

Making Open Data Work in the Marine

Coastal Futures 2016

John Pepper and David Morris
OceanWise

Whoso would be a man, must be a non-conformist, and preferably play in the pack



Same Dave
Different World

Context (our remit from Bob)

*Many in the data and information sector have been calling for a fundamental change for a number of years in terms of the **access to** and re-use of **state funded data**.*

*As a result UK Government has now fully embraced **open data** across many of its departments and agencies as a means of stimulating re-use and innovative applications development*

BUT... re-use?

Key Message

A year ago we were worried about the data deluge – now a lot of Open Data is out there or on the way, but uptake, especially, in the marine environmental arena is still low

Its available but not readily accessible?

WHY?

What to Do

REMINDER – GOVERNMENT DRIVERS / CONTEXT

- UK Transparency Agenda
- Open Data White Paper 2012
- UK Public Sector Transparency Board
- G8 Open Data Charter: UK Action Plan
- Defra Open Data Strategy
- Defra Open Data Maturity Model
- EA Open (and Linked) Data
- Met Office Open (& Linked) Data
- Defra “vaults” unlocked



Extract from The Open Data Institute

Open Data Means Business Report



Broad industry group	UK open data companies	UK companies
Agriculture, forestry & fishing	0% (0)	7% (143,855)



the medium



IS

the message



Marine environmental data is actually a bit different?

**Terrestrial is surface only and no mass
transport mechanism**

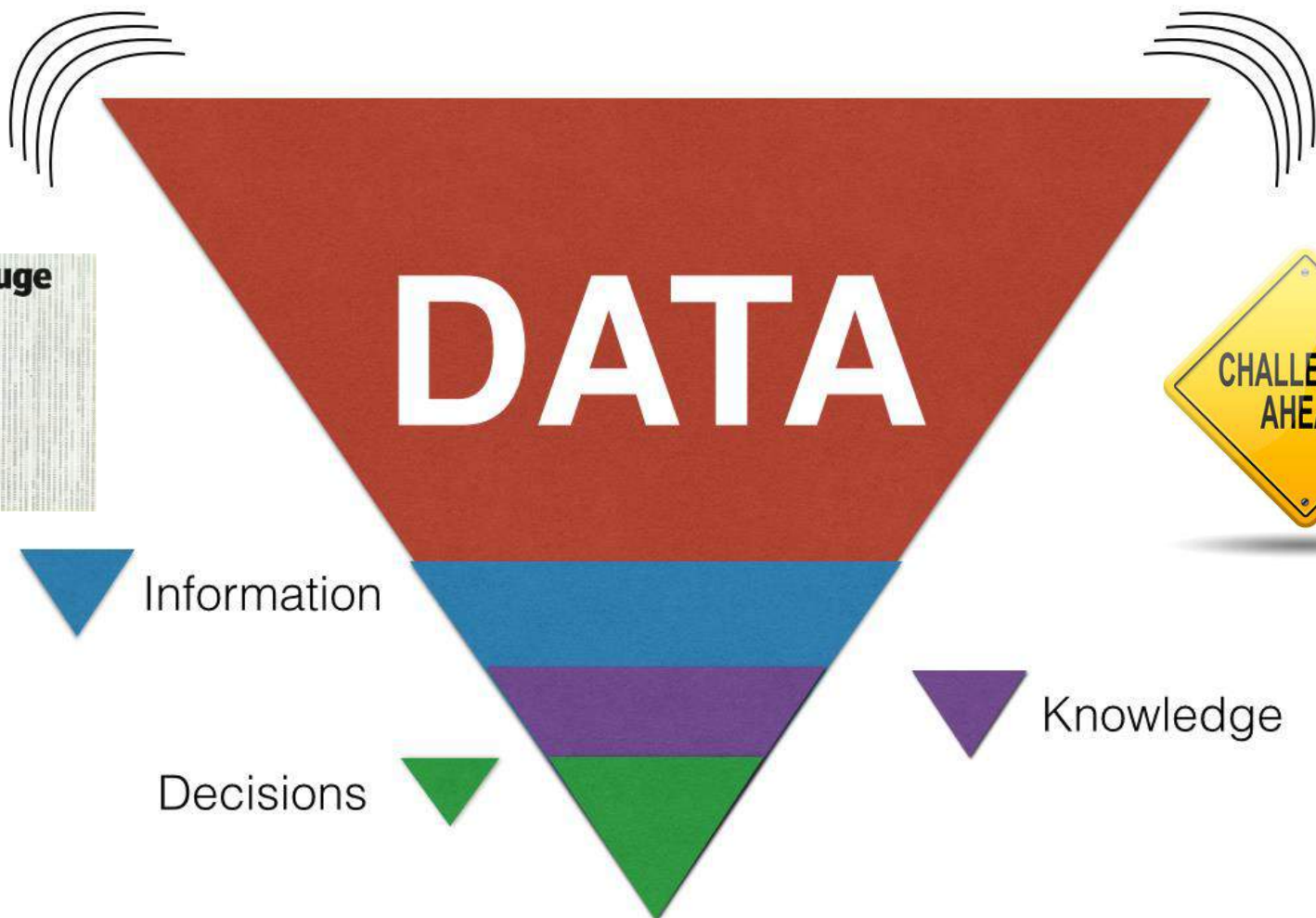
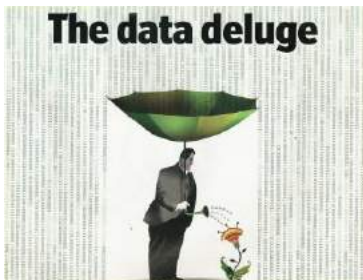
**Marine is 3D, with currents, AND
it has specialist DATA collection issues
because of the cost of working at sea**

**A YEAR AGO
AT**

CF 2015

*Marine Data & Information
'Revolution and Evolution'*





DECISION INTEGRITY & BUSINESS RISK

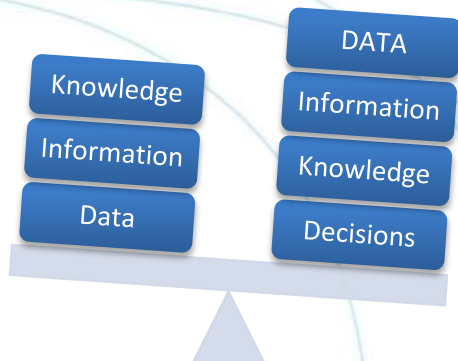
DECISIONS

DATA

The Data Deluge

OceanWise

restoring the balance



DATA

Information

Knowledge

Evidence

Decisions

**DATA
MANAGEMENT**

Data & Metadata
Data Products & Metadata
Controlled Vocabularies

**FORMAL DATA
GOVERNANCE**

OPENNESS

Data Sources
Data Manipulation
Information Assembly
Evidence Base

FORMAL DATA PROVENANCE

The background features several thin, light blue curved lines on the left side, resembling waves or orbits. At the bottom, there is a horizontal band of dark blue water with glowing blue ripples.

INELEGANT

to say the least

The background features several thin, light blue curved lines on the left side, resembling a stylized globe or ocean waves. At the bottom, there is a horizontal band of dark blue water with glowing blue ripples.

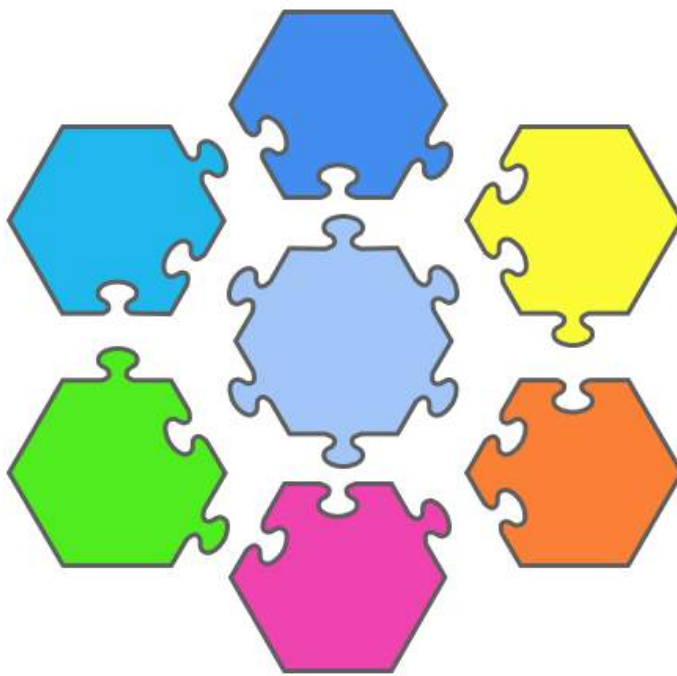
NOW

Making Open Data Work in the Marine

**- A different paradigm –
think of our
marine
environmental
data
as...**

JIGSAW DATA

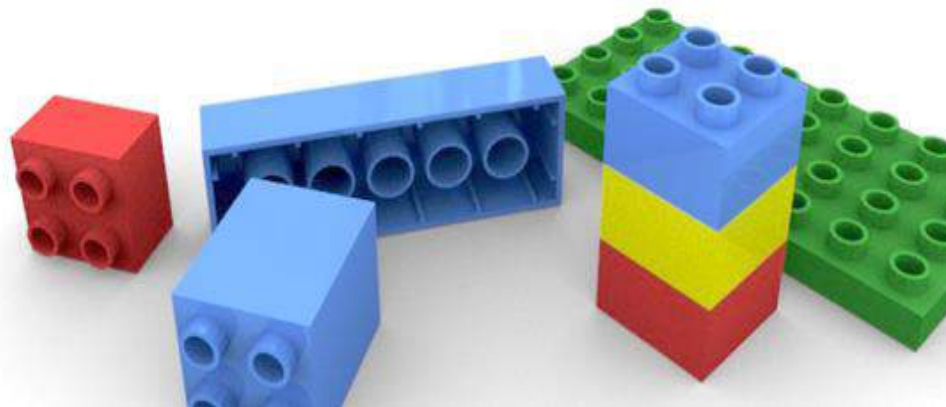
**specifically shaped, specific parts of a
particular picture**
(aka, essentially, research or bespoke
monitoring data)



**When
re-used
(for, say, assessments)
we actually need...**

LEGO® BUILDING BLOCKS

standardised pieces that can be fitted
together as required
(aka parameters in space and time)



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WITH kits for Data Products?



THINK

CTD Profile .v. Temperature, there, then

- Each CTD is a piece in an oceanographic puzzle we are trying to assemble. Each is **designed** to get us to the bigger picture as fast and efficiently as possible.
- **Decompose** into “the temperature at this location and this depth at this time was $X^{\circ}\text{C}$ ”

Now do this for all the parameters, physical, chemical and biological

FROM

TO

Swimming in a filtered pool of data points ...



... where the data we need to re-use is all neatly lined up and organised so we can think about the race rather than just surviving a data deluge

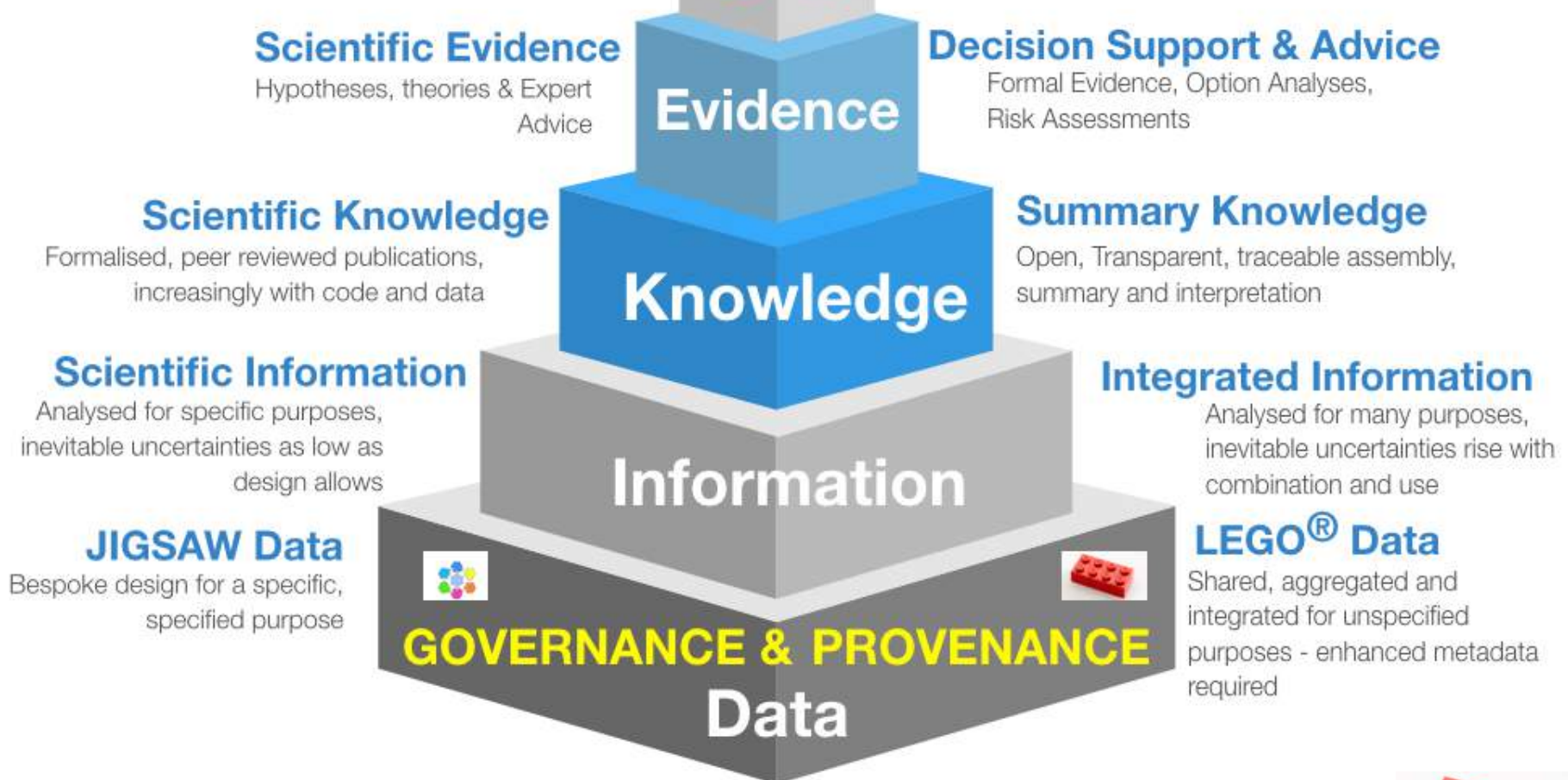
CAN WE REINVENT THE DIKW PYRAMID?





Informed Scientific Basis for Decisions

Data Rich Basis for Informed Assessments



Take Home Messages

To achieve a useful uptake of Marine Environmental Open Data for re-use & re-purposing we MUST

- Recognise **our data IS different** and needs something to assist in re-use
- **Decompose** our JIGSAW pieces into LEGO[®] bricks
- **Think of LEGO[®] data** as a 3 ½* step on the road to true marine Linked Open Data





End-to-End Marine and Coastal Data Management and Decision Support.



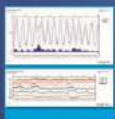
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and Coastal Mapping Data



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