# Belmont Forum

#### E-INFRASTRUCTURES & DATA MANAGEMENT Collaborative Research Action

#### Future Earth

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Scoping Workshop November 28-29, 2016 ANR, Paris



# **PROJECT DESCRIPTION**

"Future Earth" is a Global Environmental Change research platform with the aim of providing knowledge and support to accelerate transformations to a sustainable world.



Global Mountain Biodiversity

- Dynamic Planet,
- Global Sustainable
- Development and Transformations to Sustainability



Integrated History and Future of People on Earth (IHOPE)

# **PROJECT DESCRIPTION**

Current "Future Earth" research activities:

1) Integrating previous IGBP research programmes into Future Earth

2) Launching new initiatives (Knowledge - Action Networks)



ecoServices



**Global Carbon** 

## **GLOBAL CARBON PROJECT**

#### Low growth in global carbon emissions continues for third successive year



## E-INFRASTRUCTURES & DATA MANAGEMENT

Establishment of a Data Task Force:

- Avoid duplication
- Establish partnerships with data expert institutions
- Support ICSU by adhering to data openness



## **E-INFRASTRUCTURES & DATA MANAGEMENT**

Future Earth (eventual) niche(s):

Research on the complexity of socio-economic data (mapping exercise, core data sets, .....) Mobilizing the socio-economic community similar to GEO

Research on "adding value to data" to improve communication of science derived results to decision makers and society in general



How to use "Big Data" to support sustainability research?

### E-INFRASTRUCTURE AND DATA MANAGEMENT ISSUES (CORE PROJECTS)

(1) Data relevant to the research topic are available within various databases and as part of different initiatives, but data platforms differ in their implementation, ontology, meta-data, requirements, output, infrastructure, access policy, legal constraints, audience, etc. Consequently these databases are largely incompatible, exploited by community fragments only, and even redundant.

### E-INFRASTRUCTURE AND DATA MANAGEMENT ISSUES (CORE PROJECTS)

(2) Need to incorporate information from other disciplines (e.g., climate, land use, demography, economy, etc.). Data infrastructures and repositories exist in all of these fields (most of which face identical challenges as under (1))

Accordingly, existing data and data platforms are underuse in view of the potential they represent for inter and transdisciplinary research.

### E-INFRASTRUCTURE AND DATA MANAGEMENT ISSUES (BENEFICIAL FOR ALL CORE PROJECTS)

(3) <u>Recommendation</u>: There is a need for an initiative to align existing resources (including access policies, ontology, meta-data, structure, etc.) and connect them in a manner that allows interand transdisciplinary research.

#### **FUTURE EARTH**

Making DATA accesible, understandable and usable to all stakeholders will significantly facilitate the participation of different scientific disciplines and all stakeholders

Data as the "glue-ware"

#### **FUTURE EARTH**

# futurearth

Selected CORE projects will enormously benefit if "data expertise" is sponsored in order to facilitate the integration of socio-economic data

#### **Reinforce existing international efforts**



Group on Earth Observations



Arctic Futures Initiative





Research to identify best practices and "data guidelines" for all BF sponsored project(s) and for Future Earth





Research on the complex issue of integrating interdisciplinary scientific data to fully support sustainability





Interdisciplinary data integration is required for the SDGs

Can we undertake research to identify "CORE Datasets" for the SDGs?

#### What is already available ? What is missing?

