

Profile

Name

Takahiro (First name) Hosono (Last name)

Birth

Jan 25th, 1976 at Toronto, Canada

Nationality

Japanese

Affiliation and current career stage

Faculty of Advanced Science and Technology, Kumamoto University

Professor

Degree

Ph.D. in Science (March 2003, Tsukuba University, Japan)

Education

31/03/1994

Graduated from Todo High School in Kyoto, Japan

01/04/1994

Enter to Department of Geology, Shinshu University, Nagano, Japan

Supervised by Dr. Kuniaki Makino

20/03/1998

Graduated from Department of Geology, Shinshu University, Nagano, Japan

01/04/1998

Enter to Institute of Geoscience, Tsukuba University, Ibaraki, Japan

Supervised by Dr. Takanori Nakano

25/03/2003

Graduated from Institute of Geoscience, Tsukuba University, Ibaraki, Japan

Employment

01/04/2003

Assistant Professor

Department of Resources and Environmental Engineering, Waseda University, Tokyo, Japan

01/04/2005

Research Fellow

Research Institute for Humanity and Nature, Kyoto, Japan

01/04/2006

JSPS Postdoc Fellow

Research Institute for Humanity and Nature, Kyoto, Japan

01/05/2007

Assistant Professor

Department of Earth Science and Technology, Akita University, Akita, Japan

01/04/2009

Tenure Track Assistant Professor

Priority Organization for Innovation and Excellence, Kumamoto University



June 2013 ~ March 2014

Visiting Researcher

Faculty of Geology, University of Barcelona, Spain

01/04/2014

Associate Professor

Priority Organization for Innovation and Excellence, Kumamoto University

August ~ September 2017

Visiting Associate Professor

Institut de Physique du Globe de Paris, France

01/04/2019

Associate Professor

Faculty of Advanced Science and Technology, Kumamoto University

International Research Organization for Advanced Science and Technology (IROAST), Kumamoto University

01/08/2021

Professor

Faculty of Advanced Science and Technology, Kumamoto University

International Research Organization for Advanced Science and Technology (IROAST), Kumamoto University

Collaborative Researcher, Research Institute for Humanity and Nature, Kyoto, Japan

June 2022 ~ September 2022

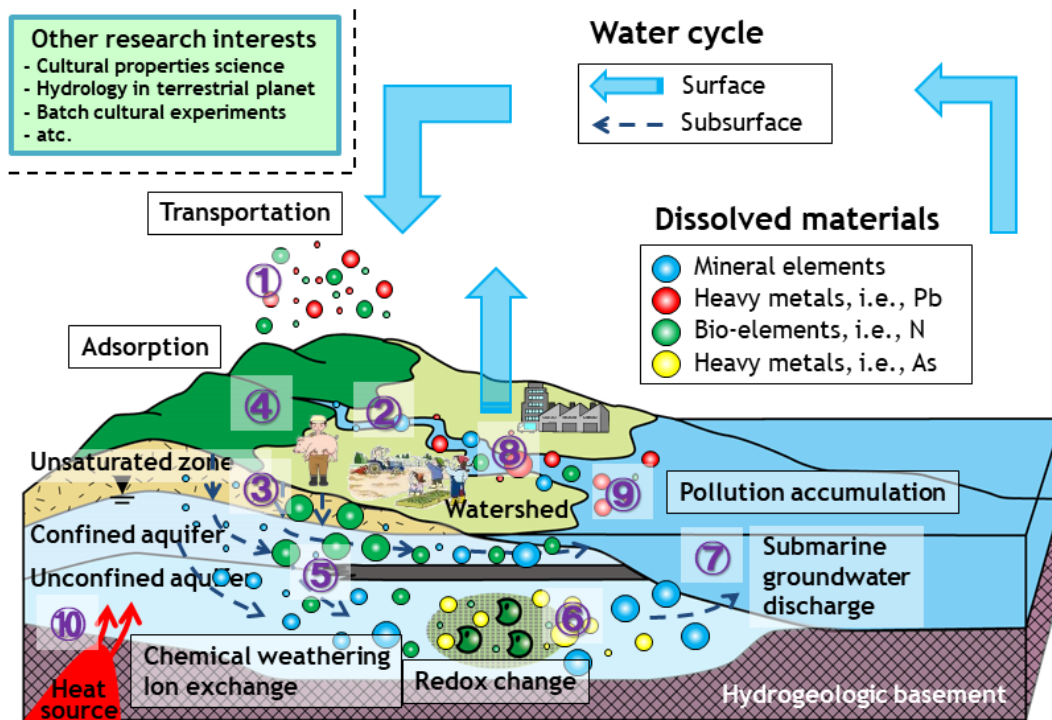
Visiting Researcher

Department of Earth Science, The Sapienza University of Rome, Italy

Research topics

Special Topic: Groundwater environmental change due to 2016 Kumamoto Earthquake

1. Evaluation of trans-boundary atmospheric pollutions
2. Study for geochemical weathering processes in surface environments with its CO₂ buffering availability and nutrients discharging fluxes
3. Elucidating transportation rate/behavior of water/materials in an unsaturated zone
4. Investigation for residence time and hydrochemical evolution of springs and groundwaters
5. Assessment on groundwater nitrate pollution using multiple stable isotopes (H, Li, B, C, N, O, S, Sr) and computer simulation
6. Biogeochemical study for groundwater metal pollution
7. Understanding the distribution and flux of submarine groundwater discharge (SGD)
8. Assessment for river water quality using geochemical tools
9. Assessment on coastal environments
10. Investigation for deep, geothermal, and magmatic fluids contributing to near surface environment



Note: numbers in the figure corresponding to the topic numbers in “Research topics” .

Members (except Japanese students)

He Guanru* (China, 2025/10-, China Scholarship Council) : Multiscale subsurface system characterization: Integrating tidal response, isotope geochemistry, satellite deformation, and numerical multiphysics modeling (Hydrological change after the 2016 Kumamoto earthquake)

Tokpaeva Zhiide* (Kyrgyz Republic, 2024/4- , PhD student, Double Degree Doctor Program) : Environmental assessment of continental inland lake applying isotopic fingerprinting tools in Issyk-Lul, eastern Kyrgyzstan (Related subject 5 and 7)

Wang Haolan (China, 2023/10-2024/04, China Scholarship Council) : Modeling of nitrogen biogeochemical processes in river bends (Related subject 8)

Zhi-Qiang Yu* (China, 2023/04-, Postdoc) : Study on groundwater environment in Kumamoto and river chemical flux in Japan using numerical and statistical approach (Related subject 5 and 8)

Rahmah Dara Lufira (Indonesia, 2021/10- , PhD student, MEXT Scholarship) : Impact of climate change on regional hydrological changes and other surface environmental systems using large database (Related subject 8)

Oktanius Richard Hermawan (Indonesia, 2018/10-2020/9, Ms student, 2020/10- , PhD student, MEXT Scholarship) : Process and mechanism of nitrate contamination in karst aquifer at groundwater dam construction site, southern Okinawa main island, Japan (Related subject 5)

Sakiur Rahman (Bangladesh, 2017/10-2020/9, PhD student, MEXT Scholarship; 2020/10- , Postdoc) : Modeling of Hydrological Processes in Kumamoto Area, Japan: Machine Learning and Hydrogeological Simulation Approaches (Related subject 4, Coseismic hydrological change after the 2016 Kumamoto earthquake) Received ‘Academic Excellence Award’, Graduate School of Science and Technology, Kumamoto University (March 25, 2021)

Dennis Boateng (Republic of Ghana, 2017/10-2021/3, PhD student, MEXT Scholarship) : Revealing unsaturated

zone nitrate transportation manner with pore water infiltration in Kumamoto area, Japan: isotopic approach
(Related subject 3)

Zohre Nejatjahromi (Iran, 2017/5-2017/9, PhD student, Visiting Researcher) : Determination of sources of nitrate contamination in Varamin Plain Aquifer, Tehran, Iran, using isotopic indicators and simulation of contaminant transport (Related subject 5)

Ahmad Taufiq (Indonesia, 2014/10-2018/3, PhD student, Double Degree Doctor Program) : Change in groundwater flow dynamics due to excessive pumping based on hydrogeochemistry and modeling in Bandung Basin, Indonesia (Related subject 4 and 5)

Yaser Nikpeyman (Iran, 2012/04-2015/03, PhD student) : The evaluation of submarine groundwater discharge (SGD) input toward the inland sea by using ^{222}Rn method (Related subject 7)

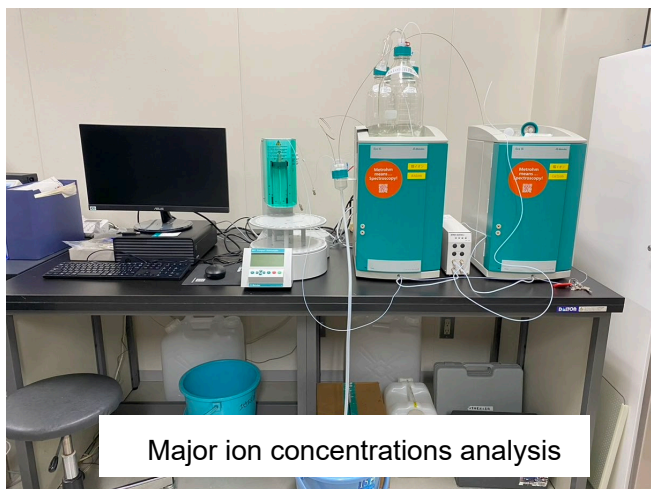
Shahadat Hossain (Bangladesh, 2012/10-2016/3, PhD student) : Geochemical Evolution of Groundwater in a Quaternary Volcanic Aquifer System of Kumamoto Area, Japan (Related subject 4, 5 and 6)

Kelly Alvarez (Venezuela, 2012/09-2013/06, Postdoc) : Anaerobic batch experiments to characterize C-N-S isotopic change during autotrophic bacterial denitrification (Related subject 5)

In-Tian Lin (Taiwan, 2011/07-2012/09, Postdoc) : Anaerobic batch experiments to characterize C-N-S isotopic change during heterotrophic bacterial denitrification (Related subject 5)

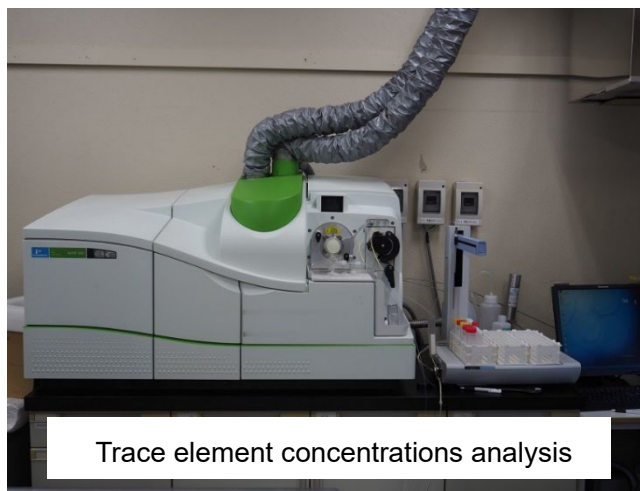
Ako Andrew Ako (Cameroon, 2008/10-2011/09, PhD student, MEXT Scholarship) : Hydrological Study on Groundwater in the Banana Plain and Mount Cameroon area-Cameroon Volcanic Line (CVL) (Related subject 4)

Analytical equipment installed in our laboratory



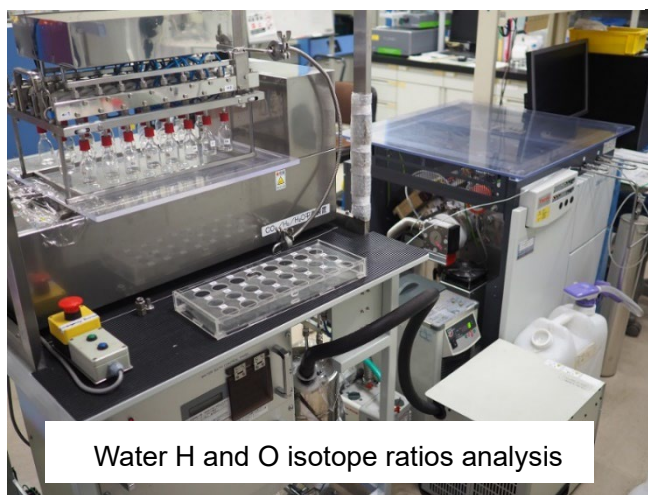
Major ion concentrations analysis

Ion chromatography
(Eco IC, Metrohm, Switzerland)



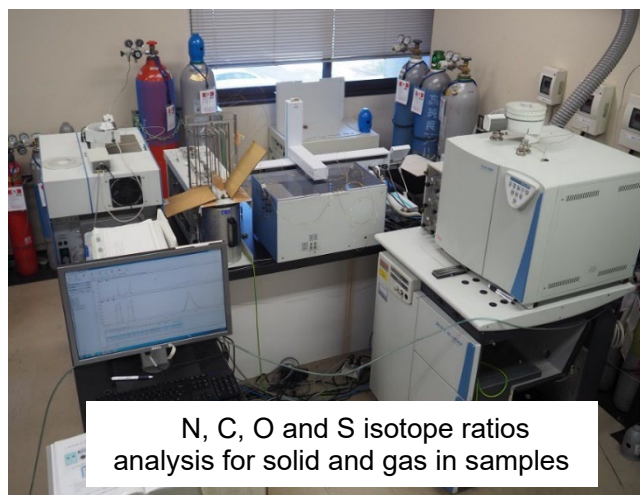
Trace element concentrations analysis

Inductively coupled plasma mass spectrometry
(NexION 300, Perkin-Elmer Co., Ltd, USA)



Water H and O isotope ratios analysis

Isotope ratio mass spectrometer (Delta V Advantage, Thermo Fisher Scientific, USA) coupled with an automatic water-gas equilibration devise (Nakano Denshi Co., Ltd., Japan).



N, C, O and S isotope ratios analysis for solid and gas in samples

Isotope ratio mass spectrometry (Delta V Advantage, Thermo Fisher Scientific, USA) coupled with an elemental analyzer (Flash 2000, Thermo Fisher Scientific, USA), a high temperature conversion elemental analyzer (TC/EA, Thermo Fisher Scientific, USA) and a head gas sampler (a Thermo Gasbench II).

PhD thesis

Geochemical Study of Volcanic Rocks and Epithermal Gold Deposit in the Hishikari Mine, Japan, 2003, 122 p (English with Japanese abstract) (University of Tsukuba, Japan).

Publications

Peer review ISI international journals (international journal with impact factor)

93. Hosono, T., Ikehara, T., Yasumoto, J., Ueji, Y., Yasumoto, K., Takada, R., Yamamoto, H., Paytan, A., Shinjo, R., 2026. Quantitative assessment of denitrification rates at the freshwater-saltwater interface of a limestone island based on isotopic tracers and mass balance calculation. *Water Research*, 298, 125742. <https://doi.org/10.1016/j.watres.2026.125742>
92. Wang, H., Wang, D., Zhao, B., Hosono, T., Ding, Y., Hui, C., Yu, F., Zhang, W., 2026. Response of microbial

- nitrogen removal to sinuosity in river bends: mechanisms and development of physics-informed neural networks model. *Journal of Environmental Management*, 404, 129293. <https://doi.org/10.1016/j.jenvman.2026.129293>
91. Zhou, J., Wang, Y., Fan, Y., Liao, S., Chen, P., Li, Z., Cao, C., **Hosono, T.**, 2025. Deep metamorphic carbon carried by hot spring controls carbon budget of mountainous rivers: Evidence from hydrochemistry and $\delta^{13}\text{C}$ -DIC, $\delta^{13}\text{C}$ -DOC isotopes in the south Tibetan Plateau. *Journal of Hydrology: Regional Studies*, 62, 102818. <https://doi.org/10.1016/j.ejrh.2025.102818>
90. Nakagawa, K., Li, Z., **Hosono, T.**, Takao, Y., Berndtsson, R., 2025. Deep groundwater in the Kumamoto area affected by nitrate nitrogen with source origin by sterols. *Journal of Hydrology*, 662, 134101. <https://doi.org/10.1016/j.jhydrol.2025.134101>
89. Yu, Z.-Q., Uchida, T., Kagabu, M., Shimada, J., **Hosono, T.**, 2025. Mechanisms and processes of long-term abnormal groundwater level rise and recovery associated with 2016 Kumamoto earthquake. *Journal of Hydrology*, 662, 133849, <https://doi.org/10.1016/j.jhydrol.2025.133849>
88. **Hosono, T.**, Sakamoto, M., Yu, Z.-Q., Barberio, M.D., Wang, Y., Tanimizu, M., Nakagawa, K., 2025. Conceptual model explaining water interactions in the shallow crust: toward developing a reliable simulation model. *Journal of Hydrology*, 661, 133720, <https://doi.org/10.1016/j.jhydrol.2025.133720>
87. Romero-Mujalli, G., Hartmann, J., **Hosono, T.**, Ide, K., Amann, T., Louvat, P., 2025. Assessing the hydrothermal influence on natural waters in the Kirishima Volcanic Complex: Insights from rivers, springs and groundwater with varying residence time. *Chemical Geology*, 682(5), 122716., <https://doi.org/10.1016/j.chemgeo.2025.122716>
86. Rahman, A.T.M.S., Sakib, S.M., Reza, M.K., Basak, A., Hafiz, K.N., Islam, M.S., **Hosono, T.**, 2025. Basin-wide groundwater-level forecasting in Kumamoto, Japan: integrating transfer learning with long short-term memory network. *Hydrological Sciences Journal*, 1-19. <https://doi.org/10.1080/02626667.2025.2530120>
85. Rahman, M.S., Onodera, S., Saito, M., Ishida, T., Wang, K., **Hosono, T.**, Umezawa, Y., 2024. Phosphorus speciation in coastal sediment of Osaka Bay: relation. *Environmental Research Letters*, 19(9), 094020, <https://doi.org/10.1088/1748-9326/ad66e5>
84. Yu, Z.-Q., **Hosono, T.**, Amano, H., Berndtsson, R., Nakagawa, K., 2024. Groundwater resource assessment by applying long-term trend analysis of spring discharge, groundwater levels, and hydroclimatic parameters. *Water Resources Management* 38, 4161-4177. <https://doi.org/10.1007/s11269-024-03857-1>
83. Wang, Y., Quan, S., Tang, X., **Hosono, T.**, Hao, Y., Tian, J, Pang, Z., 2024. Organic and inorganic carbon sinks reduce long-term deep carbon emissions in the continental collision margin of the southern Tibetan Plateau: Implications for Cenozoic climate cooling. *Journal of Geophysical Research: Solid Earth*, 129(4), e2024JB028802. <https://doi.org/10.1029/2024JB028802>
82. Maruyama, R., Yasumoto, K., Mizusawa, N., Iijima, M., Yasumoto-Hirose, M., Iguchi, A., Hermawan, O.R., **Hosono, T.**, Takada, R., Song, K.-H., Shinjo, R., Watabe, S., Yasumoto, J., 2024. Metagenomic analysis of the microbial communities and associated network of nitrogen metabolism genes in the Ryukyu limestone aquifer. *Scientific Reports* 14, 4356. <https://doi.org/10.1038/s41598-024-54614-8>
81. Hermawan, O.R., **Hosono, T.**, Yasumoto, J., Yasumoto, K., Song, K.-H., Maruyama, R., Iijima, M., Yasumoto-Hirose, M., Takada, R., Hijikawa, K., Shinjo, R., 2024. Mechanism of denitrification in subsurface-dammed Ryukyu limestone. *Science of the Total Environment* 912, 169457. <https://doi.org/10.1016/j.scitotenv.2023.169457>
80. **Hosono, T.**, Taniguchi, K., Rahman, A.T.M.S., Yamamoto, T., Takayama, K., Yu, Z.-Q., Aihara, T., Ikehara, T., Amano, H., Tanimizu, M., Nakagawa, K., 2023. Stable N and O isotopic indicators coupled with social data analysis revealed long-term shift in the cause of groundwater nitrate pollution: insights into future water resource management. *Ecological Indicators*, 154, 110670. <https://doi.org/10.1016/j.ecolind.2023.110670>
79. Hermawan, O.R., **Hosono, T.**, Yasumoto, J., Yasumoto, K., Song, K.-H., Maruyama, R., Iijima, M., Yasumoto-Hirose, M., Takada, R., Hijikawa, K., Shinjo, R., 2023. Effective use of farmland soil samples for N and O isotopic source fingerprinting of groundwater nitrate contamination in the subsurface dammed limestone aquifer,

- Southern Okinawa Island, Japan. *Journal of Hydrology*, 619, 129364. <https://doi.org/10.1016/j.jhydrol.2023.129364>
78. Mizota, C., **Hosono, T.**, Okumura, A., Yamanaka, T., 2023. Nitrogen cycling in western India as revealed by nitrogen isotopes and the historic production of saltpetre. *Archaeometry*, 65(3) 635-652. <https://doi.org/10.1111/arcm.12830>
77. Rahman, A.T.M.S., Kono, Y., **Hosono, T.**, 2022. Self-organizing map improves understanding on the hydrochemical processes in aquifer systems. *Science of the Total Environment*, 846, 157281. <https://doi.org/10.1016/j.scitotenv.2022.157281>
76. Basak, A., Rahman, A.T.M.S., Das, J., **Hosono, T.**, Kisi, O., 2022. Drought forecasting using the Prophet model in a semi-arid climate region of western India. *Hydrological Sciences Journal* (in press). <https://doi.org/10.1080/02626667.2022.2082876>
75. **Hosono, T.**, Nakashima, S., Tanoue, M., Ichianagi, K., 2022. Monsoon climate controls metal loading in global hotspot region of transboundary air pollution. *Scientific Reports*, 12, 11096. <https://doi.org/10.1038/s41598-022-15066-0>
74. Mizota, C., Hansen, R., **Hosono, T.**, Okumura, A., Shinjo, R., Aizawa, M., 2022. Provenancing nineteenth century saltpetre from British India using nitrogen, oxygen, and strontium isotope ratios. *Collections: A Journal for Museum and Archives Professionals*. <https://doi.org/10.1177/15501906211072909>
73. Romero-Mujalli, G., Hartmann, J., **Hosono, T.**, Louvat, P., Okamura, K., Delmelle, P., Amann, T., Böttcher, M.E., 2022. Hydrothermal and magmatic contributions to surface waters in the Aso caldera, southern Japan: Implications for weathering processes in volcanic areas. *Chemical Geology*, 588, 120612. <https://doi.org/10.1016/j.chemgeo.2021.120612>
72. Aizawa, M., Mizota, C., **Hosono, T.**, Shinjo, R., Furukawa, Y., Nobori, Y., 2022. Lead isotopic characteristics of gun bullets prevailed during the 19th century in Japan: Constraints on the provenance of lead source from the United Kingdom and Japan. *Journal of Archaeological Science: Reports*, 41, 103268. <https://doi.org/10.1016/j.jasrep.2021.103268>
71. Mizota, C., Hansen, R., **Hosono, T.**, Okumura, A., 2022. Museum-archived and recent acquisition nitrates from the Atacama Desert, Chile, South America: refinement of the dual isotopic compositions ($\delta^{15}\text{N}$ vs. $\delta^{18}\text{O}$). *Isotopes in Environmental and Health Studies*, 58, 1-17. <https://doi.org/10.1080/10256016.2021.1990913>
70. **Hosono, T.**, Yamanaka, C., 2021. Origins and pathways of deeply derived carbon and fluids observed in hot spring waters from non-active volcanic fields, western Kumamoto, Japan. *Earth, Planets and Space*, 155, 73. <https://doi.org/10.1186/s40623-021-01478-1>
69. Tanimizu, M., Sugimoto, N., **Hosono, T.**, Kuribayashi, C., Morimoto, T., Ito, A., Umam, R., Nishio, Y., Nagaishi, K., Ishikawa, T., 2021. Application of B and Li isotope systematics for detecting chemical disturbance in groundwater associated with large shallow inland earthquakes in Kumamoto, Japan. *Geochemical Journal*, 55, 241-250. <https://doi.org/10.2343/geochemj.2.0633>
68. Rahman, A.T.M.S., **Hosono, T.**, Tawara, Y., Fukuoka, U., Hazart, A., Shimada, J., 2021. Multiple-tracers-aided surface-subsurface hydrological modeling for detailed characterization of regional catchment water dynamics in Kumamoto area, southern Japan. *Hydrogeology Journal*, 29, 1885-1904. <https://doi.org/10.1007/s10040-021-02354-8>
67. Ishii, E., Watanabe, Y., Agusa, T., **Hosono, T.**, Nakata, H., 2021. Acesulfame as a suitable sewer tracer on groundwater pollution: A case study before and after the 2016 Mw 7.0 Kumamoto earthquakes. *Science of the Total Environment*, 754, 142409. <https://doi.org/10.1016/j.scitotenv.2020.142409>

66. Mizota, C., Khanthavong, P., **Hosono, T.**, Okumura, A., Yamanaka, T., Murano, H., 2021. Reworking saltpetre manufacture in Lao PRD: Implications for isotopic fractionation during the historic processes. *Journal of Archaeological Science: Reports*, 35, 102747. <https://doi.org/10.1016/j.jasrep.2020.102747>
65. **Hosono, T.**, Hossain, S., Shimada, J., 2020. Hydrobiogeochemical evolution along the regional groundwater flow systems in volcanic aquifers in Kumamoto, Japan. *Environmental Earth Sciences*, 79(18), 410. <https://doi.org/10.1007/s12665-020-09155-4>
64. **Hosono, T.**, Yamada, C., Manga, M., Wang, C. -Y., Tanimizu, M., 2020. Stable isotopes show that earthquakes enhance permeability and release water from mountains. *Nature Communications*, 11, 2776. <https://doi.org/10.1038/s41467-020-16604-y>
63. Rahman, A.T.M.S., **Hosono, T.**, Quilty, J.M., Das, J., Basak, A., 2020. Multiscale groundwater level forecasting: Coupling new machine learning approaches with wavelet transforms. *Advances in Water Resources*. 141,103595. <https://doi.org/10.1016/j.advwatres.2020.103595>
62. **Hosono, T.**, Saltalippi, C., Jean, J.-S., 2020. Coseismic hydro-environmental changes: insights from recent earthquakes. *Journal of Hydrology*, 585, 124799.
61. Kawabata, K., Sato, T., Takahashi, H.A., Tsunomori, F., **Hosono, T.**, Takahashi, M., Kitamura, Y., 2020. Changes in groundwater radon concentrations caused by the 2016 Kumamoto earthquake. *Journal of Hydrology*, 584, 124712. <https://doi.org/10.1016/j.jhydrol.2020.124712>
60. Tawara, Y., **Hosono, T.**, Fukuoka, Y., Yoshida, T., Shimada, J., 2020. Quantitative assessment of the changes in regional water flow systems caused by the 2016 Kumamoto Earthquake using numerical modeling. *Journal of Hydrology*, 583, 124559. <https://doi.org/10.1016/j.jhydrol.2020.124559>
59. Ide, K., **Hosono, T.**, Kagabu, M., Fukamizu, K., Tokunaga, T., Shimada, J., 2020. Changes of groundwater flow systems after the 2016 Mw 7.0 Kumamoto earthquake deduced by stable isotopic and CFC-12 compositions of natural springs. *Journal of Hydrology*, 583, 124551. <https://doi.org/10.1016/j.jhydrol.2020.124551>
58. Nakagawa, K., Yu, Z.-Q., Berndtsson, R., **Hosono, T.**, 2020. Temporal characteristics of groundwater chemistry affected by the 2016 Kumamoto earthquake using self-organizing maps. *Journal of Hydrology*, 582, 124519. <https://doi.org/10.1016/j.jhydrol.2019.124519>
57. Kagabu, M., Ide, K., **Hosono, T.**, Nakagawa, K., Shimada, J., 2020. Describing coseismic groundwater level rise using tank model in volcanic aquifers, Kumamoto, southern Japan. *Journal of Hydrology*, 582, 124464. <https://doi.org/10.1016/j.jhydrol.2019.124464>
56. Miyakoshi, A., Taniguchi, M., Ide, K., Kagabu, M., **Hosono, T.**, Shimada, J., 2020. Identification of changes in subsurface temperature and groundwater flow after the 2016 Kumamoto earthquake using long-term well temperature–depth profiles. *Journal of Hydrology*, 582, 124530. <https://doi.org/10.1016/j.jhydrol.2019.124530>
55. Morimura, S., Zeng, X., Noboru, N., **Hosono, T.**, 2020. Changes to the microbial communities within groundwater in response to a large crustal earthquake in Kumamoto, southern Japan. *Journal of Hydrology*, 581,124341. <https://doi.org/10.1016/j.jhydrol.2019.124341>
54. Mizota, C., Khanthavong, P., Okumura, A., **Hosono, T.**, 2020. Dual isotopic ($\delta^{15}\text{N}$ - $\delta^{18}\text{O}$) characterization of saltpetre currently prevailing in Lao PDR and its global compilation: new insight into isotope fractionation during production processes. *Isotopes in Environmental and Health Studies*, 56(1), 1-13. <https://doi.org/10.1080/10256016.2020.1717486>
53. **Hosono, T.**, Masaki, Y., 2020. Post-seismic hydrochemical changes in regional groundwater flow systems in response to the 2016 Mw 7.0 Kumamoto earthquake. *Journal of Hydrology*, 580,124340.

<https://doi.org/10.1016/j.jhydrol.2019.124340>

52. Rahman, A.T.M.S., **Hosono, T.**, Kisi, O., Dennis, B., Imon, A.H.M.R., 2020. A minimalistic approach for evapotranspiration estimation using the Prophet model. *Hydrological Sciences Journal*, 65(12), 1-13. <https://doi.org/10.1080/02626667.2020.1787416>
51. Nakagawa, K., Amano, H., Berndtsson, R., Takao, Y., **Hosono, T.**, 2019. Use of sterols to monitor surface water quality change and nitrate pollution source. *Ecological Indicators*, 107,105534. <https://doi.org/10.1016/j.ecolind.2019.105534>
50. Mizota, C., **Hosono, T.**, Matsunaga, M., Okumura, A., Yamanaka, T., 2019. Anthropogenic saltpetre: dual (oxygen and nitrogen) isotopic constraints to the biogeochemical processes. *Archaeometry*, 61(5), 1175-1192. <https://doi.org/10.1111/arcm.12472>
49. Nejatjahromi, Z., Nassery, H.R., **Hosono, T.**, Nakhaei, M., Alijani, F., Okumura, A., 2019. Groundwater nitrate contamination in an area using urban wastewaters for agricultural irrigation under arid climate condition, southeast of Tehran, Iran. *Agricultural Water Management*, 221, 397-414. <https://doi.org/10.1016/j.agwat.2019.04.015>
48. Nikpeyman, Y., **Hosono, T.**, Ono, M., Yang, H., Ichianagi, K., Shimada, J., Takikawa, K., 2019. Sea surficial waves as a driving force that enhances the fresh shallow coastal groundwater flux into the oceans. *Environmental Earth Sciences*, 78, 252. <https://doi.org/10.1007/s12665-019-8258-4>
47. Taniguchi, M., Burnett, K., Shimada, J., **Hosono, T.**, Wada, C.A., Ide, K., 2019. Recovery of lost nexus synergy via payment for environmental services in Kumamoto, Japan. *Frontiers in Environmental Science*, 7, 28. <https://doi.org/10.3389/fenvs.2019.00028>
46. **Hosono, T.**, Yamada, C., Shibata, T., Tawara, Y., Wang, C.-Y., Manga, M., Rahman, A.T.M.S., Shimada, J., 2019. Coseismic groundwater drawdown along crustal ruptures during the 2016 Mw 7.0 Kumamoto earthquake. *Water Resources Research*, 55(7), 5891-5903. <https://doi.org/10.1029/2019WR024871>
45. Taufiq, A., Effendi, A.J., Iskandar, I., **Hosono, T.**, Hutasoit, L.M., 2019. Controlling factors and driving mechanisms of nitrate contamination in groundwater system of Bandung Basin, Indonesia, deduced by combined use of stable isotope ratios, CFC age dating, and socioeconomic parameters. *Water Research*, 148, 292-305. <https://doi.org/10.1016/j.watres.2018.10.049>
44. Taufiq, A., **Hosono, T.**, Iskandar, I., Effendi, A.J., Hutasoit, L.M., 2018. Estimating groundwater mixing ratios from vertical flux processes due to excessive groundwater pumping using hydrogeochemical parameters and nitrate concentrations in the Bandung Basin, Indonesia. *Geologia Croatica*, 71(3), 173-184. <https://doi.org/10.4154/gc.2018.19>
43. **Hosono, T.**, Hartmann, J., Louvat, P., Amann, T., Washington, K.E., West, A.J., Okamura, K., Böttcher, M.E., Gaillardet, J., 2018. Earthquake-induced structural deformations enhance long-term solute fluxes from active volcanic systems. *Scientific Reports*, 8, 14809. <https://doi.org/10.1038/s41598-018-32735-1>
42. Okumura, A., **Hosono, T.**, Boateng, D., Shimada, J., 2018. Evaluations of the downward velocity of soil water movement in the unsaturated zone in a groundwater recharge area using $\delta^{18}\text{O}$ tracer: the Kumamoto region, southern Japan. *Geologia Croatia Journal*, 71, 2. <https://doi.org/10.4154/gc.2018.09>
41. Ide, K., **Hosono, T.**, Hossain, S., Shimada, J., 2018. Estimating silicate weathering timescales from geochemical modeling and spring water residence time in the Kirishima volcanic area, southern Japan. *Chemical Geology*, 488, 44-55. <https://doi.org/10.1016/j.chemgeo.2018.04.009>
40. Mizota, C., **Hosono, T.**, Matsunaga, M., Okumura, A., 2018. Dual (oxygen and nitrogen) isotopic characterization of the museum archived nitrates from the United States of America, South Africa and Australia.

- Science of the Total Environment, 625, 627-632. <https://doi.org/10.1016/j.scitotenv.2017.12.260>
39. Taufiq, A., **Hosono, T.**, Ide, K., Kagabu, M., Iskandar, I., Effendi, A.J., Hutasoit, L.M., Shimada, J., 2017. Impact of excessive groundwater pumping on rejuvenation processes in the Bandung basin (Indonesia) as determined by hydrogeochemistry and modeling. *Hydrogeology Journal*, 26(4), 1263-1279. <https://doi.org/10.1007/s10040-017-1696-8>
38. Nakagawa, K., Amano, H., Takao, Y., **Hosono, T.**, Berndtsson, R., 2017. On the use of coprostanol to identify source of nitrate pollution in groundwater. *Journal of Hydrology*, 550, 663–668. <https://doi.org/10.1016/j.jhydrol.2017.05.038>
37. Rahman, A.T.M.S., Jahan, C.S., Mazumder, Q.H., Kamruzzaman, Md., **Hosono, T.**, 2017. Drought analysis and its implication in sustainable water resource management in Barind area, Bangladesh. *Journal of the Geological Society of India*, 89(1), 47-56. <https://doi.org/10.1007/s12594-017-0557-3>
36. Zeng, X., **Hosono, T.**, Matsunaga, M., Ohta, H., Niidome, T., Shimada, J., Morimura, S., 2017. Spatial distribution of microbial communities in the alluvial aquifer along the Oyodo River, Miyakonojo Basin, Japan. *Journal of Water and Environment Technology*, 15(4), 152-162. <https://doi.org/10.2965/jwet.16-082>
35. Hossain, S., **Hosono, T.**, Yang, H., Shimada, J., 2016. Geochemical processes controlling fluoride enrichment in groundwater at the western part of Kumamoto area, Japan. *Water, Air and Soil Pollution*, 227(10), 385. <https://doi.org/10.1007/s11270-016-3089-3>
34. Zeng, X., **Hosono, T.**, Ohta, H., Niidome, T., Shimada, J., Morimura, S., 2016. Comparison of microbial communities inside and outside of a denitrification hotspot in confined groundwater. *International Biodeterioration & Biodegradation*, 114, 104-109. <https://doi.org/10.1016/j.ibiod.2016.05.019>
33. **Hosono, T.**, Alvarez, K., Kuwae, M., 2016. Lead isotope ratios in six lake sediments cores from Japan Archipelago: Historical record of trans-boundary pollution sources. *Science of the Total Environment*, 559, 24–37. <https://doi.org/10.1016/j.scitotenv.2016.03.138>
32. Mizota, C., **Hosono, T.**, Matsunaga, M., Yamanaka, T., 2016. Oxygen and nitrogen isotopic constraints to the origin of saltpetre in historic gunpowder prevailed during the 19th century in Japan. *Journal of Archaeological Science: Reports*, 6, 547-556. <https://doi.org/10.1016/j.jasrep.2016.03.026>
31. Hossain, S., **Hosono, T.**, Ide, K., Matsunaga, M., Shimada, J., 2016. Redox processes and occurrence of arsenic in a volcanic aquifer system of Kumamoto Area, Japan. *Environmental Earth Sciences*, 75(9), 1-19. <https://doi.org/10.1007/s12665-016-5557-x>
30. Nikpeyman, Y., **Hosono, T.**, Ono, M., Yang, H., Shimada, J., Takikawa, K., 2016. Assessment of the spatial distribution of submarine groundwater discharge (SGD) along the Yatsushiro Inland Sea coastline, SW Japan, using ²²²Rn method. *Journal of Radioanalytical and Nuclear Chemistry*, 307(3), 2123-2132. <https://doi.org/10.1007/s10967-015-4573-8>
29. **Hosono, T.**, Alvarez, K., Lin, I-T., Shimada, J., 2015. Nitrogen, carbon, and sulfur isotopic change during heterotrophic (*Pseudomonas aerofaciens*) and autotrophic (*Thiobacillus denitrificans*) denitrification reactions. *Journal of Contaminant Hydrology*, 183, 72-81. <https://doi.org/10.1016/j.jconhyd.2015.10.009>
28. Neh, A.V., Ako, A.A., Ayuk II, A.R., **Hosono, T.**, 2015. DRASTIC-GIS model for assessing vulnerability to pollution of the phreatic aquiferous formations in Douala–Cameroon. *Journal of African Earth Sciences*, 102, 180-190. <https://doi.org/10.1016/j.jafrearsci.2014.11.001>
27. **Hosono, T.**, Lorphensriand, O., Onodera, S., Okawa, H., Nakano, T., Yamanaka, T., Tsujimura, M., Taniguchi, M., 2014. Different isotopic evolutionary trends of $\delta^{34}\text{S}$ and $\delta^{18}\text{O}$ compositions of dissolved sulfate in an anaerobic deltaic aquifer system. *Applied Geochemistry*, 46, 30-42.

<https://doi.org/10.1016/j.apgeochem.2014.04.012>

- 26. Hosono, T.**, Tokunaga, T., Tsushima, A., Shimada, J., 2014. Combined use of $\delta^{13}\text{C}$, $\delta^{15}\text{N}$, and $\delta^{34}\text{S}$ tracers to study anaerobic bacterial processes in groundwater flow systems. *Water Research*, 54, 284-296. <https://doi.org/10.1016/j.watres.2014.02.005>
- 25. Ako, A.A.**, Shimada, J., **Hosono, T.**, Kagabu, M., Richard, A., Nkeng, G.E., Tongwa, A.F., Ono, M., Eyong, G.E.T., Tandia, B.K., Mouncherou, O.F., 2013. Flow dynamics and age of groundwater within a humid equatorial active volcano (Mount Cameroon) deduced by δD , $\delta^{18}\text{O}$, ^3H and chlorofluorocarbons (CFCs). *Journal of Hydrology*, 502, 156-176. <https://doi.org/10.1016/j.jhydrol.2013.08.032>
- 24. Hosono, T.**, Tokunaga, T., Kagabu, M., Nakata, H., Orishikida, T., Lin, I-T., Shimada, J., 2013. The use of $\delta^{15}\text{N}$ and $\delta^{18}\text{O}$ tracers with an understanding of groundwater flow dynamics for evaluating the origins and attenuation mechanisms of nitrate pollution. *Water Research*, 47(8), 2661-2675. <https://doi.org/10.1016/j.watres.2013.02.020>
- 23. Ako, A.A.**, Shimada, J., **Hosono, T.**, Ichiyanagi, K., Nkeng, G.E., Eyong, G.E.T., Roger, N.N., 2012. Hydrogeochemical and isotopic characteristics of groundwater in Mbanga, Njombe and Penja (banana plain), Cameroon. *Journal of African Earth Sciences*, 75, 25-36. <https://doi.org/10.1016/j.jafrearsci.2012.06.003>
- 22. Ako, A.A.**, Shimada, J., **Hosono, T.**, Kagabu, M., Ayuk, A.R., Nkeng, G.E., Eyong, G.E.T., Fouepe Takounjou, A.L., 2012. Spring water quality and usability in the Mount Cameroon area revealed by hydrogeochemistry. *Environmental Geochemistry and Health*, 34(5), 615-639. <https://doi.org/10.1007/s10653-012-9453-3>
- 21. Hosono, T.**, Ono, M., Burnett, W.C., Tokunaga, T., Taniguchi, M., Akimichi, T., 2012. Spatial distribution of submarine groundwater discharge and associated nutrients within a local coastal area. *Environmental Science and Technology*, 46(10), 5319-5326. <https://doi.org/10.1021/es2043867>
- 20. Ako, A.A.**, Shimada, J., **Hosono, T.**, Ichiyanagi, K., Nkeng, G.E., Fantong, W.Y., Eyong, G.E.T., Roger, N.N., 2011. Evaluation of groundwater quality and its suitability for drinking, domestic, and agricultural uses in the banana plain (Mbanga, Njombe, Penja) of the Cameroon volcanic line. *Environmental Geochemistry and Health*, 33(6), 559-575. <https://doi.org/10.1007/s10653-010-9371-1>
- 19. Hosono, T.**, Delinom, R., Nakano, T., Kagabu, M., Shimada, J., 2011. Evolution model of $\delta^{34}\text{S}$ and $\delta^{18}\text{O}$ in dissolved sulfate in volcanic fan aquifers from recharge to coastal zone and through the Jakarta urban area, Indonesia. *Science of the Total Environment*, 409(13), 2541-2554. <https://doi.org/10.1016/j.scitotenv.2011.03.039>
- 18. Hosono, T.**, Nakano, T., Shimizu, Y., Onodera, S., Taniguchi, M., 2011. Hydrogeological constraint on nitrate and arsenic contamination in Asian metropolitan groundwater. *Hydrological Processes*, 25(17), 2742-2754. <https://doi.org/10.1002/hyp.8015>
- 17. Hosono, T.**, Su, C-C., Delinom, R., Umezawa, Y., Toyota, T., Kaneko, S., Taniguchi, M., 2011. Decline in heavy metal contamination in marine sediments in Jakarta Bay, Indonesia due to increasing environmental regulations. *Estuarine, Coastal and Shelf Science*, 92(2), 297-306. <https://doi.org/10.1016/j.ecss.2011.01.010>
- 16. Hosono, T.**, Wang, C-H., Umezawa, Y., Nakano, T., Onodera, S., Nagata, T., Yoshimizu, C., Tayasu, I., Taniguchi, M., 2011. Multiple isotope (H, O, N, S and Sr) approach elucidates complex pollution causes in the shallow groundwater of the Taipei urban area. *Journal of Hydrology*, 379(1), 23-36. <https://doi.org/10.1016/j.jhydrol.2010.11.025>
- 15. Hosono, T.**, Su, C-C., Okamura, K., Taniguchi, M., 2010. Historical record of heavy metal pollution deduced by lead isotope ratios in core sediments from the Osaka Bay, Japan. *Journal of Geochemical Exploration*, 107(1), 1-8. <https://doi.org/10.1016/j.gexplo.2010.05.003>

14. **Hosono, T.**, Siringan, F., Yamanaka, T., Umezawa, Y., Onodera, S., Nakano, T., Taniguchi, M., 2010. Application of multi-isotope ratios to study the source and quality of urban groundwater in Metro Manila, Philippines. *Applied Geochemistry*, 25(6), 900-909. <https://doi.org/10.1016/j.apgeochem.2010.03.009>
13. **Hosono, T.**, Su, C-C., Siringan, F., Amano, A., Onodera, S., 2010. Effects of environmental regulations on heavy metal pollution decline in core sediments from Manila Bay. *Marine Pollution Bulletin*, 60(5), 780-785. <https://doi.org/10.1016/j.marpolbul.2010.03.005>
12. **Hosono, T.**, Ikawa, R., Shimada, J., Nakano, T., Saito, M., Onodera, S., Lee, K-K., Taniguchi, M., 2009. Human impacts on groundwater flow and contamination deduced by multiple isotopes in Seoul City, South Korea. *Science of the Total Environment*, 407(9), 3189-3197. <https://doi.org/10.1016/j.scitotenv.2008.04.014>
11. Umezawa, U., **Hosono, T.**, Onodera, S., Siringan, F., Buapeng, S., Delinom, R., Yoshimizu, C., Tayasu, I., Nagata, T., Taniguchi, M., 2009. Tracing the sources of nitrate and ammonium contamination in groundwater under developing Asian megacities. *Science of the Total Environment*, 407(9), 3218-3231. <https://doi.org/10.1016/j.scitotenv.2009.01.048>
10. Onodera, S., Saito, M., Sawano, M., **Hosono, T.**, Taniguchi, M., Shimada, J., Umezawa, Y., Lubis, R.F., Buapeng, S., Delinom, R., 2009. Effects of intensive urbanization on the intrusion of shallow groundwater into deep groundwater; examples from Bangkok and Jakarta. *Science of the Total Environment*, 404(2), 401-410. <https://doi.org/10.1016/j.scitotenv.2008.08.003>
9. **Hosono, T.**, Nakano, T., Shin, K., Murakami, H., 2008. Assimilation of lower to middle crust by high alumina basalt magma as an explanation for the origin of medium-K volcanic rocks in southern Kyushu, Japan. *Lithos*, 105(1), 51-62. <https://doi.org/10.1016/j.lithos.2008.02.007>
8. Nakano, T., Tayasu, I., Yamada, Y., **Hosono, T.**, Igeta, A., Hyodo, F., Ando, A., Saitoh, Y., Tanaka, T., Wada, E., Yachi, S., 2008. Effect of agriculture on water quality of Lake Biwa tributaries, Japan. *Science of the Total Environment*, 389(1), 132-148. <https://doi.org/10.1016/j.scitotenv.2007.08.042>
7. **Hosono, T.**, Nakano, T., Igeta, A., Tayasu, I., Tanaka, T., Yachi, S., 2007. Impact of fertilizer on a small watershed of Lake Biwa: Use of sulfur and strontium isotopes in environmental diagnosis. *Science of the Total Environment*, 384(1-3), 342-354. <https://doi.org/10.1016/j.scitotenv.2007.05.033>
6. **Hosono, T.**, Uchida, E., Suda, C., Ueno, A., Nakagawa, T., 2006. Salt weathering of sandstone at the Angkor monuments, Cambodia: identification of the origins of salts using sulfur and strontium isotopes. *Journal of Archaeological Science*, 33(11), 1541-1551. <https://doi.org/10.1016/j.jas.2006.01.018>
5. Kawamura, K., **Hosono, T.**, Allawati, H.M., Ogawa, Y., Taniguchi, H., 2005. Origin of layering in cumulate gabbros in the Oman ophiolite: Insights from magnetic susceptibility measurements in the Wadi Sadm area. *The Island Arc*, 14(4), 564-570. <https://doi.org/10.1111/j.1440-1738.2005.00484.x>
4. Nakano, T., Nishikawa, M., Mori, I., Shin, K., **Hosono, T.**, Yokoo, Y., 2005. Source and evolution of the "perfect Asian dust storm" in early April 2001: Implications of the Sr-Nd isotope ratios. *Atmospheric Environment*, 39(30), 5568-5575. <https://doi.org/10.1016/j.atmosenv.2005.05.050>
3. **Hosono, T.**, Nakano, T., 2004. Pb-Sr isotopic evidence for contribution of deep crustal fluid of the Hishikari epithermal gold deposit, southwestern Japan. *Earth and Planetary Science Letters*, 222(1), 61-69. <https://doi.org/10.1016/j.epsl.2004.02.010>
2. **Hosono, T.**, Nakano, T., Murakami, H., 2003. Sr-Nd-Pb isotopic compositions of volcanic rocks around the Hishikari gold deposit, southwest Japan: implications for the contribution of a felsic lower crust. *Chemical Geology*, 201(1), 19-36. [https://doi.org/10.1016/S0009-2541\(03\)00205-5](https://doi.org/10.1016/S0009-2541(03)00205-5)
1. **Hosono, T.**, Nakano, T., 2003. Petrochemistry of volcanic rocks in the Hishikari mining area of southern Japan,

with implications for the relative contribution of lower crust and mantle-derived basalt. *Resource Geology*, 53(4), 239-259. <https://doi.org/10.1111/j.1751-3928.2003.tb00174.x>

Peer review non-ISI international journals (international journal without impact factor)

2. Ako, A.A., Eyong, G.E.T., Shimada, J., Koike, K., **Hosono, T.**, Ichiyangi, K., Richard, A., Tandia, B.K., Nkeng, G.E., Roger, N.N., 2014. Nitrate contamination of groundwater in two areas of the Cameroon Volcanic Line (Banana Plain and Mount Cameroon area). *Applied Water Science*, 4(2), 99-113. <https://doi.org/10.1007/s13201-013-0134-x>
1. Ako, A.A., Shimada, J., Ichiyangi, K., Koike, K., **Hosono, T.**, Eyong, G.E.T., Iskandar, I., 2010. Isotope hydrology and hydrochemistry of water resources in the banana plain (Mungo-division) of the Cameroon Volcanic Line. *Journal of Environmental Hydrology*, 18(4), 1-20.

Peer review non-ISI domestic journals (shown only for papers writing in English)

2. Motoki, A., Orihashi, Y., Naranjo, J.A., Hirata, D., **Hosono, T.**, Cario, F.D., Anma, R., 2003. Geologic occurrence and recent eruptive materials of the Lautaro Volcano, Chilean Patagonia. *Journal of Geological Society of Japan*, 109, no. 5, frontispiece.
1. Motoki, A., Orihashi, Y., Hirata, D., Haller, M.J., **Hosono, T.**, Cario, F.D., Schilling, M., Anma, R., 2003. Monogenic volcanoes of Patagonian back-arc province, southern Argentina. *Jour. Geol. Soc. Japan*, 109, no. 7, frontispiece.

Conference papers, proceedings (shown only for papers writing in English)

8. Nikpeyman, Y., Ono, M., **Hosono, T.**, Yang, H., Ichiyangi, K., Shimada, J., Takikawa, K., 2014. Distribution patterns of salinity and ^{222}Rn in Yatsushiro Inland Sea, Kyushu, Japan. *IAHS Publ.*, 365, 49-54.
7. **Hosono, T.**, Tokunaga, T., Tsushima, A., Kagabu, M., Nakata, H., Shimada, J., 2013. Multiple-use of stable isotope ratios to understand groundwater quality changes in Kumamoto area, southern Japan. *IAHS Publ.*, 361, 257-264.
6. Ako, A.A., Shimada, J., Ichiyangi, K., Koike, K., **Hosono, T.**, Takem, G.E.E., Irwan, I., 2010. Hydrochemical and isotopic characteristics of water resources in the Banana Plain (Mungo Division) Cameroon. XXXVIII IAH Congress. University of Silesia Press 2010, 375-383.
5. **Hosono, T.**, Buapeng, S., Onodera, S., Yamanaka, T., Shimada, J., Nakano, T., Taniguchi, M., 2009. Sulfate and strontium isotopic variations of groundwater in the Lower Central Plain, Thailand. *IAHS Publ.*, 329, 284-290.
4. **Hosono, T.**, Delinom, R., Onodera, S., Umezawa, Y., Nakano, T., Taniguchi, M., 2009. Cause of groundwater contamination in Jakarta alluvium volcanic fan deduced by sulfate and strontium isotope ratios. *IAHS Publ.*, 329, 201-206.
3. Umezawa, Y., Onodera, S., Ishitobi, T., **Hosono, T.**, Delinom, R., Burnett, W.C., Taniguchi, M., 2009. Effect of urbanization on the groundwater discharge into Jakarta Bay. *IAHS Publ.*, 329, 233-240.
2. Saito, M., Onodera, S., Umezawa, Y., **Hosono, T.**, Shimizu, Y., Delinom, R., Taniguchi, M., 2009. Evaluation of nitrate attenuation potential in the groundwater of Jakarta metropolitan area, Indonesia. *IAHS Publ.*, 329, 305-310.
1. **Hosono, T.**, Umezawa, Y., Onodera, S., Wang, C-H., Siringan, F., Buapeng, S., Delinom, R., Nakano, T., Taniguchi, M., 2009. Comparative study on water quality among Asian megacities based on major ion concentrations. In: *From Headwaters to the Ocean: Hydrological Changes and Watershed Management*

(Taniguchi, M., Burnttt, W.C., Fukushima, Y., Haigh, M. Umezawa, Y. editors), Taylor and Francis, London, UK, pp. 295-300.

Textbooks (shown only for books writing in English)

3. Rahman, A.T.M.S., **Hosono, T.**, Mazumder, Q.H., Jahan, C.S. Sustainable groundwater management in context of climate change in northwest Bangladesh. In: Achievements and challenges of integrated river basin management (Komatina, D. editor), Rijeka, Croatia, IntechOpen, 2018, pp. 101-120. DOI: 10.5772/intechopen.73305.
2. **Hosono, T.** The NA (nitrate-arsenic) boundary as an important concept in aquatic environmental studies. In: The Dilemma of Boundaries: Toward a New Concept of Catchment (Taniguchi, M., Shiraiwa, T. editors), Springer-Verlag, 2012, pp. 37-53.
1. **Hosono, T.** Application of stable isotopes to watershed environmental diagnosis in agricultural irrigation areas. In: Agricultural Irrigation Research Progress (Alonso, D., Iglesias, H.J. editors), Nova Science Publishers, Inc., New York, 2008, Chapter 3, pp. 37-51.

Speech and Lectures (for international conference only)

6. **Hosono, T.** Making contamination future scenario: toward sustainable management of groundwater and surface water resources. Data Assimilation Seminar, RIKEN, 20 January, 2023.
5. **Hosono, T.** Toward making the invisible visible: report from Japan. Pre-Summit Side Event, UN-Water Summit on Groundwater 2022, UNESCO HQ, Paris, and online, 6 December, 2022.
4. **Hosono, T.** Coseismic hydro-environmental changes: insights from 2016 Kumamoto earthquakes, Japan. Lecture Speech in Dipartimento di Scienze della Terra, Sapienza Università di Roma, 15 July, 2022.
3. **Hosono, T.** Groundwater study in Kumamoto, Japan. Lecture Speech in Institut de Physique du Globe de Paris, August, 2017.
2. **Hosono, T.** Groundwater nitrate-arsenic pollution in Asian countries controlled by redox nature of aquifer systems. 1st International Symposium on Groundwater Environment. Kumamoto Univ. Organized by GelK, Surhyc, and CREST project, 21 December, 2010.
1. **Hosono, T.** The NA (nitrate-arsenic) boundary as an important concept in aquatic environmental studies. RIHN 4th International Symposium, Kyoto, Japan. Oct. 2009. Organized by Research Institute for Humanity and Nature, 20 October, 2009.

Presentations (for international conference only)

117. Ishida, M., Jenner, F.E., Hammond, S.J., Cortes-Calderon, E.A., Broderick, C., **Hosono, T.**, Shinjo, R., Wilkinson, J.J. Role of magmatic sulfides in the evolution of magmas associated with high-grade epithermal gold deposits: an example from southern Kyushu, Japan. 48th Annual MDSG, 5-7 Jan 2026, Cardiff (presentation on 6th Jan).
116. Nakagawa, K., Li, Z., **Hosono, T.**, Takao, Y., Berndtsson, R. Assessing Nitrate Contamination and Sterol Indicators in Deep Groundwater of Kumamoto, Japan. IAH 2025, 15-19 Sep 2025, Melbourne.
115. Nakagawa, K., Li, Z., **Hosono, T.**, Berndtsson, R. Identifying key drivers for nitrate pollution from 1960 to 2020 – Key lessons from Japan. AOGS 2025 22nd Annual Meeting, 27 Jul-1Aug 2025, Singapore.

114. Ishida, M., Nakamura, K., Hammond, S. J., Jenner, F. E., Aizawa, M., **Hosono, T.**, Shinjo, R., Iwamori, H., Kato, Y., Wilkinson, J. Role of slab bending in the epithermal gold mineralization of South Kyushu, Japan. 2025 Goldschmidt Conference, 6-11 Jul 2025, Prague.
113. Ke-Han, S., Shinjo, R., Ito, Y., Moromizato, Y., Matuoka, K., Yasumoto, J., Yasumoto, K., Iijima, M., **Hosono, T.**, Boron
Isotope-Based Assessment of Human Activity-Induced Contamination in the Ryukyu Limestone Groundwater System. 2025 Goldschmidt Conference, 6-11 Jul 2025, Prague.
112. Yasumoto, J., Tanoue, O., Leong, K., Yasumoto, K., Iijima, M., **Hosono, T.**, Nakaya, S., Shinjo, R., Taniguchi, M. High-Rate Submarine Groundwater Discharge and Its Interaction with the Freshwater-Seawater Interface in a Coastal Limestone Aquifer. 28th Salt Water Intrusion Meeting, 2-6 Jun 2025, Barcelona.
111. Hirata, N., Ikehara, T., **Hosono, T.**, Yasumoto, K., Yasumoto, J., Iijima, M., Shinjo, R., Assessment of environmental impacts using nitrogen stable isotope ratios of seaweeds and terrestrial groundwater samples from in Sekisei Lagoon, Okinawa. JPGU 2025, 25-30 May 2025, Makuhari.
110. Tanigami, T., Mizusawa, N., Yamazaki, A., Ide, R., Watabe, S., Iijima, M., Yasumoto, J., Nakamura, T., **Hosono, T.**, Yasumoto, K. Visualization of Terrestrial Influence on Coral Reef Ecosystems through Microbial Community Analysis of Sediments and EPS in Sekisei Lagoon. JPGU 2025, 25-30 May 2025, Makuhari.
109. Muraoka, T., Aihara, T., Ide, R., Tanigami, T., Matuoka, K., Minami, R., Mizusawa, N., Yasumoto, K., Yasumoto, J., Hosono, T. Origin and fate of groundwater nitrate-nitrogen pollution in the Kumamoto area based on isotopic ratio and metagenomic analysis. JPGU 2025, 25-30 May 2025, Makuhari.
108. Yamazaki, A., Tanigami, T., Ide, R., Mizusawa, N., Watabe, S., Iijima, M., **Hosono, T.**, Yasumoto, J., Nakamura, T., Yasumoto, K. Relationship between Exchangeable Phosphate in Seawater (EPS) in sediment and coral reef ecosystem in Sekisei Lagoon. JPGU 2025, 25-30 May 2025, Makuhari.
107. Yasumoto, J., Chris, L., Yasumoto, K., Minami, R., Ke-Han, S., Iijima, M., **Hosono, T.**, Taniguchi, M., Shinjo, R. Phosphate Loading From a Freshwater Lens and Its Contribution to Exchangeable Phosphorus in Seafloor Sediments: Implications for Coral Reef Ecosystems. JPGU 2025, 25-30 May 2025, Makuhari.
106. Ishida, M., Nakamura, K., Jenner, F., **Hosono, T.**, Shinjo, R., Iwamori, H., Kato, Y., Wilkinson, J.J. Source magma perspective on epithermal gold mineralisation in South Kyushu, Japan. MDSG Annual General Meeting 2025, 6-8 January 2025, Dublin.
105. Kawasaki, M., Sawada, M., Tawara, Y., Kobayashi, T., Fukuoka, Y., Tada, K., Shimada, J., **Hosono, T.**, Katsuya, K., Shin-no, K., Koga, H., Nakahori, Y. Use of simulations to evaluate the balance between recharge and pumping to contribute to the development of policies for sustainable groundwater use in the Kumamoto area, southern Japan. EGU General Assembly 2024, 14-19 April, Vienna Austria.
104. Kawasaki, M., Sawada, M., Tawara, Y., Kobayashi, T., Fukuoka, Y., Tada, K., Shimada, J., **Hosono, T.**, Katsuya, K., Shin-no, K., Koga, H., Nakahori, Y. Development of a surface-subsurface integrated model for understanding and managing the groundwater resources through multi-stakeholder participation in Kumamoto Area, southern Japan (Part 1). AGU 2023 Meeting, 11-15 December 2023, San Francisco, USA (presentation on 13th Dec).
103. Maruyama, R., Mizusawa, N., Yasumoto, K., Takada, R., Yasumoto, J., Yasumoto-H, M., Iguchi, A., **Hosono, T.**, Shinjo, R., Watabe, S. Seasonal changes in the microbial communities and abundances of genes related to nitrogen and sulfur metabolisms in the Ryukyu limestone aquifer. APMBC 2023, 2th-6th Oct 2023, Adelaide, Australia (presentation on 3th Oct).
102. Ishida, M., Nakamura, K., Iwamori, H., **Hosono, T.**, Kato, Y. Utility of volcanic rock geochemistry in

- discriminating fertile areas for epithermal gold mineralization: A case study in Japan. The 17th SGA Biennial Meeting 2023, 28th Aug-1st Sep 2023, Zurich, Switzerland (presentation on 1st Sep).
101. Nakagawa, K., Zhuolin, L., Shahidal, M.I., Aihara, T., **Hosono, T.**, Takao, Y. Source Identification of Nitrate Pollution in Groundwater Using Fecal Sterol Markers of an Urban Area in Japan. AOGS 2023, 30 Jul-04 Aug 2023, Singapore (presentation on 31th Jul).
100. Yasumoto, J., Machida, R., Yasumoto-H, M., Kinjo, N., Yasumoto, K., Maruyama, R., Mizusawa, N., **Hosono, T.**, Razafindrabe, B.H., Shinjo, R. Characteristics of nirS denitrification-related genes variation in groundwater in the Ryukyu limestone area. Japan Geoscience Union Meeting 2023, 21-26 May 2023, Makuhari Messe, Chiba, Japan (presentation on 26th May).
99. Rahman, M.S., Onodera, S., Ishida, T., Saito, M., Wang, K., **Hosono, T.**, Umezawa, Y. Impact of Anthropogenic phosphorus loading on authigenic apatite in marine sediment of Osaka Bay. Japan Geoscience Union Meeting 2023, 21-26 May 2023, Makuhari Messe, Chiba, Japan (presentation on 26th May).
98. Ikehara, T., **Hosono, T.**, Hermawan, O.R., Yasumoto, J., Yasumoto, K., Maruya, R., Iijima, M., KE-HAN SONG., Shinjo, R. Origin and behavior of nitrate nitrogen in the freshwater lens deduced by multiple stable isotope ratios in Tarama Island, Okinawa, Japan. Japan Geoscience Union Meeting 2023, 21-26 May 2023, Makuhari Messe, Chiba, Japan (presentation on 26th May).
97. Kuribayashi, C., **Hosono, T.**, Tanimizu, M. Tracing anthropogenic nitrate sources with $^{234}\text{U}/^{238}\text{U}$ isotopic ratios in groundwater in Kumamoto Area. Japan Geoscience Union Meeting 2023, 21-26 May 2023, Makuhari Messe, Chiba, Japan (presentation on 24th May).
96. Rio, M., Mizusawa, N., Yasumoto, K., Takada, R., Yasumoto, J., Yasumoto, M., Iijima, M., Iguchi, A., Hermawan, O.R., **Hosono, T.**, SONG, K.-H., Shinjo, R., Watabe, S. Microbial Communities and Genes Related to Nitrogen and Sulfur Metabolisms in the Ryukyu Limestone Aquifer. Japan Geoscience Union Meeting 2023, 21-26 May 2023, Makuhari Messe, Chiba, Japan (presentation on 26th May).
95. Ishida, M., Nakamura, K., Iwamori, H., **Hosono, T.**, Kato, Y. Importance of trans-crustal geological processes in understanding the genesis of giant epithermal gold deposits: The case of Hishikari deposit, Japan. EGU2023, 23-28 April 2023, Vienna, Austria.
94. Maruyama, R., Mizusawa, N., Yasumoto, J., Iijima, M., Yasumoto, K., Hirose, M., Iguchi, A., Jimbo, M., Watabe, S., Takada, R., **Hosono, T.**, Hermawan, O.R. Shotgun metagenomic analysis on the groundwater microbial communities and screening of the functional genes related to the nitrogen cycling in Ryukyu Limestone area. Japan Geoscience Union Meeting 2022, 22 May–2 June 2022, Makuhari Messe, Chiba, Japan (presentation on 1st June).
93. Hermawan, O.R., **Hosono, T.**, Yasumoto, J., Song, K.H., Shinjo, R., Takada, R. Identification of the occurrence of denitrification in the Ryukyu limestone aquifer in southern Okinawa. Japan Geoscience Union Meeting 2022, 22 May – 2 June 2022, Makuhari Messe, Chiba, Japan (presentation on 1st June).
92. Romero-Mujalli, G., Hartmann, J., **Hosono, T.**, Ide, K., Amann, T., Louvat, P. Hydrothermal influence on rock weathering in the Kirishima volcanic complex. Goldschmidt 2021, 4-9 July 2021, online conference, Lyon, France (presentation on 6th July).
91. Rahman, A.T.M.S., **Hosono, T.**, Tawara, Y., Fukuoka, Y., Hazart, A., Shimada, J. Physically Based Groundwater Flow Simulation using Tracer-aided model in Kumamoto Region, Japan. JpGU-AGU joint session, Japan Geoscience Union Meeting 2021, online, 30 May-6 June 2021 (presentation on 4th June).
90. Hermawan, O.R., **Hosono, T.**, Yasumoto, J., Sawada, K., Song, K.-H., Shinjo, R. Nitrate contamination source identification by using multiple isotopes ratios in Ryukyu limestone aquifer, southern Okinawa island, Japan.

JpGU-AGU joint session, Japan Geoscience Union Meeting 2021, online, 30 May-6 June 2021 (presentation on 4th June).

89. Yasumoto, J. Shinjo, R., Razafindrabe, B., Toki, T., Sawada, K., **Hosono, T.**, Hermawan, O.R., Nakaya, S., Takada, R., Nakagawa, K., Kagabu, M., Tawara, Y., Murai, A., Yasumoto, K., Mizusawa, N., Hirose, M., Maruyama, R., Iijima, M., Iguchi, A. Watershed Governance Based on Participation and Consensus for Sustainable Water Resource Use in Subtropical Islands. JpGU-AGU joint session, Japan Geoscience Union Meeting 2021, online, 30 May-6 June 2021 (presentation on 4th June).
88. **Hosono, T.**, Manga, M., Wang, C.-Y., Working Group of Japanese Association for Groundwater Hydrology. Coseismic hydroenvironmental changes in response to 2016 Mw 7.0 Kumamoto crustal earthquake, southern Japan: insights from multidisciplinary approaches. AGU Fall Meeting, 9-13 December 2019, in Moscone Center San Francisco CA, San Francisco, USA (**invited**).
87. Atwood, A., West, A. J., Ide, K., **Hosono, T.**, Clark, M., Zekkos, D., Medwedeff, W., Tiwari, S., Chamlagain, D. Response of chemical weathering and hillslope hydrology along an exhumation gradient in central Nepal. AGU Fall Meeting, 9-13 December 2019, in Moscone Center San Francisco CA, San Francisco, USA.
86. Atwood, A., West, A. J., Ide, K., **Hosono, T.**, Clark, M., Zekkos, D., Medwedeff, B., Tiwari, S., Chamlagain, D. Response of chemical weathering and hillslope hydrology along an exhumation gradient in central Nepal: Landslides, fracturing and more. Galileo Conferences, 13-19 October 2019, in Hotel View Bhrikuti, Godawari, Nepal.
85. Hermawan, O. R., **Hosono, T.**, Yasumoto, J., Nozaki, M. Underground dam construction impact to the groundwater quantity and quality of Ryukyu limestone aquifer in southern Okinawa island, Japan. 46th IAH Congress, 22-27 September 2019, in FYCMA, Malaga, Spain.
84. Okamura, K., **Hosono, T.**, Romero-Mujalli, G., Amann, T., Louvat, P., Hartmann, J. Distribution and formation of highly saline water in the northwest plain of Aso caldera, south Japan. Goldschmidt 2019, 18-23 August 2019, in CCBI, Barcelona, Spain.
83. **Hosono, T.**, Yamada, C., Shibata, T., Tawara, Y., Shimada, J. Coseismic groundwater level change after the 2016 Kumamoto earthquake. 45th IAH Congress, 9-14 September 2018, in Daejeon Convention Center, Daejeon, South Korea.
82. Boateng, D., **Hosono, T.**, Okumura, A., Sakiur Rahman, A.T.M., Shimada, J. Deciphering downward movement of nitrate through volcanic unsaturated formation using high composition $\delta^{15}\text{N}$ and $\delta^{18}\text{O}$ tracers. 45th IAH Congress, 9-14 September 2018, in Daejeon Convention Center, Daejeon, South Korea.
81. Kagabu, M., Ide, K., **Hosono, T.**, Nakagawa, K., Shimada, J. Tank model analysis of coseismic groundwater-level changes induced by 2016 Kumamoto Earthquake. 45th IAH Congress, 9-14 September 2018, in Daejeon Convention Center, Daejeon, South Korea.
80. Masaki, Y., Shimada, J., **Hosono, T.** Coseismic change of groundwater quality after the Kumamoto earthquake using long-term public observation data. 45th IAH Congress, 9-14 September 2018, in Daejeon Convention Center, Daejeon, South Korea.
79. Miyakoshi, A., Taniguchi, M., Ide, K., Kagabu, M., **Hosono, T.**, Shimada, J. Changes in groundwater flow estimated by repeated measurements of subsurface temperature in the Kumamoto area, Japan: Effects of 2016 Kumamoto earthquake. 45th IAH Congress, 9-14 September 2018, in Daejeon Convention Center, Daejeon, South Korea.
78. Sakiur Rahman, A.T.M., **Hosono, T.**, Tawara, Y., Boateng, D., Shimada, J. Fully Coupled Surface and Subsurface Flow Simulation with Model Validation Using Stable Isotopes and Tracer of Kumamoto Region in

- Japan. 45th IAH Congress, 9-14 September 2018, in Daejeon Convention Center, Daejeon, South Korea.
77. Shimada, J., **Hosono, T.**, Nakagawa, K. Scientific Research Project on the effect of 2016 Kumamoto earthquake to the local hydro-logical system including groundwater. 45th IAH Congress, 9-14 September 2018, in Daejeon Convention Center, Daejeon, South Korea.
76. Tawara, Y., Fukuoka, Y., Yoshida, T., **Hosono, T.**, Rahman, S., Shimada, J. Numerical modeling study on reproducing groundwater level change caused by the 2016 Kumamoto Earthquake. 45th IAH Congress, 9-14 September 2018, in Daejeon Convention Center, Daejeon, South Korea.
75. Gaspard, F., Opfergelt, S., Hartmann, J., **Hosono, T.**, Delmelle, P. Seasonal variations of dissolved Ge:Si ratios in streams from the Aso caldera, Kyushu, Japan. Goldschmidt 2018 from 12-17 August 2018, in Boston, USA.
74. Romero-Mujalli, G., Hartmann, J., **Hosono, T.**, Amann, T., Louvat, P., Böttcher, M. Evaluating the contribution of high temperature fluids to surface waters using Se/SO₄ ratios and the stable isotopes of sulfur and carbon for the Aso caldera, Japan. EGU General Assembly 2018, from 8-13 April 2018 in Austria Center Vienna, in Vienna, Austria.
73. Ishii, E., Watanabe Y., Agusa, T., **Hosono, T.**, Mine, T., Yasojima, M., Takasuga, T., Nakata, H. Sugar-like chemicals in groundwater may play an important role to identify damaged sewer pipes in Asian urban area: Application to Myanmar. Symposium, 25 December 2017, in Myanmar.
72. Washington, K., West, A.J., Hartmann, J., Amann, T., **Hosono, T.**, Ide, K. Constraining Silicate Weathering Processes in an Active Volcanic Complex: Implications for the Long-term Carbon Cycle. AGU fall meeting 2017 from 11-15 December 2017 in New Orleans Ernest N. Morial Convention Center, 12 December 2017 in New Orleans, LA, USA.
71. Sugimoto, N., **Hosono, T.**, Tanimizu, M. Origin of groundwater in Kumamoto city estimated from multiple stable isotope proxies (B, Li, O H). 7th Asia-Pacific Winter Conference on Plasma Spectrochemistry from 12-17 November 2017 in Kunibiki Messe, Matsue, Japan.
70. Nakashima, S., **Hosono, T.** Lead isotopic ratios and concentration of trace metal elements of precipitation in Japan. ACM 2017 from 23-24 October 2017 in BEXCO Convention Hall, 24 October 2017 in Busan, Korea.
69. Yamada, C., **Hosono, T.**, Shibata, T., Shimada, J. Mechanisms of groundwater level changes after the 2016 Kumamoto earthquake. 44th IAH Congress Groundwater Heritage and Sustainability, from 25-29 September 2017, in Dubrovnik Place Hotel, 26 September 2017 in Dubrovnik, Croatia.
68. Taufiq, A., **Hosono, T.**, Iskandar, I., Effendi, J.A., Hutasoit M.L., Shimada, J. Estimating groundwater mixing ratios using hydrogeochemistry parameters and nitrate isotopes due to excessive groundwater pumping in the Bandung basin, Indonesia. 44th IAH Congress Groundwater Heritage and Sustainability, from 25-29 September 2017 in Dubrovnik Place Hotel, 29 September 2017 in Dubrovnik, Croatia.
67. Okumura, A., **Hosono, T.**, Shimada, J. Behaviors of nitrate in unsaturated zone in groundwater recharge area in Kumamoto, southern Japan. 44th IAH Congress Groundwater Heritage and Sustainability, from 25-29 September 2017 in Dubrovnik Place Hotel, 29 September 2017 in Dubrovnik, Croatia.
66. Kawabata, K., **Hosono, T.**, Sato, T., Takahashi, H.A., Ide, K., Kitamura, Y. Change of groundwater radon concentration caused by 2016 Kumamoto earthquake. CWB 2017 International Workshop, from 5-6 September 2017 in International Conference Hall, 5 September 2017 in Taiwan.
65. **Hosono, T.**, Hashimoto, M., Hartmann, J., Louvat, P., Bouchez, J., Gaillardet, J., Washington, K.E., West, J., Okumura, A., Ide, K., Sato T., Takahashi, H.A. Geochemical characteristics of new spring water occurred after the Kumamoto earthquake. Goldschmidt 2017 from 13-18 August, in Paris, France.

64. Ishii, E., Kannan, K., **Hosono, T.**, Agusa, T., Nakata, H. Assessment of groundwater pollution using persistent sewer tracers after the 2016 Kumamoto earthquake. 19th International Symposium on Pollutant Responses in Marine Organisms (PRIMO 19) from 30 June to 3 July, 2017, Matsuyama, Japan.
63. Okumura, A., **Hosono, T.**, Shimada, J. Nitrate behaviors and its transportation time scale in unsaturated zone under farmlands with different fertilization log in Kumamoto region, southern Japan. European Geosciences Union General Assembly 2017 from 24-28 April 2017 in Austria Center Vienna in Vienna, Austria.
62. Nakagawa, K., Takao, Y., **Hosono, T.** Feasibility study on the use of Coprostanol to identify the source of nitrate groundwater pollution. American Geophysical Union (AGU) 2016 Fall meeting, 12-16 December 2016 in San Francisco, USA (abstract: H33F-1599).
61. Ide, K., **Hosono, T.**, Hossain, S., Shimada, J. Time scale evaluation of transitions of chemical weathering reactions in Kirishima volcanic area, Japan. Goldschmidt 2016 from 26 June-1 July in Pacifico Yokohama, 27 June 2016 in Yokohama, Japan.
60. Louvat, P., Hartmann, J., **Hosono, T.**, Ide, K., Bouchez, J., Gaillardet, J. Behaviour of boron isotopes in the streams and springs of Aso Caldera, Kyushu, Japan. Goldschmidt 2016 from 26 June-1 July in Pacifico Yokohama, 27 June 2016 in Yokohama, Japan.
59. Washington, K.E., West, A.J., Paris, A.G., **Hosono, T.**, Ide, K., Boettcher, M., Amann, T., Hartmann, J. Dissolved lithium flux and isotopic composition from weathering of an active volcanic system, Aso Caldera, Japan. Goldschmidt 2016 from 26 June-1 July in Pacifico Yokohama, 27 June 2016 in Yokohama, Japan.
58. Okumura, A., **Hosono, T.**, Shimada, J. Nitrate behaviors in unsaturated zone under farmlands with different fertilization log at Kumamoto region, Japan. European Geosciences Union General Assembly 2016 from 17–22 April 2016 in Austria Center Vienna in Vienna, Austria.
57. **Hosono, T.**, Alvarez, K., Kuwae, M. Trans-boundary Pb pollution history in Japan archipelago deduced by lake sediment core analysis. Goldschmidt 2015 from 16/8-21/8 in Prague Congress Centre, 19 August 2015 in Prague, Czech Republic.
56. Tanimizu, M., Kohno, M., Asahara, Y., Minami, M., **Hosono, T.**, Reconstruction of heavy element emission history from a peat-rich pond in the western Pacific region. Goldschmidt 2015 from 16/8-21/8 in Prague Congress Centre, 18 August 2015 in Prague, Czech Republic.
55. Hossain, S., **Hosono, T.**, Shimada, J. Geochemistry of Arsenic and Other Trace Elements in a Volcanic Aquifer System of Kumamoto Area, Japan. Goldschmidt 2015 from 16/8-21/8 in Prague Congress Centre, 18 August 2015 in Prague, Czech Republic.
54. Alvarez, K., **Hosono, T.**, Kuwae, M. Lead isotopes ratios in six lake sediments cores from Japan archipelago: historical record of trans-boundary pollution sources. Summer visiting in Kumamoto University by NTU, 10 Aug 2015.
53. **Hosono, T.** Spatial distribution and potential flux of SGD in the Yatsushiro Bay, southern Japan, using continuous ^{222}Rn measurement and simulation model. Summer visiting in Kumamoto University by NTU, 10 Aug 2015.
52. Kojima, T., **Hosono, T.**, Zhang, D. Sulfur and Oxygen Isotope Analysis of PM_{2.5} in Kumamoto Prefecture, Southwest Japan. 2015 Asian Aerosol Conference (AAC2015 from 24/6-26/6), 24 June 2015 in Kanazawa, Japan.
51. Honda, H., Taniguchi, M., Ono, M., **Hosono, T.**, Umezawa, Y., Sugimoto, R., Yamada, M. Radon-222 concentrations in coastal water and environmental conditions in Japan, Methods and Applications of Radio analytical Chemistry (MARC X 2015 Conference, from 12/4-17/4), 14 April 2015 in Kailua-Kona, Hawaii, USA.

50. Nikpeyman, Y., **Hosono, T.**, Ono, M., Yang, H., Shimada, J. The evaluation of Submarine Groundwater Discharge (SGD) input toward the Yatsushiro Inland Sea by combining the ^{222}Rn spatial distribution and temporal fluctuations. Methods and Applications of Radio analytical Chemistry (MARC X 2015 Conference from 12/4-17/4), 14 April 2015 in Kailua-Kona, Hawaii, USA.
49. Zeng, X.Y., **Hosono, T.**, Yoshida, C., Ohta, H., Niidome, T., Shimada, J., Morimura, S. Phylogenetic analysis and distribution of bacterial community in groundwater in Kumamoto prefecture. The 66th Annual Meeting of the Society for Biotechnology, 11 September 2014 in Sapporo, Japan.
48. Tase, N., Onodera, S., Yamanaka, T., Saraiva, F., Terada, R., Hirata, R., Shirota, R., **Hosono, T.**, Lee, S. Dynamics of water and nutrients around border of eucalyptus forest and sugar cane field in Rio Claro, São Paulo. Workshop on Water, Nitrogen, and Agriculture in the State of São Paulo, Brazil, 28 February 2014 in Tsukuba, Japan.
47. Hossain, S., **Hosono, T.**, Tokunaga, T., Ide, K., Shimada, J. Geochemical modeling of groundwater evolution in a volcanic aquifer system of Kumamoto area, Japan. American Geophysical Union (AGU) 2013 Fall meeting, 9-13 December 2013 in San Francisco, USA (abstract: H11H-1247).
46. Watanabe, Y., Orishikida, T., Nakata, H., **Hosono, T.**, Kagabu, M., Ono, M., Tokunaga, T., Shimada, J. An artificial sweetener, acesulfame: Candidate of chemical tracers for evaluation of sewage exfiltration in groundwater. Setac North America 34th Annual Meeting, 17-21 November 2013 in Nashville, TN, USA.
45. Nikpeyman, Y., Ono, M., **Hosono, T.**, Yang, H., Takikawa, K., Shimada, J. Evaluating the contribution of rivers ^{222}Rn activity and submarine groundwater discharge (SDG) in Yatsushiro Sea, Japan. IAHS-IAPSO-IAPSEI, 22-26 July 2013 in Gothenburg, Sweden.
44. Ide, K., Shimada, J., **Hosono, T.**, Kagabu, M., Kudo, K. Residence time and hydrogeochemical evolution of natural spring water in the Kirishima Volcano, southern Japan. IAHS-IAPSO-IAPSEI, 22-26 July 2013 in Gothenburg, Sweden.
43. Shimada, J., Masaki, M., Kudo, K., **Hosono, T.**, Tanoue, M., Tawara, Y., Mori, K. Evaluation of the groundwater recharge rate for different land use by using stable water isotopes profiles in unsaturated soil. IAHS-IAPSO-IAPSEI, 22-26 July 2013 in Gothenburg, Sweden.
42. **Hosono, T.**, Tokunaga, T., Tsushima, A., Kagabu, M., Nakata, H., Shimada, J. Multiple use of stable isotope ratios to understand groundwater quality changes and attenuation processes in Kumamoto area, southern Japan. IAHS-IAPSO-IAPSEI, 22-26 July 2013 in Gothenburg, Sweden.
41. **Hosono, T.**, Tokunaga, T., Nakata, H., Kagabu, M., Shimada, J. Introduction of the groundwater nitrate pollution study in Kumamoto, southern Japan. Environmental Isotope Course 2013, Barcelona University, 1st-5th July (Presentation day: 1st July), 2013.
40. **Hosono, T.** Report of the GelK activity in African country: Cameroon, Sudan, and Tanzania. The 3rd GelK International Symposium, Kumamoto University, Japan, 5-6 March, 2013.
39. Nikpeyman, Y., Ono, M., **Hosono, T.**, Heejun, Y., Shimada, J. The evaluation of rivers ^{222}Rn activity effect on SGD measurements in Yatsushiro Sea. The 3rd GelK International Symposium, Kumamoto University, Japan, 5-6 March, 2013.
38. **Hosono, T.**, Tokunaga, T., Nakata, H., Kagabu, M., Orishikida, T., Lin, I-T., Shimada, J. Contamination and attenuation processes of groundwater nitrate pollution in Kumamoto volcanic aquifer, southern Japan. Asia Oceania Geosciences Society (AOGS)-American Geophysical Union (AGU) Joint Assembly, World Convention Centre in Resorts World Sentosa, Singapore, 13-17 August, 2012.
37. Matsunaga, M., Shimada, J., Mikami, K., **Hosono, T.**, Kagabu, M., Tashiro, S., Iwasa, K. Natural Attenuation

- of Nitrate-nitrogen in Groundwater Aquifer Revealed by Nitrate Isotope Techniques in Miyakonojo Basin, Southern Japan. Asia Oceania Geosciences Society (AOGS)-American Geophysical Union (AGU) Joint Assembly, World Convention Centre in Resorts World Sentosa, Singapore, 13-17 August, 2012.
- 36.** Lin, I-T., **Hosono, T.**, Shimada, J. Anaerobic batch experiments of autotrophic and heterotrophic denitrification processes: a multi-isotope approach. Asia Oceania Geosciences Society (AOGS)-American Geophysical Union (AGU) Joint Assembly, World Convention Centre in Resorts World Sentosa, Singapore, 13-17 August, 2012.
- 35.** Kono, M., Tanimizu, M., Asahara, Y., Minami, M., **Hosono, T.**, Nakamura, T. History of atmospheric lead deposition to the Western Pacific from a peat bog in Rishiri Island, Hokkaido, Japan. 6th Nordic Conference on Plasma Spectrochemistry, Hotel Alexandra, Loen, Norway, 10-13 June, 2012.
- 34.** Tokunaga, T., Shimada, J., **Hosono, T.**, Nakata, H., Masuda, T., Kagabu, M., Ono, M., Orishikida, T. Source and fate of nitrate contamination in the groundwater along its flow in Kumamoto area, Japan using $\delta^{15}\text{N}_{\text{NO}_3}$ and $\delta^{18}\text{O}_{\text{NO}_3}$. American Geophysical Union (AGU) 2011 Fall meeting, abstract, H41B-1027, 5-9 December, 2011.
- 33.** Orishikida, T., Nakata, H., **Hosono, T.**, Ono, M., Tokunaga, T., Kagabu, M., Shimada, J. Occurrence and environmental distribution of artificial sweeteners in the aquatic ecosystems in Japan. 32nd Society of Environmental Toxicology and Chemistry (SETAC), North America, Boston, USA, 13-17 November 2011.
- 32.** **Hosono, T.** Sulfate Isotope Ratios of Groundwater in Asian Metropolitan Area. Asia Oceania Geosciences Society (AOGS) international conference, Taipei International Convention Center, Taipei, Taiwan, 8-12 August, 2011.
- 31.** Tokunaga, T., Shimada, J., **Hosono, T.**, Nakata, H., Masuda, T., Ono, M., Orishikida, T. Estimation of nitrogen source and fate of contaminant in the groundwater system in Kumamoto area, Japan. Asia Oceania Geosciences Society (AOGS) international conference, Taipei International Convention Center, Taipei, Taiwan, 8-12 August, 2011.
- 30.** **Hosono, T.**, Taniguchi, M., Burnett, W.C., Ono, M., Tokunaga, T., Masuda, T., Akimichi, T. Distribution of submarine groundwater discharge investigated by ^{222}Rn survey along the coastal line of Mt. Chokai, North Japan. 2011 XXV International Union of Geodesy and Geophysics (IUGG) General Assembly, Melbourne Convention and Exhibition Centre, Melbourne, Australia, 28 June - 7 July (Presentation day: 3 July), 2011.
- 29.** Taniguchi, M., **Hosono, T.**, Ono, M., Burnett, W.C., Nakano T. Effects of Submarine Groundwater Discharge on Seashell Ecosystem in the Coastal Zone Near Mt. Chokai, Japan. 2011 XXV International Union of Geodesy and Geophysics (IUGG) General Assembly, Melbourne Convention and Exhibition Centre, Melbourne, Australia, 28 June - 7 July (Presentation day: 2 July), 2011.
- 28.** Taniguchi, M., Nakano, T., **Hosono, T.**, Ono, M., Burnett, W.C. Seashell ecosystem fed by submarine groundwater discharge. ASLO/NABS joint meeting, Santa Fe, New Mexico USA, 6-11 June, 2010.
- 27.** Burnett, W.C., Taniguchi, M., **Hosono, T.**, Ono, M., Murata, A. Marine ecological responses to groundwater: do oysters prefer SGD? International Symposium on Radium and Radon isotopes as Environmental Tracers, Israel. Jan. 2010.
- 26.** **Hosono, T.** The status of groundwater quality and pollution mechanism in the Asian metropolitan areas. The 3rd international symposium of RIHN project "Human Impact on Urban Subsurface Environments", Academia Sinica, Taipei, Nov. 2009.
- 25.** **Hosono, T.**, Buapeng, S., Onodera, S., Yamanaka, T., Shimada, J., Nakano, T., Taniguchi, M. Sulfate and strontium isotopic variations of groundwater in the Lower Central Plain, Thailand. Joint IAHS & IAH Convention, Hyderabad, India. Sep. 2009.

24. **Hosono, T.**, Robert, D., Onodera, S., Umezawa, Y., Nakano, T., Taniguchi, M. Cause of groundwater contamination in Jakarta alluvium volcanic fan deduced by sulfate and strontium isotope ratios. Joint IAHS & IAH Convention, Hyderabad, India. Sep. 2009.
23. Umezawa, Y., Onodera, S., Ishidobi, T., **Hosono, T.**, Delinom, R., Burnitt, W.C., Taniguchi, M. Effect of urbanization on the groundwater discharge into Jakarta Bay. Joint IAHS & IAH Convention, Hyderabad, India. Sep. 2009.
22. Saito, M., Onodera, S., Umezawa, Y., **Hosono, T.**, Shimizu, Y., Delinom, R., Taniguchi, M. Evaluation of nitrate attenuation potential in the groundwater of Jakarta metropolitan area, Indonesia. Joint IAHS & IAH Convention, Hyderabad, India. Sep. 2009.
21. **Hosono, T.** Ground water pollution in Asian megacities. Workshop on Water Quality Management in Developing Asian Cities, RIHN, Kyoto. 18 Jul 2009.
20. Onodera, S., Saito, M., **Hosono, T.**, Umezawa, Y., Shimizu, Y., Yamanaka, T., Taniguchi, M., Lorphensri, O., Buapeng, S. Qualitative Degradation of Groundwater around Bangkok : the present condition and its processes. International Symposium on Efficient Groundwater Resources Management, Bangkok Thailand, 2009.
19. Umezawa, Y., **Hosono, T.**, Onodera, S., Siringan, F., Buapeng, S., Delinom, R., Yoshimizu, C., Tayasu, I., Nagata, T., Taniguchi, M. Sources of nitrate contamination in groundwater under developing Asian megacities. Eos Trans. AGU, 89(53), Fall Meet. Suppl., Abstract H53F-07, 2008.
18. **Hosono, T.** Umezawa, Y., Onodera, S., Wang, C.-H., Siringan, F., Buapeng, S., Delinom, R., Nakano, T., Taniguchi, M. Characteristics of major ion concentrations in natural water at Southeast Asian mega cities (Seoul, Taipei, Bangkok, Jakarta, and Manila). Hydrochange2008, Kyoto, Japan, 2008.
17. **Hosono, T.**, Umezawa, Y., Siringan, F., Delinom, R., Su, C-C., Okawa, H., Onodera, S., Taniguchi, M. Vertical variation of the heavy metal concentrations in the sediment core collected from the Osaka Bay, Jakarta Bay, and Manila Bay. AOGS, Busan, Korea, 2008.
16. Taniguchi, M., Nakano, T., Ishitobi, T., **Hosono, T.**, Akimichi, T., Sugawara, Y. Effects of submarine groundwater discharge on ecosystem in the coastal area of Yuza, Japan. AOGS, Busan, Korea, 2008.
15. Umezawa, Y., Onodera, S., **Hosono, T.**, Nakano, T., Taniguchi, M. Relationships between Rn-222 concentrations in groundwater and geological settings in Western Japan. AOGS, Busan, Korea, 2008.
14. Umezawa, Y., **Hosono, T.**, Delinom, R., Taniguchi, M., Onodera, S. Carbon and nitrogen characteristics of sedimented organic matter as indicators of historical trophic state in Osaka Bay and Jakarta Bay. AOGS, Busan, Korea, 2008.
13. Taniguchi, M., Nakano, T., Onodera, S., Ishitobi, T., **Hosono, T.**, Umezawa, Y., Fujii, T. Effects of submarine groundwater discharge on seashell ecosystem in the coastal zone. Ocean Science, 2008
12. Umezawa, Y., **Hosono, T.**, Onodera, S., Taniguchi, M. Human Impacts on the Environments at Asian Mega-cities, Evaluated by the Groundwater and Marine Sediment Samples. International Symposium on Current Problem in Groundwater Management and Related Water Resources Issues, Bali, December 2007.
11. Siringan, F.P., Takeda, K., Onodera, S., Taniguchi, M., Saito, M., **Hosono, T.**, Jago-on, K., Umezawa, Y. Metal Pollution History of Metro Manila from Sediment Cores from Three Water Bodies. International Symposium on Current Problem in Groundwater Management and Related Water Resources Issues, Bali, December 2007.
10. **Hosono, T.** Pollution status and mechanisms in each Asian mega city. International Workshop on Current Problem in Groundwater Management and Related Water Resources Issues, Bali, December 2007.
9. **Hosono, T.**, Ikawa, R., Shimada, J., Nakano, T., Saito, M., Onodera, S., Lee, K-K., Taniguchi, M. Human impacts on groundwater flow and quality of the Seoul City, deduced by multiple isotopes (δD , T, $\delta^{18}O$, $\delta^{34}S$, and

$^{87}\text{Sr}/^{86}\text{Sr}$). 24th IUGG, Perugia, Italy, July 2007.

8. **Hosono, T.** Source and evolution of volcanic rocks around the Hishikari gold deposit. International Symposium of the Society of Resource Geology of Japan, Tokyo, Japan, 15th-17th June 2004.
7. **Hosono, T.**, Nakano, T. Deep crustal fluid contribution to magmatic-hydrothermal system: Pb-Sr isotopic evidence from the Hishikari gold deposit of southwestern Japan. Japan-Swizz symposium, Tsukuba, Japan, 7th-12th March 2004.
6. **Hosono, T.**, Nakano, T. Pb and Sr isotopic implication on the contribution of deep crustal fluid to epithermal Au deposit in the Hishikari mine, Japan. 13th V.M. Goldschmidt conference, Kurashiki, Japan, 7th-12th September 2003.
5. **Hosono, T.**, Nakano, T. Sr-Nd-Pb isotopic and elemental compositions of volcanic rocks of southern Kyushu, southwest Japan. 5th Hutton symposium, Toyohashi, Japan, 2nd-5th September 2003.
4. Shin, K., Nakano, T., Ishihara, S., **Hosono, T.**, Kurosawa, M. Regional variation of Sr-Nd-Pb isotopic compositions of Miocene granitic rocks in the Outer Zone of southwest Japan. 5th Hutton symposium, Toyohashi, Japan, 2nd-5th September 2003.
3. Kiichiro, K., **Hosono, T.**, Allawati, H., Taniguchi, H., Ogawa, Y., Kanamatsu, T., Matsuo, K. Vertical Variation of Magnetic susceptibility of Layered Gabbro in Sam area. International Symposium of Istanbul Technical University the Faculty of Mines on Earth Sciences and Engineering, Istanbul, Turkey, May 2002.
2. Motoki, A., Naranjo, J.A., Orihashi, Y., Hirata, D., **Hosono, T.**, Cario, F.D., Sumino, H., Nagao, K., Dias, D.D., Neves, J.L.P., Anma, R. Lithology, mode of occurrence, and K-Ar ages of the Lautaro Volcano, Chilean Patagonia, South America. 42th Japan-Korea Joint Meeting of Isotope-Ratio Mass Spectrometry, Chejudo Korea, November 2002.
1. Motoki, A., Naranjo, J.A., Orihashi, Y., Hirata, D., **Hosono, T.**, Cario, F.D., Anma, R. Preliminary observations of occurrence and mineral mode of the rocks, pumice and ash on the Lautaro Volcano, Chilean Patagonia. Geological society of Argentine, Calafate, Argentine, May 2002.

News (international news only)

5. 17 September, 2024, The Japan Times, ENVIRONMENT / Sustainability / OUR PLANET 'Japan's chipmaking rush pressures Kumamoto's special water supply'
<https://www.japantimes.co.jp/environment/2024/11/17/sustainability/kumamoto-water-semiconductors/>
4. 1 July, 2020, EurekAlert! News Release, Cause of abnormal groundwater rise after large earthquake,
https://www.eurekalert.org/pub_releases/2020-07/ku-coa070120.php
3. 1 July, 2020, Kumamoto University website, Cause of abnormal groundwater rise after large earthquake,
<https://ewww.kumamoto-u.ac.jp/en/news/387/>
2. 14 Aug, 2019, Earth & Space Science News (EOS) Editors' Highlights, Groundwater Drawn Downward After Kumamoto Quake, <https://eos.org/editor-highlights/groundwater-drawn-downward-after-kumamoto-quake>
1. 11 Sep, 2016, International press release, Anthropogenic, trans-boundary lead pollution in Japanese lakes,
https://www.eurekalert.org/pub_releases/2016-10/ku-atl100216.php

Affiliated Academic Society

American Geophysical Union, 2009-present

International Association of Hydrological Sciences, 2008-present

Japanese Association of Groundwater Hydrology, 2014-present
Japanese Association of Hydrological Sciences, 2012-present
Japanese Society for Scientific Studies on Cultural Properties, 2004-2014
The Geological Society of Japan, 2002-2009
The Society of Resource Geology, 1998-2014

Editorial Responsibilities

2022-present, Editor, Hydrological Research Letters
2018-2020, Guest Editor, Journal of Hydrology, Special Issue "Coseismic hydro-environmental changes: insights from recent earthquakes"
2016-2022, Associate Editor, Hydrological Research Letters
2015, Japanese Association of Groundwater Hydrology
2013-present, Japanese Association of Hydrological Sciences

Paper Review (international journals only)

Applied Geochemistry (6)
Chemosphere (1)
Ecological Research (3)
Environmental Science and Technology (1)
Geochemical Journal (1)
Geochimica et Cosmochimica Acta (1)
Hydrological Research Letters (12)
Hydrological Processes (1)
Journal of Asian Earth Science (2)
Journal of Hydrology (12)
Journal of Geophysical Research: Solid Earth (1)
Marine Pollution Bulletin (1)
Paddy and Water Environment (1)
Proceedings of the National Academy of Sciences of the United States of America (PNAS) (1)
Science of the Total Environment (5)
Water, Air, & Soil Pollution (1)
Water Research (2)
Water Resources Research (1)

Photos

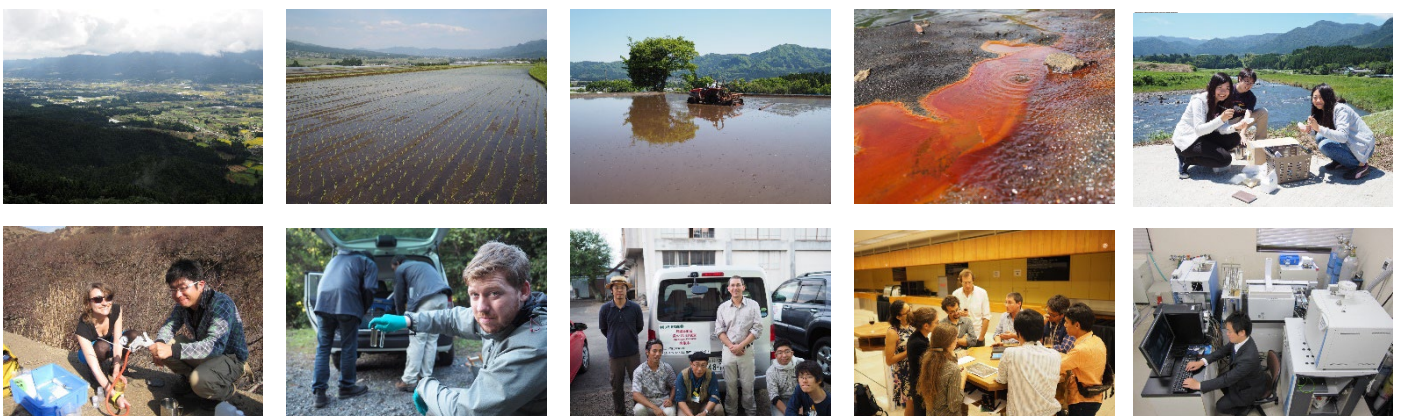
Special Topic: Groundwater environmental change due to 2016 Kumamoto Earthquake



1. Evaluation of trans-boundary atmospheric pollutions



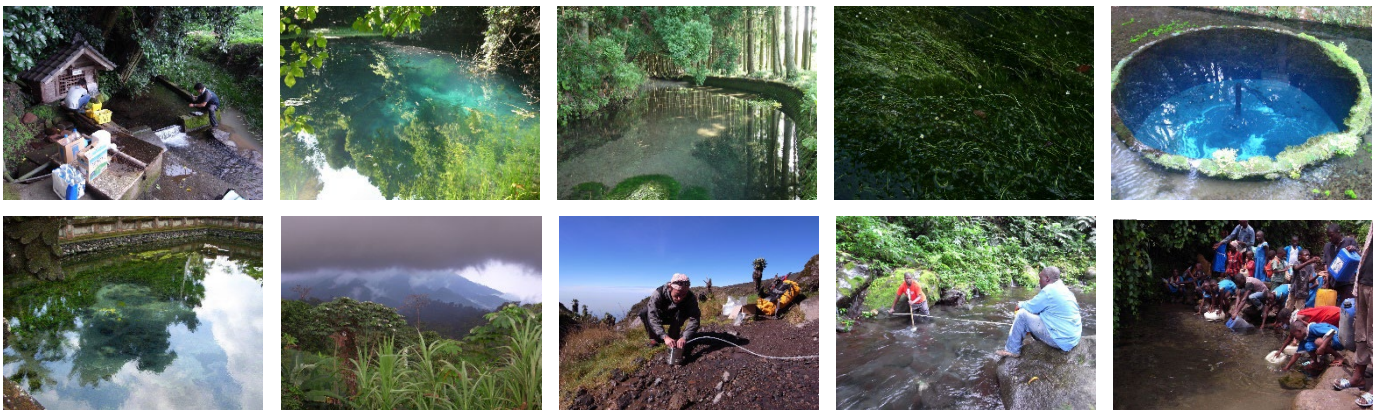
2. Study for geochemical weathering processes in surface environments with its CO₂ buffering availability and nutrients discharging fluxes



3. Elucidating transportation rate/behavior of water/materials in an unsaturated zone



4. Investigation for residence time and hydrochemical evolution of springs and groundwaters

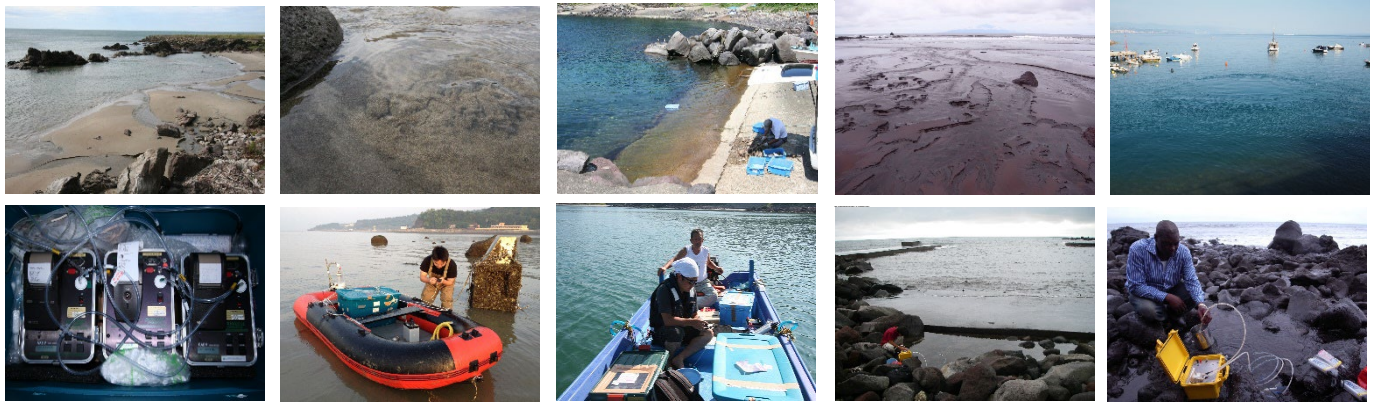


5. Assessment on groundwater nitrate pollution using multiple stable isotopes (H, Li, B, C, N, O, S, Sr) and computer simulation



6. Biogeochemical study for groundwater metal pollution

7. Understanding the distribution and flux of submarine groundwater discharge (SGD)



8. Assessment and characterization for river water quality using geochemical tools and AI approaches



9. Assessment on coastal environments



10. Investigation for deep, geothermal, and magmatic fluids contributing to near surface environment

Previous study in the field of petrology, mineral resources, and cultural property science during the year 1997-2005

Petrology: Intermediate to silicic magmatisms are distributed commonly in the back-arc side of convergent margins, and are associated with hydrothermal deposits throughout the world. The origin and evolutionary process of volcanic and granitic rocks and genetical connection between volcanic rock and hydrothermal deposit have been investigated using Sr (strontium)-Nd (neodym)-Pb (lead) isotope tracers in southern Kyushu, Japan. Stable isotopes were successfully used to distinguish diverse regions contributing to the systems such as oceanic slab, slab sediment, mantle wedge, and crustal material from the lower to upper crust. We have reported results of these studies in several journal papers.



Mineral Resources: Source and genesis of gold- and silver-bearing hydrothermal deposits have been investigated using Sr-Nd-Pb isotope tracers. During the last century, hydrothermal ore forming fluid in the convergent margin have been thought to be derived from water circulated in the shallow crust (1-3 km depth) such as meteoric water and/or magma water. However, we found at the Hishikari world-class hydrothermal gold deposits that the Deep Crustal Fluid, which might be generated in the deeper crust of 10 to 30 km depth, contributes to this system as the important factor creating ore deposits. To understand the spatial distribution of this fluid and the contribution to mineral deposit, gold- and silver-bearing quartz and adularia veins and hot spring water, distributed in wide area in southern Kyushu, were examined. Better understanding of the Deep Crustal Fluid could supply important information for resource exploration and clues for the comprehension of earthquake mechanism.

Cultural Property Science: The Angkor monuments in northwestern Cambodia, which are primarily made of sandstone, are suffering from deterioration due to salt weathering. In order to elucidate the sources of the salts and salt weathering process, we have analyzed bulk chemical compositions and S (sulfur) and Sr (strontium) isotopic ratios for the salts and surrounding environmental materials. The isotopic data suggested that bat guano is related to salt weathering. Our study has demonstrated that removal of these animal excrements is essential for future conservation of these monuments.

