



**The World Ocean Assessment, a global exercise
supported by the LifeWatch Species Information Backbone**

A LifeWatch user story

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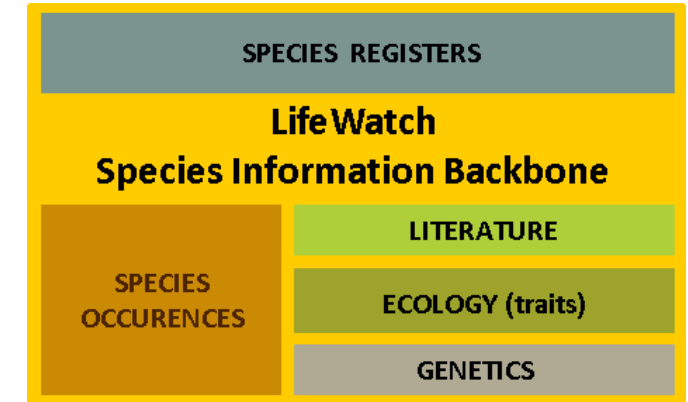
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towards a standard for georeferenced marine names



LW Species Information Backbone

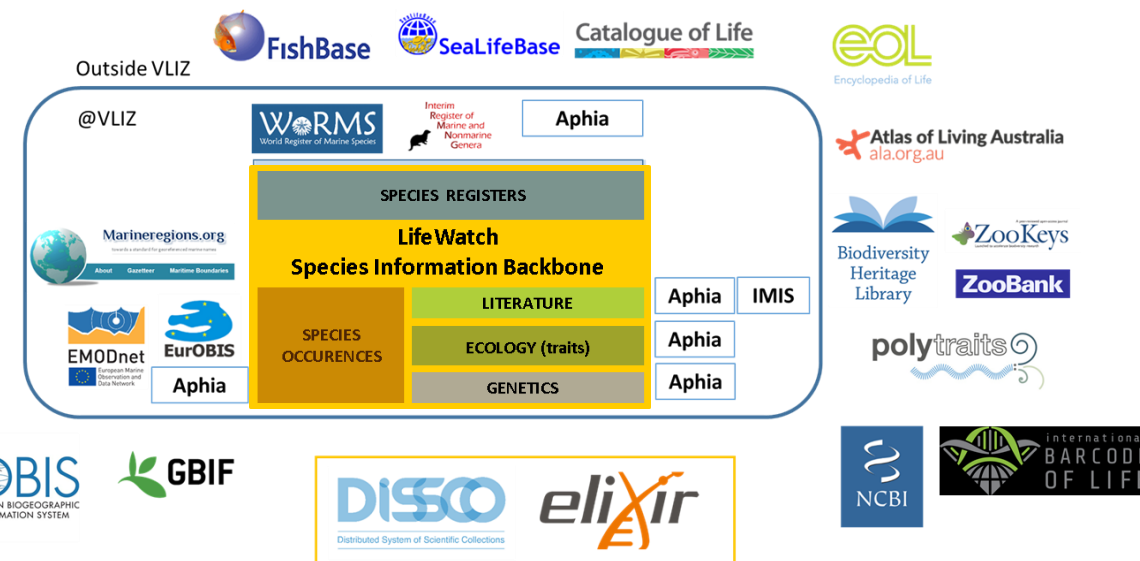
Refreshing our memory...

- Facilitates standardization of species data
- Facilitates (virtual) integration of distributed data repositories & operating facilities
- Builds on expert validated & literature-based info
- Structured in five major components
- Driving force behind the species information services of the Belgian LifeWatch.be e-Lab.



Coordination by VLIZ, at 3 different levels

- Set up the Backbone
- Completing & updating the Backbone
- Mobilizing experts who can contribute to the Backbone & provide continuous support



World Ocean Assessment?



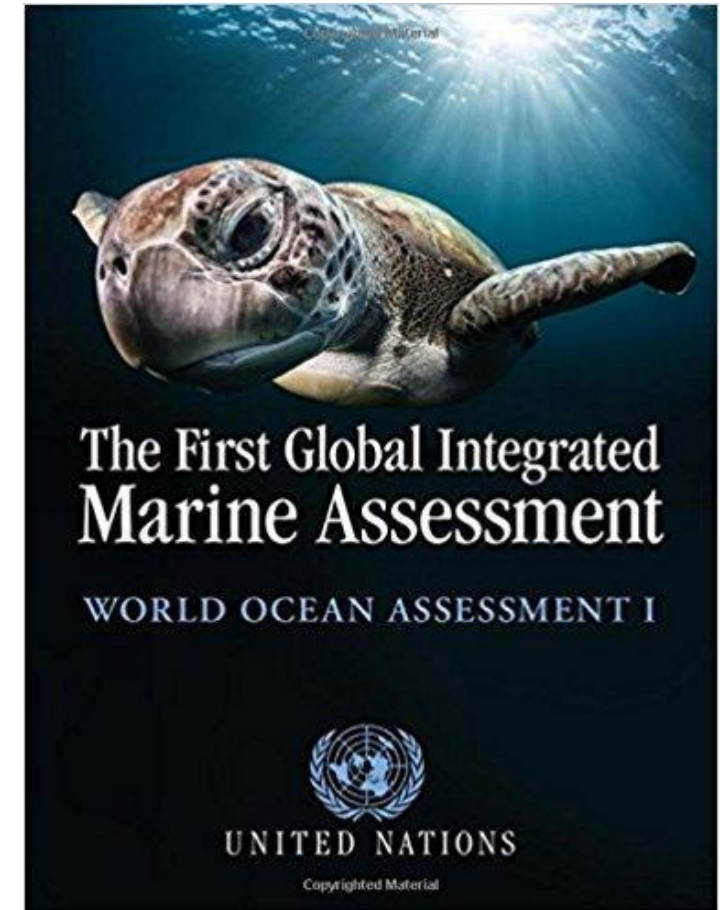
- Initiative by the **United Nations** General Assembly
- Need for a **Regular Process**, for global reporting & state of the marine environment
- Intended to provide a **scientific basis for action**
 - = **Baseline** for gauging the effectiveness of **management and policy** decisions
 - = **Guidance** in developing strategies and technologies to solve problems
 - = **State of knowledge** of the world's oceans and the ways in which humans benefit from and affect them
- Hundreds of scientists of various disciplines
- Already 2 cycles, in which components of the Backbone have been consulted, referenced and combined (directly + indirectly)



World Ocean Assessment I

- First cycle of the Regular Process
- Focus on establishing a baseline for measuring the state of the marine environment
- 2010 – 2014
- First World Ocean Assessment (WOA I)
- Overall
 - References to several systems that are part of / linked to the Backbone
 - World Register of Marine Species (WoRMS)
 - (European) Ocean Biodiversity Information System (Eur)OBIS

=> LW construction phase only took off in 2012...



World Ocean Assessment II

- Second cycle of the Regular Process
 - Extend on the first cycle, to evaluate trends and identifying gaps
 - 2016 – 2020
 - Second World Ocean Assessment (WOA II)
-
- Overall
 - References to several systems that are part of / linked to the Backbone
 - World Register of Marine Species (WoRMS)
 - Ocean Biodiversity Information System (OBIS)
 - Marine Regions
 - Specific
 - Combination of several systems, with guidance & input from the LW-team:
 - Chapter 6B – Benthic invertebrates
 - Chapter 6C - Fish



WOA II – LW Species Information Backbone support

- **Process** – Chapter 6B – Benthic invertebrates



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Geographical distribution:

Total number of recorded marine invertebrate benthic species per IHO

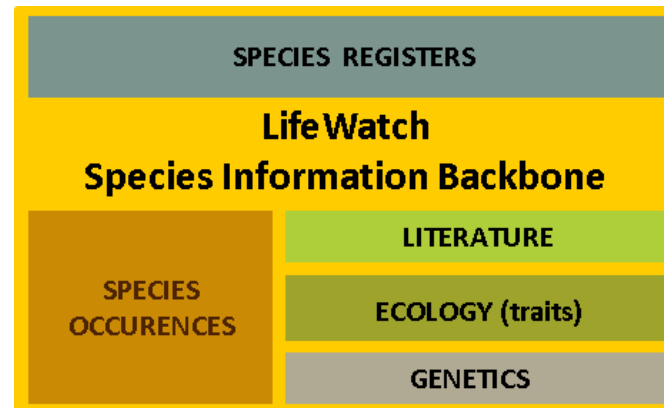
General distribution:

Occurrences of identified species, divided into 3 depth zones



Taxonomy:

Invertebrates = Animalia - Chordata



Traits:

Marine + Benthos



WOA II – LW Species Information Backbone support

- **Outcomes** – Chapter 6B – Benthic Invertebrates



- => 10,777 new valid marine benthic invertebrate species described between 2012-2019
- => total number of marine benthic invertebrate species globally described = 153,434
- => highest number of those are Mollusca (31%), followed by Arthropoda (24%)

WOA II – LW Species Information Backbone support

- **Outcomes** – Chapter 6B – Benthic Invertebrates



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⇒ 56,4 M distribution records

⇒ 124,372 marine species

⇒ 8,1 M distribution records of 80,132 marine benthic invertebrates

⇒ division in depth zones

WOA II – LW Species Information Backbone support

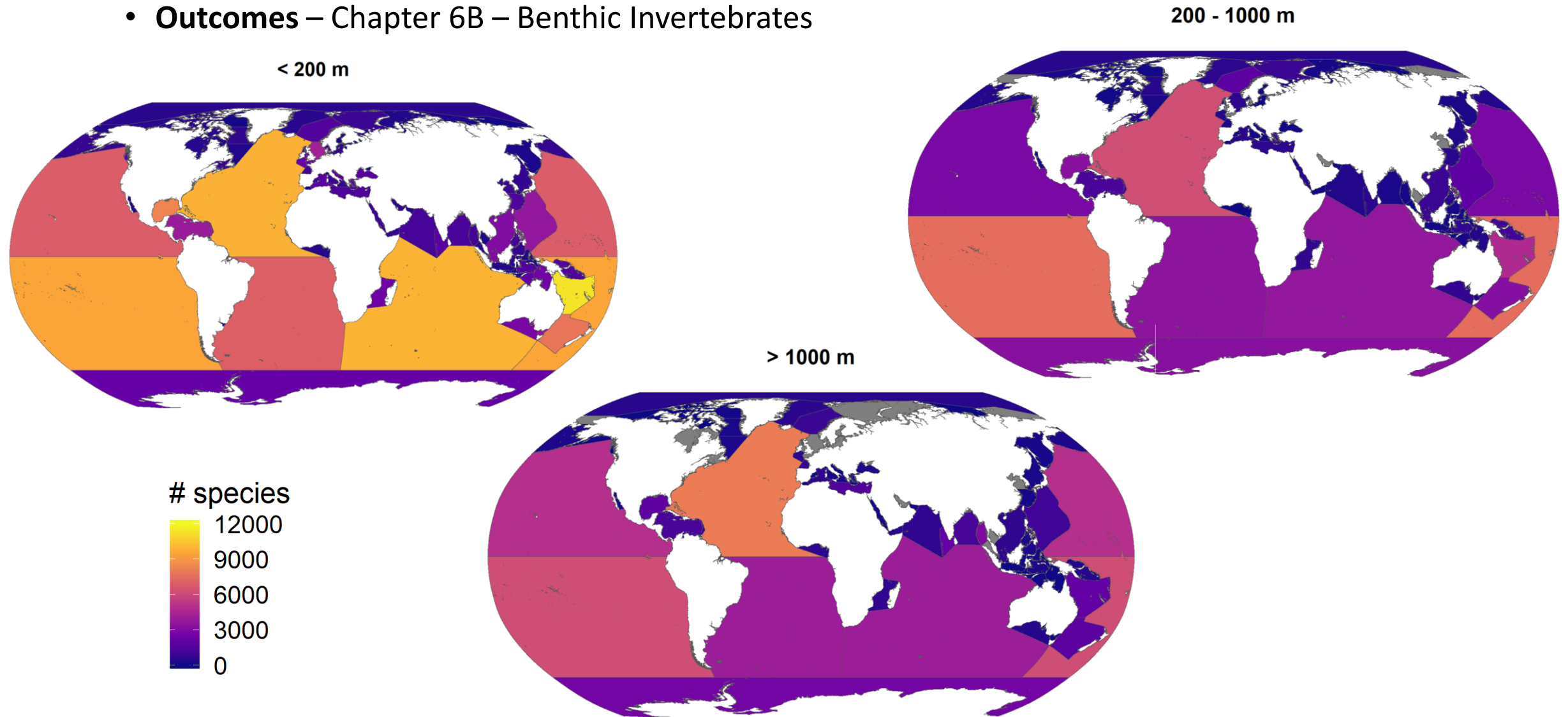
- **Outcomes** – Chapter 6B – Benthic Invertebrates



- ⇒ MarineRegions: standardized regions, used for biodiversity & biogeography assessments
- ⇒ IHOs = boundaries of major oceans & seas of the world, in an unambiguous way
- ⇒ “Richest areas” marine benthic invertebrate species: North Atlantic Ocean & South Pacific Ocean

WOA II – LW Species Information Backbone support

- **Outcomes** – Chapter 6B – Benthic Invertebrates



WOA II – LW Species Information Backbone support

- **What now?**

Ongoing initiatives to publish the “deleted” input of several of the WOA II chapters

For Chapter 6B – Benthic invertebrates

- Update numbers
 - What about Introduced, invasive, threatened, commercially important marine benthic species?
 - Case studies
 - ...
- UN Regular Process: World Ocean Assessment III?

In summary

- WOA II
 - Overall:
References throughout the report to different parts of the LW Backbone
 - Chapter 6B:
Detailed analyses made possible through the LW Backbone & its collaboration with other systems & networks
 - Availability & reproducibility of what has been done:
 - Data: <https://github.com/iobis/woa2-benthicinvertebrates>
 - Maps: <https://github.com/vlizBE/woa/>
 - Consolidated third draft freely accessible:
 - <https://www.un.org/regularprocess/WOA-II-review-by-states/draft-assessment>



Thank you

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