CLIMATE COLLABORATIVE™

Commit. Act. Impact.

Regenerative Toolbox:

How OpenTEAM Can Help Farmers Draw Down Emissions

25. March. 2020

CLIMATE COLLABORATIVE™

Commit. Act. Impact.

a project of

ONE STEP CLOSER 2 OSC Organic Sustainable Community

Sustainable Food Trade Association
organic leaders for sustainability

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Stonyfield

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Straus Family Creamery
Studio Fab
Sweet Additions
Tiger Cool Express
Traditional Medicinals
Trayak
UNFI
Whole Foods Market

Our Speakers

Britt Lundgren

Director of Organic and Standards Agriculture

Stonyfield

Jeff Herrick

Soil Scientist

USDA Agricultural Research Service

Meghan Mize

Global Coordinator

Land PKS

Moderator

Lisa Spicka

Associate Director

Sustainable Food Trade Association (SFTA)

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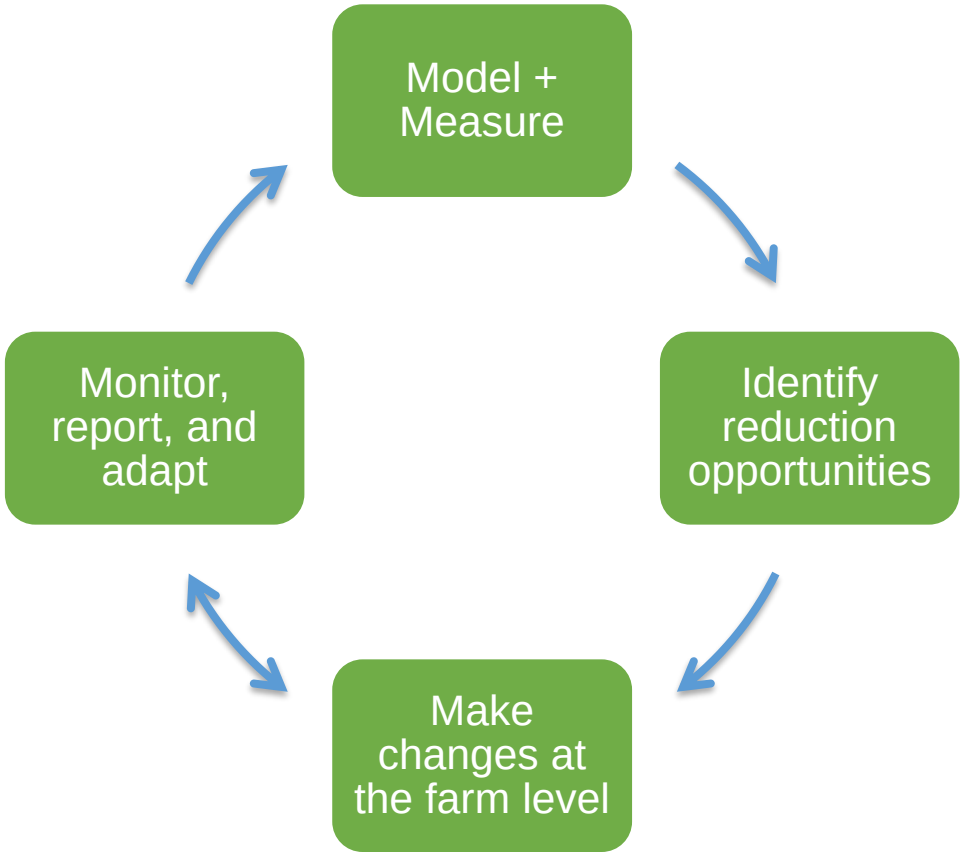
Today's Program

- OpenTEAM intro
- Land PKS Intro & Software Demo
- Call to Action
- Discussion

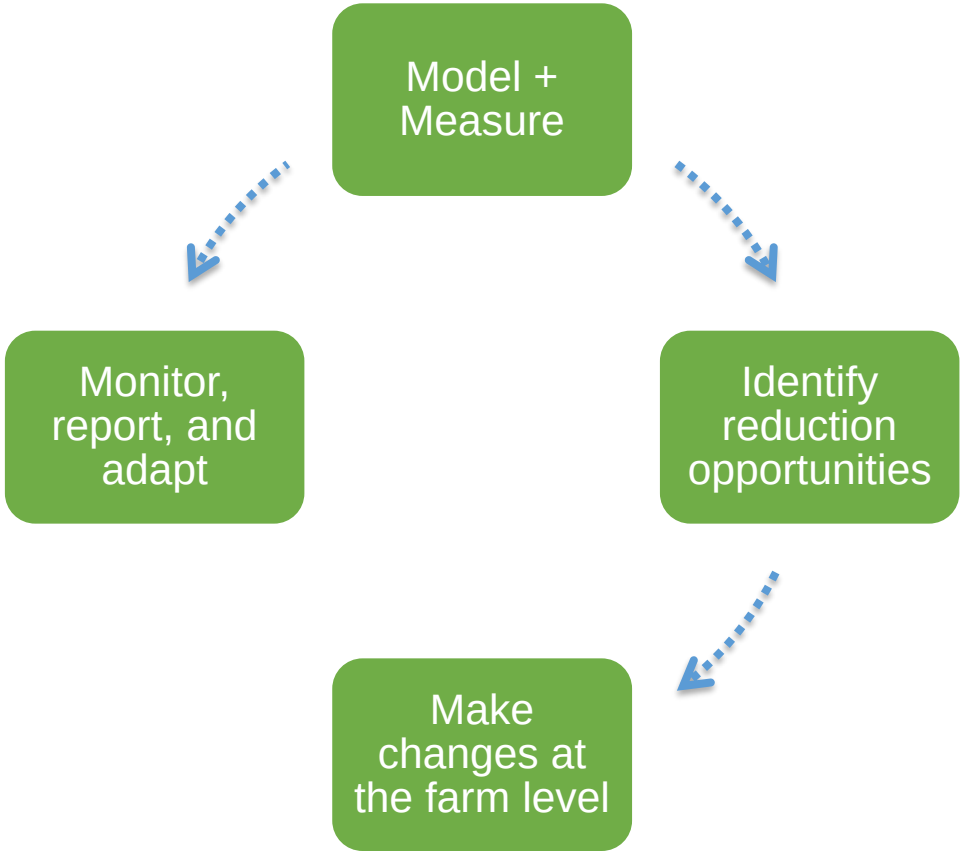
- Q&A from Audience

Please submit Q&A throughout session!

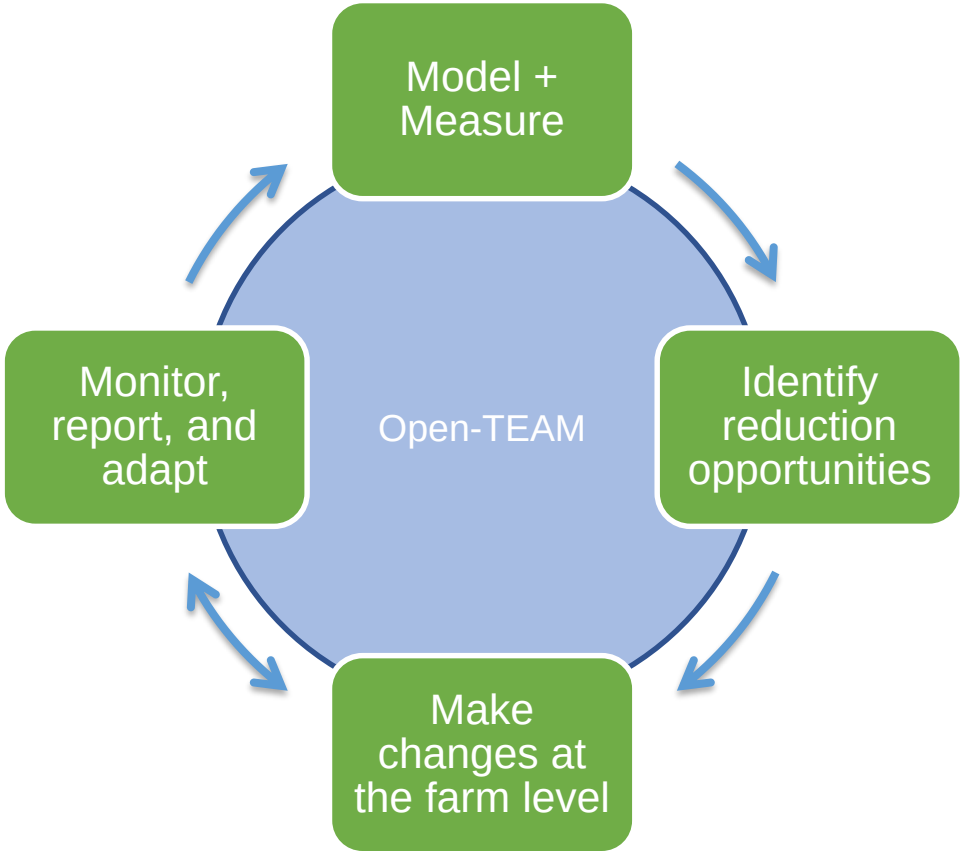
How do we drive change across supply chains?
The ideal:



How do we drive change across supply chains? Today:



How do we drive change across supply chains? Where we're headed:



WOLFE'S NECK CENTER FOR AGRICULTURE & THE ENVIRONMENT

FFAR

farmOS

LandPKS www.landpotential.org

Stonyfield ORGANIC

OpenTEAM

Enter data once-
Use it many times!

farmOS

LandPKS
www.landpotential.org

our-sci.net

Management tools

Organic Certification

GAP/FSMA Certification
Covercrop Decision Support Suite

Soil Health Tools
Grazing tools

Research tools

On-Farm Trials
Adaptive Nutrient management

Government feedback

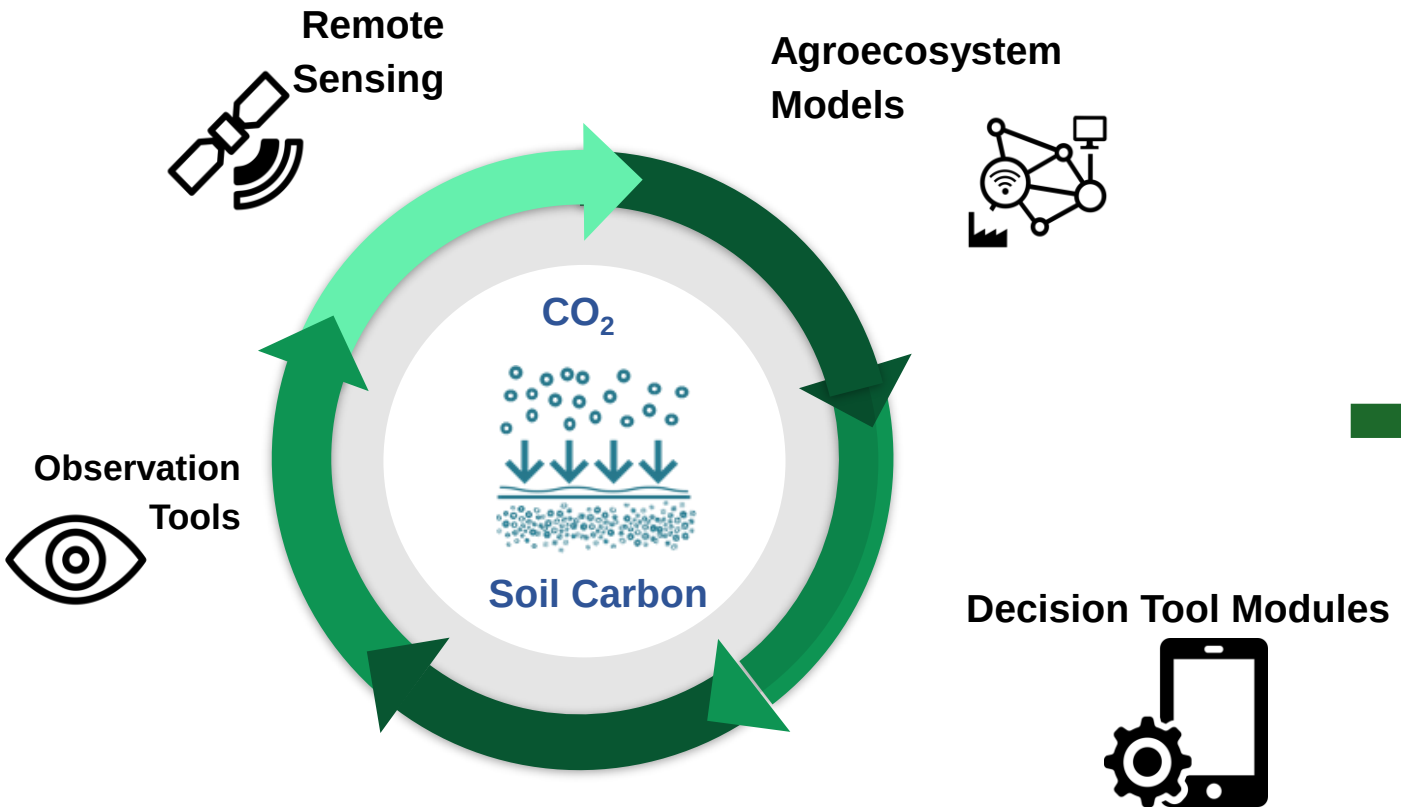
NRCS/FSA import export

NRCS Soil Layers

Easement Monitoring

Ecosystem Service Markets

OpenTEAM Technology Ecosystem Drives Soil Health Improvement Across Network of Participating Farms



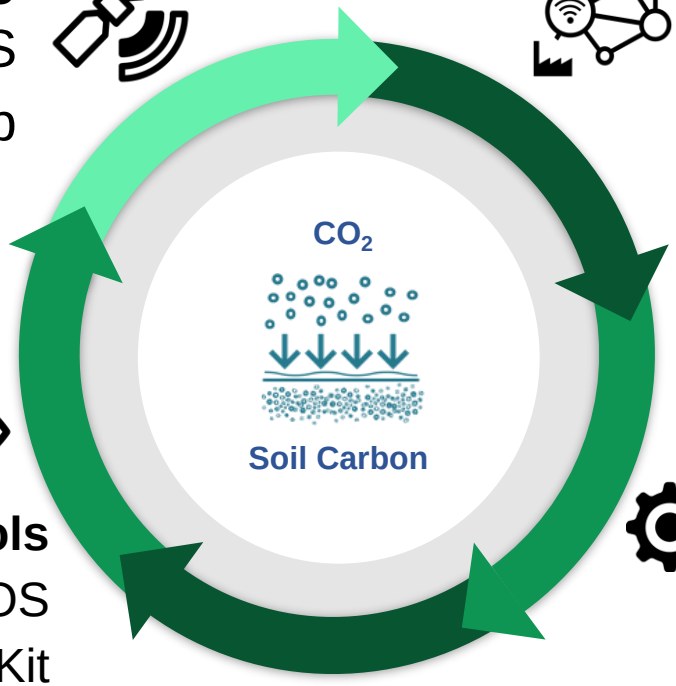
Hub Farms form basis for **global network of farms and supply chains** using OpenTEAM to guide and quantify ecosystem services improvements and links between soil health, food quality and human health.

Technology ecosystem enables **adaptive management** to improve production and delivery of ecosystem services and actionable research

OpenTEAM's Technology Ecosystem

Remote Sensing
OPTIS
Open Land Map

Agroecosystem Models
Comet Farm
Cool Farm Tools
DNDC



Observation Tools
farmOS
Our Sci Kit
LandPKS
Quick Carbon

Decision Tools
Grazing tools
Cover crop suite
Our Sci Kit
farmOS
LandPKS

Adaptive Management
Farmer networks

CFA COOL FARM ALLIANCE
Northeast Cover Crops Council NECCC Sowing Sustainability
Applied Geosolutions
FFAR
WOLFE'S NECK FOR AGRICULTURE & THE ENVIRONMENT CENTER
COMET-Farm NRCS USDA
REGEN NETWORK
USDA Agricultural Research Service
OATS Open Agriculture Technology and Systems
FOODSHOT GLOBAL
Stonyfield ORGANIC
SOIL HEALTH PARTNERSHIP
General Mills
LandPKS
UBC FARM Centre for Sustainable Food Systems
SILC - Sustainability Innovation Lab at Colorado UNIVERSITY OF COLORADO BOULDER
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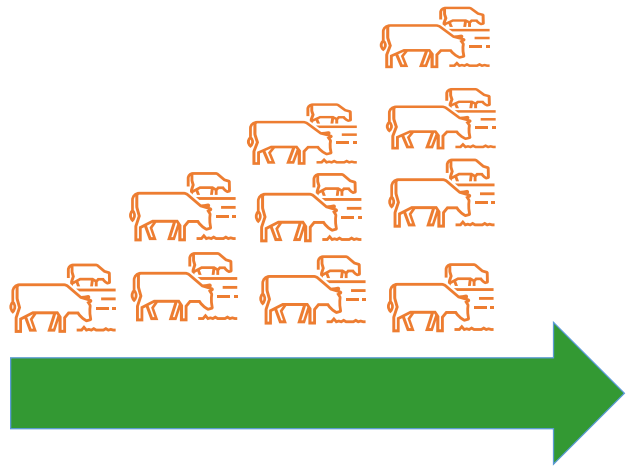
REAL FOOD CAMPAIGN
PURDUE UNIVERSITY
DAGAN

Stonyfield's Science Based Target and OpenTEAM

SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION



We're targeting a 30% reduction of our carbon footprint by 2030.

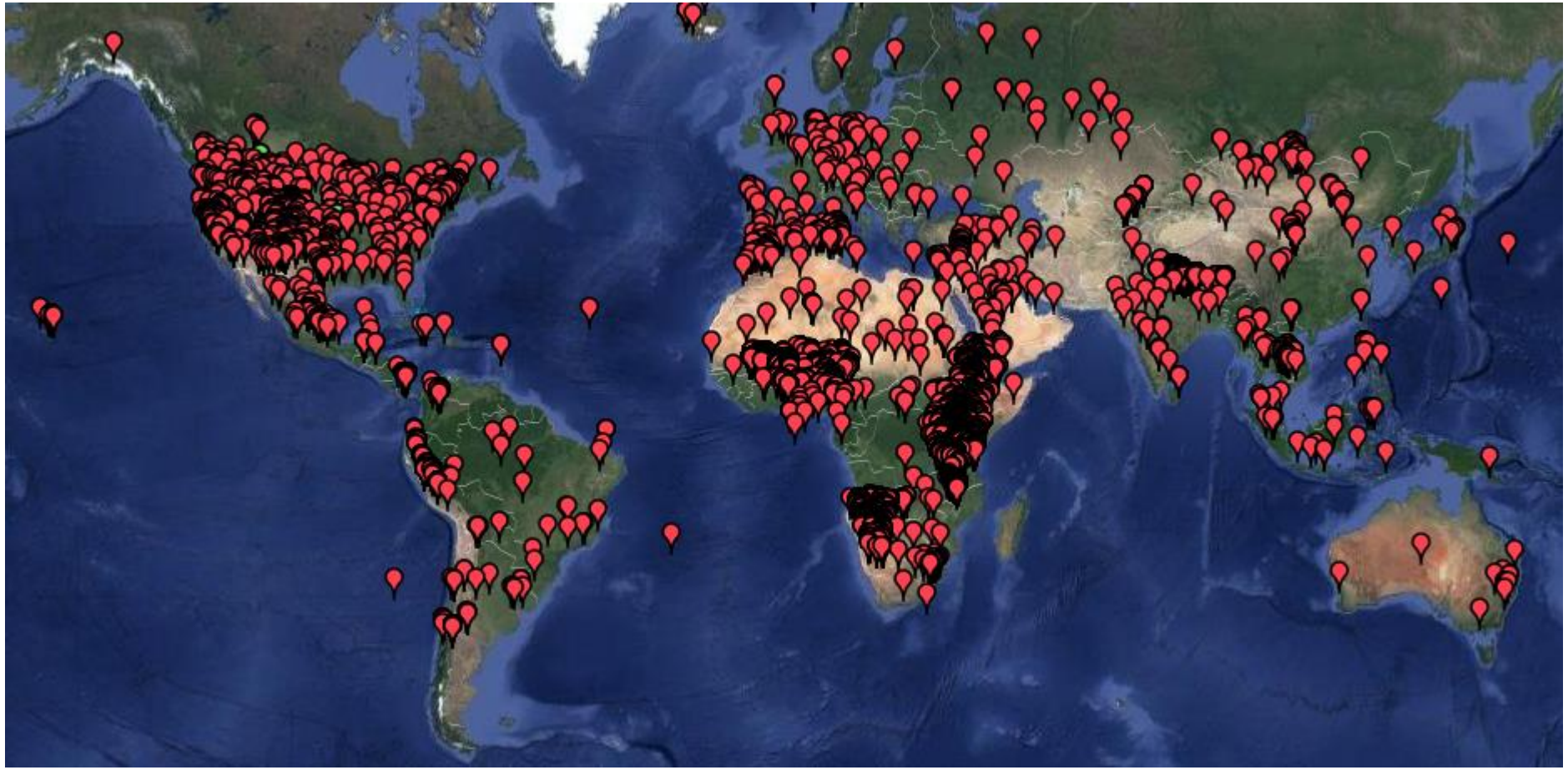
The Science Based Targets Initiative works with companies to set emissions reductions targets that are in-line with what our business needs to do to contribute to solving climate change at a global scale.

Our efforts will focus on reducing emissions from agriculture, packaging, transportation, energy, waste

Use of Open-TEAM across Stonyfield's full organic dairy supply could sequester between 35,000 – 90,000 tons CO2 annually.

LandPKS

A simple platform for making land management decisions and setting targets based on land potential



What is land potential?

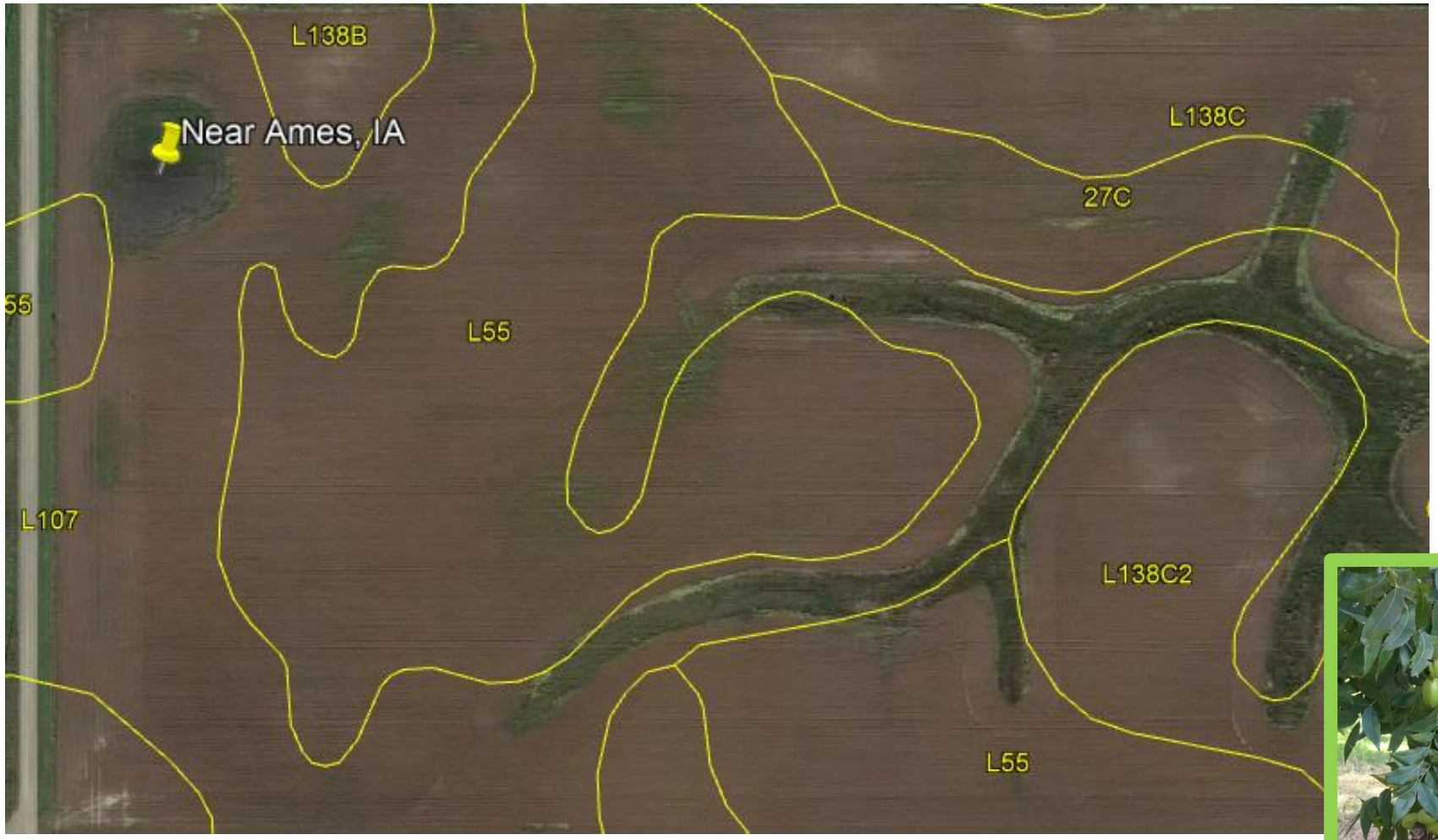
- Inherent potential of the land to sustainably generate ecosystem services based on soils, topography, climate
- Current land potential also depends on current soil health

What is land potential?

- Inherent potential of the land to sustainably generate ecosystem services based on soils, topography, climate
- Current land potential also depends on current soil health
- A mismatch between land use and land potential can result in:
  - Catastrophic land degradation
  - Unrealized production opportunities

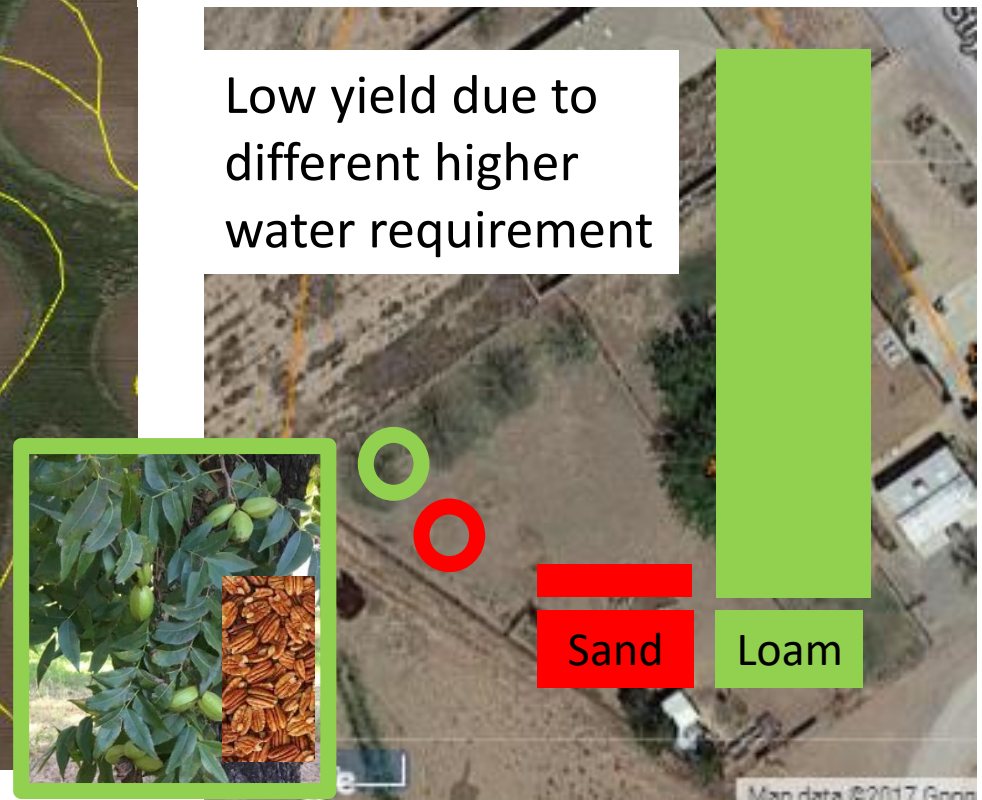
Land potential can vary enough to affect sustainability & production at sub-field to national scales

Grain crops near Ames, Iowa



Pecans near Las Cruces, NM

- **2 trees transplanted at same <u>time</u>**
- **10m apart**
- **Mapped as same <u>soil</u>**
- **Received same <u>fertilizer</u>, <u>water</u>**



Journal
Ecosystem Health and Sustainability ›
Volume 2, 2016 - Issue 3

International Collaborative Studies

The land-potential knowledge system (landpks): mobile apps and collaboration for optimizing climate change investments

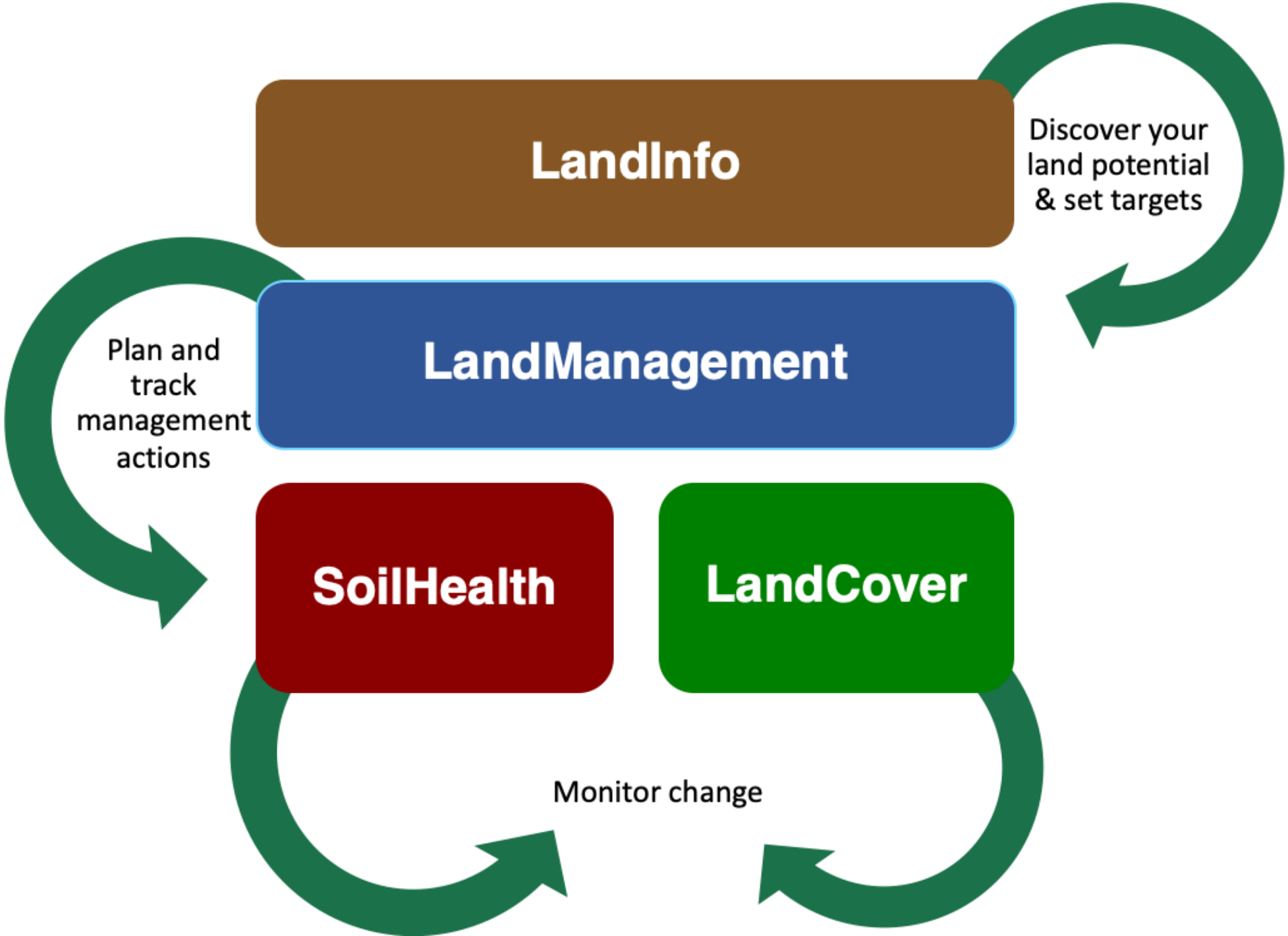
Jeffrey E. Herrick, Adam Beh, Edmundo Barrios, Ioana Bouvier, Marina Coetzee, David Dent, ...show all

Article: e01209 | Received 25 Sep 2015, Accepted 25 Dec 2015, Published online: 19 Jun 2017

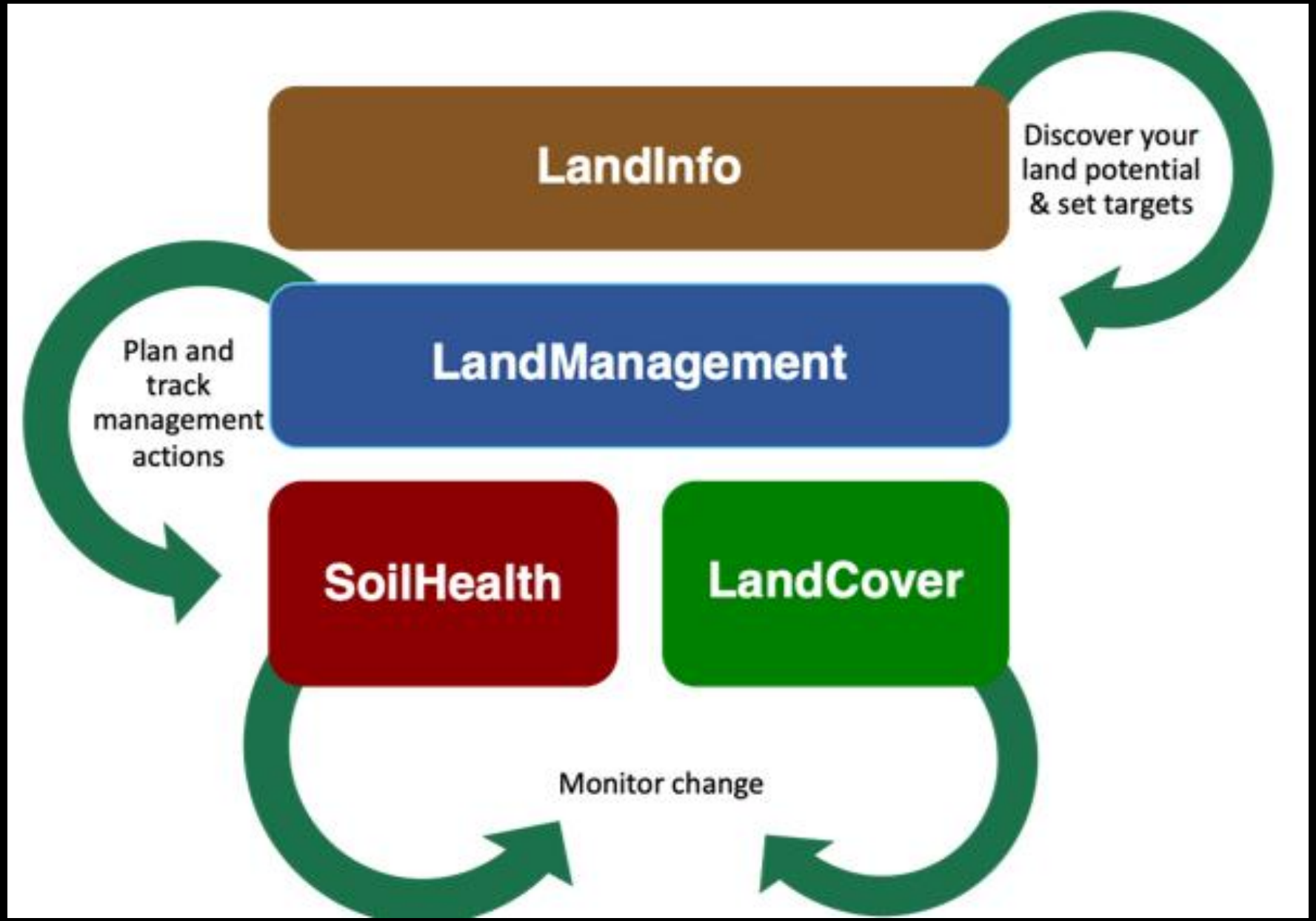
 https://doi.org/10.1002/ehs2.1209

Abstract

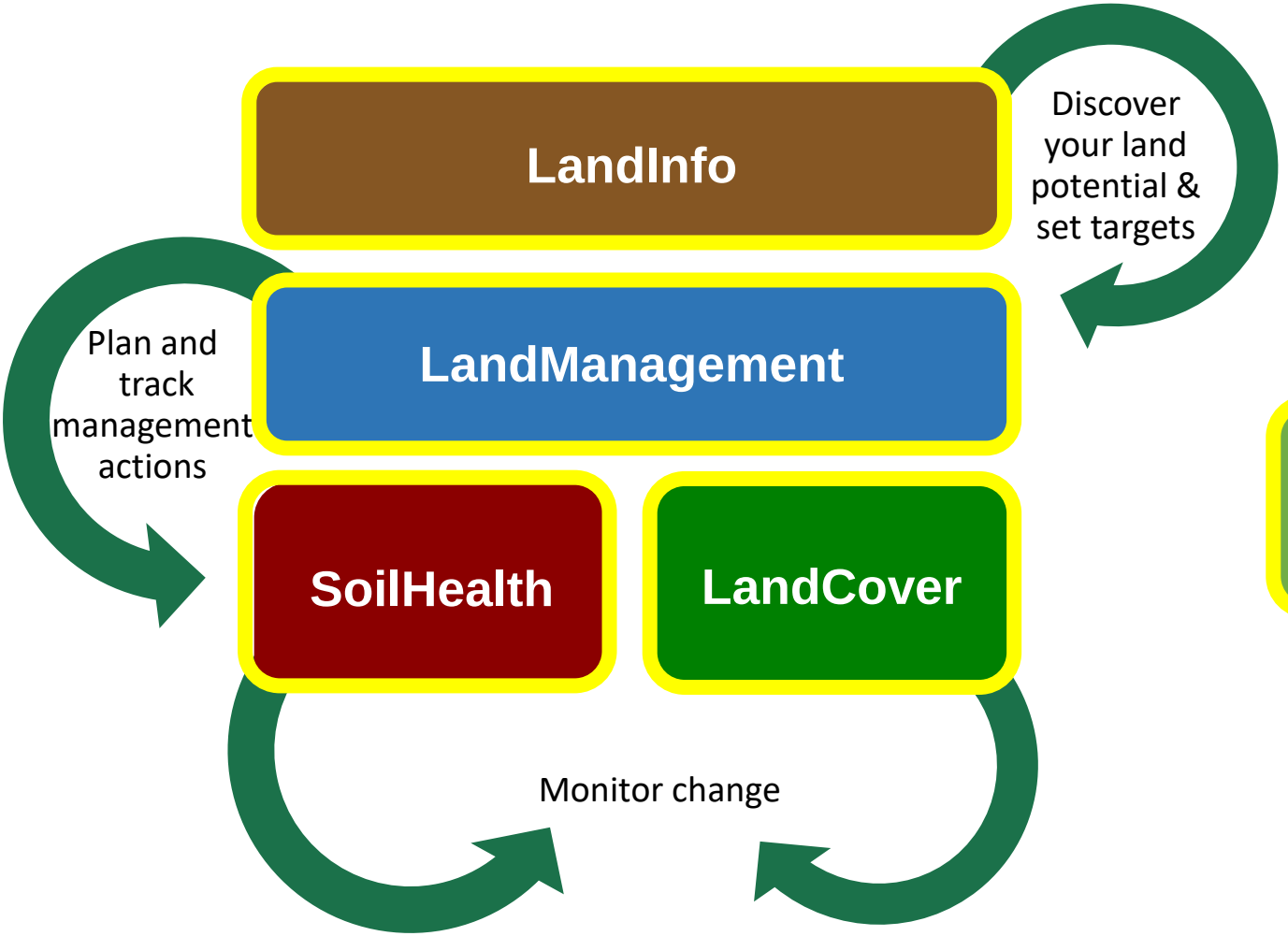
Massive investments in climate change mitigation and adaptation are projected during coming decades. Many of these investments will seek to modify how land is managed

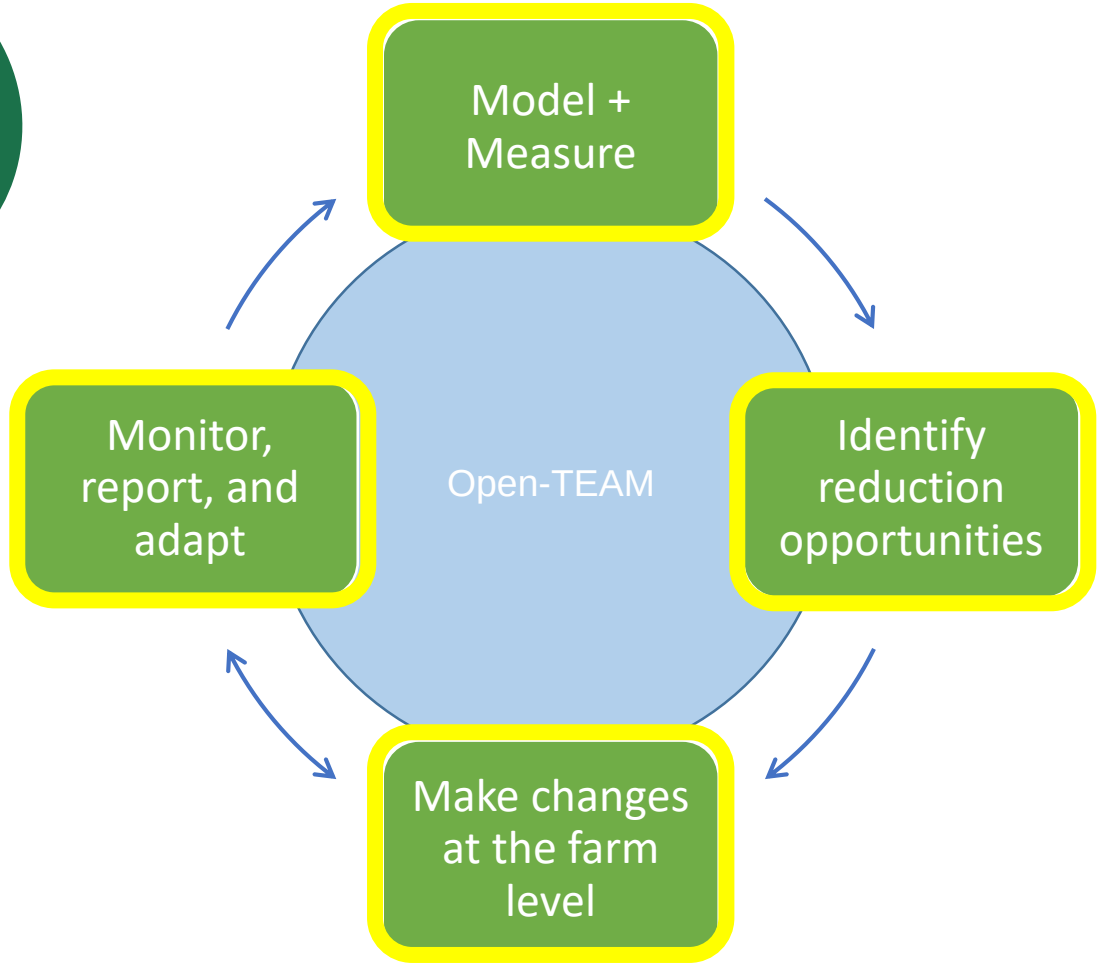

LandInfo
Discover your land potential & set targets
LandManagement
Plan and track management actions
SoilHealth
LandCover
Monitor change

- Demo Flow
  - Zoom in on US location
  - Start with map
  - Create plot (pre-selected in Iowa)
  - Show soils
  - Input tab: super fast demo of texture
  - Return to SoilID: emphasize that targets need to be different
  - Input tab: 1 screen from LandManagement, 2 from SoilHealth – to document, communicate with small-holders, 1 from LandCover.
  - Standard methods allow comparison with large national datasets.



From Smallholder to Supply Chain-level Impacts





Back to Britt

OpenTEAM Workplan and Goals

Year 1	Year 2	Year 3
Develop Technology Commons	Hub Farm Field Testing and Design	Build Farm Adoption
• Build linkages and governance across decision support, data, and modeling tools • Share underlying tools • Use common protocols & Libraries • Establish Hub Farms for testing	• Correlate soil test, remote sensing, agroecosystem models, decision tools • Develop app interface software development kit through user-centered design process • Test across Hub Farms	• Expand beyond hub farms for broader adoption • Model and decision support calibration based on system data • Community of practice engaged on participatory research via Open-TEAM

Overall Goals

- Site specific decision support tools create farm level value
- High quality farm data supports improvement of models and decision support tools
- Cost-effective data aggregation provides climate, water, ecosystem data to brands
- Enhanced ecosystem and farm productivity provide benefits to all

Hub Farms - selected from extensive existing networks

Representative of diverse production systems, scales, geographies and supply chains.
Hub farms will be chosen in transparent selection process once project launches.

To sign up to stay informed, visit:
https://openteam.community/hub-and-network-farm-program/

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