

THE NATIONAL SOIL CARBON NETWORK

A 'stone soup' approach to networking

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2010 NADP Annual Meeting and Symposium

stone soup

Start with...

- Pot
- Water
- Stones
- Enlightened self interest



context

- Soil contains at least two thirds of terrestrial organic carbon
- Soil carbon feedbacks to climate change are still uncertain
 - ▣ Rapid- vs decadal-turnover carbon reservoirs
 - ▣ Inputs
 - ▣ Disturbance (fire, erosion, etc)
 - ▣ Land use
- Pressure to *figure it out!*

community

We have

□ A community?

- Multiple agencies, institutions, groups, individuals
- Similar goals
- Differing...objectives, methods, scales, precision, products, and world views

We need

□ A community.

- Better communication
- More opportunities for collaboration
- Increased leveraging of infrastructure and investment
- Easier ways to share data and ideas

community response

SoilCarbNet Scientific Steering Group

- Chris Swanston (USFS, NIACS)
- John Baker (ARS; NACP SSG)
- Rich Birdsey (CCSSG; USFS)
- Ron Follett (ARS)
- Jennifer Harden (USGS)
- Julie Jastrow (DOE-ANL)
- Mark Johnson (EPA)
- Randy Kolka (USFS)
- Johannes Lehmann (Cornell)
- Bob McKane (EPA)
- Bill Parton (CSU NREL)
- Mac Post (DOE-ORNL; NACP SSG)
- Rich Pouyat (USFS)
- Peter Thornton (DOE-ORNL; NACP SSG)
- Margaret Torn (DOE-LBL; NACP SSG)
- Sue Trumbore (UCI)
- Eric Vance (NCASI)
- Mark Waldrop (USGS)
- Larry West (NRCS)

SoilCarbNet purpose

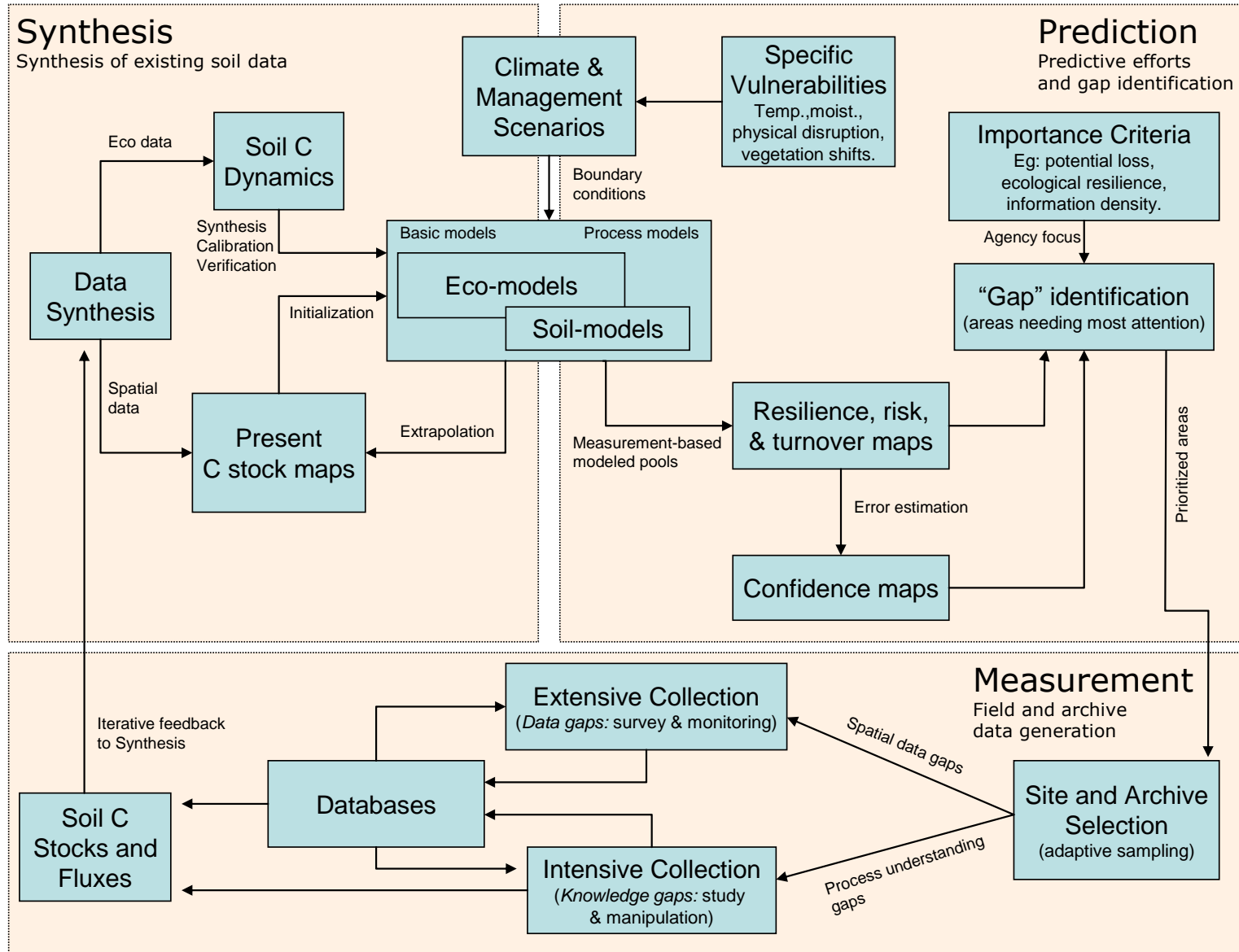
- Scientific Steering Group
 - Self-chartered
 - Provide scientific leadership for SoilCarbNet
- To enhance
 - communication
 - collaboration
 - efficient use of scientific resources
 - advancement of soil carbon research

SoilCarbNet goals

- **Characterize** the current distribution and stability of soil carbon in the United States
- **Forecast** soil carbon vulnerability to loss under changing climate, land use, and other disturbance
- **Organize** and **distribute** this information at resolutions that are useful to land managers, modelers, and policy makers

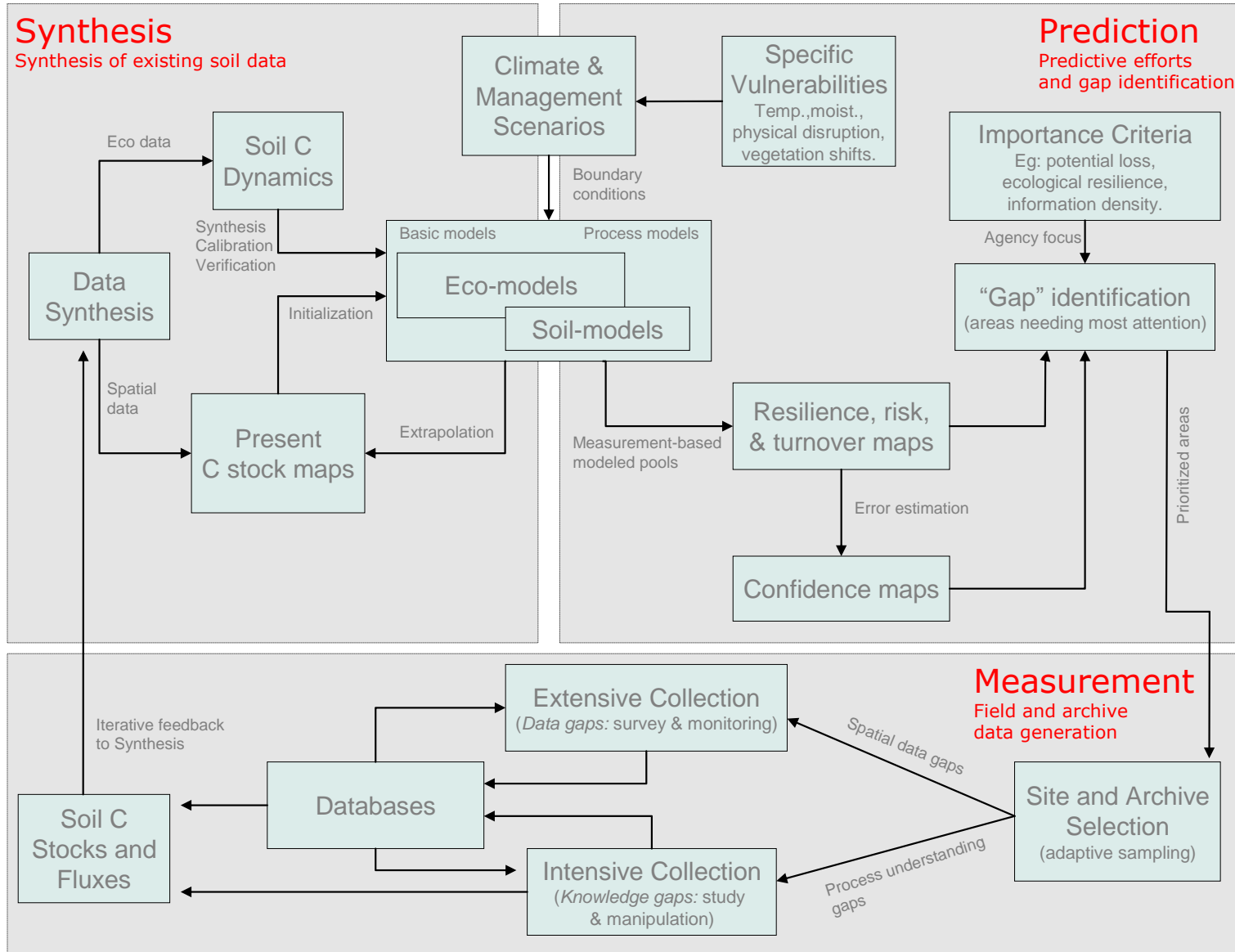
No single agency or institution can accomplish these goals across these scales; it will require a coherent effort.

structure



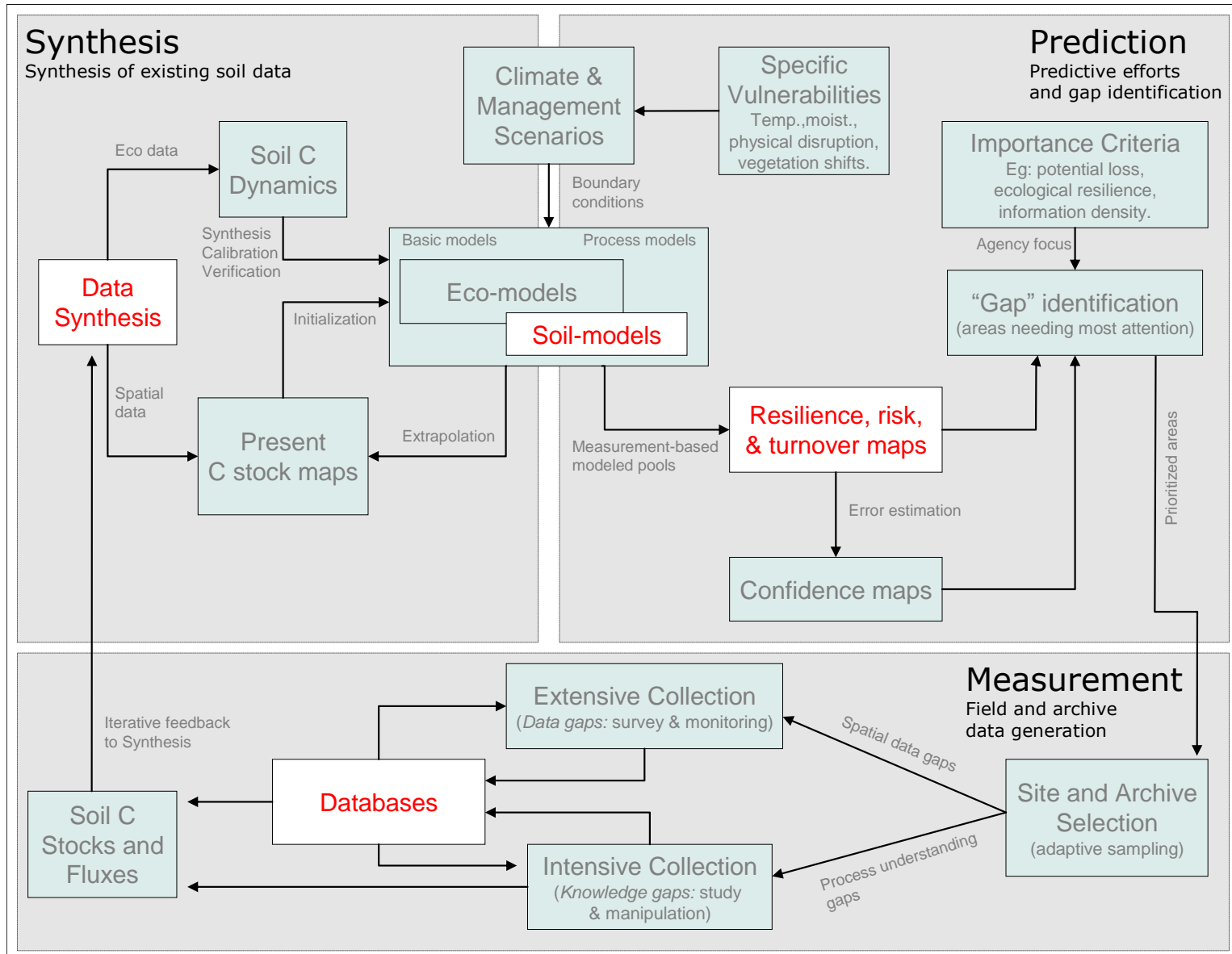
structure

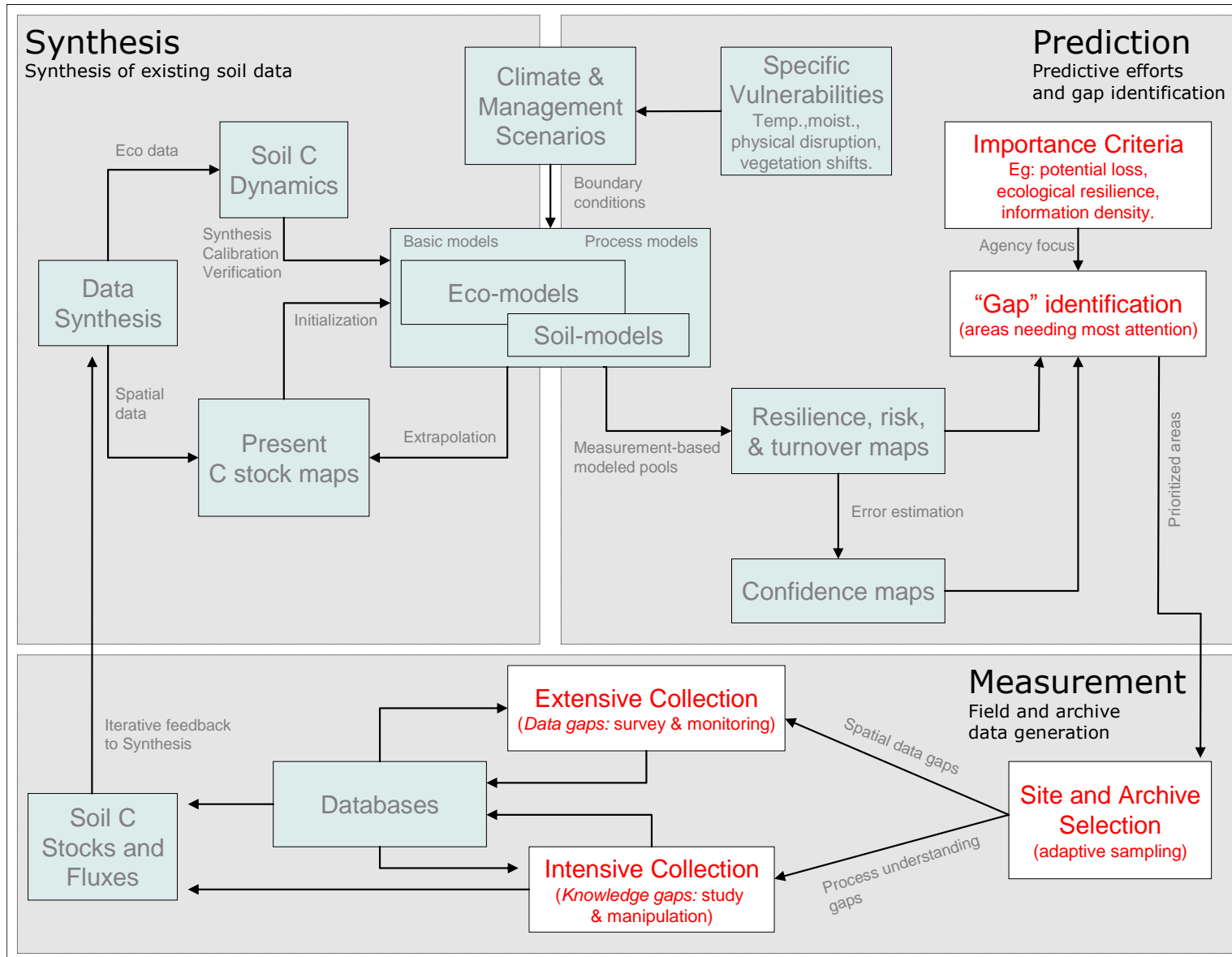
emphasis areas



structure

products





SoilCarbNet membership

- Stone soup – you give, you get.
- Data contribution
 - ▣ Fair use governed by data policy
 - ▣ Datacube
 - ▣ Less work, more exposure – fulfills funding commitments
- Infrastructure and sample sharing
 - ▣ Research sites and equipment
 - ▣ Archives
- Synthesis products

SoilCarbNet investment

- Network Coordinator and staff support
 - USDA Forest Service - \$80,000
 - US Geological Survey - \$35,000
 - Staff support by the Northern Institute of Applied Climate Science
- Datacube design and construction
 - Design - Lawrence Berkeley Nat'l Lab and Microsoft
 - Guidance – University of Alaska, USGS, and USFS
 - USDA Forest Service - \$35,000
 - USDA NIFA REE-NET - \$100,000

SoilCarbNet investment

- Workshops
 - USDA Forest Service - \$25,000
 - USDA NIFA REE-NET - \$100,000
- Infrastructure
 - Radiocarbon
 - Sample prep lab: USDA Forest Service - \$50,000
 - Lawrence Livermore IA: USDA Forest Service - \$120,000
 - LLNL – internal costs/workplan.
 - FTIR-MIR
 - Collaboration with Cornell University
 - EPA – internal costs/workplan.

SoilCarbNet collaboration

- Datacube additions
 - ✓ □ Alaska Deep Soil Carbon
 - K. Johnson, Harden, McGuire
 - Radiocarbon values and turnover rates
 - Trumbore, Torn, et al.
 - US Black Carbon Survey
 - Lehmann, Krull, M. Johnson
 - Northern Temperate Meta-Analysis of Soil Carbon
 - Nave, Vance, Swanston, Curtis
 - Enriched Background Isotope Study
 - Hanson et al.

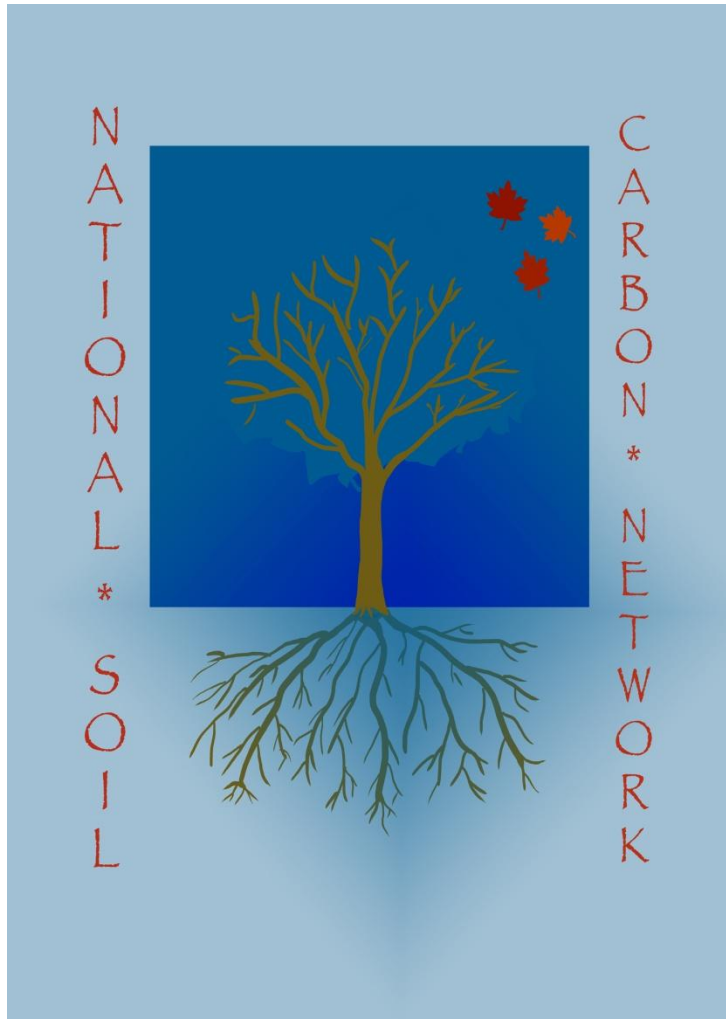
SoilCarbNet collaboration

- Infrastructure sharing
 - SoilCarbNet Datacube
 - LBNL, Microsoft, USGS, USFS
 - US Black Carbon Survey
 - Cornell, EPA, NRCS, CSIRO
 - SoilCarbNet Radiocarbon Support
 - USFS, LLNL, EPA
 - Hawaiian Chronosequence Soil Carbon
 - UCSC, Stanford, LLNL, USFS

Next Steps

- Continued community outreach
 - ▣ NACP Soil Carbon Workgroup
 - ▣ AGU symposia and town halls
 - ▣ Online networking and sharing
 - ▣ NADP!
- Continued database/datacube development
 - ▣ New datasets
 - ▣ More products!
 - ▣ Outreach and respectability
- More sharing
 - ▣ Cheap dates! And other fun things

Thank you!



www.soilcarb.net