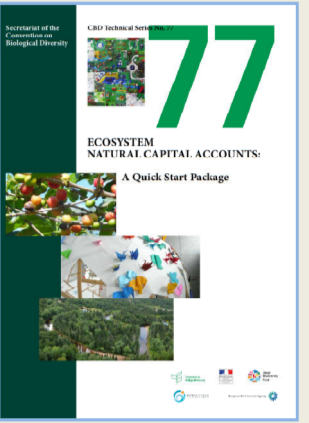


Purpose of Ecosystem Natural Capital Accounting :

Measure the impact of economic activities on ecosystems and the sustainability of resource/services use that they provide with the purpose of completing accounting standards from which ecosystem degradation is absent. Measure ecological debts and credits of countries, enterprises... Supplement "carbon" accounting with land, biodiversity and water accounts.

- ❑ Rio 1992 Conference's **Agenda 21** ; **UN SEEA** (System of Economic-Environmental Accounts) added to National Accounts.
- ❑ UN Convention on Biological Diversity (CBD), UN SDGs, UN Convention to Combat Desertification (CCD), EU projects at the EEA, Eurostat and JRC (LEAC, ECA, MAES, INCA)
- ❑ A platform for integration of thematic/ sector indicators to **improve policy consistency**
 As a response to the requirement of the Aichi Strategy on Biodiversity Target 2 call for "incorporating[...] biodiversity values into national accounting" the CBD published in 2014 a **Quick Start Package** of guidelines to put the UN SEEA to work →



Methodology

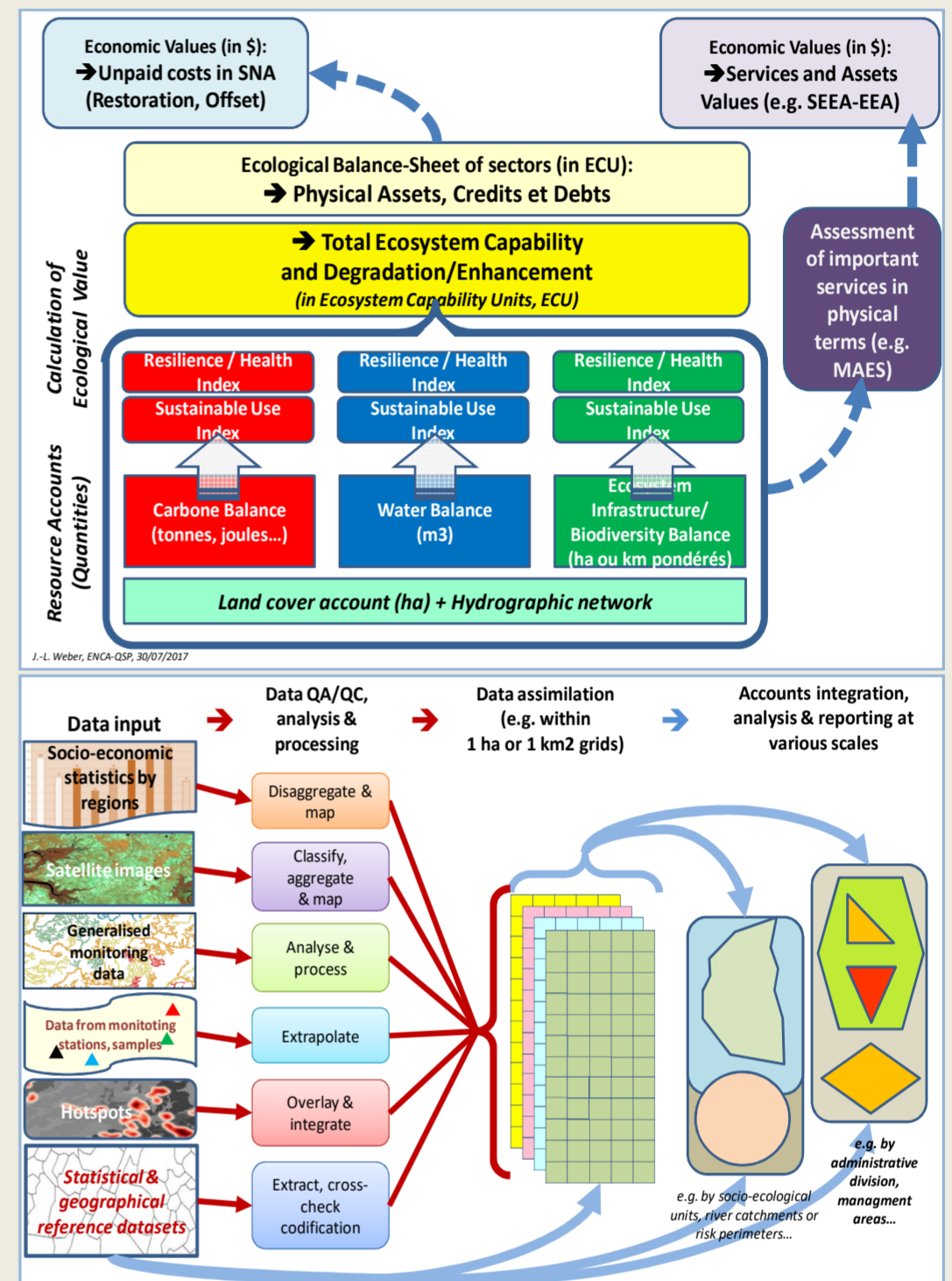
Accounting Framework

- Basic quantitative balances of stocks, flows and resource use of land/biodiversity, bio-carbon and water combined with diagnostics of ecosystem health
- All socio-ecological systems are addressed in the same way (from the more natural to agricultural and urban...)
- Central role of land cover data, state and change, 15 classes for the international level, documented with LCCS3
- Calculation of Total Ecosystem Capability which is the sustainable capacity of delivering services; and measurement of degradation or enhancement with a composite unit of ecological value (Ecosystem Capability Unit).

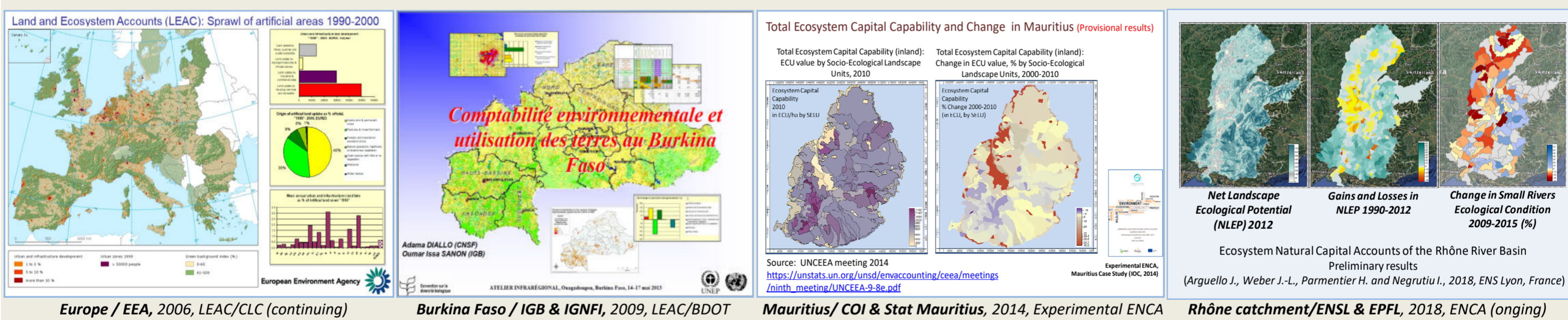
Data Model

- Integration of biophysical data and socio-economic statistics, with spatially explicit data assimilation, using grids (e.g. 1 km², 1 ha, 1 are...)
- Multi-scales: wall-to-wall accounts for macro policies and national accounts; higher resolution accounts targeted to regions, protected areas management, local communities, hotspots, projects and enterprises

More at: <http://www.ecosystemaccounting.net/>



Examples of Ecosystem Capital Accounts at Different Scales



Global Ecosystem Natural Capital Accounts (GlobENCA) are Feasible NOW

A framework exists and is operational. Data exist and are abundant at the global level. Most statistical offices give online access to national statistics, directly or via international organizations. Powerful computation platforms exist. Experience of running global programmes has been gained with climate change assessments, **noticeably with ESA CCI which makes now available time series for a number of variables which are relevant for ecosystem accounting.** Perspectives of development are real: implementing a much needed ecological management of the planet with data at the various resolutions required by actions' scales. **COPERNICUS** Global Land Service is in this perspective.

The Dynamic Global Land Cover product at 100m: a Major Step Forward.

- ❑ **Land cover CHANGE:** Ecosystem Natural Capital Accounts measure DEGRADATION. Degradation is CHANGE.
- ❑ There is long experience in **monitoring change with a resolution of ~ 100m:** Corine Land Cover. Sufficient resolution for change detection on a 3 to 5 years pace at the national scale.
- ❑ **Safer CHANGE detection by continuous cover fractions** : allows mapping change in 2 steps: detection and then classification, avoiding the trap of false change mapping which may result from subtracting land cover categories.
- ❑ **DGLC, a bridge between scales: Tier 1 (Global):** CCI (300m) based ENCA, **Tier 2 (Regional to National):** Proba-V DGLC (100m) based ENCA and **Tier 3 (National to Local):** Sentinel based ENCA .

