Request for Information (RFI) – ARS Long-Term Agro-Ecosystem Research Network – 9/30/11

The Agricultural Research Service's Long-Term Agro-Ecosystem Research Network Steering Committee requests information from ARS research units that are interested in becoming formally affiliated with ARS's Long-Term Agro-Ecosystem Research (LTAR) network. This initial request is limited to those units that already manage long-term research watersheds, experimental ranges, or other similar sites. **Responses are due no later than 15 November 2011.** ARS will formally announce the creation of the LTAR Network and name the sites to be included as part of the initial network formation process by the end of December 2011. Subsequently, sites from both within and outside ARS may be added to the LTAR network. The information provided in response to this RFI will allow the LTAR Selection Committee to evaluate candidate sites for inclusion as part of the initial LTAR Network.

Criteria for Evaluating a Site's Potential for LTAR Candidacy

Information provided should address each of the following seven criteria: 1) **Productivity**—the track record of the current ARS research team and the level of existing process-based understanding (this information will be used to assess the overall strength of the research team and its leadership); 2) **Infrastructure Capacity**—the presence of an instrumented watershed or other long-term research facility (e.g., experimental range) of sufficient size to capture landscape-scale processes, heterogeneity, and to integrate across small plot, watershed, and landscape scales; the availability of land to support crop and/or livestock production; and critical infrastructure (e.g., field and analytical laboratory facilities; storage capacity; IT support; housing for visiting researchers); 3) **Data Richness**—the length, breadth, depth, and overall quality of the existing data record; 4) **Data Availability (Accessibility)**—the state of organization and accessibility of existing data sets (e.g., data in STEWARDS or some other publically-accessible database); 5) **Geographic Coverage at Various Scales**—How does the site fit within the overall network, and/or complement other potential network sites in terms of the 10 major US agro-ecosystems (http://www.usda.gov/news/pubs/factbook/002a.pdf), the 21 HUC-2 watersheds comprising the lower 48 US states (http://water.usgs.gov/GIS/huc.html), the 20 NEON Domains (http://www.neoninc.org/domains/overview), etc.? LTAR sites should complement both existing networks and other potential LTAR sites by filling geographic gaps. Where there is geographic overlap, each site should provide unique data (e.g., long-term datasets) or data collection opportunities not possible at other sites (this information will be used to assess network overlap and/or redundancies now as well as existing gaps to be filled later; LTAR sites should be representative of their region, however defined—i.e., LTAR sites would be focal points for research in that region); 6) **Partnerships**—The strength of existing external partnerships with producers, other stakeholders, local universities, etc., including the potential for education and outreach (responses should be more than a series of lists, and should include descriptions of the various activities--research; education; outreach—as well as their strengths and weaknesses; 7) **Institutional Commitment**—Is there an institutional commitment to support the continued operation of the site for the next 30-50 years (a letter of support from the appropriate ARS Area Office is strongly recommended)? How well-integrated are the existing CRIS projects and/or research units currently at the site? Are scientists and support staff committed to this effort?

Additional Factors That Could Enhance the Case for a Specific Site

- Existing water/energy balance and/or carbon flux/sequestration research (e.g., Ameriflux; GRACEnet; NEON), representing a capacity to integrate across soil, water, and air processes.
- A formal association with other long-term research networks (e.g., Ameriflux; LTER; NEON).

Responsibilities of LTAR Network Sites

- Sites must be willing to collect a core set of common measurements that will be compatible across sites, meet established quality standards, and be maintained in a mutually agreed-upon, publically-accessible format (i.e., site operators must agree to the integration aspects of the LTAR Network, including quality-control procedures, data collection, and presentation requirements.
- Sites must agree to participate in an annual LTAR Network meeting/workshop to share research progress, discuss methodological and operational issues, and plan future network activities and initiatives.
- Sites must be willing to undergo a formal review process every 5 years to assess research progress and performance and continued satisfaction of network criteria as established above.
- Sites must be willing to encourage and welcome research partners from other ARS locations, irrespective of National Programs and management structures, and from outside ARS, including other governmental agencies, universities, and the private sector. ARS scientists located at LTAR sites and potential partners should propose LTAR Network-based research that is fully consistent with the mission of ARS and the LTAR Network. Such partnerships are to demonstrate full collaboration, including conceptualizing, designing, conducting, and publishing research conducted as part of the LTAR effort. ARS researchers at these sites must be willing to work with potential partners to secure funds that are adequate to cover the costs of proposed collaborative long-term research.

Additional Background (From *Robertson et al. 2008. BioScience 58(7):640-645*)

"The critical mass needed to establish an inaugural LTAR program requires:

1. A capacity for field-scale experimentation at the site level;
2. Stakeholder involvement that exploits existing data sets & regional infrastructure.

The key element for networking is common measurements at multiple sites that provide:

- The foundation for scaling up to regional and national levels;
- The basis for cross-site syntheses, allowing theories to be developed across gradients of climate change, management intensity, & etc.

(See also pages 50-53 of *The Agricultural Research Service Water Availability & Watershed Management National Program Action Plan 2011-2015*

(http://www.ars.usda.gov/SP2UserFiles/Program/211/NP211%20FY11-15%20Action%20Plan%20Final%20110408.pdf).

Format

The body of the RFI response should not exceed 15 pages of single-spaced text and/or graphics (1" margins; 11 point Times New Roman font or equivalent in terms of characters per inch), excluding citations.