

Dynamic response of a sporadically opened lagoon to land and sea

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Four coastal lagoons in Tokachi, Hokkaido, are sporadically opened to the Pacific Ocean by breaking gravel bars due to overflow. One of the lagoons, Oikamanai Pond, is opened to the ocean about four times per year. The water budget of the lagoon was estimated by hydrological and meteorological observations. As a result, during non-rainfall periods, the net groundwater output to the surrounding marsh was evaluated, of which the magnitude exhibited the linear relationship with the water level (m asl) of the pond. Hence, it is suggested that the groundwater output to the sea through the gravelly confined aquifer prevails rather than the unconfined groundwater output to the marsh.

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