# Semantics & environmental-economic accounts of ecosystem services

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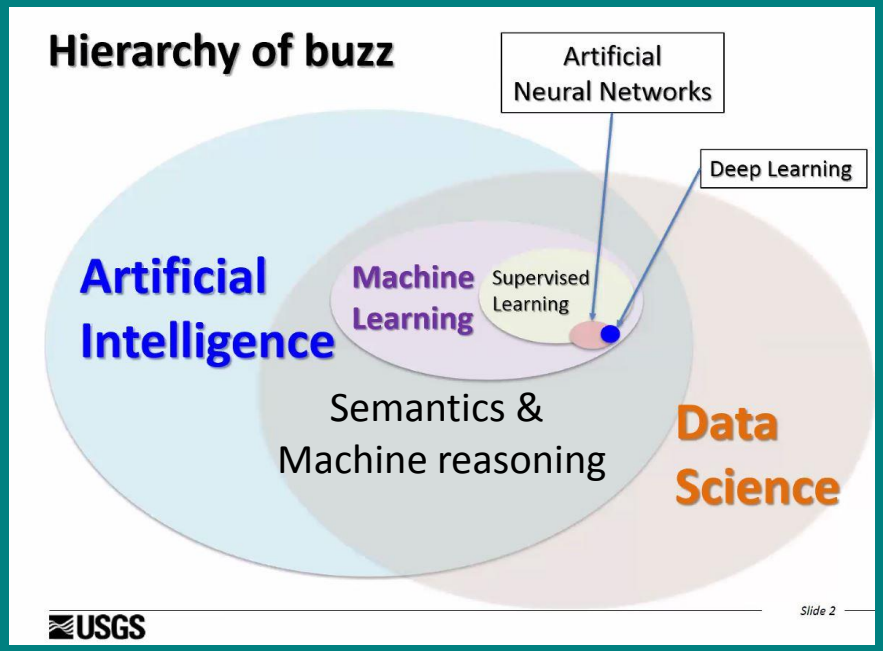
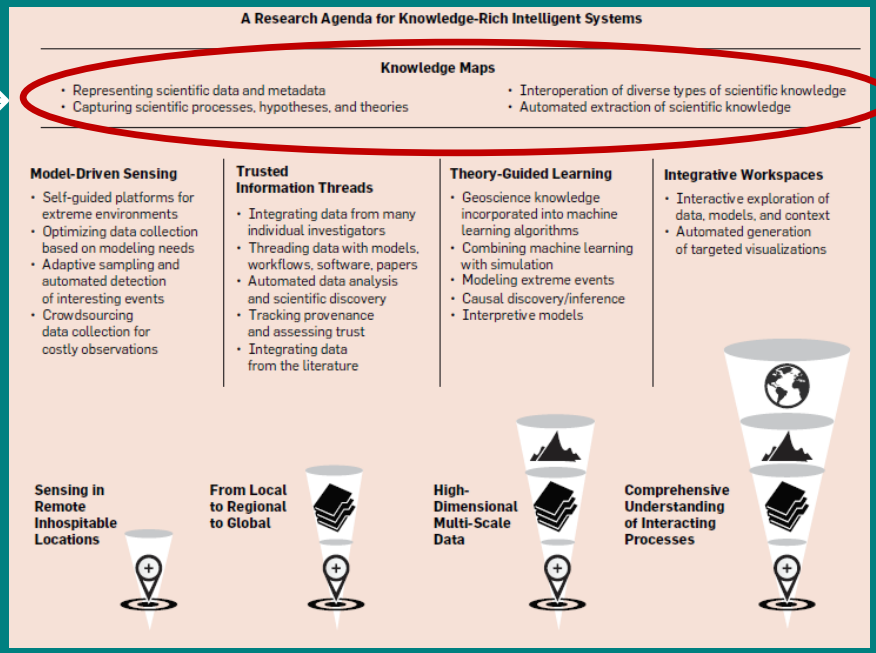
# Artificial Intelligence for Environment & Sustainability (ARIES)




Semantics→



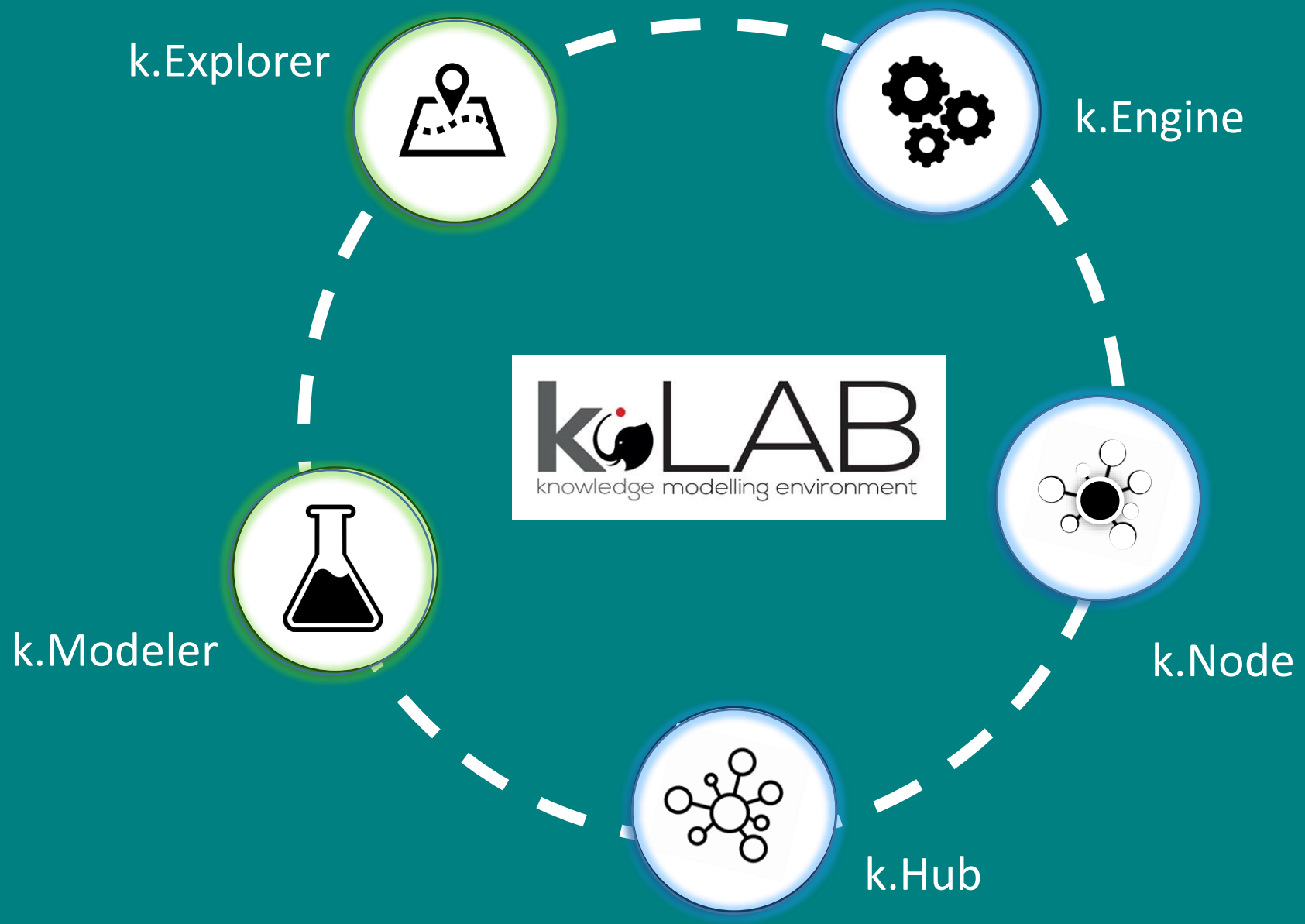

Gil et al. 2019. Intelligent systems for geosciences: An essential research agenda. Comm. ACM 62:76-84.

Reasoning algorithms + Decision rules + Multidisciplinary semantics + Open data & models + Open-source software

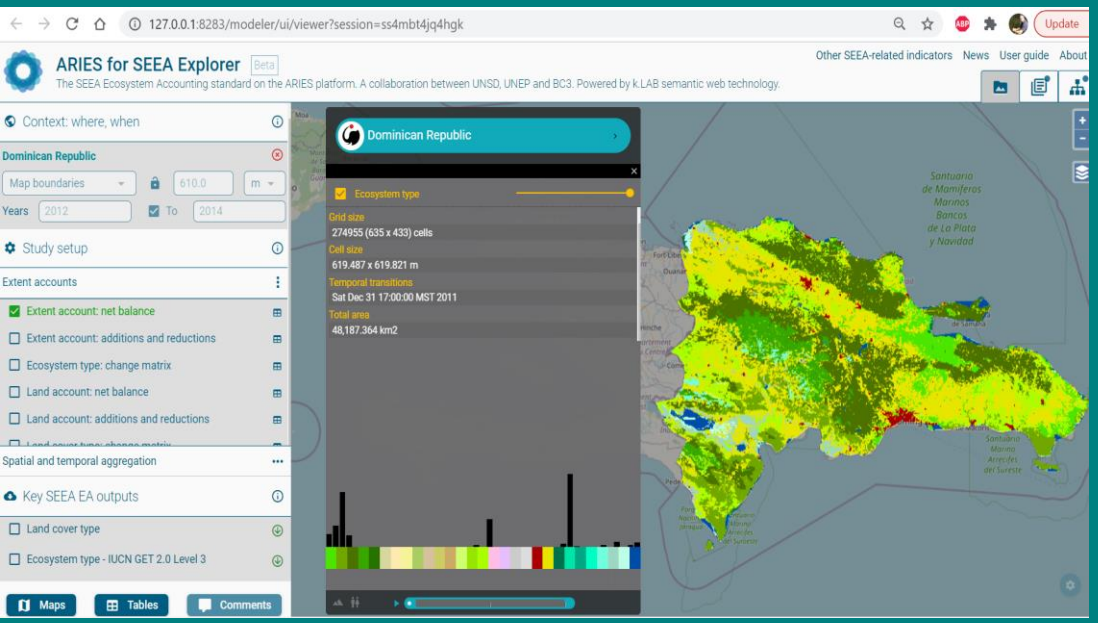
= Fast, FAIR multidisciplinary modeling

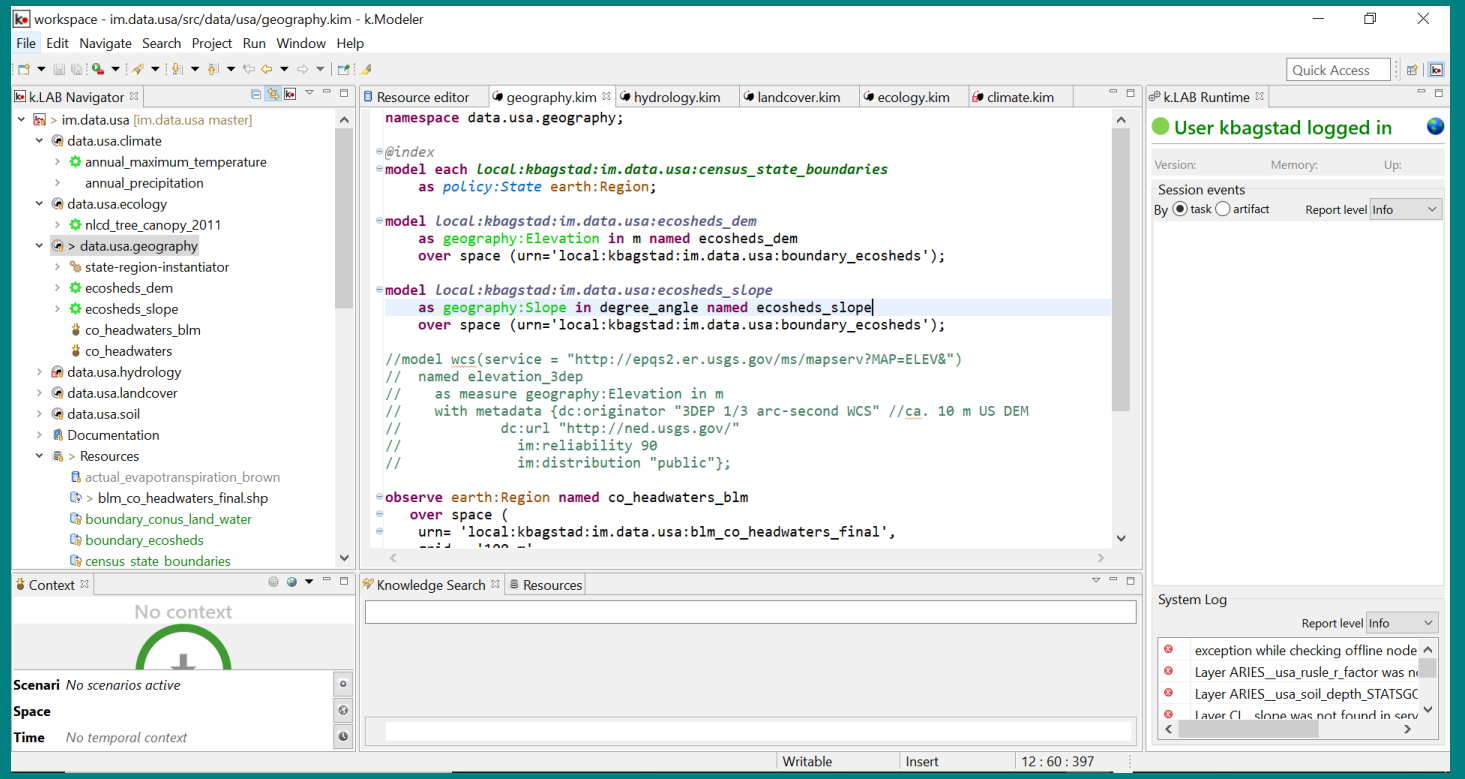
# The k.LAB stack: support for a semantic web of observations

Includes the k.IM language, the modeling engine and API, the node API, authentication hub, the modeler's IDE and user-end web tooling



# Interfaces for nontechnical & technical users



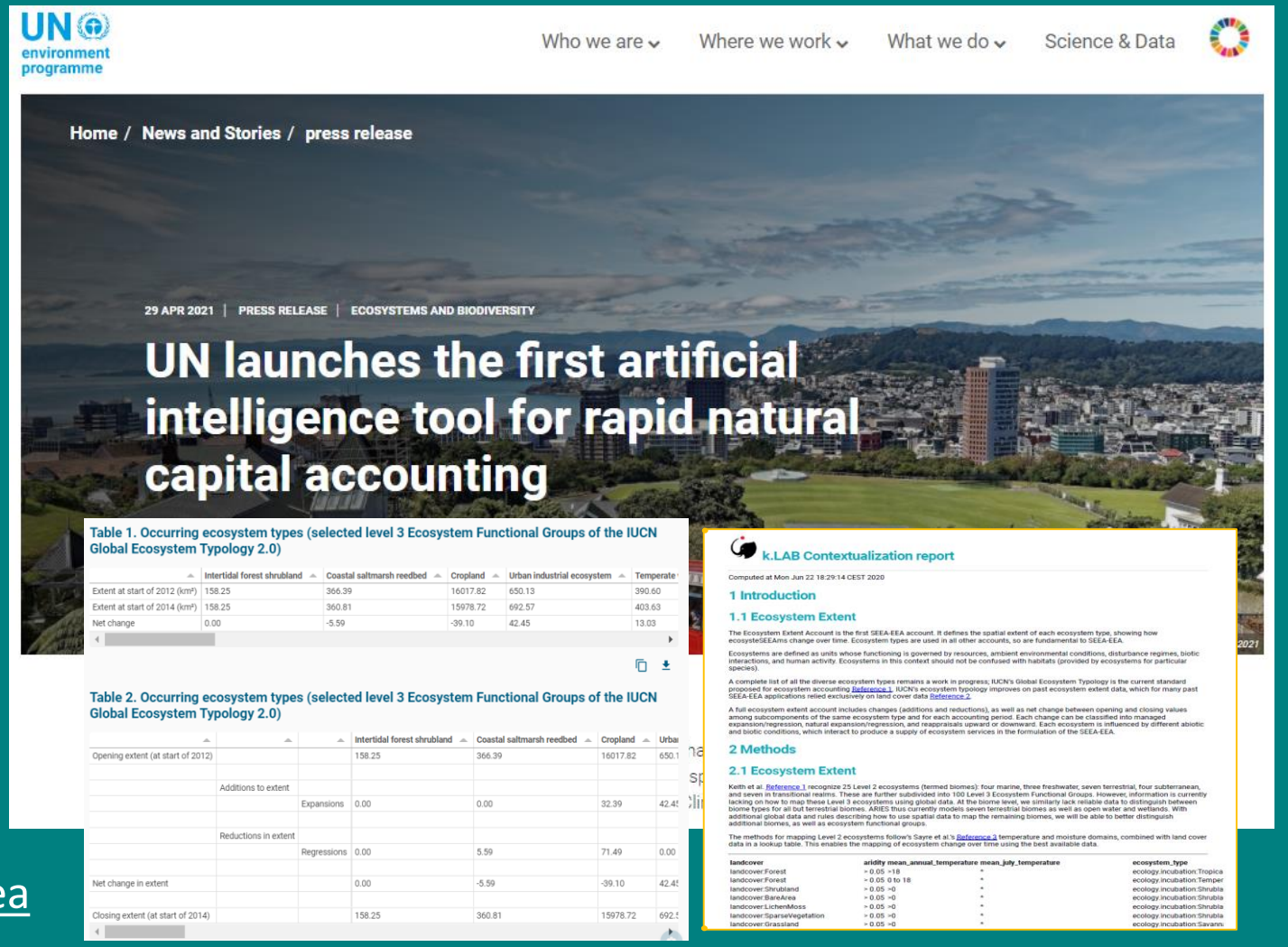




Access & run scientific models in minutes through a web browser, using cloud-based data, anywhere on Earth

Contribute & semantically annotate new data & model resources for reuse by scientific community & public

# ARIES for SEEA:
# Rapid, standardized environmental-economic accounting

- Global, customizable models approach enables SEEA EA compilation anywhere & improvement with local data where available
  - Fast & easy to learn
- Automate production of maps & tabular output
- Infrastructure for the community to share & reuse interoperable data & models



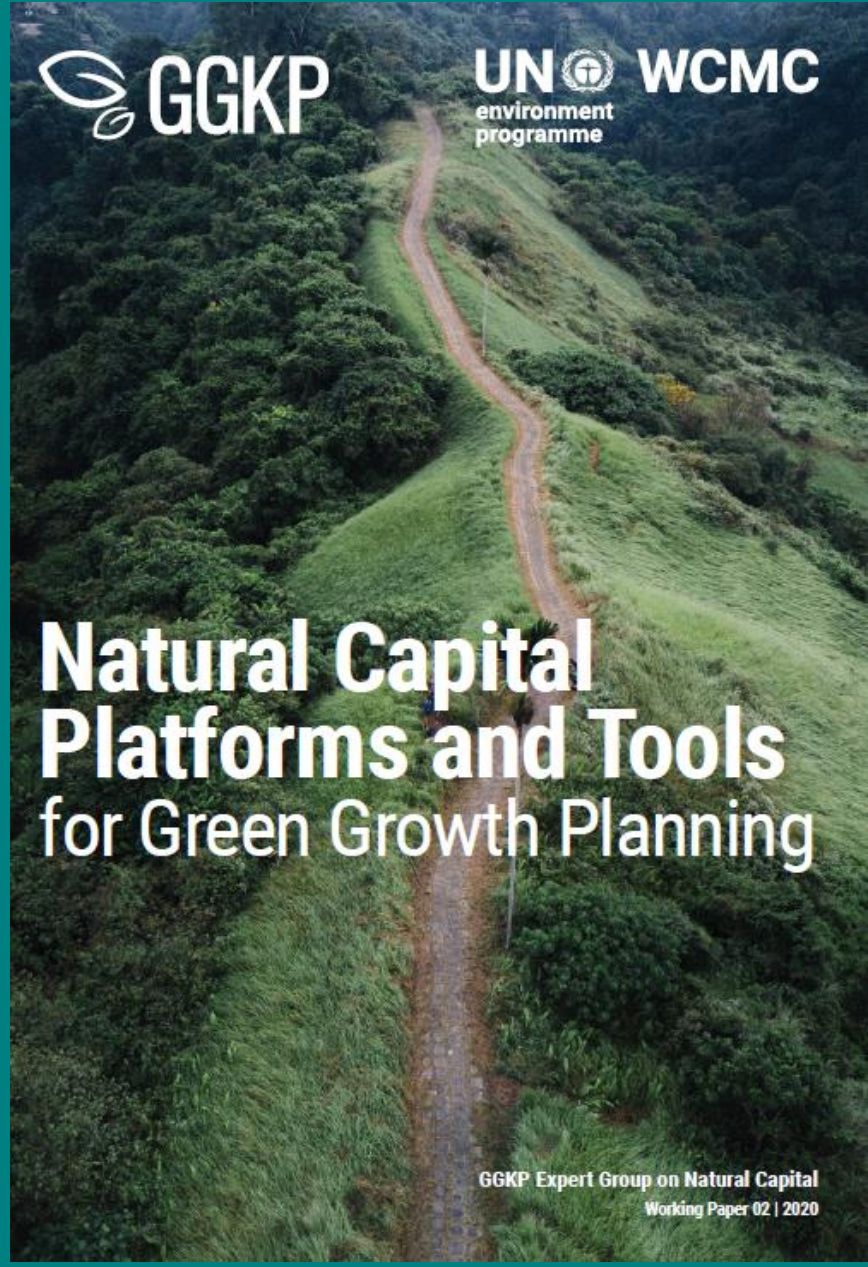

https://seea.un.org/content/aries-for-seea

# Toward a shared vision

SEEA accounts & related indicators will be:

1. rapidly recompilable as new science emerges,
2. quickly produced to show the most recent trends as new annual data become available, with
3. robust international comparisons possible from common global data, while country-specific customization is still easily done.

This vision moves high-quality, meaningful information from scientists into the hands of decision makers, the public, and the media as quickly as possible.




GEO EARTH OBSERVATIONS FOR ECOSYSTEM ACCOUNTING

# SEEA interoperability strategy

1. Current state of interoperability & vision for the future
2. Roles & responsibilities (data providers, modelers, institutions incl. NSOs)
3. Implementing the strategy (pilot testing, engaging key stakeholders, governance, training/capacity building)
4. Conclusions

https://seea.un.org/sites/seea.un.org/files/interoperability_strategy_draft.pdf