

Climate Change in Your Backyard

We are all affected by global warming. Its impacts are already tangible and will require wide-ranging adaptations from humans and nature in future. Annette Menzel conducts research into these complex changes with the aim of finding a practical means of handling them – together with the citizens of Bavaria. An interactive online portal by the name of BAYSICS provides a forum for this dialog.

Kurzfassung · Langfassung: www.tum.de/faszination-forschung-26

Klimawandel vor der Haustür



Die Folgen der Erderwärmung sind auch in Bayern spürbar und erfordern weitreichende Änderungen des Lebensstils. Diese lassen sich in demokratischen Gesellschaften nur dann erfolgreich umsetzen, wenn sie von großen Teilen der Bevölkerung als notwendig, akzeptabel und realistisch erkannt werden. Unter dem Motto „Wissen vermitteln – Wahrnehmung fördern – Komplexität kommunizieren“ will der interdisziplinäre Forschungsverbund BAYSICS Bürgerinnen und Bürger an der Erforschung des Klimawandels teilhaben lassen. In vier Citizen-Science-Projekten haben Laien die Gelegenheit, natürliche Phänomene zu erkunden und ihre Veränderung infolge der Erderwärmung nachzuvollziehen. Inhaltliche Schwerpunkte liegen auf den klimabedingten Veränderungen des Bergwaldes, des Pollenaufkommens sowie der jahreszeitlichen Erscheinungsformen von Pflanzen und Tieren in der Stadt. Das so generierte Wissen kommt direkt den Mitwirkenden zugute. Zugleich liefert es den im Verbund Forschenden wertvolle Daten für ihre natur- und sozialwissenschaftlichen Studien. □



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Annette Menzel

Climate Change

Early Flowering

Mountain Forests

Hay Fever

Urban Animals

Link

www.oekoklimatologie.wzw.tum.de

Professor Menzel, what do you hope to achieve through BAYSICS?

This new portal is part of the Bavarian Climate Research Network. In a nutshell, we want to use the portal to spread knowledge, raise awareness, and communicate complexity. Our aim is to raise awareness of the phenomenon of climate change and its consequences among as many members of society as possible and enable them to engage in research as citizen scientists.

What exactly is citizen science?

In essence, it is when ordinary citizens participate in the scientific process. We call on citizens with an interest in the topic to explore their environment and report their observations. In doing so, they generate data and create added value for science. This not only benefits professional researchers but also the citizen scientists: they have the opportunity to conduct experiments, compare their findings against existing datasets, pose their own research questions, and reflect on what they would like to know and understand. The new BAYSICS portal offers an ideal platform for this. ▸



Citizens can participate in BAYSICS via an app. Here, Annette Menzel demonstrates the app by taking a picture, which can be uploaded.

Prof. Annette Menzel

Always striving to facilitate a dialog between research and society, Annette Menzel combines her research as a forestry scientist with her role as a forest officer. After graduating from LMU Munich, she took the state examination and spent several years at the Bavarian Forestry Commission. In 1997, Menzel obtained her doctorate in the phenology of forest trees under changing climatic conditions. After obtaining her lecturer qualification, she continued to research climate change-biosphere links at the TUM Chair of Ecoclimatology; she became acting head in 2003 and was made an associate professor in 2007. Annette Menzel was lead author of the Intergovernmental Panel on Climate Change (IPCC) assessment report from 2004 to 2008 and received a European Research Council grant in 2012.

How does the BAYSICS portal work?

The centerpiece is an app specifically designed for our citizen science projects. Unlike commercial apps you can download to your phone from the App Store, we opted for a progressive web app – which can be amended or augmented as and when new questions and topics arise in future. Prof. Dieter Kranzlmüller at the Leibniz Supercomputing Centre of the Bavarian Academy of Sciences and Humanities is coordinating the programming and backend in close collaboration with Prof. Liqiu Meng from the TUM Chair of Cartography. Their teams are making sure that the entire infrastructure is easy to use and looks good, too.

Who is involved in BAYSICS?

We are a genuinely interdisciplinary network! There are four citizen science projects with different focuses in the natural sciences, plus three sub-projects in the social sciences. In collaboration with several Bavarian high schools, Prof. Ulrike Ohl from the University of Augsburg has devel-

oped an educational concept for “inquiry-based learning” with ideas for pupils and their teachers. Prof. Arne Dittmer from the University of Regensburg is developing concepts that will allow climate change to be addressed adequately at school – including its political and ethical dimensions. Meanwhile, Prof. Henrike Rau from LMU is interested in public opinion, asking: Who do different social groups consider responsible for climate change? How are measures to counter it evaluated and supported?

What are you hoping will come from this dialog with the citizens of Bavaria?

We want to motivate people to engage with the topic of climate change. They need to understand just how serious it is – and that our way of life must change on a fundamental level. We’re trying to address large parts of the population and gain acceptance for climate protection measures. Only then will we be able to make a change in society.

■ *Monika Offenberger*

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A rooftop meteorological station, high above the TUM School of Life Sciences Campus, is used for measurements and for testing measurement equipment before field use.