EBERHARD KARLS
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TÜBINGEN

Spring School 2021 – Land Surface Processes

When? Monday March 15th – Friday March 19th

**Where?** Video Conference, Internet

Who?

(and many others)

As the third wave of the Corona pandemic prevented an in-person event for the second time, the Spring School on land surface processes, which was originally planned for spring 2020, took place as an online event. Even after one year of video conferences and online teaching the organizing researchers of the University of Hohenheim were highly motivated and had set up an intense program with a mix of lectures and hands-on exercises.

The Spring School started on Monday evening with an inspiring guest lecture held by Juliane Mai from the University of Waterloo, who summarized years of her research. She showed us her newly developed methods for the **sensitivity analysis** of hydrological models, as well as techniques that can quantify the reliability of any sensitivity analysis tool.

The topic of the second day was modeling processes in soil/crop systems. Thilo Streck gave an introductory lecture on the theory of **crop growth modeling**, which was complemented by Expert-N exercises. RTG-member Michelle Viswanathan and Daniela Bendel from the University of Hohenheim guided us through the interface and the many options of Expert-N, so that even newcomers were able to set up a simple simulation by the end of the day.
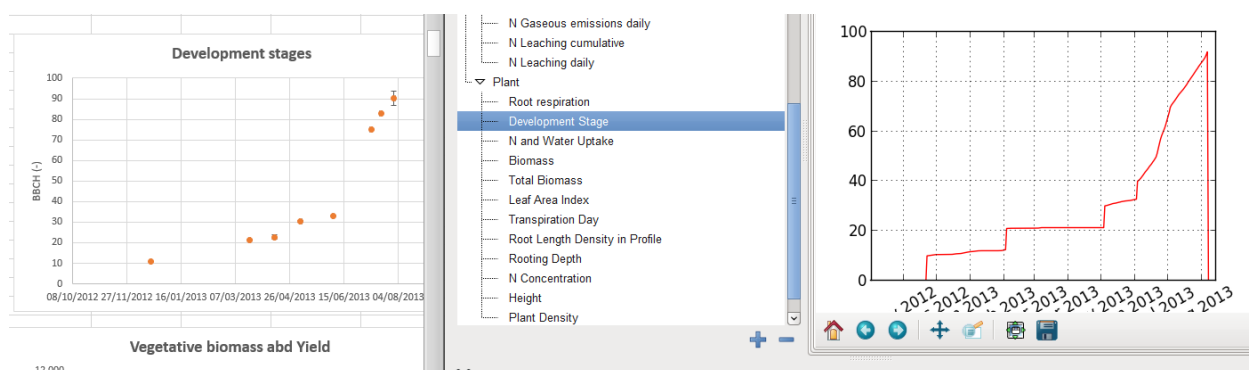
On Wednesday, Michelle and Daniela showcased some applications of crop modeling, presenting their research on **Bayesian techniques** in (regional) crop modeling. After a free afternoon, Volker Wulfmeyer presented Hohenheim's new Land-Atmosphere Feedback Observatory (LAFO), where a combination of different sensors permits to characterize the influence of the land surface onto atmosphere in detail. This allows for better predictions of clouds, precipitation and drought.

The interactions between the land surface and the atmosphere were also a topic on Thursday, when Joachim Ingwersen introduced the participants to the **land surface model** NOAH-MP, followed by exercises with the model. In the afternoon, Natalie Orlowski from the University of Freiburg showed how isotope measurements can be used to trace hydrologic processes in soils and plants.

On Friday, Tobias Weber (University of Hohenheim) explained us the concept of **soil hydraulic functions**, which the participants promptly had to implement in an R power-programming session. The exercises were followed by another guest lecture: Stathis Diamantopoulos from the University of Copenhagen talked about modeling of preferential flow.

Even though the online Spring School provided plenty of interesting talks and new insights, the social aspect of the course was sorely missed. The traditional hike, which could not take place in March, was therefore moved to July. Starting at the GUZ (University of Tübingen), Olaf Cirpka led the group of RTG-students and RTG-related researchers/professors to Hagelloch and the Goldersbach valley in the Schönbuch. Upon return, a tasty dinner awaited the group in the GUZ and everyone could catch up on informal exchange and socializing with their colleagues.