

Marine Engineering Geology in the Maritime Silk Road: Geological Problems and *In-situ* Observation

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Abstracts: With the flourishing exploitation and development of ocean energy engineering, port engineering, submarine communication engineering, and coastal reclamation engineering in the Maritime Silk Road, quite a number of engineering geological problems and geo-hazards have been encountered in the process of design, construction, operation, and maintenance. We analyzed and discussed typical issues in the Maritime Silk Road, including submarine slope failure, turbidity currents, tsunami and special hazards induced by gas hydrate dissociation, in terms of their definition, distribution, characteristics and case studies. *In-situ* observation/test devices we designed were introduced. They are offshore CPT devices for soil parameter evaluation in shoal water, free-fall CPT devices for evaluation in deep water, devices for monitoring seafloor horizontal deformation, and devices for monitoring engineering geological environment during hydrate production tests.

Keywords: marine engineering geology, the Maritime Silk Road, *in-situ* observation