

Notes from the Town Hall Discussion

DRAFT

The town hall discussions took place on Wednesday, May 8. Their purpose was to initiate a broad discussion with the larger community that could be narrowed down during the forum on Thursday, May 9 to help scope OceanPredict's future plans.

Enquires should be sent to:

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TOWN HALL #1

The **first** town hall focused on two related topics. The first was to look at

Operational oceanography and end-users

How can we establish an international operational oceanography framework? What will OceanPredict's role be in the framework? How do we formulate the value chain from the observations to forecasting to end-users? There needs to be some focus on the evolution of interfaces for better end-user applications.

The **second** topic was to look at

International research, specifically standards, development and implementation

Notably, one of the key issues and gaps raised throughout the townhall was the issue of coordination in the community and OceanPredict's affiliation with various groups like WMO, JCOMM, etc.

- To begin panelists gave opening statements, and then interacted with the audience and one another. The summarized key messages included:
- The community is ready to deliver and operate the framework. The first way we can do this to rely on engineers to fix issues in the data, simplifying and eliminating barriers. The second is to document what is being done (specifically what is being done well – best practices, etc.) and utilize the international framework of existing organizations. Thereby, a clear and effective communication strategy is needed to truly implement the system.
- One of the gaps involved with creating this chain is identifying end-user needs. While there are parts of the community that do this well, other parts are lacking. OceanPredict is able to provide members, community and state of the art products. However, there needs to be effort expended on how requirements/needs are gathered from end-users more carefully. Many may not know what they want or what is actually available within the scientific community.
- A feedback loop needs to be properly structured between the forecasting community and the end-users. What is the role of OceanPredict to collaborate with other service providers so that these answers can be given in one place? Where does the user articulate what their needs are? How does the community interact with all of these users?
- The industry perspective is that of the importance of validation. Different types of transportation vehicles are valuable as a supplement for sparse measurements, especially the difficult-to-maintain assets in the ocean.
- **Industry end-user need example:** from the user's perspective, do not assume that basic measurements are the highest need or priority. Ships care more about the energy in a wave than the spectral data. Further, those working offshore care about the current as you go down the water column.

- In order to do something at the global level strategically, an exercise will need to be implemented through pilots, as opposed to thinking about it theoretically. One such option would be engaging through OceanObs'19 and engage in conversations about the governance of the Global Ocean Observing System (GOOS).
- On the issue of communication between industry and the forecasting community, it was suggested the OceanPredict community combines workshops with national/international conferences with other disciplines.
- Discussion ensued on the value of an OceanPredict-related intergovernmental system, given the high visibility of the ocean in political discourse. However, it was suggested that while a governance collective could be formed (preferable over an intergovernmental system), it is important that the organization and community are able to remain nimble, while adhering to certain standards.
- The issue of data sharing also arose, especially in the face of limited funding within the academic community. Industry noted that it has become clear that you “cannot go it alone” anymore, and that they can be made more competitive through collaboration. Further, government’s role was noted in making data available, relating some to the context of the Seabed 2030 project. Value is moving away from the data itself to who can and how they can use the data.
- The thread of lack of funding continued further, especially when facing the societal end-user challenges. It was suggested that the arguments of value are not necessarily being made the right way. It is important for the OceanPredict community to build up examples of end-user value, notably the economic impact – which will hold a much stronger sway with politicians. In the context of ocean health, keep providing excellent products.
- Another noted step that may be missing from the discussions is the quantification of the issue itself. Marine plastics are a hot button political issue, but the community has not quantified what the issue itself actually is. The community needs “off-ramps” to continue to address these questions as they arise. There comes a time where implementation is needed over further development.
- Lastly, a focus on the appeal of the issues needs to be expanded. As one person noted, “oceanography is boring” when compared to how visually appealing weather can be, as people understand the direct impacts on their lives from weather, but not how the ocean interacts with it. It was noted that Fukushima highlighted the importance of measuring the ocean, but we should not be relying on disasters.

TOWN HALL #2

The **second town hall** focused on the next generation of ocean forecasting systems and the evolution of ocean prediction in the next decade

The **first** part focused on

ocean observations

Which observation should be taken? The **second** part focused more on

ocean observing systems and how the community can move towards seamless predictions

To begin panelists gave opening statements, and then interacted with the audience and one another. The summarized key messages included:

- Panelists, some of whom have been involved in the OceanPredict community since its formation 20 years ago, noted the incredible strides the group has already made in the past couple of decades (maturing from the “youth” stage), highlighting how future growth is possible. However, it was specifically noted that the community cannot be everything to everyone and has to maintain its oceanographic identity.
- The community needs to better understand and communicate the value of ocean observing, as operational oceanography cannot exist without it.
- It was noted that while the community as a whole has matured, biogeochemical (BGC) oceanography is still a younger science and is set to make big gains in the next ten years. High likelihood the progress made will be tied to ocean observing systems, BGC Argo, and the expansion of sensors.
- Observations are no longer used simply to remove biases in the models. Mentality needs to be focused on the next level of sophistication. Currently, the requirements for observations coming from this community are not yet clear. Need to connect what those needs are with how we drive this forward.
- The community is at the stage where it needs to look at the high-resolution forecasts and simulations and see what impact they have had in terms of producing or improving the quality of observations.
- How has the user community evolved over the last 1-2 decades? Have the types of users increased? Are there new needs? Do we produce new forecasting systems to adapt to these new needs? How can we structure this community and others to get adequate guidance? Prioritize what the actions should be and practical steps on how we could define and characterize the list of observations or guidance.

- Suggestion to view the talks of Andy Moore – a relatively sophisticated system for looking at the impact. Starting from there, can we put together a set of experiences that are common? When there is an issue, discussion should then generate a community-wide pilot project.
- Concern was raised over the sustainability of long-term ocean observing systems, given the reliance on research dollars. While some operational systems have other supports, this is likely around 25% of all necessary funding. Academia can provide long-term modes of doing this, but it is not its mission.
- The mission of academia is education, and training people – producing the human capital that makes the system grow.
- Where is the next big push in the system going to come from? The big visionary drivers of the original ocean observing systems are approaching retirement. In many meetings, there are a limited number of participants under the age of 50. We need to foster future community leaders. Bring this discussion to a noted breakout session being run by John Rutgers at OceanObs.
- Outreach should be considered to the secondary school level to get the younger generation interested before they pick career paths at university.
- The community was also in favour of pushing for another summer school. Look for a way to engage as many countries as possible, pushing from areas like South America, Asia and Africa, where the community currently has less representation. The last summer school had 65 students from 35 countries.
- The community wants to propose something big for the UN Decade of Ocean Science

The final note was to show the value of investment already made and to not immediately ask for more. Take the time to strategize and then come back with the ask, as more funding is not necessarily always better all of the time.