

Implementation of ETRS89 and New height system in Denmark

Adoption of the ETRS89 (= EUREF89)

National Survey and Cadastre Denmark (KMS) has implemented ETRS89 in our own data. The topographical maps (the production data base) are transformed from UTM32/ED50 to UTM32/EUREF89 (=ETRS89) and the Danish digital cadastre map will be transformed to UTM32/EUREF89 next year (2006).

In Denmark we use the term EUREF89 instead of ETRS89.

Further KMS *recommends* other users, for example the counties, the municipalities, private owners of geo data, and other governmental institutions to transform geo data to UTM32/EUREF89.

KMS make big efforts to convert users and owners of geodata that implementation of EUREF89/ETRS89 is necessary in order to obtain standard geo data. The point is that Denmark will benefit when all data is collected, stored and exchanged in a common reference system (UTM/EUREF89), because that will make it possible to exchange and use common data directly without any form for transformation - national and international.

The status of the adoption of EUREF89 in geodata generally in Denmark is that all counties, KMS, the institutions in the Ministry of the Environment and others already have transformed from the Danish coordinate systems to UTM32(or33)/EUREF89. This year, several municipalities will do the same.

GI system suppliers

In order to make this process easy KMS has developed transformation procedures (dll's) that can transform coordinates between the national reference systems and UTM/EUREF89 and further we have encouraged the GI system developers to implement these official transformation procedures.

The problem is, that the GI world believes that UTM/ED50 is the same all over Europe, but it is not. If the users use the standard transformation parameters instead of the official transformation procedures the discrepancy (fault) is app. 2-3 meters in Denmark.

All major GIS/CAD suppliers in Denmark can now handle the transformation correct:

Bentley (*MicroStation*)
Intergraph (*GeoMedia*)
ESRI (*ARCGIS KMSTrans og shapetrans*)
MapInfo (*Miftrans, Euref.mbx*)
FME (*FME-trans*)
GeoData Danmark (*GISVision*)

Height change from DNN to DVR90

A new height system in Denmark has been calculated. The figure below shows the difference between the old (DNN) and new (DVR90) height system. Due to the uplift and the mean water level the north of Denmark has risen (app. 2 cm during 100 years) and the south of Denmark has settled (app. 14 cm during 100 years).

