

# < Synergistic effects of environmental conservation and disaster prevention measures targeting coastal areas >

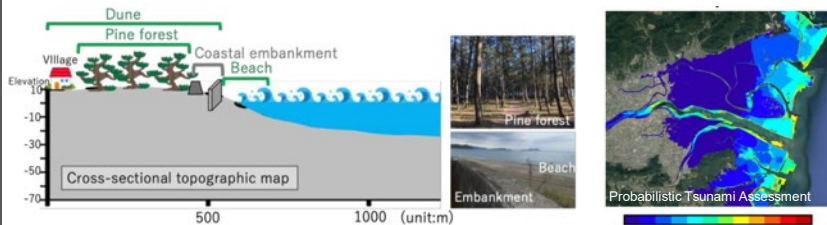
[Keywords: coastal infrastructure and community design, sustainability science]

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**Water environment restoration research (Amagasaki Canal, Kamiyama Town):** (1)Development of technology to improve water quality through the use of living organisms. (2)Research on community development centered on water purification activities.



**NbS Utilization Infrastructure Design (Osato Coast, Eastern Tokushima, Okinawa):** (1)Utilization of green infrastructure to make the most of the climate and history. (2)Visualization of damage reduction measures for tsunami and storm surge, and coral conservation.



Dr. Yamanaka conducts research and development on the compatibility and synergy between the environment and disaster prevention in coastal areas. His areas of expertise include ship and ocean engineering, marine engineering, environmental hydraulics, hydraulic engineering, coastal engineering, environmental studies, environmental health engineering, ecosystem engineering, environmental sociology, and disaster prevention, and he has a strong interest in infrastructure design based mainly on the relationship between people and the waterfront. His research skills are based on flow, water quality, and ecosystem analysis (field survey, numerical analysis) and social survey (questionnaire, interview, text mining). His research fields include Amagasaki Canal (Hyogo Prefecture), Kamiyama Town, Osato Coast (Tokushima Prefecture), eastern Tokushima Prefecture, Hamasaki Coast (Okinawa Prefecture), Osaka Bay, Tokyo Bay, Mutsu Bay, Bohai Sea (China), etc. Related keywords are green infrastructure, hybrid infrastructure, ecosystem services, water quality management, ecosystem conservation and creation, environmental materials, environmental education, environmental community design, consensus building, ocean models, seawater exchange, weather disturbance, beach deformation, liquefaction, tsunami, storm surge, probabilistic tsunami assessment, inclusive disaster prevention, etc. Social contribution activities include support for environmental restoration projects (technical guidance, operation, and environmental education), membership on various government committees, guidance for young engineers, and visiting lectures.

Field: Civil engineering and related fields

Specialty: Hydraulic engineering and related fields

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