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Leibniz Centre for Agricultural Landscape Research (ZALF)

Satellite-based information on grassland management (SattGrün)

A new research project on ecosystem services of grassland has been launched at the Leibniz Centre for Agricultural Landscape Research (ZALF) in Müncheberg. The focus is on satellite data, which has recently been made available free of charge through the Copernicus programme. This data, which has a high temporal and spectral resolution, will be used to feed modern simulation models which in turn provide decision support for grassland management through simulations.

"Grassland management is a question of experience", explains Dr. Claas Nendel, co-head of the research platform "Models and Simulation" at ZALF and scientific coordinator of the SattGrün research association, "data-based decision-making tools for grassland not available at all on the market ". In contrast to arable farming, where companies approach farmers with customised offers and make precise recommendations at the square meter scale with respect to fertilization or crop protection, grassland management still lacks the appropriate tools for optimising the timing of mowing, fertilisation and other measures. "Soon our recommendations will extend beyond this horizon: by simultaneously taking ecosystem services into account, we will be able to better demonstrate the added value of grassland management for society", adds Dr. Nendel. Yields and fodder quality of intensively managed grassland will then be equally important criteria as biodiversity, carbon storage in the soil or nitrate leaching.

The project brings together researchers from Humboldt University of Berlin, Julius Kühn Institute, the German Meteorological Service, the Helmholtz Centre for Environmental Research (UFZ), ZALF and companies that already have practical experience in site-specific agricultural management, also known as precision farming. Farm Facts GmbH, Pfarrkirchen, and Vista GmbH, Munich, will develop cost-based site-specific products as part of the project, while the public research institutions will develop free-of-charge but larger-scale offers. The latter addresses the need for advice at both the federal and provincial level, where the project will provide valuable input for the identification of sites well-suited for grassland and scenarios on management options for climate change adaptation.

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The research project is assigned to the Directive on the Promotion of Innovations for Sustainable Grassland Management as part of the Innovation Promotion Programme of the Federal Ministry of Food and Agriculture (BMEL). BMEL has invested 1.5 million euros, which is 80 percent of the total cost of the project.

Project partners:

- Leibniz Centre for Agricultural Landscape Research (ZALF) (www.zalf.de)
- Farm Facts GmbH, Pfarrkirchen
- Vista-Geoscientific Remote Sensing GmbH, Munich
- Humboldt University of Berlin
- Julius Kühn Institute (JKI), Braunschweig
- German Meteorological Service (DWD), Braunschweig
- Helmholtz Centre for Environmental Research (UFZ), Leipzig

More information is available at:
http://www.zalf.de/de/forschung_lehre/projekte/Seiten/details.aspx?iddp=2044

The researchers use satellite data to help them make decisions on grassland management | The image is released for editorial reporting purposes provided the source of the image is given: © ZALF / Claas Nendel | Image source in color and print quality: http://www.zalf.de/de/aktuelles

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About the Leibniz Centre for Agricultural Landscape Research (ZALF) in Muencheberg, one of the institutes of the Leibniz Association:

ZALF's mission is to scientifically explain causal relationships in agricultural landscapes, and to provide society with a knowledge-base for the sustainable use of agricultural landscapes through excellent research.

Unlike natural landscapes, agricultural landscapes are shaped by their use and their users. The research at ZALF therefore comprises the social demands placed on agricultural landscapes and the effects of their use. ZALF has been increasingly concentrating its research on the Grand Societal Challenges relevant in the context of agricultural landscapes, such as climate change, food security or the protection of biodiversity. www.zalf.de