

Isotopes in the hydrological cycle

Recent publications

Journal Papers

Cendón D.I., Ayora C. Pueyo J.J., Taberner C. and Blanc-Valleron M.-M. (2008). The chemical and hydrological evolution of the Mulhouse potash basin (France): Are “marine” ancient evaporites always representative of synchronous seawater chemistry? *Chemical Geology*, 252: 109-124.

Reeves J.M., Chivas A.R., García A., Holt S., Couapel M.J.J., Jones B.G., Cendón D.I. and Fink D. (2008). The sedimentary record of palaeoenvironments and sea-level change in the Gulf of Carpentaria, Australia through the last glacial cycle. *Quaternary International* 183: 3-22.

Playà E., Cendón D.I., Travé A., Chivas A.R., García A. (2007) Non-marine evaporites with both inherited marine and continental signatures: the Gulf of Carpentaria, Australia, at ~70 Ka. *Sedimentary Geology*, 201: 267-285.

R.I. Acworth, C.E. Hughes & I.L. Turner 2007. A radioisotope tracer investigation to determine the direction of groundwater movement adjacent to a tidal creek during a spring and neap tides. *Hydrogeology Journal*, 15: 281–296.

Gibson J.J. Sadek M.A., Stone D.J.M, Hughes C., Hankin S., Cendón D.I., Hollins S.E. (2007) Evaporative Isotopic enrichment as a constraint on reach water balance along a dryland river. *Isotopes in Environmental Health Studies* 44(1): 83-98.

Cartwright I, Weaver TR, Stone D., Reid M. (2007) Constraining modern and historical recharge from bore hydrographs, H-3, C-14 and chloride concentrations: Applications to dual-porosity aquifers in dryland salinity areas, Murray Basin, Australia. *Journal of Hydrology* 332(1-2) 69-92.

Reports

Cendón D.I. and Hankin S. (2009). The ¹⁴C ages for groundwater in the Narara borefield (Gosford, NSW), ANSTO/C-1027, 17 pp.

Cendón D.I. and Hankin S. (2008) The ¹⁴C ages for groundwater in the Bangalow and Ourimbah creek borefields (Gosford, NSW), ANSTO/C-988, 24 pp.

C.E. Hughes, D.J.M. Stone, J.J. Gibson, M.A. Sadek, D.I. Cendon, S. I. Hankin. 2008. Stable water isotope investigation of the Barwon-Darling River system, Australia. Final Report of the IAEA Research Agreement: AUL-12039. IAEA Co-ordinated Research Project: Design criteria for a network to monitor isotope composition of runoff in large rivers. 22 pp.

Meredith, K.T. Radiocarbon dating groundwaters of the West Canning Basin, Western Australia. Commercial report prepared for Government of Western Australia, Department of Water. March 2009. ANSTO/C-1038, 47 pp.

Twining, J. Hughes, C. Meredith, K. (2008) Identifying groundwater contributions to the Darling River (Australia) during drought, using stable isotopes and geochemical tracers. Assessment of Trends in Freshwater Quality using Environmental Isotopes and Chemical Techniques for Improved Resource Management (RAS/8/104). Mid-Term Review of the IAEA/RCA.

Other contributions

C. L. Waring, Y. A. Stepanyants, S. I. Hankin, P. L. Airey, M. A. Peterson, 2009, Measurement of Hydraulic Conductivity, Porosity and Lithology by Neutron Activation Borehole Logging at High Spatial Resolution Increments, Proceedings Groundwater in The Sydney Basin Symposium, IAH Sydney 4-5 August 2009.

M. A. Peterson, C. L. Waring, W. H. Mitry 2009, Discrete interval sampling and pressure measurements in uncased boreholes using a zone-of-interest groundwater sampler (ZOIGS), Proceedings Groundwater in The Sydney Basin Symposium, IAH Sydney 4-5 August 2009.

S. A. Short, C. L. Waring, M. A. Peterson, M. S. Hammond and J. Wood 2009, Studies of near-surface hydrology and hydrogeology of the Woronora Plateau, Proceedings Groundwater in The Sydney Basin Symposium, IAH Sydney 4-5 August 2009.

Andersen, M.S., Meredith, K.T., Timms, W. Acworth, R.I. (2008) Investigation of $\delta^{18}\text{O}$ and $\delta^2\text{H}$ in the Namoi River catchment – elucidating recharge sources and the extent of surface water/groundwater interaction. To be included in: XXXVI Congress of the International Association of Hydrogeologists, Toyama, Japan. (Plenary paper).

Scarff, S.A., C.E. Hughes, T.N. Morrison. 2009. Use of isotopic and chemical tracers to determine water flow pathways in a small agricultural catchment during a rain event. Proceedings Groundwater in the Sydney Basin. Accepted July 2009.

Cendón D.I., Larsen J.R., Jones B.G., Nanson G.C., Rickleman D. (2007) Geomorphic controls on groundwater evolution in the arid Cooper Creek, SW Queensland, Australia: Inferences from elemental and stable isotope Hydrogeochemistry. In: XXXV Congress of the International Association of Hydrogeologists, Groundwater and Ecosystems. Extended abstract 10pp. (ISBN: 978-989-95297-3-1).

Cendón D.I., Playà E., Chivas A.R., Travé A., Wyndham T., García A., Hankin S. (2007). Evaporites with inherited marine and continental signatures: The Gulf of Carpentaria, Australia, at ~70 ka. *Quaternary International*, 167-168: 65.

Cendón D.I. (2007). The age of water: Isotopes tracing our wellbeing. The Australian Museum in coordination with the Australian Geological Society, Sydney, (Australia). *Explore, the Australian Museum Magazine*, 29: 26-27.

Cendón D.I., Playà E., Chivas A.R., Travé A., Wyndham T., García A., Hankin S.I. (2006). The Gulf of Carpentaria, Australia, at ~70 ka: Isotopic, trace and REE constraints. 9th Australasian Environmental Isotope Conference, Adelaide (Australia), Abstracts p.65-66.

Cendón D.I., Graham I., Price E., Hankin S. and Chivas A.R. (2006). Hydrogeochemistry of modern streams in the Riversleigh area (QLD-Australia): Relationship with local carbonate lithologies-preliminary results. Abstract, Riversleigh 2006 Symposium (UNSW): 15.

- Cendón D.I., Chivas A.R., Wyndham T., García A. (2004). Chemistry of the rivers in the Gulf of Carpentaria drainage division (N-Australia): Palaeoclimatic implications. 32nd International Geological Convention, Florence (Italy).
- Cendón D.I., Chivas A.R. and García A. (2004). Chemistry of the rivers in the Gulf of Carpentaria drainage division and possible correlations with the sedimentary record during lake phases, 17th Australian Geological Convention. *Dynamic Earth: Past, present and future*, Abstracts 73, p. 228. Hobart (TAS).
- Nanson, G.C., Larsen, J.R., Cendón, D.I., Fagan, S. and Jones, B. (2009). Where has all the water gone? Why billabongs (waterholes) in the Channel Country start and stop. 9th International Conference on Fluvial Sedimentology, San Miguel de Tucuman, Argentina. 24th-28th August.
- Larsen, J., Cendón, D.I., Nanson, G.C., Jones, B. (2009). Surface and groundwater hydrology of arid-zone billabongs (waterholes) in Queensland, Australia. 7th International Geomorphology Conference, 6-11 July.
- Meredith K., Hollins S., Hughes C., Cendón D.I., Stone D. (2007) Groundwater/surface water exchange and its influence on stable water isotopic signatures along the Darling River, NSW, Australia. In: XXXV Congress of the International Association of Hydrogeologists, Groundwater and Ecosystems. Extended abstract 11pp. (ISBN: 978-989-95297-3-1).
- Meredith, K.T., Hughes, C.E., Hollins, S.E., Cendón, D.I., Hankin, S. (2009). The effect of saline groundwater exchange, evaporation and variable river flows and on stable isotopes (¹⁸O and ²H) and major ion concentrations along the Darling River, NSW, Australia. *Geophysical Research Abstracts*, Vol. 11, EGU2009-14019, 2009. EGU General Assembly 2009.
- Waring C.L., Lee G., Collins E., Hankin S.I., Cendón D.I. (2006). An isotopic approach to hydrological mass balance in the Nattai river catchment (SE, NSW), 2. Rain, groundwater and stream sulfate ³⁵S, $\delta^{34}\text{S}$, $\delta^{18}\text{O}$, $\Delta^{17}\text{O}$. 9th Australasian Environmental Isotope Conference, Adelaide (Australia), Abstracts p.135-136.
- Hughes C., Mazumder D., Gibson J.J., Szymczak R., Cendon D.I., Hollins S. and Waring C. (2006). Use of stable isotopes in Sydney catchment process and water quality studies. In, *Proceedings of the Enviro '06 Conference* (Melbourne, May '06). ISBN 0-9775223-0-X – paper # e6266.
- Gibson J.J., Sadek M.A., Stone D.J.M., Hughes C., Hankin S., Cendón D.I. and Hollins S.E. (2006) Evaporative isotopic enrichment as a constraint on reach water balance along a dryland river. *International Workshop on isotopic effects in evaporation: Revisiting the Craig-Gordon model four decades after its formulation*, 79-85. Pisa (Italy).