Final Report for the Regional Coastal Integrated Information Management System (RCIIMS)
Deliverable 7

Prepared for the Caribbean Regional Track of the Pilot Programme for Climate Resilience (PPCR), Mona Office for Research and Innovation (MORI), University of the West Indies (UWI Mona)

Contents

Acronyms and Abbreviations

Blue Earth/ERG or the Consultant Team	Blue Earth Consultants, a Division of ERG
CCCCC	Caribbean Community Climate Change Centre
CKAN	Comprehensive Knowledge Archive Network
GIS	Geographic Information Systems
IMS	Information Management System
MITS	Mona Information Technology Services
PPCR	Pilot Programme for Climate Resilience
RCIIMS	Regional Coastal Integrated Information Management System
UWI	University of the West Indies

I.   Purpose of Report

The Caribbean Regional Pilot Programme for Climate Resilience (PPCR) Programme Management Office-Mona Office for Research and Innovation, University of the West Indies (UWI) Mona hired Blue Earth Consultants, a Division of Eastern Research Group, Inc. (Blue Earth/ERG) and local consultants Nicole Brown and JF. Clarke Consulting Inc. (hereafter referred to as the "Consultant Team") to develop a Regional Coastal Integrated Information Management System (RCIIMS) that could support ongoing national and regional climate planning activities for six pilot countries (e.g., Dominica, Grenada, Jamaica, Saint Lucia, and Saint Vincent and the Grenadines). The objective of this report is to **summarise overarching findings and products developed from the consultancy.**

II.   Project Objectives

The project objectives and deliverables that form the basis of this report are those of the Blue Earth/ERG proposal dated September 5, 2019. Notwithstanding the delay in the start of the contract, UWI Mona confirmed on the kick-off call meeting (February 25, 2020) that the overall project objectives had not changed and confirmed and accepted the previously articulated objectives.

This consultancy achieved the following objectives:

1) Determine different types of data in the coastal and marine zones (biophysical, biological, human, economic, risk, vulnerability, and others) available within the six PPCR countries.
2) Through web-based research and stakeholder engagement, identify available datasets and metadata regarding these datasets.
3) Assess utility of existing datasets and identify gaps in existing data.
4) Develop a mechanism representative of best practices for collecting equivalent metadata in other Caribbean countries.
5) Develop a financially sustainable online RCIIMS that allows for access and update of the metadata compiled for six countries, as well as ultimate expansion beyond the PPCR countries.

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III.   Deliverables and Workplan

Below is the detailed work plan and timeline.[1]

Deliverable	Activities and Inputs	Phasing/Interim Milestones	Tentative Delivery Date	Status
PHASE 1: PRELIMINARY IDENTIFICATION OF DATA TYPES AND DEVELOPMENT OF INCEPTION REPORT				
Deliverable 1: Inception report (including a detailed work plan)	• Conduct preliminary desk and web-based research of data types required for RCIIMS • Organise and hold client meeting • Take notes from client meeting • Draft and finalise report and workplan	➢ Draft Inception Report ➢ Work plan draft (following inception meeting) ➢ *Client team review* ➢ Final Inception Report and work plan	March 5, 2020	*Submitted to UWI Mona (March 5, 2020)*
PHASE 2: RESEARCH ON EXISTING DATASETS, GAPS, AND NEEDS				
Progress Report 1: Report with details on datasets assessed	• Develop data collection tools (i.e., data collection framework, interview guide, online survey, informant lists) • Discuss draft data collection tools • Finalise data collection tools • Conduct web-based research and regional expert interviews • Administer online survey • Develop dataset list	➢ Draft data collection tools ➢ *Client team review*	April 2, 2020	*Submitted to UWI Mona (April 2, 2020)*
Deliverable 2: Report outlining the different types of data (physical, biological, human, etc.) required for the RCIIMS **Deliverable 3:** Datasets Report outlining list of available data (and metadata) that are related to the coastal zone		➢ Final data collection tools ➢ Draft reports ➢ *Client team review* ➢ Final reports	May 7, 2020	*Submitted draft deliverables to UWI Mona (May 7, 2020)* *Submitted final deliverables to UWI Mona (May 21, 2020)*
PHASE 3: DATA ANALYSIS AND NEEDS ASSESSMENT				
Progress Report 2: Report with preliminary information and thoughts regarding physical	• Conduct data analysis and needs assessment • Draft report	➢ Draft report ➢ *Client team review* ➢ Final report	May 28, 2020	*Submitted to UWI Mona (May 28, 2020)*

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[1] Blue Earth/ERG adapted the project timeline in the event of unforeseeable circumstances. With the current global outbreak of the Coronavirus Disease 2019 (COVID-19), the health and safety of the Consultant Team remain the top priority. Thus, the Consultant Team and UWI reassessed all proposed travel during the project timeline and agreed to all virtual engagements.

Deliverable	Activities and Inputs	Phasing/Interim Milestones	Tentative Delivery Date	Status
requirements and costs for the RCIIMS				
Deliverable 4: Needs Analysis Report inclusive of hardware and software requirements			June 25, 2020	*Submitted draft deliverable to UWI Mona (June 25, 2020)* *Submitted final deliverable to UWI Mona (July 17, 2020)*
PHASE 4: DEVELOPMENT OF RCIIMS AND DESCRIPTION OF SUSTAINABILITY MECHANISMS				
Deliverable 5: Report on mechanism for future data capture and sustainability of the RCIIMS	• Develop straw proposal PPT • Hold in-country workshops in each PPCR county • Revise proposal for RCIIMS • Draft report of sustainability mechanisms	➢ Draft report ➢ *Client team review* ➢ Final report	August 6, 2020	*Submitted draft deliverable to UWI Mona (August 6, 2020)* *Submitted final deliverable to UWI Mona (August 20, 2020)*
PHASE 5: DEVELOPMENT AND BETA TESTING OF ONLINE WEB INTERFACE				
Deliverable 6: Web-interface for datasets	• Design RCIIMS • Development, testing, and deployment of RCIIMS • Conduct beta-testing of RCIIMS interface • Refine and finalise RCIIMS • Hold training workshops	➢ Draft RCIIMS interface ➢ *Beta-testing of draft RCIIMS interface* ➢ Final RCIIMS interface	October 15, 2020	*Submitted final deliverable to UWI Mona Information Technology Services (MITS) (October 19, 2020)*
PHASE 6: DEVELOPMENT OF FINAL REPORT				
Deliverable 7: Final report	• Draft final report • Discuss draft final report • Finalise final report	➢ Draft report ➢ *Client team review* ➢ Final report	December 17, 2020	*Submitted final draft deliverable to UWI Mona (December 15, 2020)* *Submitted final deliverable to UWI Mona (December 30, 2020)*

IV. Overview of Approach and Methodology

To achieve the goals and objectives of this project, Blue Earth/ERG applied a mixed-methods data collection and analysis approach that included web-based research, stakeholder informant interviews, online surveys, and needs assessment. After collecting the data, the Consultant Team coded the research, extracted themes accordingly, and created summary statistics. In addition, the Consultant Team assessed the hardware and software requirements for the RCIIMS. In general, web-based research, interview, and survey data results fall into multiple categories; hence, the sum of percentages throughout this report may be greater than 100%. See Deliverables 2, 3, and 4 for more details on the methodology.

The project initially forecast travel to the PPCR countries and in-person engagement for information gathering and stakeholder validation but was revised to virtual engagements due to COVID-19. Through a two-part virtual workshop, the Consultant Team reported on the key findings from the research and presented a straw proposal to key stakeholders. Based on the feedback on the straw proposal, the Consultant Team developed a functional beta-version of the RCIIMS. To understand and improve the user experience on the RCIIMS platform, the Consultant Team conducted beta testing sessions with key stakeholders, in which a member of the Consultant Team provided one-on-one walk-through of the beta-version and solicited user feedback. Through virtual beta testing workshops, the Consultant Team received additional feedback to help refine and finalise the RCIIMS platform. After the final RCIIMS went live, the Consultant Team hosted a virtual training workshop for all stakeholders engaged in the RCIIMS project, as well as for planning practitioners and other data producers interested in utilising the platform.

Key Findings and Straw Proposal Webinar

Over the two-part virtual workshop (July 21 – 22, 2020), the Consultant Team reported on key findings regarding existing data and data needs to inform climate resilience planning, as well as key desired RCIIMS design features, functionality, and accessibility, along with insights related to challenges and lessons learned from current and previous information management systems (IMSs) efforts. Blue Earth/ERG also presented a straw proposal of the RCIIMS to key stakeholders and received feedback on the vision, metadata to include, design and development approach, and long-term sustainability. See Appendix A for the Key Findings and Straw Proposal PowerPoint presentation.

Webinar participants included stakeholders from all six Caribbean PPCR countries representing a variety of sectors including national government agencies, non-governmental organisations, intergovernmental organisations, and the academic and private sectors (see Appendix B for a break-down of Key Findings and Straw Proposal webinar participants).

The Consultant Team also connected with regional partners to identify potential opportunities for collaboration:

- Blue Earth/ERG held a call with the UWI Mona Information Technology Services (MITS) team (July 14, 2020) to discuss the requirements for the RCIIMS, as well as understand existing IMS

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management protocols and necessary management capacity for the new RCIIMS. MITS agreed to host and manage the hardware and software components of the RCIIMS, as well as provide backup storage of the RCIIMS data.

- The Consultant Team held a call with the Caribbean Community Climate Change Centre (CCCCC) (July 27, 2020) to discuss the CCCCC's Clearinghouse Search Tool and potential collaboration opportunities between the CCCCC and the RCIIMS. Additional resources are needed to prepare an application programming interface (or API) for the CCCCC's Clearinghouse Search Tool to integrate with the RCIIMS.

Beta Testing

The Consultant Team invited stakeholders involved in the earlier phases of the project to participate in virtual beta tests of the RCIIMS online web portal. The Consultant Team conducted 24 beta tests[2] between September 15 – October 9, 2020. The purpose of the beta test sessions was to gather user feedback on the preliminary version of the RCIIMS, specifically:

- Functionality
- Design and user interface
- Accessibility
- Quality and utility of hosted metadata

Feedback from the beta tests helped the Consultant Team refine and finalise the RCIIMS platform. See Appendix B for the break-down of beta testers and Appendix C for the beta testing protocol.

Training Workshop

Blue Earth/ERG conducted a RCIIMS virtual training workshop on December 15, 2020. The training was recorded and is publicly available on the RCIIMS website for stakeholders unable to attend the live session. The Consultant Team provided an overview of the RCIIMS project and demonstrated key features and functionality of the RCIIMS platform, such as walking stakeholders through the process of creating user accounts and uploading new metadata entries. In addition, the Consultant Team recorded a separate video for Verification Team members on an overview of the metadata verification process and user management features on the RCIIMS. See Appendix D for RCIIMS User Guide and recording links to virtual trainings for RCIIMS users and Verification Team members.

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[2] Note that a number of beta tests included multiple testers.

V. Review of Existing Marine and Coastal Data and Information Systems

KEY FINDINGS: REVIEW OF EXISTING MARINE AND COASTAL DATA AND INFORMATION SYSTEMS

- **Topical Areas:** Top three themes of existing datasets and systems are related to land and sea use/cover, climate, and management mechanisms.
- **Features:** Majority of identified IMSs are online databases and with open access. There is a mix of IMSs that are regularly updated, project-based, or not maintained at all.
- **User Experience:** Majority of the informants use existing IMSs to support project planning, development, and management in relation to climate change planning.
- **Barriers to Sustainability:** Key perceived barriers to IMS sustainability include lack of staff and financial capacity, lack of standardisation, and lack of political will and support.
- **Solutions to Overcome Barriers:** Establish ownership and long-term management, maintain long-term funding, and establish data sharing policy are top perceived solutions to overcome barriers.

The Consultant Team identified 102 relevant datasets and systems for climate resilience planning activities and captured the metadata on the RCIIMS platform. See Figure 1 for the breakdown by geographies and Figure 2 for the breakdown by topical areas. Appendix E is a data collection framework for existing datasets and systems, in which the Consultant Team collected metadata information pertaining to the 102 datasets and systems on the RCIIMS. Deliverables 2 and 3 have more details on the key findings on the existing landscape of marine and coastal datasets and IMSs.

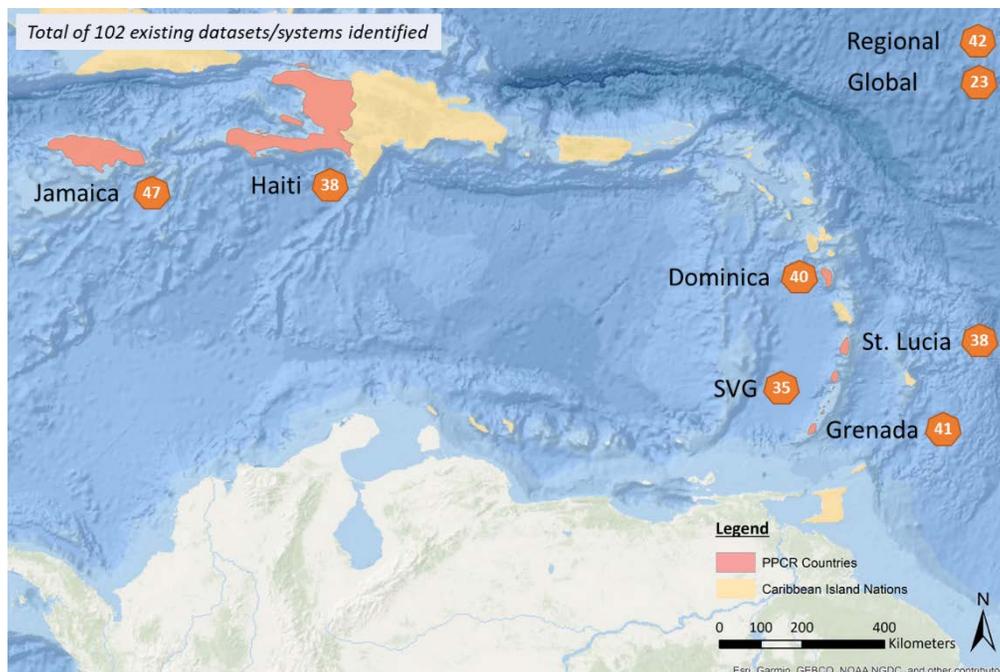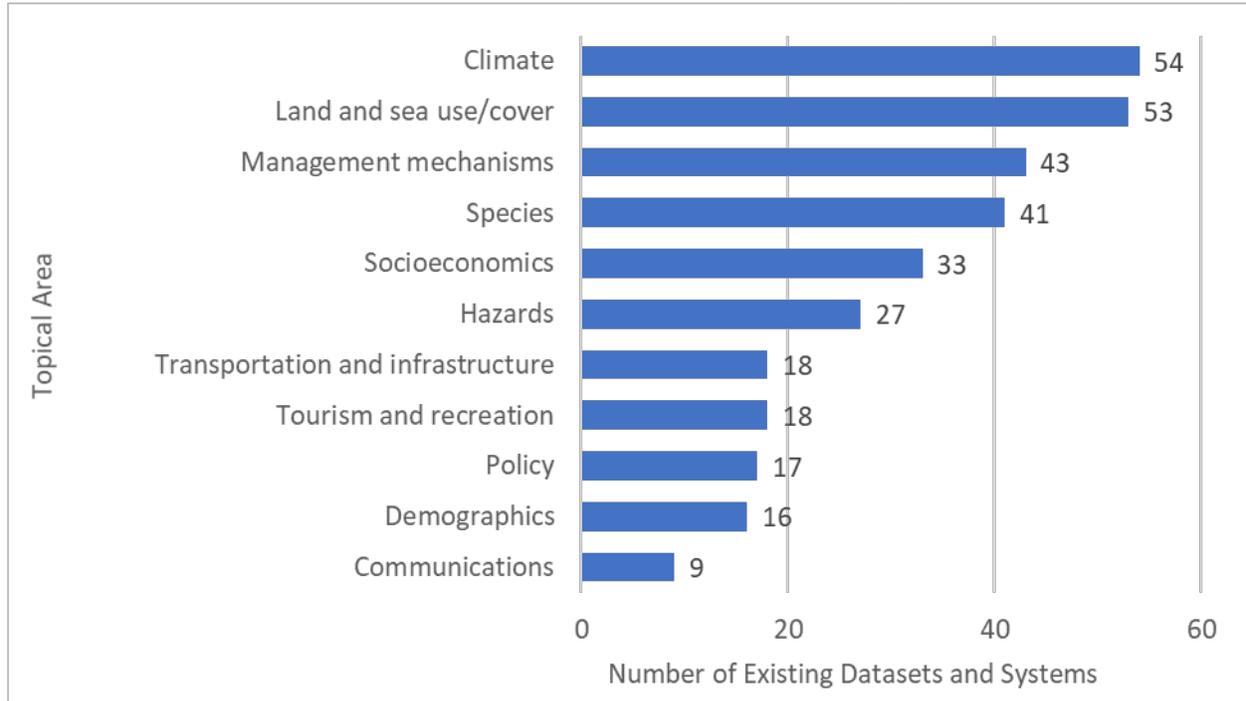*Figure 1. Existing Marine and Coastal Datasets and Systems by Geography (Web-based Research; n=102)*

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Figure 2. *Themes of Topics Covered by Existing Datasets and Systems* (Web-based Research; n=102)*

VI.   Perceived Key Needs for a Future IMS

KEY FINDINGS: PERCEIVED KEY NEEDS FOR A FUTURE IMS

- **Data Types:** Top three types of data perceived to be most important to inform climate change adaptation and planning at regional and national levels are: environmental physical parameters, impact on coastal and marine environments, and habitat extent, health, and protection.
- **Data Gaps:** Top three gaps in existing landscape of coastal and marine IMSs are accessibility to updated and relevant data, limited or lack of data in specific topical areas, and a standardised data collection method and data format.
- **Desired Design:** Simple and intuitive design, keyword search design, and simple browse design are the top desired design features.
- **Desired Functionality:** Downloadable datasets, search functions, and a metadata summary are the top desired functionality features.
- **Desired Accessibility:** Accessibility across devices, availability in multiple languages, and accessibility for users with low internet connectivity are the top desired accessibility features.

To understand the key desired features that the RCIIMS could include, the Consultant Team asked interview informants to describe the features that would compel them to use a future IMS extensively. The Consultant Team utilised the findings to build a beta-version of the RCIIMS. See Deliverable 4 for more detail.

VII.   Hardware and Software Requirements

KEY FINDINGS: HARDWARE AND SOFTWARE OPTIONS

- **Primary Priorities for the RCIIMS**: Based on perception research, the Consultant Team identified important elements for a successful IMS, such as multi-lingual user-friendly interface, spatial and nonspatial data features, search capabilities, browse function, standardised metadata, open source and cloud solution, and minimal expertise and costs required for maintenance.
- **Selected Hardware Solution Options:** The Consultant Team discussed hardware requirements with UWI MITS, who agreed to provide the physical server to host the RCIIMS.
- **Selected Software Solution Options:** The Consultant Team evaluated CKAN, DKAN, Esri Geoportal Server, GeoNetwork, and GeoNode against the primary and secondary priorities identified in the needs assessment. The evaluation only considered open-source options.
- **Estimated Costs:** Costs vary between $15,000 and $27,000 per year depending on data storage and number of additional features.

Based on the gaps and needs identified for a future IMS, the Consultant Team identified hardware and software options to facilitate the development of the RCIIMS. The Consultant Team evaluated several data cataloguing options and compared the pros and cons based on primary and secondary priorities for the RCIIMS (see Deliverable 4 for a list of primary and secondary priorities). In addition, the evaluation included determining preliminary cost estimations for the initial installation and development as well as long-term maintenance. See Deliverable 4 for more information.

VIII.   Mechanism for Future Data Capture and Sustainability of the RCIIMS

KEY FINDINGS: MECHANISM FOR FUTURE DATA CAPTURE AND SUSTAINABILITY OF THE RCIIMS

- **Hardware and Software Management**: UWI MITS will act as the regional partner by hosting and managing RCIIMS primary servers and deploying the RCIIMS back-up facility and disaster recovery strategy.
- **Metadata Upload and Update:** The Consultant Team designed a process to efficiently gather information on metadata from data producers, while also enabling a verification process to authenticate metadata entry submissions.
- **Verification Process:** The RCIIMS Verification Team will review new/updated metadata entries on the RCIIMS, make any necessary edits, and then publish metadata entries.

Identifying and constructing sustainable mechanisms for the ongoing management of the RCIIMS is key to the system's long-term success. Through stakeholder interviews, discussions with key partners, and the RCIIMS Straw Proposal Workshop, the Consultant Team identified mechanisms related to the management of the RCIIMS hardware and software, process for continuous metadata upload and

update, and process for verifying new metadata entries and updates. Additional discussions with key partners helped secure UWI MITS as the regional partner and hosting management entity for the RCIIMS platform. UWI MITS has existing capacity and technical expertise to maintain the physical infrastructure for the RCIIMS in addition to having experience managing IMSs. Successful implementation and long-term sustainability of the RCIIMS will also depend on the willingness of data producers to share information with other stakeholders and publish metadata on the RCIIMS. See Deliverable 5 for more information on the sustainable mechanisms related to hardware and software management, metadata upload and update, metadata verification process, and approach to foster data sharing culture. Appendix F includes a list of the current RCIIMS Verification Team members and an overview of the Verification Team, including a description of the role, composition, and level of commitment.

IX.   Post-Pilot Recommendations for the RCIIMS

RECOMMENDATIONS

1. **RCIIMS Ownership and Management:** Institutionalise the RCIIMS with clear ownership and long-term management arrangements.
2. **Data Sharing Culture:** Promote a culture of data sharing among data producers.
3. **Capacity Building for Metadata Production and Sharing:** Promote strengthening of in-country capacity to produce and share metadata for the RCIIMS and use of the IMS.
4. **Expansion of RCIIMS Capabilities:** Expand the RCIIMS for data hosting and analysis *(as funding and resources allow)*

Based on the Consultant Team's experience with the development of the RCIIMS and in the PPCR countries and region, the following section outlines recommendations for the post-pilot phase of the RCIIMS.

Recommendation 1: Institutionalise the RCIIMS with clear ownership and long-term management arrangements

Based on discussion between the PPCR Programme Management Unit, UWI MITS, and the Consultant Team, UWI MITS will host and manage the RCIIMS. To avoid some of the pitfalls of previous IMS efforts, particularly those related to ownership and sustained support, it is important to build in management protocols from the start and secure regional cooperation and buy-in along with stakeholder support. UWI MITS will oversee technical and administrative management functions, including providing and financing staff capacity to manage the hardware and software components of the RCIIMS.

The Consultant Team designed the RCIIMS with minimal to no need for continuous external funding, beyond ongoing management, which can be integrated into the host institution's core costs. To this end, the Consultant Team selected to build the RCIIMS on a free platform (i.e., Comprehensive Knowledge Archive Network [CKAN]) to ensure there is no recurring cost for purchasing and maintaining software. The simplicity of the RCIIMS platform also minimises the needs of maintenance. However, UWI MITS

may re-assess for potential needs in software updates and hardware upgrades in five years. One-time project funding may be only needed to conduct any necessary RCIIMS platform updates.

However, UWI MITS should plan to address the challenge of ensuring sufficient funding for continuous maintenance of the RCIIMS. Sustained funding will not only allow for continuous data updates, but also ensure that the RCIIMS can adapt to advancing technological changes (including necessary hardware and software updates) and avoid the risk of becoming an archive rather than a living IMS.

Actions that the RCIIMS host institution could take to address this recommendation are as follows:

➔ **Identify a key individual within the RCIIMS host institution to oversee platform management and maintenance post-pilot project**. This would support institutional knowledge retention for the RCIIMS.

➔ **Develop management and maintenance protocols, procedures and institutional arrangements** that allow for issues (the need to expand RCIIMS capability, for example) to be addressed over time, particularly beyond the active funded project phase of the RCIIMS development; and clear demarcations of responsibilities and lines of communication to be established. There should also be a mechanism for feedback from users for unforeseen technical problems that inevitably occur, especially in the beginning of the implementation process. Resources should be allocated within UWI MITS to solve these issues quickly.

➔ **Consider a multifaceted approach to long-term financing**, including direct donor support and support major data-producing regional and national projects. For instance, the RCIIMS host institution could consider exploring non-governmental organisation and climate fund support, including the Caribbean Biodiversity Fund, the Caribbean Development Bank, the Inter-American Development Bank, and multiple United Nations Programmes (e.g., Green Climate Fund, United Nations Development Programme, United Nations Environment Programme, United Nations Educational, Scientific and Cultural Organisation) to potentially fund RCIIMS hardware and software updates. See Table 1 for aligned donors with potential funding opportunities.

Table 1. Potential Funding Opportunities to Support the RCIIMS

Donor Name	Alignment to Funding Priority	Funding Range (USD$)	Calls for Proposals*
Caribbean Biodiversity Fund, Climate Change Programme	• Climate change and disaster risk management • Resilient ecosystems and economies	$240K-$2M	February, May
Caribbean Development Bank, Community Disaster Risk Reduction Fund	• Sustainable, resilient and inclusive development • Climate change and disaster risk management • Community Disaster Risk Reduction Fund (CDRRF) • *Funded:* Assessment of Current Information and Communication Technology, University of Technology Enhancement Programme in Jamaica	$400K-$600K	July
Caribbean Disaster Emergency	• Disaster risk reduction for vulnerable communities	$18K-$55K	March, September

Donor Name	Alignment to Funding Priority	Funding Range (USD$)	Calls for Proposals*
Management Agency, Canada Caribbean Disaster Risk Management Fund	• Environmental management • Climate change adaptation		
Green Climate Fund (United Nations Framework Convention on Climate Change and CCCCC)	• Climate resilience and adaptation • Sustainable development goals • *Funded:* Development of climate-related databases (e.g., geographic information system [GIS], climate-induced hazards and disasters, climate knowledge)	$10M-22M (for previous projects focused on small island developing states and database development)	January
UN Environment Programme Adaptation Fund	• Ecosystem-based adaptation • Knowledge, analysis and networking • National Adaptation Plans • World Adaption Science Programme • Fosters innovation for adaptation in developing countries through Innovation Grants	$250K-2M (for innovation grants to support the development and diffusion of innovative adaptation practices, tools, and technologies)	January

Note: The donor names are hyperlinked.
*The timeline for calls for proposal is based on previous funding schedules.

Recommendation 2: Promote a culture of data sharing among data producers

At the launch of the RCIIMS platform on Tuesday, December 15, 2020, the platform contained 102 datasets and IMSs identified from the Consultant Team's web-based research, interviews, and surveys. The RCIIMS will be as useful and relevant as the metadata it hosts. Without a culture of data sharing in the PPCR countries and region, there will be limited supply of data into the IMS and consequently limited use. Table 2 lists specific actions that the RCIIMS Verification Team, data producers, and partner funders could consider when promoting increased data sharing within PPCR countries and the region.

Table 2. Potential Mechanisms to Foster Data Sharing Culture

RCIIMS Verification Team
• **Animate and manage the RCIIMS Verification Team:** Engage with team members to ensure timely verification and identify opportunities for national and regional collaboration and partnership.   • **Promote the use of the RCIIMS to capture metadata:** Encourage data producers in the PPCR countries and region to utilise the online platform to catalogue available and relevant datasets and IMSs, particularly for offline datasets. The RCIIMS can help connect adaptation planning practitioners with data producers and their data.   • **Foster collaboration and partnership:** Proactively engage with data producers and funders to identify opportunities for data sharing and ensure important national and regional initiatives feed into the RCIIMS. Promote the RCIIMS on their organisation's webpage and IMSs, if relevant. The RCIIMS and partner IMSs can list each other on their webpages to promote cooperation, as well as strengthening ownership of the RCIIMS platform.   • **Encourage data sharing in the Verification Team member's affiliated organisation:** Support incorporation of data sharing goals and mechanisms in the Verification Team member's work. If relevant, encourage stakeholder discussions and meetings through the Verification Team member's affiliated organisation. Continuous engagement with decision-makers in the PPCR countries and region may help build expertise

and comfort in utilising data and the RCIIMS in their work. With an improved understanding of existing data in the region, data producers can avoid duplicating efforts in collecting data already housed elsewhere. Through increased use and sharing of data in the PPCR countries and region, data producers (particularly governmental agencies) can utilise the data to monitor the effectiveness of policies and actions related to coastal zone management and coastal resilience.

Data Producer

- **Share search results:** Use the share feature on the RCIIMS to easily share metadata links or the metadata itself through various social media platforms and email.
- **Collaborate on data use:** Use the platform's message board to start discussions about certain metadata or potential uses for the metadata.
- **Promote strengthening of in-country capacity to produce and share data for the RCIIMS:** Consider helping the development and/or strengthening of existing data producing programmes that inform climate change adaptation and resilience planning activities in the PPCR countries and the region. When data producing programmes are developed and/or strengthened, it will be key to include goals or stipulations that these programmes share their metadata on the RCIIMS.
- **Include robust data sharing protocols:** Incorporate data sharing arrangements in future data producing projects with provisions to update the RCIIMS. Additionally, data producers (e.g., government agencies) could develop internal data-sharing protocols that include uploading metadata to the RCIIMS.
- **Promote data-driven policy development and decision-making at the national and regional levels:** Encourage evidence-based decision-making through an informal or formal policy related to data use and sharing within the government and between the government and other data producers (including sharing with the RCIIMS). National governments can prioritise training in data management skills across all levels of the ministries and ensure that relevant tenders include data collection that enable resulting data to be owned by the implementing ministry. In addition, national governments can build data use and analytics into sectoral plans, strategies, and reporting, and develop procedures that reduce the bureaucracy related to data release and sharing. Within a national government, ministries and agencies can collaborate to identify key data needs, as well as identify useful data to be shared on the RCIIMS and with other key stakeholders.
- **Foster collaboration and partnership:** Proactively engage with other data producers, RCIIMS Verification Team, and funders to identify opportunities for data sharing and ensure important national and regional initiatives feed into the RCIIMS. Promote the RCIIMS on their organisation's webpage and IMSs, if relevant.

Partner Funder

- **Support inventories and assessments:** Evaluate the status of data production and GIS capacity in the PPCR countries.
- **Support multi-country capacity-building initiatives:** Target natural resource managers in data collection through hands-on experience and training.
- **Mainstream data sharing into externally funded, coastal and marine national and regional projects:** Sensitise bi-and multi-lateral funders about the RCIIMS and encourage the funders to promote archiving public data generated through their funds on the RCIIMS when possible. Partner funders could incorporate data sharing stipulations in future funding proposals, which could ensure the continuity of data processing and sharing activities. Along with personnel and financing plans, future funding proposals could include a plan for sharing and managing any data produced from the project, including where it will be stored and how it will be accessed in the future.
- **Consider expanding the capabilities of the RCIIMS in the future:** Post-pilot project, partner funders could consider expanding the RCIIMS beyond just a metadata host to become a central data storage facility for marine and coastal data. Deploying the RCIIMS on CKAN will provide the option for the IMS to host data, in

addition to metadata in the future. Expansion of RCIIMS capabilities would be reliant on securing additional funding to support these efforts as well as data-sharing agreements between participating countries.

- **Consider supporting further integration of existing data collection efforts in the RCIIMS:** To reduce duplication of efforts in coastal and marine data collection, partner funders could consider supporting the coordination and collaboration between the RCIIMS and existing coastal data platforms. A potential mechanism is to explore agreements with existing coastal data platforms to integrate their data into the RCIIMS.
- **Promote strengthening of in-country capacity to produce and share data for the RCIIMS:** Proactively engage with the RCIIMS Verification Team, data producers, and other funders to identify opportunities for data sharing and ensure important national and regional initiatives feed into the RCIIMS. Promote the RCIIMS on their organisation's webpage and IMSs, if relevant.

Recommendation 3: Promote strengthening of in-country capacity regionally to produce and share metadata for the RCIIMS and use of the IMS

The sustained efforts in data collection and sharing will be key to ensuring the RCIIMS stays up-to-date and relevant. Data producers (e.g., governmental agencies and academic institutions) and partner funders (e.g., bi- and multi-lateral donors) could consider helping the development and/or strengthening of existing programmes related to producing data for informing climate change adaptation and resilience planning activities in the PPCR countries and region. Following the RCIIMS pilot project, data producers and partner donors could consider implementing or supporting the implementation of these allied activities:

➔ **Support inventories and assessments to evaluate the status of data production and GIS capacity in the PPCR countries**. The needs assessment has revealed that there are a number of GIS databases which have been developed under various initiatives. In order to develop the capacity to use data for decision making, it is important to provide the tools and knowledge required to analyse and update the data to those who will be responsible for the ongoing data management; this will provide a flexible environment in which each country can maintain and customize their own specific database of coastal resources long after the RCIIMS has been set up. It will be prudent to determine the following, specifically with regard to the optimal recommended datasets for the RCIIMS:
  - Available data in GIS format and any accompanying metadata;
  - Available and relevant data that may need to be converted to electronic format before it can be imported into a GIS database; and
  - Status of GIS technical capacity (i.e., data management and analysis) within key ministries that need or can use GIS to support decision-making.

➔ **Support multi-country capacity-building initiatives that target natural resource managers in data collection through hands-on experience and training**. This could help strengthen management and data collection capacity within institutions and at the national level, as well as address problems related to data quality, inconsistency, gaps, and missing metadata. If the RCIIMS is to be a living mechanism, parallel attention needs to be paid to the supply or production of data that can be made available through the IMS. Broker a dynamic dialogue between resource managers, policymakers and researchers that enables researchers to

understand how practitioners use their data to support decision-making and what additional data needs exist. These groups of persons work in different contexts, yet they need to share or utilise data and information. It will be therefore key to expand to other countries when all protocols and arrangements for RCIIMS management are firmly in place. Practitioners, whether resource managers or decision-makers, will be aware of the data types, data formats, and frequency of updates that are needed for informing climate change adaptation and resilience planning activities, but should conform to the IMS' protocols to ensure meaningful participation. This structure and guidance can be used by researchers to inform their data collection protocols and research agendas. This dialogue could take the form of a series of participatory workshops or seminars.

Recommendation 4: Expand the RCIIMS for data hosting and analysis *(as funding and resources allow)*

Beyond hosting only metadata, the RCIIMS could potentially expand its capabilities to host data as funding and resources allow. The RCIIMS could become a central data storage facility for marine and coastal data for the PPCR countries and region. This could encourage the collection of necessary data for informing climate resilience and adaptation planning activities, as well as, providing additional value as a regional IMS. The deployed software solution, CKAN, has capability to store both nonspatial and spatial data, which could help further expand the RCIIMS to be able to host data as well. In addition, CKAN has integrated services for on-site data preview (e.g., conducting search and filter) and analysis of tabular information, such as creating data visualizations (e.g., graphs, maps). Expansion of the RCIIMS capabilities and services could generate additional value for their users. This may require additional funding for identifying project managers to manage the expansion and potentially updating the RCIIMS hardware and/or software.

At the five-year mark, the host institution should evaluate the performance, value and success of the RCIIMS with a view to making modifications to improve use and relevance, as necessary, and potentially expand the RCIIMS beyond the initial six-country pilot phase of the PPCR Project to establish a truly regional platform.

X.   Appendices

Appendix A. RCIIMS Key Findings and Straw Proposal PowerPoint Presentation

See PDF titled "RCIIMS_July_Meeting_PPT.pdf"

Appendix B. List of Key Findings and Straw Proposal Webinar Participants and Beta Testers

Country	Organization	Name	Sector	Role	Key Findings and Straw Proposal Workshop Participant (Total = 24)	Beta Tester (Total = 24)
Dominica	Physical Planning Division	Mrs. Annie Edwards	National Governmental Agency	Chief Physical Planner		✓
Jamaica	University of West Indies, Mona - Centre for Marine Science	Ms. Marcia Creary Ford	Academic	Environmental Data Manager, Caribbean Coastal Data Centre		✓
Jamaica	University of West Indies, Mona - Department of Physics	Dr. Tannecia Stephenson	Academic	Head of Department, UWI Mona Department of Physics		✓
Grenada	Ministry of Agriculture and Lands	Ms. Celia Edwards	National Governmental Agency	Irrigation Technician	✓	✓
Grenada	Ministry of Agriculture and Lands	Mr. Joseph S. Noel	National Governmental Agency	Land Use Officer	✓	✓
Grenada	Ministry of Agriculture and Lands	Mr. Kenton Fletcher	National Governmental Agency	System Administrator and GIS Technician	✓	✓
Haiti	Climate Change Department of the Ministry of the Environment	Ms. Gerty Pierre	National Governmental Agency	Climate Change Officer	✓	✓
Haiti	Fondation pour la Biodiversité Marine (FoProBiM)	Mr. Jean Wiener	Non-governmental organisation (NGO)	Executive Director		✓
Haiti	FoProBIM	Mr. Ronald Cademus	NGO	Deputy Director	✓	✓
Jamaica	Environmental Solutions Limited	Ms. Danielle Nembhard	Private	Environmental Analyst	✓	✓

Country	Organization	Name	Sector	Role	Key Findings and Straw Proposal Workshop Participant (Total = 24)	Beta Tester (Total = 24)
Jamaica	National Environment and Planning Agency (NEPA)	Ms. Gabrielle-Jae Watson	National Governmental Agency	Coordinator - Ecosystems	✓	✓
Jamaica	Planning Institute of Jamaica	Mrs. Patrine Cole	National Governmental Agency	GIS Analyst	✓	✓
Saint Lucia	Saint Lucia Government	Ms. Chadley John	National Governmental Agency	National Environmental Information System (NEIS) Webmaster for *Increase Saint Lucia's Capacity to Monitor Multilateral Environmental Agreement Implementation and Sustainable Development Project*	✓	✓
Saint Lucia	Saint Lucia Government	Ms. Danielle Gordon	National Governmental Agency	NEIS Coordinator, Project Manager for *Increase Saint Lucia's Capacity to Monitor Multilateral Environmental Agreement Implementation and Sustainable Development Project*	✓	✓
Saint Lucia	Department of Fisheries	Mrs. Patricia Hubert-Medar	National Governmental Agency	Fisheries Assistant IV	✓	✓
Saint Lucia	Department of Forestry	Ms. Rebecca Rock	National Governmental Agency	Assistant Chief Forestry Officer	✓	✓
Saint Lucia	Department of Fisheries	Ms. Yvonne Edwin	National Governmental Agency	Fisheries Biologist	✓	✓
Saint Vincent and the Grenadines	National Parks, Rivers and Beaches Authority	Ms. Abena White	National Governmental Agency	Climate Change and Natural Resources Manager	✓	✓

Country	Organization	Name	Sector	Role	Key Findings and Straw Proposal Workshop Participant (Total = 24)	Beta Tester (Total = 24)
Saint Vincent and the Grenadines	St. Vincent and the Grenadines Community College	Mr. Allanson Cruickshank	Academic	Lecturer - Geography and Green Engineering	✓	✓
Saint Vincent and the Grenadines	Ministry of Economic Development, Sustainable Development	Ms. Yasa Belmar	National Governmental Agency	Environmental Resource Analyst	✓	✓
Regional/ international	Caribbean Community Climate Change Centre	Mr. Albert Gilharry	Regional Intergovernmental organisation (IGO)	Software Developer	✓	✓
Regional/ international	Inter-American Development Bank	Mr. Gerard Alleng	IGO	Climate Change Senior Specialist	✓	
Regional/ international	Biodiversity and Protected Areas Management (or BIOPAMA) Caribbean Protected Areas Gateway Reference Information System	Mrs. Hyacinth Armstrong-Vaughn	IGO and Academic	Regional Coordinator	✓	
Regional/ international	Caribbean Regional Fisheries Mechanism (or CRFM)	Ms. June Masters	Regional IGO	Data and Statistics Analyst	✓	✓
Regional/ international	World Bank	Ms. Melanie Kappes	IGO	Disaster Risk Management Specialist	✓	
Regional/ international	Inter-American Development Bank	Ms. Nastasia Keurmeur	IGO	Environmental Consultant	✓	
Regional/ international	Caribbean Disaster Emergency Management Agency	Ms. Renee Babb	IGO	GIS Specialist	✓	✓
Regional/ international	Caribbean Community Climate Change Centre	Dr. Ulric Trotz	Regional IGO	Deputy Director and Science Advisor	✓	✓

Appendix C. Beta Testing Protocol

Introduction and Objective

Summary of the RCIIMS

The Caribbean Regional Pilot Programme for Climate Resilience (PPCR) Programme Management Office-Mona Office for Research and Innovation, University of the West Indies (UWI Mona) hired Blue Earth Consultants, a Division of Eastern Research Group, Inc. (Blue Earth/ERG or Consultant Team) to develop a Regional Coastal Integrated Information Management System (RCIIMS) that will support ongoing national and regional climate planning activities. The RCIIMS serves as a metadata platform for national and regional coastal and marine datasets and information management systems (IMS). Key features of the RCIIMS include keyword search, search by topic through homepage icons, advanced search function in the results page, refine search by menu of topics, and the ability to share metadata or RCIIMS entries via social media. Additionally, the RCIIMS has a user portal where data producers and/or their affiliates can submit metadata.

Beta Test Objectives

To test the functionality of the new RCIIMS and gather user feedback, the Consultant Team engaged key stakeholders in a series of beta tests of the preliminary RCIIMS platform. The objective of the beta test was to gather feedback on:

- Functionality
- Design and user interface
- Accessibility
- Quality and utility of hosted metadata

Key stakeholders walked through tasks such as:

- Search for specific topic by keyword search and topics
- Upload metadata via RCIIMS account
- Approve new metadata entry and walk through Verification Team member role *(for Verification Team invitees only)*

The Consultant Team did not test the following:

- Share RCIIMS entry via social media (because users will need to sign onto social media)
- Submit comment via social media (because users will need to sign onto social media)

Following the test, the Consultant Team asked the stakeholders a series of targeted questions to gather constructive feedback. Stakeholder feedback was valuable in helping refine and finalize the RCIIMS platform.

Beta Testing Session Introduction

Script: I want to thank you for taking the time to participate in a virtual beta test session with me today, your thoughts and opinions will be very valuable to this project. I expect this beta test session will last approximately one hour. As you may know already, the Caribbean Regional Pilot Programme for Climate Resilience (PPCR) hired Blue Earth Consultants, a Division of ERG (Blue Earth/ERG), to develop a Regional Coastal Integrated Information Management System (RCIIMS) that could support ongoing national and

regional climate planning activities by hosting relevant marine and coastal metadata and linking to other portals and datasets.

To inform our development of the RCIIMS, we are interviewing stakeholders who have been engaged in the RCIIMS development process to understand the user experience of the preliminary version of the RCIIMS. We will walk through several scenarios with you on our call, and also gather feedback on functionality, design and user interface, accessibility, and quality and utility of hosted metadata.

Before we begin, I should let you know that the information you share with us today will feed into the refining of the RCIIMS and will not be shared with the PPCR team.

Do you have any questions before we begin?

Beta Testing Tasks

Beta test facilitators will walk through the following scenarios with beta test participants. *Note: We will only walk through metadata verification process (Scenario 4) with identified Verification Team targets.*

Script:

(***Skip the following if the beta tester already is sharing their screen:*** We would like to first get screensharing set up on your end, so we could go through several scenarios on the preliminary version of the RCIIMS. Please navigate to the beta test version of the RCIIMS. Share your screen on Zoom by: Clicking on "Share Screen" button, then selecting your web browser window, and clicking "share" button.)

As quick overview of the RCIIMS platform, you see on the homepage the following tabs:

- **Datasets**: Includes a full list of available metadata on the RCIIMS.
- **Organisations**: Includes the RCIIMS collection of metadata entries.
- **Topics (Groups)**: Includes a list of group icons (metadata topics).
- **About**: Includes a description of the RCIIMS platform and a user guide link (forthcoming).

On the homepage, you will also see a search bar, most common tags, and topic icons. At the bottom of the homepage, there are acknowledgement links to the CIF, UWI Mona, and InterAmerican Development Bank. In addition, at the bottom you will see login/register links to create a user account to upload metadata, as well a contact form to submit any technical questions. *Please note that a user account is only required for uploading metadata, an account is not required for viewing/browsing metadata entries on the platform.*

SCENARIO 1

For the first scenario, we would like to walk you through how a user could use the keyword search.

The RCIIMS will bring up the results page based on your search terms. Users could also use the filter bar on the left side, such as filtering by Topics (Groups), Tags, Formats, and Licenses, to further refine searches.

Please feel free to click through the results. Based on what you see on the results page, [==*ask follow-up questions*==].

Coastal Metadata Research (**Keyword Search**)
Scenario: *User has specific research objective (e.g., coral reef cover in Saint Lucia) and is using the RCIIMS to complete the objective.*

Part 1 – Keyword Search Only
- User uses search bar to search "coral reef cover in Saint Lucia [or other county]."
- Search provides search results pertaining to coral reef cover and Saint Lucia [or other county].

Part 2 – Utilising Filter Bar
- User refines search by selecting a specific Topic (Group), Tag, Format, or License

After browsing metadata entries, user identifies the external IMS/dataset that is most relevant to their research objective and goes to that site by clicking "link to resource" and then clicking the URL (or by clicking the source URL under "additional info" in the metadata entry).
Description of tabs at the top of the metadata entry:
- Dataset: This is the metadata entry for the dataset or IMS
- Groups (Topics): This tab shows what topics the metadata entry or IMS is associated with (e.g., climate, species, etc.)
- Activity stream: shows recent activity for the dataset (e.g., recent updates)

Follow up questions:
Part 1 – Keyword Search Only
- Did the search function provide you with relevant metadata for your research objective?
- Did the search function provide a wide enough range of metadata results?
- Did the search function provide a narrow enough range of metadata results?

Part 2 – Utilising Filter Bar
- Was the menu helpful in refining your search?
- Was this an effective and easy to navigate search technique?

SCENARIO 2

Script: For the second scenario, please navigate back to the RCIIMS homepage by clicking on the RCIIMS icon in the upper left corner of the page (or by clicking the "home" icon also in the upper left corner). If you scroll down a little, you will see the homepage has clickable icons for various topical areas (or groups). Please click on an icon on a topic of interest.

Please feel free to scroll and click through the results. Based on what you see on the results page, [***ask follow-up questions***].

Coastal Metadata Research (**Search by Topics [Group]**)
Scenario: *User has specific research objective (e.g., existing land and sea use/cover data) and is using the RCIIMS to complete the objective.*

- User uses group/topic icons to identify the desired overarching topic (Land and Sea Use/Cover).
- User clicks on the icon and is provided with datasets that have been tagged under this topic.
- User browses metadata entries tagged under this topic to find desired IMS and goes to that site by clicking "link to resource" and then clicking the URL (or by clicking the source URL under "additional info" in the metadata entry). [Have user return to metadata search results to browse further.]

Follow up questions:
- Were metadata entries grouped under the topic icon comprehensive?
- Were metadata entries under the topic icon too widespread? (e.g., were there metadata entries under this topic that you thought were not relevant to your search?)

Coastal Metadata Research (Search by Topics [Group])
• Were there any entries/subheadings missing from this larger topic?

SCENARIO 3

Script: For the third scenario, we would like to go through how a user could upload new metadata entries to the RCIIMS. To save time, we prepared a user account you could use for this beta testing session. We will not go over how to register for an account on the RCIIMS. *Please note that a user account is only required for uploading metadata, an account is not required for viewing/browsing metadata entries on the platform.*

Please navigate back to the home page by clicking the RCIIMS icon or the "home" icon also in the upper left corner. Then scroll to the bottom of the page and click "log in"

The RCIIMS will bring you to the "Dashboard" view, which includes information organised by:

- News feed – this tab provides an overview of the account activities related to adding and removing metadata entries.
- My Datasets – this tab lists the metadata entries added through this account. Please note that we already added some test entries for the beta test session.
- My Organizations – this tab shows that this account is affiliated with the RCIIMS.
- My Groups (Topics) – this tab shows the topics that the RCIIMS is organised by.

Please log in and navigate to the "My Datasets" tab on your "Dashboard" and click "Add Dataset." For our beta test session, let's try to add a new metadata entry.

[Facilitator can walk tester through each category. Tester can use "test" for the mock-up text. For the URL on the "Create Dataset" page, Tester can add random numbers after "test" to create a unique URL.]

Please feel free to scroll and click through the results. Based on what you see on the results page, [ask follow-up questions].

Metadata Upload (via RCIIMS account)
Scenario: *Data producer/metadata contributor wants to upload a metadata entry for their data or IMS through manual entry. Note that * denotes required fields.*
• User navigates to login page and logs into RCIIMS account.
• User navigates to "Datasets" and click "Add Dataset."
• User manually enters metadata info or select from drop-down menus:
○ On the "1. Create dataset" page:
▪ **Title*** - Name of dataset/IMS
▪ **Description*** - Abstract
▪ **Tags*** – Keywords (e.g., climate, hazard, fish, temperature, flood, roads)
▪ **License** – Choose Other (Open) or Other (Not Open) Open access or not open
▪ **Organisation** – Default to RCIIMS
▪ **Visibility** – Default to "Private" until the Verification Team approves the submission
▪ **Source** – Link to website or IMS (note, the link needs to start with "https://")
▪ **Version** – Publish date of the IMS/dataset
▪ **Author*** – Name of data producer or organisational affiliate
▪ **Author Email*** – Email of the data producer or organisational affiliate
▪ **Maintainer** – Current point of contact

Metadata Upload (via RCIIMS account)

▪ **Maintainer Email** – Email of current point of contact
        ▪ **Geographic Scope*** – Country and/or regional focus of dataset or system (e.g., Dominica, Grenada, Haiti, Jamaica, Saint Lucia, Saint Vincent and the Grenadines, Regional [related to three or more countries])
     o On "2. Add data" page:
        ▪ **URL*** – Link to website or IMS (note, the link needs to start with "https://")
        ▪ **Name*** – Name of dataset/IMS (repeat from the first page if same)
        ▪ **Description** – Abstract (if different from the first page)
        ▪ **Format** – Type of file (e.g., CSV, Excel, Word, XML, ArcMap, JSON, PDF)
     o User clicks "Finish" to submit their metadata for verification. Note that the entry will remain "private" until it is verified and "published" by the verification team.
     o User will be brought to their metadata entry
     o To add metadata entry to a group (topic): [at the top of the new entry, there will be three tabs (Dataset, Groups (topic), Activity Stream]
        ▪ User clicks on the "Groups (topic)" tab and chooses a group (topic) to add the metadata entry to. *Note: Users can add the metadata entry to multiple groups.*

Follow up questions: • <mark>Where on the webpage do you think would be the best location to put the links to log in or register for an account to upload new metadata? In the current place located at the footer? Or elsewhere?</mark> • <mark>How did you find the metadata upload process?</mark> • <mark>How can we improve your experience with uploading new metadata on the RCIIMS?</mark>

SCENARIO 4 *(For Verification Team member targets only)*

Script: For the final user scenario, we would like to show you the simple process for a Verification Team member to review and approve new metadata entries. We are delighted to invite you [or the informant's organisation/affiliation] to be part of the Verification Team. Based on your [or the informant's organisation/affiliation] experience in the PPCR geographies and ongoing engagement in the PPCR project, your [or org/affiliation's] potential participation in the verification process could help drive the success of the RCIIMS.

In my most recent email, I shared a PDF of the Verification Team Description. The document includes information related to the purpose, role, proposed composition, and recommended level of commitment of the Verification Team. Now, I would like to do a walkthrough of the verification process on my screen. However, before I start, do you have any general questions for me?

[Facilitator to now share their own screen, log in as Admin and walk through process to review "Private" (draft) metadata entries.]

Based on this process, [<mark>***ask follow-up questions***</mark>].

Metadata Verification Process *(**for Verification Team member targets only**)*
Scenario: *High-level overview of Regional Verification Team member responsibilities and walk through of verification process.* • Registered RCIIMS user has submitted metadata to the platform, Verification Team member logs into their account (which will be set with admin permissions). • When the Verification Team member logs on, they will be met with the dashboard with the following tabs: o News Feed: This shows your recent activity.

Metadata Verification Process *(**for Verification Team member targets only**)*

- o My Datasets: This shows datasets you have created.
- o My Organisations: This shows organisations you are a part of (note: there will only be one which is RCIIMS).
- o My Groups (Topics): This shows the various topics that the RCIIMS is organised by.
- Verification Team member navigates to "Organisation" in the upper right corner and click on the "RCIIMS" button.
- Verification Team clicks on the "Manage" button (with a wrench icon located on the upper right side).
- Verification Team clicks on the "Datasets" tab (located in top-center).
- Verification Team member clicks on the "Private" metadata submission (either the dummy entry created from Scenario 3 or another dummy entry)
- Verification Team member clicks the "manage" button (with a wrench icon located on the upper right side) and reviews content to ensure validity of information (checks for spelling errors, verifies submission is not spam).
- After reviewing the entry, in the same metadata entry page, the Verification Team member sets the entry to "public" under the visibility line. (note that for users, the only option here is "private")
- After setting the visibility to "public", Verification Team member scrolls down and clicks "update dataset" in the lower right corner. The metadata entry is now public on the RCIIMS platform.
- Verification Team navigates back to the Datasets page by clicking RCIIMS in the upper right corner (in small text, not the larger home button)
- If you wish to no longer be part of the Verification Team, you can assign an alternate representative from your organisation as an Admin to their user account to replace yourself. See Organisation > RCIIMS > Manage > Members to manage user permissions.
  - o Add New Member: Click "Add Member" button and type in the email address for a new RCIIMS user. Select "Admin" under the "Role" drop-down menu. Click on "Add Member" to confirm.
  - o Edit Role of Existing Member: Navigate to the name of the alternate representative and click on the wrench icon to the right of the name. Select "Admin" under the "Role" drop-down menu. Click on "Add Member" to confirm.

Follow up questions:
- Do you have any questions or comments regarding the verification process?
- As mentioned earlier we think your participation in the verification process could help drive the success of the RCIIMS. Would you be interested in volunteering to be part of the Team?

Additional Feedback

[Following the walk-throughs, beta test facilitators will pose the following additional questions to gather feedback on design, functionality, accessibility, and utility of hosted metadata.]

Overarching Questions

- What was your initial impression of the RCIIMS platform? (e.g., on functionality, look and feel)
- Is there anything confusing on the screen or did not work as expected?
- What browser and operating system are you using?
- What would you change about the platform to make it more user-friendly?
- What was the speed of the search process like? (e.g., faster, slower, or about the same amount of time than other IMSs)
- For the metadata entries, what metadata elements are missing? Unnecessary?
- What are other general features you would add? Remove?
- *(If relevant)* How often do you think you will use the RCIIMS in the future?
- *(If relevant)* Would you recommend the RCIIMS to a colleague?
- Is there anything else you want to share regarding the beta-version of the RCIIMS before wrapping up?

Wrap up script:

Thank you for taking the time to review and provide feedback on the beta version of the RCIIMS. Please feel free to send any additional feedback you have after our interview. As for next steps, we will:

- Revise and finalise the RCIIMS platform based on feedback gathered,
- Develop a RCIIMS user guide (which will be linked on the webpage),
- Send an invitation out to you and other stakeholders to participate in the final online training on how to use the RCIIMS. At this point, you will be able to create your own user account.

Appendix D. RCIIMS User Guide and Recording Links

The Consultant Team prepared a User Guide to provide detailed instructions on how to access and use the RCIIMS. The link to download and view the RCIIMS User Guide is: http://rciims.mona.uwi.edu/rciims/docs/RCIIMS_User_Guide.pdf

The Consultant Team lead a virtual training session for RCIIMS users on December 15, 2020. The training provided an overview of the RCIIMS web platform and key functionality and design features. The link to view the recording is: https://www.youtube.com/watch?v=Q2VRHxqNtK4

Recorded for Verification Team members, the following link is a video that provides an overview of the metadata verification process and user management features on the RCIIMS: https://www.youtube.com/watch?v=RQEVfuhGcBI

Appendix E. RCIIMS Existing Datasets and Systems Research Data Collection Framework

See Excel document titled "FINAL_RCIIMS_Datasets_IMS_Research_12.30.20.xlx"

Appendix F. RCIIMS Verification Team Members and Description

As of December 30, 2020, eight representatives of the PPCR countries and in the Caribbean region agreed to participate as part of the RCIIMS Verification Team (Table 1). See PDF titled "RCIIMS_VerificationTeam_Description.pdf"

Table 1. *RCIIMS Verification Team Members*

Country	Name	Organization	Role
Dominica	Mrs. Annie Edwards	Physical Planning Division	Chief Physical Planner
Grenada	Mr. Joseph S. Noel	Ministry of Agriculture and Lands	Land Use Officer
Grenada	Christopher Joseph	Ministry of Tourism, Civil Aviation, Climate Resilience and the Environment	Environmental Specialist (Ag.)
Haiti	Ms. Gerty Pierre	Climate Change Department of the Ministry of the Environment	Climate Change Officer
Haiti	Mr. Ronald Cademus	FoProBIM	Deputy Director
Jamaica	Mrs. Patrine Cole	Planning Institute of Jamaica	GIS Analyst
Saint Lucia	Mrs. Patricia Hubert-Medar	Department of Fisheries	Fisheries Assistant IV
Regional	Mr. Albert Gilharry	Caribbean Community Climate Change Centre	Software Developer