Use of three dimensions in statistics

Shore zone statistics

Statistics Norway does annually publish statistics on building activity along the shore line as well as a simple indicator on access to the shore line. We are currently working on supplementing the statistics with an indicator on accessible shore zone area. The presentation describes how we plan to obtain figures for this indicator and point out possible further work.

By Margrete Steinnes*

Background

Development in the shore zone (100 metres from the shore line) is restricted by § 17-2 of the Planning and Building act. The purpose of the existing statistics is to follow the changes in the shore zone in connection to this restriction. According to the government white paper no. XX everyone shall have the opportunity to take part in outdoor recreation as a healthy and environmental sound leisure activity that provides a sense of well-being, both near their homes and in the countryside. Several key indicators have been defined as a tool for supervising the development in the national environmental targets. Access to the shore zone is one of the key indicators.

The statistics are monitoring the changes in undeveloped shore line and the changes in number of granted dispensations in the shore zone.

The most important data sources are The Official Register on Ground Properties, Addresses and Buildings (GAB) and digital maps in the scale of 1:50 000 from the Norwegian Mapping Authority. Numbers of granted dispensations are reported through KOSTRA (municipalities to the state reporting).

The statistics comprises the zone less then 100 meter from the shoreline, including islands, fjords and bays. Shore line: The transition between sea and land at average water level, as it is defined and registered by the Norwegian Mapping Authority in the map series N50 (maps in the scale of 1:50 000)

The proportion of building-influenced coastline is calculated on the basis of buildings and the coastline as geo data sets. Around each building a circle of 100 metres is constructed. Those parts of the coastline which fall within the circles are considered as being building-influenced.

Accessible shore area

A prerequisite for expanding the statistics is to maintain an efficient production line using existing registers thereby avoiding further statistics reporting for the municipalities and others. The way we obtain figures for accessible shore zone area is further restricted by data availability.

The data sources we plan to include in the new indicator is contour lines and points as well as coast line from a map data base mainly in the scale 1: 5 000.

In the existing statistics we obtain figures for the coast line while the new indicator is an area measure. The shore zone, which we define as 100 metres from the coast line, is made by buffering the coast line and classifying it according to the classes: 1) Main land or island with main land connection and 2) other islands. This zone is then classified whether it is too steep or accessible for recreational purposes. What is too steep for an average person doing common recreational activities?
This is a question we have to answer during the project period in cooperation with the Directorate for nature management. If any of the seminar participants have knowledge of studies regarding this question we would appreciate advises or suggestions.

The next step is to classify the remaining, not too steep areas by land cover. Certain land cover types are considered not accessible for recreational purposes:

- Agriculture
- Main roads
- Railways
- Areas occupied by and in the vicinity of buildings

In addition, small built-in enclaves with no direct connection to the coast line are considered not accessible.

Urban settlements will be treated separately either by exclusion or by using it as a regional statistical unit.

One important question is which influence distances to use from different building types. Based on preliminary work we start using a 50 metre distance from dwellings and using just the building area for all other buildings, but this has to be considered in more detail.

We can already at this stage point out some possible further work:
- Combine with property maps to calculate intensity of use
- How are the best, most accesible areas used?
    - Combine with other map data bases
- Combine with information on dispensation reports from the municipalities
- Try to identify areas accessible for disabled persons (from parking lot to shore zone)

For more information, suggestions or comments, contact:
Margrete Steinnes
ste@ssb.no
Division for environmental statistics
Statistics Norway
N – 2225 Kongsvinger
Norway