MODULE 5, LESSON 6

SCOPES, METHODS AND TOOLS FOR EXPLORATION OF COBALT-RICH FERROMANGANESE CRUSTS.

READING LIST

REQUIRED READING

Usui, A. and Okamoto, N. (2010) Geophysical and geological exploration of Co-rich ferromanganese crusts: An attempt of small-scale mapping on a Micronesian seamount. Marine Georesources & Geotechnology, 28;192-206.

Usui, A., Hino, H., Suzushima, D., Tomioka, N, Suzuki, Y., Sunamura, M., Kato, S., Kashiwabara, T., Kikuchi, S., Uramoto, G., Suzuki, K, and Yamaoka, Y. (2020) Modern precipitation of hydrogenetic ferromanganese minerals during on-site 15-year exposure tests. Scientific Reports volume 10, Article number: 3558 (2020)

Usui, A. and Suzuki, K. (2022) Geological Characterization of Ferromanganese Crust Deposits in the NW Pacific Seamounts for Prudent Deep-Sea Mining. In: (R. Sharma ed.) Perspectives on Deep-sea Mining. Springer. Nature, pp. 81-113.

Hino, H. and Usui, A. (2021) Regional and fine-scale variability in composition and structure of hydrogenetic ferromanganese crusts: Geological characterization of 25 drill cores from the Marcus-Wake seamounts. 40:4, 415-437, DOI: 10.1080/1064119X.2021.1904066.

Hino, H. and Usui, A. (2023) Microstratigraphic evidence of oceanographic and tectonic controls on hydrogenetic ferromanganese crusts in the NW Pacific seamounts. Marine Gology, https://doi.org/10.1016/j.margeo.2023.106990.

Hino et al. (2023) Geological characterization and controlling factors of small-scale variations in the cobalt-rich ferromanganese crust deposits. Marine Georesources & Geotechnology, https://doi.org/10.1080/1064119X.2023.2249875.

Sharma, R. (2022) Perspectives on Deep-sea Mining- Sustainability, Technology, Environmental Policy and Management (ed.), Springer, pp. 689.

Hein, J.R., Koschinsky, A., Bau, M., Maheim, F.T., Kang, J-K., Roberts, L. (2000) Cobalt-rich ferromanganese crusts in the Pacific. In: (Ed. D.S. Cronan) Handbook of Marine Mineral Deposits, CRC Press, 239-289.