

Preface

The Geological Survey of Japan (GSJ), AIST has been conducting earthquake-related geological and geophysical surveys and researches mainly in response to the basic policies of the Headquarters for Earthquake Research Promotion of the Japanese government, which was established in 2019. The national policy places greater emphasis on promoting the practical application of research results than ever before. As part of this effort, we aim to enhance the content of this report series.

The year 2024 was notable for its many earthquake-related topics. On January 1, the 2024 Noto Peninsula earthquake (M7.6) struck the Noto region of Ishikawa Prefecture, causing severe damage to lives, homes, and lifelines in the area. Since the earthquake occurred, AIST has conducted various investigations, including surveys of coastal uplift and tsunami inundation, field studies of submarine active faults and inland surface deformations, as well as seismic observations of aftershocks. These efforts aim to thoroughly elucidate the details of the earthquake, with the findings currently being summarized. Additionally, on August 8, an M7.1 earthquake occurred off the coast of Hyuga-nada, prompting the Japan Meteorological Agency to issue a *Nankai Trough Earthquake Extra Information (Megathrust Earthquake Attention)*. This was the first announcement since the introduction of the *Nankai Trough Earthquake Information* system in 2019 and became a significant social topic. Data from strainmeters installed at AIST's monitoring stations developed along the Nankai trough, along with their analysis results, were utilized for this announcement and subsequent monitoring of crustal activities. Efforts are underway to establish a new monitoring station in Miyazaki Prefecture. We will continue to focus on acquiring high-quality data and monitoring even subtle crustal deformations, aiming to contribute to the realization of a resilient society.

This issue contains the following two research reports: one on the survey of surface deformation caused by the 2024 Noto Peninsula earthquake and another on the results of geophysical logging conducted as part of observatory deployment along the Nankai trough. 1) Characteristics of surface deformation along the Wakayama River in Wakayama Town, Suzu City, Ishikawa Prefecture, appeared during the 2024 Noto Peninsula earthquake, 2) Overview and results of geophysical loggings at two boreholes of AIST integrated groundwater observation station in Ayagawa Town, Kagawa Prefecture, southwestern Japan. The reports were peer-reviewed by the editorial board consisting of the deputy directors and group leaders of the IEVG (Research Institute of Earthquake and Volcano Geology), to maintain a certain level of quality.

We sincerely welcome candid opinions and thoughtful comments from our readers regarding the contents of this report, as well as suggestions on how research findings related to active faults and earthquakes should be communicated. At the end of this issue, we would like to express our gratitude to the relevant ministries, local governments, organizations, landowners, and companies for their understanding and cooperation in our research.

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