

Contents

Series Editor's Foreword *by Jeffrey J. McDonnell*

Isotope Hydrology – Introduction

1

A FUNDAMENTALS – Commentary

- Paper A1** *Friedman, I.* (1953) Deuterium content of natural waters and other substances. *Geochimica et Cosmochimica Acta* 4, 89–103.
- Paper A2** *Epstein, S. & Mayeda, T.* (1953) Variation of the ^{18}O content of waters from natural sources. *Geochimica et Cosmochimica Acta* 4, 213–224.
- Paper A3** *Craig, H.* (1961) Isotopic variations in meteoric waters. *Science* 133, 1702–1703.
- Paper A4** *Libby, W.F.* (1953) The potential usefulness of natural tritium. *Proceedings of the National Academy of Sciences of the USA* 39, 245–247.
- Paper A5** *Begemann, F. & Libby, W. F.* (1957) Continental water balance, groundwater inventory and storage times, surface ocean mixing rates and worldwide water circulation patterns from cosmic-ray and bomb tritium. *Geochimica et Cosmochimica Acta* 12, 277–296.
- Paper A6** *Brinkmann, R., Münnich, K. O. & Vogel, J. C.* (1959) ^{14}C -Alterbestimmung von Grundwasser. *Naturwissenschaften* 46, 10–12 (in German).
English translation provided: ^{14}C age determination of groundwater.

B THE ATMOSPHERIC WATER CYCLE – Commentary

- Paper B1** *Dansgaard, W.* (1964) Stable isotopes in precipitation. *Tellus* 16, 436–468.
- Paper B2** *Craig, H. & Gordon, L. I.* (1965) Deuterium and oxygen-18 variations in the ocean and the marine atmosphere.
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- Paper B3** *Salati, E., Dall'Olio, A., Matsui, E. & Gat, J. R.* (1979) Recycling of water in the Amazon Basin: An isotopic study. *Water Resources Research* 15, 1250–1258.
- Paper B4** *Gonfiantini, R., Gratzu, S. & Tongiorgi, E.* (1965) Oxygen isotopic composition of water in leaves.
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- Paper B5** *Joussaume, S., Sadourny, R. & Jouzel, J.* (1984) A general circulation model of water isotope cycles in the atmosphere. *Nature* 311, 24–29.
- Paper B6** *Eriksson, E.* (1965) An account of the major pulses of tritium and their effect in the atmosphere. *Tellus* 17, 118–130.

C PALAEOCLIMATE – Commentary

- Paper C1** *Urey, H.C. Lowenstam, H. A., Epstein, S. & McKinney, C. R.* (1951) Measurement of paleotemperatures and temperatures of the Upper Cretaceous of England, Denmark, and the southeastern United States.
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- Paper C2** *Epstein, S.* (1956) Variations of the $^{18}\text{O}/^{16}\text{O}$ ratio in fresh water and ice.
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- Paper C3** *Dansgaard, W., Johnsen, S. J., Møller, J. & Langway, C. C.* (1969) One thousand centuries of climatic record from Camp Century on the Greenland ice sheet.
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- Paper C4** *Thompson, L. G., Mosley-Thompson, E., Dansgaard, W. & Grootes, P. M.* (1986) The “Little Ice Age” as recorded in the stratigraphy of the tropical Quelccaya Ice Cap.
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- Paper C5** *Sonntag, C., Klitzsch, E., Löhnert, E. P., El-Shazly, E. M., Münnich, K. O., Junghans, C., Thorweihe, U., Weistroffer, K. & Swailem, F. M.* (1979) Palaeoclimatic information from deuterium and oxygen-18 in carbon-14 dated North Saharian groundwaters. Groundwater formation in the past.
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- Paper C6** *Rozanski, K.* (1985) Deuterium and oxygen-18 in European groundwaters: links to atmospheric circulation in the past.
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D RIVER AND LAKE HYDROLOGY – Commentary

- Paper D1** *Dinçer, T., Payne, B. R., Florkowski, T., Martinec, J. & Tongiorgi, E.* (1970) Snowmelt runoff from measurements of tritium and oxygen-18.
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- Paper D2** *Fritz, P., Cherry, J. A., Weyer, K. U. & Sklash, M. G.* (1976) Storm runoff analysis using environmental isotopes and major ions.
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- Paper D3** *Brown, R. M.* (1970) Distribution of hydrogen isotopes in Canadian waters.
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- Paper D4** *Gat, J. R.* (1970) Environmental isotope balance of Lake Tiberias.
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E GROUNDWATER – Commentary

- Paper E1** *Nir, A.* (1964) On the interpretation of tritium “age” measurements of groundwater.
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- Paper E2** *Tolstikhin, I. N. & Kamensky, I. L.* (1969) Determination of groundwater age by the T- ^3He method.
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Contents

- Paper E3 **Schlosser, P., Stute, M., Sonntag, C. & Münnich, K. O.** (1989) Tritogenic ^3He in shallow groundwater.
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- Paper E4 **Fontes, J.-Ch. & Garnier, J.-M.** (1979) Determination of the initial ^{14}C activity of the total dissolved carbon: A review of the existing models and a new approach.
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- Paper E5 **Plummer, L. N., Prestemon, E. C. & Parkhurst, D. L.** (1991) An interactive code (NETPATH) for modelling net geochemical reactions along a flow path.
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- Paper E6 **Collon, P. Kutschera, W., Loosli, H. H., Lehmann, R. E., Purtschert, R., Love, A., Sampson, L., Anthony, D., Cole, D., Davids, B., Morrissey, D. J., Sherrill, B. M., Steiner, M., Pardo, R. C. & Paul, M.** (2000) ^{81}Kr in the great Artesian Basin, Australia: a new method for dating very old groundwater.
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- Paper E7 **Phillips, F. M., Bentley, H. W., Davis, S. N., Elmore, D. & Swannick, G. B.** (1986) Chlorine-36 dating of very old groundwater. II Milk River aquifer, Alberta.
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- Paper E8 **Gonfiantini, R., Conrad, G., Fontes, J.-Ch., Sauzay, G. & Payne, B. R.** (1974) Etude isotopique de la nappe du Continental Intercalaire et de ses relations avec les autres nappes du Sahara Septentrional.
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- Paper E9 **Aggarwal, P. K., Fuller, M. E., Gurgas, M. M., Manning, J. F. & Dillon, M. A.** (1997) Use of stable oxygen and carbon isotope analyses for monitoring the pathways and rates of intrinsic and enhanced *in situ* biodegradation.
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- Paper E10 **Payne, B. R., Quijano, L. & Latorre, C.** (1979) Environmental isotopes in a study of origin of salinity of groundwater in the Mexicali Valley.
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- Paper E11 **Kohl, D. H., Shearer, G. B. & Commoner, B.** (1971) Fertilizer nitrogen contribution to nitrate in surface water in a cornbelt watershed.
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- Paper E12 **Böttcher, J., Strelbel, O., Voerkelius, S. & Schmidt, H.-L.** (1990) Using isotope fractionation of nitrate-nitrogen and nitrate-oxygen for evaluation of microbial denitrification in a sandy aquifer.
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