

Andrew Juan Challinor

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Posts held

Dec 2010 –	Professor of Climate Impacts	ICAS, School of Earth and Environment, The University of Leeds
March – Nov 2010	Reader	ICAS, University of Leeds
May 2007 - Feb 2010	Lecturer	ICAS, The University of Leeds
Oct 2005 - April 2007	Senior Research Fellow	NCAS-Climate (formerly CGAM)
Jan 2000 - Sept 2005	Research Fellow	CGAM, Department of Meteorology and Dept. of Agriculture, The University of Reading

Education and qualifications

1996 -1999	PhD in Meteorology and Forest Micro-Climate	School of the Environment, The University of Leeds
1992 -1996	BSc Physics (European) Honours Class I	Department of Physics, The University of Leeds

Research interests

My work focusses principally on using climate modelling and process studies to understand food production and food security; treatments of uncertainty and managing risk; and climate-resilient pathways and adaptation. My career goal is to contribute significantly to the knowledge and policy base for sustainably strengthening the food security and health of populations vulnerable to climate variability and change. I do this by working with experts in a range of disciplines, from epidemiologists and ecologists to social scientists and economists.

Personal profile

- Lead Author for the UK Climate Change Risk Assessment 2017
- Lead Author on the ‘Food Production Systems and Food Security’ chapter of the Fifth Assessment report of the IPCC
- Project Leader for ‘Predictive technologies for climate-smart agriculture,’ part of the Climate Change, Agriculture and Food Security (CCAFS) programme funded by the CGIAR.
- “Food Availability” Theme Leader for the University of Leeds Food Hub
- Over fifty invited keynote seminars and talks for a diverse range of organisations, e.g. the OECD, DECC, The Royal Society, FAO, WCRP, Westminster Food & Nutrition Forum, the CGIAR, NERC, BBSRC, Chatham house, The Federation of Bakers and various universities, NGOs and schools.
- Leader and founding member of the Climate Impacts Group at the University of Leeds, which has approximately ten members funded from research proposals
- More than £14M of funding (over £3M as PI), from a diverse range of funders, including NERC, ESRC, BBSRC, CGIAR, DFID, DEFRA and a private donor.
- Member of the UK Government Climate and Development Knowledge Network Roster of Experts
- Serving member of the Open Panel of Experts of the WMO Commission for Climatology (OPACE)
- Member of the Editorial Boards of *Agricultural and Forest Meteorology* and *World Agriculture*
- Adviser on, and cited in, ‘The Rough Guide to Climate Change’, published by Rough Guides, Sept. 2006, Jan 2008 and Jan 2011
- Led the University of Leeds response to the Royal Society call for evidence on Biological approaches to enhance food-crop production, September 2008
- Research cited in Queen’s Anniversary Prize awarded to the Dept. of Meteorology, Reading, 2006
- Contributed to the Stern Review on the economics of climate change in 2006

Research grants 2009-2014

- CGIAR programme 'Climate change, agriculture and food security' (CCAFS) Project Leader (2014-ongoing), total value to Leeds \$420 per annum
- UK Technology and Strategy Board Developing project 2014-2015: "Breeding strategies for a variable climate" with Limagrain and Environmental Systems
- FP7 SPECS (Seasonal-to-decadal climate Prediction for the improvement of European Climate Services), 2012-2016, £215k, Co-I
- FP7 EUPORIAS (European Provision of Regional Impact Assessment on a Seasonal-to-decadal timescale), 2012-2016, £1.1M, Co-I
- BBSRC-funded contribution to FACCE MACSUR Knowledge Hub on Crop Modelling 2012-2015, £80k, Co-I
- BBSRC project "Effects of environmental change: increased nematode pest status on UK crops," 2012-2016, £880k, Co-I
- Lloyd's Science of Risk runner up in the category of Climate Change, 2010: Challinor et al. (2010)
- ESPA Partnership and Project Development grant 2010 "Enhancing water for food: poverty reduction through improved management of ecosystem services for sustainable food production in sub-Saharan Africa," Co-I
- Private donor grant of £250k for a Fellowship in Sustainable Agriculture for Global Food Security 2010-2013, awarded following a proposal by a team of three academics
- BBSRC project "Sustainable pollination services for UK crops" (2011-2013) Co-I, £674k for Leeds component
- China-UK Sustainable Agriculture Innovation Network (SAIN) project "Addressing vulnerabilities and building capacity for adaptation of agriculture to climate change in China" 2010-2013, PI for Leeds component, £49k
- NERC consortium grant PI 2009-2014: End-to-end quantification of uncertainty for impacts prediction (EQUIP). Total value £1.4M
- CGIAR/ESSP programme 'Climate change, agriculture and food security' (CCAFS) Theme Leader, total value to Leeds £434k for the first three-year component
- University of Leeds Africa College Co-I (2010-2014), £1.4M over six years
- ESRC Centre for Climate Change Economics and Policy 2008-13 Co-Investigator. Total value £5.5M
- NERC/ESRC/DFID ESPA project 2009-2010 "Using climate change information in ecosystems services for poverty alleviation research in China." Co-I, Total value at Leeds: £150k
- CGIAR Agriculture and Health Research Platform project 2009-2011, 230k USD as PI on project: "Measuring, predicting and adapting to aflatoxin risk under climate variability and change"
- NERC QUEST project, Co-I, 2007-2009 "Global scale impacts of climate change: a multi-sectoral analysis." £124k

Scientific leadership and collaboration

Examples include:

- Editorial Boards of Agricultural and Forest Meteorology and World Agriculture
- Lead Author on national (CCRA) and international (IPCC) climate change assessments
- Leader and founding member of the Climate Impacts Group at the University of Leeds
- Research Director for the University of Leeds Africa College Partnership (2010-2014)
- Management Team for Climate Change, Agriculture and Food Security (2009-2014)
- Founding member of the Crops and Climate Group in the Depts of Agriculture and Meteorology, University of Reading
- Instigator and co-organiser of the Royal Society Discussion Meeting held in April 2005: 'Food crops in a changing climate.' Co-editor of the proceedings of that meeting
- Reviewed papers for a range of journals including Science, Global Change Biology, Journal of Climate, Journal of Applied Meteorology [and climatology], Agricultural and Forest Meteorology,

Climatic Change, Philosophical Transactions of the Royal Society B, Theoretical and Applied Climatology, European Journal of Agronomy, Geophysical Research Letters, Environmental Research Letters, International Journal of Applied Earth Observation and Geoinformation, Climate Research, Annals of Applied Botany, Ecology Letters, the International Journal of Ecology and Development and the Journal of the Royal Society Interface

Communicating science to the public and policymakers

A number of my professional roles include routes into policy (e.g. IPPC, CDKN, CCRA, Foresight). Further communications work includes:

Numerous television appearances, including ITN six and ten o'clock news on Monday 31st March, 2014; and BBC News Channel live on the same day.

Radio commentaries, e.g. multiple appearances on BBC Radio 4 Farming today, Radio Leeds and Radio 1.

Press articles and quotes (e.g. The Telegraph 8th October 2010; The Guardian 18th September 2010) and online reports (e.g. Daily Mail, USA Today, Bloomberg 7th Oct. 2010; Nature climate change 26th October 2010; Wired Science 6th May 2011)

Adviser on, and cited in, 'The Rough Guide to Climate Change', 2011, 2008 and 2006

Numerous public talks, e.g. Royal Meteorological Society, Forum 2000, The Ilkley literature festival, and local schools.

Refereed publications

Over sixty refereed publications since 2003. Full metrics at <http://www.researcherid.com/rid/C-4992-2008>

Refereed publications in primary journals

Challinor, A. J., Parkes, B. and Ramirez-Villegas, J. (2015), Crop yield response to climate change varies with cropping intensity. *Global Change Biology*, doi: 10.1111/gcb.12808

Asseng S, Ewert F, Martre P, Rötter R.P, Lobell D.B, Cammarano D, Kimball B.A, Ottman M.J, Wall G.W, White J.W, Reynolds M.P, Alderman P.D, Prasad P.V.V, Aggarwal P.K, Anothai J, Basso B, Biernath C, Challinor A.J, De Sanctis G, Doltra J, Fereres E, Garcia-Vila M, Gayler S, Hoogenboom G, Hunt L.A, Izaurralde R.C, Jabloun M, Jones C.D, Kersebaum K.C, Koehler A-K, Müller C, Naresh Kumar S, Nendel C, O'Leary G, Olesen J.E, Palosuo T, Priesack E, Eyshi Rezaei E, Ruane A.C, Semenov M.A, Shcherbak I, Stöckle C, Stratonovitch P, Streck T, Supit I, Tao F, Thorburn P.J, Waha K, Wang E, Wallach D, Wolf J, Zhao Z and Zhu.Y (2014) Rising temperatures reduce global wheat production, *Nature Climate Change*, 5(2): 143-147

Watson, J, Challinor, A.J., Fricker, T.E and Ferro. A.T. (2014), Comparing the effects of calibration and climate errors on a statistical crop model and a process-based crop model, *Climatic Change*, 1-17

Iizumi T, Luo JJ, Challinor AJ, Sakurai G, Yokozawa M, Sakuma H, Brown ME, Yamagata T. (2014) Impacts of El Niño Southern Oscillation on the global yields of major crops, *Nat Commun* 5

Wesselink, A.; Challinor, A.J.; Watson, J.; Beven, K.; Allen, I.; Hanlon, H.; Lopez, A.; Lorenz, S.; Otto, F.; Morse, A.; Rye, C.; Saux-Picard, S.; Stainforth, D and Suckling, E (2014) Equipped to deal with uncertainty in climate and impacts predictions: lessons from internal peer review, *Climatic Change*: 1-14

Martre, P., Wallach, D., Asseng, S., Ewert, F., Jones, J. W., Rötter, R. P., Boote, K. J., Ruane, A. C., Thorburn, P. J., Cammarano, D., Hatfield, J. L., Rosenzweig, C., Aggarwal, P. K., Angulo, C., Basso, B., Bertuzzi, P., Biernath, C., Brisson, N., Challinor, A. J., Doltra, J., Gayler, S., Goldberg, R., Grant, R. F., Heng, L., Hooker, J., Hunt, L. A., Ingwersen, J., Izaurralde, R. C., Kersebaum, K. C., Müller, C., Kumar, S. N., Nendel, C., O'leary, G., Olesen, J. E., Osborne, T. M., Palosuo, T., Priesack, E., Ripoche, D., Semenov, M. A., Shcherbak, I., Steduto, P., Stöckle, C. O., Stratonovitch, P., Streck, T., Supit, I., Tao, F., Travasso, M., Waha, K., White, J. W. and Wolf, J. (2014), Multimodel ensembles of wheat growth: many models are better than one. *Global Change Biology*

Dixon, JL; Stringer, LC; Challinor, AJ (2014), "Farming system evolution and adaptive capacity: insights for adaptation support", *Resources* 2014, 3(1), 182-214

- Thornton, P. K., Ericksen, P. J., Herrero, M. and Challinor, A. J. (2014), Climate variability and vulnerability to climate change: a review, *Global Change Biology*, 20: 3313–3328
- Polce, C., Garratt, M. P., Termansen, M., Ramirez-Villegas, J., Challinor, A. J., Lappage, M. G., Boatman, N. D., Crowe, A., Endalew, A. M., Potts, S. G., Somerwill, K. E. and Biesmeijer, J. C. (2014), Climate-driven spatial mismatches between British orchards and their pollinators: increased risks of pollination deficits. *Global Change Biology*, 20: 2815–2828
- Challinor AJ; Watson J; Lobell DB; Howden SM; Smith DR; Chhetri N (2014) A meta-analysis of crop yield under climate change and adaptation, *Nature Climate Change* 4 (4) pages 287 – 291
- Ramirez-Villegas, J.; Challinor, A.J.; Thornton, P.K.; Jarvis, A (2013) Implications of regional improvement in global climate models for agricultural impact research, *Environ. Res. Lett.* **8** 024018
- Koehler, A.K., Challinor, A.J., Hawkins, E (2013). Influences of increasing temperature on Indian wheat: quantifying limits to predictability *Environ. Res. Lett.* **8** 034016
- Vermeulen, S. J., A. J. Challinor, P. K. Thornton, B. M. Campbell, N. Eriyagama, J. M. Vervoort, J. Kinyangi, A. Jarvis, P. Läderach, J. Ramirez-Villegas, K. J. Nicklin, E. Hawkins and D. R. Smith (2013). Addressing uncertainty in adaptation planning for agriculture *PNAS* Vol. 110, Issue 21, 8357–8362
- Asseng, S., F. Ewert, C. Rosenzweig, J. W. Jones, J. L. Hatfield, A. C. Ruane, K. J. Boote, P. J. Thorburn, R. P. Rötter, D. Cammarano, N. Brisson, B. Basso, P. Martre, P. K. Aggarwal, C. Angulo, P. Bertuzzi, C. Biernath, A. J. Challinor et al. (2013). Uncertainty in simulating wheat yields under climate change. *Nature Climate Change* 3: 827-832
- Iizumi T, Sakuma H, Yokozawa M, Luo JJ, Challinor AJ, Brown ME, Sakurai G & Toshio Yamagata J (2013) Prediction of seasonal climate-induced variations in global food production, *Nature Climate Change*, doi: 10.1038/nclimate1945
- Vanbergen et al. (2013) Threats to an ecosystem service: pressures on pollinators. *Frontiers in Ecology and the Environment*. Vol. 11 Issue: 5 Pages: 251-259.
- Hawkins, E., Fricker, T. E., Challinor, A. J., Ferro, C. A. T., Ho, C. K. and Osborne, T. M. (2013), Increasing influence of heat stress on French maize yields from the 1960s to the 2030s. *Global Change Biology*, 19: 937–947
- Challinor, A. J., M. Stafford Smith, P. K. Thornton (2013). Use of agro-climate ensembles for quantifying uncertainty and informing adaptation. *Agricultural and Forest Meteorology* 170, Pages 2-7
- Hawkins, E., Osborne, T.M., Kit Ho, C. and Challinor, A.J. (2013). Calibration and bias correction of climate projections for crop modelling: An idealised case study over Europe. *Agric. Forest Meteorol.* 170, 32-46
- Watson, J. & Challinor, A.J. (2013). The relative importance of rainfall, temperature and yield data for a regional-scale crop model. *Agricultural and Forest Meteorology*, Vol. 170, pp. 47-57
- Bergamaschi H; da Costa SMS; Wheeler TR; Challinor AJ (2013) Simulating maize yield in sub-tropical conditions of southern Brazil using Glam model, *Pesquisa Agropecuaria Brasileira*, 48, pp.132-140
- Hui J; Er-da L; Wheeler TR; et al (2013) Climate Change Modelling and its Roles to Chinese Crops Yield, *Journey of Integrative Agriculture* Volume: 12 Issue: 5, pp. 892-902
- Ramirez-Villegas, J. and A J. Challinor (2012). Assessing relevant climate data for agricultural applications. *Agricultural and Forest Meteorology* 161, 15 August 2012, Pages 26–45
- Simelton, E., E. D. G. Fraser, M. Termansen, T. G. Benton, S. N. Gosling, A. South, N. W. Arnell, A. J. Challinor, A. J. Dougill and P. M. Forster (2012). The socioeconomics of food crop production and climate change vulnerability: a global scale quantitative analysis of how grain crops are sensitive to drought" *Food Security: Volume 4, Issue 2* (2012), Page 163-179
- Vermeulen, S. J., Aggarwal P.K., Ainslie A, Angelone C, Campbell B.M, Challinor A.J, Hansen J.W, Ingram J.S.I, Jarvis A, Kristjanson P, Lau C, Nelson G.C, Thornton P.K, Wollenberg E (2012). Options for support to agriculture and food security under climate change. *Environmental Science & Policy* 15 (1) 136–144

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- Hollaway, M. J., S. R. Arnold, A. J. Challinor, and L. D. Emberson (2011). Intercontinental trans-boundary contributions to ozone-induced crop yield losses in the Northern Hemisphere. *Biogeosciences*, 9, 1–22, 2012
- Thornton, P. K., P. G. Jones, P. Ericksen and A. J. Challinor (2010) Agriculture and food systems in sub-Saharan Africa in a four-plus degree world. *Phil. Trans. Roy. Soc .A*. 369 117–136
- Challinor, A. J., E. S. Simelton, E. D. G. Fraser, D. Hemming and M. Collins(2010) Increased crop failure due to climate change: assessing adaptation options using models and socio-economic data for wheat in China. *Environ. Res. Lett.* 5 (2010) 034012
- Li, S., T. Wheeler, A. Challinor, E. Lin, H. Ju and Y. Xu (2010). The observed relationships between wheat and climate in China. *Agricultural and Forest Meteorology* 150 (11), 1412-1419
- Li, S., T. Wheeler, A. Challinor, E. Lin, H. Ju and Y. Xu (2010). Simulating the Impacts of Global Warming on Wheat in China Using a Large Area Crop Model. *Acta Meteorologica Sinica* 24 (1) 123-135
- Challinor, A. J., T. Osborne, A. Morse, L. Shaffrey, T. Wheeler, H. Weller (2009). Methods and resources for climate impacts research: achieving synergy. *Bulletin of the American Meteorological Society*, 90 (6), 825-835.
- Challinor, A. J., F. Ewert, S. Arnold, E. Simelton and E. Fraser (2009). Crops and climate change: progress, trends, and challenges in simulating impacts and informing adaptation. *Journal of Experimental Botany* 60 (10), 2775-2789
- Challinor, A. J., T. R. Wheeler, D. Hemming and H. D. Upadhyaya (2009). Ensemble yield simulations: crop and climate uncertainties, sensitivity to temperature and genotypic adaptation to climate change. *Climate Research*, 38 117-127
- Challinor, AJ (2009), Towards the development of adaption options using climate and crop yield forecasting at seasonal to multi-decadal timescales, *Environmental Science and Policy*, Volume:12, Issue: 4, pp 453-465
- Challinor, A. J. and T. R. Wheeler (2008). Use of a crop model ensemble to quantify CO₂ stimulation of water-stressed and well-watered crops. *Agric. For. Meteorol*, 148 1062-1077
- Challinor, A. J. and T. R. Wheeler (2008). Crop yield reduction in the tropics under climate change: processes and uncertainties. *Agric. For. Meteorol*, 148 343-356
- Challinor, A. J., T. R. Wheeler, C. Garforth, P. Craufurd and A. Kassam (2007). Assessing the vulnerability of food crop systems in Africa to climate change. *Climatic Change*, 83 381-399
- Challinor, A. J., T. R. Wheeler, P. Q. Craufurd, C. A. T. Ferro and D. B. Stephenson (2007). Adaptation of crops to climate change through genotypic responses to mean and extreme temperatures. *Agriculture, Ecosystems and Environment*, 119 (1-2) 190-204
- Bergamaschi, H., T. R. Wheeler, A. J. Challinor, F. Comiran and B. M. Heckler (2007). Relationships between maize yield and rainfall on different temporal and spatial scales in subtropical Southern Brazil. *Pesquisa Agropecuária Brasileira*, 42 (5) 603-613
- Osborne, T. M., D. M. Lawrence, A. J. Challinor, J. M. Slingo, T. R. Wheeler (2006). Development and assessment of a coupled crop-climate model. *Global Change Biology* 13 169-183
- Hansen, J., A. J. Challinor, A. Ines, T. R. Wheeler and V. Moron (2006). Translating climate forecasts into agricultural terms: advances and challenges. *Climate Research*, 33 (3) 27-41

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- Challinor, A. J., T. R. Wheeler, P. Q. Craufurd, and J. M. Slingo (2005). Simulation of the impact of high temperature stress on annual crop yields. *Agric. For. Meteorol*, 135 (1-4) 180-189
- Challinor, A. J., T. R. Wheeler, J. M. Slingo and D. Hemming (2005). Quantification of physical and biological uncertainty in the simulation of the yield of a tropical crop using present day and doubled CO₂ climates. *Phil. Trans. Roy. Soc. B* 360 (1463) 1981-2194
- Challinor, A. J., J. M. Slingo, T. R. Wheeler and F. J. Doblas-Reyes (2005). Probabilistic hindcasts of crop yield over western India. *Tellus* 57A 498-512
- Challinor, A. J., T. R. Wheeler, J. M. Slingo, P. Q. Craufurd and D. I. F. Grimes (2005). Simulation of crop yields using the ERA40 re-analysis: limits to skill and non-stationarity in weather-yield relationships. *Journal of Applied Meteorology* 44 (4) 516-531
- Slingo, J. M., A. J. Challinor, B. J. Hoskins and T. R. Wheeler (2005). Food crops in a changing climate. *Phil. Trans. R. Soc. B* 360 (1463) 1983-1989
- Huntingford, C., F. H. Lambert, J. H. C. Gash, C. M. Taylor and A. J. Challinor (2005). Aspects of climate change prediction relevant to crop productivity. *Phil. Trans. R. Soc. B* 360 (1463), 1999-2009
- Challinor, A. J., T. R. Wheeler, J. M. Slingo, P. Q. Craufurd and D. I. F. Grimes (2004). Design and optimisation of a large-area process-based model for annual crops. *Agricultural and Forest Meteorology*, 124, (1-2) 99-120
- Osborne, T. M., D. M. Lawrence, J. M. Slingo, A. J. Challinor and T. R. Wheeler (2004). Influence of vegetation on the local climate and hydrology in the tropics: sensitivity to soil parameters. *Climate Dynamics*, 23, 1, pg(s). 45-61
- Challinor, A. J., J. M. Slingo, T. R. Wheeler, P.Q. Craufurd and D.I.F. Grimes (2003). Toward a Combined Seasonal Weather and Crop Productivity Forecasting System: Determination of the Working Spatial Scale. *Journal of Applied Meteorology*, 42 (2) 175-192

Perspectives and scientific debate: letters, commentaries and refereed publications

- Challinor A.J, Martre P, Asseng S, Thornton P & Ewert F (2014) Making the most of climate impacts ensembles, *Nature Climate Change*, 4, pp77–80
- Challinor, A. J. (2011). Forecasting food. *Nature Climate Change Volume: 1 Issue: 2 Pages: 103-104*
- Vermeulen, S.J.; Aggarwal, P.K.; Ainslie, A.; Angelone, C.; Campbell, B.M.; Challinor, A.J.; Hansen, J.W.; Ingram, J.S.I.; Jarvis, A.; Kristjanson, P.; Lau, C.; Nelson, G.C.; Thornton, P.K.; Wollenberg, E. 2010. Outlook for knowledge, tools and action. *Climate change, agriculture and food security*, report No. 3
- Challinor, A. J. (2011) “Commentary on Chapter 2.1: Climate Change Projections in Some Asian Countries” in *Climate Change Adaptation and International Development*. (Eds. R. Fujikura and M. Kawanishi). Earthscan ISBN 978-1-84971-152-4. p. 63-65
- Porter, J. R., A. Challinor, A. F. Ewert et al. (2010). Food Security: Focus on Agriculture. *Science* 328 (5975) 172-173
- Fraser, E. D. G., K. Hubacek, E. Simelton, C. Quinn and A. Challinor (2009). Food security, Malthus, and the “Perfect Storm”: putting current debates about agricultural productivity and climate change into an historic context. *SRI Paper 19*, available at www.see.leeds.ac.uk/research/sri/working_papers
- Challinor, A. J. (2008). Towards a Science of Adaptation that Prioritises the Poor. *IDS Bulletin* 39 (4)
- Challinor, A. J., T. R. Wheeler, J. M. Slingo, T. M. Osborne (2006). Combining weather and crop yield forecasting for seasonal to multi-decadal prediction. *Inside Agriculture* 1 (1) 40-45
- Challinor, A. J., T. R. Wheeler, J. M. Slingo, T. M. Osborne (2005). Climate variability, climate change and crop productivity in the tropics. *Outlooks on Pest Management* 16, pgs. 71-74
- Challinor A.J., T. R. Wheeler, J. M. Slingo, T. M. Osborne, D. I. F. Grimes and P. Q. Craufurd, 2004. The Development of combined weather and crop yield forecasting systems for the tropics. *CLIVAR Exchanges*, 9 (14) 19-20
- Challinor, A. J., T. R. Wheeler, J. M. Slingo, P. Q. Craufurd and D. I. F. Grimes (2003): The development of integrated crop/weather forecasting systems. In *Crop and rangeland monitoring in Eastern Africa*

for Early Warning and Food Security (Proceedings of an international workshop organised by JRC-FAO Nairobi, 28th-30th January 2003)

Book chapters

- Miles, L. J., A. C. Campbell, T. R. Wheeler, A. J. Challinor (2011). Chapter 7: Potential impacts of climate change on terrestrial ecosystem services in China, in C. A. I. Dianxiong, Z. H. A. Yan, P. Bubb and Q Zhang (Eds) *Ecosystem Services for Poverty Alleviation*, CAAS, Beijing (Chinese Science Press)
- Misselhorn, A., A. Challinor, P. Thornton, J. W. Jones, R. Schaldach and V. Plocq-Fichelet (2010). Chapter 20: Surprises and Possibilities. In J. Ingram, P. Ericksen and D. Liverman (Eds) *Food Security and Global Environmental Change*. Earthscan ISBN 9781849711289
- Challinor, A. J. and K. Stigter (2010). Expert Systems. In Kees Stigter (Ed.), *Applied Agrometeorology* Springer, Heidelberg p. 885-892
- Falloon, P., P. Smith, R. Betts, C. D. Jones, J. Smith, D. Hemming and A. J. Challinor (2009). Carbon Sequestration and Greenhouse Gas Fluxes from Cropland Soils – Climate Opportunities and Threats. In S.N. Singh (Ed.), *Climate Change and Crops*, Environmental Science and Engineering, Springer Verlag, Berlin Heidelberg, p. 81-111
- Wheeler T., A. Challinor, T. Osborne, J. Slingo (2007). Development of a combined crop and climate forecasting system for seasonal to decadal predictions. In M. V. K. Sivakumar and J. Hansen (Eds) *Climate Prediction and Agriculture: Advances and Challenges*, Springer, Berlin, p. 31-39
- Challinor, A. J., T. R. Wheeler, T. M. Osborne and J. M. Slingo (2006). Assessing the vulnerability of crop productivity to climate change thresholds using an integrated crop-climate model. In: *Avoiding Dangerous Climate Change*. Schellnhuber, J., W. Cramer, N. Nakicenovic, G. Yohe and T. M. L. Wigley (Eds). Cambridge University Press. Pgs 187-194
- Wheeler, T. R., A. J. Challinor, J. M. Slingo and B. J. Hoskins, Eds (2005). Food crops in a changing climate. *Papers of Royal Society Discussion Meeting*. *Phil. Trans. Roy. Soc. B.* 360 (1463) 1981-2194

Academic leadership and teaching

- Designer and programme manager of MSc in Climate Systems Science, Leeds 2010 – 2011
- MSc Module ‘Climate Change: Impacts and Adaptation’ as part of MSc in Sustainability (Climate Change)
- External examiner for postgraduate students from the universities of Liverpool, Wageningen, Faisalabad, Queensland and the Institut Pierre-Simon Laplace, Paris.
- Development of an international crop modelling community through maintenance of a website for access to the crop simulation model GLAM, which I jointly developed and continue to develop. The site has nearly 100 registered users and we regularly receive requests for new accounts
- Regular supervision of Masters and Undergraduate project dissertations
- Supervised five PhD students to completion.