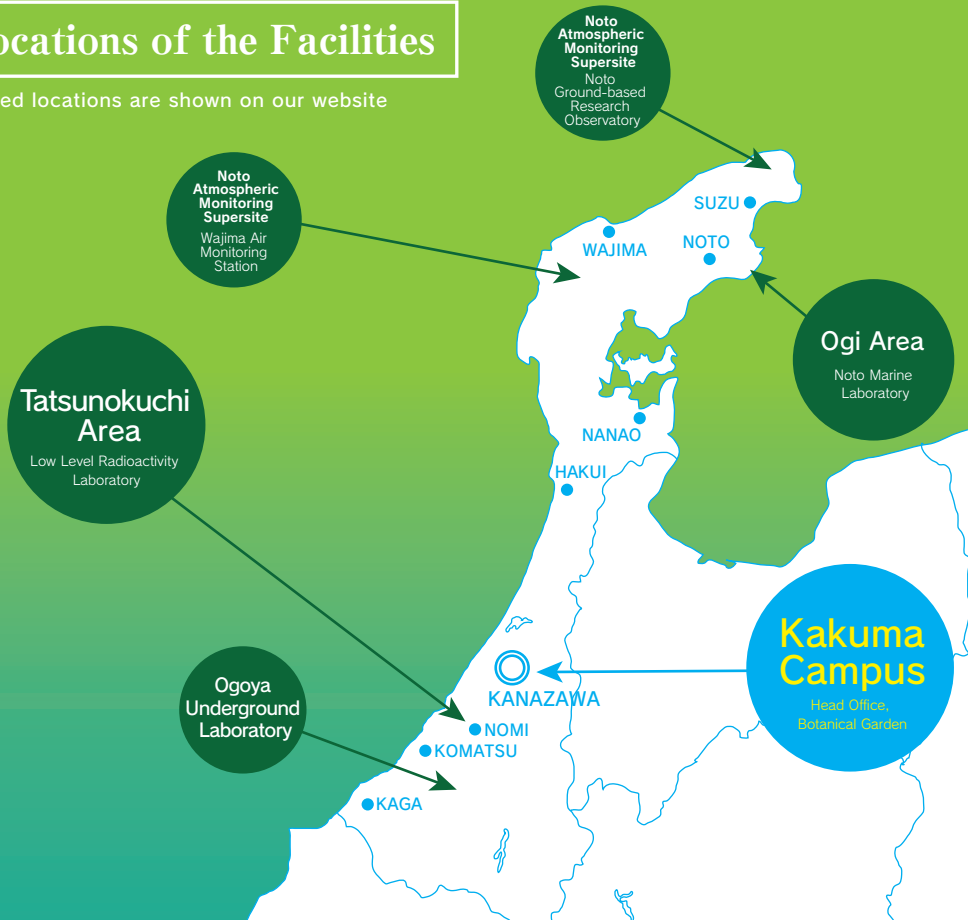


Locations of the Facilities

Detailed locations are shown on our website



Kakuma Campus

Head Office and Botanical Garden

Kakuma-machi, Kanazawa, 920-1192 Japan TEL: +81-76-234-6861
(Botanical Garden: +81-76-264-5874)

Noto Atmospheric Monitoring Supersites

NOTO Ground-based Research Observatory

33-7 Kodomari, Misaki-machi, Suzu, 927-1462 Japan
TEL :+81-768-88-2568

Kanazawa University Wajima Air Monitoring Station

32 Wo, Nishifutamata-machi, Wajima, 928-0056 Japan

Ogi Area

Noto Marine Laboratory

4-1 Mu, Ogi, Noto, 927-0553 Japan TEL: +81-768-74-1151

Tatsunokuchi Area

Low Level Radioactivity Laboratory

24 O, Wake, Nomi, 923-1224 Japan TEL: +81-761-51-4440

Ogoya Underground Laboratory

1-1 Ka, Ogoya-cho, Komatsu, 923-0172 Japan TEL: +81-761-67-1740

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Institute of Nature and
Environmental Technology WEB SITE



Institute of Nature and Environmental Technology

Kanazawa University

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human 人

Joint Usage / Research Center (MEXT)
Joint Usage / Education Center (MEXT)

The Institute: An Introduction

A multitude of problems related to environmental changes caused by human activities and nature itself pose some of the greatest challenges faced by science and technology in the 21st century. The Institute of Nature and Environmental Technology, established in 2002, was reorganised in 2007 to actively tackle such issues. The Institute places particular emphasis on environmental research on the north-eastern fringes of the continent of Asia with a special focus on areas that touch and encompass the Sea of Japan. The latter have been shown to be especially vulnerable to global environmental fluctuations. In 2014, the Institute set itself the objective of addressing the urgent environmental issues facing the general Sea of Japan area, and of formulating plans for a sustainable environment in the area in the future. Furthermore, in 2016, the Japanese Ministry of Education, Culture, Sports, Science and Technology designated the Institute an "International Joint Research Center for the Study of Environmental Changes due to Cross-border Pollution". The Institute has been aiming to make contributions at the domestic and regional level by examining the Sea of Japan area in particular. To this end, it has been investigating the origins and quantity of hazardous chemical substances, the nature of their cross-border transference, and the impact of these substances on human health and ecosystems.

The Institute: A Brief Description

The Noto Peninsula, which protrudes into the Sea of Japan, is an ideal observation base for analysing substances transported across national borders from the eastern fringes of the Asian continent. Furthermore, the oceanographic condition around the peninsula is also advantageous to the observation of the movement of harmful chemical substances. In technical terms, this refers to the recording of fluctuations in the inflow of substances from the East China Sea by utilising radionuclides as tracers.

In order to take advantage of the location of the Noto Peninsula, the Institute has set up two atmospheric observation supersites and a marine laboratory on the area. It has also established the Low-Level Radioactivity Laboratory, which is capable of measuring extremely low levels of radioactivity, as well as the Ogoya Underground Laboratory. The Botanical Garden there also evaluates organic substances that are harmful to human health. These unique facilities are a major feature of the institute. In addition, branch offices in China, South Korea and Russia have been set up, in order to establish overseas collaborative joint research bases.

The Institute, certified as a Joint Usage/Education Center by the Japanese Ministry of Education, Culture, Sports, Science and Technology in 2012, and re-certified in 2017, has been offering courses that international non-Japanese speaking students can participate in as well as extensive practical training opportunities for domestic students. Since receiving "Joint Usage/Research Center" certification in 2016, the institute has been working on research that analyses and observes the quantities and transfer characteristics of harmful chemical substances over a wide area. It has also integrated research that has combined analyses of the atmospheric, marine, and terrestrial environment aimed at better understanding the dynamics of the targeted substances in the area.



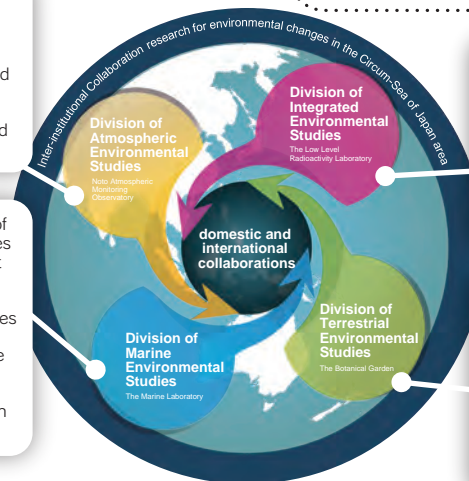
Director
Seiya Nagao

Structure of the Institute

Department of Environmental Research

- Develops new analytical methods for detecting various air pollutants
- Promotes joint international atmospheric observation and research networks
- Assesses impacts of air pollution on ecosystems and human health

- Researches the dynamics of harmful chemical substances to aid environmental impact assessments on marine ecosystems
- Analyses organism responses to harmful chemical substances through the use of novel assays
- Constructs marine management and evaluation systems



Department of Inter-institutional Collaboration

Because the Circum-Sea of Japan area is geopolitically important, this department aims to:

- Collect, exchange and maintain environmental data and information
- Establish and maintain international research networks and disseminate information
- Promote multidisciplinary research in conjunction with various research fields

- Uses integrated analyses of substance dynamics in terrestrial-atmospheric-marine environments
- Estimates substance sources using environmental tracers
- Predicts future circumstances by wide-range observations and model simulations

- Develops geoscientific analytical methods to understand environmental changes
- Analyses long- and short-term variations based on wide area observations
- Evaluates impacts on ecosystems and human society

Joint Usage / Research Center (MEXT) Joint Usage / Education Center (MEXT)



Joint Usage / Research Center

The Institute of Nature and Environmental Technology was designated as a Joint Usage/Research Center by the Ministry of Education, Culture, Sports, Science and Technology in

April 2016. Utilising Supersites on the Noto Peninsula as well as our international research networks, we have been working on joint research initiatives as a Joint Usage/Research Center. Key research projects include an analysis of the transportation of pollutants in the Sea of Japan area, integrated model simulations of dynamics in atmospheric-marine-terrestrial environments, assessments of the harmful impact of contamination on human health, and predictions of the type of global environment we will have in the future.



Joint Usage / Education Center

The Noto Marine Laboratory was designated as a Joint Usage/Education Center by the Ministry of Education, Culture, Sports, Science and Technology in July 2012. At this center, we teach Japanese university students, including those at Kanazawa University, about the Sea of Japan environment through fostering their own research initiatives. Furthermore, the number of overseas university students using the center is now increasing. This has contributed to the realisation of our aim of educating both domestic and foreign students about the Sea of Japan and its environment.

Division of Atmospheric Environmental Studies

We make every endeavor to solve atmospheric environmental problems.

This division focuses on the atmospheric environment of the Sea of Japan region, an area where high concentrations of atmospheric pollutants have become one of the most prominent environmental issues. The mission of this division is to assess and record the pollutants' mechanisms of generation, their transport, reaction, and deposition in order to analyse the impact on ecosystems and human life. To this end, this division devises new analytical methods and fosters joint international research networks.



Division of Terrestrial Environmental Studies

We investigate the geoscientific and ecological history of the Circum-Sea of Japan and its future.

The Sea of Japan area is characterised by the existence of diverse terrestrial environments. Aiming to understand their temporal and spatial changes and to clearly define the present, as well as predict future environmental circumstances, this division develops geological and geochemical techniques to better understand short-term and long-term fluctuations. This division uses ecological and phylogenetic approaches in order to evaluate the influence of human activities and natural phenomena on these ecosystems.



Division of Marine Environmental Studies

We examine the influence of harmful chemical substances on the marine environment.

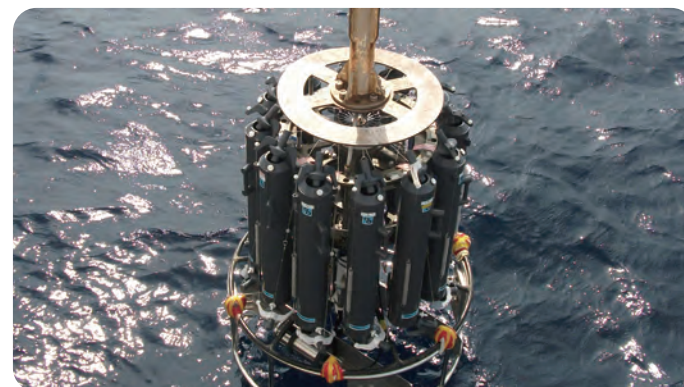
This division studies the influence of harmful chemical substances on marine organisms and the dynamics of these substances in the marine environment in the Sea of Japan area, particularly in coastal areas. The examination of marine biota is performed through the use of biochemical assays and chemical oceanography. The research performed aids in the development of marine environment evaluation systems and for this purpose involves international collaborations.



Division of Integrated Environmental Studies

We predict environmental changes in the Circum-Sea of Japan area through the integration of various disciplines.

In order to understand the movement of chemical substances in the Earth's surface environment, it is necessary to study the transport processes within terrestrial, atmospheric, and marine environments, as well as their boundary zones. For this purpose, this division uses environmental tracers, involving each of the department's research divisions. Through the use of environmental tracers and model simulations, this division conducts an integrated analysis of substance dynamics in the Sea of Japan area in order to better predict future circumstances.



Department of Inter-Institutional Collaboration

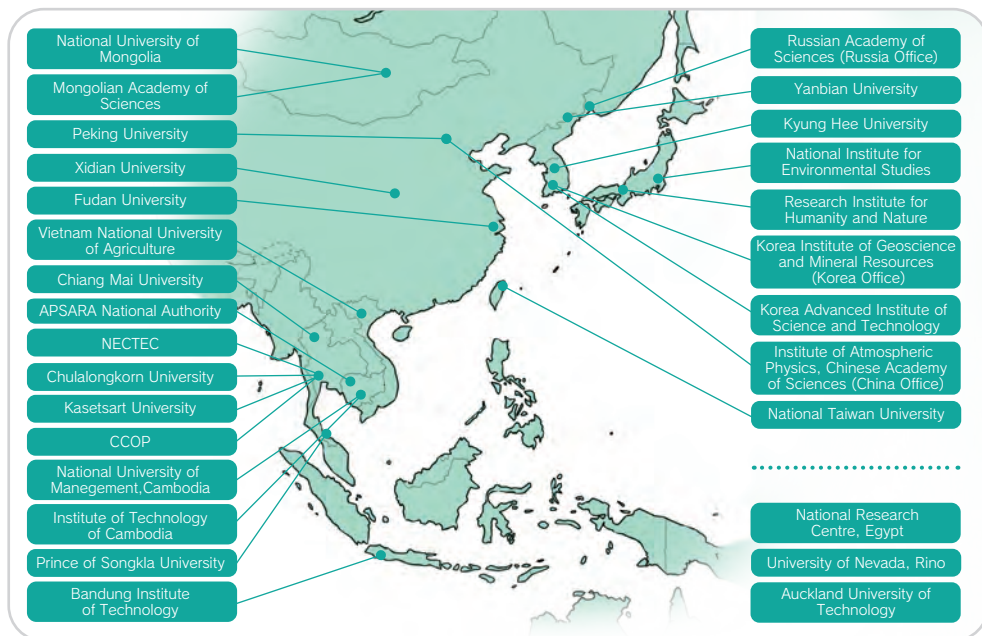
Sharing knowledge and information to promote interdisciplinary research.

This department manages the collection, exchange and maintenance of environmental information from throughout East Asia, but with a special focus on the Sea of Japan region. It constructs and sustains international research networks for the global dissemination of information thus promoting interdisciplinary research in a geopolitically important region in the world. It also provides and enhances global education opportunities for Kanazawa University students.



International Exchange

Our research is supported by a network of international scholars and institutes with whom we engage in research exchanges and collaborations.



Joint Usage Facilities

Joint usage facilities provide support for various research projects that aim to help shape a better future

Noto Atmosphere Monitoring Supersites

The location of the Noto Peninsula is perfectly suited for monitoring atmospheric aerosols originating from the eastern part of the Asian continent. Atmosphere monitoring "supersites", set up in both the Wajima and Suzu areas of the peninsula, have been used as research platforms for both domestic and international joint research.



Marine Laboratory

Hands-on educational activities related to coastal and environmental studies are carried out by students of Kanazawa University as well as by researchers and students from domestic and overseas universities. Various facilities are available for research and educational purposes ranging from the molecular to the field level.

Botanical Garden

The garden is located on the Kakuma campus. Joint research on environmental pollution is being promoted in collaboration with various universities and research institutes using experimental facilities for chemical pollution investigations set up in a laboratory attached to the garden. Joint research by a combination of industrial, governmental, and academic bodies is being carried out through cultivation experiments involving plants and agricultural products.



Low Level Radioactivity Laboratory (LLRL)

Various collaborative research activities with other universities and research institutes, as well as the hands-on training of Kanazawa University students, are being carried out and provided in this laboratory located in the Nomi area using measurement systems for radioactivity and hazardous chemical substances.

Ogoya Underground Laboratory

The use of 15 HPGe detectors in this laboratory, constructed on the site of the former Ogoya mine, is exceptional in terms of underground laboratories and all the detectors provide excellent background conditions and stability. Radionuclides measured by this system have been aiding the research of substance dynamics in various environments.

