

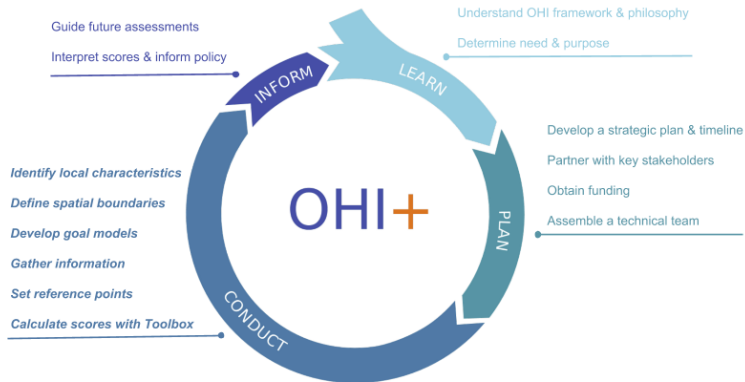
# *Introduction to* **The Conduct Phase**

Ocean Health Index

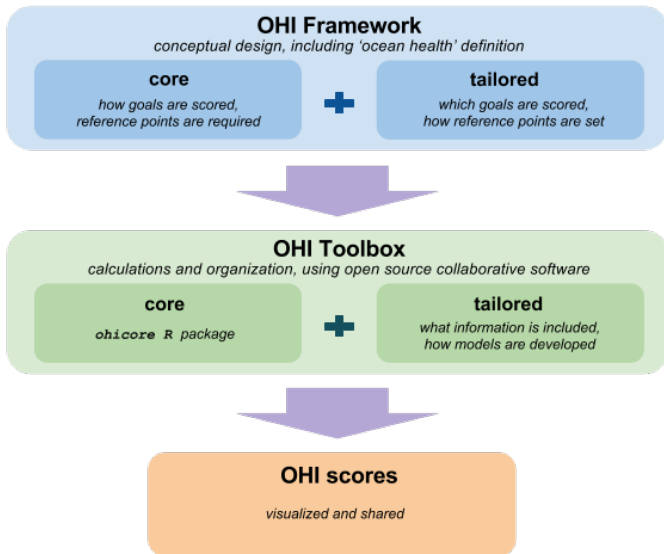
OHI-Science Team

January, 2016

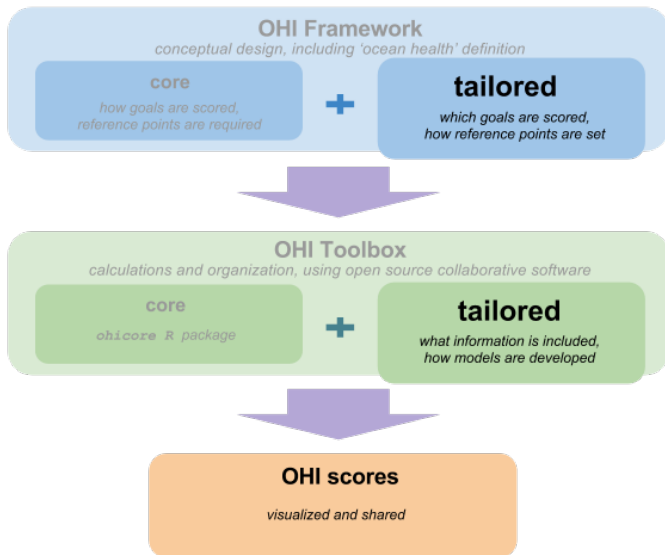
# Where you are in the OHI+ process



# Conduct Phase



# Conduct Phase - Tailored



# Technical Team Structure

## Technical Team Example #1

### Goal keepers

Scientific experts in each goal to develop models and gather data

### Toolbox master

R programmer to run toolbox



## Technical Team Example #2

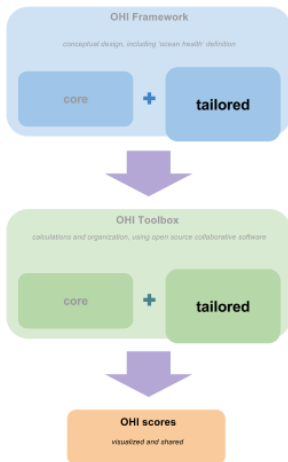
### Scientific & Technical analyst(s)

Responsible for developing goal models, collecting data, and run toolbox

### External Scientific advisors

Experts of different goals to advise on model and data

# OHI Workflow



**Define boundaries**

**Select and develop goal models**

**Gather data, pressures & resilience**

**Set reference points**

**Request an OHI+ repository**

**Format, store, and register data**

**Modify goal models**

**Calculate scores**

**Create flower plots and maps**

**Report results**

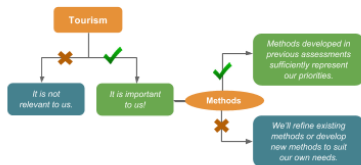
*Note -- this not a strict timeline: the framework building and analysis are not a linear process, but iterative. You will likely develop and revisit different parts simultaneously.*

# Best Practices

Follow these **Best Practices** when planning models and reference points (see publication or Manual):

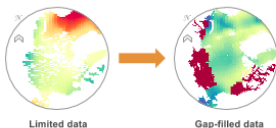
## Build the conceptual framework

Which benefits does the ocean provide in your local area? What are key ecological, social, and economic characteristics and priorities? Identify these and build a conceptual framework before gathering existing information.



## Remain true to the framework

Existing, available data can be limited or not ideal. But it is possible to fill gaps, use proxy data, or incorporate intermediate models. But stick to your conceptual framework and priorities to get a complete picture of ocean health.



## Define spatial boundaries

The boundaries of your assessment should be a driven by the boundaries where information is reported and policy decisions are made.



## Document and share the process

Methods developed and lessons learned through the assessment process should be shared with future assessments. Methods should be reproducible in one location through time and repeatable in different locations. This requires transparency and communication throughout the assessment.



# Framework: Define Spatial Boundaries

Scores are calculated for each region within an assessment area.  
Jurisdictional boundaries are often appropriate.

Example: How to Turn Land Boundaries to Marine Boundaries



1. Start with land-based boundaries



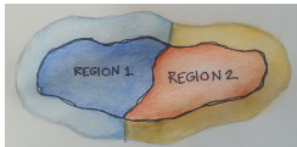
2. Draw offshore buffers for each region



3. Offshore buffers overlap



4. With the Thiessen Polygon approach, the overlap is divided...



5. ...to produce the final borders between the regions



# Framework: Select & Develop Goal

Select from *Ten commonly assessed goals*

See **Conceptual and Practical guidance** for each goal

- ▶ Understand each goal, maintain the definition but think critically how to represent it (Best Practices 1 & 3)
- ▶ Work on similar goals simultaneously
- ▶ Evaluate **reference point, pressures, resilience** while collecting data

Prepare **data and models** for the Toolbox (Appendix 2 & 3)

# Framework: Gather Information

Information (data and/or indicators) are required to calculate **Goal status, Pressures, and Resilience**

Gather **open-access** data that will be **updated regularly**

Data must be at appropriate **spatial and temporal scales**

Give preference to high quality data collected by respected organizations

If can't find ideal data, use **proxy data** or **gapfill**

# Prepare to use the Toolbox

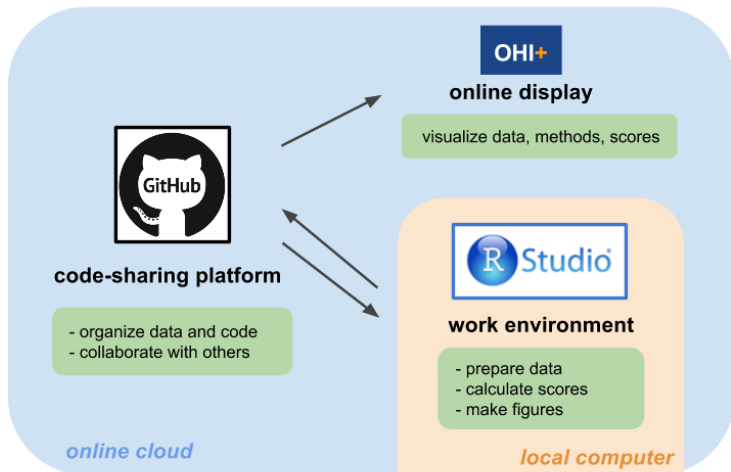
Once you have:

- ▶ gathered data
- ▶ developed goal models with available data
- ▶ finalized spatial boundaries with available data

## **Request a Toolbox Tailored Assessment Repository**

- ▶ where your data will be stored, formatted, and managed
- ▶ scores will be calculated using the Toolbox Core package
- ▶ use of R and GitHub are required

# Toolbox: Github - R



# Toolbox: Data Preparation

Format, store, and register data

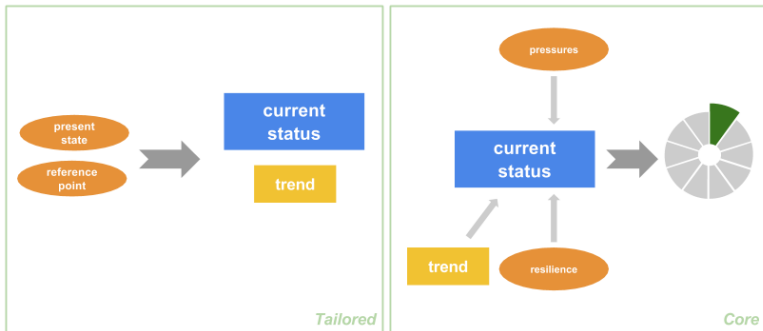
Script preparation process as much as possible for transparency, explanation, and comparable future assessments

Toolbox requires specific preparation:

- ▶ each data layer as a separate .csv file
- ▶ each layer has long formatting
- ▶ most layers rescaled to 0-1
- ▶ each layer must be registered

# Toolbox: Modify Goal Models & Calculate Scores

## Toolbox Calculations - Tailored vs. Core



Data

Calculated

# Main Resources

**ohi-science.org**: main site for all OHI+ related topics

**Manual**: conceptual and technical guidance for each step

**Other OHI+ Projects**: materials from completed and on-going projects

**Forum**: on-line community for OHI+ practitioners to connect and learn from each other

**Tutorials**: presentations

Contact our team: [info@ohi-science.org](mailto:info@ohi-science.org)