



Regional Capacity Center
for Clean Seas

REGIONAL CAPACITY CENTER FOR CLEAN SEAS WORKING AGENDA

RESULTS IN 2019
AND ACTIVITIES IN 2020





Regional Capacity Center
for Clean Seas

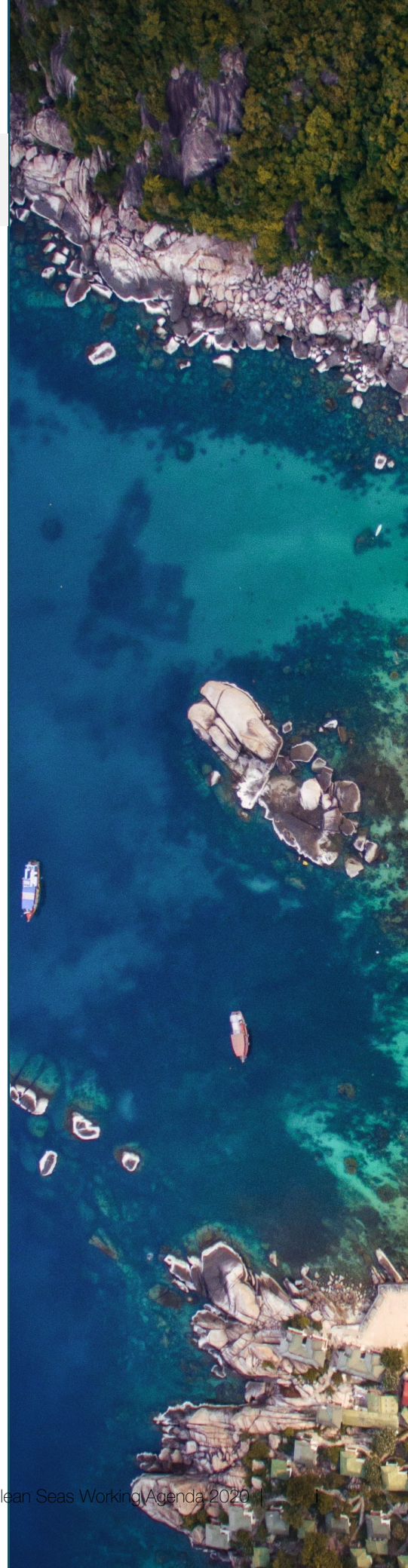
REGIONAL CAPACITY CENTER FOR CLEAN SEAS WORKING AGENDA

RESULTS IN 2019
AND ACTIVITIES IN 2020



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PREFACE ○

Since the beginning of 2019, Regional Capacity Center for Clean Seas (RC3S) has been putting together programmes and activities to accomplish its function of becoming a hub for strengthening capacity building in the field of protection of the marine environment from land-based activities, particularly nutrients, wastewater and marine litter/microplastics.

The success of RC3S's programmes and activities in the past year became a notable modality for RC3S to realize its activities in 2020. While being at the early stages, RC3S has organized forums, capacity building and awareness raising activities – nationally and internationally, as well as cultivated solution model to combat marine pollution from land-based activities. For this year, activities will be focused on strengthening the 2019 results and achievements, while incorporating improvements. Moreover, activities in 2020 will also be adjusted accordingly with the ongoing concerns about COVID-19 pandemic.

“Regional Capacity Center for Clean Seas (RC3S) Working Agenda: Results in 2019 and Activities in 2020” is a document showcasing results in 2019, as well as the work and activities planned for 2020 which encompasses 3 (three) main areas: (1) Clean Seas Knowledge Management; (2) Clean Seas Capacity Building and Awareness; and (3) Clean Seas Solution Model.

We are grateful to all who engage with RC3S – academia, businesses, governments, young people, civil societies, media and all stakeholders who give their time, energy and strength of purpose to this date to drive cooperation and collaborative action. We know that the challenges ahead dealing with land-based pollution will be even greater, therefore we need to enhance our collaboration and accelerate implementation of the work and activities within RC3S to successfully achieve the goals of the programmes.

Finally, through its function, RC3S will continue to implement and build further efforts concerted in the field of protection of marine environment from land-based activities, and invites all stakeholders across sectors to support its work and activities through technical cooperation, technology transfer, capacity building and exchange of best practices.

ABOUT RC3S ○

In order to assure the commitment of Bali Declaration on the Protection of the Marine Environment from Land-based Activities adopted at the fourth session of the Intergovernmental Review Meeting (IGR-4) and to assertively and effectively addressing regional priorities, Indonesia has established Regional Capacity Center for Clean Seas (RC3S) in Bali, Indonesia.

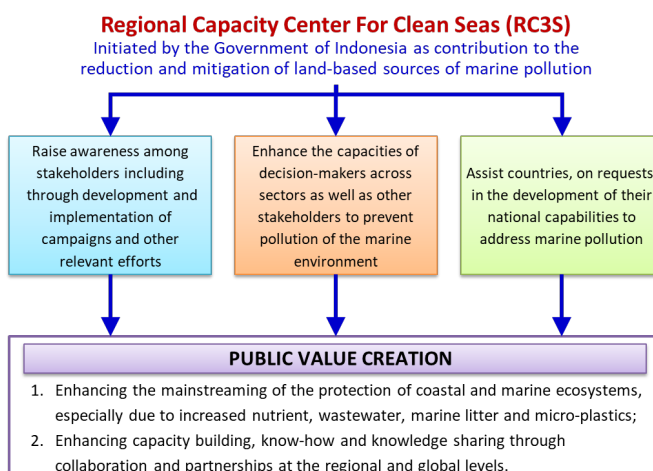
Carrying the same spirit at the fourth session of the UN Environment Assembly (UNEA-4), countries have also agreed to adopt the Resolution on the Protection of the Marine Environment from Land-based Activities. This resolution emphasizes the importance of Bali Declaration and Indonesia's initiative to establish RC3S as a hub for strengthening capacity building in the field of protection of the marine environment from land-based activities.

Regional Capacity Center for Clean Seas (RC3S)

Initiated by the Government of Indonesia, RC3S serves its purpose to contribute to the reduction and mitigation of land-based sources of marine pollution, with particular focus on nutrient, wastewater, marine litter and microplastics.

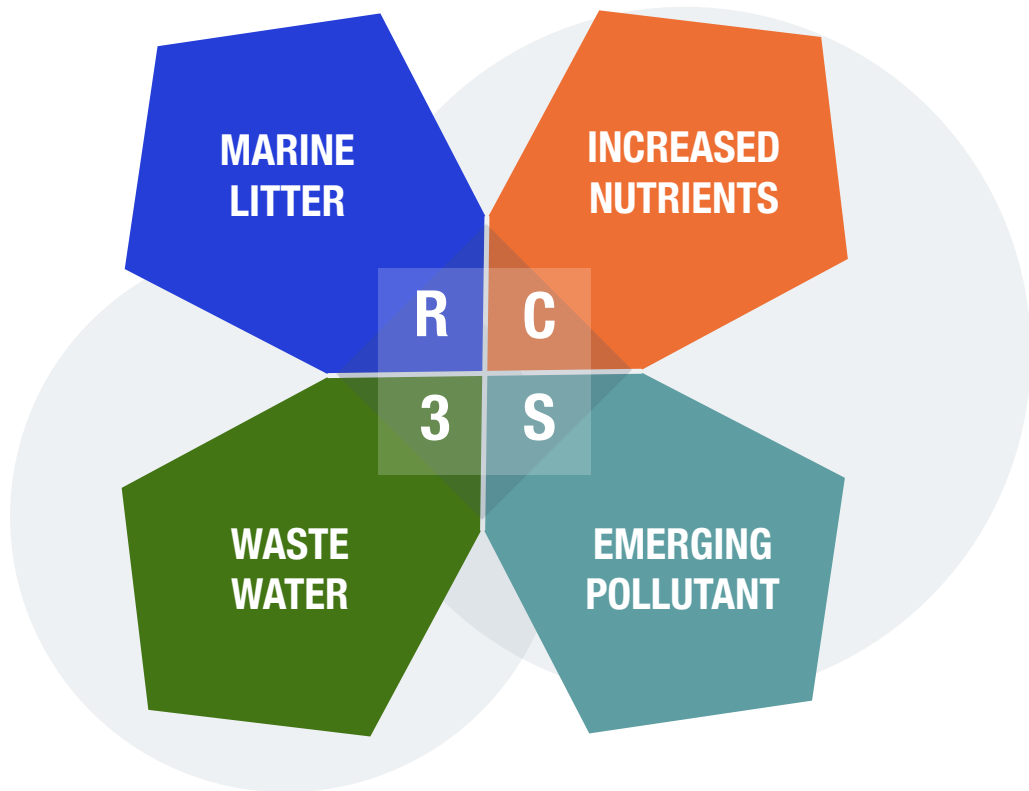
In this respect, RC3S will follow-up Bali Declaration especially in: (1) Strengthening the Global Partnership on Marine Litter and Microplastics, Nutrient Management and the Wastewater Initiative; and the interlinkages between partnerships; (2) Improving the coordination, engagement and support of the work on marine pollution; and (3) Encouraging exchange of information, practical experience, scientific and technical expertise, as well as cooperative and collaborative action and partnership.

The functions of RC3S is to deliver public values as seen below:



OUR FOCUS ○

Referring to the Bali Declaration and the Resolution on the Protection of the Marine Environment from Land-based Activities, RC3S focuses on marine pollution from land-based activities, particularly: (1) marine litter, (2) increased nutrients, (3) wastewater, and 4) emerging pollutants.



MARINE LITTER

According to UNEP, marine litter is any persistent, manufactured or processed solid material discarded, disposed of or abandoned in the marine and coastal environment. One of the most familiar categories of marine litter found in the shoreline or anywhere in the marine environment is plastic. High and rapidly increasing levels of marine litter – including plastic litter and microplastics, represent a serious marine environmental problem at a global scale, negatively affecting marine biodiversity, ecosystems, animal well-being, societies, livelihoods, fisheries, maritime transport, recreation, tourism and economies.

OUR FOCUS ○

WASTEWATER

Wastewater, both treated and untreated, is widely recognized as a resource. As water demand is predicted to increase significantly over the coming decades, minimizing water loss, changing management approaches and enabling water reuse to become intrinsic part of long-term sustainable solutions. The Food and Agriculture Organization of the United Nations (FAO) estimates annual global freshwater withdrawals at 3,928 km³ (UN 2017). More than half of it is being released into the environment as wastewater (municipal and industrial effluent and agricultural drainage), and less than half is being consumed, mainly by agriculture through evaporation in irrigated cropland. Over 80% of wastewater released to the environment is not adequately treated.

EMERGING POLLUTANTS

Emerging pollutants can be described as significant number of chemicals which are not commonly monitored but have the potential to enter the marine environment and cause adverse ecological and human health effects. These pollutant include microplastics, endocrine disrupting compounds, mine tailing discharges and sargassum seaweed.

INCREASED NUTRIENTS

Marine environment receive large amounts of nutrients such as nitrogen (N) and phosphorus (P) from land-based activities. These substances is likely to be exported from watersheds to large marine ecosystems (LMEs) globally across a large range of magnitudes. Industrialized agriculture accounts one of the largest sources of (N) and (P) in the form of animal manure, inefficient nutrient application, bad irrigation practices, and soil erosion. Although nutrients is needed, excess nutrients can be highly damaging by causing eutrophication, algal blooms, dieback of seagrasses and corals, and reduced populations of fish and shellfish.

OUR WORK ○

Regional Capacity Center for Clean Seas (RC3S) main work are structured into 3 areas: (1) Clean Seas Knowledge Management, (2) Clean Seas Capacity Building and Awareness, (3) Clean Seas Solution Model

CLEAN SEAS KNOWLEDGE MANAGEMENT

Clean Seas Knowledge Management is a system to identify, manage, store and disseminate knowledge on solutions to marine pollution from land-based activities.



CLEAN SEAS CAPACITY BUILDING AND AWARENESS

Clean Seas Capacity Building and Awareness covers efforts to strengthen the capacity building and promote public awareness in taking effective measures to control the marine pollution from land-based activities.



CLEAN SEAS SOLUTION MODEL

Clean Seas Solution Model is a framework for numerous initiatives and innovations on solutions to marine pollution from land-based activities which have been carried out to be replicated into broader scales.

RC3S WORKING AGENDA 1: CLEAN SEAS KNOWLEDGE MANAGEMENT

Activities:

- (1) **Clean Seas Forum** to provide opportunities to exchange information through webinars, workshops and exhibitions.
- (2) **Clean Seas Knowledge Platform** which serves to produce, collect, disseminate and permanently preserve materials such as flyers, videos, policy briefs, and scientific papers.





RESULTS IN 2019

Clean Seas Forum

INTERNATIONAL FORUMS

In 2019, RC3S has participated in 3 prominent international forums to discuss far-reaching topics in relation to marine pollution from land-based activities. Respectively, the forums are:

- **Side Event Workshop at the 4th UN Environment Assembly.**

The Government of Indonesia and the UN Environment engaged in a collaboration for organizing a side event “Capacity Initiative to Protect Marine Environment from Land-Based Activities” on March 15th, 2019 in Clean Seas Tent – UN Complex, Nairobi, Kenya which coincided the fourth session of the UN Environment Assembly (UNEA-4).

The side event moderated by Dr. Habib El Habr, UN Environment and officially opened with the speech from Ambassador of the Republic of Indonesia in Nairobi, Kenya accredited to the Republic of Seychelles, Republic of Uganda, Republic of Mauritius, Democratic Republic of the Congo, Federal Republic of Somalia, and Permanent Representative to UNEP dan UN-Habitat.

Six prominent speakers: (1) Dr. Makarim Wibisono, Senior Advisor for the Minister of Environment and Forestry, Indonesia; (2) Mr. Hiroshi Ono, Deputy Director General, Ministry of the Environment, Japan; (3) Mr. Joshua Wycliffe, Permanent Secretary for the Ministry of Waterways and Environment, Government of Fiji; (3) Dr. Terney Pradeep Kumara, representative Government of Srilanka; (4) Mr. Jerker Tamelander, Coordinator of Coordinating Body on the Seas of East Asia (COBSEA); and (5) Ms. Adinda Saraswati, Indonesia Youth; explored opportunities to enhance capacity building, knowledge and experience sharing, through partnerships and collaborative actions regionally and globally for the protection of coastal and marine ecosystem from land-based activities.



CLEAN SEAS KNOWLEDGE MANAGEMENT

- Side Event Workshop at the Archipelagic & Island States (AIS) Forum.

When a unique grouping of nations, Archipelagic & Island States (AIS) convened in Manado from 30th October to 1st November 2019, RC3S took part in a collective forum addressing challenges of ocean resource usage for sustainable economic growth, climate change resiliency, ocean pollution, emergency management, and the enhancement of sustainable fisheries. Engaging researcher, private sector, local and national policy-makers, the workshop tackled issues related to capacity to build further initiatives and innovations for the protection of marine environment from land-based activities through the following objectives:

1. To exchange knowledge and experiences on the capacity initiatives for the Protection of the marine environment;
2. To increase the awareness on issues and concerns of policy makers, governments, academia/scientific community, and private sector as regard to the implementation of agenda on the Protection of the marine environment;
3. To increase collaboration with RC3S relevant to its functions and roles to tackle land-based marine pollution.



Lively Discussion at the Side Event of AIS Startup and Business Summit 2019

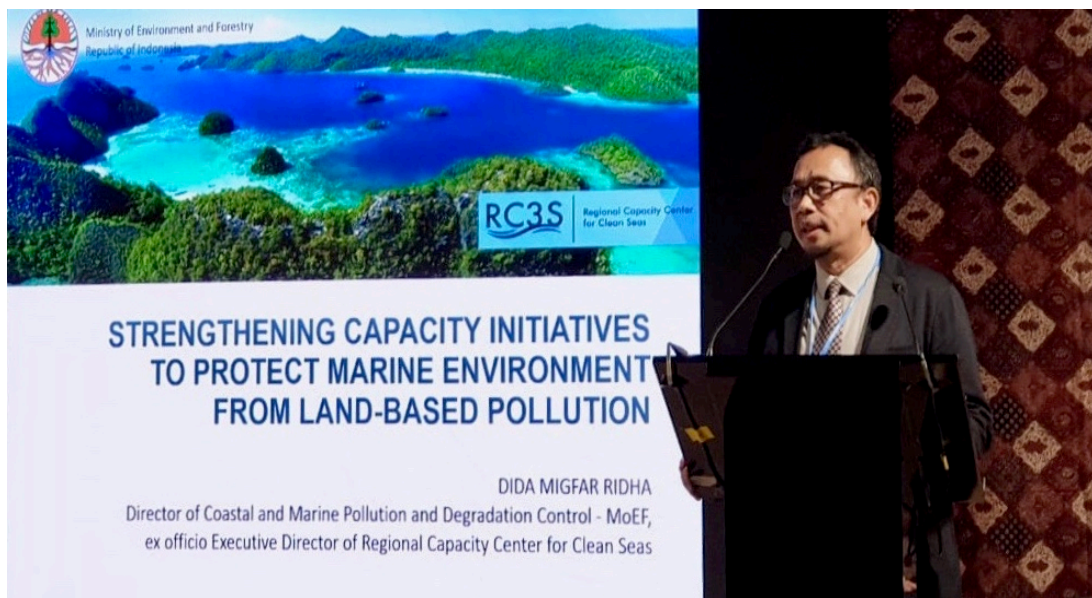
CLEAN SEAS KNOWLEDGE MANAGEMENT



- **Indonesia Pavilion at the COP25 UNFCCC.**

Concurring the UN Climate Change Conference COP25 in Madrid, Spain, RC3S successfully organized a talk show on “Capacity Initiatives to Protect Marine Environment from Pollution and Climate Change” on December 10th, 2019 at the Indonesian Pavilion.

The talkshow brought together 4 (four) speakers: (1) Mr. Dida Migfar Ridha, Director of Coastal and Marine Pollution and Degradation Control – MoEF as RC3S Executive Director, presented strategies in Strengthening Capacity Initiatives to Protect Marine Environment from Land-Based Pollution; (2) Mr. Keitaro Tsuji, Environmental Policy Advisor from JICA presented Japan experiences to Protect Marine Environment from Pollution and Climate Change; (3) Mr. Bagya Sugiharta, Director of Operation, PT. Pupuk Kalimantan Timur, talked about Commitments to Contribute in the Race Against Climate Change and Coastal Community Empowerment; also (4) Mr. Komang Parmita, Director of Operation, PT. PJB presented the company’s initiatives to combat marine litter.



Dida Migfar Ridha, Director of Coastal and Marine Pollution and Degradation Control – MoEF *ex officio* Executive Director of RC3S presented at the Indonesia Pavilion, COP25 UNFCCC



RESULTS IN 2019

CLEAN SEAS FORUM WITH SCIENCE



Researchers and Practitioners from Universities and Local Governments Across Indonesia Shared Their Perspectives on Marine Pollution and Its Solutions

- **Forum for Researchers and Practitioners** held in Surabaya while Indonesia was hosting 11th East Asian Seas (EAS) Partnership Council Meeting on 24 – 25 July 2019. The forum focused on mapping the research of marine pollution from land-based activities, in particular marine litter, increased nutrients, and wastewater.

The forum also focused on mapping the state of Integrated Coastal Management (ICM) implementation, key stakeholders, and the gaps locally and nationally in Indonesia with a view to elevate the role of researchers, ICM practitioners, and academic institutions for knowledge and technological advancement in the national ICM implementation.



RESULTS IN 2019

CLEAN SEAS INNOVATIVE SOLUTION FORUM

- Discussion on Collaboration to Build on Initiatives for the Protection of Marine Environment from Land-based Pollution.

On 16th of October 2019, RC3S invited a number of business players across sectors around Indonesia to a discussion for strengthening collaborative actions by showcasing and amplifying visibility of their initiatives as well as good practices; additionally to explore ways in creating impactful public-private cooperation for the protection of marine environment from land-based pollution.

More than 50 newfound initiatives and innovations were reported and became initial data for the development of solution model at RC3S.



Representatives from Private Sectors Discussed and Showcased Their Innovative Solutions to Minimize Their Environmental Impacts as well as Efforts to Control Marine Pollution, Particularly from Marine Litter, Nutrient, and Wastewater



RESULTS IN 2019

CLEAN SEAS INNOVATIVE SOLUTION FORUM



Representatives from Various Stakeholders Gathered at the RC3S Office in Denpasar to Discuss and Showcase Their Innovative Solutions to Control Marine Pollution, Particularly from Marine Litter, Nutrient, and Wastewater

- **Workshop on Private Sector's Best Practices: Innovative Solutions to Combat Marine Pollution from Land-based Activities.**

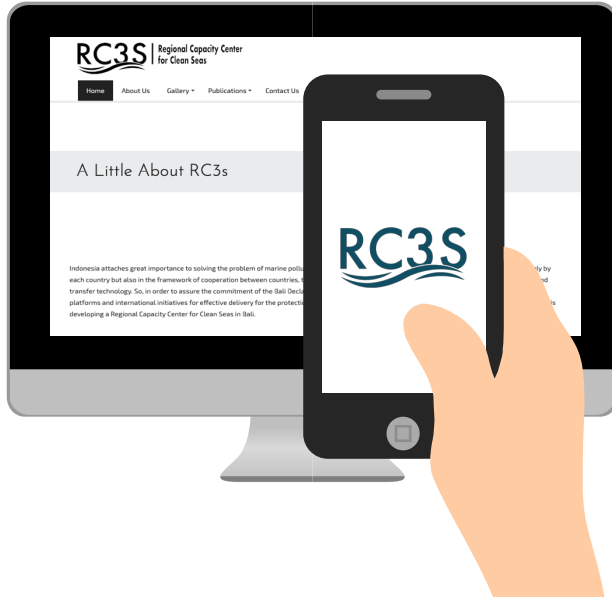
Extending the spirit of the discussion organized in Jakarta, RC3S aimed to seize the opportunity to create impactful public-private cooperation for the protection of marine environment in Bali, where its headquarter is located.

The workshop held on 17 – 18 October 2019 at the RC3S Office, engaged active participation from business, communities, and local government.



RESULTS IN 2019

Clean Seas Knowledge Platforms



RC3S DEDICATED WEBSITE

One of the very first milestones to build the RC3S Knowledge Management Platforms were undertaken by developing a website to provide information about the Center, what is going on, and to make its first publications accessible for partners, potential collaborators, and for general public. RC3S continuously improving its website to be easily accessible across devices, provide broader types of features and information, as well as for aesthetic purposes.



GALLERY DISPLAY

In the view of showcasing key successes, outstanding initiatives, and innovations to general public and partners upon visits and on-site events, RC3S built a gallery display which also function as venue of workshops, discussions, and capacity building activities.



RESULTS IN 2019

Clean Seas Knowledge Platforms



BEST PRACTICES INNOVATIVE SOLUTIONS TO COMBAT MARINE LITTER

The publication consists of numerous initiatives and innovations carried out by partners taking parts to combat marine litter in Indonesia.

Initiatives and innovations compiled include:

- **Compliance to 3Rs (Reduce, Reuse, Recycle)**

Varies from building and operating waste bank, waste management and recycling facility, series of regulations to ban single-use plastic bags and to increase waste collection rate, invention of creative products, and innovation in waste to energy.

- **Clean-up**

Activities within this category include coastal clean-up, river clean-up, and the use of equipment and technology for clean-up activities.

- **Alternative to Plastic**

Ranging from the use of traditional reusable bags, edible and environmentally friendly packaging from seaweed, and 100% recycled bottle for mineral water.

- **Monitoring and Research**

In this category, the publication presents on-site monitoring, the use of smart technology for marine litter forecasting, and the development of national marine litter database.



AGENDA IN 2020

Clean Seas Forum

CLEAN SEAS FORUM WITH SCIENCE

- **Theme 1 : Scientific Research on Marine Pollution from Marine Litter.**

Solutions to marine plastic pollution must be predicated upon a clear understanding of the issues based on sound sciences. The forum will be held to provide opportunities to exchange information around scientific research on marine plastic pollution and consider how critical research gaps can be filled. This forum will also provide results from various research on marine plastic pollution. Presentations and discussions in this forum will explore the current state of scientific knowledge on marine plastic litter, including to which extent the existing research addresses the priorities or areas of focus of marine litter policy frameworks and identify key gaps in marine litter research.

Theme “Science-based Solutions to Marine Plastic Pollution in Indonesia” will cover these following topics:

- Research initiatives in the field of controlling marine litter, as well as prioritization of research support which are still needed;
- Development of science-based solutions and best practices to control marine pollution;
- Predicting the movement and impacts of marine litter and microplastics;
- Policy analysis and strategies to transform marine litter science into actionable policy recommendations.





AGENDA IN 2020

Clean Seas Forum

CLEAN SEAS FORUM WITH SCIENCE

- **Theme 2 : Scientific Research on Marine Pollution from Increased Nutrient**

Research related to nutrients is still not widely published compared to research of marine litter. Addressing the issue of increased nutrients must be supported with a clear understanding of the issue based on sound sciences. This forum provide opportunities to exchange information on marine pollution in the form of increased nutrients and consider how critical research gaps can be filled. This forum provides results from various research on marine pollution from increased nutrients. Presentations and discussions in this forum will explore the current state of scientific knowledge on marine pollution from increased nutrients and identify key gaps in research on marine pollution from increased nutrients.

The theme will discuss these following topics:

- Priority assessment of nutrient pollution: sources, impacts, location and policy perspective;
- Solutions to control nutrient pollution from domestic waste;
- Solutions to control nutrient from the sources: agriculture and livestock.





AGENDA IN 2020

Clean Seas Forum

CLEAN SEAS FORUM WITH SCIENCE

- **Theme 3 : Scientific Research on Marine Pollution from Wastewater**

Wastewater released from point sources which discharged directly into environments, and indirect or diffuse sources such as urban, rural and industrial activities on land which discharged into the ocean via waterways— and is not adequately treated. This forum provides opportunities to exchange information on marine pollution from wastewater and consider how critical research gaps can be filled. This forum provides results from various research on marine pollution from wastewater. Presentations and discussions in this forum will explore the current state of scientific knowledge on marine pollution from wastewater, including to which extent the existing research addresses the priorities or areas of focus of policy frameworks and identify key gaps in wastewater research.

The theme will discuss these following topics:

- Priority assessment of wastewater: sources, impacts, location and policy perspective;
- Solutions to control wastewater pollution from domestic waste;
- Solutions to control wastewater pollution from the sources: industrial waste.



Illustration: Polluted River / tanindo.net



AGENDA IN 2020

Clean Seas Forum

CLEAN SEAS INNOVATIVE SOLUTION FORUM

- **Theme 1 : Private Sectors Solutions to Marine Pollution from Land-based Activities**

Numerous socially responsible private sectors are collaborating to seek solutions to marine pollution from land-based activities. These private sectors are working alongside research institutions, and together with communities – including the informal waste management sector and the groups who are affected and disadvantaged. Solutions include technological and design innovation to promote resource efficiency, material and energy recovery from waste, reverse logistics business models, and provision of social and livelihood support for the informal sector and the most affected groups.

This forum will look at three aspects to find value in marine pollution from land-based activities: (1) Solution to Combat Marine Litter; (2) Solution to Reduce of Marine Pollution from Increased Nutrients; and (3) Solution to Reduce of Marine Pollution from Wastewater. The forum will focus on impactful private sectors solutions to address marine pollution from land-based activities. Private sectors will consider whether solutions will be best achieved through voluntary corporate social responsibility, or mandated extended producer responsibility.

Topics that will be covered including:

1. Land-based Pollution Control: Solutions from Private Sectors to Combat Marine Litter;
2. Solutions from Private Sectors to Reduce Marine Pollution from Increased Nutrients;
3. Solutions from Private Sectors to Reduce Marine Pollution from Wastewater;
4. The Role of Private Sectors in Controlling Marine Pollution through Regulatory Compliance.



AGENDA IN 2020

Clean Seas Forum

CLEAN SEAS INNOVATIVE SOLUTION FORUM

- **Theme 2 : Youth and Community Solutions to Marine Pollution from Land-based Activities**

Communities are important component to mitigate marine pollution from land-based activities. It is imperative to change collective behavior and cultures within communities to reduce marine pollution. This forum will focus on community-based awareness-raising efforts, advocacy, innovations, and the application of science and grass-root knowledge. The forum will seek solutions through the actions of communities, particularly youth and show how these actions can play essential roles in mitigating marine pollution from land-based activities.

This theme will look at three to find value in marine pollution from land-based activities: (1) Solution to Combat Marine Litter; (2) Solution to Reduce of Marine Pollution from Increased Nutrients; and (3) Solution to Reduce of Marine Pollution from Wastewater. The forum will focus on how inclusive these community and youth-oriented actions are – and whether they fully consider how marine pollution affects various groups in different ways, and how to replicate and upscale these community and youth solutions into policy-making and business innovations.

Topics that will be covered including:

1. The Role of Youth in Controlling Marine Pollution from Land-based Activities;
2. Scout Movement Contribution to Control Marine Pollution from Land-based Activities;
3. Communities Contribution to Control Marine Pollution from Land-based Activities;
4. Millennial Contribution in Controlling Marine Pollution from Land-based Activities through Legislative Advococation.



AGENDA IN 2020

Clean Seas Forum

CLEAN SEAS INNOVATIVE SOLUTION FORUM

- **Theme 3 : Local Government Solutions to Marine Pollution form Land-based Activities**

Local governments are becoming more active in reducing marine pollution form land-based activities. These efforts are being driven by economic incentives, as well as the demands of civil society, youth, socially-responsible businesses, and international efforts. Governments are taking action through enabling market-based instruments, and promoting marine pollution control programmes. It is important to forge strong partnerships through various initiatives for localized solutions to marine pollution form land-based activities in cities.

This forum will look at three sessions to find value in marine pollution form land-based activities: (1) Solution to Combat Marine Litter; (2) Solution to Reduce of Marine Pollution from Increased Nutrients; and (3) Solution to Reduce of Marine Pollution from Wastewater. This forum will focus on municipal authorities who are championing changes and demonstrating policy innovations to tackle marine pollution form land-based activities, how the private sector and civil society can work together with local government to localize solutions to marine pollution.

Topics that will be covered including:

1. The Dynamic of ICM to Foster Effective Management on Reducing Marine Pollution form Land-based Activities;
2. Organizational Advancement and Local Government Cooperation to Control Marine Pollution from Nutrient, Wastewater, and Marine Litter from Land-based Activities;
3. Local Infrastructural Challenges to Control Marine Pollution from Nutrient, Wastewater, and Marine Litter;
4. Coordinating Financing Mechanism from Various Sectors and Local Administrations to Control Marine Pollution form Land-based Activities.

Considering the recent situation around COVID-19 pandemic, the Clean Seas Forums with Private Sectors within the 2020 agenda will be conducted virtually through webinars.



AGENDA IN 2020

Clean Seas Forum

CLEAN SEAS FORUM WITH SPECIFIC ISSUE

- **Theme 1 : Land-Based Pollution and Marine Biodiversity: Impact and Innovative Solution**

Webinar with the theme of “Land-Based Pollution and Marine Biodiversity: Impact and Innovative Solution” will be organized for celebrating World Environment Day and World Ocean Day 2020. The forum will engage speakers representing all 5 (five) main stakeholder of RC3S to discuss the impact of land-based pollution to marine biodiversity and how each and every stakeholders address this issue with solutions in alignment with their respective expertise.

These are the following topics to be discussed:

1. Impacts and Solutions of Increased Nutrients to Marine Biodiversity;
2. ICM Implementation to Control Marine Pollution from Land-based Activities;
3. Innovative Solutions on Coral Reefs Rehabilitation from the Impact of Marine Pollution from Land-based Activities;
4. Impacts and Solutions of Marine Litter to Marine Biodiversity;
5. Insights from PT PJB’s CSR Programme on Coastal Management and Rehabilitation.





AGENDA IN 2020

Clean Seas Forum

CLEAN SEAS FORUM WITH SPECIFIC ISSUE

- **Theme 2 : Land-Based Pollution and Marine National Parks**

Celebrating World Nature Conservation this year, RC3S will be putting together forum with the topic of “Land-Based Pollution and Marine Protected Areas” in July 2020. Recognizing that a healthy environment is the foundation for a stable and productive society for future generations, RC3S is seeking to contribute to the cause and solutions to protect, conserve and sustainably manage natural resources. The discussion will tackle issues related to adverse impacts of land-based pollution to marine protected areas and highlight how these challenges can be addressed through collaborative actions among stakeholders.

The webinar will focus on topics as follows:

1. Marine National Parks Management in the view to Control Marine Pollution “Harmonization of National and Local Government Measures”;
2. Best Practices of Marine National Parks Management in Indonesia;
3. Local Community’s Support in Marine National Parks Management to Control Marine Pollution;
4. Local Government’s Initiatives in Marine Pollution Control for Safeguarding Marine National Parks and its Functions;
5. Private Sector’s Initiatives to Control Marine Pollution in Marine National Parks.





AGENDA IN 2020

Clean Seas Forum

CLEAN SEAS FORUM WITH SPECIFIC ISSUE

- **Theme 3 : River as a Source of Marine Litter: Impact & Innovative Solution**

As study have shown that rivers are one of the major sources of marine litter entering the ocean, as well as contribute to its transboundary nature; RC3S will be organizing a forum to discuss issues related to how rivers transport marine litter from land to coastal and marine environment, what causing the leakages, and how rivers can also be part of the solution. Planned to be conducted in September 2020, this forum will mark the celebration of World Rivers Day.

1. Synergy of River and Marine Pollution Monitoring from Numerous Aspects, Ultimately Related to Marine Litter, Increased Nutrients and Waste Water;
2. Lesson-learned from Community's Capacity Development on Pollution Control: Citarum Case.



- **Theme 4 : Youth in Combatting Marine Litter**

Youth have been catalyzing changes from time to time with their passion and spirit of commitment. To celebrate International Coastal Clean-up Day 2020, forum with the topic of "Youth in Combatting Marine Litter will be conducted in September to highlight the issues surrounding current trends of global plastic use, the impacts associated with irresponsible disposal practices, and how youth can contribute to the solution for combatting marine litter.

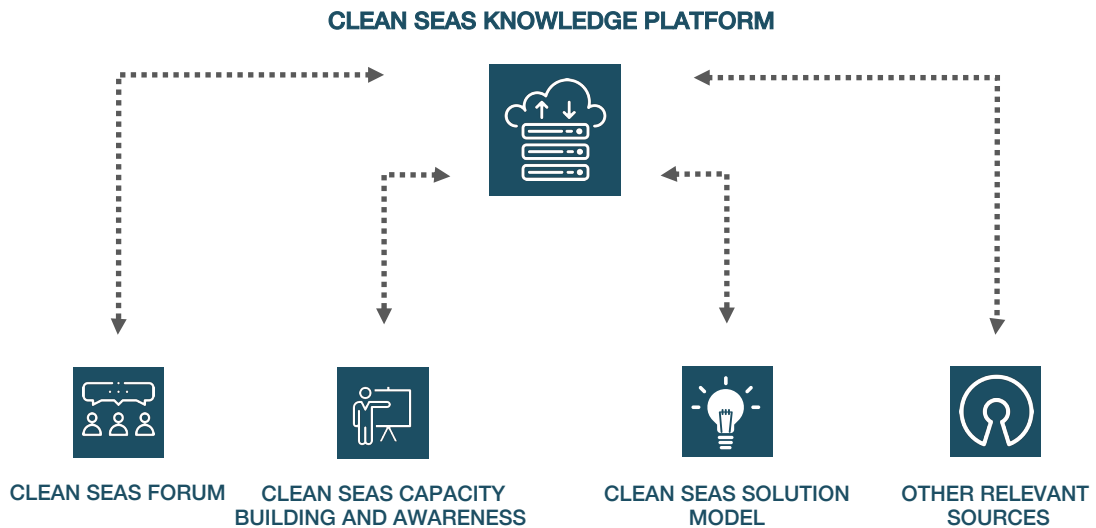


AGENDA IN 2020

Clean Seas Knowledge Management Platform

The **Clean Seas Knowledge Platform** serves to collect, disseminate and permanently preserve knowledge on impacts and solutions to control marine pollution from land-based activities in digital forms. By extending access to data and analyses, the Clean Seas Knowledge Platform aims to equip development practitioners, knowledge management specialists and policy-makers with insights that will amplify the impact of development programs.

Activities within the agenda of Clean Seas Knowledge Platform in 2020 is focused on strengthening the 2019 results and achievements while incorporating improvements. Target for improvements of Clean Seas Knowledge Platform in 2020 is to integrate data and information flows from the main agenda of RC3S, which are Clean Seas Forum, Clean Seas Capacity Building and Awareness, Clean Seas Solution Model and other relevant sources.



Improvements of the Clean Seas Knowledge Platform include:

1. Additional information and materials of the innovative solutions cultivated from Clean Seas Forum;
2. Series of relevant policies and approaches, research, as well as information and resources, particularly related to capacity building, roster of experts in the field, and links to other relevant websites and databases.

RC3S WORKING AGENDA 2: CLEAN SEAS CAPACITY BUILDING & AWARENESS

Activities:

- (1) **Cleas Seas Capacity Building** which will be conducted through National and regional training programmes, workshops, and seminars.
- (2) **Clean Seas Awareness** to promote public awareness to respond and taking effective measures to mitigate the impact of marine pollution from land-based activities.





RESULTS IN 2019

Clean Seas Capacity Building

INTERNATIONAL TRAINING AND WORKSHOP

In 2019, RC3S had held 2 international training and workshop in collaboration with partners; and its first national level workshop as part of the function on raising awareness and building capacity for the protection of marine environment from land-based pollutions. Respectively, the activities are:

- **Training of Trainers on Monitoring & Assessment of Marine Plastic Litter & Microplastics.**

Jointly organized within the COBSEA mechanism, RC3S co-hosted the training on 9-13 September 2019 in Bali to provide an opportunity for all 9 participating countries of COBSEA (Cambodia, China, Indonesia, Malaysia, Republic of Korea, Singapore, Thailand, Vietnam, and the Philippines) to present ongoing marine litter planning and monitoring activities, share good practices, challenges and questions, and identify potential follow-up capacity development activities supported by COBSEA and the GPA.

The Training was based on the Guidelines for the Monitoring and Assessment of Plastic Litter in the Ocean developed by the Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP) and included both classroom sessions and a series of field visits to conduct marine litter sampling and laboratory analysis.





RESULTS IN 2019

Clean Seas Capacity Building

- **Asian Regional Workshop on Data & Information Management Large Marine Ecosystems.**

The workshop co-hosted by RC3S within PEMSEA arrangements and served to guide and support the data and information sharing on Large Marine Ecosystems (LMEs), which is crucial for fostering interagency collaboration in sharing data and information for use by projects in the region.

Held in the RC3S Office in Bali from 3 – 5 December 2019, participants from the major LMEs, including Indonesian Seas LME (ISLME), South China Sea LME and Gulf of Thailand Fisheries Refugia, the Arafura and Timor Seas, Pacific Small Island Developing States (SIDS), and the Yellow Sea LME shared their experiences, successes and challenges in data and management reporting, and emphasized that data and information is useful for the development, assessment and enforcement of management policies, strategies and interventions.





RESULTS IN 2019

Clean Seas Capacity Building

CAPACITY BUILDING ON MARINE LITTER

- **Workshop on Marine Litter Monitoring for West Sumatera Province.**

RC3S highlighted the importance of data generated from marine litter monitoring and assessment, and try to build on existing monitoring efforts as well as encourage different institutions and stakeholders, particularly at the local level, to organize marine litter monitoring and assessment regularly. The workshop aimed to harmonize methodologies and empower local stakeholders with the understanding and the capacity that is needed, and enable them to translate the data into actionable recommendations for policy-makers.

Held in Padang, West Sumatera on 26 – 28 November 2019, participants included representatives of local environmental agencies, lecturers and university students.



Participants Actively Involved in a Tailored, In-Class and Out-Class Activities of the Workshop



RESULTS IN 2019

Clean Seas Awareness

INTERNATIONAL LEVEL OF COASTAL CLEAN-UP

RC3S has been actively building partnerships through community engagement and public awareness with its monumental coastal clean-up events. Here is a look at 2019:

- **Beach Clean-up Asia World MUN in collaboration with UN Information Center.**

Rooted in Goals 13 and 14 of the SDGs – to “take climate action” and “conserve and sustainably use the oceans, seas and marine resources”, RC3S jointly organized a clean-up as a youth activation activity which coincided the Asia World MUN in Bali on November 15th, 2019.



Engaged up to **1.200 people**, the clean-up highlighted the issues surrounding current trends of global plastic use and the impacts associated with irresponsible disposal practices. Within short amount of time, participants successfully collected, sorted, and removed **572,427 KGs** marine litter from Mertasari Beach, which **298,107 KGs** are non-organic.



CLEAN SEAS CAPACITY BUILDING AND AWARENESS



RESULTS IN 2019

Clean Seas Awareness

- ASEAN Coastal Clean-up with 21 Ambassadors from ASEAN and Dialogue Partners.

To commemorate the 10-year anniversary of Committee of Permanent Representatives to ASEAN (CPR), RC3S welcomed **21 Ambassadors and Permanent Representatives from ASEAN Member States and its Dialogue Partners** at Taman Wisata Alam Mangrove, Angke Kapuk on the 30th of November 2019 to emphasize commitments to combat marine litter in the region and to draw attention to realize concrete implementation of Goal 14 of the SDGs. More than **370 participants** successfully collected and removed **152,1 KGs** of plastic-dominated marine litter.

The ASEAN Coastal Clean Up 2019 began with a video screening to showcase efforts and innovative solutions to combat marine litter in Indonesia. Mangrove Planting Initiative was next on the agenda and ended with clean up action in the mangrove forest area.



Dr. Siti Nurbaya, Minister of Environment and Forestry Republic of Indonesia, Led the Mangrove Planting Initiative joined by the Committee of Permanent Representatives to ASEAN as well as Ambassadors and/or Representatives from ASEAN Dialogue Partners.





AGENDA IN 2020

Clean Seas Capacity Building

Capacity Building for Marine Litter Monitoring in Estuary Area in Collaboration with Center for South East Asian Studies (CSEAS)

Through its experience, RC3S have identified major capacity gaps in marine litter monitoring with regard to applying standardized methods of monitoring and assessment, and establishing local monitoring programmes to inform decision making on marine litter. This capacity building activity aims to build the foundation for participants to develop monitoring and assessment programmes for marine litter to enable them to: (1) Independently establish/design a programme to monitor and assess the distribution and abundance of plastic litter in accordance with Indonesia National Guideline; (2) Report on the distribution and abundance of plastic litter; and (3) Use data to inform and guide policy.





AGENDA IN 2020

Clean Seas Capacity Building

Capacity Building for Land-based Pollution and Integrated Coastal Management (ICM) with ICM Learning Sites

Strengthening instruments of prevention is required to effectively control marine pollution from land-based activities. Thus, in the framework of controlling marine pollution from land-based activities, the instrument of Integrated Coastal Management (ICM) has been developed as an integrated approach involving various stakeholders to sustainably manage coastal and marine environment.

The implementation of ICM principles to control marine pollution from land-based activities adopts an integrative and holistic decision-making framework, using an interactive and process-oriented approach. ICM integrates cross-cutting issues by involving stakeholders and creating ownership, as well as improving coastal governance through strategic planning, policy and management integration, and strong coordination among institutions.

The Ministry of Environment and Forestry (MOEF) has been in close cooperation with 6 (six) sites in Indonesia (the regencies of Sukabumi, Tangerang and East Lombok; cities of Bontang and Semarang; and Bali Province) to continuously scale up their respective ICM programs. RC3S seize the opportunity to equip them with capacity to monitor land-based pollution within their scope area. While encouraging each sites to conduct monitoring, the capacity building activity aims to also identify priority areas for management improvement and integrate efforts to control land-based pollution into the ICM mechanism.



RC3S WORKING AGENDA 3: CLEAN SEAS SOLUTION MODEL

Activities:

- (1) **Clean Seas Solution Model on Marine Litter** which will be developed through pilot projects for model creation.
- (2) **Clean Seas Solution Model on Nutrient** which will be developed through pilot projects for model creation.
- (3) **Clean Seas Solution Model on Wastewater** which will also be developed through pilot projects for model creation.





RESULTS IN 2019

Clean Seas Solution Model on Marine Litter

"WASTE TO ENERGY" PROJECTS

RC3S is continuously encouraging private sectors to be engaged in scaling up pilot projects to combat land-based pollution, especially from marine litter. PT Indonesia Power, an Indonesia's electricity generation company, sets a good example with innovations combining Gasifier Electricity Power Plan and the use of waste as alternative resources to generate energy. The process begin by sorting out waste collected at the local waste management facilities (TOSS), one of which is located in Gunaksa Village, Klungkung, Bali, where plastic with higher value will be sold and recycled, while plastic with low to no value mixed with food waste, dry leaves, and other organic matters to be fermented, and pressed into pellets. The pellet itself is an artificial 'coal' that can directly be used to fuel traditional stoves or to fuel gasifier for electricity generation.

This model proven to be effective to increase waste collection rate and to reduce the leakages into the marine environment. This model have also acquired international acknowledgement by a visit from all 9 (nine) COBSEA member countries as part of the 24th COBSEA Inter-governmental Meeting (IGM) agenda, held in Bali from 19 – 20 July 2019. The model had also been published in the **Best Practices Innovative Solutions to Combat Marine Litter**, which demonstrated the function of RC3S to increase visibility of initiatives and innovations, as well as facilitating replications.





AGENDA IN 2020

Clean Seas Solution Model on Marine Litter

Model to Mitigate Plastic Waste Leakages from River Bodies

One of the model that RC3S is aiming to encourage are trash booms. Trash boom is a floating infrastructure mounted diagonally into river bodies to capture floating litter on the surface. Being relatively cheap, trash booms are effective to prevent high amount of floating litter entering the coastal and marine environment, and as effective to encourage participation of local communities in the regular process of collecting and removing the litter. The number of litter captured from time to time can also be recorded as a baseline of unmanaged waste from land-based anthropogenic activities. However, trash booms have yet to be massively implemented in Indonesia compared to other strategies and measures to combat land-based pollution.

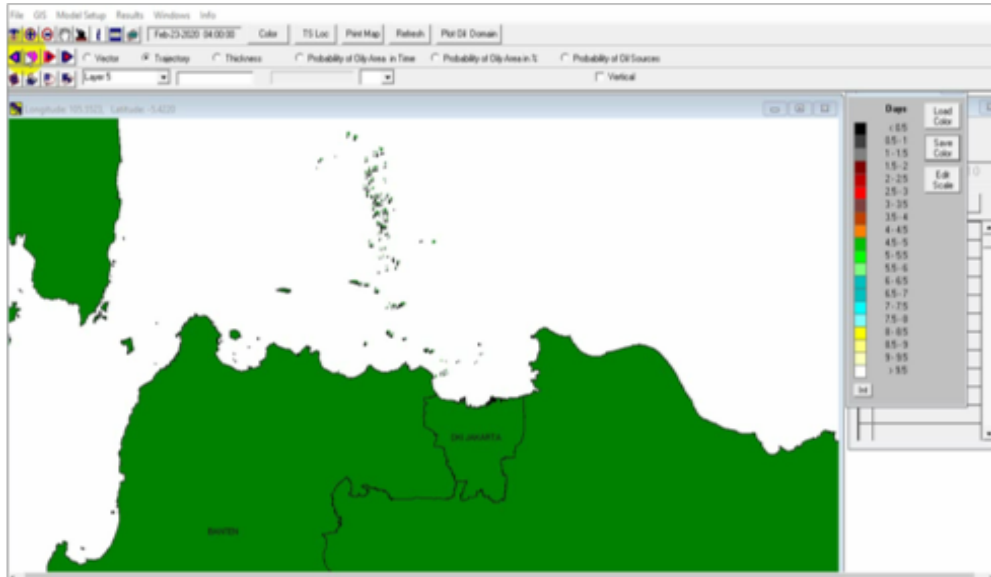
RC3S sees an opportunity to scale up and replicate the use of trash booms as a solution model which not only effective but feasible to control the flow of marine plastic pollution from land.





AGENDA IN 2020

Clean Seas Solution Model on Marine Litter



Optimization of Computation Modeling Tool for Oil Spill Distribution or Other Relevant Technology to Track Marine Litter Transboundary Movement

Model to Monitor Marine Litter Transboundary Movement

The transboundary nature of plastic pollution constitute yet another challenge for the protection of marine environment from land-based activities. Study found that up to 95% of plastic in our ocean is transported by ten major rivers, eight of which are in Asia. Fast growing cities with underdeveloped waste management systems in South East Asia are responsible for as much as 60% of plastic waste leakage into the environment, with 75% of land-based sources of marine plastic pollution coming from uncollected waste and 25% comes from leakages in the municipal waste management systems.

RC3S is seeking to address this challenge by encouraging the combine use of smart technology (remote sensing) and crowdsourced data collection from ground to monitor and visualize plastic waste leakages into coastal and marine areas, as well as to identify hotspots in the view to improve waste management.

RC3S CALENDAR OF EVENT 2020



RC3S CALENDAR OF EVENTS ○

01

JANUARY

Monitoring and Evaluation

Annual Report RC3S Year of 2019

02

FEBRUARY

Planning

Stakeholders Mapping and Analysis for Development of RC3S Work Plan

Planning

Working Agenda RC3S Year of 2020

03

MARCH

Clean Seas Knowledge Platforms

Updating information on Best Practices: Innovative Solutions to Combat Marine Litter

Clean Seas Knowledge Platforms

Updating information on Best Practices: Innovative Solutions on Nutrient and Waste Water

04

APRIL

Clean Seas Capacity Building & Awareness

Preparation for the Development of Clean Seas Capacity Building and Awareness

Clean Seas Knowledge Management

Preparation for the Development of Clean Seas Knowledge Management

05

MAY

Planning

Revision of Working Agenda Regional Capacity Center for Clean Seas (RC3S) Year of 2020

Clean Seas Knowledge Management

Development of Clean Seas Knowledge Management

06

JUNE

Clean Seas Innovative Solution Forum

Clean Seas Innovative Solution Forum with Private Sectors

Clean Seas Forum with Specific Issue

Clean Seas Forum: "Land-Based Pollution and Marine Biodiversity: Impact and Innovative Solution" celebrating World Environment Day and World Ocean Day 2020

RC3S CALENDAR OF EVENTS ○

07

JULY

- **Clean Seas Innovative Solution Forum**
Clean Seas Innovative Solution Forum with Private Sectors
- **Clean Seas Forum with Science**
Marine Plastic Litter Forum with Science in collaboration with Center for Southeast Asian Studies (CSEAS)

08

AUGUST

- **Clean Seas Innovative Solution Forum**
Clean Seas Innovative Solution Forum with Private Sectors
- **Clean Seas Forum with Science**
Scientific Research on Marine Pollution from Increased Nutrient

09

SEPTEMBER

- **Clean Seas Innovative Solution Forum**
Youth and Community Solutions to Marine Pollution from Land-based Activities
- **Clean Seas Forum with Specific Issue**
River as a Source of Marine Litter: Impact and Innovative Solution celebrating World Rivers Day
- **Clean Seas Solution Model**
Model to Mitigate Plastic Waste Leverages from River Bodies

10

OCTOBER

- **Clean Seas Forum with Science**
Scientific Research on Marine Pollution from Wastewater
- **Clean Seas Solution Model**
Model to Monitor Marine Litter Transboundary Movement
- **Clean Seas Innovative Solution Forum**
Solutions to Marine Pollution from Land-based Activities by Local Governments

11

NOVEMBER

- **Clean Seas Innovative Solution Forum**
Clean Seas Solution Forum on Marine Pollution from Land-based Activities in East Asian Seas
- **Clean Seas Forum with Specific Issue**
Land-Based Pollution and Marine National Parks
- **Clean Seas Capacity Building & Awareness**
Land-based Pollution and Integrated Coastal Management (ICM)

12

DECEMBER

- **Clean Seas Capacity Building & Awareness**
Marine Litter Monitoring in Estuary Area
- **Clean Seas Knowledge Platforms**
Publication Best Practice Innovative Solution for Marine Environment
- **Monitoring & Evaluation**
Documentation of Results and Activities Year of 2020

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