CIMSANS - Public–Private Partnership for developing Open Ag Data through GEOSHARE

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Center for Integrated Modeling of Sustainable Agriculture & Nutrition Security (*CIMSANS*)

- International Life Sciences Institute (ILSI) Research Foundation initiative
- **Collaborating** and building tri-partite relationships
  - Between industries, academics and government
  - Use scientific data and approaches to address emerging challenges and help inform policy through productive dialogue
    - Especially via improved Open Source Ag Data and improved modeling approaches
- Goal - **conduct Sustainable Nutrition Security (SNS) impact assessment**
  - Requires Scoping of SNS Landscape & metrics– Conceptual Model & manuscript
  - Requires some new assumptions, new or improved models & support tools
  - Requires **unique** combination of data – private industry may be only global source
    - Data Translation and Reprocessing tools – to assist data sharing and recovery
    - Model Friendly, Multi-scale Global Data Portal – Funding **GEOSHARE**

CIMSANS – GEOSHARE Project – about 50% complete

- ".to generate necessary infra-structure and levels of user participation and interest for collecting and curating public and private data while ensuring data quality and enhancing inter-operability. "
  - Developing cloud based technology for Spatial Production Allocation Model
    - Ghana and India examples
    - Link to PEGASUS model & GTAP economic (already HUBZero compliant)
- Exploratory and about WORKFLOWs – connecting /reconnecting data
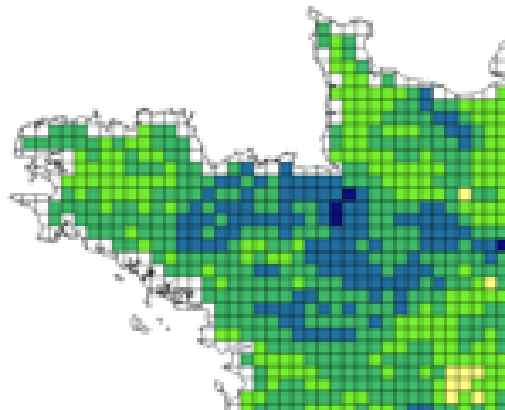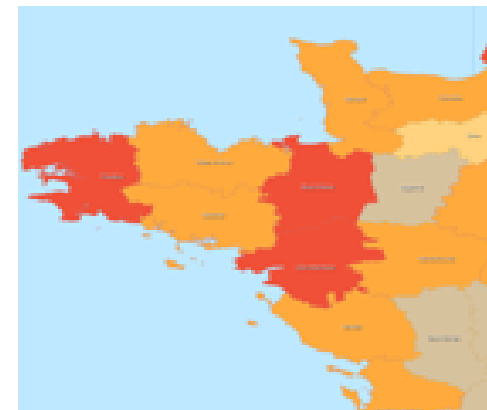

Data in raw local admin unit format
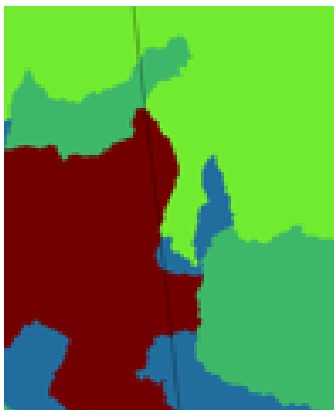
Translate to gridded sets via assumptions/tools
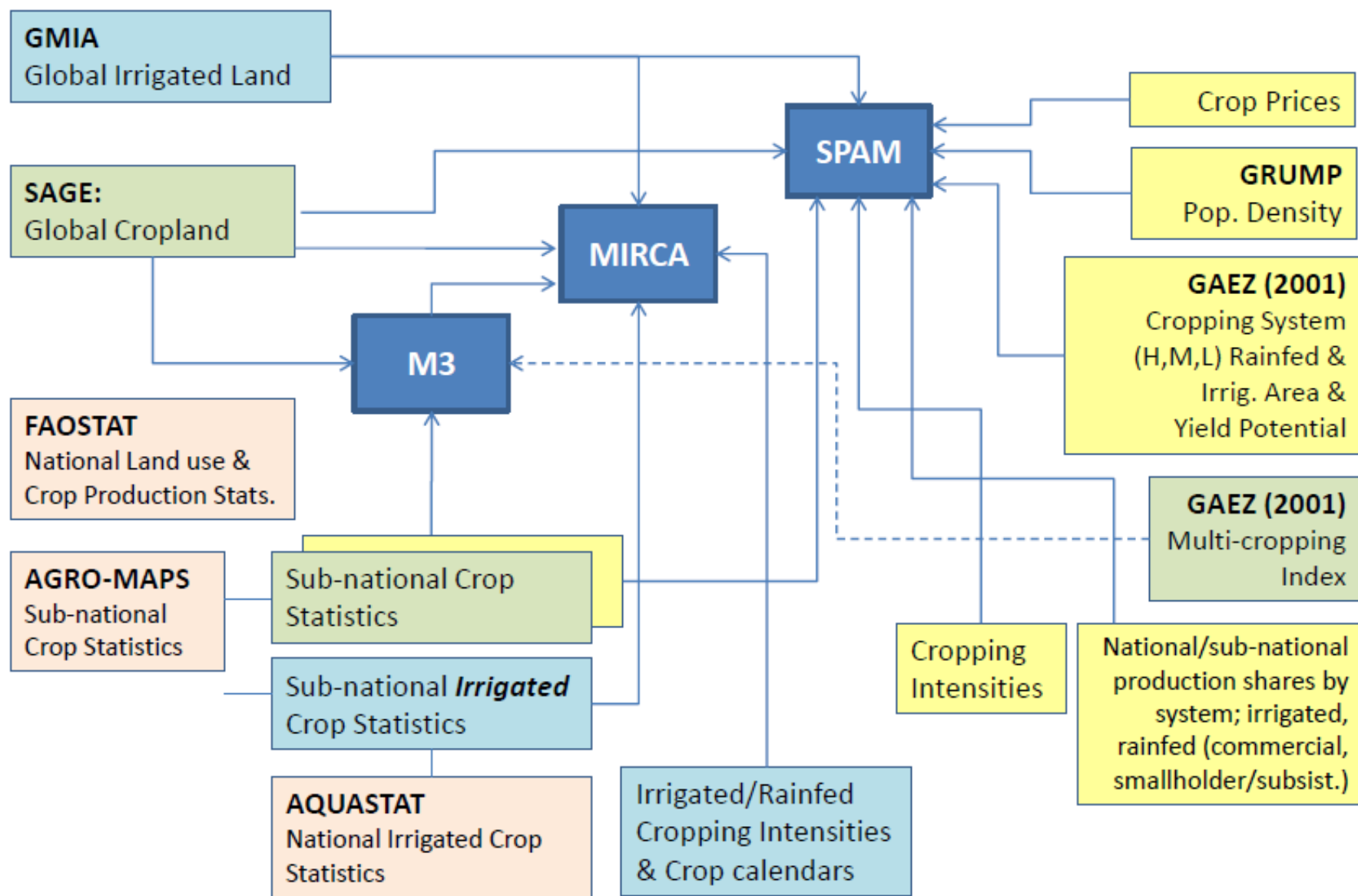
Run through multiple models

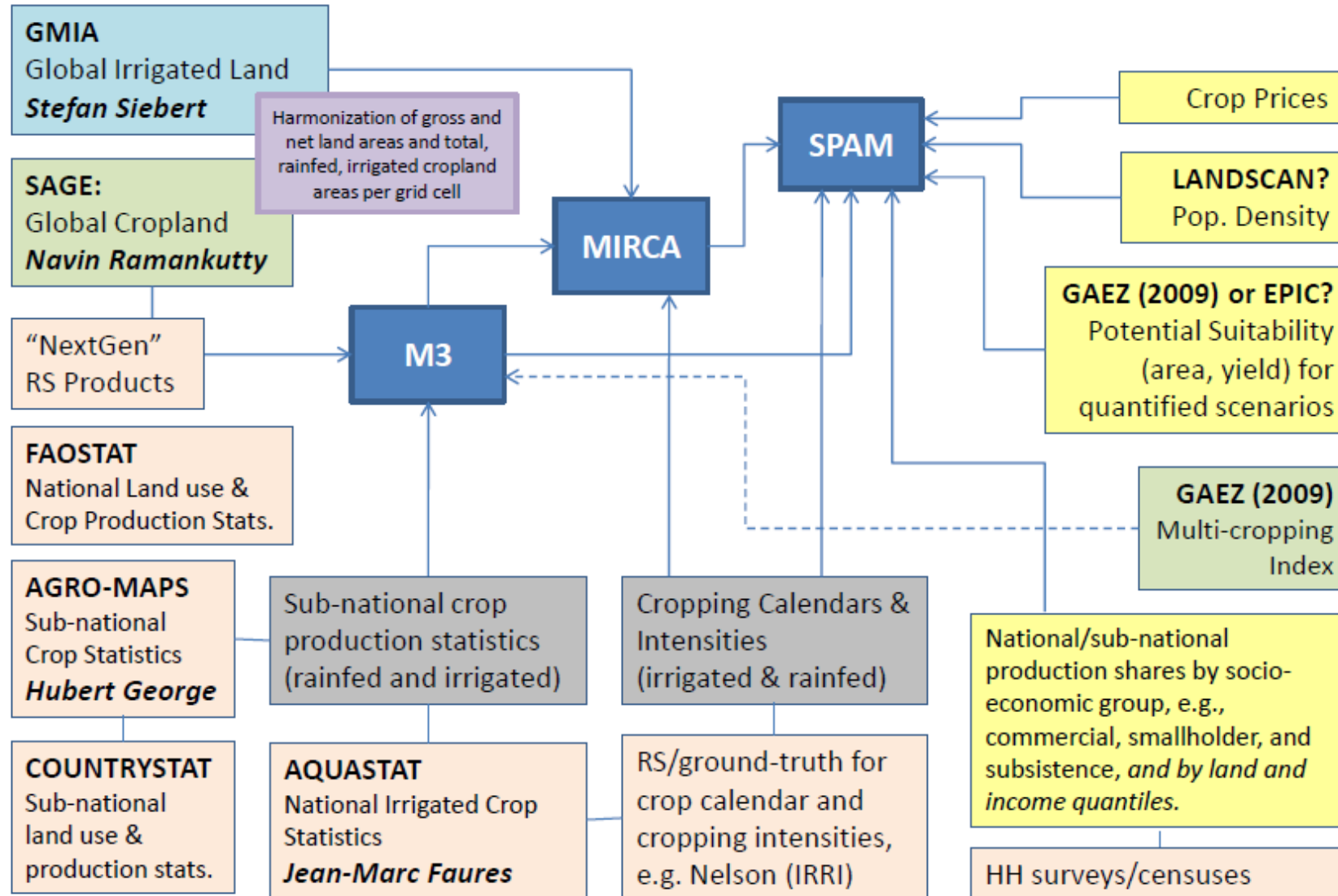Output by user-friendly administrative units

What does this Holy Grail look like anyway?

- *…generating unified **high quality** spatial datasets that are a **readily accessible** to and accepted as **best-available science** by **all potential stakeholders** involved in the production and forecasting of a secure and nutritious **global food supply**…..*

- "UNIFIED home" for open source data from all sources – open source
  - Mechanism for alerting potential users to new and existing data
    - ..and associated strengths and weaknesses via solid metadata

- Scientific recognition for data generators – "data journal" citable with DOI

- Cross-sector unification of best-available Climate/Environ/Economic data
  - Collaboration between intermediate data "aggregation" processes
  - **CREDIBILITY by CONSENSUS** where assumptions have to be made

- Assistance for making important global data available in usable formats
  - Improved inter-operability between data and model I/O modules

The Horrendogram of Global Crop Distribution Products

A Potential Harmonogram of Global Crop Distribution Products

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- Solid metadata >= agreed minimal standards
  - AEG's fully documented !!!

- Self-documenting tools for combining, aggregating / disaggregating

- User friendly outputs – tabular and mapping outputs, links to accredited national/Adin boundary and environmental data