

## Environmental Dynamics and Food Systems

Food systems encompass all of the activities, and their inputs and outputs, involved in feeding populations – from production to processing, distribution, consumption, and disposal. Through the direct use of natural resources as inputs and impacts of activities and outputs, food systems have implications not only for human health but for ecosystem status and environmental sustainability. We encourage the submission of proposals for projects that synthesize diverse data sources and/or develop models and scenarios that reflect the intersection of food system activities with ecological and/or broader socio-environmental systems. Ideally, studies will seek to identify the mechanisms that link the ecological and social dimensions of one or more activities within the food system, or those that link the food system to other (e.g. water or energy) systems. Projects should produce new fundamental knowledge about the structure and function of the environmental foundations of food systems, with the ultimate goal of using this knowledge to improve the environmental, economic and social sustainability of food system activities.

Example research areas within this theme could include but are not limited to:

- Relationships between species biodiversity, pollinator health, and crop productivity
- Urban food systems, green spaces and biodiversity
- Environmental and social implications (including impacts on water and energy systems) of spatially explicit food production and distribution systems
- Biogeochemical cycling and food production and/or food waste
- Linkages between agricultural production, human nutrition and ecosystem services
- Sustainable livelihoods and agro-ecological production in the developing world
- Changing water availability, globalization and local food systems

Please reach out to Dr. Nicole Motzer, [nmotzer@sesync.org](mailto:nmotzer@sesync.org) [1], about graduate student proposals or Dr. Kristal Jones, [kjones@sesync.org](mailto:kjones@sesync.org) [2], if you have questions regarding this particular Theme. If you have questions about a proposal topic, we ask that you please include a paragraph and/or concept document about your project even if not fully developed.

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### Links

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