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|  | CSIRO_Grad_RGB_hr.jpgDr Francis Chiew – CSIRO  Phone: +61 439987877  E-mail: francis.chiew@csiro.au |
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|  | Profile Summary  Dr Francis Chiew has 30 years of experience in research, teaching and consulting, and in science leadership and people and project management. Francis joined CSIRO as a Science Leader in Canberra in 2006, after a 15-year academic career at the University of Melbourne. In the past ten years, Francis has led 30–40 hydrologists working on water resources assessment, forecasting and prediction, climate change adaptation, and integrated basin management, in projects totaling more than AUD$10m per year.  Francis is highly regarded internationally for his specialist expertise in hydroclimate and water resources and inter-disciplinary research. Francis has received various awards including the 2022 Volker Medal from the International Association of Hydrological Sciences (and UNESCO and WMO) for outstanding contributions to hydrology, particularly in the application of research for the benefit of society. Francis delivered the 2023 Engineers Australia Munro Oration reflecting on decades of research and practice in climate change and water resources  Francis’ research is widely adopted and cited (more than 20,000 Google Scholar citations and h-index of 73). Francis collaborates and engages strongly with universities, government and industry, and the research that Francis and his team does has a direct path to impact informing water resources planning and adaptation in Australia and globally.  Francis is a member of several global and national water expert committees including lead author of the IPCC AR5 and AR6 Assessment Reports. Francis is also active in converting research outcomes into modelling tools and guidelines for the water industry. More recently, Francis has led high impact climate and water modelling initiatives and water resources assessments in Australia, and collaborative projects and consultancies in South Asia, China and South America.  Qualifications and Training   * Ph.D. in Hydrology (Integrated surface and groundwater modelling) (University of Melbourne, 1991). * Bachelor of Engineering (First Class Honours, Civil Engineering) (University of Melbourne, 1986).   Professional Work Experience  **Period Organisation Position**  2006–Present CSIRO Senior Principal Research Scientist  [Science Leader, Program Leader, Group Leader]  1991–2006 University of Melbourne Associate Professor, Senior Research Fellow  Key Achievement and Activities   * Hydroclimate projects – Victorian Water and Climate Initiative (2017–2024), Earth Systems and Climate Change Hub Water Futures (2016–2020), Hydroclimate storylines for the Murray-Darling Basin (2019–2020), Water Information Research and Development Alliance (2008–2016), South Eastern Australia Climate Initiative (2005–2012). * Projects in the Murray-Darling Basin – Murray-Darling Water and Environment Research Program (2021–2025), Evaluation of drivers of declining flows in the northern Basin (2021–2022), Assessment of potential impact of climate change and catchment runoff on relaxed constraints projects (2021), Lower Lakes independent science review (2019–2020), Murray-Darling Basin Sustainable Yields (2007–2008, 2023–2025). * International projects – Climate change impact on water in South Asia, CSIRO-China projects on climate change, water forecasting and Mekong-Lancang Basin, Tacna (Peru) drought management plan, regional and global trends in water and energy balance, regional and global water modelling. * Professional Roles – CSIRO Science Leader (2006–2012), Deputy Director of CRC for Catchment Hydrology (2004–2005). * International Scientific Roles – IPCC AR6 Lead Author (2018–2022), IPCC AR5 Lead Author (2000–2014), UNESCO/WMO/EU expert committees on drought, hydrological modelling, global water modelling, climate impact on water, hydrologic trend detection. * Editorial/Review Roles – Associate Editor of Hydrological Sciences Journal, Academic Editor of Water, Australian Research Council Reader. * Personal Achievement Awards – 2023 Munro Oration, 2022 Volker Medal, 2009 MSSANZ Biennial Medal, 2004 Tison Medal. * Major role in Team Awards – 2019 AWA Industry Innovation Award, 2018 SA Water Innovation Award, 2008 & 2018 CSIRO Chairman’s Medal, 2016 CSIRO Impact from Science Award, 2009 & 2013 & 2017 Eureka Award Finalist. * Science leadership, business development, and research and people management (led 30–40 scientists and project staff in CSIRO in the past ten years in various research management roles]. * Academic teaching and supervision (hydrology and engineering lecturing for more than 10 years at University of Melbourne, supervised more than 15 PhDs to completion and over 40 Masters and honours research projects). * Consultancy and science and industry reviews in hydroclimate, hydrological modelling, water resources assessment, climate change impact and adapation, and urban stormwater. * Developed and championed key hydrological modelling products for the Australian water industry (RRL, SCL, TREND, NSFM). * Published more than 300 refereed papers (Google Scholar citations of more than 20,000 and h-index of 73, Researcher ID citations of more than 10,000 and h-index of 56, half the papers involve inter-disciplinary partnership, a quarter of the papers involve international collaboration).   Selected Publications  [Google Scholar: <http://scholar.google.com.au/citations?user=oP-jgdkAAAAJ&hl=en>]  [Web Of Science Research ID: A-9743-2011, <http://www.researcherid.com/rid/A-9743-2011>]  **Chiew FHS**, Teng J, Vaze J, Post DA, Perraud J-M, Kirono DGC and Viney NR (2009) Estimating climate change impact on runoff across south-east Australia: method, results and implications of modelling method. *Water Resources Research*, 45, W10414. [400 citations]  **Chiew FHS** and McMahon TA (2002) Global ENSO-streamflow teleconnection, streamflow forecasting and inter-annual variability. *Hydrological Sciences Journal*, 47, 505–522. [250 citations]  **Chiew FHS** (2006) Estimation of rainfall elasticity of streamflow in Australia. *Hydrological Sciences Journal*, 51, 613–625. [370 citations]  **Chiew FHS**, Potter NJ, Vaze J, Petheram C, Zhang L, Teng J and Post DA (2014) Observed hydrologic non-stationarity in far south-eastern Australia: implications and future modelling predictions. *Stochastic Environmental Research and Risk Assessment*, 28, 3–15. [140 citations]  Vaze J, Post DA, **Chiew FHS**, Perraud J-M, Viney N and Teng J (2010) Climate non-stationarity – validity of calibrated rainfall-runoff models for use in climate change studies. *Journal of Hydrology*, 394, 447–457. [410 citations]  Zhang L, Hickel K, Dawes WR, **Chiew FHS**, Western AW and Briggs PR (2004) A rational function approach for estimating mean annual evapotranspiration. *Water Resources Research*, 40, W02502. [910 citations]  Cheng L, Zhang L, Wang YP, Canadell JG, **Chiew FHS**, Beringer J, Li L, Miralles DG, Piao S and Zhang Y (2017) Recent increases in terrestrial carbon uptake at little cost to the water cycle. *Nature Communications*, 8, 110 [200 citations]  Zhang Y, Peña-Arancibia JL, McVicar TR, **Chiew FHS**, Vaze J, Liu C, Lu X, Zheng H, Wang Y, Liu YY, Miralles D and Pan M (2016) Multi-decadal trends in global terrestrial evapotranspiration and its components. *Nature Scientific Reports*, 6, 19124. [530 citations]  **Chiew FHS**, Teng J, Vaze J and Kirono DGC (2009) Influence of global climate model selection on runoff impact assessment. *Journal of Hydrology*, 379, 172–180. [110 citations]  Wang QJ, Robertson DE and **Chiew FHS** (2009) A Bayesian joint probability modeling approach for seasonal forecasting of streamflows at multiple sites. *Water Resources Research*, 45. W05407. [240 citations]  Hatfield-Dodds S, Schandl H, Adams PD, Baynes TM, Brinsmead TS, Bryan BA, **Chiew FHS**, Graham PW, Grundy M, Harwood T, McCallum R, McCrea R, McKellar LE, Newth D, Nolan M, Prosser I and Wonhas A (2015) Australia is ‘free to choose’ economic growth and falling environmental pressures. *Nature*, 527, 49–53. [190 citations]  Prosser IP, **Chiew FHS** and Stafford Smith M (2021) Adapting water management to climate change in the Murray-Darling Basin, Australia. *Water*, 13, 2504.  Lawrence J, Mackey B, **Chiew F**, Costello M, Hennessy K, Lansbury N, Nidumolu UB, Pecl G, Rickards L, Tapper N, Woodward A and Wreford A (2022) Australasia. In: Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press. |