



Swedish Agency
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SGU Geological
Survey
of Sweden

SLU SWEDISH UNIVERSITY OF
AGRICULTURAL SCIENCES



UNIVERSITY OF GOTHENBURG

Summary and evaluation of WIO Symphony end user survey



WIO Symphony Swedish team, April 2024



Photo Daniel Mattsson SGU



UN 
environment
programme

 Sweden
Sverige

Swedish Agency
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-"It's a good tool, I like it!"

(One voice from a survey participant)

This presentation is regarded as the delivery and documentation of the End user Survey, performed by SGU in collaboration with SWaM and SLU, for the future development of WIO Symphony. SGU april 2024



Photo Daniel Mattsson SGU



UN
environment
programme



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Aim of Survey

- » Give guidance & mandate for continued development of WIO Symphony tool

Google docs survey, all answers:
[WIO Symphony End User Survey \(English\) - Google Formulär](#)



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Summary

- » We've got **enough answers** to make conclusions for future development, many answers from the right category of people and level.
- » Overall, participants seems **satisfied** with the tool, scope & functionality, but need more time to come with measurable responses.
- » The need for **more training and instruction** is clearly identified, also practice on real, and local, cases are requested.
- » **High-resolution data** and **local scale analyses** are one of the most mentioned and clearly visible outcome of the survey.
- » The tool have been used for common understanding, engagement and discussions with **stakeholders**.

Stakeholder data are identified as important and needed.

- » **Functionality for upload of their own** local data must be smooth and prioritized functionality to keep developing. Also upload of stakeholder sector data is requested. *(Not sure if they want to add this data as a pressure layer or just be able to compare sector interest claims on top of baseline and scenario calculations)?*
- » Network connections and slow performance is mentioned *(offline version of the tool could be useful?)*
- » Higher interest for **local analyses** than regional analyses.



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Overall:

There is a **good spirit among the participants**, not much or no disappointments. They see opportunities.

Important to keep the good spirit alive with more surveys for continued engagement and transparency.

We need to take care of the response from this survey by following up and **communicate** what we will prioritize due to the answers.

They like the tool and they use it.

100 % answered they are interested in **future** workshops, training and testing of the tool.

Survey responses

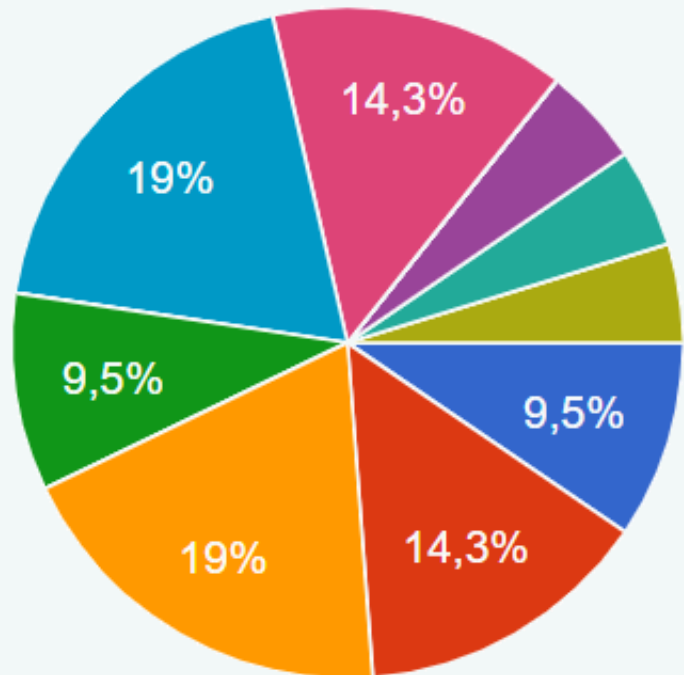


Photo SGU

Background of survey participants



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- Somalia
- Kenya
- Tanzania
- Mozambique
- South Africa
- Madagascar
- Comoros
- Mauritius
- France
- Seychelles
- Finland
- Australia
- Sweden

13 countries

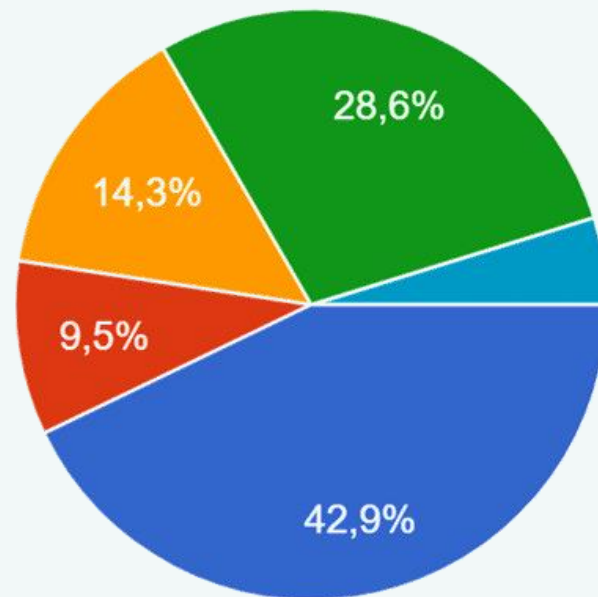
Background of survey participants



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Type of organisation:

21 svar



- Government Agency
- Non-Governmental Organisation (NGO)
- Research Institution
- Educational Institution
- Private Sector
- Research and Conservation organisation

43% Government Agency

30% Educational Institutions

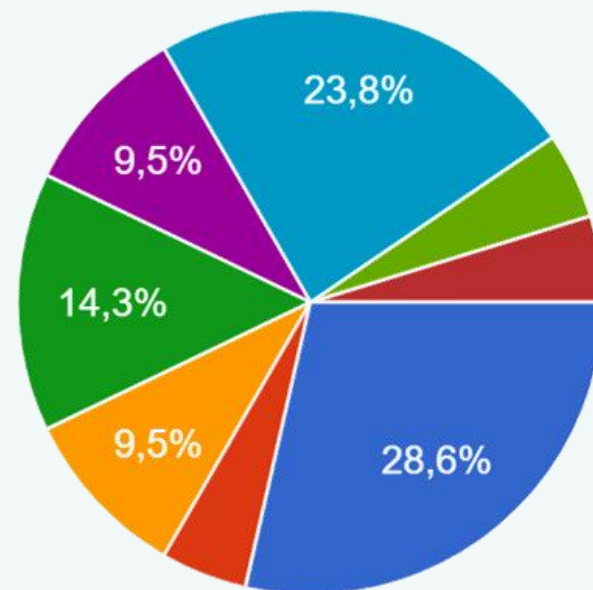
Background of survey participants



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Your role in the organisation:

21 svar



- Planner/Analyst
- Environmental Impact Assessment (EIA) specialist
- Policy Maker
- Researcher
- Educator
- Student
- Consultant
- IT and Data specialist
- Research support (Marine Data and M...)

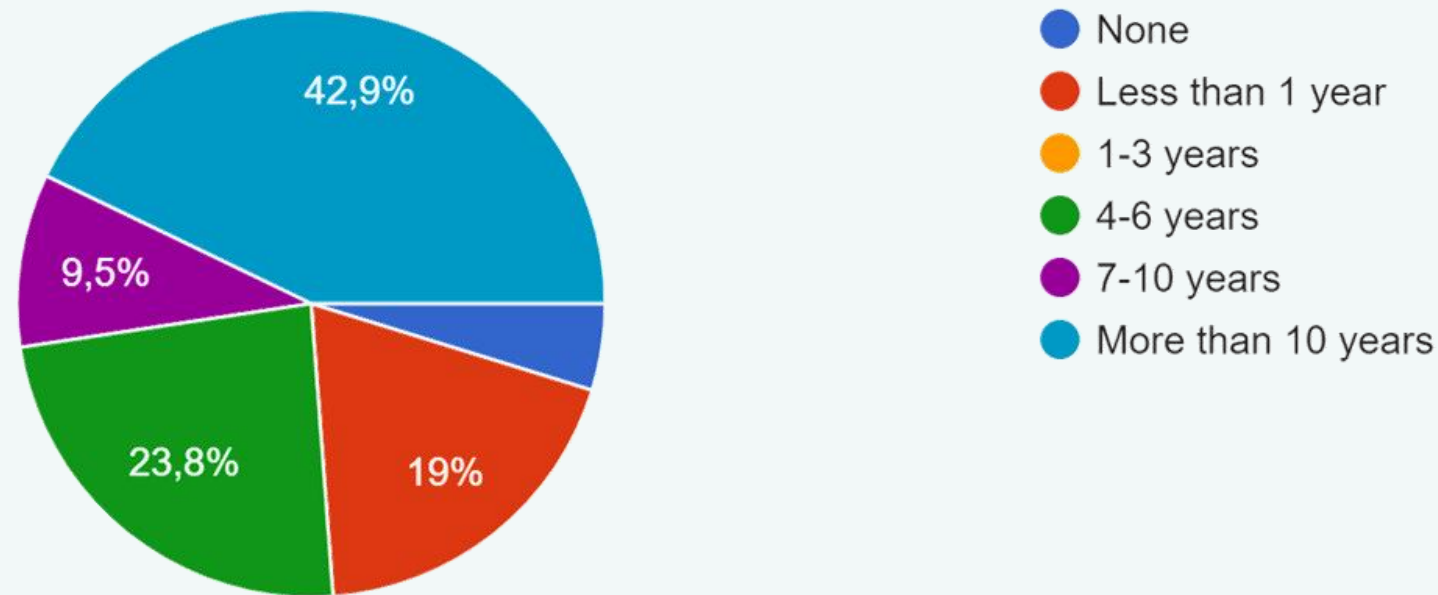
Major part Planners, Students & Researchers

Background of survey participants



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Years of experience working with other aspects of marine management:
21 svar



43% have more than 10 years of experience of marine management,

65% between 4 and 10 years

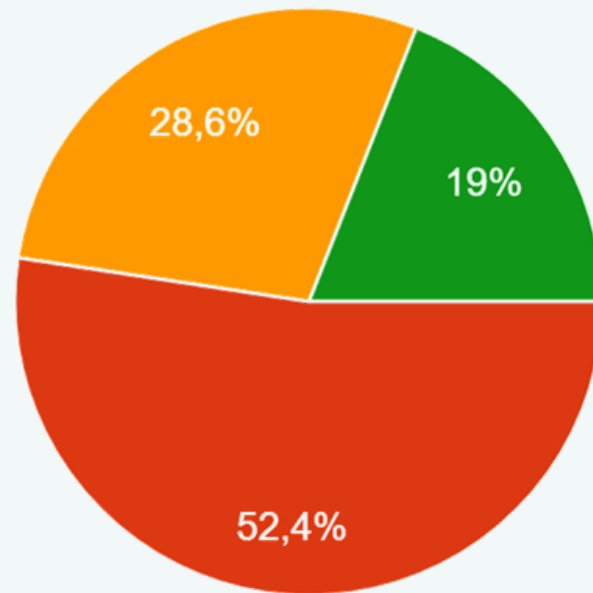
Background of survey participants



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Your level of GIS or spatial data competency:

21 svar



- None
- Beginner (basic understanding and limited experience)
- Intermediate (comfortable with common GIS tasks and software)
- Advanced (extensive experience and expertise in GIS, able to perform complex spatial analyses)
- Expert (professional level proficiency, deep understanding of GIS principles, ...)

48% advanced or intermediate GIS competence

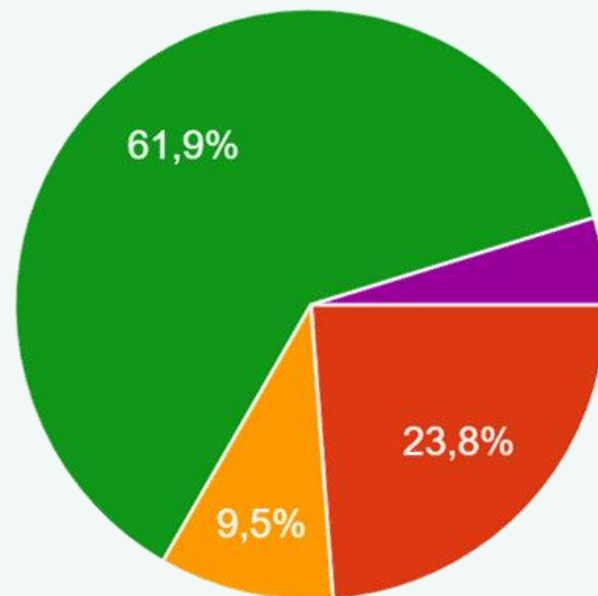
Background of survey participants



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How often do you use WIO Symphony?

21 svar



- Daily
- Weekly
- Monthly
- Occasionallly
- Never

62% use the tool occasionally

24% use the tool on weekly basis

Selected representative responses



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» Top 3 tool improvements asked for:

1. Ability to smooth integrate local data (63%)
2. Increased data resolution (58%)
3. More support & training

» Most used functionality:

1. Compare different scenarios (60% of usage of the tool)
2. Viewing ecosys. components and Plan-impact assessment share the second place
3. Scenario reports are important, 100% answered “very useful” or “Rather useful”, for instance the reports are used to communicate and give advice to decision makers & internal organization. But some issues to interpret **sankey diagrams** are reported

» Most important Ecosystem data considered to be

1. *Coastal and inshore habitats* 2. *marine fauna –coral reefs and fish (coastal focus)*

» Most important activity data considered to be

1. *Fishing activities* 2. *Environmental changes such as ocean acidification* 3. *Pollution, waste/litter data* 4. *Dredging/dumping (Interesting that Shipping are low!)*



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Selected representative responses

- » Example of mentioned **valuable features in the tool**: The models themselves (ecosys+pressure) (happy to get data!) are mentioned **several** times, other appreciated features are **comparing scenarios**. Also that the sensitivity matrix can be adjusted to local conditions and knowledge is appreciated.
- » **Example of suggested additional features or improvements**: Uncertainty maps, add additional local pressures, higher resolution, possibilities to upload their own data, more pressures. Zoning tool for Zoning of various activities
- » **How is the tool used until today**: To perform **Cumulative Env. Assessment** studies, but the biggest use have been **comparing scenarios** 60%. The tool have also been used to educate, and as a platform, for stakeholder discussions to visualize and to get a common understanding of sea activities (*Important to note is that some answers indicates that they use the tool in wrong scale, example: evaluate effects of local dumping-substrates at specific locations, finding suitability for local MPA:s, and used for MSP around a “small” island*).
- » **In what purpose is the tool used until today**: **MSP and localization studies**, as platform for **discussion internally & externally**, for **ocean governance and blue economy development**.



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Selected representative responses

What activities do they want more of:

- » A recurring response is that more **training/refreshment** on how to use the tool and how to interpret the results, is needed, also training on **real cases** are asked for.

(Reflection 1: more instructions are asked for, in the same time they have answered that the tool is intuitive) (Reflection 2: Case studies could possibly fit well as an overlap training with the ITP program, together with sector data analysis?)

Example of Issues and limitations reported in the responses:

- » Lack of high-resolution data (models), problems to upload their own local data, difficulties to interpret result of calculations and slow software performance. *Some of the participants admit that lack of skill and network / slow internet can be a reason behind some issues.*

Examples of general opinions from survey answers



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Many are impressed of the tools capability, for instance scenario analysis. – "it's a good tool"



Many are satisfied with the tool, it's intuitive and easy to use. **Answer to their expectations**



Tools like Marxan, Seasketch and Google Earth are complementary but not overlapping



IOC-UNESCO is mentioned as a suggestion for future collaborations or partnership



Survey was appreciated - "more surveys like this"!

They can't show MSP outcomes from the result yet, for that, more time is needed



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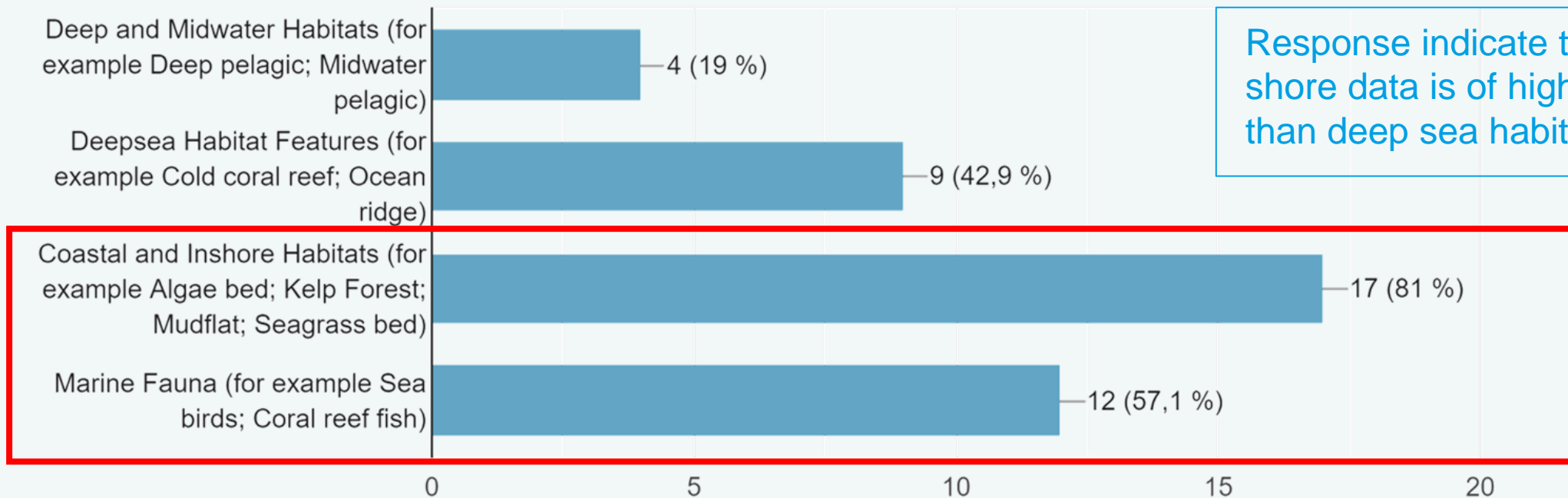
In-depth study: Responses regarding scale, high-resolution and local data



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Please select the ecosystem data layers you consider most important for your application of WIO Symphony. You may choose multiple options.

21 svar



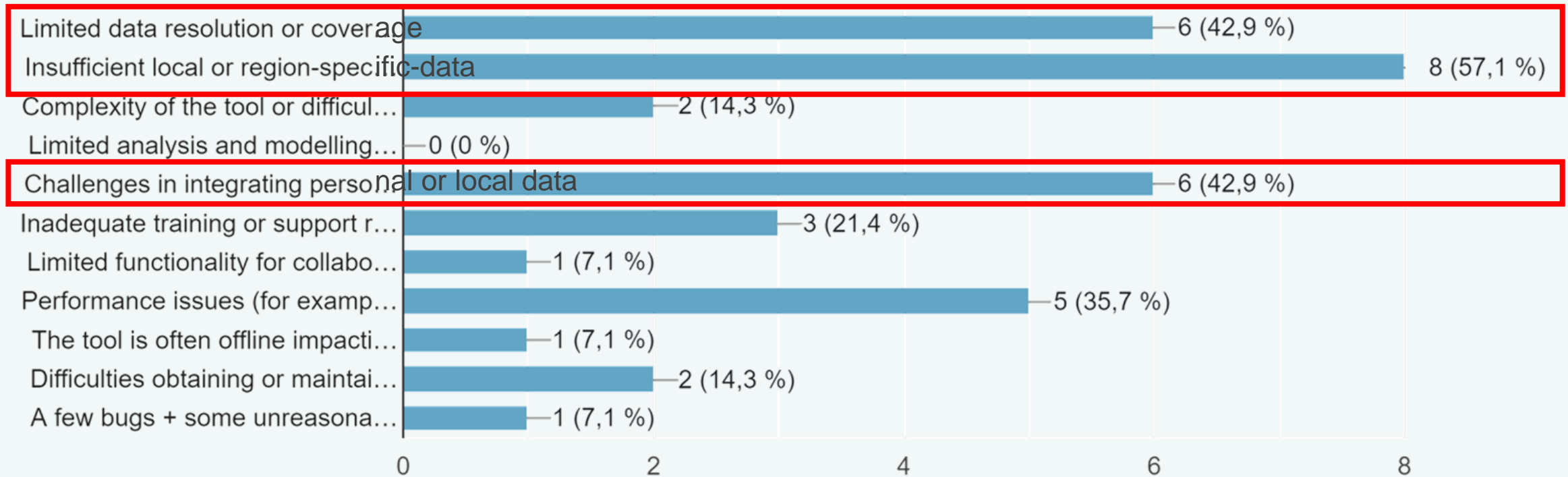
Top 3 responses is about low resolution & local data



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limitations you have experienced while using WIO Symphony.

14 svar



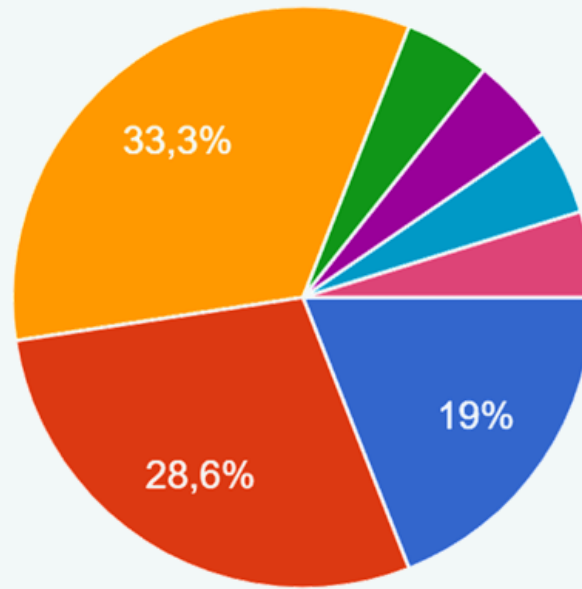
Almost 50% of the usage today consists of very local or local scale analyses. Very low interest for regional analyses.



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When using WIO Symphony, at what spatial scale are you generally working?

21 svar



- Very local scale (for example individual reef or small island)
- Local scale (for example specific bay or estuary)
- National scale (for example entire coastline of a country)
- Sub-regional scale (for example Moza...)
- Regional scale (for example East Afric...)
- Ocean basin scale (entire Indian Ocea...)
- I just explored the tool

Important slide for decision of future development.

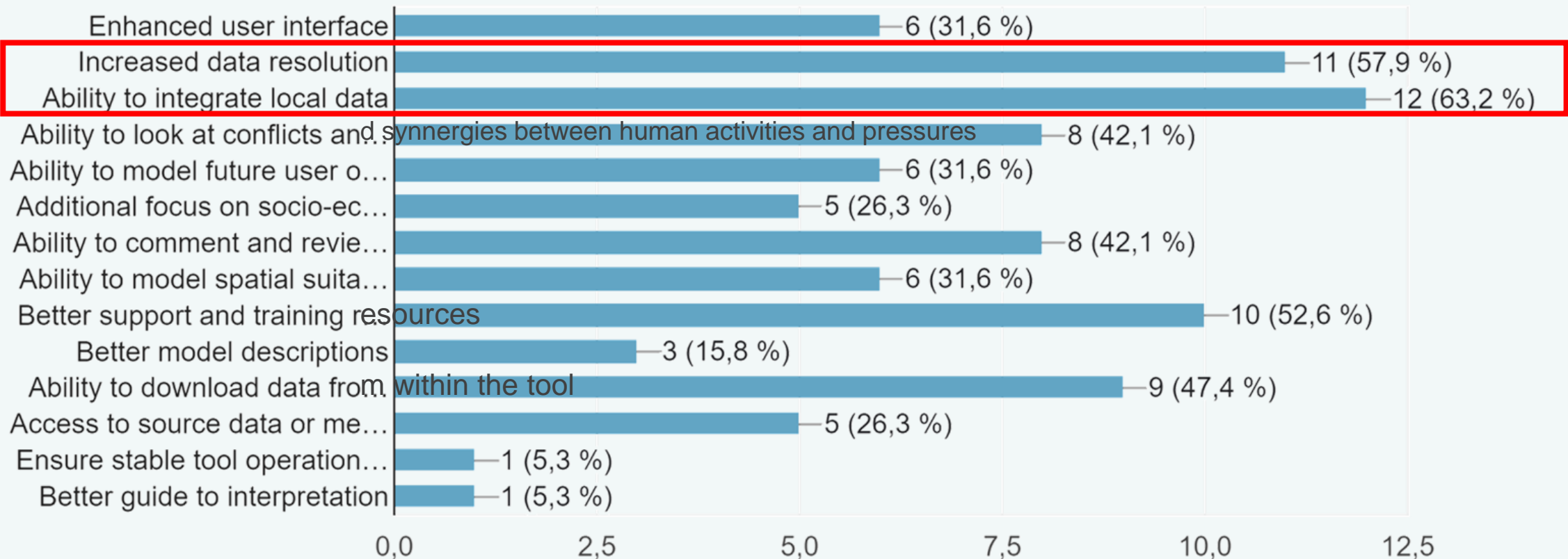
Top 2: Increased data resolution & ability to integrate local data



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What improvements would you like to see in WIO Symphony?

19 svar





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Recap

- » We've got **enough answers** to make conclusions for future development, many answers from the right category of people and level.
- » Overall participants seems **satisfied** with the tool, scope & functionality, but need more time to come with measurable responses.
- » The need for **more training and instruction** is clearly identified, also practice on real, and local, cases are requested.
- » **High-resolution data** and **local scale analyses** are one of the most mentioned and clearly visible outcome of the survey.
- » The tool have been used for common understanding, engagement and discussions with **stakeholders**.
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Suggestion on future development to be discussed



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Develop and test more detailed Symphony as a pilot study based on high-resolution data in the coastal & territorial water (*Mauritius pilot study*)

More training, refreshing & instructions are essential and asked for. Practice on real case studies are suggested. Also we should consider if peer training is possible, for example on how the tool was used for stakeholder engagement?

Make it easier to integrate local data

Develop possibilities to have an offline version of the tool

Data strengthening by identifying weak models/data to prioritize which models that should be updated first?

Investigate how to make Stakeholder/sector data available for ex. conflict & co-existence analysis and maybe even work with zoning in the tool? (*Good overlap with ITP*)

More...?



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But most important....

» They like the tool and they use it, let's keep developing!

Thank you!

Additional slide:
Response from **one** participant on
Are there specific features you would like to be added to WIO Symphony?



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Certainly! Here are some specific features that could be valuable additions to WIO Symphony:

- » **Fisheries Dashboard:** A centralized dashboard that provides an overview of key fisheries indicators, such as stock assessments, catch data, and fishing effort trends, could offer stakeholders a comprehensive snapshot of the status of fisheries resources in the region. Users could customize the dashboard to display relevant data visualizations and analytics, facilitating quick assessments and decision-making.
- » Vessel Monitoring System Integration: Integrating **Vessel Monitoring System (VMS)** data into the tool could enable real-time tracking of fishing vessels, monitoring of fishing activities, and enforcement of fisheries regulations. By visualizing vessel movements, identifying **potential hotspots of illegal fishing**, and generating alerts for suspicious activities, the tool could support enhanced monitoring and control of the fishing fleet.
- » **Risk Assessment Tools:** Incorporating risk assessment tools that evaluate the vulnerability of fish stocks, assess the impacts of fishing practices, and identify potential threats to marine biodiversity could help stakeholders prioritize conservation actions and adaptive management strategies. Users could input relevant data parameters to generate **risk maps, scenarios, and recommendations for sustainable fisheries management.**
- » **Interactive Spatial Planning:** Developing interactive spatial planning tools that **allow users to map out** marine protected areas, fishing zones, and other marine spatial planning initiatives could facilitate the design and implementation of effective conservation measures. By integrating geospatial data layers, users could visualize habitat distribution, overlay fishing activity data, and simulate the impacts of different management scenarios on marine spatial usage.

Additional slide:
Response from **one** participant on
Are there specific features you would like to be added to WIO Symphony?



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- » **Community Reporting Tools:** Introducing community reporting tools that enable local fishers, **coastal communities, and citizen scientists to contribute** fisheries data, observations, and traditional knowledge could enhance community engagement and data collection efforts. Users could submit reports through a user-friendly interface, record fishing activities, document marine biodiversity sightings, and share insights on local fisheries trends.
- » **Mobile Data Collection App:** Developing a mobile data collection application that syncs with the main WIO Symphony platform could empower field researchers, fisheries officers, and community members to gather data, submit reports, and **upload observations directly from their mobile devices**. The app could include offline data collection capabilities, data validation checks, and data sharing options for seamless integration with the central database.
- » **Scenario Planning Tool:** Introducing a scenario planning tool **that allows stakeholders to explore alternative futures, assess the implications of different management decisions, and visualize the potential outcomes** of policy interventions could support adaptive management and strategic planning. Users could create, compare, and evaluate scenarios based on varying assumptions, uncertainties, and management targets to inform sustainable decision-making. Social and Economic Impact Assessment: Incorporating social and economic impact assessment tools that analyze the effects of fisheries management policies, regulations, and interventions on local

Let's make a Symphony!



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