

<Structure for Implementation of Ocean Policy>

Cabinet

Headquarters for Ocean Policy

Director-General: Prime Minister
 Vice Director-General: Chief Cabinet Secretary,
 Minister for Ocean Policy
 Members: All ministers of state except the
 Director-General and Vice Director-General
 • Formulate and implement the Basic Plan for
 Ocean Policy
 • Overall policy coordination with relevant
 government institutions

National Ocean Policy Secretariat

Advisory Council/Councilors' Meeting for
 National Headquarters for Ocean Policy
 (experts appointed by the Prime Minister)

Basic Act on Ocean Policy enacted on April 20, 2007

First Basic Plan on Ocean Policy
 (Cabinet decision March 2008)
 Second Basic Plan on Ocean Policy
 (Cabinet decision April 2013)

Revised almost every 5 years

Formulating the Third Basic Plan
 on Ocean Policy
 *FY2018

The measures on the ocean around Japan are **promoted in a comprehensive and prudent manner based on the Basic Act on Ocean Policy and the Basic Plan on Ocean Policy.**

The Second Basic Plan on Ocean Policy was formulated in April 2013 and covered five years to April 2018.

* The Basic Act on Ocean Policy states, “the Government shall review the Basic Plan on Ocean Policy almost every five years, and shall make necessary changes.”

On May 15, 2018, the Third Basic Plan on Ocean Policy was approved by the Meeting of the Headquarters for Ocean Policy, followed by Cabinet decision.

The main points of the Third Basic Plan are outlined below.

Third Basic Plan: Points

(1) Introduction: Evaluation and Current Situation Awareness

Recap of progress from the enactment of the Basic Act on Ocean Policy until today and current situation

(2) Chapter 1

General Remarks (philosophy for ocean policy, policy direction, basic policy for measures)

“The challenge toward a new oceanic state” is positioned as the policy direction for the Basic Plan on Ocean Policy to aim for the goal of the Basic Act on Ocean Policy, which is to realize a new oceanic state.

The following is a concise summary of the policy direction in point (1) above

- (a) Toward open and stable seas. Protect the nation and its citizens.
- (b) Use seas to make the nation prosper. Pass on abundant sea to posterity.
- (c) Challenge unknown seas. Improve technology and enhance awareness of sea.
- (d) Take the lead to realize peace. Create world standards for seas.
- (e) Familiarize people with seas. Develop human resources with knowledge of ocean

(3) Based on a broad understanding of ocean policy from the perspective of maritime security, the plan clearly states that the whole government shall come together to promote **Comprehensive Maritime Security**, which cover not only the core maritime security measures, but also the ocean measures that could contribute to maritime security.

(4) Main measures other than “Comprehensive Maritime Security,” based on the change of the situation in ocean:

- (a) Promotion of industrial use of the ocean
- (b) Maintain and protect the maritime environment
- (c) Improve scientific knowledge
- (d) Promote Arctic policy
- (e) International collaboration and cooperation
- (f) Develop human resources with knowledge of ocean and to advance citizens’ understanding

This is the first time for the plan to state the policy for the Arctic as one of the main measures.

(3) Chapter 2: Detailed Exposition (Specific Measures)

- (1) List for measures approx. 370 items
- (2) To secure the effective implementation of the ocean measures, the plan clearly states the name of the implementing ministry or agency for each measure.
- (3) Strengthening the capacity of Maritime Domain Awareness (MDA) is treated as an independent item in this Chapter.

(4) Chapter 3: Required Matters for Implementation

- (1) The Headquarters for Ocean Policy will promote ocean policies by carrying out a control tower function for the government, together with the National Ocean Policy Secretariat.
- (2) Describes the PDCA cycle and process management using indicators to gain a panoramic and quantitative understanding for the purpose of better understanding and evaluating the progress of each measure as well as securing the systematic and comprehensive implementation.

Outline of the Third Basic Plan on Ocean Policy (1)

□ Evaluation of Past Ocean Policy and Current Situation

1. Recap of 10 years since enactment of the Basic Act on Ocean Policy

- Implement measures listed in the first and second plans approved by the Cabinet based on the Basic Act on Ocean Policy
- The enactment of related acts and the decisions by the Headquarters for Ocean Policy in the fields that cut across ministries and agencies.

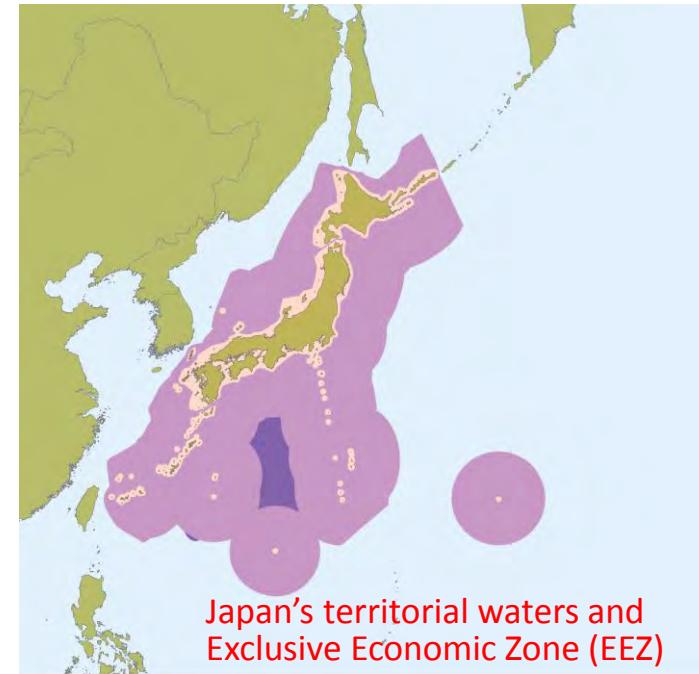
Specific examples: the Anti-Piracy Act (2009), the Low-Tide Line Preservation Act (2010), conferring names on remote islands (2014), state ownership of ownerless remote islands (2017), Marine Renewable Energy Act approved by Cabinet (2018)

- Need to reinforce process management to promote the steady implementation, inter alia, through the progress evaluation for the measures.
- Room for improvements in the ability to communicate a broader message about ocean policy to the citizen

2. Current situation awareness based on recent circumstances

- Depopulation, dwindling birthrate and aging population / globalization / accelerating technical innovation in the IT field.
- Having promoted the steady improvement of the system responding to the changing circumstances concerning maritime security situation.
- Having promoted initiatives relating to marine resource development, according to changing circumstances concerning ocean industries.

* Specific examples: Intrusion into territorial waters by foreign official vessels, illegal operations by foreign fishing vessels as well as their drift and drift ashore, surveys by foreign research vessels without consent, ballistic missiles fired inside Japan's EEZ, unilateral attempts to change the status-quo etc.



□ What Ocean Policy should be

1. Basic Principles and Policy Direction in the Next 10 Years

• Basic Principles

Based on [the Basic Principles established in the Basic Act on Ocean Policy](#) (Harmonization of Development and Use of the Ocean with the Conservation of Marine Environment, Securing the Safety at Sea, Improvement of Scientific Knowledge of Ocean, Sound Development of Ocean Industries, Comprehensive Management of Ocean, and International Partnership with regard to Ocean), the policy will be advanced while recognizing the following matters:

- (1) Actively create favorable conditions and environment for Japan
- (2) Utilize the wealth and potential of ocean to sustain national power
- (3) Develop a win-win relationship between the sustainable development and the use of ocean by sound marine industries on one hand, and environmental protection on the other
- (4) Improve world's most advanced and innovative R&D, surveys, and observations of the oceans
- (5) Enhance understanding of ocean among citizens

• Policy Direction

<<Challenge toward a New Oceanic State>>

- (a) Toward open and stable seas. Protect the nation and its citizens.
- (b) Use seas to make the nation prosper. Pass on abundant seas to posterity.
- (c) Challenge unknown seas. Improve technology and enhance awareness of seas.
- (d) Take the lead to realize peace. Create world standards for seas.
- (e) Familiarize people with sea. Develop human resources with knowledge of ocean.

Outline of the Third Basic Plan on Ocean Policy (2)

□ What Ocean Policy should be

2. Basic Policy for Measures Regarding Ocean

2-1 Basic Policy for “Comprehensive Maritime Security”

- Broad understanding of ocean policy across several fields based on the situation of maritime security
- Categorize the broad range of measures as measures concerning “maritime security in this basic plan” (hereinafter referred as “maritime security”) include maritime security measures stipulated in the National Security Strategy. In addition, categorize measures that could contribute to maritime security as measures that form the foundation which contribute to reinforcement of maritime security. **“Comprehensive Maritime Security”** is consisted of two types of measures above. The government will make efforts to implement these measures in the whole of government
- Implement “Free and Open Indo-Pacific Strategy” in coordination and cooperation with foreign countries
- In addition to reinforcing capability of Japan Self-Defense Forces(JSDF) and Japan Coast Guard (JCG), prioritize the establishment of structures for Maritime Domain Awareness (MDA) and preservation and management of remote islands
- MDA is an effort to effectively collect various maritime information from vessels of JSDF, patrol vessels/craft of the Japan Coast Guard (JCG), aircrafts, satellites, and research vessels, then effectively aggregate and share such information, for use in measures related to ocean. Strengthening MDA capability is underlined
- Develop legal structures concerning the zonal management of EEZ, taking into account the previous discussions after the publication of the Second Basic Plan

Comprehensive Maritime Security

(1) Maritime Security

Defense, law enforcement, foreign policy, safety measures traffic and responses to natural disasters originating in ocean

(2) Foundation for contributing to reinforcement of maritime security

(a) Measures forming bases for maritime security

Establish structures for Maritime Domain Awareness (MDA)

Preserve and manage remote islands Ocean surveys, ocean observations

Science and technology, R&D HR development and raise awareness

(b) Measures supporting maritime security

Economic security

Protect marine environment etc.



Strengthening of the Coast Guard System

2-2 Basic Policy for other main Measures

(1) Promotion of industrial use of the ocean

- Integrated implementation in the sense of securing economic security, delivering economic growth, and securing marine rights and interests
- Develop energy resources derived from ocean such as methane hydrate, seafloor polymetallic sulphides, rare-earth elements and yttrium-rich mud
- Speed up improvements to systems including rules on the use of marine zones for offshore wind power generation
- Strengthen international competitiveness of the ocean industries by improving productivity and adding value to their services
- Use the outcome of SIP Next Generation Technology for Ocean Resources Exploration
- Support business-to-business exchanges through the Technology Platform for Marine Resource Development
- Open up markets, introduce new energy in the ocean industries such as expanding ports of call for cruise ships, or university-launched ventures
- Secure stable maritime transportation for ocean-going and coastal shipping (apply tonnage tax, implement policies in line with “the plan for the future of coastal shipping”)
- Strengthen the function of hubs for marine transportation (promote the international containers/bulk policy)
- Appropriate management of fishery resources (sweeping expansion of resource surveys, strengthen ability to control fishing)
- Grow the commercial fishing industry (raise earnings by implementing “Hama Plan”, reform distribution structures, promote exports of marine products, strengthen international competitiveness by switching to highly profitable operations, train and secure human resources)



Methane hydrate development



Establish rules on use of maritime zones



Improve accuracy of resource evaluation

Outline of the Third Basic Plan on Ocean Policy (3)

□ What Ocean Policy should be

(2) Maintain and conserve marine environment

- Use international frameworks such as Sustainable Development Goals (SDGs) to implement marine environment protection
- (Establish appropriate Marine Protected Areas, reduce marine debris including microplastics in the ocean, conserve coral reefs etc.)
- Use “Sato-Umi” experience of maintaining high productivity and biodiversity to implement comprehensive management of coastal area
- Implement comprehensive initiatives aimed at realizing a clean and abundant sea in the Seto Inland Sea, accelerate surveys and research



Research and study about information from satellites



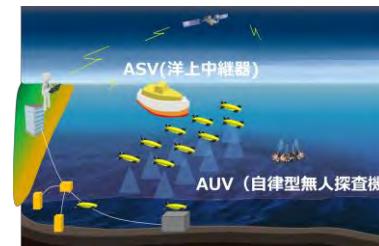
Establish Marine Protected Areas



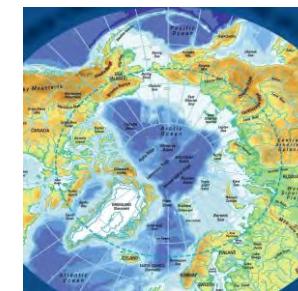
Respond to ocean debris

(3) Improve scientific knowledge

- Promote R&D of marine science and technology
- Maintain and strengthen ocean surveys, observations, monitoring
- Link ocean and space policies
- Promote R&D aimed at realizing Society 5.0



Implement next SIP



Promote Arctic policy



Conceptual drawing of Ny-Ålesund Research Station

(Pioneering technology development based on the SIP Next-generation Technology for Ocean Resources Exploration)

(4) Promote Arctic policy

- Prioritize measures related to R&D, international cooperation and sustainable use, considering moves in the Japanese private sector toward using the Northeast Passage in Arctic sea route (e.g. the Yamal LNG Project) and escalating initiatives by foreign countries
- Japan has strength in the field of observations and R&D. In this regard, establish international collaboration hubs in countries in the Arctic region (e.g. Ny-Ålesund Research Station in Norway) through the Arctic Challenge for Sustainability (ArCS), and develop and operate Autonomous Underwater Vehicles (AUV) that facilitate autonomous navigation and observation below the sea ice. Also, study the construction of the Arctic research vessel with the capacity of ice breaker.

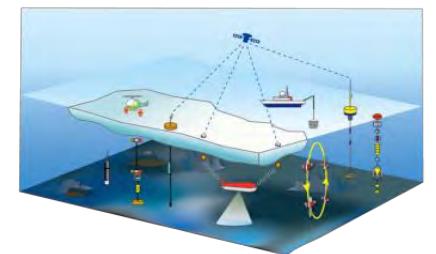


Image of Arctic Observations, including the one under sea ice

(5) International collaboration and cooperation

- Take initiatives to broaden “Rule of Law” and “Policies based on Scientific Knowledge” as universal principles in the field of ocean policy for the world and, through these initiatives, realize Japan’s national interest

(6) Develop human resources with knowledge of ocean and advance citizens’ understanding

- Implement maritime education (strengthen initiatives under “Nippon Manabi no Umi Platform,” and aim to implement education about ocean in all municipalities by 2025)
- Train and secure specialist HR to support the oceanic state (strengthen initiatives of “The Nippon Foundation Ocean Innovation Consortium,” which aiming to educate technical experts for ocean development)
- Enhance the citizen’s understanding of Japan as an outward-looking oceanic nation and use and substantiate “Ocean Day” holiday



Speech by Prime Minister Abe at the opening ceremony for 20th event on “Day of Sea”

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- (1) Promote development and use of marine energy and mineral resources
- (2) Promote marine industries and strengthen their international competitiveness
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- (4) Appropriately manage fishery resources, and promote the fishery as a rising industry

3. Maintain and conserve marine environment

- (1) Conserve marine environment
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4. Strengthen capacity for Maritime Domain Awareness (MDA)

- (1) Structures for maritime information collection
- (2) Structures for maritime information gathering and sharing
- (3) International collaboration and cooperation

5. Promote research and development as to ocean surveys and marine science & technology

- (1) Promote ocean surveys
- (2) Promote to research and develop marine science and technology

¹ Including internal waters, territorial waters, contiguous zone, exclusive economic zone and continental shelves

6. Preserve remote islands and develop Exclusive Economic Zones (EEZ)

- (1) Preserve remote islands etc.
- (2) Promote to develop EEZ

7. Promote Arctic policy

- (1) Research and development
- (2) International cooperation
- (3) Sustainable use

8. Ensure international collaboration and promote international cooperation

- (1) Formulate and develop maritime order
- (2) International collaboration on the ocean
- (3) International cooperation on the ocean

9. Develop human resources and promote public understanding

- (1) Foster and secure specialists to support the oceanic state
- (2) Promote to educate children and young people about the ocean
- (3) Promote public understanding on the ocean

REF: Specific Measures in the Third Basic Plan on Ocean Policy (1)

1. Maritime Security

(1) Secure national interests in Japan's territorial waters and beyond

- a. Steadily build up defense capability based on National Defense Program Guideline and Mid-Term Defense Program
- b. Strengthen maritime law enforcement capabilities based on "Policy on the Strengthening of the Coast Guard System"
- c. Establish "Fisheries Enforcement Headquarters" to strengthen the ability to control the fishery
- d. Provide means for emergency information sharing to ships at sea in case of ballistic missile launches
- e. By continuously conducting exercises to deal with spy boats (unidentified vessels), strengthen coordination between Ministry of Defense (MOD)/JSDF and JCG to facilitate seamless responses to unexpected emergency situations.
- f. Respond appropriately to unauthorized marine surveys by foreign research vessels (e.g. suspension request by patrol vessels and promotes through diplomatic channels)
- g. Appropriately surveillance and monitor drifting/drifted ashore boats. Streamline processing of drifting wooden boats thought to be registered in North Korea
- h. Increase diplomatic efforts to secure sovereign and maritime interests amid pending delimitation with neighboring countries
- i., Strive to further strengthen Japan-U.S. coordination in broad areas of maritime security aspects and to strengthen coordination with friendly powers
- j. Promote and introduction and research of labor-saving or unmanned equipment, and initiatives to gather information via satellites to improve ocean surveillance systems
- k. Improve information sharing systems between MOD/JSDF, and JCG
- l. Strengthen surveillance and monitoring and vigilance at important remote islands and surrounding ocean areas
- m. Strengthen information sharing systems, and implement measures to prevent marine accidents to secure marine traffic safety
- n. Strengthen systems for maritime transport of emergency relief items, for damage control, mitigation measures, and improve systems for appropriate responses to large-scale disasters as ways of dealing with natural disasters originating in the ocean

(2) Secure stable use of Japan's important SLOC

- a. Build relationships of trust and cooperation with coastal states along Japan's SLOC through regular exchanges such as capacity-building assistance to those countries, seconding personnel to international organizations, participating in international cooperation efforts such as anti-piracy operations, and taking every opportunity for port visits by Japan Maritime Self Defense Force (JMSDF) vessels
- b. Coordinate with related countries and promote cooperation that contributes to capacity building for information collection of SLOC coastal states
- c. Promote cooperation that contributes to capacity-building of the ASEAN states as a whole
- d. Take the initiative of "The Head of Asian Coast Guard Agencies Meeting"

(3) Strengthen international maritime order

- a. Coordinate with the related countries involved by using international frameworks such as the G7, the East Asia Summit (EAS), the ASEAN Regional Forum (ARF), and the ASEAN Defense Ministers' Meeting (ADMM) Plus to strengthen diplomatic initiatives aimed at the rule of law
- b. Implement initiatives to increase Japanese staff and to secure executive posts, including heads of international maritime related organizations with the objective of active participation in formulating the international maritime order
- c. Strengthen effective and strategic communication, by maintaining close contacts among the relevant ministries and agencies to convey consistent government messages relating to Japan's maritime security policy
- d. Continue diplomatic efforts, including strengthening of information transmission, to broaden support for Japan's position and to correct understanding of the name "Sea of Japan"
- e. Promote sharing of basic common values through multilateral frameworks such as "The Coast Guard Global Summit," and strengthen cooperation related to maritime security with the relevant defense authorities in each country

2. Promote industrial use of the ocean

(1) Promote development and use of marine energy and mineral resources

- a. Develop technologies for utilizing methane hydrate with the aim of launching commercialization projects led by private-sector corporations by the mid-2020s
- b. The long-term outlook is to revise and clarify the Plan for the Development of Marine Energy and Mineral Resources
- c. Continue research on recovery and production technologies for shallow methane hydrate
- d. Expedite geophysical exploration (roughly 50,000 km²/10 years) for oil and natural gas
- e. Carry out projects including technical development for seafloor polymetallic sulfides for the purpose of launching a project aiming for commercialization with the participation of private-sector corporations after the mid-2020s
- f. Relating to seafloor polymetallic sulfide deposits, proceed investigation of embedded resources by utilizing SIP Next-generation Technology for Marine Resources Exploration
- g. Promote initiatives to develop and demonstrate marine resource technologies for use with marine and mineral resources at depths of more than 2000 meters including rare earth muds and other embedded marine resources in SIP Next-generation Technology for Marine Resources Exploration
- h. Establish necessary legislative system for promoting offshore wind power generation in ocean areas
- i. Conduct experimental research of construction technologies, and support wind condition survey and wind farm designs to promote offshore wind power generation
- j. Further improvement of the environmental information database
- k. Conduct experimental research initiatives involving wave power, tidal power, ocean current power, and other marine power generation, and cooperate with remote island promotion measures

(2) Promote marine industries and strengthen their international competitiveness

- a. Strong implementation of i-Shipping and j-Ocean with the aim of expanding shipbuilding exports, optimizing shipping, realizing Maritime Autonomous Surface Ships (MASS), and acquiring markets for marine development
- b. Strengthen project discovery systems to advance participation in planning operations at overseas ports in order to upgrade ports which are positioned as the marine transport hubs
- c. Implement i-Construction and AI Terminals with the aim of improving on-site productivity at port construction sites
- d. Complete SIP Next-generation Technology for Marine Resources Exploration technology transfers to the private sector, set up the private sector to be able to receive orders for domestic resource exploration projects,
- e. Support coordination with other types of industry under the Technology Platform for Ocean Resource Development
- f. Improve the environment of cruise ships reception and 5 million inbound passengers visiting Japan in 2020.
- g. Support public relation regarding ocean leisure to expand the market for the marine industry
- h. Develop and demonstrate technologies for carbon dioxide capture and storage (CCS)

(3) Secure maritime transport

- a. Strengthen the international competitiveness of Japan's merchant fleet and secure maritime transport systems centered on Japanese ships and Japanese crews by implementing a tonnage tax system to secure stable international maritime transport
- b. Strengthen the business foundation for coastal shipping operators, develop and popularize advanced ship, secure and foster seafarers stably and effectively, in line with "The Plan for the Future of Coastal Shipping," and maintain the cabotage system
- c. Set up LNG bunkering hubs in Asia strategically and promote international container/bulk policy with integrated hardware and software to strengthen the function of hubs for maritime transport

REF: Specific Measures in the Third Basic Plan on Ocean Policy (2)

2. Promote industrial use of the ocean

(4) Appropriately manage fishery resources, and promote the fishery as a rising industry

- a. Drastically expand resource survey and introduce the Individual Quota (IQ) system in the offshore fishery for its actual operational conditions and resource characteristics as possible toward appropriate managements of fishery resources
- b. Aiming to resume commercial whaling at an early stage, conduct consultations on the state of the International Whaling Commission with the countries concerned, and conduct scientific whaling research certainly
- c. Aim to strengthen international competitiveness, prioritizing management policies for business entities engaged with sustainable and highly profitable operational structures and the supply of marine products adapted to diversifying customer needs
- d. Aim to raise income from fishing by at least 10% over five years in every fishing community by implementing "Hama Plan"
- e. Implement initiatives to streamline market entry, coordinate between fishing communities and corporations with the technology, knowhow, capital, and human resources required by fishery operators
- f. Improve high-speed Internet and high capacity data communication environment on fishing boats
- g. Comprehensively examine transactions and distribution of marine products including proper traceability, enhanced quality control, utilizing ICT and so on
- h. Comprehensive improvements of fishing harbors, fishing grounds, and fishing communities to generate prosperity in fishing villages, strengthen disaster responses, improve fishing grounds, and upgrade functions of fishing harbors
- i. Aside from the supply of marine products, demonstrate versatile functions of the fishing industry and fishing villages such as protection of the natural environment, monitoring of national borders, sea rescue, and providing settings for convalescence, exchanges, and education

3. Maintain and protect marine environment

(1) Conserve marine environment

- a. Implement adaptive management based on the verification of management effectiveness and outcomes, and establish marine protected areas with the goal of appropriate conservation and management of 10% of jurisdictional waters by 2020
- b. Conserve and regenerate the fragile ecosystems formed in coral reefs, seaweed beds etc.
- c. Actively participate in consultations at intergovernmental conferences concerned with formulating new agreements aimed at the conservation and sustainable use of Marine Biological Diversity of Areas beyond National Jurisdiction (BBNJ)
- d. Tackle marine adaptation strategies, continue/upgrade surveys to form an accurate understanding of climate change and its impact
- e. Implement energy conservation in harbors, optimize operations by using IoT, verify energy conservation technologies on ships to reduce greenhouse gases
- f. With a view to eliminating marine debris including microplastics, promote monitoring, collecting, and preventing marine debris, and international cooperation comprehensively
- g. Appropriately implement the MARPOL Convention by approving ballast water management system, securing waste oil treatment facilities, regulating discharge of noxious liquid substances and other waste material from ships
- h. Monitor sea water, seabed, and marine life for radiation based on the Comprehensive Radiation Monitoring Plan for the TEPCO Fukushima Daiichi Nuclear Power Station
- i. Examine the nature of data collection and evaluation required when evaluating the environmental impact of future offshore and deep-sea marine development and usage

(2) Comprehensive management of coastal regions

- a. Involve people in the comprehensive management of coastal areas, adopting the idea of "Sato-Umi" to create a clean and abundant ocean, to respond to natural disasters, to protect biodiversity, and to develop steps to counter ocean waste
- b. To reduce the flow of sediment from coastal areas to the seas, implement comprehensive sediment management such as measures to control sedimentation and to adjust outflow sediment by means of erosion control
- c. In addition to disaster protection, implement preservation of harmonized coastal spaces including initiatives to sustain the environment and promote use by local residents
- d. To eliminate contamination flowing from coastal regions, improve sewage treatment facilities and introduce sophisticated treatments to ocean areas where it is necessary to reduce nutritive salts
- e. From the perspective of a clean and abundant Setonaikai Inland Sea, combine sediment improvement with the protection and regeneration of seaweed beds and tidal flats, implement comprehensive initiatives coordinated by diverse protagonists in the area, and accelerate research on the effects of a reduction in nutritive salts on fishery resources

4. Strengthen capacity for Maritime Domain Awareness (MDA)

(1) Structures for maritime information collection

- a. Strengthen MDA capability through enhancing structures for information collection through enhancing efficient operations and steady increases in JMSDF vessels, patrol vessels/craft of JCG, survey ships, aircraft, the Information Gathering Satellites, and coastal radar, considering the use of all types of satellites, and coordinating with allies and friends
- b. Research and examine further use and application of satellite information in the maritime domain
- c. Develop automatic observation technologies using autonomous underwater vehicles (AUV) or sensors for ocean surveys, and examine collect and share information on ship movements by means of automatic identification systems (AIS)

(2) Structures for information gathering and sharing information

- a. Develop MDA Situational Indication Linkages (MSIL) to collect marine-related information, and also develop secured information sharing systems between MOD/JSDF, and JCG
- b. Integrate and standardize data policies, maintain information quality from the perspective of user convenience
- c. Integrate observation data obtained by various methods including satellite, ships, anchored or floating buoys
- d. Continue to manage the Marine Information Clearing House and the Marine Cadastre (Kaiyo Daicho)

(3) International collaboration and cooperation

- a. Collect maritime related information acquired by other countries and international organizations through various route
- b. Build cooperative frameworks with allies and friends and strengthen the MDA system through coordination with related on MDA each countries and cooperation that contributes to better understanding of the marine situation in the countries along the SLOC on maritime situation
- c. Develop multilingual versions of MSIL so as to collaborate with the international community

REF: Specific Measures in the Third Basic Plan on Ocean Policy (3)

5. Promote research and development as to ocean surveys and marine science & technology

(1) Promote ocean surveys

- a. Strengthen marine survey systems based on “Policy on Strengthening of the Coast Guard System” from the perspective of protecting maritime interests through ocean surveys
- b. Improve automated observation technologies contributing to effective observation and appropriate operation of survey ships undertaking marine observation
- c. Build integrated observation networks that combine observations by drifting floats, moored systems, ships, and underwater/seabed probes
- d. Continue surveys of submarine topography, submarine geology, crustal structures, territorial sea baselines, ocean currents and so on, to improve the basic information needed to comprehensively manage oceans and to secure maritime interests
- e. Implement high-precision and high-density observations by maritime survey ships participating in international oceanographic observation programs running by the World Meteorological Organization (WMO), IOC-UNESCO etc.
- f. Continue monitoring for radioactive material in ocean to understand the impact of the Great East Japan Earthquake
- g. Strengthen and improve seafloor geodetic observation to collect basic information contributing to elucidation of subduction zone giant earthquake in the plate boundaries and earthquake/tsunami prediction
- h. Implement meteorological and hydrological observations to secure the safety of ships and the coastline

(2) Promote to research and develop marine science and technology

- a. Collect and develop basic information to evaluate climate change risk, implement R&D to develop high-precision prognostic information
- b. Develop wide-area exploration systems using research ships to survey wide areas of the seabed, manned submersible research vessels, autonomous underwater vehicles, and cutting-edge sensor technologies
- c. With the FY2018 launch of SIP Next-generation Technology for Ocean Resources Exploration, further strengthen and develop accumulated technologies for marine resources exploration, production technologies, and promote initiatives to develop and verify the technologies at over 2000 m depth
- d. Implement R&D to comprehensively understand the structure and functions of the marine ecosystem as well as the changing situation
- e. Operate submarine observation networks that facilitate real time observation of earthquakes and tsunami (S-Net and DONET)
- f. Research upgrades to marine environment information, tsunami warnings, prognostic information including high waves, high tides etc.
- g. Strengthen initiatives to implement original and diverse basic research on a broad and continuous basis
- h. Aim to formulate and promote understanding of whole earth dynamics, and to advance the Integrated Ocean Drilling Program (IODP) by using survey ship “Chikyu” or other ships to carry out ocean drilling
- i. Improve quality and grades of human resources with expertise and ability to take a broad view of marine science technologies
- j. Aim for a curriculum that promotes interdisciplinary education and research at universities and graduate schools, promote hands-on internships, and implement pragmatic initiatives such as continuing education for workers
- k. Operate systems to efficiently probe unknown deep-sea territory
- l. Develop and operate research platforms including AUV, Remotely Operated Vehicles (ROV), manned vehicles, experimental tanks etc.
- m. Research and develop high-speed communication technologies that use satellites to transmit large volumes of ocean data
- n. Implement cutting-edge integrated information science with the aim of strengthening the basic technologies that support the Super Smart Society including Big Data, AI etc.

6. Preserve remote islands and develop EEZ

(1) Preserve remote islands etc.

[Preserve remote border islands]

- a. Conduct surveys to understand the situation in low-water line preservation areas based on patrolling, satellite images, and restricting activities within the low-water line preservation areas
- b. Continuously understand the situation of remote border island shorelines by various means including satellite imagery
- c. Strengthen preservation including restricting activities at Okinoshima island, updating observation and surveillance facilities to protect coral reefs, maintaining shoreline protection facilities
- d. Maintain and update the low-water line database, manage information about low-tide lines centrally
- e. Aim to maintain and use designated remote island port facilities on Okinotorishima and Minamitorishima island
- f. Preserve inhabited remote border island regions and promote measures to sustain local communities achieving a situation where in-migration regularly exceeds out-migration in designated inhabited remote border island regions by 2027
- g. Investigate the nature of land use, understand the land ownership situation on remote border islands from the perspective of protecting territorial seas
- h. Continually implement meteorological observation and develop lighthouses or other beacons, meteorological and marine observation facilities, geospatial information of remote islands that also contributes to monitoring oceanic plate
- i. Ensure biodiversity. Appropriately protect, manage, and regenerate important ecosystems on remote islands
- j. Improve the habitat and breeding environment for aquatic plants and animals, maintain fishing grounds, protect and regenerate the fisheries environment
- k. Eliminate waste drifting at sea and drifting ashore, establish waste treatment facilities or transport waste off island

[Promote remote islands economy]

- a. Encourage permanent residency on islands by initiatives to enlarge employment opportunities including assistance for reducing marine transportation costs, and by initiatives to promote visitors and exchange opportunities through distinctive tourism
- b. Maintain and regenerate fisheries on remote islands, support business development on remote islands
- c. Promote renewable energy that uses the natural characteristics of remote islands
- d. Secure and maintain stable air and sea routes to remote islands, stable and inexpensive supply of petroleum products, support the development of communications networks
- e. Reduce the economic burden on pregnant women on remote islands, and high school students on remote islands with no high school

(2) Promote to develop EEZ

- a. Implement initiatives in line with the Future Policy for Extending the Continental Shelf (by decision of the meeting of the Headquarters for Ocean Policy on July 4, 2014)
- b. Aim to resolve the problems with overlapping claims to ocean areas by Japan and other countries in accordance with international law
- c. Steadily implement technological development aimed at energy and mineral resource development, as well as maintenance of fishing ground
- d. Continue to promote integration and disclosure of marine-related information while taking account of the strategic characteristic of marine information
- e. Where ocean area management is concerned, develop legal structures based on consultations since the Second Basic Plan on Ocean Policy

REF: Specific Measures in the Third Basic Plan on Ocean Policy (4)

7. Promote Arctic policy

(1) Research and development

- a. Promote international joint research continuously, in cooperation with the natural sciences, the humanities and social sciences, as well as the Arctic Challenge for Sustainability (ArCS)
- b. Promote advanced technology development such as Autonomous Underwater Vehicles (AUV) for polar observations
- c. Study the construction of the Arctic research vessel with the capacity of ice breaker
- d. Strengthen international joint research related to the Arctic by dispatching researchers and maintaining research/observation hubs in countries in the Arctic region
- e. Develop human resources that lead international discussion aimed for solving issues related to the Arctic

(2) International cooperation

- a. Proactively contribute to ensure respect for the principles of international law including “freedom of navigation” based on the United Nations Convention on the Law of the Sea
- b. Constructively convey Japanese scientific knowledge, which is based on observations and research, through multilateral and bilateral frameworks
- c. Further promote exchanges of opinion with Arctic-related countries including those in the Arctic region
- d. Further strengthen contributions to the activities of the Arctic Council

(3) Sustainable use

- a. Prepare the environment for Japan’s marine transportation industry to use the Arctic Sea Route
- b. Continue to verify sea ice maps to safeguard shipping in the Northeast Passage
- c. Address appropriate domestic implementation of the Paris Agreement and the SDGs to contribute to measures to counter climate change in the Arctic region
- d. Continue to contribute precautionary measures through cutting-edge science and technology, and the scientific knowledge and expertise of Japan’s national, public, and private sectors
- e. Encourage the Japanese business community to constructively participate in international forums such as the Arctic Economic Council and the Arctic Circle

8. Ensure international collaboration & promote international cooperation

(1) Formulate and develop maritime order

- a. Proactively participate in developing international regulations, and international collaboration and cooperation with regard to ocean at IMO meetings etc.
- b. Robustly support the activities of the International Maritime Organization and other international judicial bodies in the maritime field
- c. Publicity the international community with the principles of the rule of law at sea and policies based on scientific knowledge

(2) International coordination on the ocean

- a. Train and support Vessel Traffic Service (VTS) operators at the ASEAN Regional Training Center, strengthen cooperation with the nations participating in the East Asia Summit meetings to guarantee the freedom and safety of navigation
- b. Deepen coordination with the countries concerned through multilateral meetings such as “the Heads of Asian Coast Guard Agencies Meeting”
- c. With regard to illegal, unreported and unregulated (IUU) fishing, take the lead on strengthening measures at regional fisheries management organizations in cooperation with all countries
- d. Conclude the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships and arrange for the convention to take effect at an early stage in order to ensure the safe and environmentally sound recycling of ships
- e. Conclude the 2005 Protocols of the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation relating to the prevention of the proliferation of weapons of mass destruction

(3) International cooperation on the ocean

- a. Continue to participate in and contribute to international oceanographic observation programs and data exchanges including the Argo project operated by the WMO, IOC-UNESCO
- b. Contribute to the standardization of undersea feature names through participating in the Sub-Committee on Undersea Feature Names (SCUFN)
- c. Participate in the Integrated Ocean Drilling Program (IODP)
- d. With regard to the protection of coral reefs and animals migrating long distances, survey and research the maritime environment and life forms under general international cooperation
- e. Present information about Japan’s Total Pollutant Load Control System and “Sato-Umi” project to the Environmental Management of Enclosed Coastal Seas (EMECS)
- f. Contribute to improving the quality of seafarers in foreign countries through the International Cooperative Training Project for Asian Seafarers
- g. Ensure the safety of navigation in the Straits of Malacca and Singapore by means of upgrading the electronic nautical charts and conducting the joint hydrographic survey in cooperation with the littoral states funded by the Japan-ASEAN Integration Fund (JAIF)
- h. Inform and publicize Japan’s advanced disaster prevention technologies in countries that are vulnerable to disasters including Asian countries and Pacific island nations
- i. Technical support for building tsunami alert systems

9. Develop human resources and promote public understanding

(1) Foster and secure specialists to support the oceanic state

- a. Strengthen the initiatives of “The Nippon Foundation Ocean Innovation Consortium”
- b. Compile specialist educational materials containing the knowledge required for maritime development in the form of the j-Ocean initiative
- c. Strengthen regional cooperation structures, improve the quality of shipbuilding education, and train specialist human resources to educate human resources in the shipbuilding and marine industries
- d. Improve the employment environment for retired JMSDF crews, promote the activities of female sailors, improve productivity by reforming work styles, and upgrade education at the Japan Agency of Maritime Education and Training for Seafarers to guarantee and educate seafarers
- e. Educate human resources with ICT skills, expand workplace experience for young engineers, raise awareness of diving to guarantee and educate maritime engineers
- f. Switch to highly profitable operational frameworks, improve hands-on technical training at the Japan Fisheries Research and Education Agency, guarantee and educate maritime officers, improve employee retention rates in new fisheries to guarantee and educate future bearers of the fisheries industry
- g. Promote human resources development through R&D projects and make education better in response to the needs of human resource required by the industrial sector

(2) Promote to educate children and young people about the ocean

- a. Further strengthen cooperation under the “Nippon Manabi no Umi Platform” as to education for marine affairs
- b. Develop supplementary readers for use in schools, improve manuals for instructors on using data and preparing teaching materials
- c. Promote coordinated cooperation between formal education and social educational facilities, research institutes and others

(3) Promote public understanding on the ocean

- a. Stimulate citizens’ understanding and interest in ocean through Ocean Day holiday and other opportunities
- b. Implement public awareness campaigns through World Tsunami Awareness Day symposiums etc.
- c. Implement the “C to Sea Project” to further raise interest in the ocean and shipping
- d. Promote use of online media, social media, and virtual reality to convey information about ocean in an accessible manner