



Finding past-route networks

Modelling possible Roman and early-medieval routes in the Netherlands using high-resolution landscape data

This research is carried out within the project *The Dark Age of the Lowlands in an interdisciplinary light: people, landscape and climate in the Netherlands between AD 300 and 1000* (NWO 360-60-110)

For more information please see:



http://kic.library.uu.nl/kic/archaeology/research/Projects/Wiki/DA_This.aspx

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Background

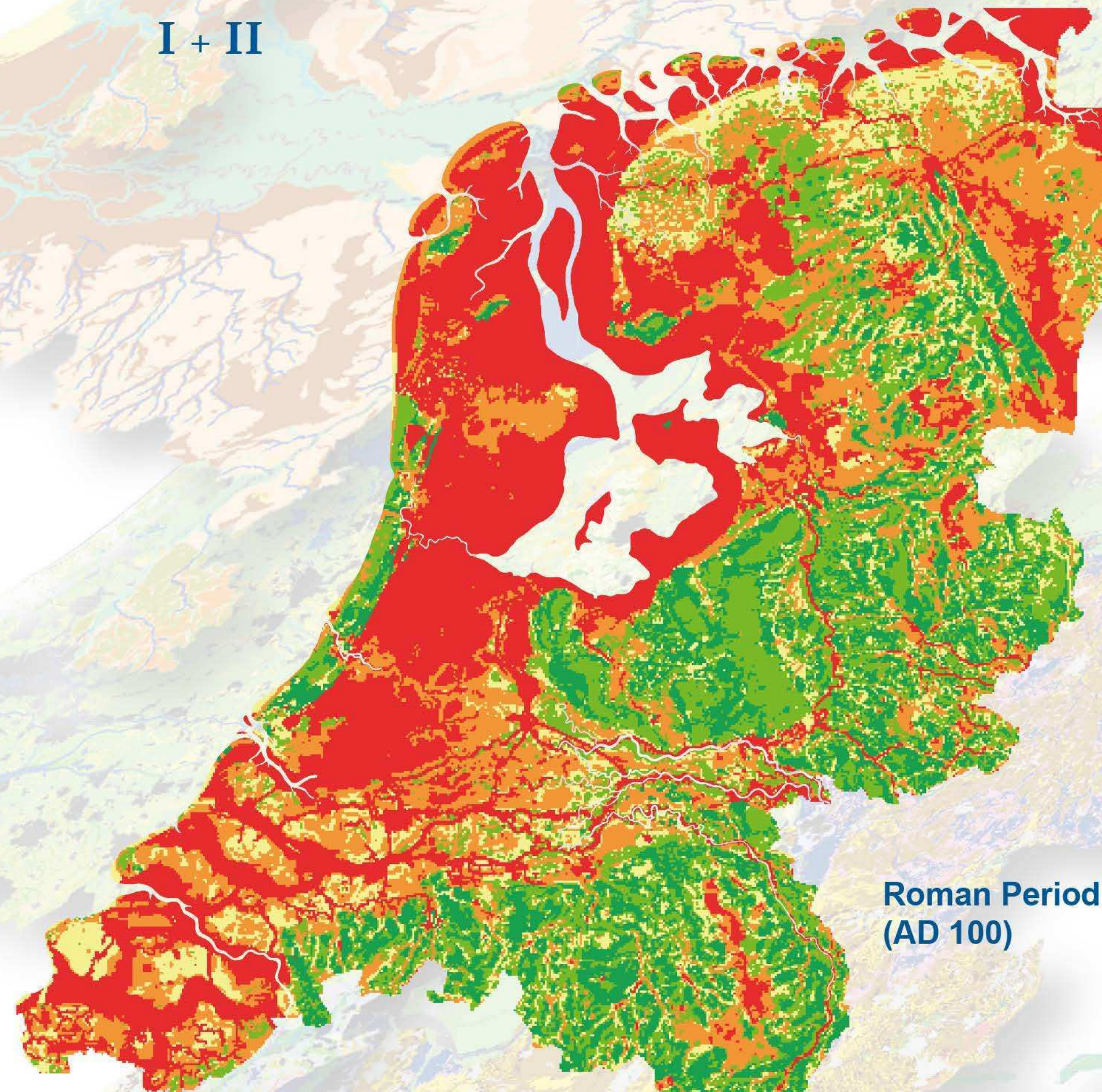
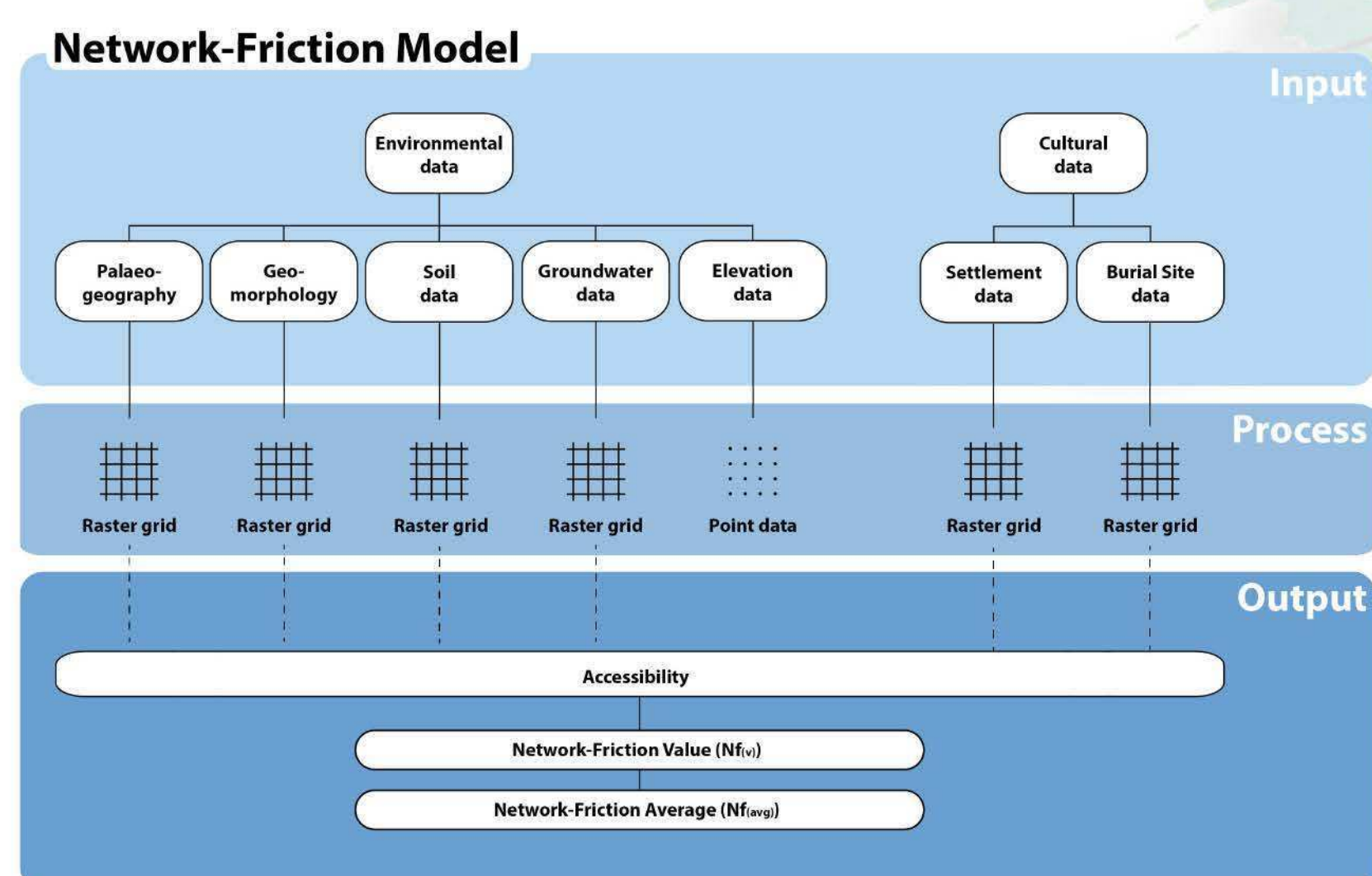
The early-medieval Netherlands witnessed major changes in landscape, economy, demography and also possibly climate. Archaeological evidence throughout north-western Europe, including the Netherlands, indicates severe demographic decline and changing settlement patterns in the late-Roman and post-Roman periods. To what extent the inhabitants of the early-medieval Lowlands adapted to the increasingly changing landscapes and how this is reflected in large-scale patterns is generally unknown. Historical route networks provide a key to understanding large-scale settlement patterns as well as demography and land use.

Method

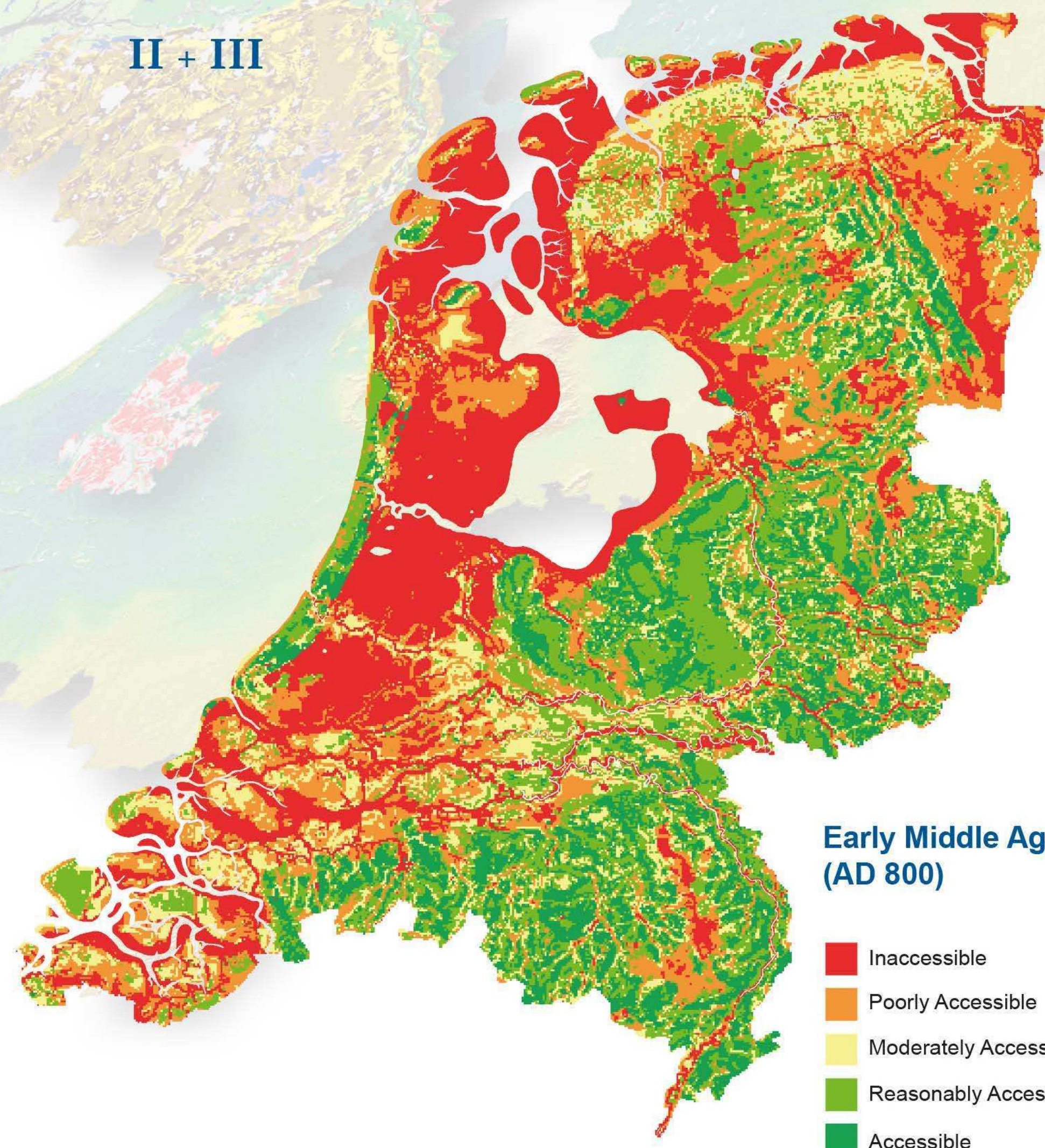
We applied spatial modelling to palaeogeographical (*framework I & III*) and modern (*framework II*) landscape data in order to create a **network-friction model** which determines geographical obstacles for possible translocation in ca. AD 100 and 800 (land and water). **Network-friction values** were calculated to produce a spatial model of possible routes and to enable the integration of archaeological data. **Network friction** is the variable that determines potential regional accessibility based on the comparison of local and surrounding landscape factors (Van Lanen *et al.* submitted).

Results

Results show that in low-elevation, geographically dynamic regions, such as the current Netherlands, landscape units such as water, peat and levees must have had a high impact on route orientation. The lower parts of the western Netherlands were almost inaccessible by land, implying that its inhabitants largely must have depended on rivers and streams for transportation. In Dutch coastal and river areas the landscape changed drastically between AD 100 and 800, the largest changes occurring along the coast. These network-friction maps model landscape prerequisites for possible historical routes. Combining these maps with actual large-scale archaeological data surrounding settlements, burial sites, ships, infrastructure and isolated finds will facilitate in the reconstruction, analysis and prediction of Roman and early-medieval route networks (Van Lanen *et al.* in prep.).



II + III



Early Middle Ages
(AD 800)

■ Inaccessible
■ Poorly Accessible
■ Moderately Accessible
■ Reasonably Accessible
■ Accessible

