

<b>Alan JENKINS</b>		
Function	Science Director	
Institution	Centre for Ecology & Hydrology, <a href="#">CEH</a>	
Email	<a href="mailto:jinx@ceh.ac.uk">jinx@ceh.ac.uk</a>	
Phone	+44 1491 838800	
Key words	Water resources assessment, water quality, hydrology	
<b>Areas of expertise</b>		
<p>Current post is Science Director tasked with ensuring science strategy delivery; ensuring operational sustainability; encouraging academic links; developing stakeholder links and funding opportunities; driving impact. I have direct responsibility for management of science activity and strategic planning for CEH. This comprises 6 core areas; <b>Water Resources, Hydro-climate Extremes, Pollution, Atmospheric Chemistry and Effects, Soils and Land Use</b> and <b>Biodiversity</b>. Total resources managed include c.350 science staff with a national and international remit.</p> <p>Current advisory and committee roles include ;</p> <ul style="list-style-type: none"> <li>• Vice Chairman of UNESCO Intergovernmental Hydrology Programme representing Region 1 (Europe and North America)</li> <li>• Member of Science Advisory Panel, Alberta Environment and Parks, Canada.</li> <li>• Chair of UK National Committee of UNESCO Intergovernmental Hydrology Programme</li> <li>• Hydrological Advisor to UK Government with WMO</li> <li>• Member of WMO Executive Council Task Force on Water</li> <li>• Leader of WMO Task Team for HydroSOS: the Global Hydrological Status and Outlook System</li> <li>• UK representative on the European Network of Water Research Institutes (EURAQUA)</li> <li>• Co-Director of Lancaster Environment Centre, Lancaster University</li> <li>• Member of UK National Hazards Partnership, Steering Committee</li> <li>• Member of Scottish Government Centre for Research in Water, Programme Steering Group</li> </ul>		
<b>Professional Background</b>		
<p>Alan's early research focused on water quality modelling. He developed process-based models describing the dynamics of faecal indicator bacteria and for assessing the impacts of air pollution on soils and surface waters. He has been involved in large-scale ecosystem manipulation experiments around the world and initiated and coordinated the CLIMEX project which enclosed a whole forested catchment within a greenhouse to increase the temperature and CO<sub>2</sub> and assess the biogeochemical impacts.</p> <p>Since 2000, he has focused on hydrology and water resources research and in particular the application of models, methods and data to address hydro-meteorological problems and underpin hydroclimate services. He drove the development of the UK Hydrological Outlook - now providing</p>		

water resource assessments three months into the future: alerting the public, responders and resource managers to likely changes in river flows and groundwater resources (<https://www.hydoutuk.net/>). He conceived and initiated the COSMOS- UK soil moisture monitoring system - providing unique and essential information across the country in near-real time for research and for flood forecasters and water resource managers (<https://cosmos.ceh.ac.uk/>).

He has extended several hydro-climate services concepts into the Indian continent including the COSMOS-India soil moisture monitoring system and the development of modelling approaches to environmental flow assessment, flood estimation and water resources assessment (<https://cosmos-india.org/>).

Most recently he conceived and initiated the WMO Global Hydrological Summary and Outlook System (HydroSOS): taking advantage of available hydrological data and hydrological and meteorological models to provide essential information around the globe to support sustainable development of water resources and increase resilience to hydro-meteorological hazards (<https://public.wmo.int/en/our-mandate/what-we-do/application-services/hydrosos>).

**116 ISI journal papers published with an h-index of 32 and 3700 total citations. Over 200 reports to customers and stakeholders.**

Lu, Y., Zhang, Y., Cao, X., Wang, C., Wang, Y., Zhang, M., Ferrier, R.C., **JENKINS, A.**, Yuan, J., Bailey, M.J., Chen, D., Tian, H., Li, H., von Weizsacker, E. and Zhang, Z. (2019). Forty years of reform and opening up: towards a sustainable path of China? *Science Advances* 5 :eaau9413.

Prudhomme, C., Hannaford, J., Harrigan, S., Boorman, D., Knight, J., Bell, V., Jackson, C., Svensson, C., Parry, S., Bachiller-Jareno, N., Davies, H., Davis, R., Mackay, J., McKenzie, A., Rudd, A., Smith, K., Bloomfield, J., Ward, R., **JENKINS, A.**, (2017) Hydrological Outlook UK: an operational streamflow and groundwater level forecasting system at monthly to seasonal time scales. *Hydrological Sciences Journal* (2017) pp 1-16

Shuzhong, G., **JENKINS, A.**, Gao, S-J., Lu, Y., Li, H., Li, Y., Ferrier, R.C., Bailey, M., Wang, Y., Zhang, Y., Qi, X., Ding, L., Daniell, T., Williams, R., Hannaford, J., Acreman, M., Kirk, S., Liu, H., Liu, Z., Luo, L., Yan, D., Liu, X., Yu, F., Wang, D., Zhang, B., Ding, A., Xie, X., Liu, J., Ma, C., Jobson, A. (2017) Ensuring water resource security in China; the need for advances in evidence-based policy to support sustainable management. *Environmental Science and Policy* 75: 65-69

Holden, J., Haygarth, P. M., Dunn, N., Harris, J., Harris, R. C., Humble, A., **JENKINS, A.**, MacDonald, J., McGonigle, D. F., Meacham, T., Orr, H. G., Pearson, P. L., Ross, M., Sapiets, A., Benton, T. (2017) Water quality and UK agriculture: challenges and opportunities. *Wiley Interdisciplinary Reviews: Water*, 4 (2), e1201. 16, pp.

Evans, J.G., Ward, H.C., Blake, J.R., Hewitt, E.J., Morrison, R., Fry, M., Ball, L.A., Doughty, L.C., Libre, J.W., Hitt, O.E., Rylett, D., Ellis, R.J., Warwick, A.C., Brooks, M., Parkes, M.A., Wright, G.M.H., Singer, A.C., Boorman, D.B., **Jenkins, A.** (2016) Soil water content in southern England derived from a cosmic-ray soil moisture observing system - COSMOS-UK. *Hydrological Processes*, 30 (26), 4987-4999. 10.1002/hyp.10929

Wrona, F., Johansson, M., Culp., **JENKINS, A.**, Mard, J., Myers-Smith, I., Prowse, T., Vincent, W. and Wookey, P. (2016) Transitions in Arctic ecosystems: Ecological implications of a changing hydrological regime. *Journal of Geophysical Research: Biogeosciences* 121, 650 – 674. (doi:10.1002/2015JG003133)

Jarvie, H.P., Sharpley, A.N., Flaten, D., Kleinman, P.J.A., **JENKINS, A.**, Simmons, T. (2015) The Pivotal Role of Phosphorus in a Resilient Water-Energy-Food Security Nexus. *Journal of Environmental Quality*. (10.2134/jeq2015.01.0030).

Lu, Y., **JENKINS, A.**, Ferrier, R.C., Bailey, M., Gordon, I.J., Song, S., Huang, J., Jia, S., Zhang, F., Liu, X., Feng, Z. and Zhang, Z. (2015) Addressing China's Grand Challenge of Achieving Food Security Whilst Ensuring Environmental Sustainability. *Science Advances*, 1 (e1400039).

Lu, Y., Song, S., Wang, R., Liu, Z., Meng, J., Sweetman, A.J., **JENKINS, A.**, Ferrier, R.C., Li, H., Luo, W. and Wang, T. (2015) Impacts of Soil and Water Pollution on Food Safety and Health Risks in China. *Environment International*, 77, 5-15.

Huntingford, C., Marsh, T., Scaife, A.A., Kendon, E.J., Hannaford, J., Kay, A.L., Lockwood, M., Prudhomme, C., Reynard, N.S., Parry, S., Lowe, J.A., Screen, J.A., Ward, H.C., Roberts, M., Stott, P.A., Bell, V.A., Bailey, M., **JENKINS, A.**, Legg, T., Otto, F.E.L., Massey, N., Schaller, N., Slingo, J. and Allen, M.R. (2014) Potential influences on the United Kingdom's floods of winter 2013/14. *Nature Climate Change*, 4, 769-777. (10.1038/NCLIMATE2314).