

Subsurface structure of the Netherlands

– results of recent onshore and offshore mapping

New depth maps and thickness maps covering the onshore and offshore areas for the Late Permian to recent sedimentary sequence of the Netherlands are being released by TNO - Geological Survey of the Netherlands. These new regional maps permitted to analyze structural elements and their development through time with improved detail, particularly during the Late Jurassic. Since latest Carboniferous to recent times the tectonic setting of the Netherlands has changed repeatedly.

During successive tectonic pulses pre-existing structural elements were reactivated. Regional structural elements are identified and their

tectonically active periods grouped into six periods: Late Carboniferous, Late Permian, Triassic, Late Jurassic, Late Cretaceous and Cenozoic. Variscan fault patterns were partly reactivated during the Late Jurassic rifting and the Late Cretaceous compression.

Deliverables

- Depth maps of eight key horizons
- Thickness maps of seven lithostratigraphic units
- Nine regional structural cross sections (Fig. 4)
- Structural element table summarizing the timing of tectonic activity
- Six structural element maps (Fig. 3: Late Jurassic)

Depth and thickness maps were created for the Zechstein Group (Late Permian), Lower and Upper Germanic Trias groups, Altona Group (Early and Middle Jurassic), Schielland-Scruff-Niedersachsen groups (Late Jurassic), Rijnland Group (Early Cretaceous), Chalk Group (Late Cretaceous), and Lower, Middle & Upper North Sea groups (Cenozoic).

These depth and thickness maps (Figs 1 & 2) show an integrated overview of the geological development of the deeper subsurface of the Netherlands and provide a better understanding of the structural geological development of the Netherlands.

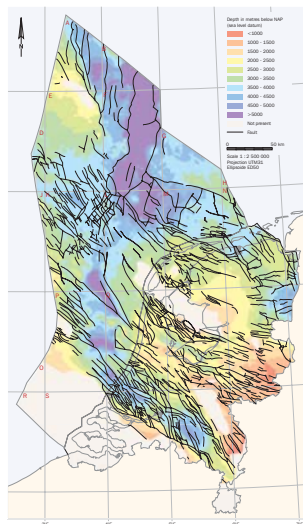


Figure 1a Depth map of the base of the Zechstein Group (Late Permian)

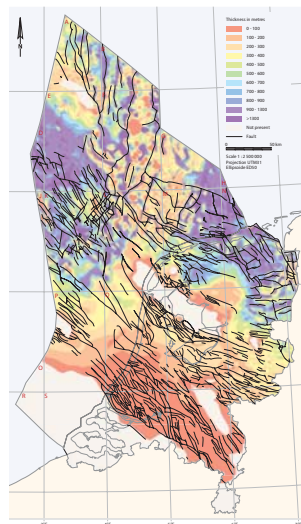


Figure 1b Thickness map of the Zechstein Group (Late Permian)

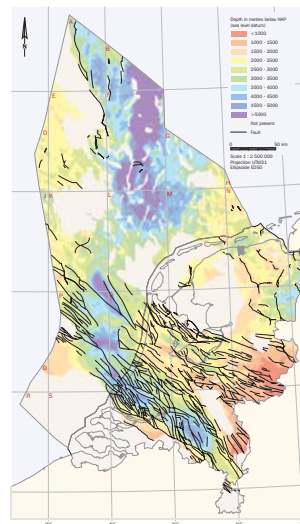


Figure 2a Depth map of the base of the Lower Germanic Trias Group

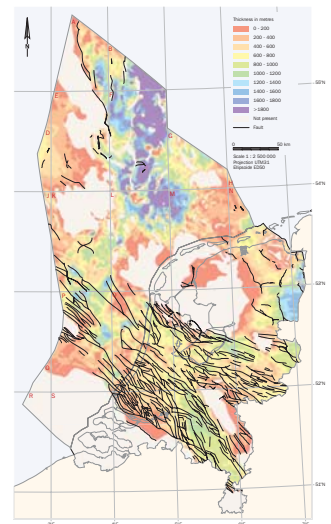


Figure 2b Thickness map of the Lower and Upper Germanic Trias groups

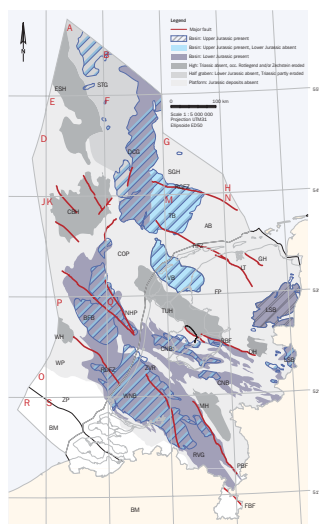


Figure 3 Structural element map of the Late Jurassic – Early Cretaceous

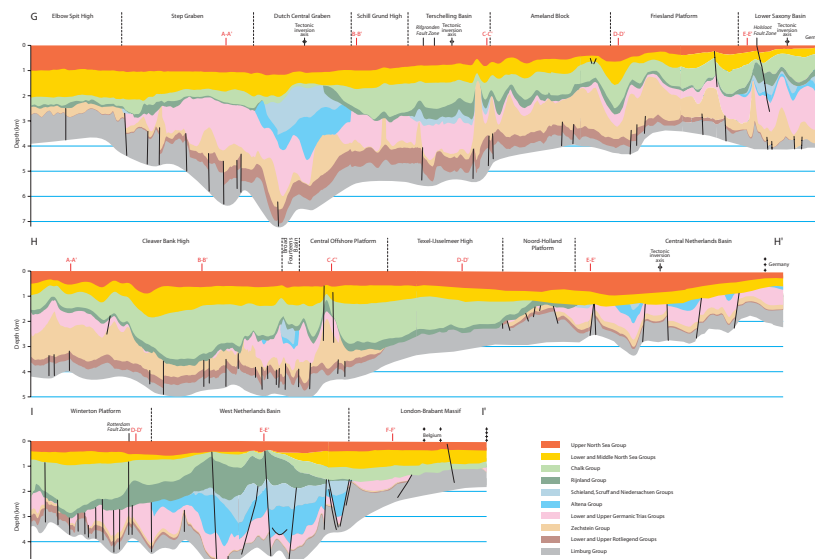
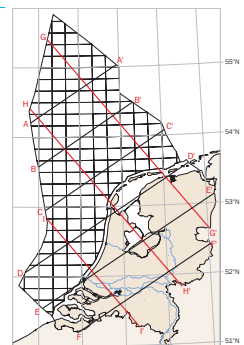


Figure 4 Geological cross section G-G', H-H' and I-I'



The maps will be officially presented to the public on February 8, 2006 at TNO's premises in Utrecht, the Netherlands. For more information, e-mail: hans.doornenbal@tno.nl or hans.hooghart@tno.nl