



WORKSHOP ON DEEPDATA: FOCUSING ON DATA MANAGEMENT STRATEGY

21-25 September 2020, Online

ANNOTATIONS TO THE PROVISIONAL AGENDA

INTRODUCTION

1. In accordance with the UN Convention on the Law of the Sea (“the Convention”) and 1994 Agreement relating to the implementation of Part XI of the Convention, the International Seabed Authority (ISA), on behalf of the States Parties to the Convention, is mandated to administer the mineral resources in the Area and to control and organize current exploration activities, as well as future mining activities, in the Area for the benefit of mankind as a whole. The Authority is also mandated to take necessary measures with respect to activities in the Area to ensure effective protection for the marine environment from harmful effects and to adopt appropriate rules, regulations and procedures for, *inter alia*, the prevention, reduction and control of pollution and other hazards to the marine environment, the protection and conservation of the natural resources of the Area and the prevention of damage to the flora and fauna of the marine environment¹.

2. In addition, the Authority is required to promote and encourage the conduct of marine scientific research in the Area, and coordinate and disseminate the results of such research and analysis when available². The importance of this mission was highlighted by the Strategic Plan of the ISA for the period 2019-2023, adopted by the Assembly at its twenty-fourth session in 2018³. Especially through the strategic direction 4 (“Promote and encourage marine scientific research in the Area”), the members of the ISA have established the vision in this regard, emphasizing the importance of sharing data and information in an open and transparent manner (SD 4.3) and promoting access to non-confidential information and data, in particular those data relation to the marine environment (SD 4.4). This is being implemented according to the High-level Action Plan for 2019-2023 adopted by the Assembly at its twenty-fifth session in 2019⁴.

3. In 2017, the United Nations Decade of Ocean Science for Sustainable Development from 2021 to 2030 was proclaimed by the United Nations General Assembly in its resolution 72/73. In July 2020, the ISA developed an action plan⁵ to formalize and organize its contribution to the implementation of the United Nations Decade, building on the strategic directions, high-level actions and associated outputs set out in the abovementioned Strategic Plan and the High-level Action Plan. The ISA Assembly has been invited to consider, with a view to adoption, this action plan at its subsequent session.

¹ United Nations Convention on the Law of the Sea, art.145

² United Nations Convention on the Law of the Sea, art.143

³ [ISBA/24/A/10](#), annex, para. 29

⁴ [ISBA/25/A/15](#)

⁵ [ISBA/26/A/4](#)

4. Among six strategic research priorities identified in the action plan, the following priorities highlight the importance of expanding deep-sea knowledge base, exchanging scientific data, and building deep-sea scientific capacity of ISA members, in particular developing States: 1) advancing scientific knowledge and understanding of deep-sea ecosystems, including biodiversity and ecosystems functions, in the Area; 5) promoting dissemination, exchange and sharing of scientific data and deep-sea research outputs and increasing deep-sea literacy; and 6) strengthening deep-sea scientific capacity of Authority members, in particular developing States.

5. Succeeding the initial ISA's database of polymetallic nodule resources of the Area, called POLYDAT, the Central Data Repository (CDR) was established in 2000 to collect and centralize all public and private data and information on marine mineral resources^{6, 7}. In 2002, the Legal and Technical Commission (LTC) of the ISA formally identified the need for the ISA to systematically collect and centralize all data and information on marine mineral resources⁸. In response, the CDR was expanded to include information on all types of mineral resources under exploration, namely polymetallic nodules, cobalt-bearing ferromanganese crusts, and polymetallic sulphides⁷. In 2015, the LTC emphasized the need to formulate a data management strategy⁹, which led to the establishment of a dedicated working group within the LTC in 2016¹⁰. This working group aimed to assist in the formulation of the data management strategy and related issues and make recommendations for implementing routines and technical means to manage all data and information in a structured manner.

6. Following several years of work in this regard, a new database, named "ISA Deep Seabed and Ocean Database" (DeepData), was developed to serve as a spatial, internet-based data management system. Its main function is to host all data related to deep seabed activities, especially the data collected by ISA contractors on their exploration activities as well as any other relevant environmental and resources related data for the Area. While DeepData contains information on both mineral resource assessment (geological data) and environmental baseline/assessment data, only the latter is accessible to the public, as the geological data is formally identified as confidential according to the regulations on prospecting and exploration of mineral resources¹¹. The environmental data include biological, physical, geochemical parameters of the marine ecosystems from the seafloor to the ocean surface.

7. In 2016, the LTC outlined the framework for the development of the ISA data management strategy and highlighted the need for Standard Excel Files (reporting templates) that will be submitted and checked for content and formats¹². In this regard, the ISA secretariat has further refined the original reporting templates¹³ to facilitate a more efficient extraction, transformation, and loading procedure into the database.

8. In this context, the ISA is convening an online workshop on DeepData: Focusing on Data Management Strategy, from 21-25 September 2020. The workshop will be delivered via the Microsoft Teams platform. To effectively inform and facilitate discussion among the users of DeepData with different levels of data accessibility, the workshop will be divided into three parts, each dedicated to a major user group of DeepData: 1) members of the LTC; 2) contractors; and 3) the general public.

9. The members of the LTC are invited to participate in Part I of the workshop, which aims to: (i) develop the protocol for the submission of digital data by contractors, when submitting annual reports, including appropriate cataloguing, referencing from annual reports and metadata creation; (ii)

⁶ [ISBA/5/C/6](#)

⁷ [ISBA/9/LTC/3](#)

⁸ [ISBA/8/C/6](#)

⁹ [ISBA/21/C/16](#)

¹⁰ [ISBA/22/LTC/15](#)

¹¹ [ISBA/19/A/9](#), [ISBA/19/C/17](#), [ISBA/16/A/12/Rev.1](#), and [ISBA/18/A/11](#)

¹² [ISBA/22/LTC/15](#)

¹³ [ISBA/21/LTC/15](#), annex IV

review the proposed updates to the reporting templates¹⁴, within the context of data quality and control mechanisms, and (iii) increase their understanding of the features and functionalities of DeepData.

10. Contractors are invited to participate in Part II of the workshop, which aims to: (i) inform them of the steps involved in effectively populating the updated reporting templates; and (ii) increase their understanding of the features and functionalities of DeepData.

11. Through a registration process, users of DeepData from the general public are invited to participate in Part III of the workshop, which aims to: (i) increase their awareness and understanding of the historical background, the contents, the current and emerging functionalities, and the potential use of DeepData; (ii) provide updates on the results of Part I and Part II workshop discussions; and (iii) explore possible mechanisms for collaboration with scientific institutions/initiatives and other stakeholders to support development and review of DeepData.

12. The expected outcomes of the workshop include: (i) enhanced implementation of recommendations and guidelines governing the submission of digital data by contractors; (ii) consolidation of updated reporting templates and standardized mechanism for the cataloguing and referencing of digital data during the submission of annual reports; (iii) creation of a mechanism for review of DeepData through feedback from different user groups, including the scientific institutions/initiatives and other stakeholders; and (iv) increased awareness and knowledge on DeepData and its application.

13. A list of meeting documents for the workshop is contained in annex I.

14. The ISA secretariat will issue an information note for participants containing logistics details to facilitate their participation, including information on how to join the online workshop and navigate different functions of the online meeting platform. The workshop will be conducted in English.

15. The workshop will commence at 6:00 a.m. (Kingston, Jamaica; GMT-5) on Monday, 21 September 2020.

I. PART I: MEETING FOR THE MEMBERS OF THE LEGAL AND TECHNICAL COMMISSION (21-22 SEPTEMBER)

16. Mark Alcock (Member of Legal and Technical Commission of ISA) and Pedro Madureira (Member of Legal and Technical Commission of ISA) are invited as co-chairs to moderate the workshop deliberation.

A. ITEM 1. OPENING OF THE WORKSHOP

17. The Secretary General of the International Seabed Authority and the Chair of the Legal and Technical Commission will open the workshop at 6:00 a.m. (Kingston, Jamaica; GMT-5) on Monday, 21 September 2020.

B. ITEM 2. WORKSHOP BACKGROUND, SCOPE AND EXPECTED OUTPUTS

18. Under this item, participants will have before them the terms of reference for this workshop.

19. ISA secretariat staff will provide a presentation on the workshop background, scope and expected outputs.

C. ITEM 3. INTRODUCTION OF THE UPDATES MADE TO THE REPORTING TEMPLATES

¹⁴ [ISBA/21/LTC/15](#), annex IV

20. Under this item, Dawn Smorong (Exa Data) will deliver a presentation on “Introduction of the updates made to the reporting templates contained in ISBA/21/LTC/15 Annex IV, including data quality assurance and control”.
21. Participants will be invited to ask questions and exchange insights and views, in response to the presentation above.
22. Building on the information provided by the presentation above, a breakout session will be organized with a focus on: (i) reviewing the required fields of reporting templates and their respective definitions and units, for establishment of an integrated geological reporting templates, based on the ones for three mineral types; (ii) reviewing the required fields of reporting templates and their respective definitions and units, for establishment of an integrated environmental reporting templates, based on the ones for three mineral types; and (iii) identifying the critical elements to be maintained for ensuring scientific coherence across the templates of different mineral types after consolidating existing ones into an integrated template.
23. For the breakout session, participants will be divided into two discussion groups, each focusing on the reporting template for: (i) geological data; and (ii) environmental data. Each group will select its own facilitator and rapporteur.
24. After the breakout session, participants will be invited to return to the plenary. Each facilitator will then be invited to deliver a brief presentation on the key results of their respective breakout group discussion.

D. ITEM 4. PROTOCOLS FOR DIGITAL DATA SUBMISSION

25. Under this agenda item, a presentation will be delivered by Sheldon Carter (ISA secretariat) on the general overview of the protocols for digital data submission. This is to include the use of the metadata reporting template, and process with which contractors will submit digital data to the secretariat using the DeepData website interface.
26. The following representatives of Contractors will be invited to share their experiences and lessons-learned on the implementation of the ISA guidance for contractors on digital data submission (ISBA/21/LTC/15, section III):
 - T. Kuhn, R. Sommerfeld, S. Bellenhagen, A. Vink, R. Freitag, C. Rühlemann of the Institute for Geosciences and Natural Resources (Bundesanstalt für Geowissenschaften und Rohstoffe - BGR, Germany)
 - Jason Smith (Nauru Ocean Resources Inc. - NORI, Nauru)
 - Chunhua Han (China Ocean Mineral Resource R&D Association - COMRA, China)
27. Participants will then be invited to ask questions and exchange insights and views, in response to the presentations above.

E. ITEM 5. FUNCTIONALITIES OF, AND NAVIGATION IN, DEEPDATA

28. Under this agenda item, Sheldon Carter (ISA secretariat) will deliver a presentation on "Functionalities of, and Navigation in DeepData".
29. Travis Washburn (University of Hawaii) will be invited to provide a presentation on his experiences in using the data from DeepData in preparation for Deep CCZ Biodiversity Synthesis Workshop¹⁵ held in October 2019.
30. Participants will be invited to ask questions and exchange insights and views, in response to

¹⁵ <https://www.isa.org.jm/index.php/event/deep-ccz-biodiversity-synthesis-workshop>

the presentations above.

F. ITEM 6. POTENTIAL COLLABORATION ON EXCHANGING DATA AND EXPERIENCES IN DATA MANAGEMENT WITH OTHER GLOBAL DATA INITIATIVES IN THE CONTEXT OF UN DECADE OF OCEAN SCIENCE FOR SUSTAINABLE DEVELOPMENT

31. Under this agenda item, the following representatives from relevant international/national institutions/programmes will deliver presentations on their perspectives on ways and means to enhance collaboration on exchanging data and experiences in data management within the context of the United Nations Decade of Ocean Science for Sustainable Development:

- Leen Vandepitte (World Register of Marine Species Steering Committee)
- Ward Appeltans (Ocean Biodiversity Information System, Intergovernmental Oceanographic Commission-UNESCO)
- Mathias Jonas (Secretary General, International Hydrographic Organization)
- Piers Dunstan (Commonwealth Scientific and Industrial Research Organization - CSIRO, Australia)

32. Participants will then be invited to ask questions and exchange insights and views, in response to the presentations above.

G. ITEM 7. SUMMARY AND CONCLUSION

33. The workshop co-chairs will provide a summary of the workshop results. Participants will then be invited to share views and comments on the workshop results and ways to move forward.

F. ITEM 8. CLOSURE OF THE WORKSHOP

34. The workshop is expected to close at 9:30 a.m. (Kingston, Jamaica; GMT-5) on Tuesday, 22 September 2020.

II. PART II: MEETING FOR THE CONTRACTORS (23-24 SEPTEMBER)

35. Mark Alcock (Member of Legal and Technical Commission of ISA) and Wang Rong (Ocean Mineral Singapore) are invited as co-chairs to moderate the workshop deliberation.

A. ITEM 1. OPENING OF THE WORKSHOP

36. The Secretary General of the International Seabed Authority will open the workshop at 6:00 a.m. (Kingston, Jamaica; GMT-5) on Wednesday, 23 September 2020.

B. ITEM 2. WORKSHOP BACKGROUND, SCOPE AND EXPECTED OUTPUTS

37. Under this item, participants will have before them the terms of reference for this workshop.

38. ISA secretariat staff will provide a presentation on workshop background, scope and expected outputs.

39. The workshop co-chair, Mark Alcock, will brief the workshop participants on the key results of Part I of the workshop.

C. ITEM 3. INTRODUCTION OF THE UPDATES MADE TO THE REPORTING TEMPLATES

40. Under this item, Dawn Smorong (Exa Data) will deliver a presentation on “Introduction of the updates made to the reporting templates contained in ISBA/21/LTC/15 Annex IV, including data quality assurance and control”.

41. Participants will then be invited to ask questions and exchange insights and views, in response to the presentation above.

D. ITEM 4. PROTOCOLS FOR DIGITAL DATA SUBMISSION

42. Under this agenda item, a presentation will be delivered by Sheldon Carter (ISA secretariat) on the general overview of the protocols for digital submission. This is to include the use of the metadata reporting template, and process with which contractors will submit digital data to the secretariat using the DeepData website interface.

43. The following representatives of the ISA contractors will be invited to share their experiences and lessons-learned on the implementation of the ISA guidance for Contractors on digital data submission (ISBA/21/LTC/15, section III):

- T. Kuhn, R. Sommerfeld, S. Bellenhagen, A. Vink, R. Freitag, C. Rühlemann of the Institute for Geosciences and Natural Resources (Bundesanstalt für Geowissenschaften und Rohstoffe - BGR, Germany)
- Jason Smith (Nauru Ocean Resources Inc. - NORI, Nauru)
- Chunhua Han (China Ocean Mineral Resource R&D Association - COMRA, China)

44. Participants will then be invited to ask questions and exchange insights and views, in response to the presentations above.

D. ITEM 5. PREPARING AND UPLOADING DIGITAL DATA SUBMISSIONS

45. Under this agenda item, a presentation will be delivered by Sheldon Carter (ISA secretariat) on preparing and uploading digital data submission to the DeepData database. This will include a demonstration on how to record scientific data into the updated reporting templates as well as tools to be utilized to convert data stored in the existing reporting templates into the format required by the updated reporting templates.

46. Participants will then be invited to ask questions and exchange insights and views, in response to the presentation above.

E. ITEM 6. FUNCTIONALITIES OF, AND NAVIGATION IN DEEPDATA

47. Under this agenda item, Sheldon Carter (ISA secretariat) will deliver a presentation on the functionalities of, and navigation in DeepData.

48. Travis Washburn (University of Hawaii) will be invited to provide a presentation on his experiences in using the data from DeepData in preparation for Deep CCZ Biodiversity Synthesis Workshop¹⁶ held in October 2019.

49. Participants will then be invited to ask questions and exchange insights and views, in response

¹⁶ <https://www.isa.org.jm/index.php/event/deep-ccz-biodiversity-synthesis-workshop>

to the presentations above.

F. ITEM 7. POTENTIAL COLLABORATION ON EXCHANGING DATA AND EXPERIENCES IN DATA MANAGEMENT WITH OTHER GLOBAL DATA INITIATIVES IN THE CONTEXT OF UN DECADE OF OCEAN SCIENCE FOR SUSTAINABLE DEVELOPMENT

50. Under this agenda item, the following representatives from relevant international/national institutions/programmes will deliver presentations on their perspectives on ways and means to enhance collaboration on exchanging data and experiences in data management within the context of the United Nations Decade of Ocean Science for Sustainable Development:

- Leen Vandepitte (World Register of Marine Species Steering Committee)
- Ward Appeltans (Ocean Biodiversity Information System, Intergovernmental Oceanographic Commission-UNESCO)
- Mathias Jonas (Secretary General, International Hydrographic Organization)
- Piers Dunstan (Commonwealth Scientific and Industrial Research Organization - CSIRO, Australia)

51. Following the discussion, participants will be invited to ask questions and exchange insights and views, in response to presentations above.

G. ITEM 8. SUMMARY AND CONCLUSION

52. The workshop co-chairs will provide a summary of the workshop results. Participants will then be invited to share views and comments on the workshop results and ways to move forward.

53.

F. ITEM 9. CLOSURE OF THE WORKSHOP

54. The workshop is expected to close at 8:30 a.m. (Kingston, Jamaica; GMT-5) on Thursday, 24 September 2020.

III. PART III: MEETING FOR THE GENERAL PUBLIC (25 SEPTEMBER)

55. Mark Alcock (Member of Legal and Technical Commission of ISA) is invited as a chair to moderate the workshop deliberation.

A. ITEM 1. OPENING OF THE WORKSHOP

56. The Secretary General of the International Seabed Authority will open the workshop at 6:00 a.m. (Kingston, Jamaica; GMT-5) on Friday, 25 September 2020.

B. ITEM 2. WORKSHOP BACKGROUND, SCOPE AND EXPECTED OUTPUTS, INCLUDING KEY OUTCOMES OF PART I AND II OF THE WORKSHOP

57. Under this item, participants will have before them the terms of reference for this workshop.

58. ISA secretariat staff will provide a presentation on workshop background, scope and expected outputs.

(Updated as of 17 September)

59. The workshop co-chair, Mark Alcock, will brief the workshop participants on the key results of Part I and II of the workshop.

C. ITEM 3. ISA DATA MANAGEMENT STRATEGY

60. Under this item, Sheldon Carter (ISA secretariat) will provide a presentation on the ISA data management strategy.

61. Participants will then be invited to ask questions and exchange insights and views, in response to the presentation above.

E. ITEM 4. FUNCTIONALITIES OF, AND NAVIGATION IN DEEPDATA

62. Under this agenda item, Sheldon Carter (ISA secretariat) will deliver a presentation on the functionalities of, and navigation in DeepData.

63. Participants will then be invited to ask questions and exchange insights and views, in response to the presentations above.

F. ITEM 5. POTENTIAL COLLABORATION ON EXCHANGING DATA AND EXPERIENCES IN DATA MANAGEMENT WITH OTHER GLOBAL DATA INITIATIVES IN THE CONTEXT OF UN DECADE OF OCEAN SCIENCE FOR SUSTAINABLE DEVELOPMENT

64. Under this agenda item, the following representatives from relevant international/national institutions/programmes will deliver presentations on their perspectives on ways and means to enhance collaboration on exchanging data and experiences in data management within the context of the United Nations Decade of Ocean Science for Sustainable Development:

- Leen Vandepitte (World Register of Marine Species Steering Committee)
- Ward Appeltans (Ocean Biodiversity Information System, Intergovernmental Oceanographic Commission-UNESCO)
- Mathias Jonas (Secretary General, International Hydrographic Organization)
- Piers Dunstan (Commonwealth Scientific and Industrial Research Organization - CSIRO, Australia)

65. Following the discussion, participants will be invited to ask questions and exchange insights and views, in response to presentations above.

G. ITEM 6. SUMMARY AND CONCLUSION

66. The workshop co-chairs will provide a summary of the workshop results. Participants will then be invited to share views and comments on the workshop results and ways to move forward.

F. ITEM 7. CLOSURE OF THE WORKSHOP

67. The workshop is expected to close at 10:00 a.m. (Kingston, Jamaica; GMT-5) on Friday, 25 September 2020.

(Updated as of 17 September)

Annex I

LIST OF DOCUMENTS FOR THE WORKSHOP

<i>Prepared by</i>	<i>Title</i>
ISA secretariat	Provisional agenda
ISA secretariat	Annotations to the provisional agenda
ISA secretariat	Action plan of the International Seabed Authority in support of the United Nations Decade of Ocean Science for Sustainable Development
ISA secretariat	Recommendations for the guidance of contractors on the content, format and structure of annual reports
ISA secretariat	DeepData in a nut shell

Annex II

PROPOSED ORGANIZATION OF WORK

Part I: Meeting for LTC members

Co-chairs: Mark Alcock (LTC member) and Pedro Madureira (LTC member)

Day 1 - 21 September (Meeting for LTC members)

Time (Kingston, Jamaica)	Workshop Activities
6:00 - 6:10 am	<i>Agenda item 1. Opening of the workshop</i> <ul style="list-style-type: none">• Secretary-General of the International Seabed Authority (ISA)• Chair of the Legal and Technical Commission
6:10 - 6:30 am	<i>Agenda item 2. Workshop background, scope and expected outputs</i> <ul style="list-style-type: none">• Workshop background, scope and expected outputs<ul style="list-style-type: none">○ Jihyun Lee and Sheldon Carter (ISA secretariat)
6:30 - 7:10 am	<i>Agenda item 3. Introduction of the updates made to the reporting templates</i> <ul style="list-style-type: none">• Introduction of the updates made to the reporting templates contained in ISBA/21/LTC/15 Annex IV, including data quality assurance and control.<ul style="list-style-type: none">○ Dawn Smorong (Exa Data) <p>Q&A</p>
7:10 – 7:20	<i>Health Break</i>
7:20 - 8:45 am	<i>(Agenda item 3. continued)</i> <p>Breakout session:</p> <p><i>Focus of discussion:</i></p> <ul style="list-style-type: none">• To review the required fields of reporting templates and their respective definitions and units, for establishment of an integrated geological reporting templates, based on the ones for three mineral types;• To review the required fields of reporting templates and their respective definitions and units, for establishment of an integrated environmental reporting templates, based on the ones for three mineral types;• To identify the critical elements to be maintained for ensuring scientific coherence across the templates of different mineral types after consolidating existing ones into an integrated template <p>Group 1: Geology</p> <p>Group 2: Environment</p> <p><i>Note: Each group will select its own facilitator and rapporteur</i></p>
8:45 – 9:15	<i>Health Break</i>
9:15 - 10:00 am	<i>(Agenda item 3. continued)</i> <p>Report on the results of the breakout session by the facilitators</p>

Day 2 - 22 September (Meeting for LTC members)

Time (Kingston, Jamaica)	Workshop Activities
6:00 - 7:00 am	<p><i>Agenda item 4. Protocols for digital data submission</i></p> <ul style="list-style-type: none">• Theme presentations:<ul style="list-style-type: none">○ by Sheldon Carter (ISA secretariat) • <i>Presentation by contractors to share experience and lessons learned on the implementation of ISA guidance for contractors on digital data submission (ISBA/21/LTC/15, Section III)</i><ul style="list-style-type: none">○ T. Kuhn, R. Sommerfeld, S. Bellenhagen, A. Vink, and R. Freitag (the Institute for Geosciences and Natural Resources - Bundesanstalt für Geowissenschaften und Rohstoffe - BGR, Germany)○ Jason Smith (Nauru Ocean Resources Inc-NORI)○ Chunhua Han (China Ocean Mineral Resource R&D Association - COMRA) <p>Q&A</p>
7:00 - 7:45 am	<p><i>Agenda item 5. Functionalities of, and navigation in DeepData</i></p> <ul style="list-style-type: none">• Theme presentations:<ul style="list-style-type: none">○ by Sheldon Carter (ISA secretariat)• Sharing experiences in using the data of DeepData:<ul style="list-style-type: none">○ By Travis Washburn (DeepCCZ Project, University of Hawaii) <p>Q&A</p>
7:45 - 9:00 am	<p><i>Agenda item 6. Potential collaboration on exchanging data and experience on data management with other global data initiatives in the context of UN Decade of Ocean Science for Sustainable Development</i></p> <ul style="list-style-type: none">• Leen Vandepitte (World Register of Marine Species Steering Committee)• Ward Appeltans (OBIS/IOC-UNESCO)• Mathias Jonas (Secretary General, International Hydrographic Organization)• Piers Dunstan (CSIRO/Australia) <p>Q&A</p>
9:00 – 9:30	<p><i>Break</i></p>
9:30 - 10:00 am	<p><i>Agenda item 7. Summary and conclusion by Co-Chairs</i></p> <p><i>Agenda item 8. Closing of the workshop</i></p> <p>Group photo</p>

Part II: Meeting for Contractors
Co-chairs: Mark Alcock (LTC member) and Wang Rong (OMS)

Day 1 - 23 September (Meeting for Contractors)

Time (Kingston, Jamaica)	Workshop Activities
6:00 - 6:10 am	<i>Agenda item 1. Opening of the workshop</i> <ul style="list-style-type: none">• Secretary-General of the International Seabed Authority (ISA)
6:10 - 6:30 am	<i>Agenda item 2. Workshop background, scope and expected outputs</i> <ul style="list-style-type: none">• Workshop background, scope and expected outputs<ul style="list-style-type: none">○ Jihyun Lee and Sheldon Carter (ISA secretariat)• Key outcomes of Part I of the workshop<ul style="list-style-type: none">○ Workshop co-chairs
6:30 - 7:30 am	<i>Agenda item 3. Introduction of the updated reporting templates</i> <ul style="list-style-type: none">• Introduction of the updates made to the reporting templates contained in ISBA/21/LTC/15 Annex IV, including data quality assurance and control.<ul style="list-style-type: none">○ Dawn Smorong (Exa Data) <p>Q&A</p>
7:30 - 8:45 am	<i>Agenda item 4. Protocols for digital data submission</i> <ul style="list-style-type: none">• Theme presentation<ul style="list-style-type: none">○ Sheldon Carter (ISA secretariat)• Presentation by contractors to share experience and lessons learned on the implementation of ISA guidance for contractors on digital data submission<ul style="list-style-type: none">○ T. Kuhn, R. Sommerfeld, S. Bellenhagen, A. Vink, and R. Freitag (the Institute for Geosciences and Natural Resources - Bundesanstalt für Geowissenschaften und Rohstoffe - BGR, Germany)○ Jason Smith (Nauru Ocean Resources Inc-NORI)○ Chunhua Han (China Ocean Mineral Resource R&D Association - COMRA) <p>Q&A</p>
8:45 - 10:00 am	<i>Agenda item 5. Preparing and uploading digital data submissions</i> <ul style="list-style-type: none">• Theme presentation<ul style="list-style-type: none">○ Sheldon Carter (ISA secretariat) <p>Q&A</p>

Day 2 - 24 September (Meeting for Contractors)

Time (Kingston, Jamaica)	Workshop Activities
6:00 - 7:00 am	<p><i>Agenda item 6. Functionalities of, and navigation in DeepData</i></p> <ul style="list-style-type: none">• Theme presentation<ul style="list-style-type: none">○ Sheldon Carter• Sharing experiences in using data of DeepData<ul style="list-style-type: none">○ By Travis Washburn (DeepCCZ Project, University of Hawaii) <p>Q&A</p>
7:00 - 8:30 am	<p><i>Agenda item 7. Potential collaboration on exchanging data and experience on data management with other global data initiatives in the context of UN Decade of Ocean Science for Sustainable Development</i></p> <ul style="list-style-type: none">• Leen Vandepitte (World Register of Marine Species Steering Committee)• Ward Appeltans (OBIS/IOC-UNESCO)• Mathias Jonas (Secretary General, International Hydrographic Organization)• Piers Dunstan (CSIRO/Australia) <p>Q&A</p>
8:30 – 8:45	<p><i>Health Break</i></p>
8:45 - 10:00 am	<p><i>Agenda item 8. Summary and conclusion by Co-Chairs</i></p> <p><i>Agenda item 9. Closing of the workshop</i></p> <p>Group photo</p>

Part III: Meeting for the general public
Co-chairs: Mark Alcock (LTC member)

Day 1 - 25 September (Public meeting)

Time (Kingston, Jamaica)	Workshop Activities
6:00 - 6:10 am	<i>Agenda item 1. Opening of the workshop</i> <ul style="list-style-type: none">• Secretary-General of the International Seabed Authority (ISA)
6:10 - 6:40 am	<i>Agenda item 2. Workshop background, scope and expected outputs, including key outcomes of Part I and II of the workshop</i> <ul style="list-style-type: none">• Workshop background, scope and expected outputs<ul style="list-style-type: none">○ Jihyun Lee and Sheldon Carter (ISA secretariat)• Key outcomes of Part I and II of the workshop<ul style="list-style-type: none">○ Workshop chair Q&A
6:40 - 7:15 am	<i>Agenda item 3. ISA data management strategy</i> <ul style="list-style-type: none">• Theme presentation<ul style="list-style-type: none">○ Sheldon Carter (ISA secretariat) Q&A
7:15 - 8:00 am	<i>Agenda item 4. Functionalities of, and navigation in Deep Data</i> <ul style="list-style-type: none">• Theme presentation<ul style="list-style-type: none">○ Sheldon Carter (ISA secretariat) Q&A
8:00 - 9:30 am	<i>Agenda item 5. Potential collaboration on exchanging data and experience on data management with other global data initiatives in the context of UN Decade of Ocean Science for Sustainable Development</i> <ul style="list-style-type: none">• Leen Vandepitte (World Register of Marine Species Steering Committee)• Ward Appeltans (OBIS/IOC-UNESCO)• Mathias Jonas (Secretary General, International Hydrographic Organization)• Piers Dunstan (CSIRO/Australia)• Karen Stocks (DOOS) Q&A
9:30 - 10:00 am	<i>Agenda item 6. Summary and conclusion by Co-Chairs</i> <i>Agenda item 7. Closing of the workshop</i> Group photo