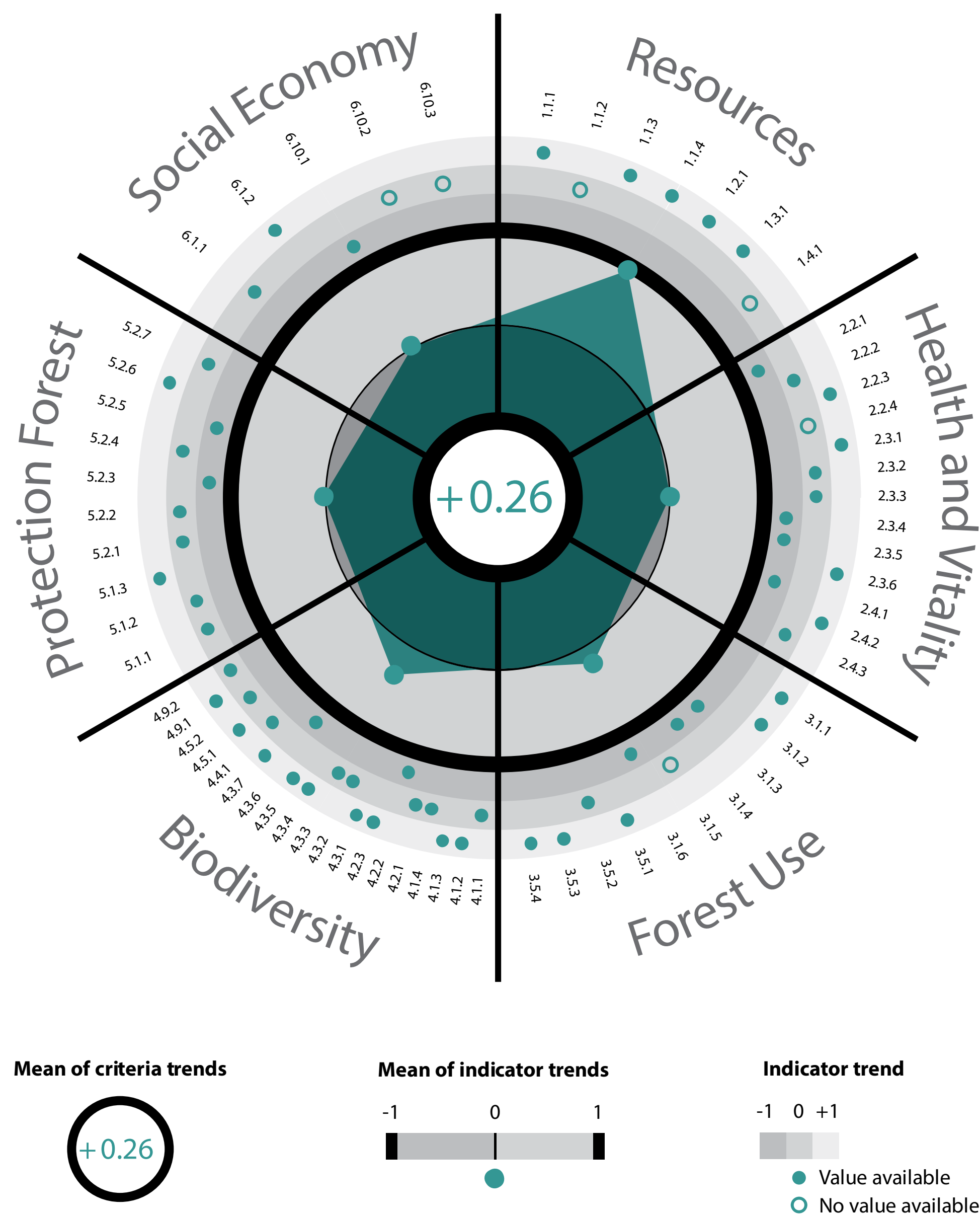


Swiss NFI Cockpit - Forest Indicator Trends

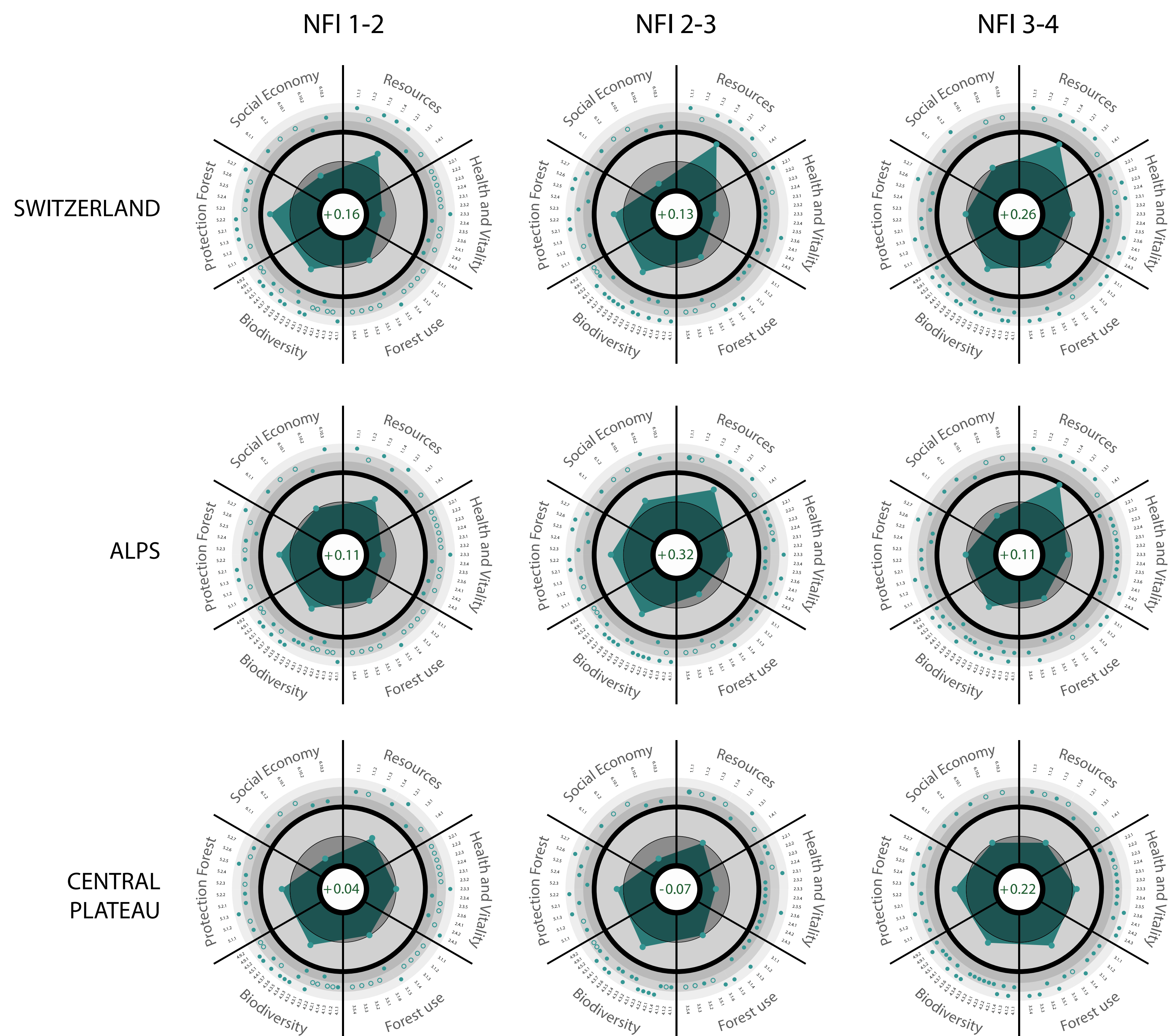
The problem

The National Forest Inventory NFI is the most important source of data on the condition and development of the Swiss forest. The NFI's indicator set currently consists of 64 international and national indicators for sustainable forest management. This large number of indicators makes an overall interpretation difficult. To show the general trends in space and time, a mathematical-graphical instrument is therefore needed.

The NFI Cockpit



The NFI indicators are grouped according to the 6 European criteria for sustainable forest management. If a positive or negative change in value of an indicator between two inventories is statistically significant, a numerical value of +1 or -1 is given. If the change was not significant a zero is given. If data is missing (in either or both of the inventories compared), the indicator is not considered (no value available). For each criterion the mean of all indicators is calculated. The general trend is calculated as the mean of these criteria trends.



Results

Since the first NFI of 1983/85 and during the three following Inventories, the Swiss forest has, from a general point of view, continued to develop positively (Fig. 1). Positive trends are particularly evident in the development of resources, biodiversity and the forests providing protection against natural hazards. The forest's vitality, in contrast, was badly affected by the storms Vivian and Lothar, but has since remained stable. Forest use has fluctuated but remained largely in balance. The partly negative trends in the social economy are mostly due to population growth. In Alpine regions, the condition of the protection forest is most relevant, whereas on the Central Plateau, forest use and biodiversity are more in the forefront. The trends over the past 30 years have been positive in all these cases.

Fig. 1 The NFI Cockpit. Results showing the trends for the whole of Switzerland and two of the five production regions for the 64 indicators according to 6 criteria separately and altogether.

Discussion

The NFI Cockpit provides the required quick optical overview. The indicator numbers used allow conclusions to be drawn about the individual indicators and thus about possible explanations of the trends. The system becomes critical if the number of indicators per criterion is (too) small, as it is for the social economy. Optimizing the NFI Cockpit means finding out if all relevant indicators are included, and if certain indicators should be weighted several times and the changes weighted according to their size. These questions will need to be clarified in future by experts in research and in the field.

National Forest Inventory NFI



The NFI is a sampling inventory with around 6500 permanent sample plots. The sources of data are aerial photos, investigations in the forest and interviews with foresters. The fourth Inventory is currently underway, with a data catalogue containing over 300 attributes. Together with other monitoring instruments, the NFI provides the basis for the international and national forest reports (see the FOEN poster).