

## S-111 Ed. 2.0.0 Impact Study

For an extended period, the Tides, Water Level and Currents Working Group (TWCWG) has been dedicated to the advancement of S-111— Surface Currents, serving as a novel product specification for water velocity data. The development of this product specification is aligned with the procedural framework for developing new or revised standards as described in IHO resolution 2/2007, which emphasizes the necessity for the Committee to assess proposals while considering the impact on pertinent stakeholders. This evaluation process entails a comprehensive analysis encompassing risk and feasibility, along with an estimation of the resources requisite for implementing a new or revised standard. Such considerations extend to the Member States Hydrographic Services.

The primary objective of the current impact study lies in the identification of stakeholders and the awareness of their readiness for the formal recognition of the S-111 product specification. It is noteworthy, however, that given the study pertains to edition 2.0.0, which is the operational edition, the intent and scope of the investigation are relatively moderate.

### Stakeholders

Given that the S-111 product specification exists in an ecosystem with myriad other nautical products, the spectrum of stakeholders is notably extensive. It encompasses entities ranging from data producers to equipment manufacturers. This comprehensive list reflects the diverse array of contributors and participants involved in the production, dissemination, and utilization of nautical information. The inclusion of stakeholders across the entire supply chain underscores the collaborative nature of S-111 and acknowledges the interconnected roles played by various parties in ensuring the effectiveness and applicability of the surface currents product. As such, this impact study aims to meticulously engage with and prepare each stakeholder group, recognizing their unique perspectives and contributions within the broader context of the nautical information landscape.

This includes (but is not limited to):

- Data producers
- Regulators
- Product/data distributors
- RENCs
- VARs
- Type Approval
- Application developer
- Equipment manufacturers
- End Users

## Questions

How do you see yourself (select multiple if needed)?

- Data producer
- Regulator
- Product/Data distributor
- RENC
- VAR
- Type Approval
- Application developer
- Manufacturer
- Other (describe)

Do you plan to produce any S-100 datasets?

- Yes
- Not yet decided/undecided
- No
- Inapplicable (not a data producer)

Do you plan to produce S-111 datasets?

- Yes
- Yes, under conditions (please describe including dates where known in Other)
- No
- Don't know/Undecided
- Inapplicable (not a data producer)
- Other (describe)

If you are a distributor/RENC/VAR/OEM/production or application software developer (including developing software for in-house use), do you plan to handle or implement S-111 datasets?

- Yes
- Yes, under conditions (please describe including dates where known)
- No
- Don't know
- Inapplicable
- Other (describe)

How confident are you that you understand how to handle or implement S-111?

- We have read and fully understand the details of the product specification.
- We have a reasonable understanding, and are confident we can implement.
- We understand the concept, but lack confidence in full understanding.
- We haven't yet studied the product specification.
- Other (please describe)

How frequently do you plan to update S-111 datasets?

(describe)

Do you rely on other parties to produce S-111 datasets with your data?

- Yes, we plan to use the RENC as the producer of our S-111 datasets
- Yes, we plan to use the VAR as the producer of our S-111 datasets
- Yes, we plan to support external parties with additional data to produce our S-111 datasets
- Yes, none of the above (please describe in Other)
- No, (please describe in Other)
- Inapplicable
- Other (describe)

Do you plan to use S-111 datasets (e.g., for navigation, distribution, implementation in equipment)?

- Yes
- Yes, under conditions (please describe in Other)
- No
- Other (describe)

If “Yes” or “Yes under conditions”, how do plan to use S-111 datasets? (e.g., route monitoring, route planning, etc.)

(describe)

Do you know where to obtain the S-111 datasets?

- Yes
- Yes, under conditions (please describe in Other)
- No
- Inapplicable
- Other (describe)

If you are a regulator, how do you intend to use S-111?

- To support the regulatory functions for which you carry responsibility
- For general awareness of the product specifications within the organization
- Not at all
- Inapplicable (not a regulator)
- Other (describe)

Please include any other information you feel may be relevant to this impact study.

(describe)

## Replies

We conducted a survey to gather responses and in the following we aggregated those answers for each type of stakeholder. For a stakeholder where we didn't have a response, we tried to answer the questions according to the stakeholder as we see the current awareness right now.

Data producers

How do you see yourself (select multiple if needed)?

*Data producer*

Do you plan to produce any S-100 datasets?

*Yes*

*Not yet decided/undecided*

Do you plan to produce S-111 datasets?

*Yes*

*Yes, under conditions*

*Don't know/Undecided*

*It is unlikely we will produce them but we hope to have some role in helping them be available. We're not sure what that is.*

If you are a distributor/RENC/VAR/OEM/production or application software developer (including developing software for in-house use), do you plan to handle or implement S-111 datasets?

*Inapplicable*

*Yes*

*Yes, under conditions*

How confident are you that you understand how to handle or implement S-111?

*We have read and fully understand the details of the product specification.*

*We have a reasonable understanding, and are confident we can implement.*

*We understand the concept, but lack confidence in full understanding.*

*We haven't yet studied the product specification.*

How frequently do you plan to update S-111 datasets?

*model runs 4 times / day*

*Not yet defined/decided*

*Annually for astronomical prediction*

*two (maybe four) times a day*

*Daily (initially)*

Do you rely on other parties to produce S-111 datasets with your data?

*No, we don't have the data to produce S-111.*

*We plan to send S-111 datasets to RENCs etc to use. But if someone wants to produce S-111-product from our data, it is available free in our open data service.*

*Yes, none of the above (please describe in Other), It will probably be necessary to use specific numerical models that are the property of third parties*

*Yes, we plan to support external parties with additional data to produce our S-111 datasets*

*Not decided*

*Yes, none of the above (please describe in Other), ETOPO2 bathymetry, COADS atmospheric climatology data used as forcing, WOA oceanic climatology data used for initial and boundary conditions, and Pathfinder SST climatology data.*

Do you plan to use S-111 datasets (e.g., for navigation, distribution, implementation in equipment)?

*Yes*

*No*

*We don't know yet*

*No plan yet*

*Yes, under conditions- Navigation*

If "Yes" or "Yes under conditions", how do plan to use S-111 datasets? (e.g., route monitoring, route planning, etc.)

*Implementation and distribution*

*Products*

*The information produced is forecasts of regional marine currents and for specific cases of maritime accidents, search and rescue.*

Do you know where to obtain the S-111 datasets?

Yes

No

*Inapplicable*

If you are a regulator, how do you intend to use S-111?

*Inapplicable (not a regulator)*

Please include any other information you feel may be relevant to this impact study.

*Currently, work is being done with the following models: Regional Ocean Modeling System for regional ocean currents and DELFT3D-FLOW for coastal areas.*

Regulator

How do you see yourself (select multiple if needed)?

*Regulator*

Do you plan to produce any S-100 datasets?

*No*

Do you plan to produce S-111 datasets?

*No*

If you are a distributor/RENC/VAR/OEM/production or application software developer (including developing software for in-house use), do you plan to handle or implement S-111 datasets?

*Inapplicable*

How confident are you that you understand how to handle or implement S-111?

*We understand the concept, but lack confidence in full understanding.*

How frequently do you plan to update S-111 datasets?

*Inapplicable*

Do you rely on other parties to produce S-111 datasets with your data?

*No, we don't see the need for generating S-111 datasets.*

Do you plan to use S-111 datasets (e.g., for navigation, distribution, implementation in equipment)?

*Yes, we like to harvest S-111 to have the data for internal use.*

If "Yes" or "Yes under conditions", how do plan to use S-111 datasets? (e.g., route monitoring, route planning, etc.)

*Internal testing/analysis/familiarity*

Do you know where to obtain the S-111 datasets?

*Yes, under conditions*

If you are a regulator, how do you intend to use S-111?

*To support the regulatory functions for which you carry responsibility.*

Please include any other information you feel may be relevant to this impact study.

*N/A*

Distributor

How do you see yourself (select multiple if needed)?

*Distributor*

Do you plan to produce any S-100 datasets?

*No*

Do you plan to produce S-111 datasets?

*Yes*

*Don't know/Undecided*

If you are a distributor/RENC/VAR/OEM/production or application software developer (including developing software for in-house use), do you plan to handle or implement S-111 datasets?

*Yes*

How confident are you that you understand how to handle or implement S-111?

*We have a reasonable understanding, and are confident we can implement.*

*We have read and fully understand the details of the product specification.*

*We haven't yet studied the product specification.*

How frequently do you plan to update S-111 datasets?

*Not yet defined*

*Daily (initially)*

*We don't know yet*

Do you rely on other parties to produce S-111 datasets with your data?

*Yes, none of the above (please describe in Other), It will probably be necessary to use specific numerical models that are the property of third parties*

*Yes, we plan to support external parties with additional data to produce our S-111 datasets*

Do you plan to use S-111 datasets (e.g., for navigation, distribution, implementation in equipment)?

*Yes*

*Yes, under conditions- we need to harvest the datasets from data producers or RENC's*

If "Yes" or "Yes under conditions", how do plan to use S-111 datasets? (e.g., route monitoring, route planning, etc.)

*Implementation and distribution*

*Products*

*The information produced is forecasts of regional marine currents and for specific cases of maritime accidents, search and rescue.*

Do you know where to obtain the S-111 datasets?

*Yes*

*Inapplicable*

If you are a regulator, how do you intend to use S-111?

*Inapplicable (not a regulator)*

Please include any other information you feel may be relevant to this impact study.

*N/A*

## RENC

How do you see yourself (select multiple if needed)?

*RENC*

Do you plan to produce any S-100 datasets?

*Yes*

Do you plan to produce S-111 datasets?

*Yes*

*No*

If you are a distributor/RENC/VAR/OEM/production or application software developer (including developing software for in-house use), do you plan to handle or implement S-111 datasets?

*Yes*

How confident are you that you understand how to handle or implement S-111?

*We have a reasonable understanding, and are confident we can implement.*

*We have read and fully understand the details of the product specification.*

How frequently do you plan to update S-111 datasets?

*Daily (initially)*

Do you rely on other parties to produce S-111 datasets with your data?

*Inapplicable*

*Yes, we plan to support external parties with additional data to produce our S-111 datasets*

Do you plan to use S-111 datasets (e.g., for navigation, distribution, implementation in equipment)?

*No*

*Yes, under conditions- we need to harvest the datasets from data producers*

If "Yes" or "Yes under conditions", how do plan to use S-111 datasets? (e.g., route monitoring, route planning, etc.)

*Products*

Do you know where to obtain the S-111 datasets?

*Yes*

If you are a regulator, how do you intend to use S-111?

*Inapplicable (not a regulator)*

Please include any other information you feel may be relevant to this impact study.

*N/A*

## VAR

How do you see yourself (select multiple if needed)?

*VAR*

Do you plan to produce any S-100 datasets?

*No*

Do you plan to produce S-111 datasets?

*No*

If you are a distributor/RENC/VAR/OEM/production or application software developer (including developing software for in-house use), do you plan to handle or implement S-111 datasets?

*Yes*

How confident are you that you understand how to handle or implement S-111?

*We have read and fully understand the details of the product specification.*



How frequently do you plan to update S-111 datasets?

*Daily (initially)*

Do you rely on other parties to produce S-111 datasets with your data?

*Yes, we plan to support external parties with additional data to produce our S-111 datasets. We plan to use the RENC as the producer of our S-111 datasets.*

Do you plan to use S-111 datasets (e.g., for navigation, distribution, implementation in equipment)?

*Yes, under conditions- we need to harvest the datasets from the RENCs or data producers.*

If "Yes" or "Yes under conditions", how do plan to use S-111 datasets? (e.g., route monitoring, route planning, etc.)

*Products*

Do you know where to obtain the S-111 datasets?

*Yes*

If you are a regulator, how do you intend to use S-111?

*Inapplicable (not a regulator)*

Please include any other information you feel may be relevant to this impact study.

*N/A*

Application developer/Manufacturer

How do you see yourself (select multiple if needed)?

*Application developer/Manufacturer*

Do you plan to produce any S-100 datasets?

*Inapplicable (not a data producer)*

Do you plan to produce S-111 datasets?

*Inapplicable (not a data producer)*

If you are a distributor/RENC/VAR/OEM/production or application software developer (including developing software for in-house use), do you plan to handle or implement S-111 datasets?

*Yes*

How confident are you that you understand how to handle or implement S-111?

*We have read and fully understand the details of the product specification.*

How frequently do you plan to update S-111 datasets?

*Regularly, as needed.*

Do you rely on other parties to produce S-111 datasets with your data?

*Inapplicable*

Do you plan to use S-111 datasets (e.g., for navigation, distribution, implementation in equipment)?

*Yes*

If "Yes" or "Yes under conditions", how do plan to use S-111 datasets? (e.g., route monitoring, route planning, etc.)

*Our ECDIS has a wide range of functions that use these datasets.*

Do you know where to obtain the S-111 datasets?

*Unfortunately, we don't know and use only available test data.*

If you are a regulator, how do you intend to use S-111?

*Inapplicable (not a regulator)*

Please include any other information you feel may be relevant to this impact study.

*N/A*