



Tools for Dispersed Networks-of- Networks

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Lessons learned

- Data networks and collaboration networks reinforce each other
- It is unrealistic to expect shared standards initially (or ever)
- Start with clear stakeholders and well-scoped exptl projects, then move or link successful approaches to sustainable platforms
- Tools like GitHub and Slack and Telecon Scrums work well for highly distributed teams
- Dedicated coordinators and project managers are invaluable – takes much more than science



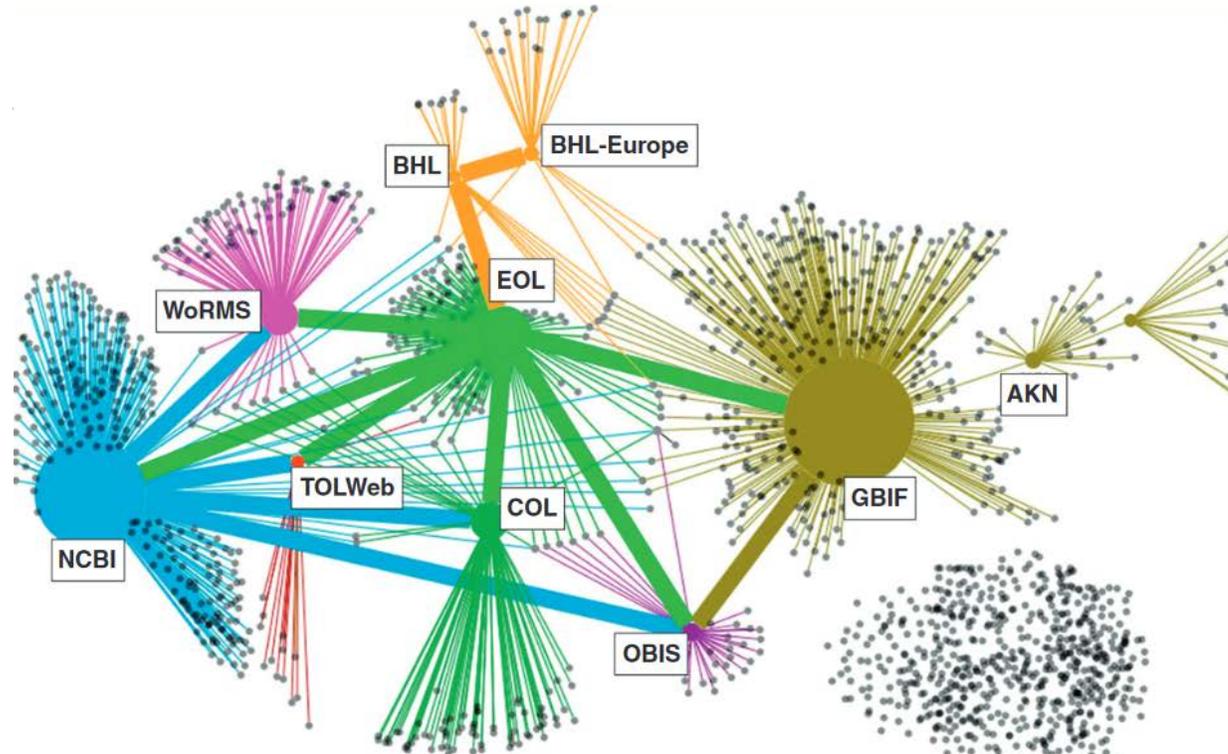
Case Studies

- Biodiversity Information Standards
 - GBIF
 - EOL
- ARS & USDA
 - AgCROS
 - Ag Data Commons
 - VIVO
- Earth Biogenome Initiative/Agpest100
 - i5K Workspace@NAL
- AgBioData
 - Many platforms/Ag Data Commons
- AgMIP
 - ARDN

Biodiversity
Information
Standards
T D W G
tdwg.org

22 interest
and task
groups

Parr, et al. 2012. [Trends in
Ecol & Evolution 27: 94-103](#)

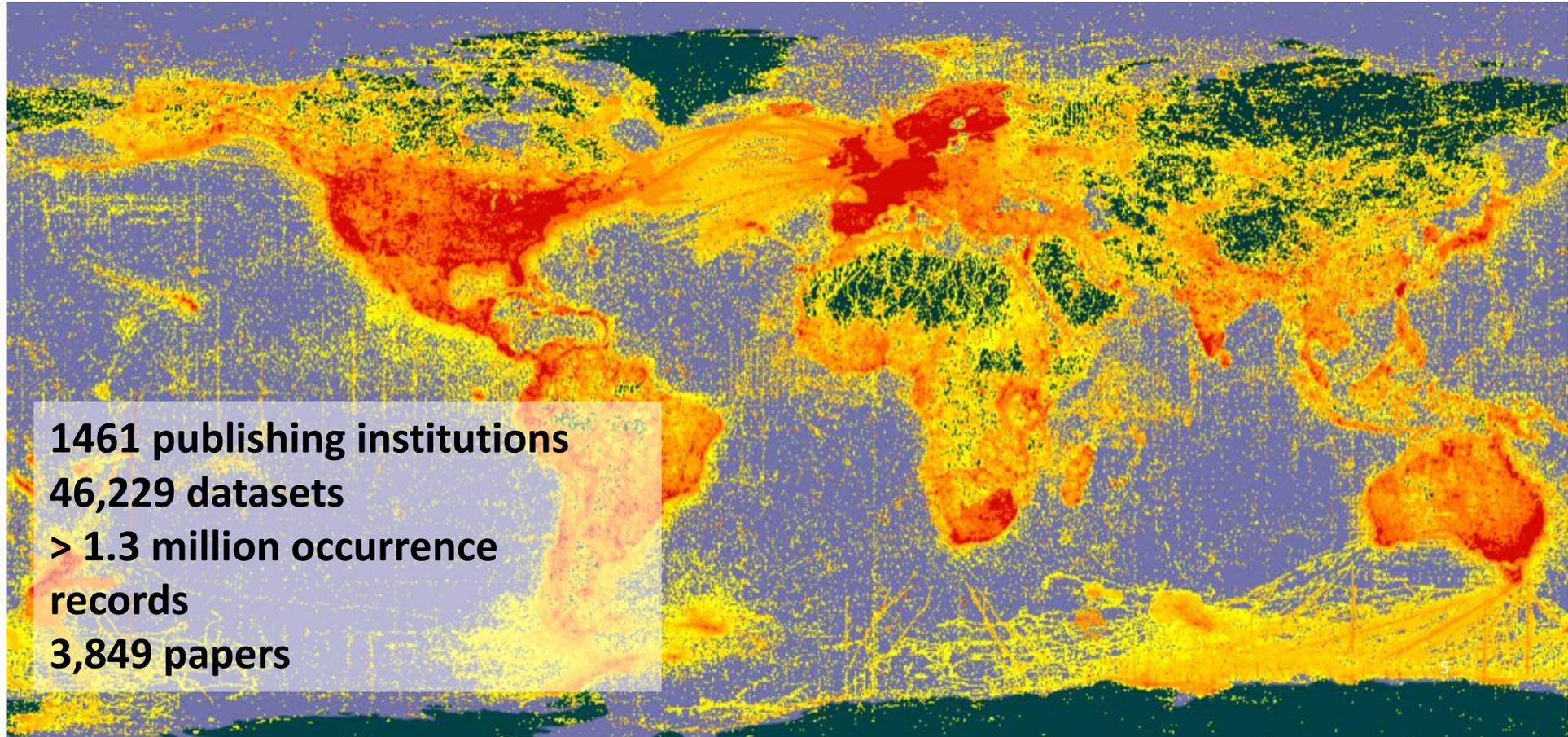


N=1631
projects



Global Biodiversity Informatics Facility

gbif.org





Encyclopedia of Life

eol.org

Global access to knowledge about life on Earth



Octopus stinkhorn



Blue Glaucus



Sweat Bee



Sea otter



Highbush Blueberry



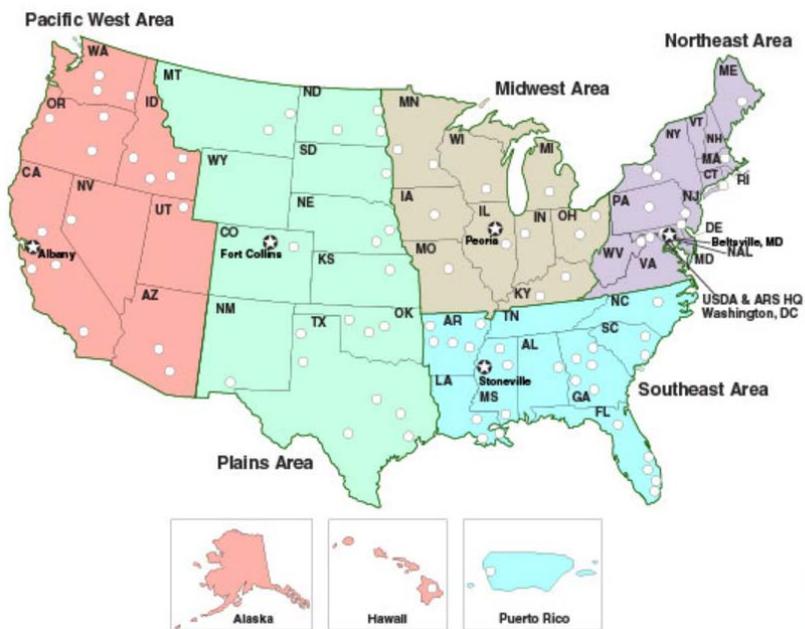
Vanilla pompona



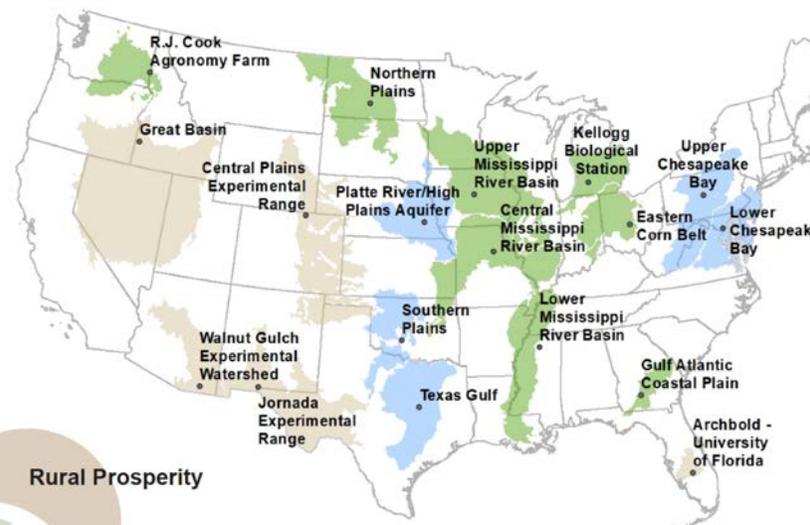
Nematodes

12,983,401 trait and attribute records
including 1,642,463 ecological interaction records
For 1,999,030 species and higher taxa

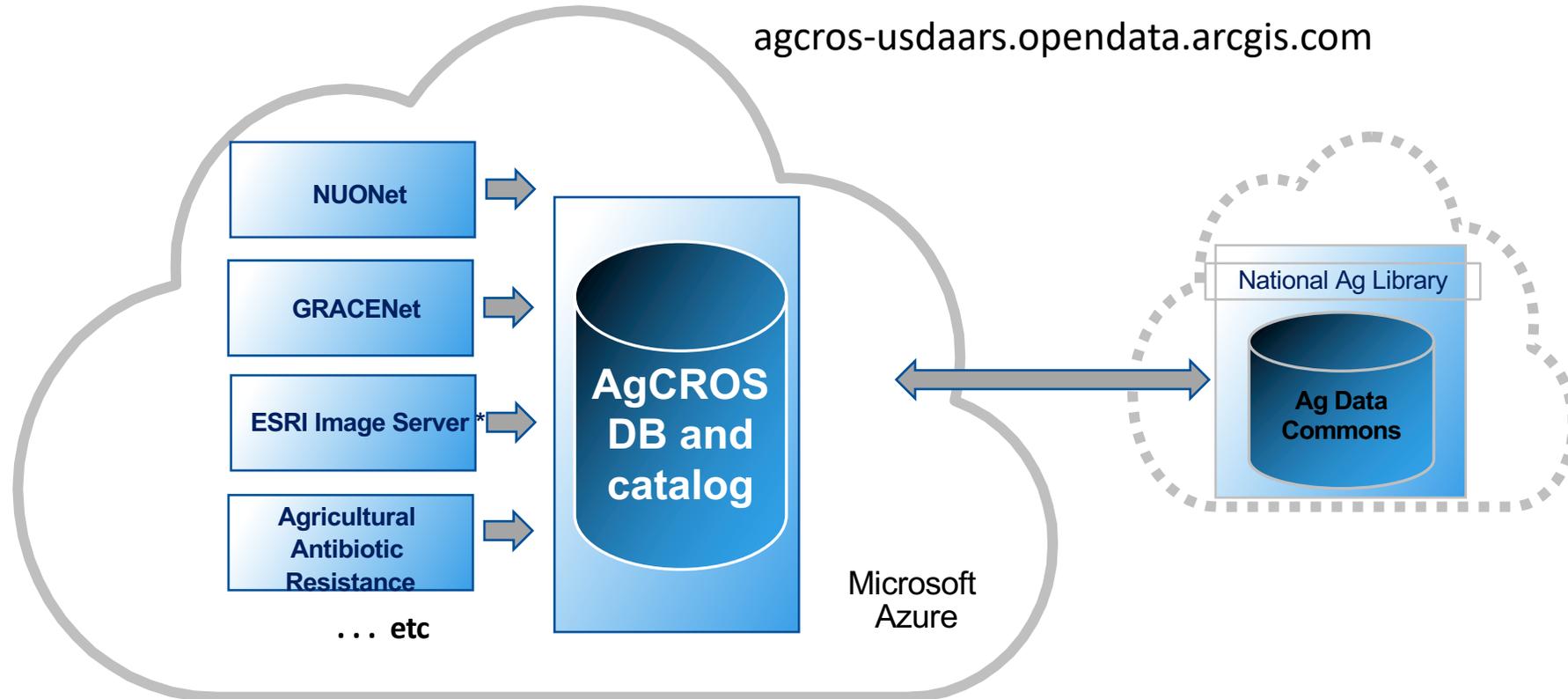
Agricultural Research Service Research



Long Term Agroecosystem

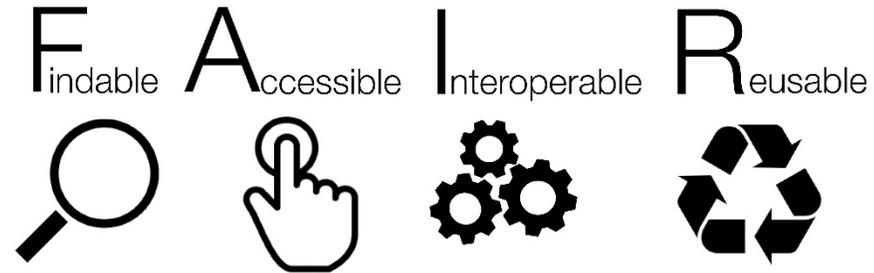


Agricultural Collaborative Research Outcomes System (AgCROS)



Ag Data Commons

Providing Central Access to
USDA's Open Research Data

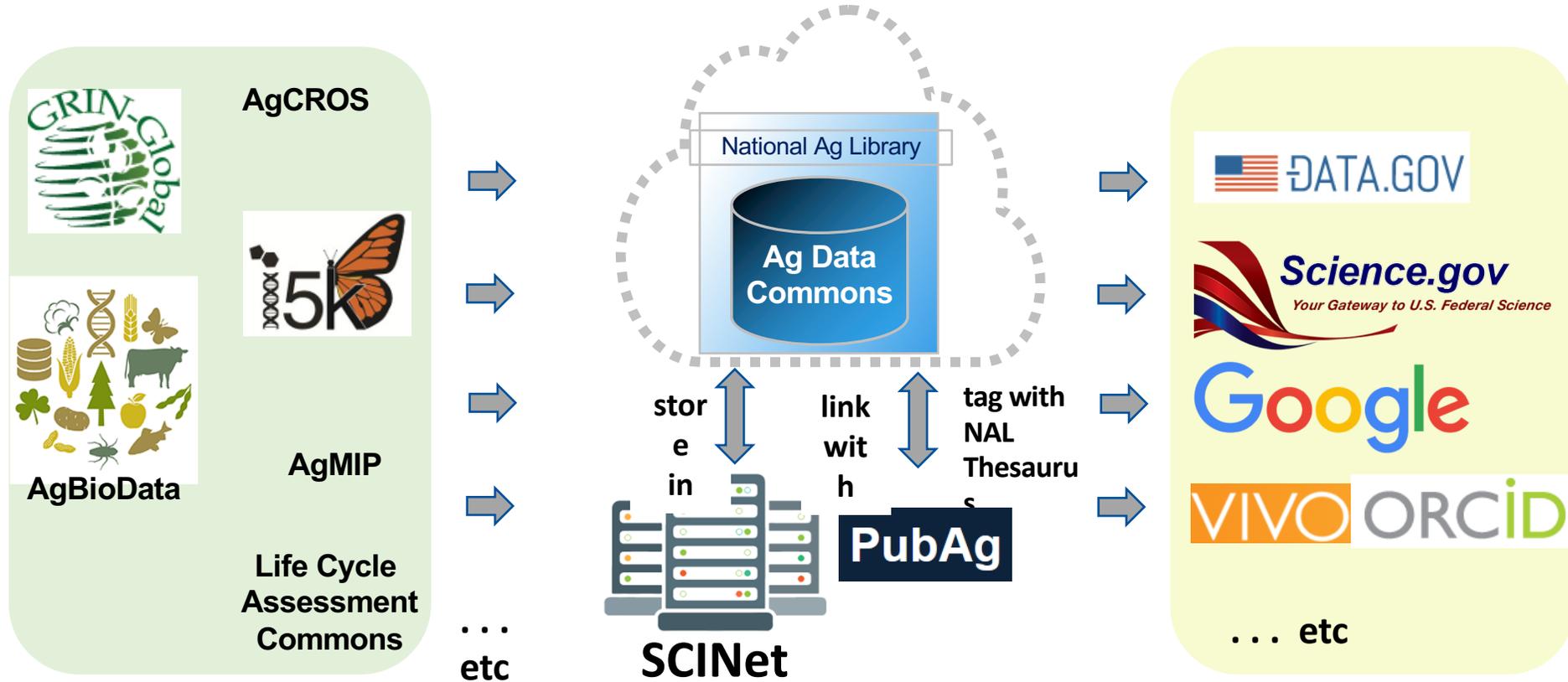


- A catalog and data repository for open agricultural research data funded by USDA
- Satisfies the federal open data and public access requirements

data.nal.usda.gov



Ag Data Commons standardized metadata



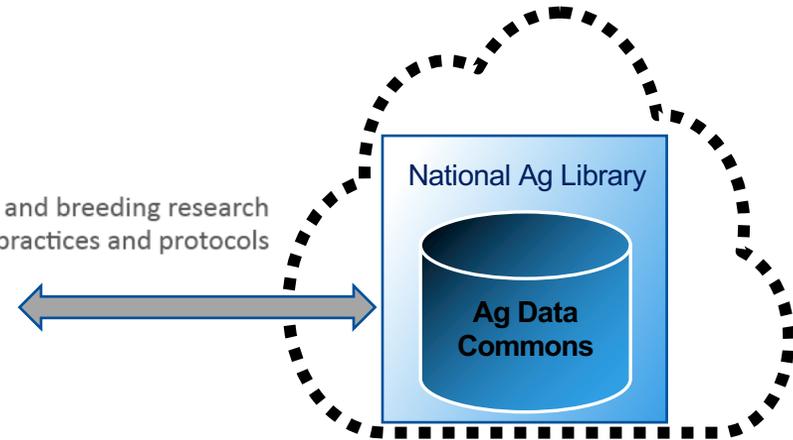
AgBioData



AgBioData

Toward enhanced genomics, genetics, and breeding research outcomes through standardization of practices and protocols across agricultural databases

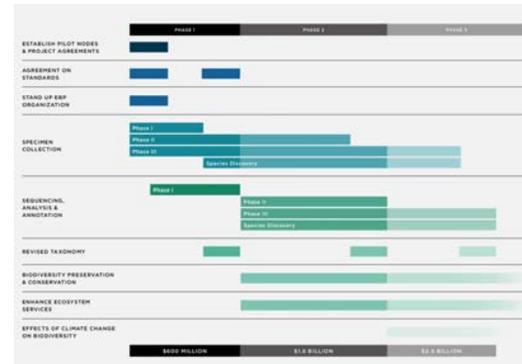
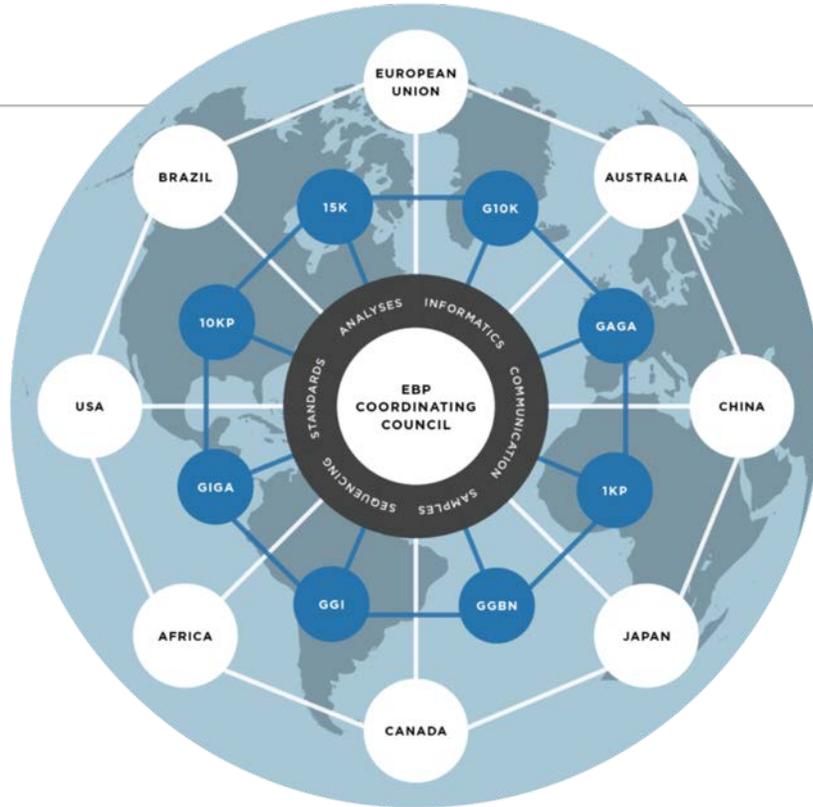
agbiodata.org
about 30 databases



Harper, L. et al. (2018) [AgBioData consortium recommendations for sustainable genomics and genetics databases for agriculture.](#) Database, 2018 1-32.

Earth BioGenome Initiative

www.earthbiogenome.org



AgPest100



www.i5k.nal.usda.gov



Harmionizing data for crop modeling using ICASA

13 models now have translators

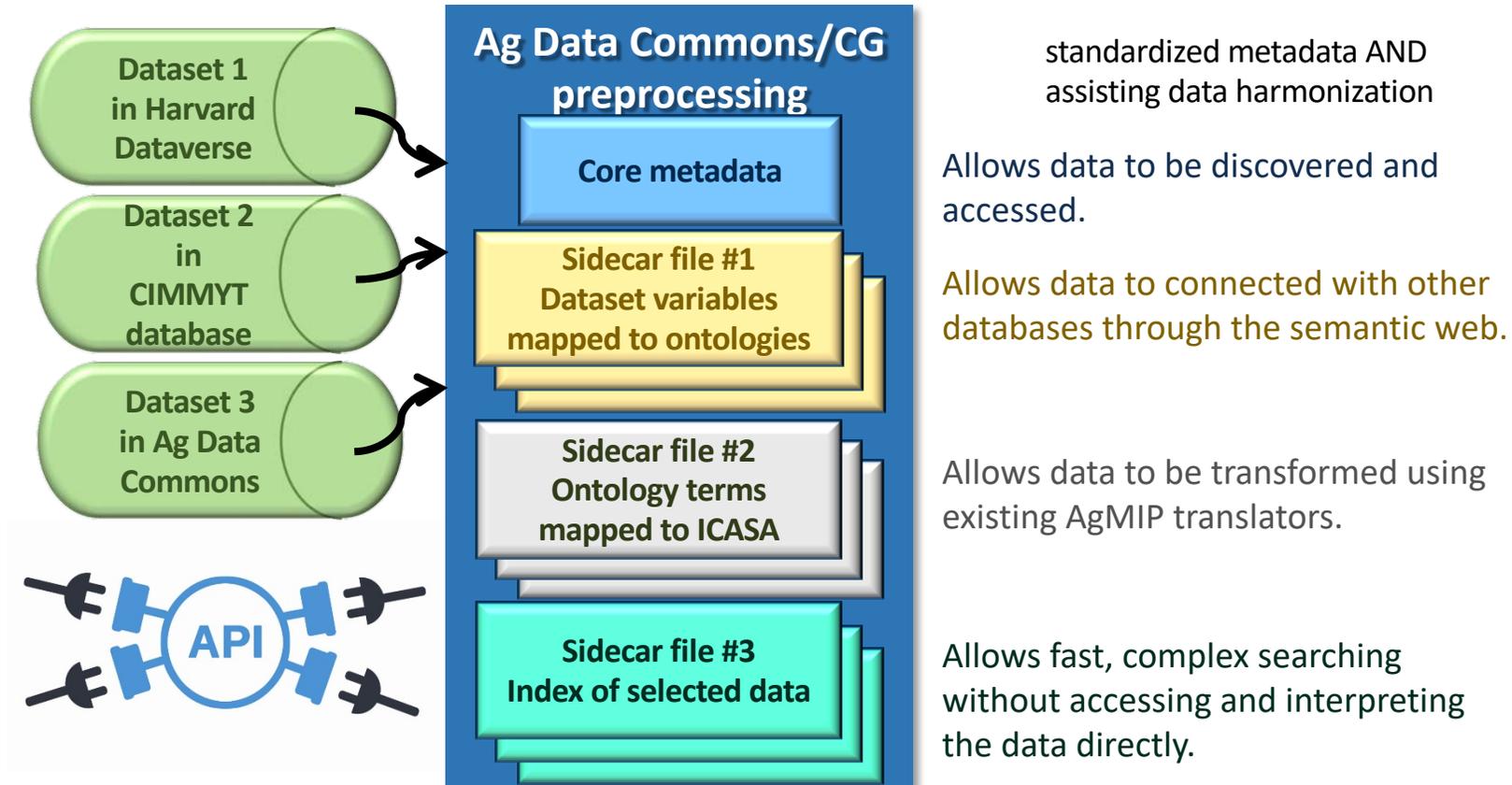


- APSIM
- CropGrow-NAU
- DSSAT
- STICS
- WOFOST

- AquaCrop
- CropSyst
- EPIC
- InfoCrop

- ORYZA2000
- RZWQM2
- SALUS
- SarraH

Agricultural Research Data Network ARDN





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Thank you

@cydparr

- TDWG: James Macklin, Stan Blum, Gail Kampmeier
- GBIF: Tim Robertson, Joe Miller
- EOL: Jennifer Hammock, Katja Schulz
- LTAR: Teferi Tsegaye
- AgCROS: Bruce Vandenberg
- Ag Data Commons: Erin Antognoli, Jon Sears, Ming Chan
- Earth Biogenome Initiative/Agpest100: Anna Childers, Kevin Hackett
- i5K Workspace@NAL: Monica Poelchau, Chris Childers
- AgBioData: Dorrie Main, Lisa Harper, Eva Huala
- AgMIP/ARDN: Cheryl Porter, Gerrit Hoogenboom