Molecular Observatory Network (MONet) V.1

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ABSTRACT

EMSL is leading the effort to develop a national network of environmental sampling and sensing sites to produce comprehensive molecular-level information on the composition and structure of soil, water, and resident microbial communities required to advance the span and accuracy of multiscale models of Earth systems. Through the Molecular Observation Network (MONet), EMSL will collaborate with a broad range of partners managing an expanding network of selected natural, urban, and managed watershed, coastal, continental, and atmospheric sites, both experimental and observational.

To establish MONet for the Biological and Environmental Research user community, research will focus on seven areas. Research focused under current development include:

- Establishing the supporting field and experimental networks,
- Advancing methods for model–data exchange and multiscale modeling,
- Automating organic matter and soil analysis,
- Developing the next generation of rhizosphere sensors and other field sensors for plants, microbes, nutrients, biomarkers, and aerosols.

The data and models generated through MONet will improve prediction of ecosystem function and response to disturbances, supporting the long-term U.S. Department of Energy goal of scientifically informed decision-making regarding the nation's energy and environmental security and sustainability.

For more information please visit: https://www.emsl.pnnl.gov/monet

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