

JEO

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Japanese "Donabe"
(ceramic Japanese pot)
of Ume blossom pattern



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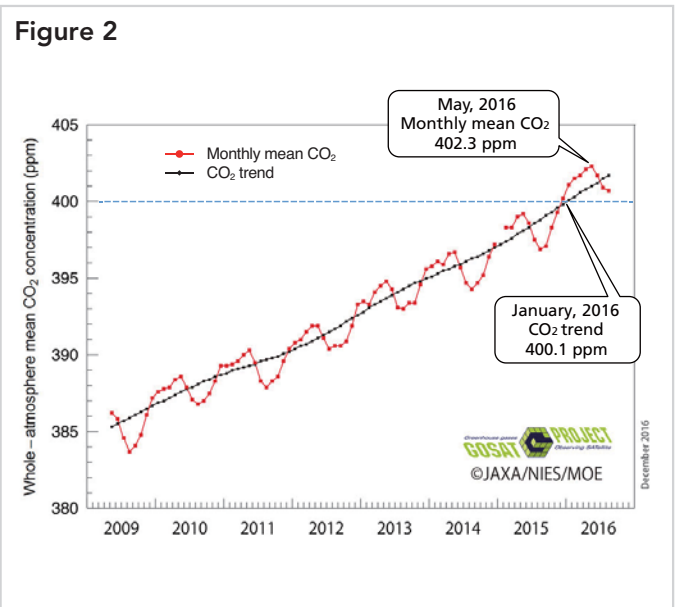
Global Environment Observation by the GOSAT Series



In recent years, techniques to observe the earth's atmosphere by satellites have been improved dramatically. Japan developed and operates the Greenhouse Gases Observation SATellite (GOSAT), aka "IBUKI", the world's first satellite designed specifically to monitor the concentrations of major greenhouse gases (GHGs) such as carbon dioxide (CO₂) and methane (CH₄) on a global scale (see Figure 1).

GOSAT was jointly developed by three institutions, Ministry of the Environment (MOE), the National Institute for Environmental Studies (NIES) and the Japan Aerospace Exploration Agency (JAXA). The satellite was launched from Tanegashima Space Center on January 23, 2009 and has been continuously monitoring the global environment. A large amount of data obtained from the satellite has been analyzed in a special way, and has helped to account for various phenomena caused by GHGs.

For instance, a recent analysis of GOSAT observational data has revealed that the whole-atmospheric monthly mean CO₂ concentration exceeded 400



ppm (see Figure 2). It has also become clear that the sources of CO₂ and methane can be identified by determining whether they are anthropogenic or natural based on their concentration levels in the atmosphere measured by GOSAT. This has opened up the future possibility of the satellite to be applied as a tool for monitoring and verifying the national GHG inventories (see Figure 3).

Meanwhile, the Paris Agreement, an international framework for GHG reduction after 2020, was adopted at the 21st session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP21), in December 2015, and went into force on November 4, 2016. More than 120 countries and regions including Japan have ratified the Agreement so far (as of January 2017).

All Parties to the Paris Agreement will be required to regularly report on their GHG emissions and their implementation efforts in a common and flexible manner. These reports will be subject to reviews in which transparent examinations will be essential.

Japan developed and operates GOSAT, the world's first satellite designed specifically to monitor the concentrations of greenhouse gases (GHGs) such as carbon dioxide and methane on a global scale. It shows the possible applicability as a highly-transparent tool for monitoring and verifying the national inventory of GHG emissions that all countries of the world are required to submit based on the framework of "The Paris Agreement". As GOSAT-2 is scheduled to be launched in FY 2018, we are making further contributions to the reduction of GHGs by proactively developing the global environment observation by the GOSAT series.

Figure 3

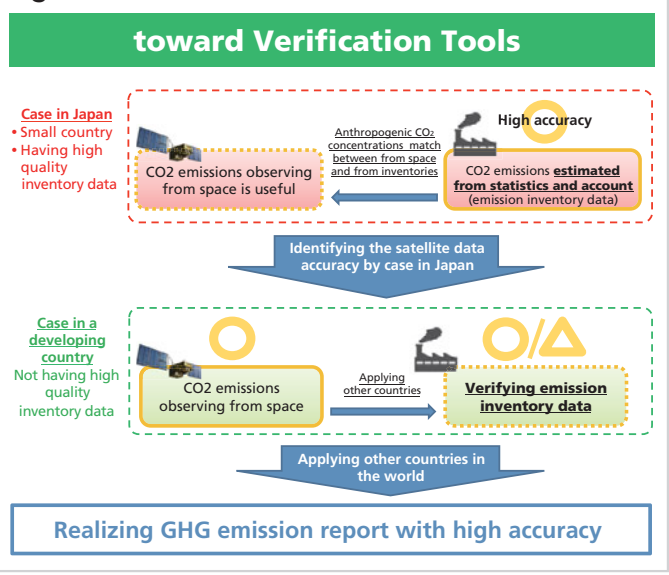


Figure 4



Therefore atmospheric observation satellites of various countries such as Japan's GOSAT series and the American OCO-2 satellite, which can observe the whole globe uniformly, are incorporated as monitoring and verification tools for GHG emissions, in addition to ground-based measuring instruments.

GOSAT has already exceeded its design life of 5 years and has been operating for 8 years. In order to continually fulfill its role in the international community, Japan started developing "GOSAT-2," a successor of GOSAT in 2012, and is scheduled for launch in FY 2018 (see Figure 4).

To expansively take over the role of GOSAT which observes GHGs at multiple points all over the world with high accuracy, GOSAT-2 is designed with strengthened functions to find out the behavior of global GHGs with even higher accuracy and density and to enhance accuracy of measurement of gas emissions and sinks by region, such as the function to automatically detect and avoid clouds which interfere with measurement from space and the function to

enable measurement of carbon monoxide (CO) concentrations to identify the concentrations of anthropogenic CO2 more accurately.

Through these efforts, MOE is actively developing global environmental monitoring by the GOSAT series and making further contributions to the reduction of GHGs by proactively promoting cooperation and collaboration with other countries.



MORE INFORMATION

GOSAT website
<http://www.gosat.nies.go.jp/en/>



Kazuo Isono

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“Visit! National Park” project

Make national parks the destinations that tourists all over the world desire to visit



Ise-Shima National Park: Sunrise caught between the Meoto Iwa Rocks (Wedded Rocks) in Futami

Ministry of the Environment is currently promoting the “Visit! National Park” project, a branding campaign to turn national parks of Japan into world-level national parks based on the “Tourism Vision to Support the Future of Japan,” formulated by the Japanese government in March last year, and is intended to increase the annual number of inbound tourists who visit national parks from 4.3 million in 2015 to 10 million in 2020.

In the last and this issues, we would like to introduce the charms of 4 of the 8 national parks as pioneering models of the project.

■ Ise-Shima National Park

Theme: Ise-Jingu (Shrine), a site where a long, splendid, multifaceted history unfolds; Satoyama and Satoumi, a land of enrichment interweaved with the workings of people and nature.

Ise-Shima National Park, designated as a National Park in November 1946, celebrated the 70th anniversary of its designation last year.

This National Park lies on the Shima Peninsula, which is set in the center of Mie Prefecture, and its surrounding areas, occupying a vast area of nearly 60,000 hectares. Over 96% of

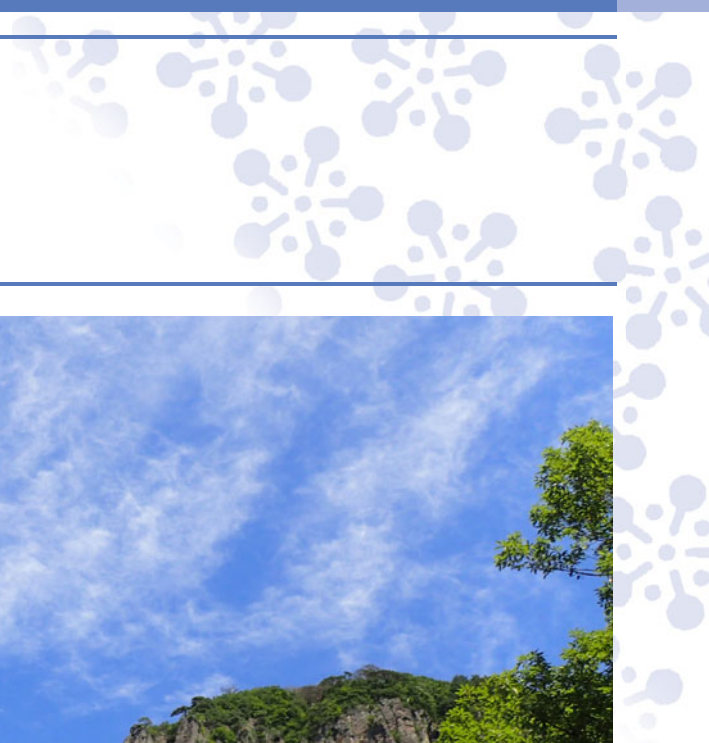
the park land is under private ownership with a large residential population, and a great charm of this park, therefore, is its proximity to the local community, which makes it possible for visitors to be exposed to the lifestyle, history, culture and customs that are unique to the community.

Ise-Jingu, a shrine complex composed of about 125 shrines including the Inner and Outer Shrines (Naiku and Geku), is located within the National Park and attracts nearly 10 million visitors annually from home and abroad.

On the coast of the Shima Peninsula, the land went through repeated sedimentation and prominence to form a complex landform of a ria coastline abounding in capes and inlets, which were created by seawater entering the areas that were previously rivers and valleys. Since ancient times, Shima has been known traditionally as one of the Miketsu-Kuni (the land of divine offerings), a region which offers the bounty of the land and the sea to Ise-Jingu, and the region’s rich marine resources and Ama (female divers) have long supported such a regional tradition.

■ Daisen-Okii National Park

Theme: Mountains and Islands where Myths Interlace; a



Daisen-Oki National Park: Mt.Senjo

series of volcanoes where the gods reside, and islands that breathe with ancient memories.

Designated in February 1936, Daisen-Oki National Park marked its 80th anniversary last year.

Daisen-Oki National Park is a park marked with numerous variations, encompassing the following four areas: the mountainous area which includes Mt. Daisen, the highest peak in the Chugoku region, Mt. Hiruzen, Mt. Kenashi and Mt. Senjo; the coastal area in the Shimane Peninsula; Mt. Sanbe and its surrounding area and the Oki Islands.

Mt. Daisen, the center of a mountainous area, is also known as “Hoki Fuji,” meaning Tottori’s Mt. Fuji, and has been worshipped as a sacred mountain since old times. Daisen-Ji (Temple) was founded in 718 during the Nara era and was crowded with many worshippers over the Edo era. As the Temple will celebrate the 1300th anniversary of its opening next year (2018), the entire local community is working together to organize the scheduled this celebration.

Both the Okinoshima Islands and the Shimane Peninsula provide the setting for some Japanese mythological tales such as “Kunibiki Shinwa (Land-pulling myth).” The Shimane Peninsula in particular served as the center of the ancient Izumo

culture and is dotted with a number of historical sites and landmarks that are associated with the myths, including Izumo-Taisha (Shrine), Hinomisaki-Jinja (Shrine) and Kakanokukedo (wave-eroded cave mouths).

The Oki Islands alternately had a land connection to the Shimane Peninsula and got separated to form isolated islands repeatedly due to changes in sea levels. The geohistory has resulted in the creation of the precious geologic resources and the unique ecosystem, which then lead to the designation of the Islands as a UNESCO Global Geopark.

MORE INFORMATION

National Parks of Japan
<http://www.env.go.jp/en/nature/nps/park/index.html>

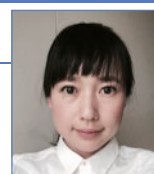


Instagram account nationalpark_japan
https://www.instagram.com/nationalpark_japan



Harumi Nakashima

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Further step forward for decarbonization of the world

After the historical adoption of the Paris Agreement in 2015, the international society moves on to its implementation stage.



"Family photo Marrakech Climate Change Conference" Photo credit: <https://www.flickr.com/photos/unfccc/22824493068/> (Flickr)

The 22nd session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP22) was held at Marrakech, Morocco from 7 to 18 November in 2016. The 1st session of the Conference of the Parties serving as the Meeting of the Parties to the Paris Agreement (CMA1) was also held in conjunction with the COP22, corresponding to the Agreement having taken into effect on 4 November.

During the COP22, the US presidency election was conducted and all of the attentions were dragged to the direction of the climate change policy of the newly elected president. The heads of government and ministers from each country clearly declared their will to unite in implementation of the Agreement steadily and this trend was

irreversible. All parties agreed at the COP22 that the work for developing guidelines for the Agreement will be completed at the latest 2018. It was great progress that the work programme was concluded under the participation of all the UNFCCC parties.

Effective support under the multilateral cooperation is also necessary for developing countries in order to implement their nationally determined contribution (NDC) steadily. For their support, Minister of the Environment Yamamoto announced "Japan's Assistance Initiatives to address Climate Change", which includes the promotion of Joint Crediting Mechanism (JCM) and establishment of "Asia-Pacific Adaptation Information Platform". Japan will continue to undertake its support activities based on the initiatives in accordance with various needs of developing countries, while taking advantage of Japan's strengths.



Statement by Minister Yamamoto at the COP22 high level session

MORE INFORMATION

Ministry of the Environment, Government of Japan,
"Initiative for Climate Action Plan in Developing Countries"
<http://www.env.go.jp/en/headline/2277.html>



Minako Kageyama

Official

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Implementation of JCM Project in Vietnam

Yuko Keiso Co., Ltd. engages in design, construction and maintenance of automatic control systems of electricity, air conditioning, crime prevention, etc. mainly for office buildings.

In Vietnam, we are implementing our JCM Model Project "Introduction of Amorphous High Efficiency Transformers in Electric Distribution Networks." This project, aiming to introduce amorphous high efficiency transformers into the distribution networks in the northern, central and southern parts of Vietnam, is expected to reduce the power loss during power distribution (no-load loss of transformers for distribution) as well as reduce CO2 derived from power generation.



Amorphous Transformer Installed in Ben Tre Province

Currently, we are working in cooperation with EVN Hanoi Power Corporation (EVN HANOI), EVN Ho Chi Minh City Power Corporation (EVN HCMC), EVN Southern Power Corporation (EVN SPC), EVN Central Power Corporation

(EVN CPC), DaNang Power Company Ltd., (DNPC), Dong Nai Power Company Ltd (Dong Nai PC) and Khanh Hoa Power Joint Stock Company (KHPC).

This project is characterized by its ability to reduce CO2 emission through achieving reduction of power loss by helping power distribution companies in Vietnam in installing amorphous transformers at low cost, as well as its contribution to capacity building as local transformer manufacturers produce amorphous transformers.

MORE INFORMATION

JCM Home-Approved methodologies
<https://www.jcm.go.jp/vn-jp/methodologies/24>



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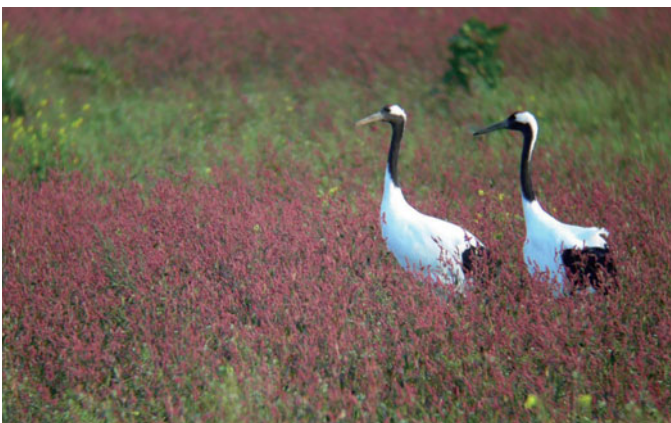


Introduction of Wild Bird Society of Japan (Public Interest Incorporated Foundation)

Wild Bird Society of Japan (WBSJ) was founded by Godo NAKANISHI with the aim of "fusion of bird science and art" and under the slogan of "Let wild birds live in the wild" in 1934, when birds were still regarded generally as food or pets. The Society later strengthened its organizational structure as a nature conservation group as Japan entered the era of rapid economic growth which led to environmental destruction resulting from land and sea development and pollution, and it turned into an incorporated foundation in 1970.

To date, WBSJ has been engaged in sanctuary movements which aim to create local bases for natural conservation and environmental education in communities and other activities

that would lead to Japan joining international networks such as the Ramsar Convention and the Washington Convention. In 2011, WBSJ was recognized as a public interest incorporated foundation. Now, utilizing its network of 90 cooperating organizations formed by members throughout Japan, WBSJ is engaged in various activities to familiarize the public with nature through wild birds and protect nature for the purpose of realizing an affluent society where people and nature coexist. Its main activities range from conservation of endangered species to promotion of natural energy, surveys and protection of familiar wild birds, production of teaching materials, PR and publication.



Japanese Cranes/Red-crowned Cranes (*Grus japonensis*), one of the species WBSJ is committed to protect

MORE INFORMATION

Wild Bird Society of Japan
<http://www.wbsj.org/>



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 Wild Bird Society of Japan



Sanriku Fukko (Reconstruction) National Park: Michinoku Coastal Trail

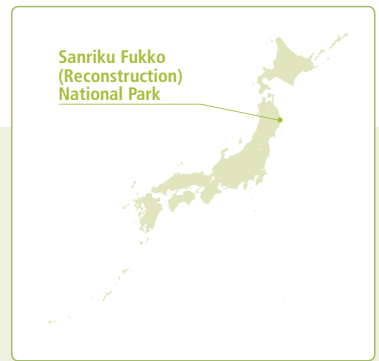
A new path named "Michinoku Coastal Trail" was opened in Tohoku. It is a long-distance nature trail of approximately 700 km that follows the Pacific coast from Hachinohe City in Aomori Prefecture to Soma City in Fukushima Prefecture. Following the trail on foot at a walking pace, you will hear the soft sounds of nature and feel the breeze, the bright glaring sunlight and the warmth of the land with all your senses. The greatest characteristic of this trail is that it is surrounded not only by the natu-



Tanesashi Coast, Hachinohe City, Aomori Prefecture

ral landscape created by the mountains but also the dynamic sea which makes the Tohoku coastal area special and unique. This trail is also intended to bring people closer together. People walking on the trail together and meeting other people will invigorate the local community and lead to the region's reconstruction. Visitors to Tohoku and local residents walking together will create a whole new path. Join us for a hike on the Michinoku Coastal Trail.

Sanriku Fukko
(Reconstruction)
National Park



MORE INFORMATION

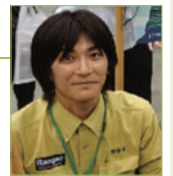
Michinoku Coastal Trail
<http://tohoku.env.go.jp/mct/english/>



Masato Kaga

National Park Division

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Ministry of the Environment



Voice of MOE Family in the World

UN Environment works to eliminate the use of lead in paint. Lead is toxic to humans, especially young children and pregnant women. Lead paint has been out of the market since decades ago in developed countries including Japan, but it is still available in many developing countries.

UNEP organizes a Global Alliance to Eliminate Lead Paint with the World Health Organization and around 60 partners, including governments, international organizations, industry



Graffiti depicting move to lead free future

Lead-Free Graffiti

and NGOs. The Alliance aims at introducing a ban on lead paint in all countries by 2020.

Lead paint was one of the issues highlighted at the second United Nations Environment Assembly held in Nairobi, Kenya in May 2016. In the margins of the Assembly, we organized a publicity event to produce an open-air graffiti on a large canvas using lead free paint. Ministers and senior officials took up a brush or a spray can to contribute to the graffiti. We need some fun between serious meetings!

MORE INFORMATION

UNEP Chemicals and Waste
www.unep.org/chemicalsandwaste



Global Alliance to Eliminate Lead Paint

Eisaku Toda

Senior Programme Officer

Chemicals and Waste Branch
Economy Division
United Nations Environment Programme

