

COURAGE! GALLANTRY!

EMOTION! VIOLENCE!

From The Boldest

Best-Seller

Of All!

COLUMBIA
PICTURES
presents

FROM HERE TO ETERNITY

WHAT'S IN
STORE FOR
TIME
SERIES?



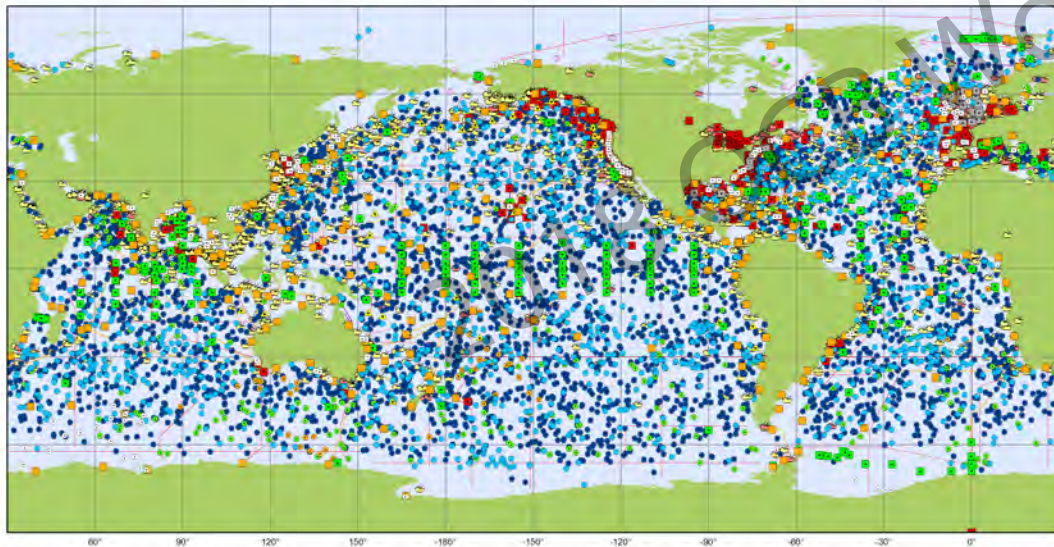
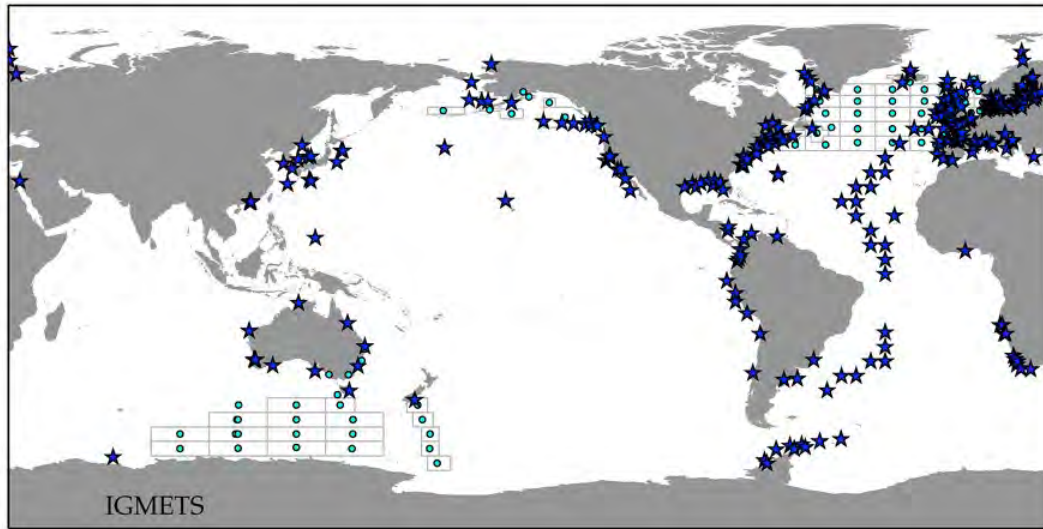
Screen Play by DANIEL THOMAS - Story and the novel by WILLY DING - Produced by BOBBY ROSEN - Directed by FRED ZINNEMAN



What's not to love?!



- Regular sampling
- Long-term; Sustained through time
- Sample at a fixed location/region
- Possibilities for process studies hinging on TS infrastructure
- Provide baseline data and lead to new discoveries otherwise unattainable



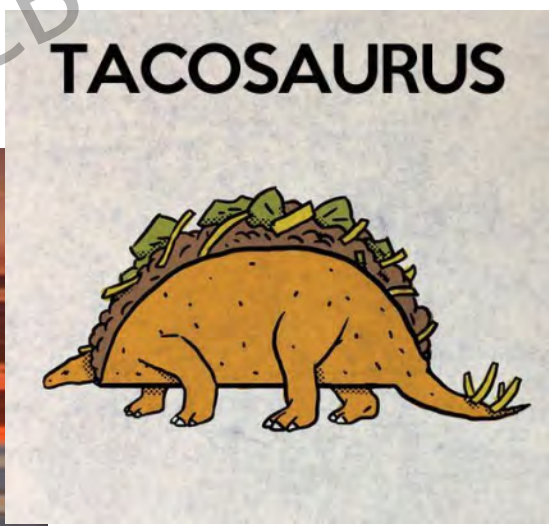
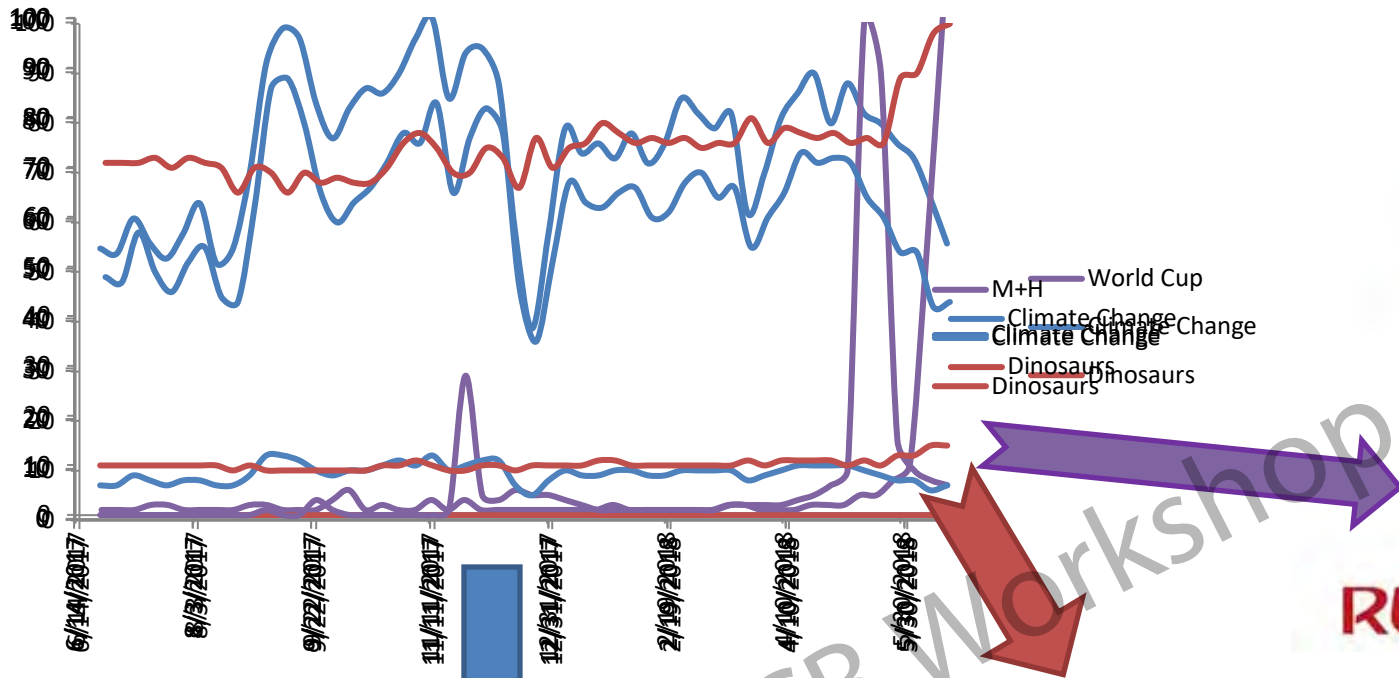
Main in situ Elements of the Global Ocean Observing System

May 2018

Profiling Floats (Argo)	Data Buoys (DBCIP)	Timeseries (OceanSITES)	Ship based Measurements (SOT)	Other Networks
<ul style="list-style-type: none"> Core (3820) Deep (54) BioGeoChemical (303) 	<ul style="list-style-type: none"> Surface Drifters (1499) Offshore Platforms (95) Ice Buoys (14) Moored Buoys (405) Tsunameters (36) 	<ul style="list-style-type: none"> Interdisciplinary Moorings (337) Repeated Hydrography (GO-SHIP) Research Vessel Lines (61) Sea Level (GLOSS) Tide Gauges (252) 	<ul style="list-style-type: none"> Automated Weather Stations (258) Manned Weather Stations (1850) Radiosondes (8) eXpendable BathyThermographs (37) 	<ul style="list-style-type: none"> HF Radars (270) Animal Borne Sensors (53) Ocean Gliders (31)

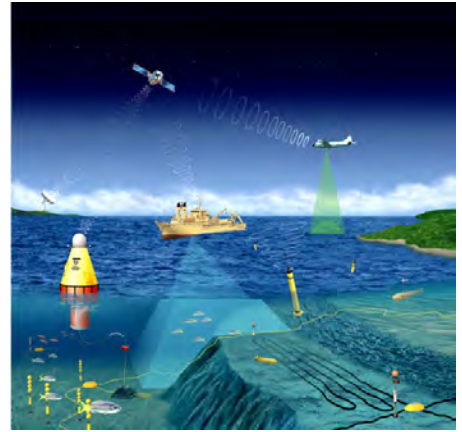
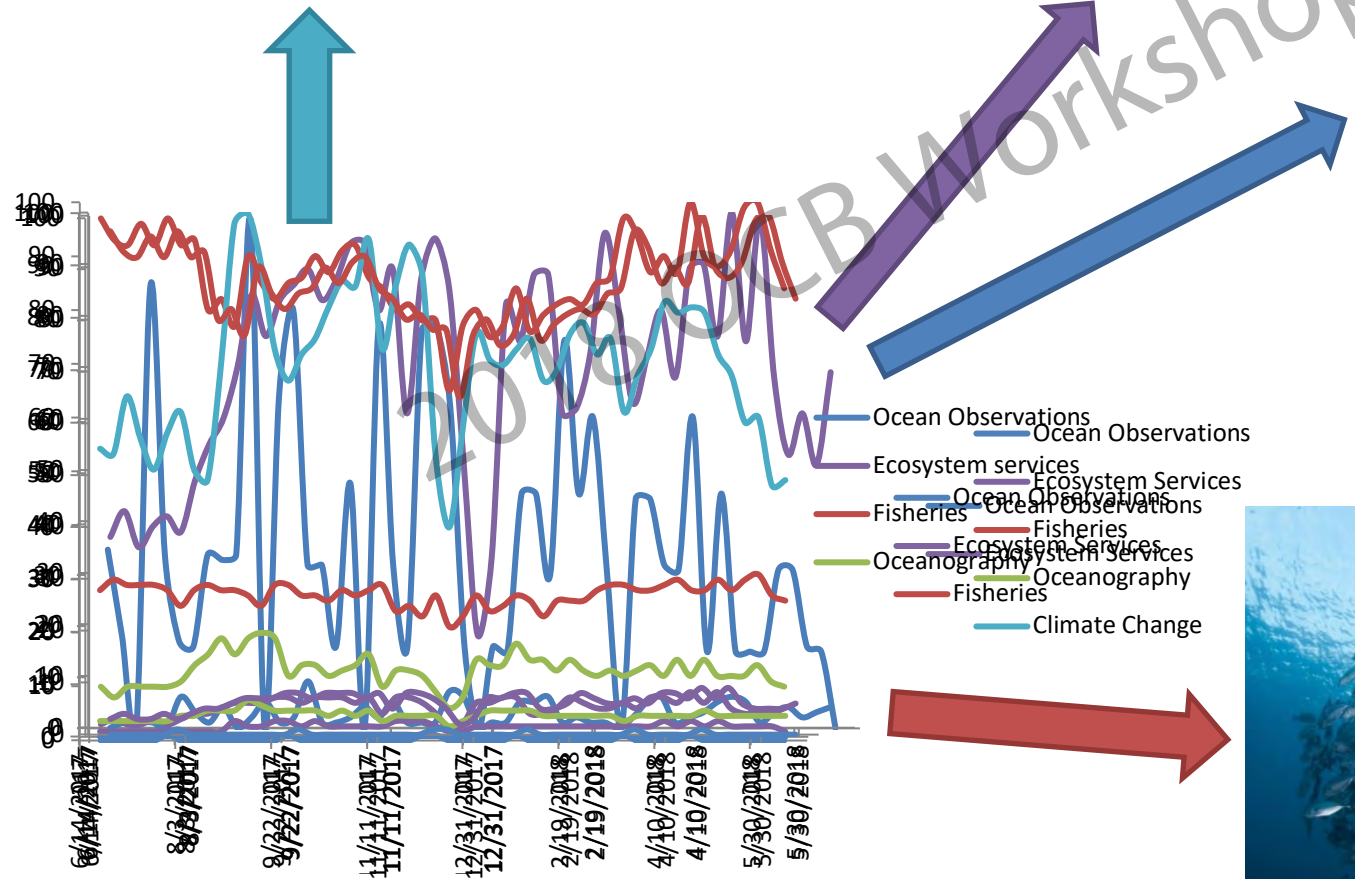
Generated by www.jcommaps.org, 12/06/2018

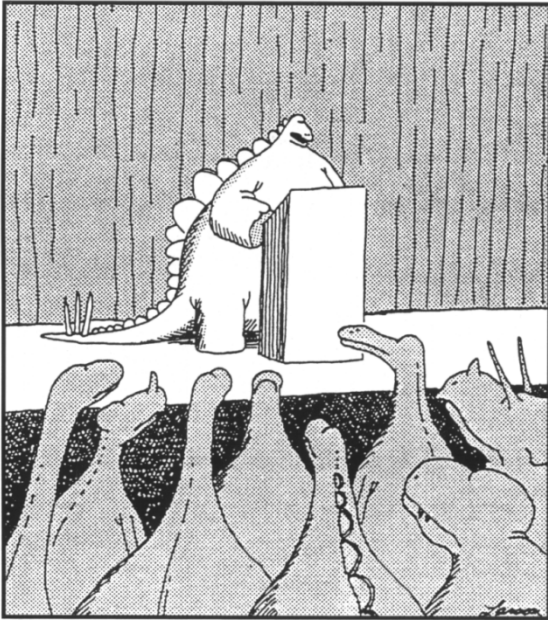




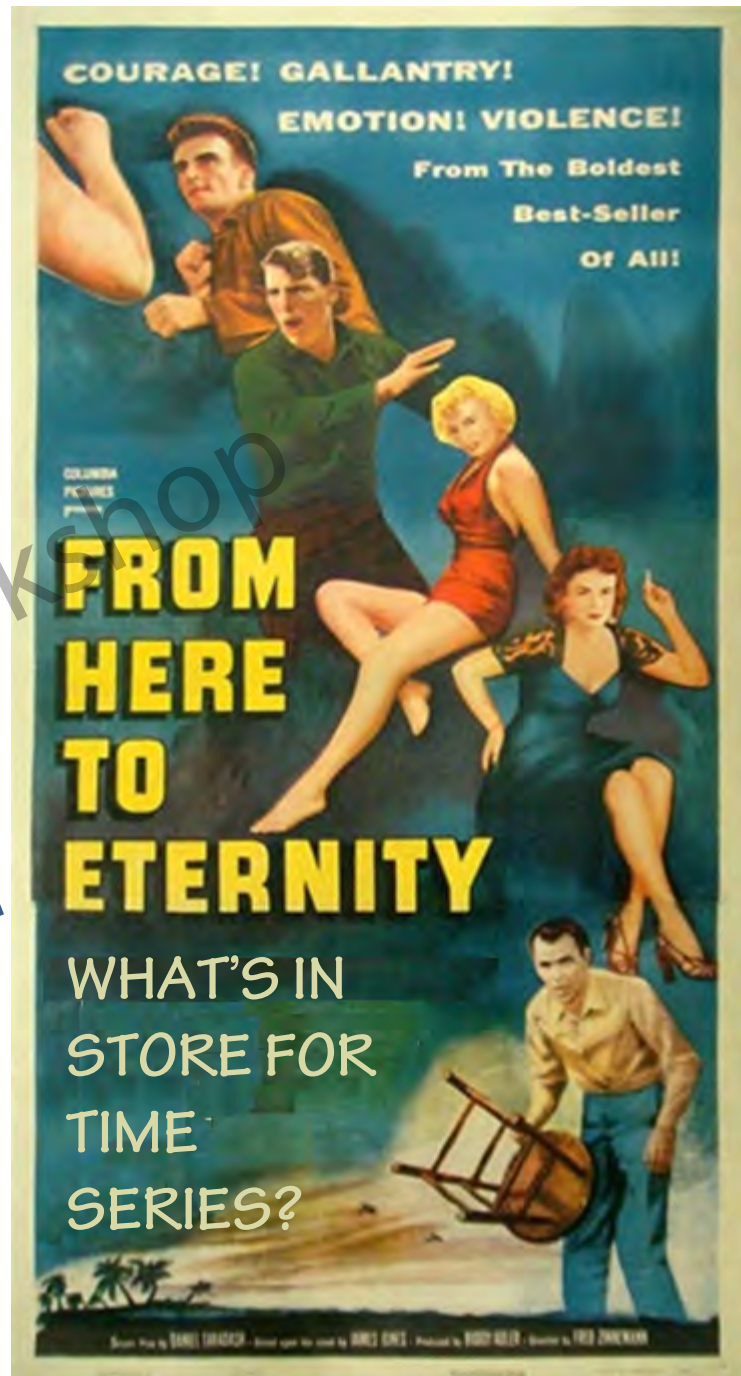
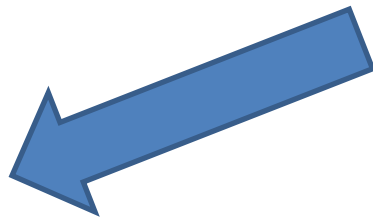
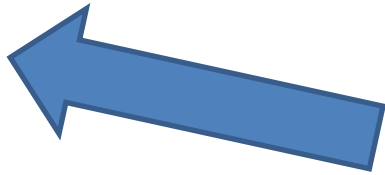


<https://www.frontiersin.org/articles/10.3389/fenvs.2016.00041/full>

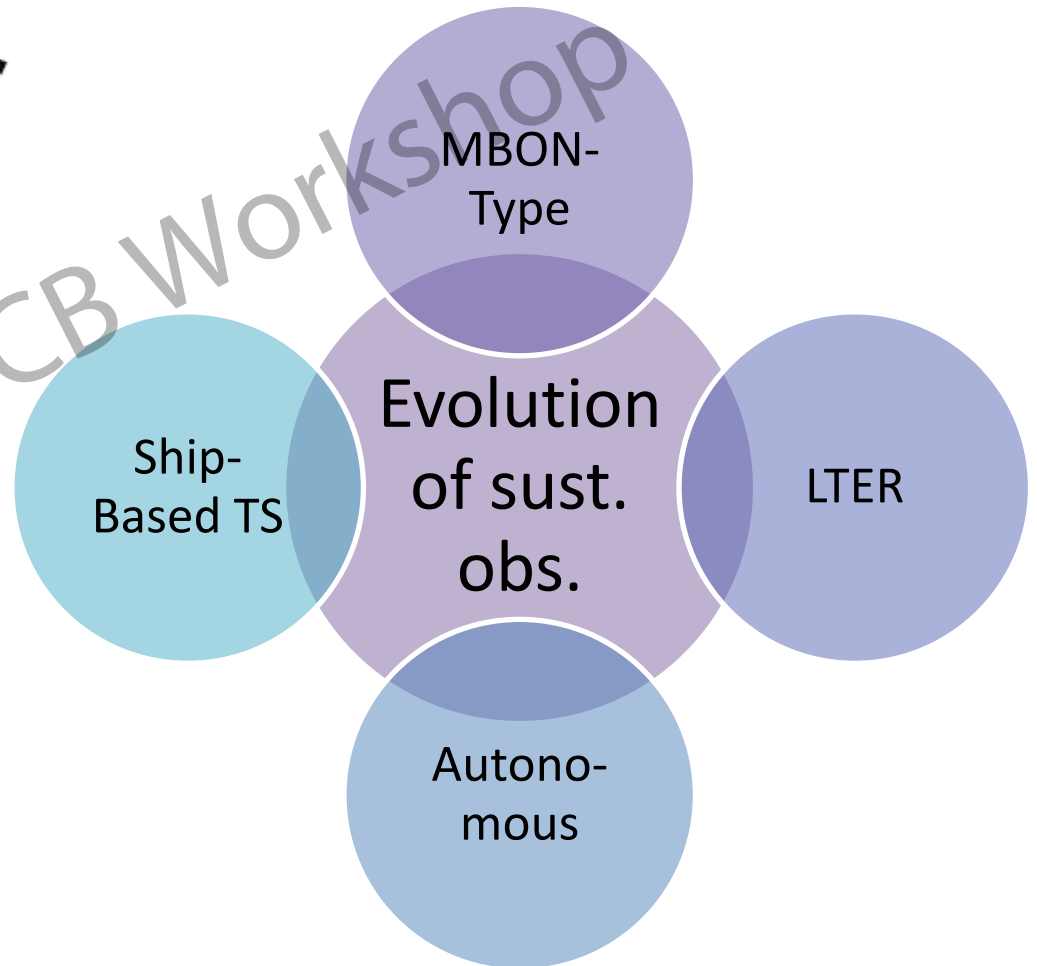
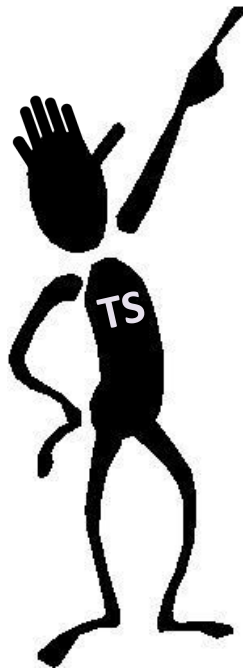




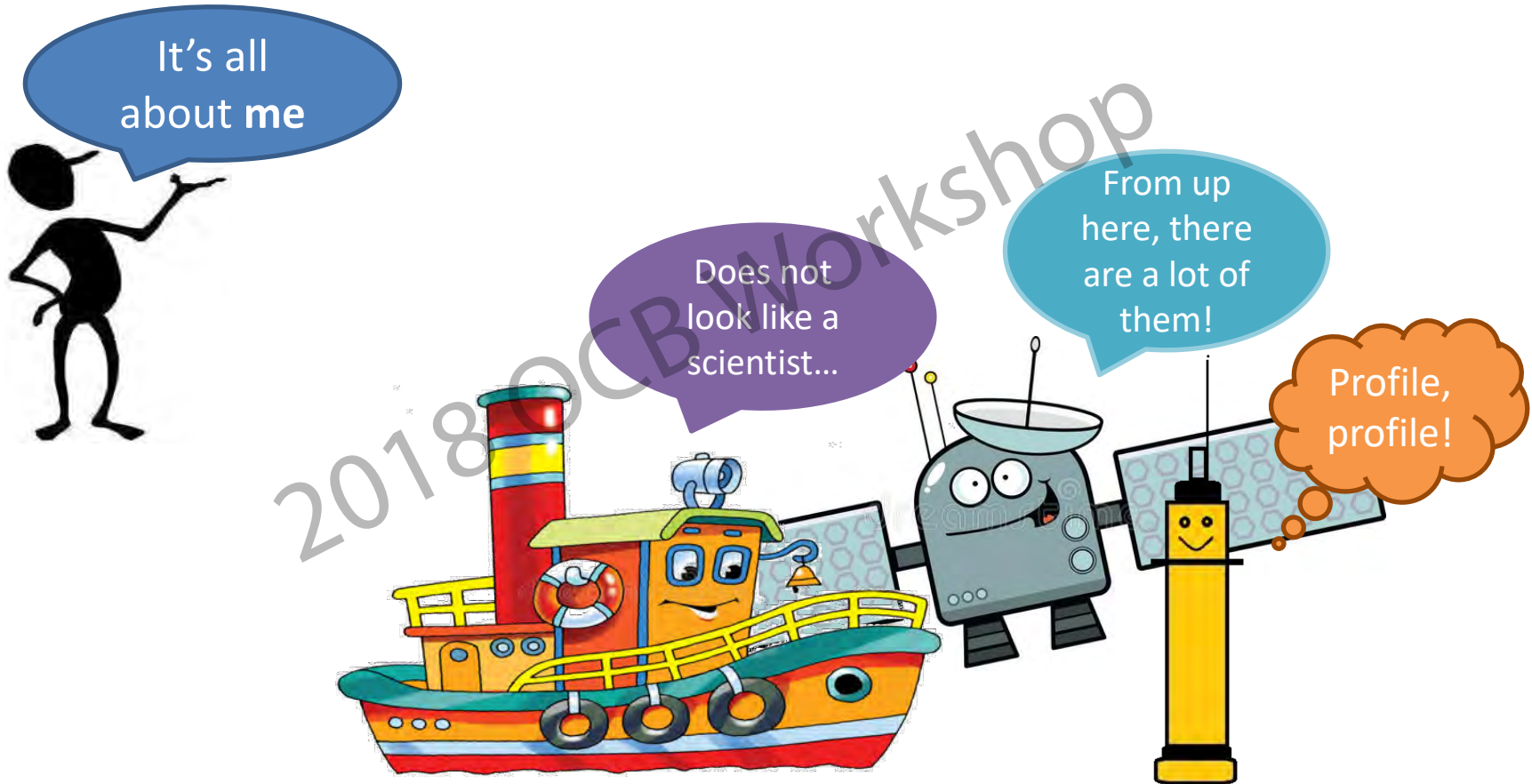
"The picture's pretty bleak, gentlemen. ... The world's climates are changing, the mammals are taking over, and we all have a brain about the size of a walnut."



We've got to start thinking outside the box to sustain observations

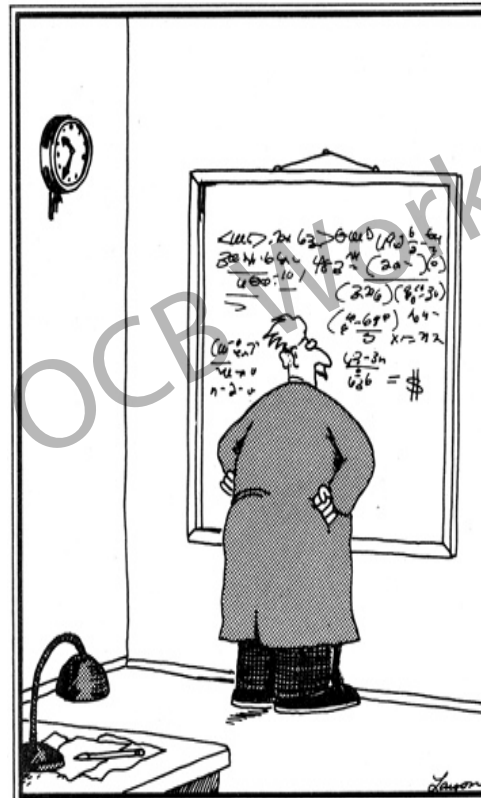


- Two-legged species are important!

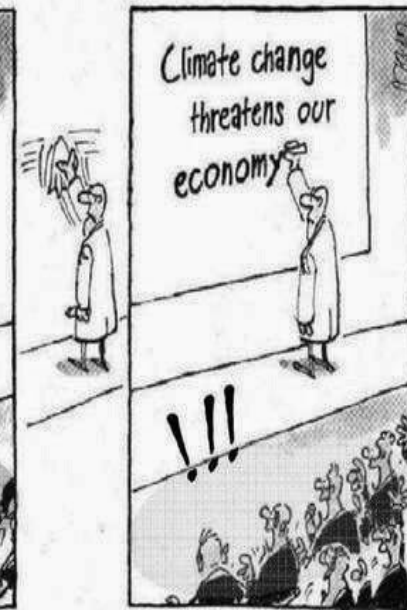


What's in store for Time-Series?

- What kind of change can we do?
- Core set of measurements
- Stakeholder engagement
- Don't showcase just the problem; showcase alternatives
- Nations will choose what's best for them, not necessarily what's right



Einstein discovers that time is actually money.



What's in store for Time-Series?

- Fit for purpose data, relevant for society/ stakeholders
- Strength in numbers
- UN Decade of the Ocean; OceanObs19

