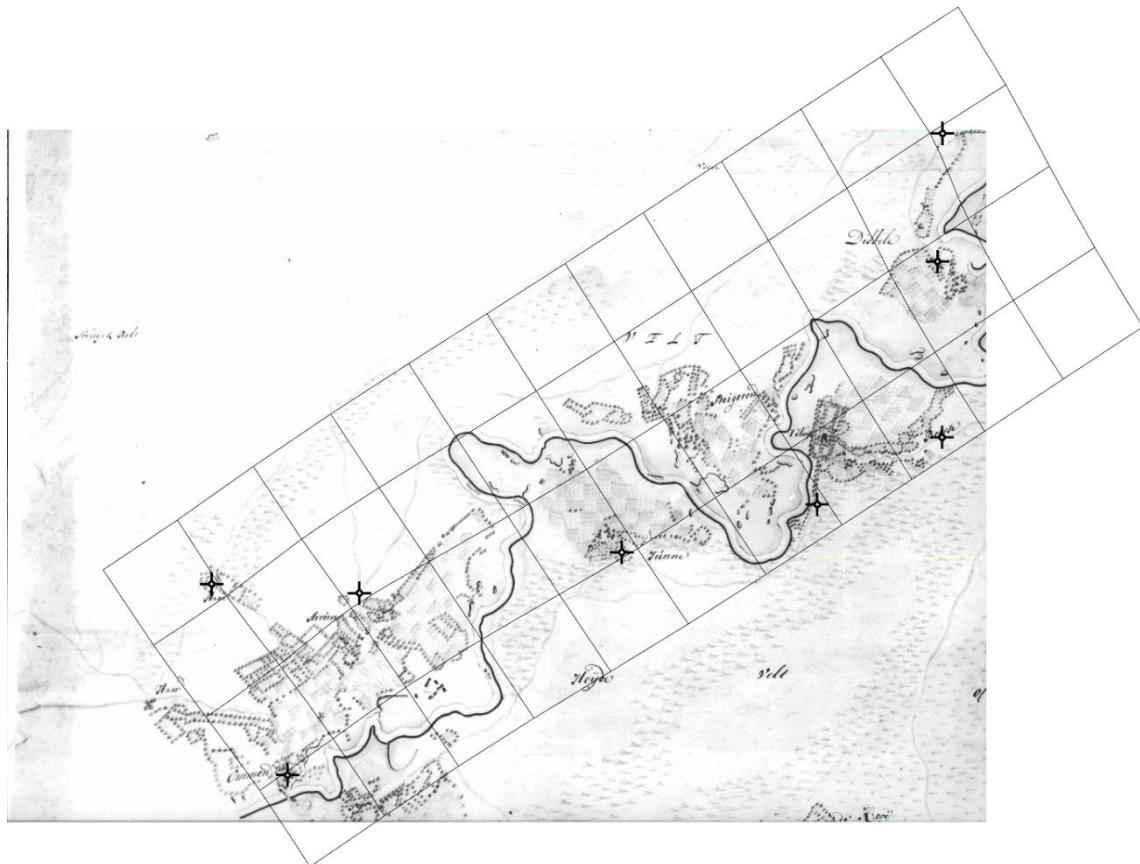
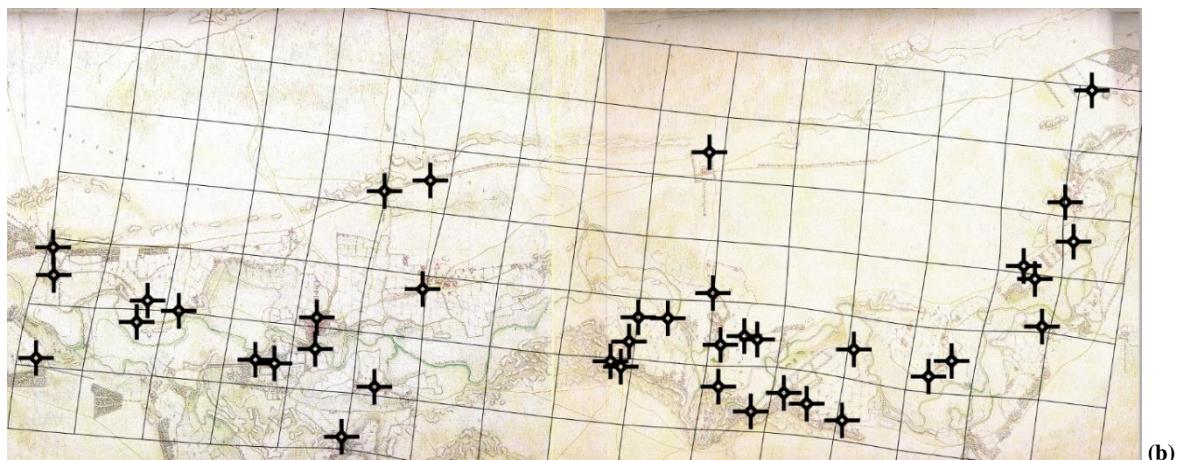
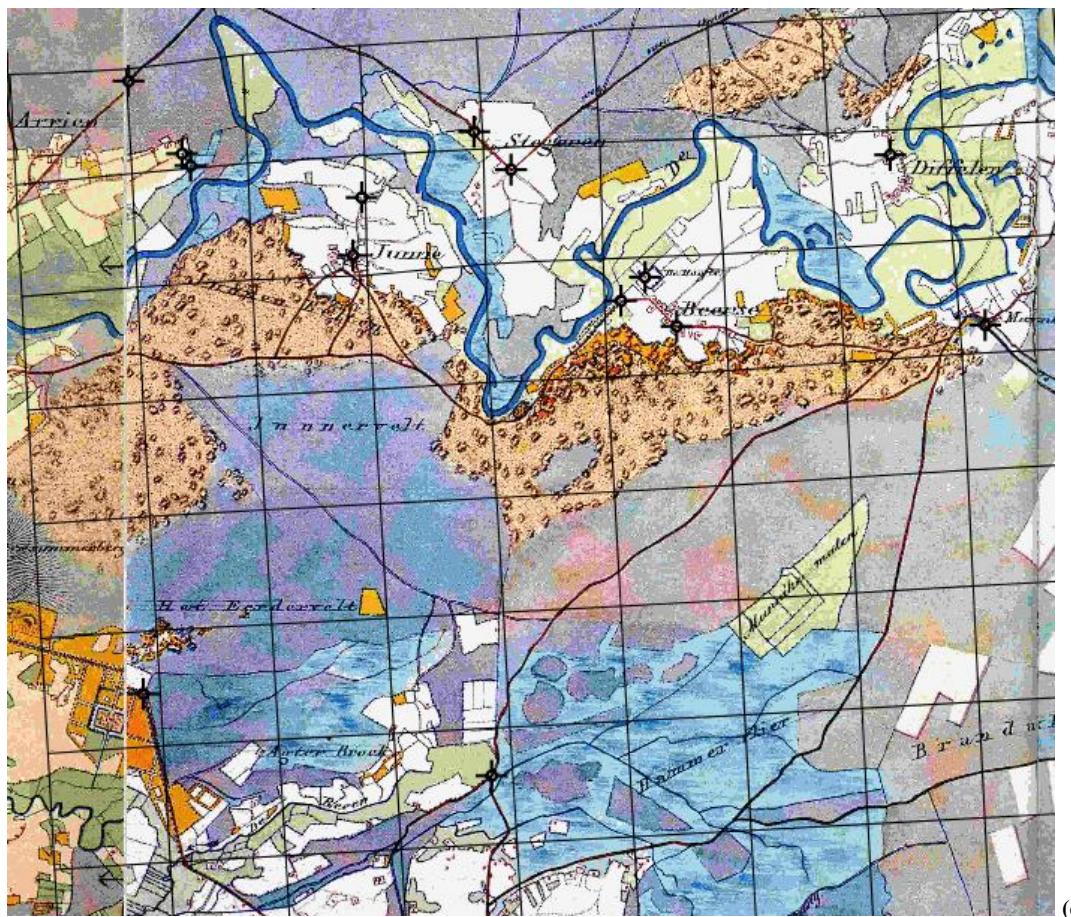
SUPPLEMENT

Supplement to:

Quik, C. & Wallinga, J. Reconstructing lateral migration rates in meandering systems; a novel Bayesian approach combining OSL dating and historical maps. Submitted to Earth Surface Dynamics.

As part of our analysis of historical maps we generated visualisations of geodetic distortions as generated with the freely available MapAnalyst software (Jenny and Hurni, 2011). For methodological details please refer to the manuscript to which this supplement belongs. This supplement contains the distortion grids for all map fragments (figure S1 a-f, starting on the next page).

(a)

(b)

(c)

(d)

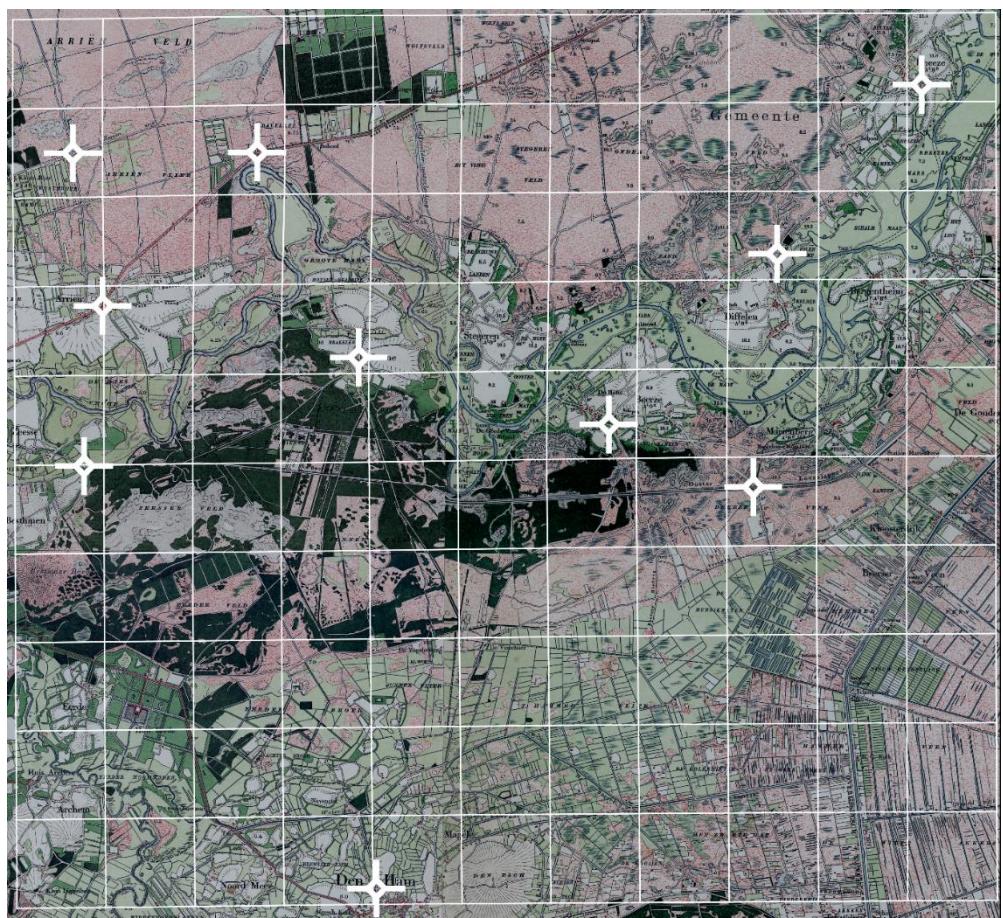
(e)

(f)

Figure S1. Fragments of the investigated historical maps displaying the study area, showing ground control points (black or white plusses) and a distortion grid (in black or white, maze size of 1 km). In all cases the grid approaches a perfect grid, indicating that map distortion is minimal. Grids were generated with the MapAnalyst software by Jenny and Hurni (2011). Image references: (a) 'Limiten tussen Bentheim en Overijssel' by Pieter de la Rive (publication date ± 1720 AD), Algemeen Rijks Archief. Genie-archief, situatiekaart 07; (b) De Hottinger-atlas van Noord- en Oost-Nederland, map sheets 35 + 36 (survey date 1785 – 1787 AD), Versfelt, 2003; (c) Atlas of Huguenin, map sheets 72 + 73 (survey date 1829 AD), Versfelt and Schroor, 2005; (d) Topographische en Militaire Kaart van het Koninkrijk der Nederlanden, map sheet 22 (survey date 1851 AD), CC-BY Kadaster, 2018; (e) Topographical map of the Netherlands (Bonne), map sheet Coevorden (revision date 1884 AD), CC-BY Kadaster, 2018 (f) Topographical map of the Netherlands (Bonne), map sheet 306 (revision date 1894 AD) + map sheet 307 (suvey date 1901 AD), CC-BY Kadaster, 2018. For more details on the historical maps please refer to table 1 of the manuscript to which this supplement belongs.

References

Jenny B, Hurni L. 2011. Studying cartographic heritage: Analysis and visualization of geometric distortions. *Computers and Graphics* **35**: 402–411 DOI: 10.1016/j.cag.2011.01.005

Versfelt H. 2003. *De Hottinger-atlas van Noord-en Oost-Nederland 1773-1794*. Heveskes: Groningen.

Versfelt H, Schroor M. 2005. *De atlas van Huguenin - Militair-topografische kaarten van Noord-Nederland, 1819-1829*. Heveskes: Groningen.