al. (2015) "Evaluation of observation driven evaporation algorithms: results of the WACMOS-ET project", UMETSAT Land Surface Analysis Satellite Applications Facility (LSA SAF) User Workshop, 8-10 June 2015, Reading, United Kingdom

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84. Houborg R, **McCabe MF**, Gitelson AA (2013) "Joint leaf chlorophyll and leaf area index retrieval using a regularized canopy reflectance model inversion system", Abstract B43C-0485 presented at 2013 Fall Meeting, AGU, San Francisco, Calif., 9-13 Dec.

85. Lopez O, Houborg R, **McCabe MF** (2013) "Evaluating Water Storage Variations in the MENA region using GRACE Satellite Data", Abstract H53G-1503 presented at 2013 Fall Meeting, AGU, San Francisco, Calif., 9-13 Dec.

86. Houborg R, **McCabe MF**, Anderson M, Gao F, Schull M, Yilmaz M, Cammalleri C and Hain C (2013) "Towards a near real-time remote sensing based agricultural monitoring system for the MENA region", Remote Sensing for Agriculture, Ecosystems and Hydrology XV, SPIE Europe 2013 – International Conference – Dresden, 23 – 26 September 2013

87. Houborg R, **McCabe MF**, Cescatti A, Gitelson A (2013) "Integrating satellite retrieved leaf chlorophyll into a land surface model for constraining model simulations", Geoscience and Remote Sensing Symposium (IGARSS), 2013 IEEE International, 21-26 July 2013

88. Wang L, Parkes S, **McCabe MF**, Azcurra C, Wang J and Graham P (2013) "Isotope-based evapotranspiration partition in semi-arid environments", European Geophysical Union (EGU) General Assembly Conference Abstracts 15, 6678,

89. Ajami H, **McCabe MF** and Evans JP (2013) "Exploring Dynamics of Land surface-Subsurface Coupling Under Change", EGU General Assembly Conference Abstracts 15, 3783

90. **McCabe MF***, Ershadi A, Chaney A, Jimenez C, Miralles D, Mueller B, Seneveratne S and Wood EF (2013) "Global estimation of evapotranspiration from the GEWEX LandFlux Initiative: model intercomparison and evaluation at the tower scale" European Geophysical Union (EGU) General Assembly Conference Abstracts 15, 6439

91. Evans J, Meng X and **McCabe MF** (2013) "How do observed albedo changes affect land-atmosphere feedback mechanisms during drought?", EGU General Assembly Conference Abstracts 15, 3687

92. Mariethoz G, Jha S, **McCabe MF**, Evans J (2013) "Downscaling hydroclimatic variables over Murray-Darling basin using a geostatistical approach", 15th Annual Conference of the International Association for Mathematical Geosciences, Madrid, Spain, 2-6 September 2013.

93. Hughes C, Azcurra CS, Parkes SD, Hollins SE, **McCabe MF**, Evans JP, Pickering D, Gibson JJ, Edwards K (2012) "Daily observations of rainfall, vapour and pan water δ2H for improved quantification of atmospheric and terrestrial water interactions" Abstract B33A-0504 at AGU Fall Meeting, San Francisco, CA, Dec 3-7

94. Jha S, Mariethoz G, Evans J, **McCabe MF** (2013) "Downscaling hydroclimatic variables over Murray-Darling basin using a geostatistical approach", 10th Annual Meeting of the Asia Oceania Geoscience Society, Brisbane, Australia, 24-28 June 2013.

95. Ajami H, **McCabe MF** and Evans JP (2012) "Sensitivity of groundwater dynamics to land cover change", Abstract H31D-1151 presented at AGU Fall Meeting, San Francisco, CA, Dec 3-7

96. Graham PW, **McCabe MF** and Ajami H (2012) "Influence of high level long duration dam release on stream-aquifer interctions", Abstract H13B-1320 presnted at AGU Fall Meeting, San Francisco, CA, Dec 3-7

97. Azcurra CS, Treble P, Baker A, **McCabe MF**, Evans JP and Bradley C (2012) "Modeling the speleothem d18O proxy using an isotope enabled dual-porosity groundwater model", Abstract PP21B-2005 presented at AGU Fall Meeting, San Francisco, CA, Dec 3-7

98. Wang L, Parkes SD, **McCabe MF**, Azcurra CS and Wang J (2012) "Evapotranspiration partition at sub-daily scale using laser and chamber techniques", Abstract B51B-0523 presented at AGU Fall Meeting, San Francisco, CA, Dec 3-7

99. Bormann KJ, Evans JP and **McCabe MF** (2012) "Using observations from marginal snowfields to further understand variability in snowpack properties", Abstract C33C-0674 presented at AGU Fall Meeting, San Francisco, CA, Dec 3-7

100. Evans JP, **McCabe MF** and Meng X (2012) "Effect of including satellite observed land surface conditions on the modeled energy and water budgets of the Murray-Darling basin (Australia)", Abstract H12C-05 presented at AGU Fall Meeting, San Francisco, CA, Dec 3-7

101. Liu Y, **McCabe MF**, Evans JP and de Jeu RAM (2012) "AMSR-E satellite observed rainforest response during the 2005 and 2010 Amazon droughts", Abstract H31D-1141 presented at AGU Fall Meeting, San Francisco, CA, Dec 3-7

102. Ajami H, **McCabe MF**, Evans JP and Stisen S (2012) "Assessing the impact of model spin-up on surface water-groundwater interactions using an integrated hydrologic model", Abstract H32E-05 presented at AGU Fall Meeting, San Francisco, CA, Dec 3-7

103. Mariethoz G, Jha SK, **McCabe MF** and Evans JP (2012) "Novel applications of multiple-point geostatistics in remote sensing, geophysics, climate science and surface hydrology", Abstract H33A-1277 presented at AGU Fall Meeting, San Francisco, CA, Dec 3-7

104. Ershadi A, **McCabe MF**, Evans JP and Mariethoz G (2012) "Bayesian uncertainty analysis of the input meteorological variables in estimation of the sensible heat flux", Abstract H33B-1294 presented at AGU Fall Meeting, San Francisco, CA, Dec 3-7

105. **McCabe MF**, Sung B, Evans JP and Sheffield J (2012) "Multi-model drought estimation using regional climate model output", Abstract H42B-1164 presented at AGU Meeting, San Francisco, CA, Dec 3-7

106. Parkes SD, Griffiths A, Wang L, Strauss J, Element A, Chambers S, Williams AG and **McCabe MF** (2012) "Evapotranspiration contribution to the atmospheric boundary layer determined from stable

isotope observations in a semi-arid environment", Abstract H53A-1510 presented at AGU Fall Meeting, San Francisco, CA, Dec 3-7

Conferences before joining KAUST (late 2012)

107. Evans JP, Meng X and **McCabe MF** (2012) "The impact of remotely sensed dynamic land surface conditions on the simulation of drought in Australia", AGU Chapman Conference on Remote Sensing of the Terrestrial Water Cycle, Kona, Hawaii, 19-22 February

108. Mariethoz G, Renard P, **McCabe MF** (2012) "Reconstruction of multivariate satellite images using multiple-point statistics", The 9th International Geostatistics Congress, Oslo, 11 – 15 June 2012.

109. **McCabe MF**, Ershadi A and Evans JP (2012) "Multi-model regional scale estimation of evapotranspiration", AGU Chapman Conference on Remote Sensing of the Terrestrial Water Cycle, Kona, Hawaii, 19-22 February

110. **McCabe MF**, Ershadi A and Graham P (2012) "Intercomparison of flux measurement approaches: eddy-covariance, scintillometers and remote sensing retreivals over a grassland", AGU Chapman Conference on Remote Sensing of the Terrestrial Water Cycle, Kona, Hawaii, 19-22 February

111. Sharples JJ, Simpson C, Evans JP, **McCabe MF** and McRae R (2012) "Investigating the fire channelling phenomenon using the WRF model", Annual conference of the Australian Meteorological and Oceanographic Society (AMOS) 2012, Sydney Australia, 31 Jan – 3 Feb 2012.

112. Griffiths A, Chambers S, Parkes S and **McCabe MF** (2012) "Continuous monitoring of mixing depth with radon-222 and LIDAR" Annual conference of the Australian Meteorological and Oceanographic Society (AMOS) 2012, Sydney Australia, 31 Jan – 3 Feb 2012.

113. Liu YY, Van AIJM Dijk, de Jeu RAM, **McCabe MF** and Evans JP (2012) "Development and evaluation of a global long-term passive microwave vegetation product", EGU General Assembly 2012, Geophysical Research Abstracts, Vol 14, EGU2012-6954

114. Griffiths A, Chambers S, Parkes S, Williams AG and **McCabe MF** (2012) "Improving lidar-based mixing height measurements with radon-222", EGU General Assembly 2012, Geophysical Research Abstracts, Vol 14, EGU2012-2564

115. Seneviratne SI, Mueller B, Jimenez C, **McCabe MF**, Rossow W and Kummerow C (2012), "Assessing global-scale land evapotranspiration: Results from the LandFlux-EVAL initiative", EGU General Assembly 2012, Geophysical Research Abstracts, Vol 14, EGU2012-12850

116. Ajami H, **McCabe MF**, Stisen S and Evans JP (2011) "Exploring impacts of groundwater dynamics on catchment scale land surface fluxes" Abstract H33F-1374 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.

117. Strauss J, Parkes SD, Wang L, Cai MY, Azcurra CS, **McCabe MF**, Element A, Griffiths A, Graham P and Chambers S (2011) "In-situ stable isotope observations of local and regional water vapour contributions in an open grassland", Abstract B31E-0364 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.

118. Parkes SD, Strauss J, Wang L, Cai MY, Azcurra CS, Graham P and **McCabe MF** (2011) "Using in-situ stable isotope observations to study rapid changes in land atmosphere exchange within a chamber

environment", Abstract B31E-0367 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.

119. Wang L, Niu S, Zhou X, Xia J, Luo Y, Good SP, Caylor KK and **McCabe MF** (2011) "The effect of warming on grassland evapotranspiration partition using laser-based isotope monitoring techniques" Abstract B11H-08 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.

120. Element A, Parkes SD, Griffiths DW, Wang L and **McCabe MF** (2011) "Comparison of in-situ water vapour isotope analysers", Abstract B31E-0363 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.

121. Cai MY, Strauss J, Wang L, Parkes SD, **McCabe MF**, Evans JP and Griffiths A (2011) "Modelling isotopic fluxes of coastal and inland landscapes using ISOLSM in New South Wales, Australia" Abstract B21H-0354 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.

122. Zhao L, Xiao H, Zhou J, Wang L, Cheng G, Zhou M, Yin L and **McCabe MF** (2011) "Detailed assessment of isotope ratio infrared spectroscopy and isotope mass spectrometry for stable isotope analysis of plant and soil waters", Abstract B31E-0362 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.

123. **McCabe MF**, Ershadi A, Evans JP, Jimenez C, Kummerow CD, Mueller B, Rossow WB, Seneviratne SI and Wood EF (2011) "Regional scale assessment of evaporation: a multi-spatial and –temporal analysis over Australia's Murray Darling Basin" Abstract H42B-02 presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec.

124. Cai MY, Strauss J, Parkes SD, **McCabe MF**, Evans JP and Griffiths AD (2011) "Stable water isotopes in land surface modeling: comparison with in-situ isotopic measurements", 11th Annual Australasian Environmental Isotope Conference & 4th Australasian Hydrogeology Research Conference, Cairns, Queensland, Australia.

125. Baker A, Azcurra C, Bradley C, **McCabe MF**, Fairchild IJ and Evans JP (2011) Forward modelling of the speleothem oxygen isotope paleoclimate proxy. XVIII International Union for Quaternary Research Congress, 21-27 July, Bern, Switzerland.

126. Mariethoz G, **McCabe MF**, Renard P (2011) "Reconstruction of remote sensing soil moisture data for input to groundwater models", ModelCare 2011, 18-22 September 2011, Leipzig.

127. Ajami H, **McCabe MF**, Evans JP and Stisen S (2011) "Toward improved estimation of groundwater recharge and evapostranspiration using coupled vs. integrated hydrologic models", Proceedings of IAHS Lead Symposia, IUGG2011, Melbourne, Australia, July 2011.

128. Bormann K, Evans JP and **McCabe MF** (2011) "Comparison of simulated snow cover from the weather research & forecast (WRF) regional climate model with satellite-based and in-situ observations", Proceedings of IAHS Lead Symposia, IUGG2011, Melbourne, Australia, July 2011.

129. Ershadi A, **McCabe MF** and Evans JP (2011) "Estimating surface heat fluxes from remote sensing, process models and regional climate simulations", EGU General Assembly 2011. 3-8 April, Vienna, Austria.

130. Evans JP, **McCabe MF** and Meng XH (2011) "Modelling drought in south-east Australia using a regional climate model", EGU General Assembly 2011. 3-8 April, Vienna, Austria.

131. Ajami H, **McCabe MF**, Stisen S and Evans JP (2011) "On the performance of integrated hydrologic models in simulating catchment scale land surface fluxes", EGU General Assembly 2011. 3-8 April, Vienna, Austria.

132. Liu Y, Evans JP, **McCabe MF**, van Dijk AIJM and de Jeu RAM (2010) "Soil moisture estimates over Murray Darling Basin in Australia (1992-2008)", Catchment Hydrological Modeling and Data Assimilation Workshop (CAHMDA IV), Lhassa, Tibet, China, 21-23 July.

133. **McCabe MF*** ** (2010) "NCGRT Super Science: long term environmental research and monitoring facilities", Catchment Hydrological Modeling and Data Assimilation Workshop (CAHMDA IV), Lhassa, Tibet, China, 21-23 July.

134. **McCabe MF****, Seneviratne SI, Jimenez C, Rossow W, Kummerow C (2010) "GEWEX Radiation Panel LandFlux Initiative", 22nd GEWEX-SSG Meeting, Delhi, India, 25-29 January.

135. Seneviratne SI, Jimenez C, Mueller B, Kummerow C, **McCabe M**, Rossow W, Balsamo G, Ciais P, Dirmeyer P, Fisher J, Reichle R, Reichstein M, Rodell M, Wang K and Wood E (2010) "The LandFlux-EVAL Initiative", Hydrology Delivers Earth System Science to Society (HESSS-2), Japan, 22-25 June

136. **McCabe MF****, Ershadi A, Liu Y, Evans J and Vinukollu R (2010) "Latent heat flux estimates over Australia and the Murray Darling Basin", Hydrology Delivers Earth System Science to Society (HESSS-2), Tokyo, Japan, 22-25 June

137. **McCabe MF**** (2008) "Applications of passive microwave radiation in understanding aspects of the Earth system", CSIRO Symposium: Water on the Radar - use of microwaves in water resources management. July 2, CSIRO Discovery Centre, Canberra, ACT, Australia

138. **McCabe MF*** ** (2008) "Remote sensing Earth's coupled systems" Catchment scale Hydrological modeling and Data Assimilation (CAHMDA) international workshop, January 9-11, University of Melbourne, Victoria Australia.

139. **McCabe MF**** and Wood EF (2007) "Hydrological feedback and consistency through multi-sensor observations of the water cycle" Satellite Observation of the Global Water Cycle (SOGWC), March 7-9, Beckman Center University of California, Irvine, CA, USA

140. Chylek P, Dubey MK, **McCabe MF** and Lesins G (2006) "Greenland climate change" Second International Conference on Global Warming, Santa Fe, NM, July 17-21

141. Balick LK, Gillespie AR, **McCabe MF** and Mushkin A (2006) "Forward modeling of linear mixing in thermal IR temperature retrieval" 2nd International Symposium on Recent Advances in Quantitative Remote Sensing (RAQRS-II), Valencia, Spain.

142. Pan M, **McCabe MF** and Wood EF (2006) "Multi-sensor remote sensing and data assimilation of land surface and atmospheric variables for improved hydrologic modeling" Eos Trans. AGU, 87(36), Jt. Assem. Suppl. Abstract A21B-04

143. Pan M, **McCabe MF**, Wood EF and Wojcik R (2006) "Regional water budget estimation using multi-sensor remote sensing observations", Geophysical Research Abstracts, Vol. 8, 08115, 2006 SRef-ID: 1607-7962/gra/EGU06-A-08115

144. Su H, Wood EF, Wójcik R and **McCabe MF** (2006). "Sensitivity analysis of regional scale evapotranspiration predictions to the forcing data" Eos Trans. AGU, 87(36), Jt. Assem. Suppl. Abstract H31A-0

145. Balick L, Jeffery C and **McCabe MF** (2006) "Understanding thermal variability using a new dynamical model of the surface skin temperature and turbulent near atmosphere", Eos Trans. AGU, 87(52) Fall Meet. Suppl. Abstract H33E-1546.

146. Rahn T and **McCabe MF** (2006) "Response of a southwest montane grassland to monsoonal rains following an extended drought", Eos Trans. AGU, 87(52) Fall Meet. Suppl. Abstract B41B-0200.

147. **McCabe MF**, Chylek P and Dubey MK (2006) "A new approach to determining the melt-area extent over the Greenland ice sheet using MODIS data", Eos Trans. AGU, 87(52) Fall Meet. Suppl. Abstract C21A-1124.

148. Su H, **McCabe MF**, Wojcik R, Wood EF and Pinker RT (2005) "Estimating regional evapotranspiration over the Red Arkansas basin using satellite and in-situ data", Eos Trans. AGU, 86(52) Fall Meet. Suppl. Abstract H43H-08.

149. Wood EF, **McCabe MF** and Su H (2005). "Global Evaluation of a MODIS-based Evapotranspiration Product" EOS Trans. AGU, 86(18), Jt. Assem. Suppl. Abstract H32B-02

150. Pan M, **McCabe MF**, Wood EF and Wojcik R (2005) "Using multi-sensor remote sensing observsations for regional water budget studies", Eos Trans. AGU, 86(52) Fall Meet. Suppl. Abstract H14B-06.

151. Wood EF, **McCabe MF**, Wójcik R, Su H, Gao H and Sheffield J (2005). "Remote sensing of hydrological variables over the Red Arkansas", 5th International Scientific Conference on GEWEX, Orange County, CA, USA

152. Wood EF, **McCabe MF**, Su H and Su Z (2005) "Estimating Terrestrial Evaporation: Algorithm background for the new MOD16 product" MODIS Science Team Meeting, Billings, MT, USA.

153. Pan M, Wood EF and **McCabe MF** (2004) "Data assimilation for estimating regional water balance using constrained ensemble Kalman filtering" Proceedings of the 2nd international CAHMDA workshop on: The Terrestrial Water Cycle: Modeling and Data Assimilation Across Catchment Scales, Princeton, October 25

154. Su H, **McCabe MF** and Wood EF (2004) "Assessing remotely sensed based estimation of evapotranspiration using a global set of evaluation data" Eos Trans. AGU, 85(47) Fall Meet. Suppl. Abstract H13C-0440.

155. Wood EF, **McCabe MF**, Troch PA, Bogaart PW and Wójcik R (2004) "Applying hydrologic theory and remote sensing for estimating water fluxes in ungauged basins" EGU - 1st General Assembly, Nice, France. Geophysical Research Abstracts, Vol. 6, 05760

156. **McCabe MF***, Wood EF, Su H, Gao H and Sheffield J (2003) "Soil moisture and evapotranspiration patterns from space: remote sensing techniques to determine large scale water balances" Eos Trans. AGU, 84(46) Fall Meet. Suppl. Abstract H21H-04.

157. Gao H, Wood EF, Drusch M, **McCabe MF**, Jackson TJ and Bindlish R (2003) "Using TRMM/TMI to retrieve soil moisture over southern United States from 1998-2002: results and validation" Eos Trans. AGU, 84(46) Fall Meet. Suppl. Abstract H21C-04.

158. Wood EF, Su H, **McCabe MF** and Su B (2003) "Estimating Evaporation from Satellite Remote Sensing", IGARSS-03, Toulouse, 2003.

159. **McCabe MF***, Kalma JD and Franks SW (2002) "Improving the Predictive Uncertainty of Evapotranspiration with Remotely Sensed Surface Temperatures Using a Simple Land Surface Scheme", Western Pacific AGU, Wellington, New Zealand, H22A-05

RESEARCH SUPERVISED

Supervision at KAUST		
Primary Supervision – Masters	**Primary Supervision – PhD**	**Post Doc Supervision**
Completed: 6 In Progress: 4	Completed: 3 In Progress: 6	Total: 6

KING ABDULLAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

PhD Advisor:

1. Oliver Lopez; Environmental Sciences and Engineering; Monitoring arid-land groundwater abstraction through optimization of a land surface model with remote sensing-based evaporation; (Start Date: Fall, 2013; Graduated: Spring, 2018; Current Position: Post Doc at King Abdullah University of Science and Technology)

2. Haleem Shah; Environmental Sciences and Engineering; Monitoring the photosynthetic traits of plants grown under the influence of soil salinity and nutrient stress; (Start Date: Fall, 2013; Graduated: Spring 2019; Current Position: Marine Science Postdoc at KAUST)

3. Jorge Rosas; Environmental Sciences and Engineering; Advancing the Utility of Thermal Remote Sensing in Irrigated Arid-Lands Agriculture; (Start Date: Fall, 2013; Graduated: Fall, 2019; Current Position: Senior Research Consultant)

4. Bruno Solorio; Environmental Sciences and Engineering; Enhanced agricultural water use from satellite and emerging sensor technologies; (Start Date: Spring, 2016; Expected Graduation: Fall, 2020)

5. Yoseline Angel; Environmental Sciences and Engineering; Hyperspectral insights and analysis of crop health and production; (Start Date: Spring, 2016; Expected Graduation: Fall, 2020)

6. Matteo Zilliani; Environmental Sciences and Engineering; Coupling remote sensing, a hydro-agricultural model and a data assimilation framework for crop-yield forecasting; (Start Date: Fall, 2016; Expected Graduation: Fall, 2020)

7. Ting Li; Environmental Sciences and Engineering; High-resolution monitoring of vegetation using Cubesats and a machine learning framework; (Start Date: Fall, 2017; Expected Graduation: Fall, 2021)

PhD Dissertation Committee:

1. Riann van der Merwe (PhD Advisor: Professor Gary Amy); Environmental Sciences and Engineering; Marine monitoring and environmental management of SWRO concentrate discharge: A case study of the KAUST SWRO plant; Start Date: Fall 2009; Graduated: Spring 2014)

2. Mazahirali Alidina (PhD Advisor: Professor Jorge Drewes); Environmental Sciences and Engineering; Optimizing managed aquifer recharge systems for removal of trace organic chemicals; Start Date: Fall 2009; Graduated: Spring 2014)

3. Wenbin Xu (PhD Advisor: Professor Sigurjon Jonsson); Earth Sciences and Engineering; Volcanic and tectonic activity in the Red Sea region (2004-2013): insights from satellite radar interferometry and optical imagery; Start Date: Fall 2011; Graduated: Spring 2015)

4. Hamza Bangalath (PhD Advisor: Professor Georgiy Stenchikov); Earth Sciences and Engineering; Direct Radiative Effect of Mineral Dust on the Middle East and North Africa Climate; Start Date: Fall 2012; Graduated: Fall 2016)

5. Sergy Osipov (PhD Advisor: Professor Georgiy Stenchikov); Earth Sciences and Engineering; Aerosol Radiative Impact on the Middle East Regional Climate and the Red Sea; Start Date: Fall 2014; Expected Graduated: Fall 2017)

6. Amanda Siemann (PhD Advisor: Professor Eric Wood); Princeton University; Quantifying the terrestrial, global energy budget using remotely sensed satellite data products; Start Date: Fall 2013; Graduated Fall 2017)

7. Huang Huang (PhD Advisor: Professor Ying Sun); Applied Mathematics and Computational Science; Computational Methods for Large Spatial Datasets and Functional Data Ranking; Start Date: Fall 2014; Expected Graduation: Fall 2017)

8. Yveline Pailles (PhD Advisor: Professor Mark Tester); Plant Sciences; The study of wild tomatoes from the Galapagos Islands as a source of salinity tolerance traits; Start Date: Fall 2012; Graduated Fall 2017)

9. Mohammad Dogar (PhD Advisor: Professor Georgiy Stenchikov); Earth Sciences and Engineering; Sensitivity of Middle East and North Africa (MENA) to explosive volcanic eruptions; Start Date: Fall 2012; Expected Graduation: Spring 2018)

10. Evgeniya Predybaylo (PhD Advisor: Professor Georgiy Stenchikov); Earth Sciences and Engineering; ENSO Response to Strong Volcanic Forcing; Start Date: Fall 2014; Expected Graduation: Fall 2019)

11. Jerry Raj (PhD Advisor: Professor Georgiy Stenchikov); Earth Sciences and Engineering; High resolution climate simulations over Africa: past, present, and future; Start Date: Fall 2014; Graduated: Fall 2019)

12. Nada Aljassim (PhD Advisor: Professor Peiying Hong); Environmental Sciences and Engineering; Fate and persistence of antibiotic resistant bacteria upon simulated solar irradiation and bacteriophage exposure; Start Date: Fall 2014; Expected Graduation: Spring 2020)

13. Yuxiao Li (PhD Advisor: Professor Ying Sun); Statistics; Spatial and spatio-temporal stochastic weather generators for large-scale nonstationary processes; Start Date: Fall 2015; Expected Graduation: Fall 2019)

14. Adil Siripatana (PhD Advisor: Ibrahim Hoteit and Omar Knio); Earth Sciences and Engineering; Uncertainty quantification and assimilation for efficient coastal ocean forecasting; Start Date: Fall 2015; Expected Graduation: Fall 2019)

15. Mitchell Morton (PhD Advisor: Mark Tester); Plant Sciences; Dissecting the genetic architecture of salt tolerance in the wild tomato *Solanum pimpinellifolium*; Start Date: Fall 2014; Graduation: Fall 2019)

16. Aislinn Dunne (PhD Advisor: Burton Jones); Marine Sciences; Connectivity between mangroves, sea grasses and coral reefs; Start Date: Fall 2018; Expected Graduation: Fall 2022)

17. Remi Matrau (PhD Advisor: Sigurjon Jonsson); Earth Sciences; Holocene to present-day deformation of the Husavik-Flatey transform fault in North Iceland; Start Date: Fall 2017; Expected Graduation: Fall 2022)

MS Advisor (including MS/PhD Conversions):**

1. Qianwen Shi; Environmental Sciences and Engineering; Flood Hazard Assessment along the Western Regions of Saudi Arabia using GIS-based Morphometry and Remote Sensing Techniques; (Start Date: Fall, 2012; Graduated: Fall, 2014; Current Position; Graduate Student at University of Toronto)

2. Gaohong Yin; Environmental Sciences and Engineering; Application of geostatistical techniques for gap-filling of satellite data; (Start Date: Fall, 2014; Graduated: Fall, 2016; Current Position: Graduate Student, University of Maryland)

3. Bruno Solorio**; Environmental Sciences and Engineering; Monitoring crop water use at the Tawdeehiya agricultural facility; (Start Date: Fall, 2014; Graduated: Fall, 2016; Current Position: Graduate Student, King Abdullah University of Science and Technology)

4. Ting Li**; Environmental Sciences and Engineering; Land use classification and monitoring using high-resolution satellite data and machine learning; (Start Date: Fall, 2016; Graduated: Fall, 2017; Current Position: Graduate Student, King Abdullah University of Science and Technology)

5. Danqing Huang**; Environmental Sciences and Engineering; Monitoring crop water use in the Al Jawf region from Landsat satellite data; (Start Date: Fall, 2016; Graduated: Fall, 2017; Current Position: Graduate Student, King Abdullah University of Science and Technology)

6. Ahmed Al Malki; Environmental Sciences and Engineering; Assessment of agricultural land use, water use and activity in Saudi Arabia; (Start Date: Spring, 2017; Graduated: Fall, 2017; Current Position: Graduate Student (deferred), King Abdullah University of Science and Technology)

7. Alejandra Pareto; Environmental Sciences and Engineering; Mapping and monitoring of tree water use in olive plantations; (Start Date: Fall 2018; Graduated: Fall 2019; Current Position: Graduate Student at King Abdullah University of Science and Technology)

8. Areej Alqarni; Environmental Sciences and Engineering; Big data analytics for precision agriculture; (Start Date: Fall 2019; Expected Graduation: Fall 2020; Current Position: Graduate Student at King Abdullah University of Science and Technology)

9. Sarah Kanee; Environmental Sciences and Engineering; Machine learning application for food security mapping; (Start Date: Fall 2019; Expected Graduation: Fall 2020; Current Position: Graduate Student at King Abdullah University of Science and Technology)

10. Paula Avendano; Environmental Sciences and Engineering; Monitoring drip-irrigation in olive trees via thermal remote sensing; (Start Date: Fall 2019; Expected Graduation: Fall 2020; Current Position: Graduate Student at King Abdullah University of Science and Technology)

11. Ahmed Bakhsh; Environmental Sciences and Engineering; Tracking water use in food production systems in Saudi Arabia; (Start Date: Fall 2019; Expected Graduation: Fall 2020; Current Position: Graduate Student at King Abdullah University of Science and Technology)

MS Thesis Committee:

1. James Berdahl (Advisor: Prof Sigurjon Jonsson); Earth Sciences and Engineering; Geological effects on lightning strike distributions; (Start Date: Fall, 2014; Graduated: Spring, 2016)

2. Anna Scott (Advisor: Prof Georgiy Stenchikov); Earth Sciences and Engineering; The intertropical convergence zone over the Middle East and North Africa: detection and trends; (Start Date: Fall, 2011; Graduated: Spring, 2013)

3. Kimberlee Baldry (Advisor: Prof Carlos Duarte); Marine Science and Engineering; The carbon biogeochemistry of the Red Sea and ecosystem engineered anomalies; (Start Date: Fall 2016; Graduated: Fall, 2017)

4. Bogdan Ilies (Advisor: Prof Mark Tester); Plant Sciences; In-field characterization of salt stress responses of chlorophylls a and b and carotenoid concentrations in leaves of Solanum pimpinellifolium; (Start Date: Fall 2017; Graduated Fall 2018)

Postdoc Supervision:

1. Name: Dr Ahmed El Kenawy
   Start Date: 2013
   Topic: Hydroclimatology of Saudi Arabia
   Departure Date: 2015
   Previous Institution Awarding Degree: University of Zaragoza, Spain.
   Current Position: Assistant Professor, Mansoura University, Egypt

2. Name: Dr Abdou El Magd
   Start Date: 2013
   Topic: Groundwater hydrogeology of the Saq aquifer system
   Departure Date: 2015
   Previous Institution Awarding Degree: Western Michigan University, USA
   Current Position: Assistant Professor, Suez Canal University, Egypt

3. Name: Raghuveer Jana
   Start Date: 2014
   Topic: Numerical modeling of subsurface soil moisture
   Departure Date: 2016
   Previous Institution Awarding Degree: Texas A&M, University
   Current Position: Research Scientist, Indian Institute of Science, Bengaluru

4. Name: Dr Ali Ershadi
   Start Date: 2014
   Topic: Evaporation modeling and monitoring
   Departure Date: Current
   Previous Institution Awarding Degree: University of New South Wales, Australia
   Current Position: Research Engineer, Australian National University, Australia

5. Name: Dr Umar Liaqat
   Start Date: 2016
   Topic: Agricultural systems modeling
   Departure Date: 2017
   Previous Institution Awarding Degree: Hangyang University, South Korea
   Current Position: Visiting Scientist, Hangyang University, South Korea

6. Name: Dr Yoann Malbeteau
   Start Date: 2017
   Topic: Water resources modeling
   Departure Date: 2019
   Previous Institution Awarding Degree: Université Paul Sabatier CESBIO
   Current Position: Assistant Professor, Université Mohammed VI Polytechnique, Morocco

7. Name: Dr Chunfeng Ma
   Start Date: 2018
   Topic: Soil moisture remote sensing
   Departure Date: Current
   Previous Institution Awarding Degree: University of Chinese Academy of Sciences, Beijing, China
   Current Position: Post Doc, KAUST

8. Name: Dr Yu-Hsuan Tu
   Start Date: 2019
   Topic: UAV monitoring and mapping with multispectral sensors for precision agriculture
   Departure Date: Current
   Previous Institution Awarding Degree: University of Queensland, Australia
   Current Position: Post Doc, KAUST

9. Name: Dr Bonny Stutsel
   Start Date: 2019
   Topic: Thermal UAV retrieval for precision agriculture
   Departure Date: Current
   Previous Institution Awarding Degree: University of Western Australia, Australia
   Current Position: Post Doc, KAUST

10. Name: Dr Jiale Jiang
    Start Date: 2019
    Topic: Scale issues and fusion of high-resolution satellite and UAV data

Departure Date: Current
Previous Institution Awarding Degree: China University of Geosciences
Current Position: Post Doc, KAUST

Research Scientist Supervised:

1. Name: Kasper Johansson
   Start Date: 2018
   Topic: Vegetation mapping and modeling
   Previous Institution Awarding Degree: University of Queensland, Australia
   Current Position: Research Scientist, King Abdullah University of Science and Technology

2. Name: Rasmus Houborg
   Start Date: 2013
   Topic: Water resources modeling
   Departure Date: 2017
   Previous Institution Awarding Degree: University of Copenhagen, Denmark
   Current Position: Senior Research Engineer, Planet, San Francisco, USA

3. Name: Jadoon Khan
   Start Date: 2014
   Topic: Water resources modeling
   Departure Date: 2016
   Previous Institution Awarding Degree: Université Catholique de Louvain, Belgium
   Current Position: Associate Professor at International Islamic University, Pakistan

4. Name: Liping Deng
   Start Date: 2013
   Topic: Water resources modeling
   Departure Date: 2016
   Previous Institution Awarding Degree: Iowa State University, USA
   Current Position: Professor, Guangdong Ocean University, Zhanjiang, China

5. Name: Umar Altaf
   Start Date: 2014
   Topic: Data assimilation and numerical modeling
   Departure Date: 2016
   Previous Institution Awarding Degree: Delft University of Technology, The Netherlands
   Current Position: Pilot Systems Manager, Water Desalination and Reuse Center, KAUST

UNIVERSITY OF NEW SOUTH WALES

Supervision at the University of New South Wales		
Primary Supervision – Honours	**Primary Supervision – PhD**	**Post Doc Supervision**
Completed: 10 In Progress: 0	Completed: 3 In Progress: 0	Total: 5

PhD Advisor:

1. Yi Liu; Civil and Environmental Engineering; Microwave remote sensing of the hydrological cycle; (Start Date: Spring, 2008; Graduated: Fall, 2011; Current Position: Assistant Professor, Nanjing University of Information Science & Technology (NUIST), China)

2. Kathryn Bormann; Climate Science; Snow hydrological modeling and observation in Australia; (Start Date: Spring, 2009; Graduated: Fall, 2011; Current Position: Scientist II at NASA Jet Propulsion Laboratory)

3. Ali Ershadi; Civil and Environmental Engineering; Remote sensing and modeling of evapotranspiration; (Start Date: Spring, 2010; Graduated: Fall, 2013; Current Position: Research Fellow at Australian National University)

Postdoc Supervised:

1. Name: Dr Yi Liu
   Start Date: 2012
   Topic: Global vegetation monitoring using microwave remote sensing
   Departure Date: 2014
   Previous Institution Awarding Degree: University of New South Wales, Australia
   Current Position: Assistant Professor, Nanjing University of Information Science & Technology (NUIST), China

2. Name: Dr Hoori Ajami
   Start Date: 2010
   Topic: Coupled aquifer-surface hydrological modeling with the PARFLOW system
   Departure Date: 2014
   Previous Institution Awarding Degree: University of Arizona
   Current Position: Assistant Professor, University of California Riverside

3. Dr Lixin Wang
   Start Date: 2009
   Topic: Ecohydrological investigations and stochastic process modeling
   Departure Date: 2011
   Previous Institution Awarding Degree: University of Virginia
   Current Position: Associate Professor, Indiana University-Purdue University Indianapolis (IUPUI)

4. Dr Xianhong Meng
   Start Date: 2009
   Topic: Regional climate modeling with the WRF system in the MDB
   Departure Date: 2011
   Previous Institution Awarding Degree: Chinese Academy of Science
   Current Position: Professor, Northwest Institute of Eco-Environment and Resources, Chinese Academy of Science

5. Dr Josiah Strauss
   Start Date: 2009
   Topic: Hydrological interactions and processes using stable water isotopes
   Departure Date: 2011
   Previous Institution Awarding Degree: Texas A&M University, College Station
   Current Position: Manager, Neptronic, Boulder, Colorado