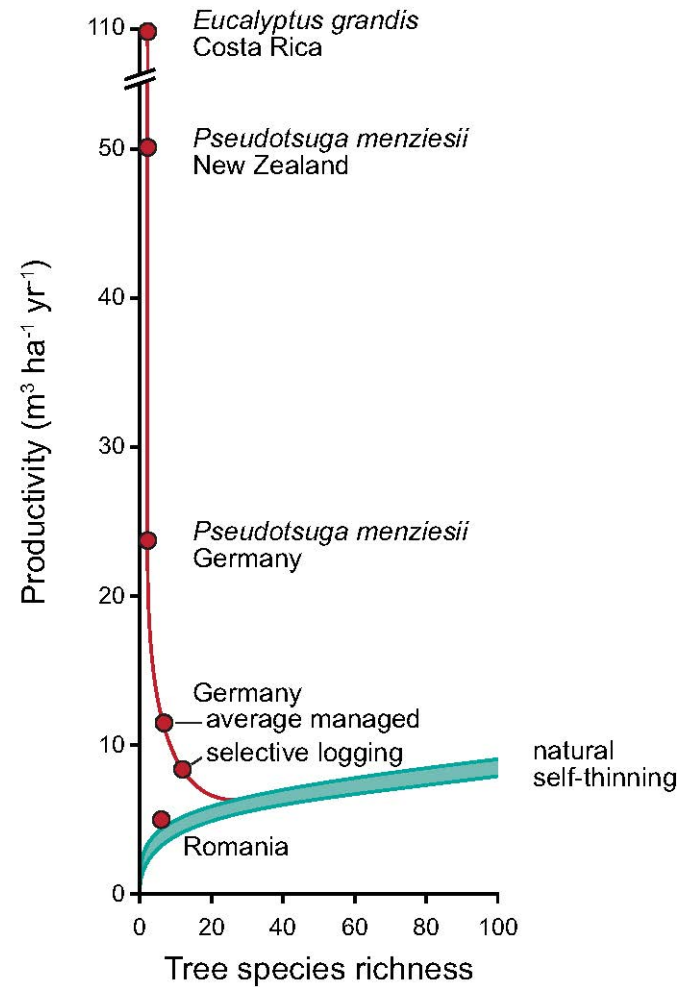


# Management breaks the natural Productivity-Biodiversity relationship in forests and grasslands

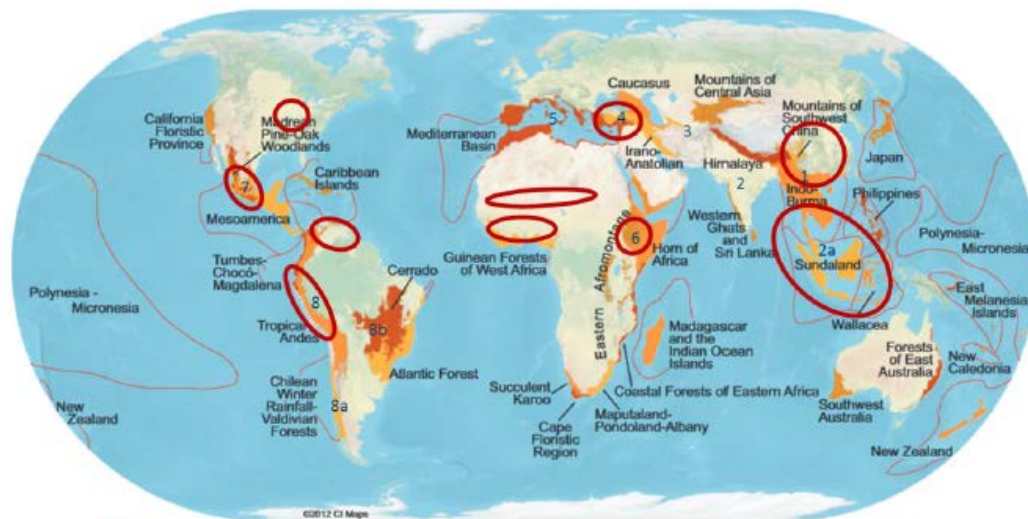
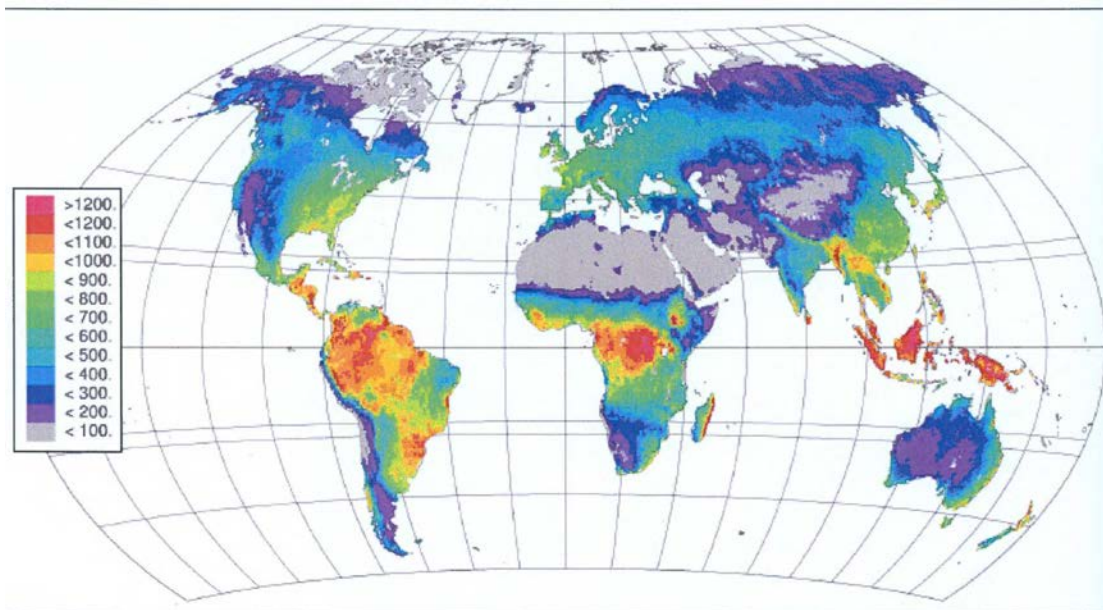
**Detlef Schulze**

MPI Biogeochemistry, Jena

Beijing, September 7, 2017

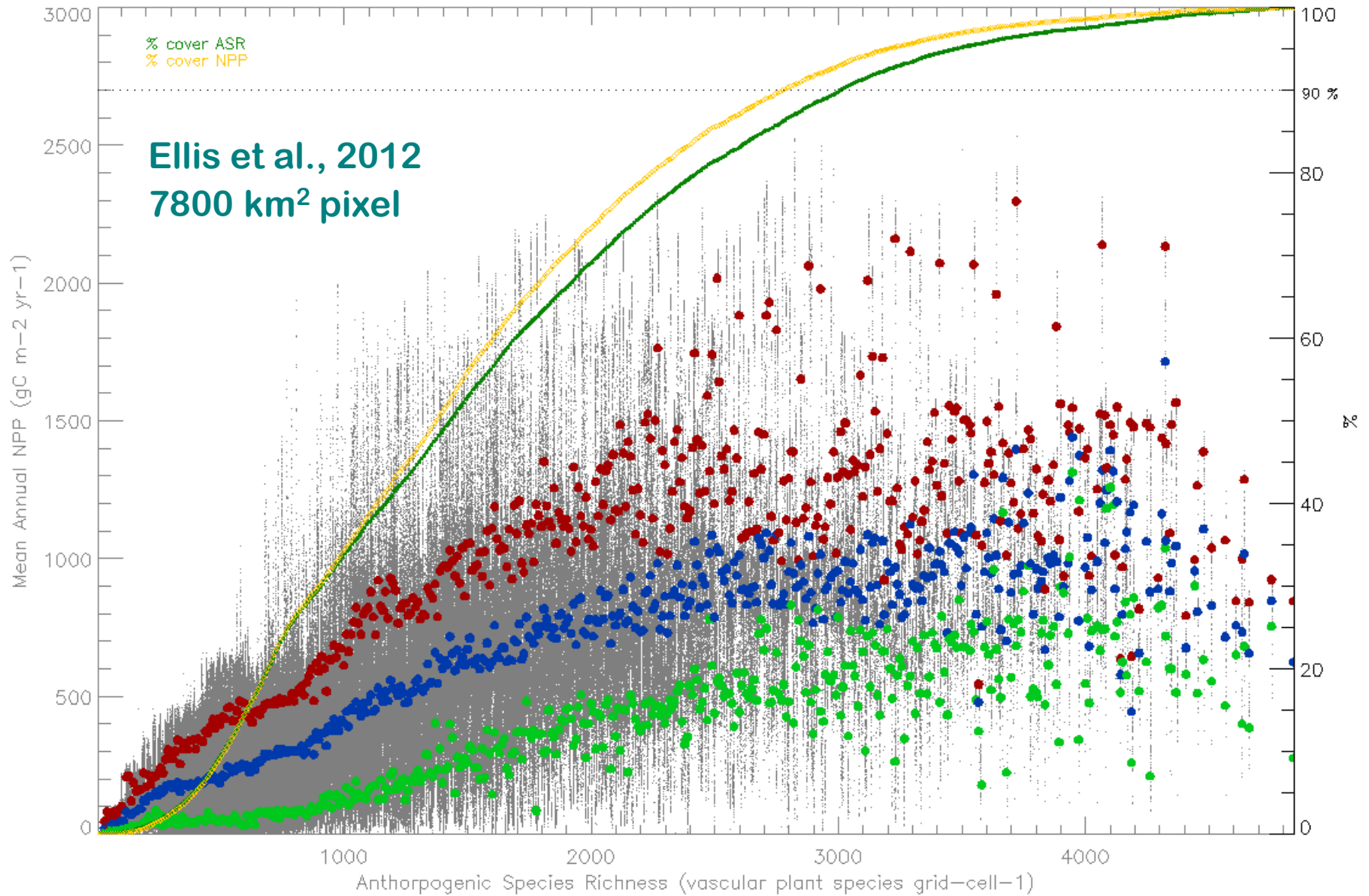


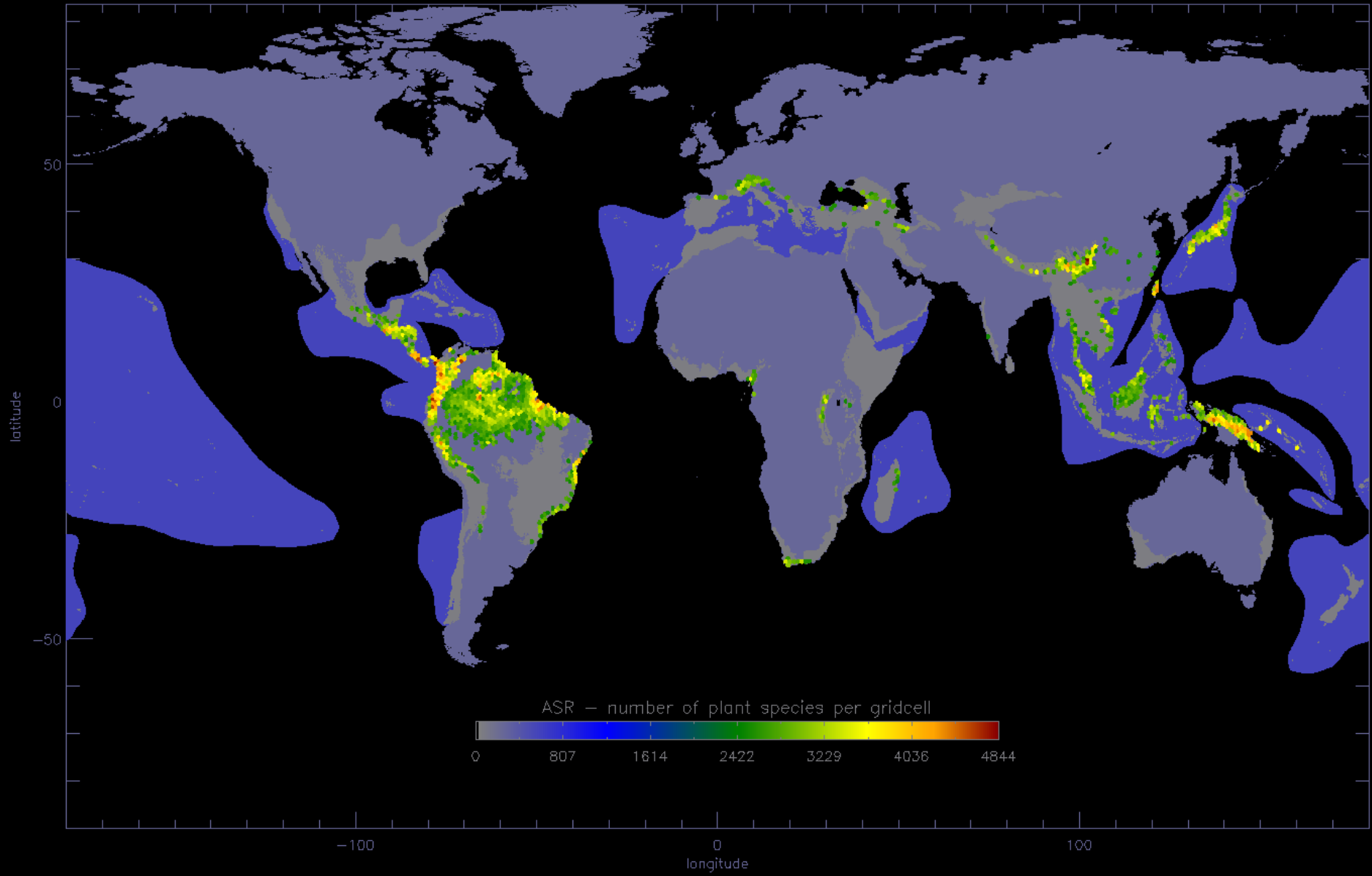
It is the productivity of single species which makes land users to be reluctant to use biodiversity as driver of productivity

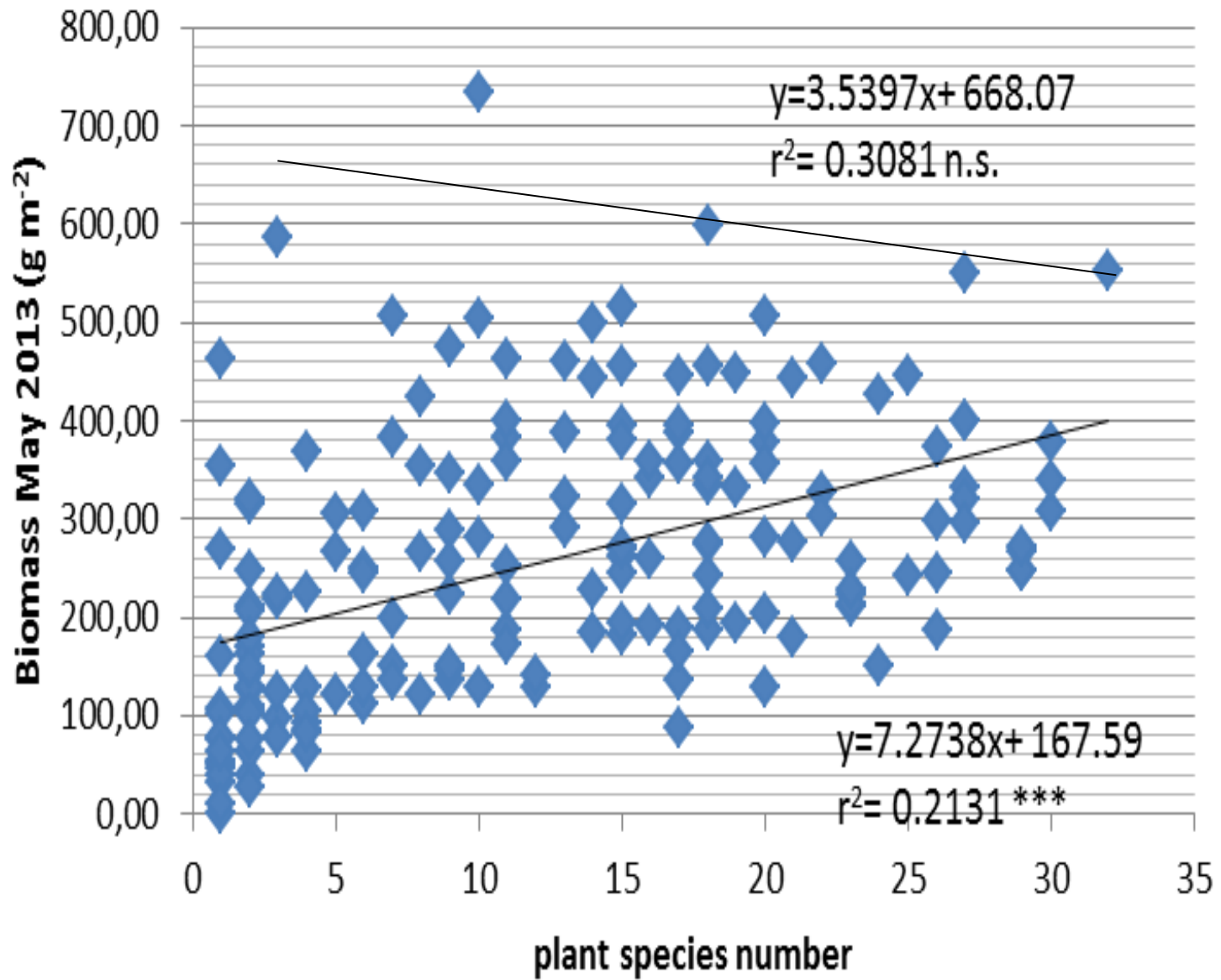


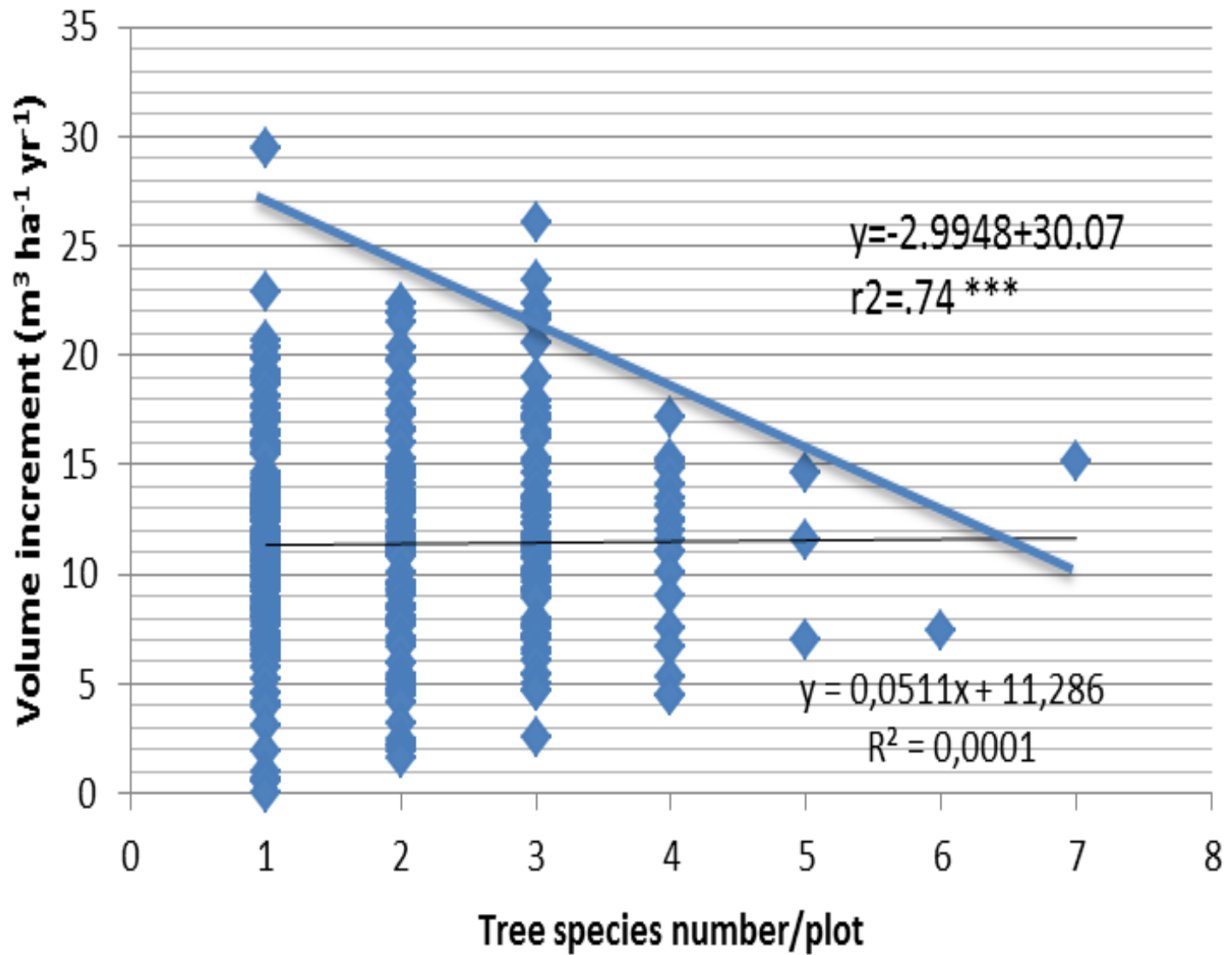
○ Centers of agricultural development    ■ biodiversity hotspot

1-8 = Vavilov's centers of diversity: China (1); Indian subcontinent (2); Southeast Asia (2a); Central Asia (3); Turkey-Iran, fertile half moon (4); Mediterranean area (5); Ethiopia (6); Mexico (7), Andes (8); the Chilean (8a) and Brazilian/Paraguayan (8b) non-centers



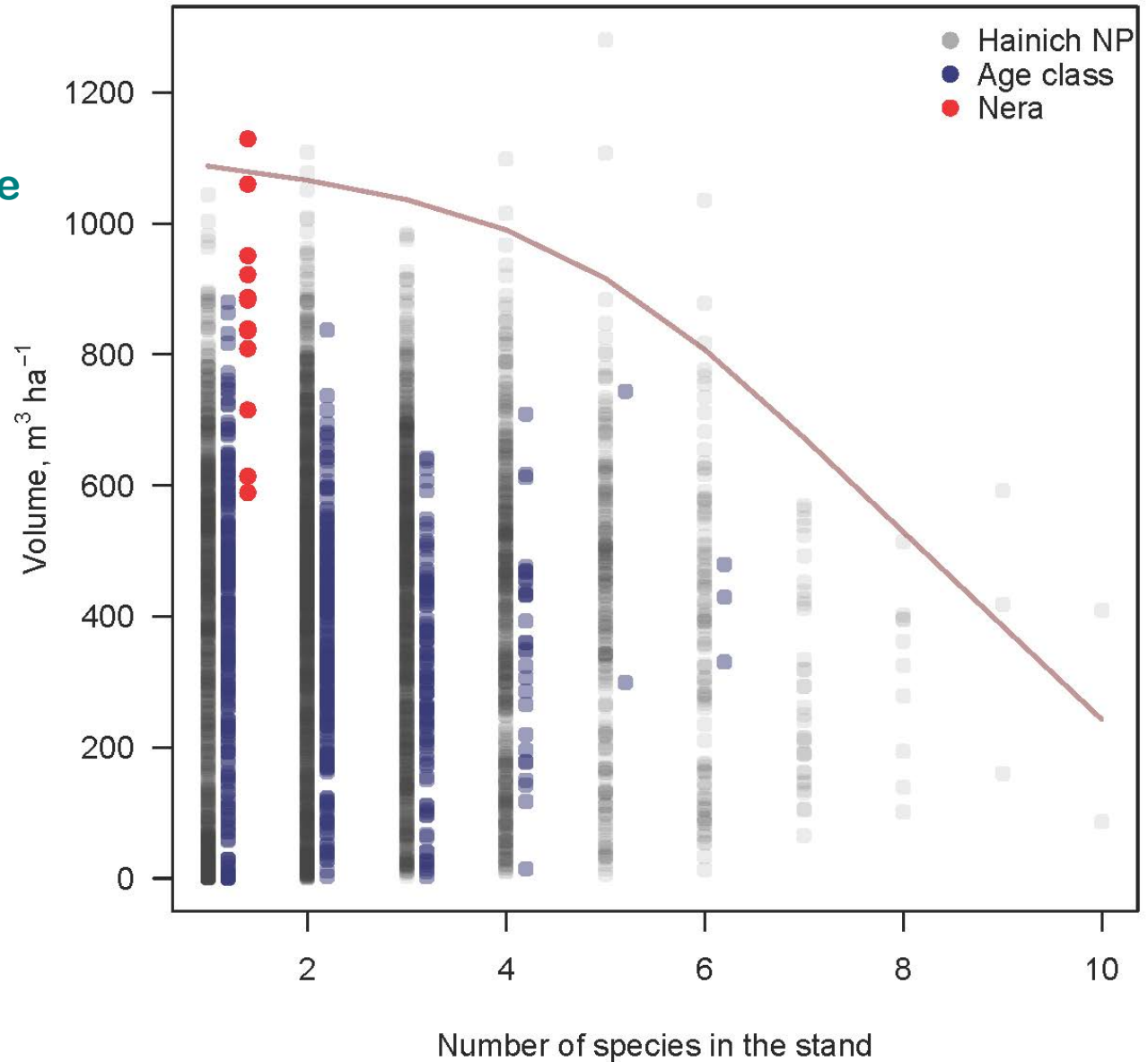




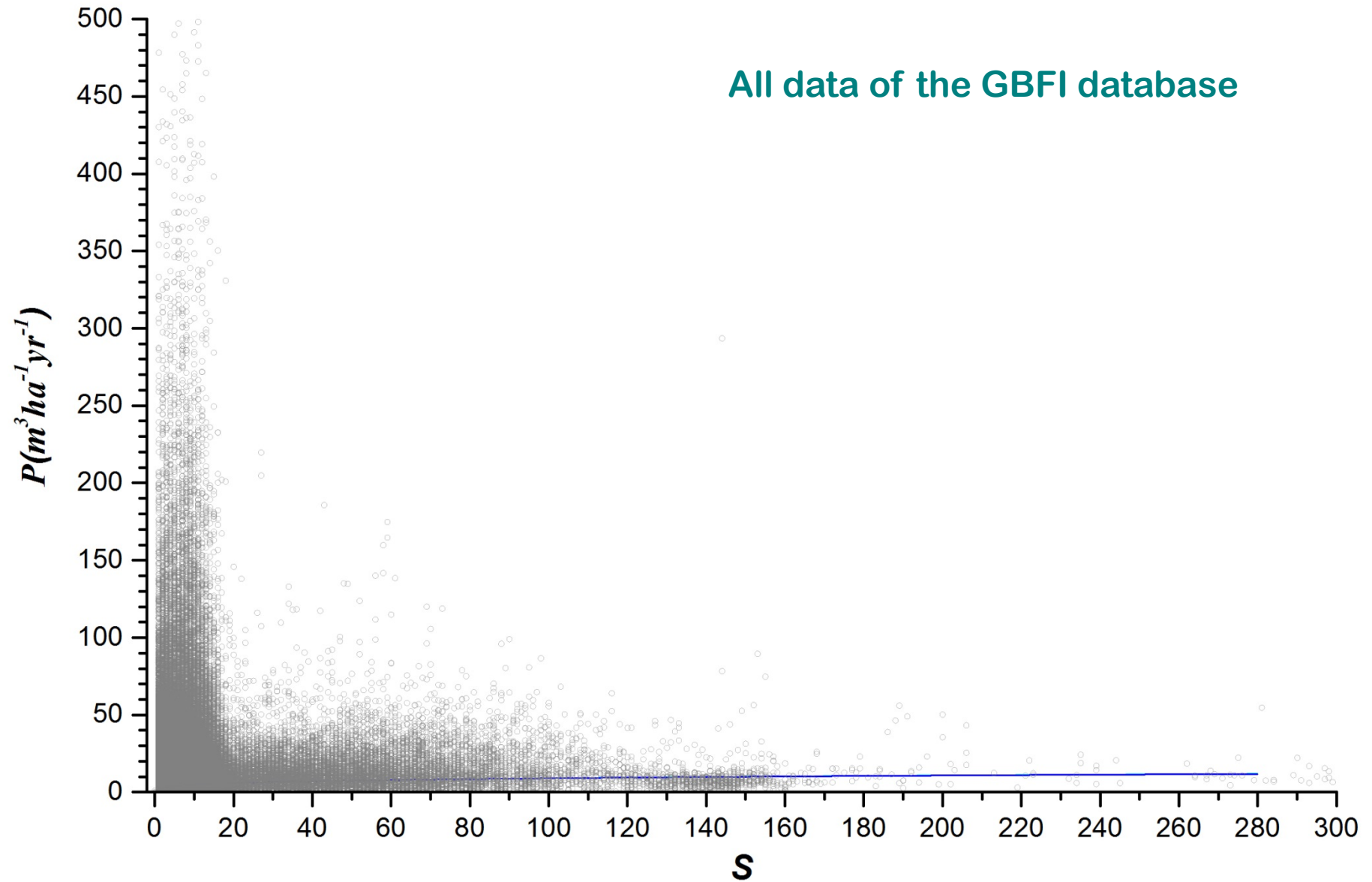


Forest inventory of broad leaved forest in Germany

# Deciduous forest in central Germany and Nature reserves in Romania and Ukraine







# Conclusions

1. Managed systems reach highest productivity at low diversity
2. Productivity of managed systems is higher than in unmanaged systems
3. Land users are interested in the envelope function but NOT on the average function
4. Evaluating the loss of biodiversity must take into account the increase of productivity of managed systems at low diversity

**Thanks**