

The impact of modern agriculture on the subterranean archaeological heritage in Germany

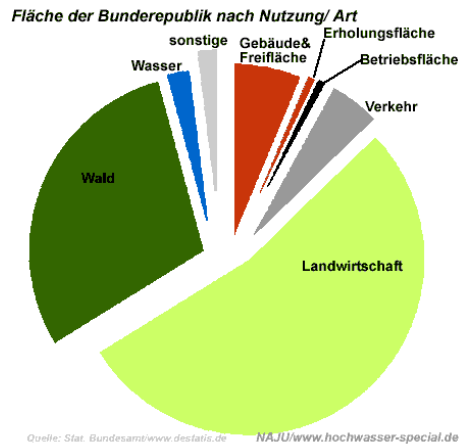
Jürgen Kunow, Bonn

New challenges to the co-operation between „archaeology and farming“



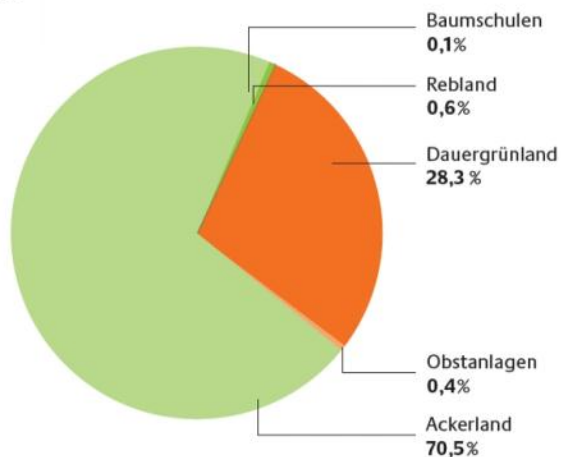
- future Common Agricultural Policy of the European Union (CAP) from 2013
- climate change (especially the effects of heavy rain, storms, dryness)
- worldwide increasing demands for renewable raw materials and foodstuffs

land use, overall



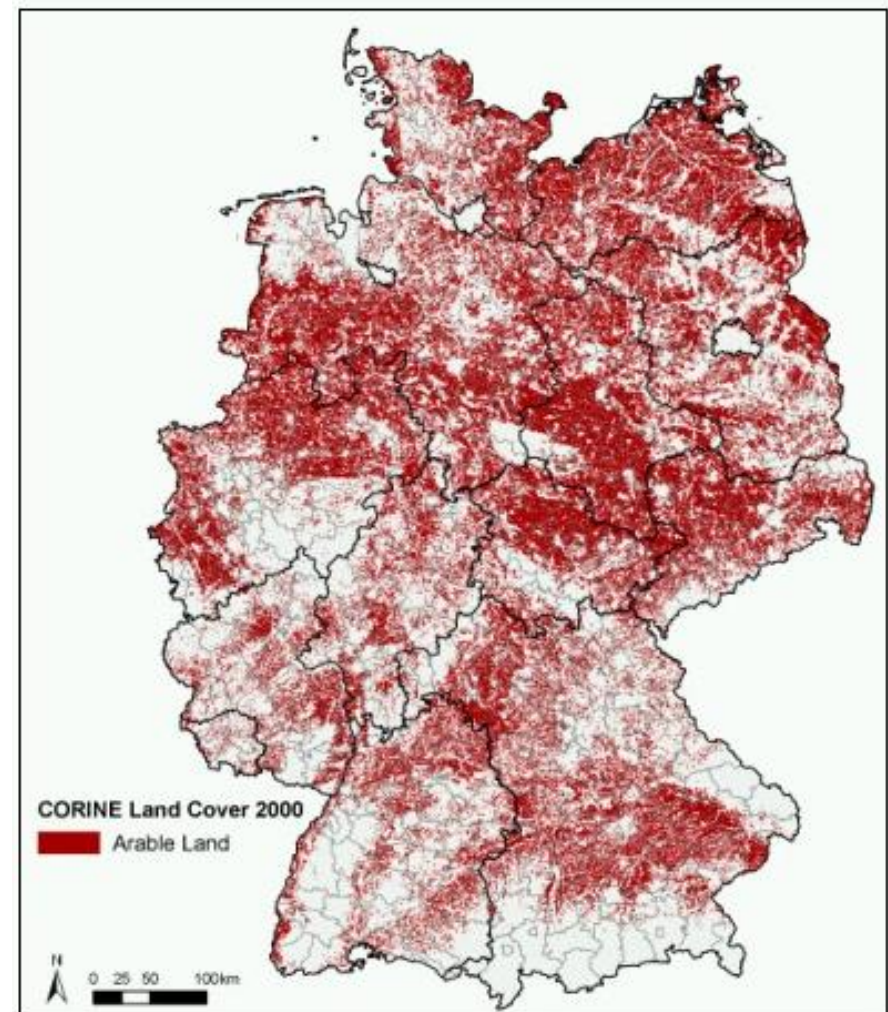
land use, farming

Landwirtschaftlich genutzte Fläche (LF)
nach Kulturarten
2008



Quelle: Statistisches Bundesamt, BMELV, 425

arable land in Germany



CORINE Landcover **arable land**

Development of ploughing

ca. 1990



ca. 1950



2011



Erosion as a result of intensive farming and climate change

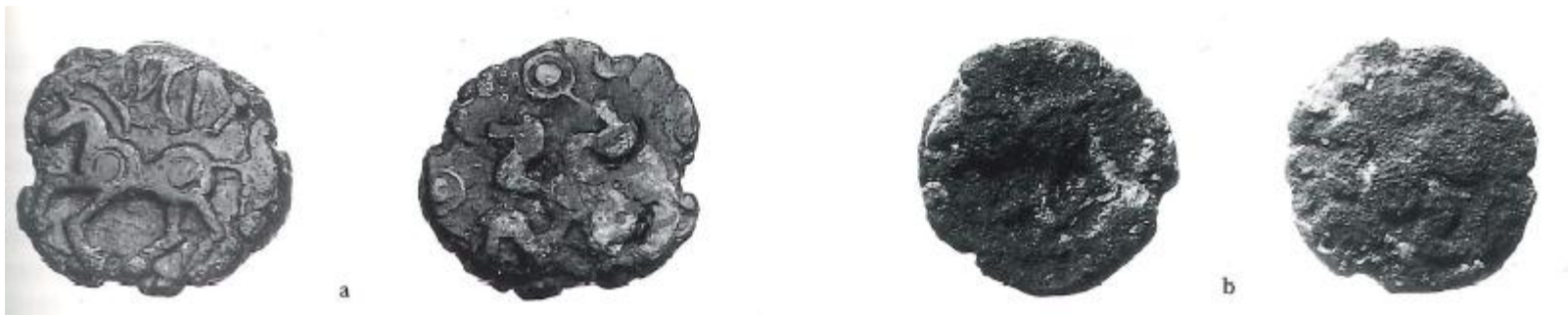




Traces of deep-ploughing
as disturbances in
archaeological features

Effects of nitrogen fertilisation on metal finds

Celtic coins from the Rhineland-Palatinate and Northrhine-Westphalia



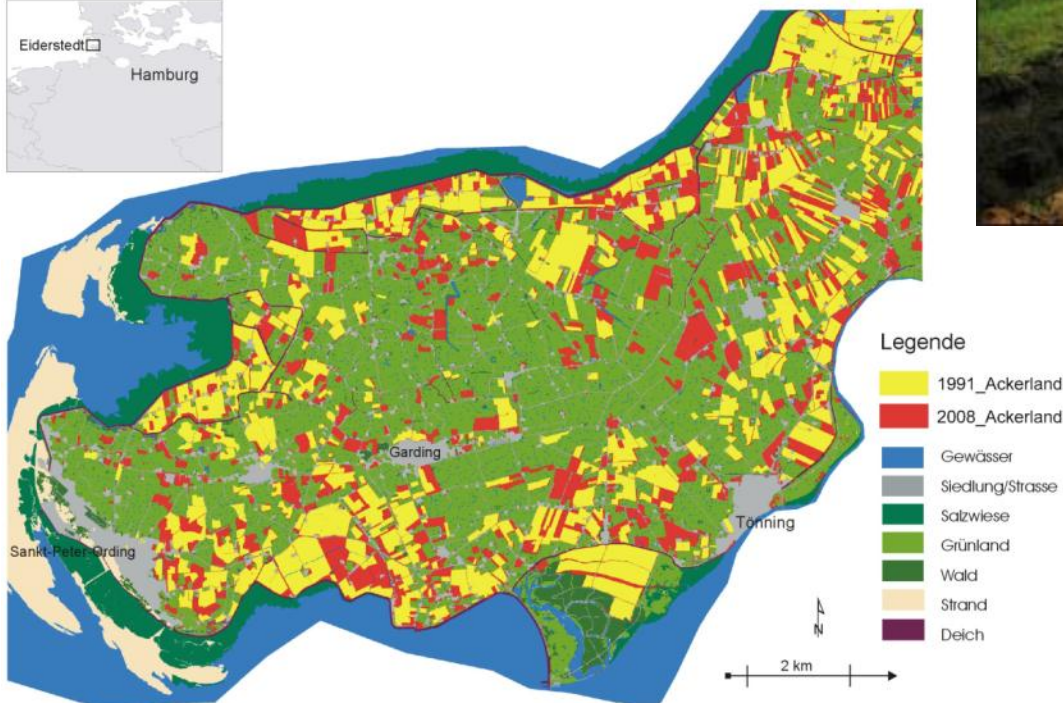
old finds

new finds

left: Pommern, Kr. Cochem-Zell
right: Nörvenich, Kr. Düren

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right: Nörvenich, Kr. Düren

The transition from grassland and monoculture: the impoverishment of the landscape



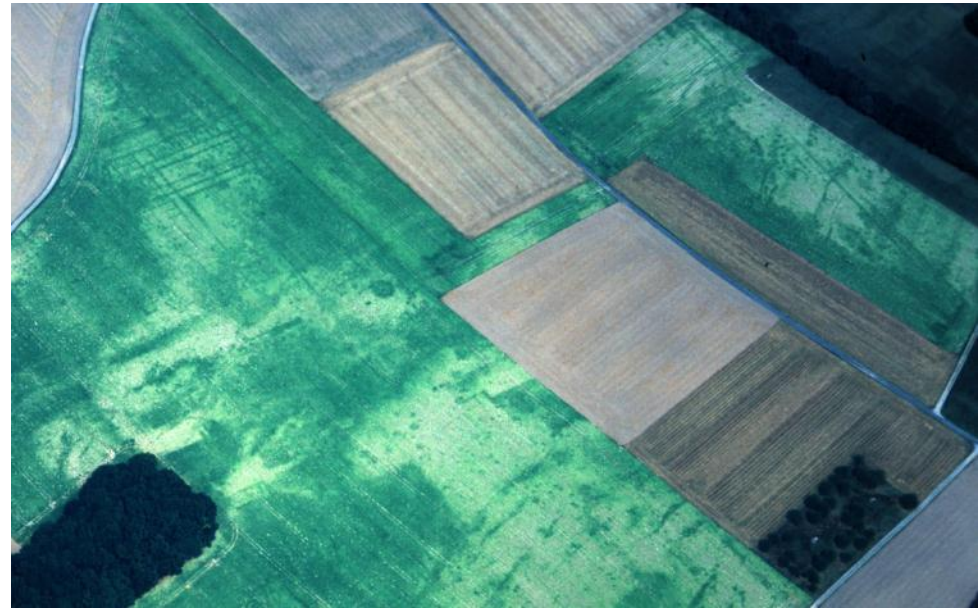
Legende

- 1991_Ackerland
- 2008_Ackerland
- Gewässer
- Siedlung/Strasse
- Satzwiese
- Grünland
- Wald
- Strand
- Deich

Aim: The removal from agricultural use -
the nature-orientated visualisation of archaeological monuments



Römerpark Ruffenhofen, Bavaria

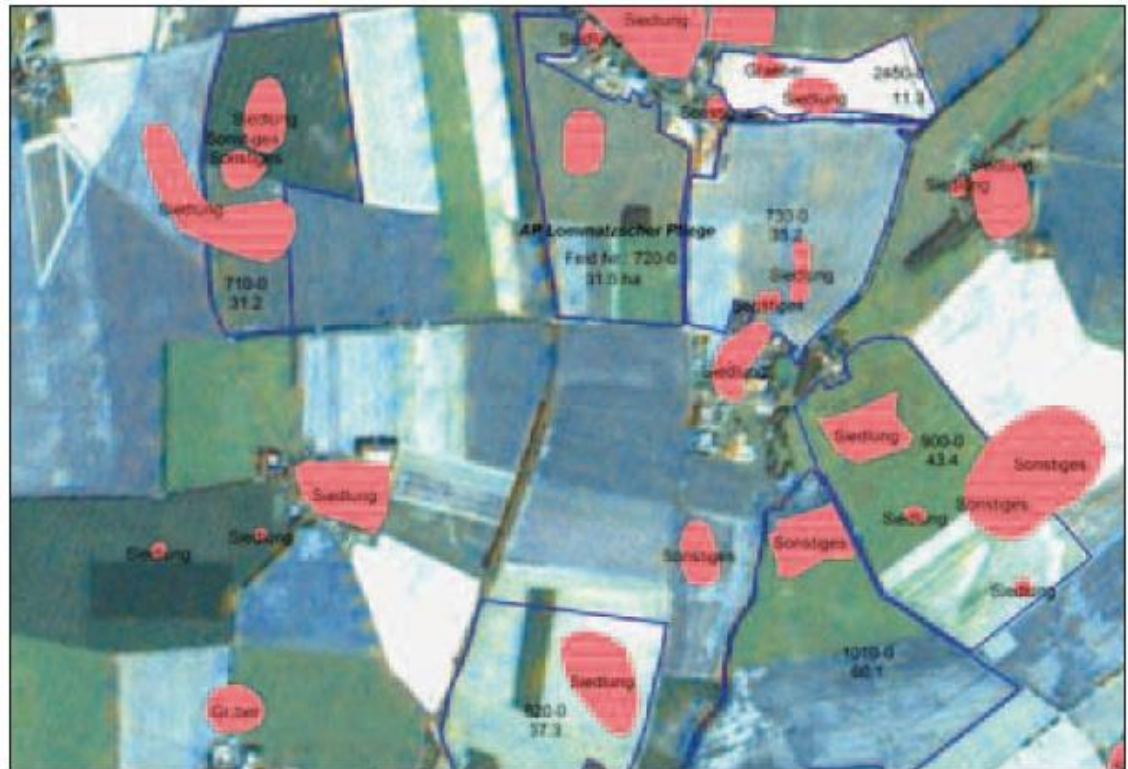


Two legionary fortress *Vetera Castra*, Xanten, NRW

New methods of cultivation („precision farming“) and financial compensation owing to crop-reduction



GIS-supported cultivation



Heritage areas and precision farming