Guidance for biophysical modelling for SEEA-EEA

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What issues do statistical agencies face when implementing SEEA-EEA?

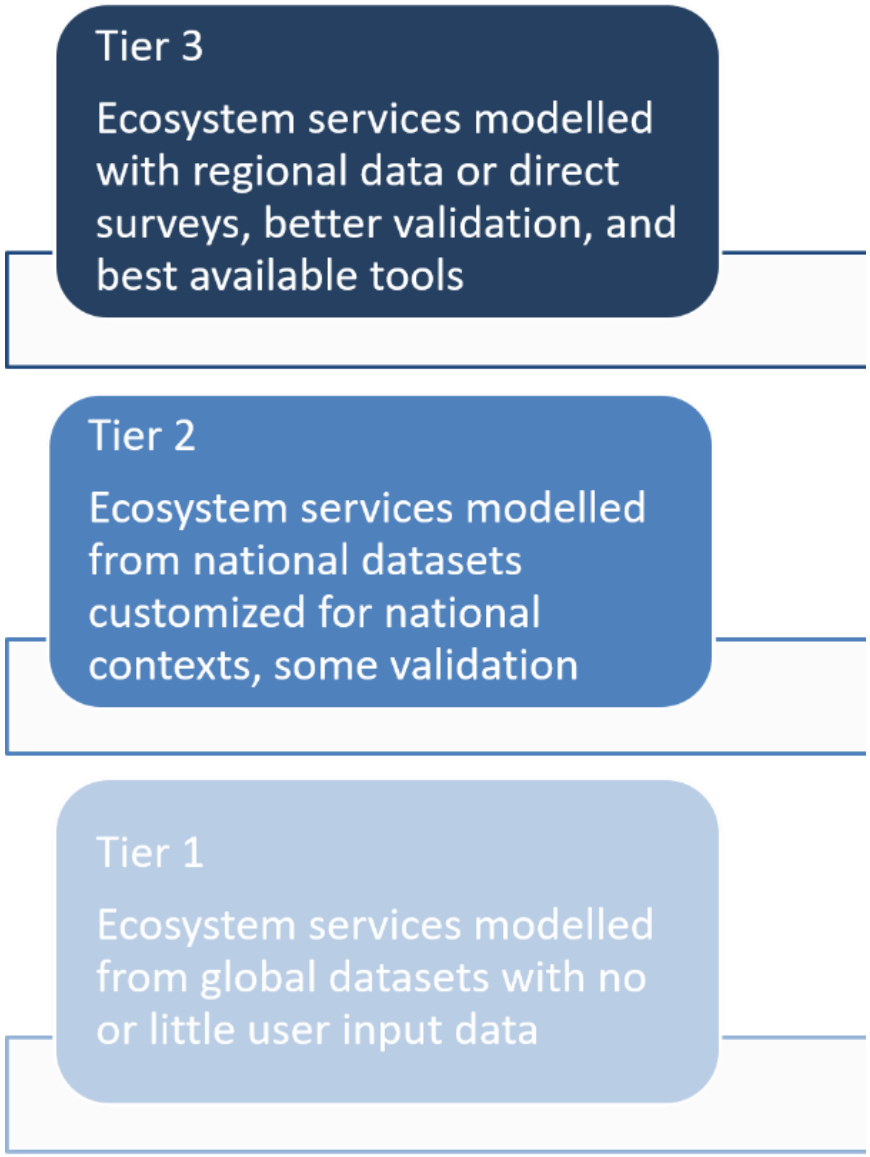
1)How can organizations operationalize the integration of biophysical modeling into SEEA-EEA?

2) How can we use biophysical modeling to produce extent, condition, and ecosystem service accounts?

3) How do we ensure reporting produced from biophysical modeling is accurate?

4) What is the future of biophysical modeling of ecosystem services?

A tiered approach for SEEA-EEA modelling

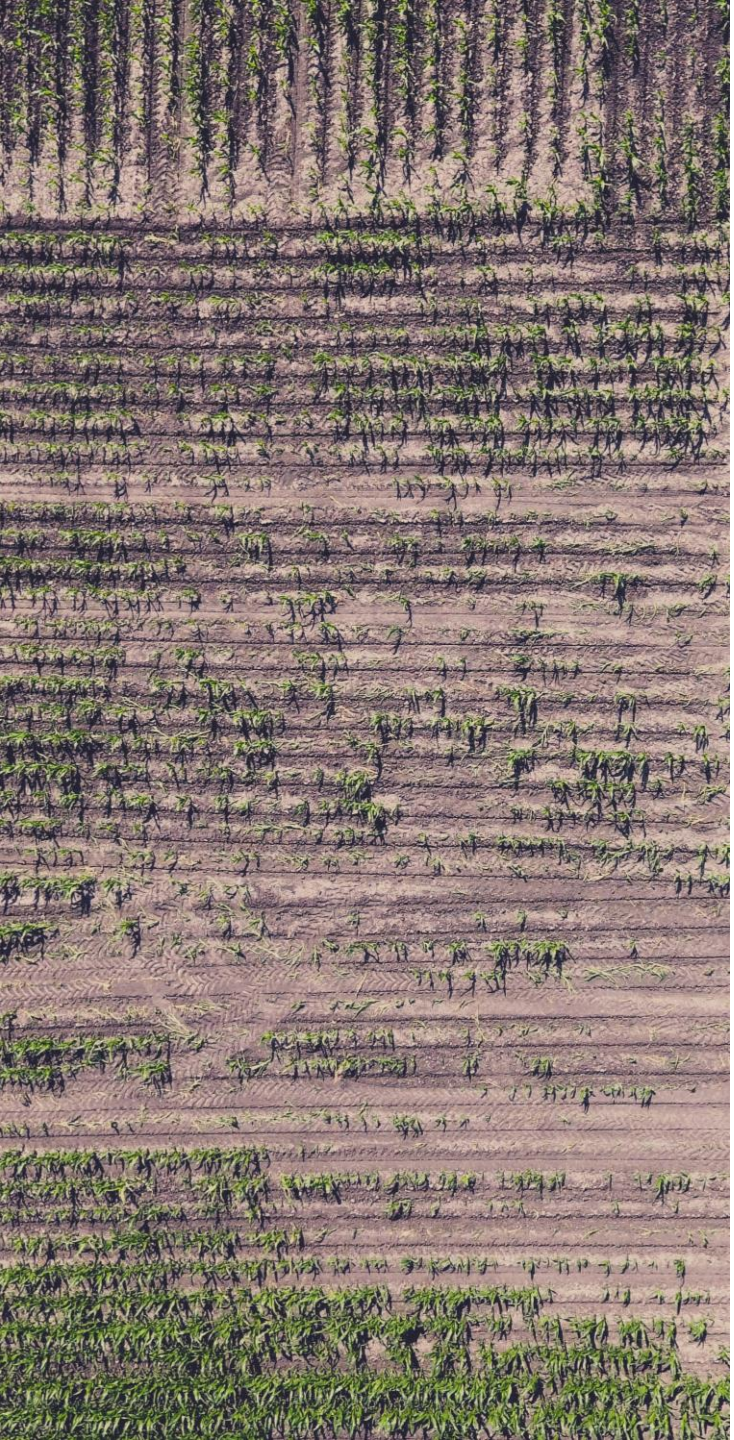


How can organizations can operationalize the integration of biophysical modeling into SEEA-EEA?

COLLABORATIVE PROCESS

READINESS FRAMEWORKS

DIAGNOSTIC TOOLS



How can we use biophysical modelling to produce extent, condition, and ecosystem service accounts?

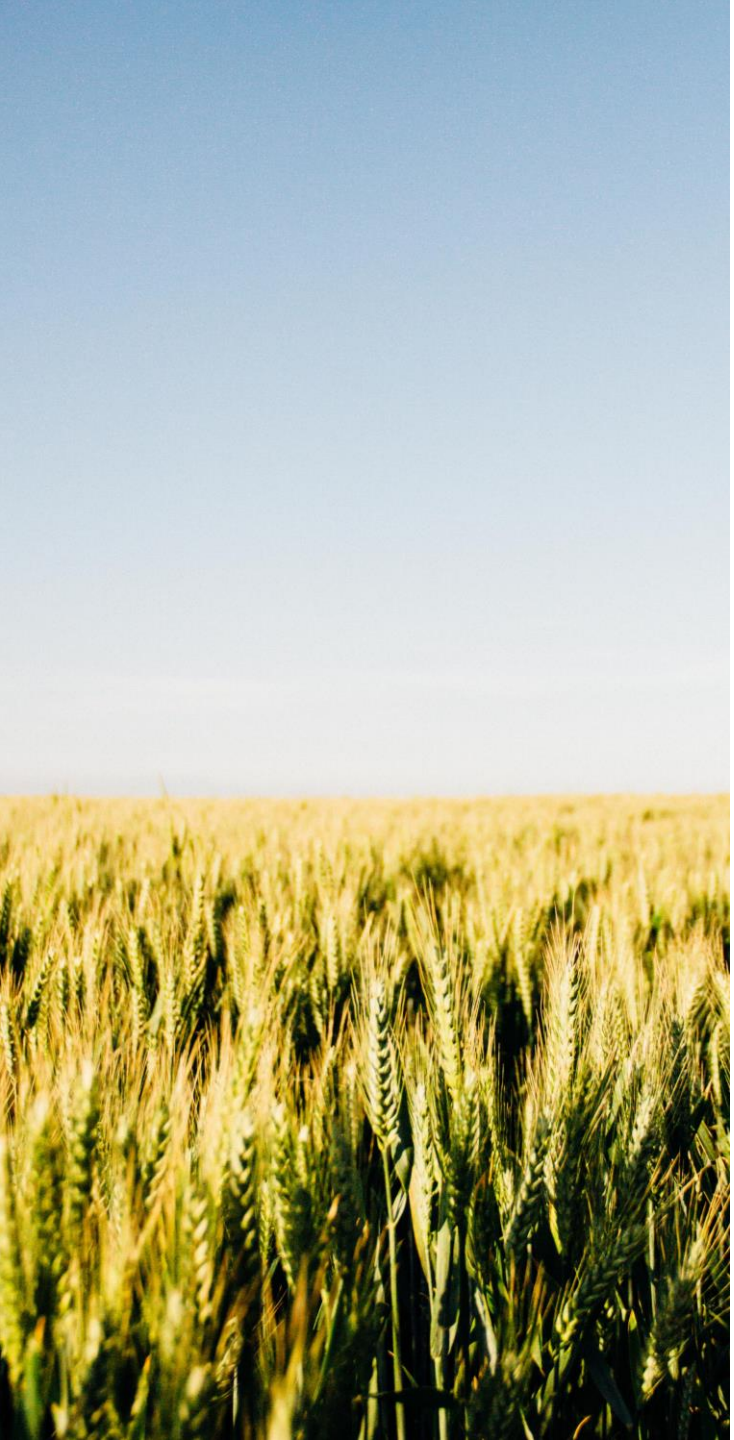
Highlighting a combination of:

Modelling approaches

- Look up tables
- Spatial inter- and extrapolation
- Statistical approaches
- Process-based models
- Dynamic systems modelling
- Models based on machine learning

Platforms

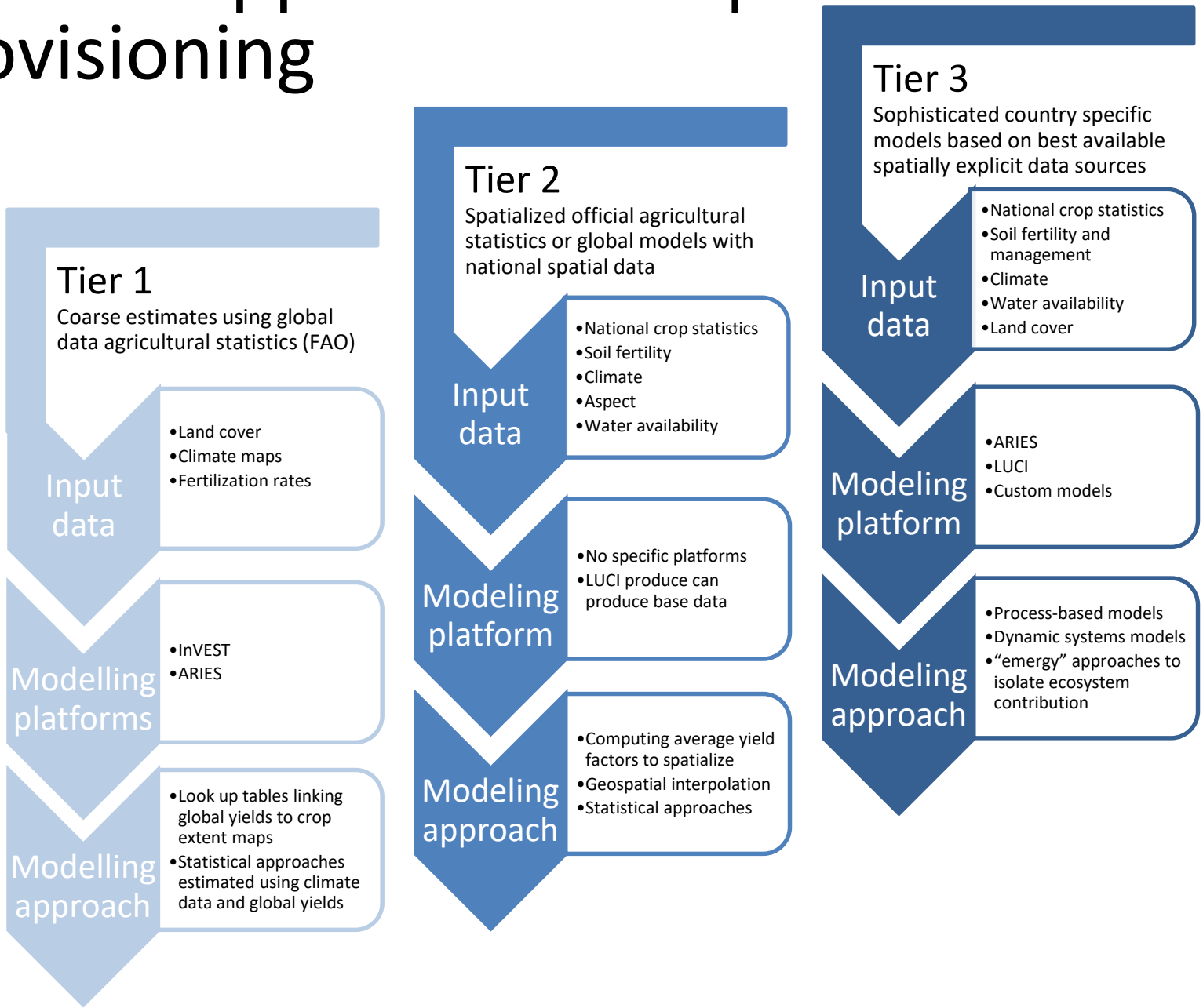
- ARIES
- InVEST
- LUCI
- EnSym



Example: Aims of SEEA-EEA for crop provisioning

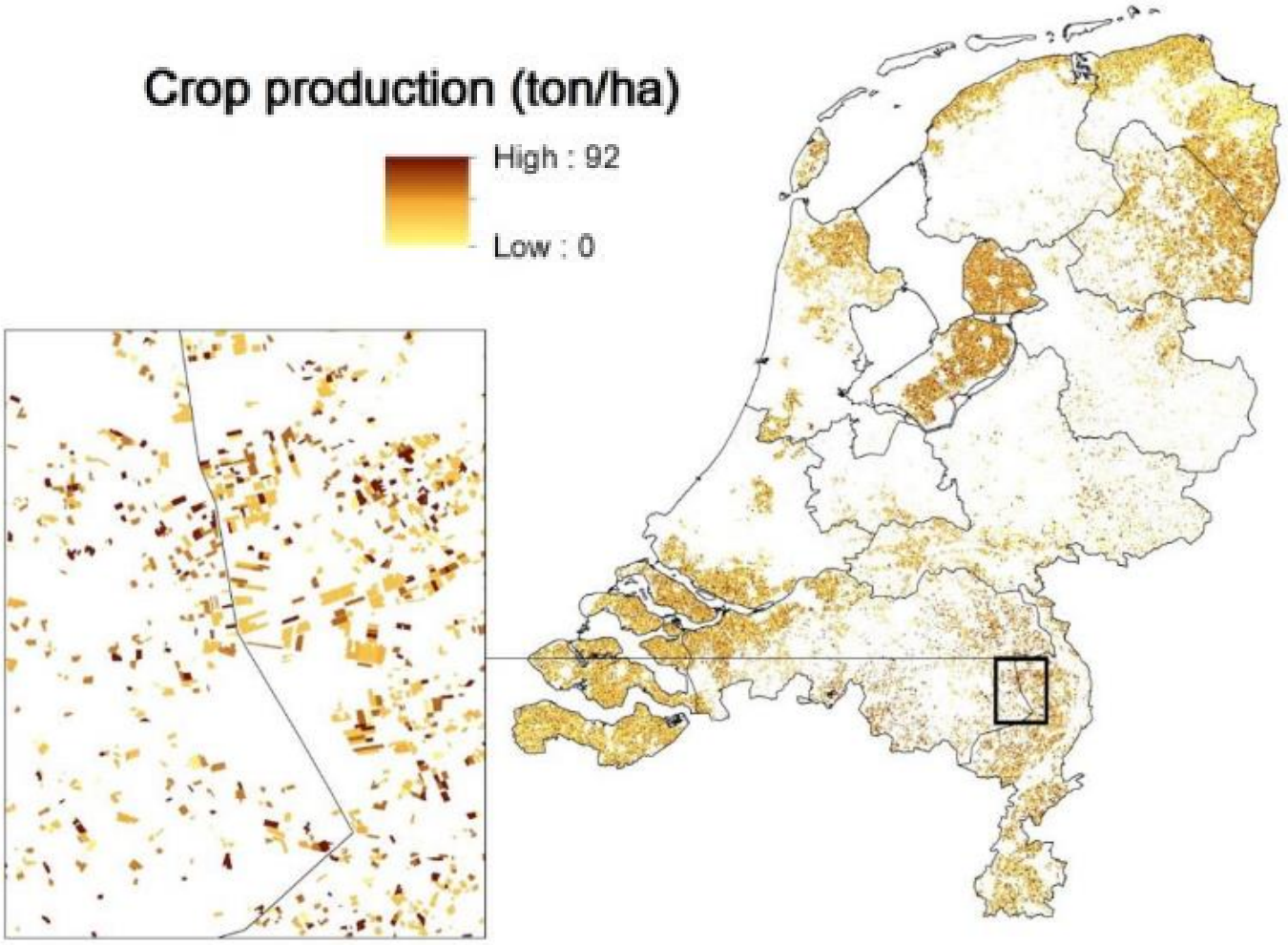
- Disentangle and map nature's vs. human contributions to crop provisioning
- Provide spatially explicit estimates of crop production (e.g., volume/hectare)
- Frameworks and methods for incorporating intermediate services linked are an aspiration

A tiered approach to crop provisioning



The Netherlands

Tier 3 approach to crop provisioning



Total crop production (ton/ha). Produced by linking harvest projections to spatially registered farm parcels (Remme et al. 2018)

How do we ensure reporting produced from biophysical modeling is accurate?

Assessing data quality and model calibration

Fitness of data for modelled outputs

FAIR approaches (Findable, Accessible, Interoperable, Reusable)

What is the future of biophysical modeling of ecosystem services?

Discussion Questions

- Do you think a tiered approach for the guidelines is helpful? Is the distinction between the Tiers clear/logical?
- Is the amount of detail provided on crops provisioning example sufficient (or too much)? Are there elements missing? Does it seem clear to you how to move forward with modelling crop provisioning in your context?
- What topics should we prioritize / focus on in the guidelines? Are there any missing topics?
- Regarding biophysical modelling for SEEA-EEA, what are some data or modelling questions your organization faces? Focusing on biophysical modelling, what are some other guidance needs for of your organization?
- Any other feedback?