



Challenges faced by providers in sharing their data

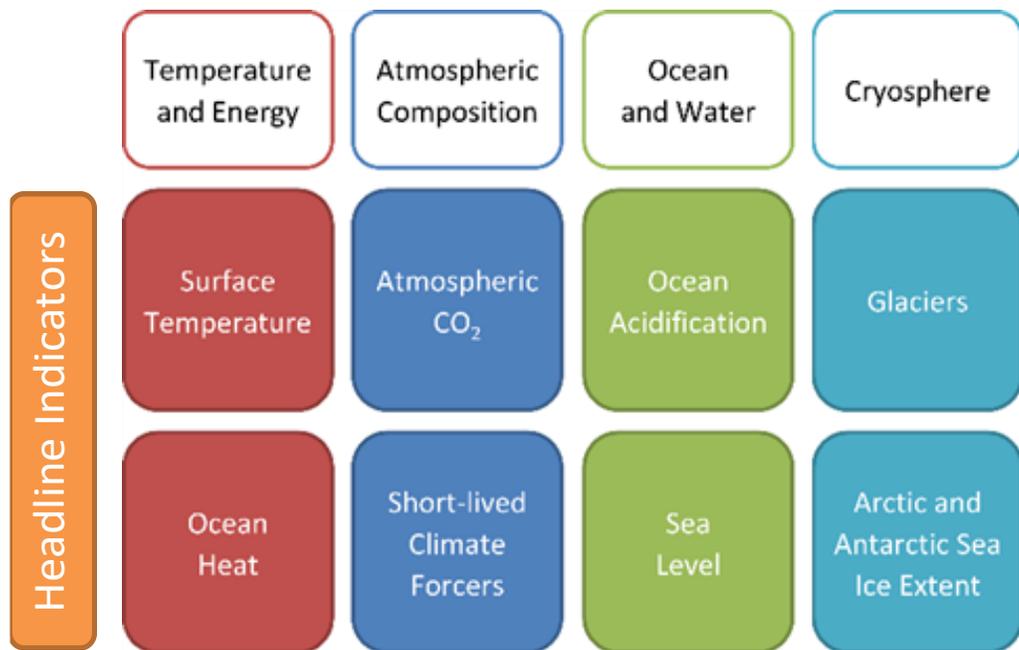
Helen Glaves

(with thanks to Anca Heinola (FMI) for selected material)





The Climate Crisis - A Key Challenge



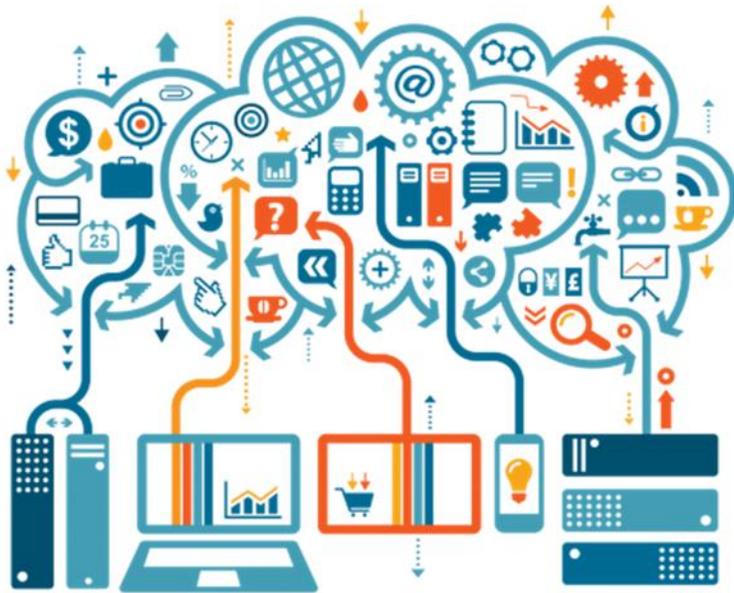
Fighting Climate Change requires

- coordinated interdisciplinary scientific action
- integrated information on all aspects of our planet, from environmental to life sciences
- joint monitoring of Global Climate Indicators
- free and open access to global observation data

GCOS / WMO : Global Climate Indicators are a set of parameters that describe the **changing climate** ...



Challenges for sharing data



- Two types of barrier to sharing data, knowledge and information
 - Cultural: those related to the people and practices involved in capture, validation and delivery of data
 - Technical: the technologies and standards used to capture and deliver data and information



Cultural challenges



- Lack of awareness and/or adoption of open science practices e.g. FAIR principles
- Standards of data stewardship limits potential reuse i.e. issues associated with data quality and licencing
- Reluctance to share data due to:
 - Perceived value
 - Lack of recognition for data providers
 - Poor visibility of data and services
- Institutional and/or national policies, rules and regulations



Technical challenges



- Inconsistent and/or domain specific formats, vocabularies, semantics and protocols: all act as barriers to interoperability
- Incompatible technologies and solutions
- Requirements for interoperability solutions to support inter/transdisciplinary research e.g. GEODAB (broker)

Key Features of Environmental Infrastructures

Interdisciplinarity highly relevant

Specialized observation and analysis platforms

Societal challenges need multidisciplinary methods

High importance to society, economy and resilience

High level of specialization requires RI to concentrate on their main tasks and user communities

Life

Air

Land

Water

Answering societal needs is only possible via collaboration

Observations often unique - huge datasets

Wide range of disciplines

Multiple infrastructures



Key actions for regional GEOs

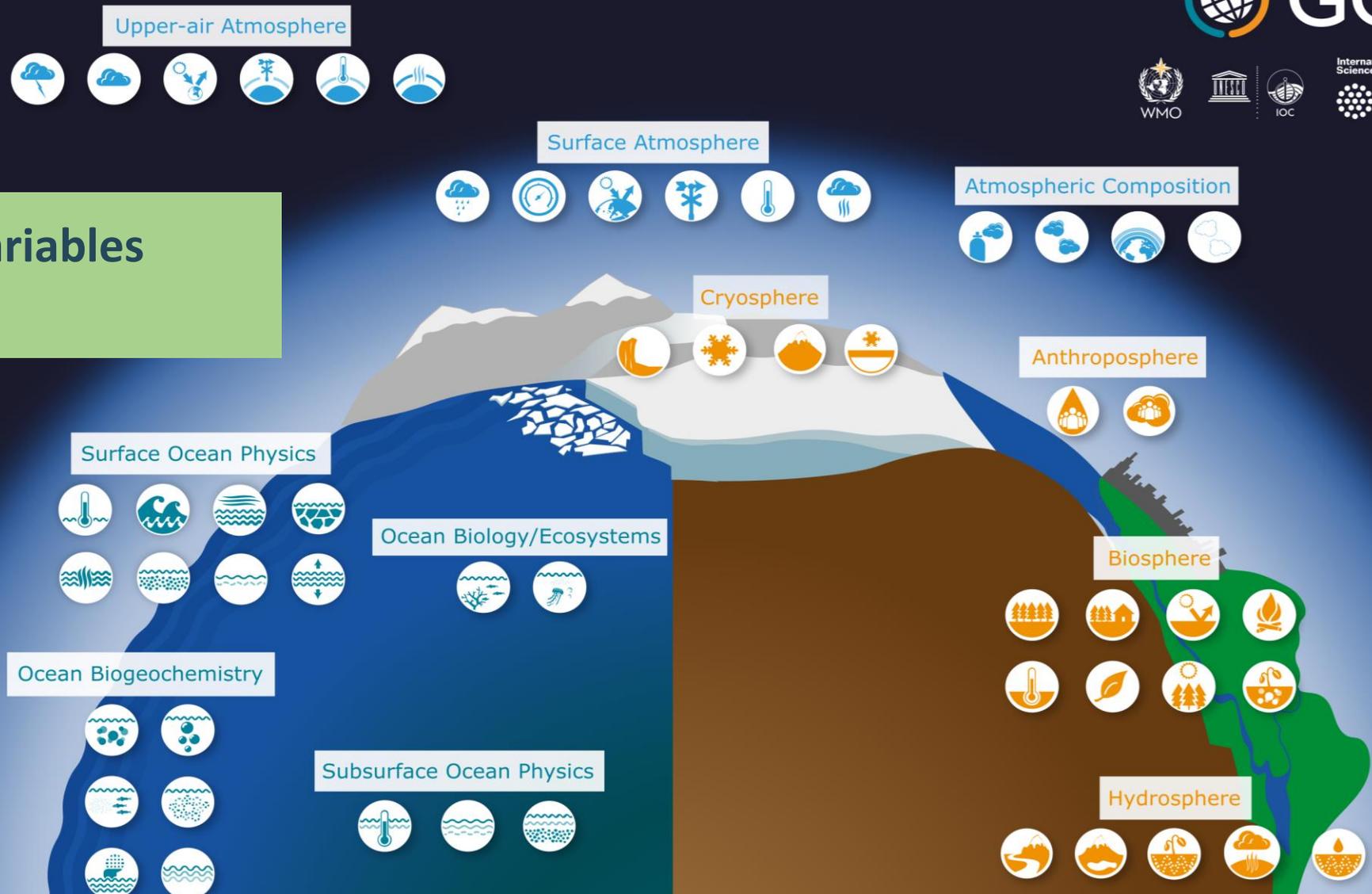


- *Promote open sharing and reuse of data*
- *Advocate for common standards, protocols and policies to support interoperability and the creation of high-quality products*
- *Facilitate cross discipline and discussions to identify common priorities for data sharing e.g. defining EVs*
- *Promote the data and services available from providers*
- *Gather user requirements for data and knowledge*
- *Support GWP activities and other related initiatives working towards integration of heterogeneous data especially EO and in-situ measurements*

EUROGEO WORKSHOP 2023



Essential Climate Variables defined by GCOS



Source:
<https://gcos.wmo.int/en/essential-climate-variables/about>



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