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Modelling the Net Primary Productivity of European land cover classes using remote sensing data

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In the global carbon cycle terrestrial processes form an important sub-system. During the last years modeling of the net carbon uptake by vegetation (Net Primary Productivity, NPP) has become an important tool to study the mechanisms of carbon exchange and to quantify the magnitude of terrestrial carbon sinks and sources.

At the German Aerospace Center (DLR) the vegetation model BETHY/DLR (Biosphere Energy Transfer Hydrology Model, Knorr, 1997) is used to perform simulations of NPP over Europe. The model is driven by remote sensing data of leaf area index (LAI) and land cover classification and meteorological input from the ECMWF (European Center for Medium Range Weather Forecast).

As a step towards an operational NPP-modeling system for Europe we will present first results of the geographical distribution of NPP for different land cover classes, such as coniferous forests and grasland. Also regional evaluation results of our simulations with ground-based measurements from CARBOEUROPE-stations will be presented.