

The first half of 2017 shows sparse snow anomalies, but the snow cover is overall as usual :

- Unlike 2013 or 2014, snow started and ended at usual dates in Europe
- In Switzerland, uncommon snow absence was observed in March and April, due to high temperature
- High population density of roe deer in Estonia could be linked with slightly unusual snow absence

Snow cover as usual in Europe:

Unlike exceptional years like 2013 and 2014 (Figure 1), the snow cover during the first half of 2017 was close to the long-term average. Only local and relatively short time anomalies have been recorded during the first half of 2017. Two of them are described in the next pages.

Date to date comparison of snow anomalies between 2017, 2014 and 2013

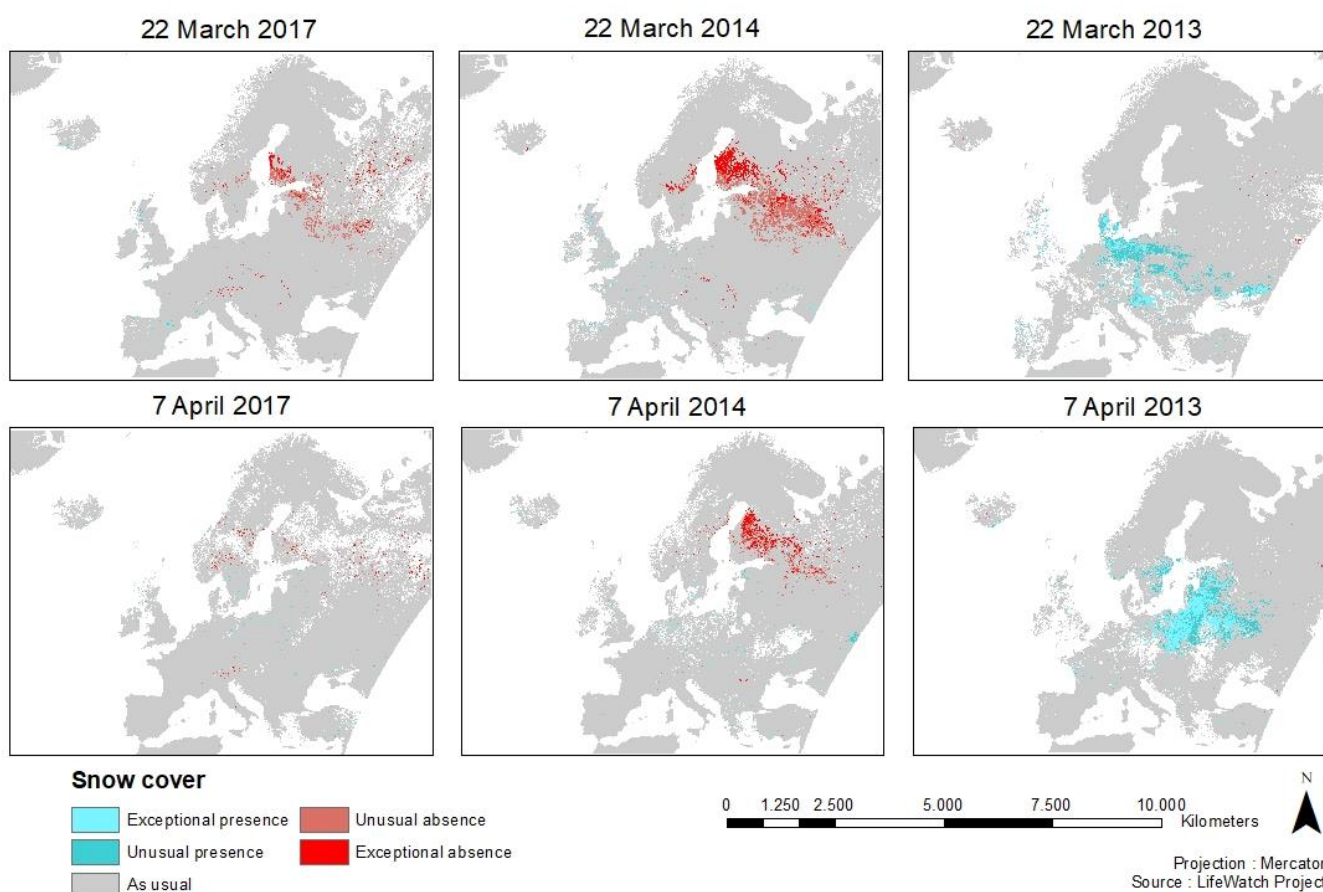


Figure 1: Date to date comparison of the snow anomalies of the years 2017, 2014, 2013 on March 22 and April 7

Exceptional snow absence in Switzerland inducing the early development of the vegetation:

Switzerland experienced the third hottest spring since the beginning of the records in 1864. March in particular presented unusually high temperatures for the season (Figure 2), which probably caused the absence of snow observed across the country (Figure 3) during this same month.

Monthly Temperature Anomaly (degC) Mar 2017 (Ref. 1981–2010)

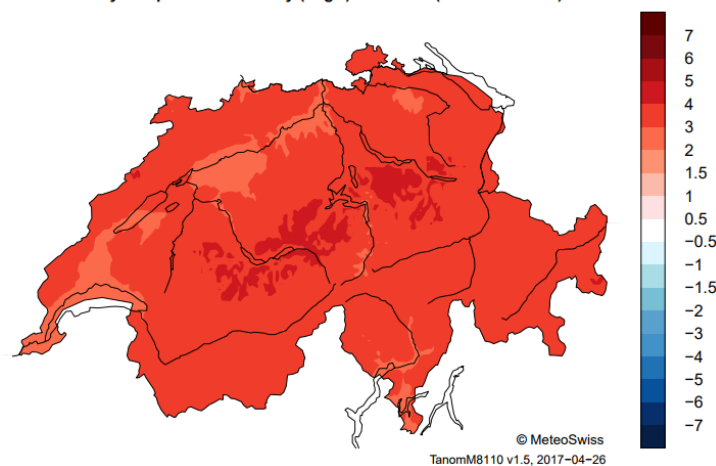


Figure 2: Temperature anomaly of March 2017 in Switzerland

These conditions led to an early development of vegetation. Indeed, the protective snow layer melt early and let the spring vegetation start its growth precociously.

But the last week of April faced late frosts, combined with late snow precipitation, stopping the development of this early vegetation (Figure 4).

Snow anomalies in Switzerland on the 23rd of April 2017

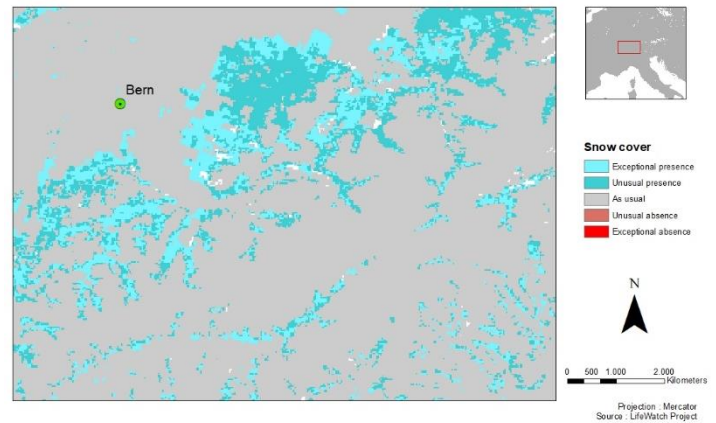
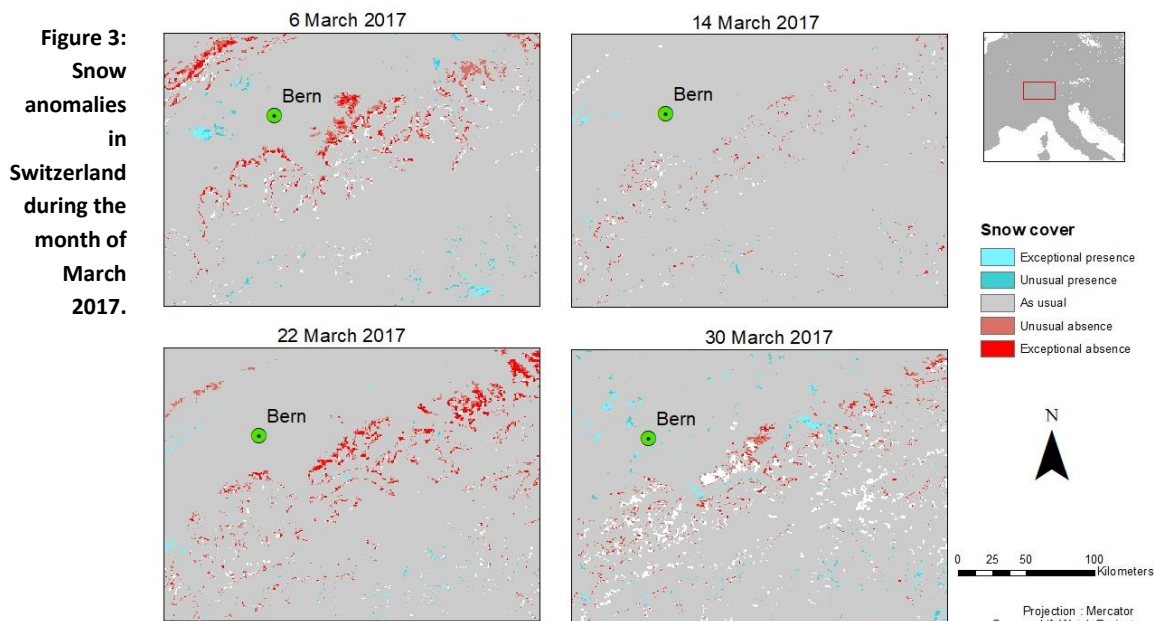


Figure 4: Exceptional snow presence in the last week of April in Switzerland

These events have an impact on the bees activity and thus, as reported by the beekeepers, on the honey production. The early vegetation allowed the bees to forage earlier than other years, producing a high annual honey harvest. But the late frosts of April forced the bees to seek nectar in the forests, in absence of flowers, resulting in a spring honey darker and more liquid than usual.

Snow anomalies in Switzerland during March 2017



High population density of roe deer in Estonia due to snow absence:

Study shows that the population growth rate of roe deer (*Capreolus capreolus*) is negatively affected by increasing snow depth during winter : the thinner the layer of snow is, the easier it is for this animal to find food (Mysterud et al., 2006). According to the naturalist Estonian website “looduskalender.ee”, the snow absence in Estonia from mid-February to mid-March (Figure 5) was linked to the good progeny of roe deer. Compared to previous years, the number of roe deer in Estonia was high in 2017.

Snow anomalies in Estonia from mid-February to mid-March, 2017

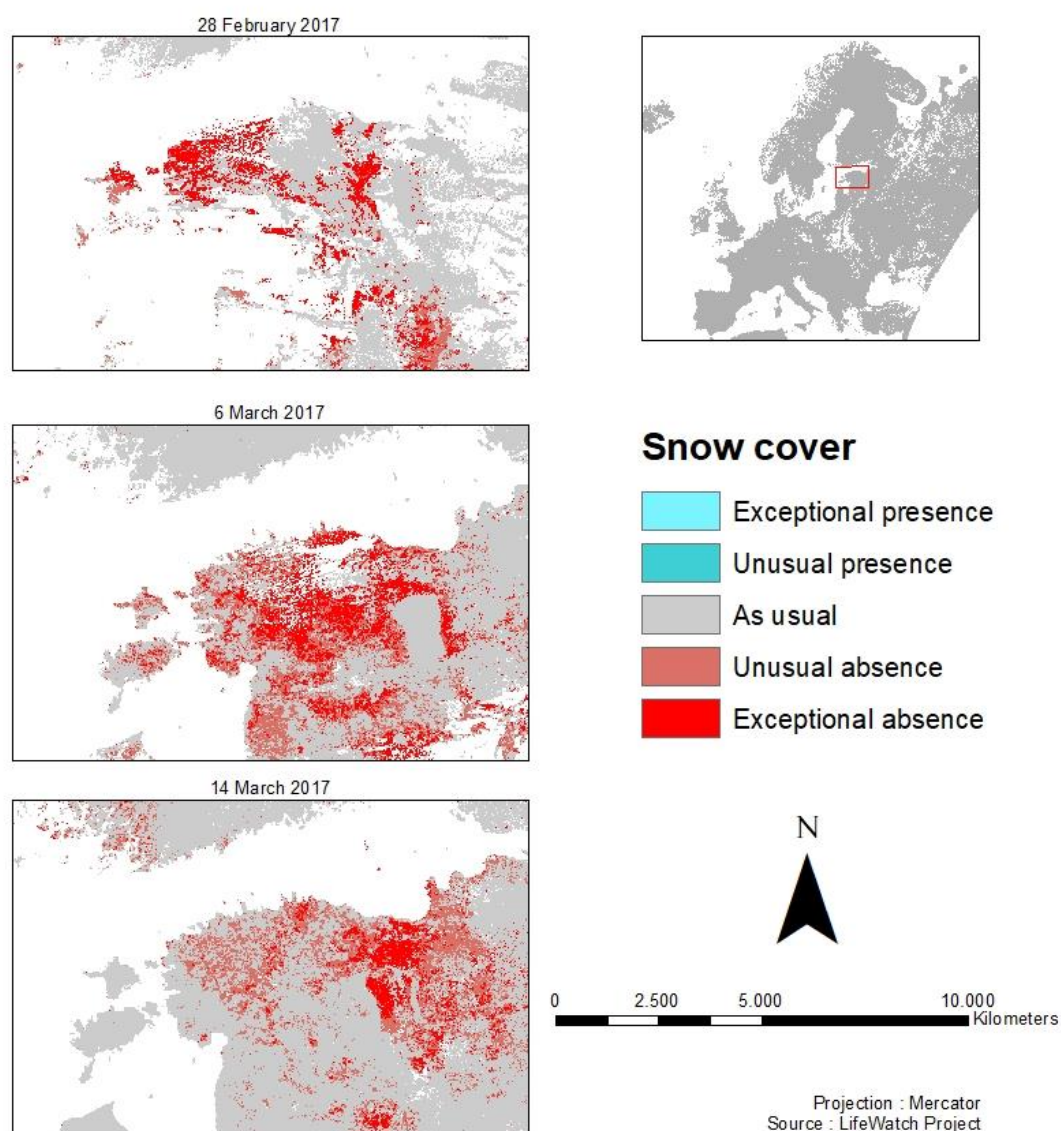


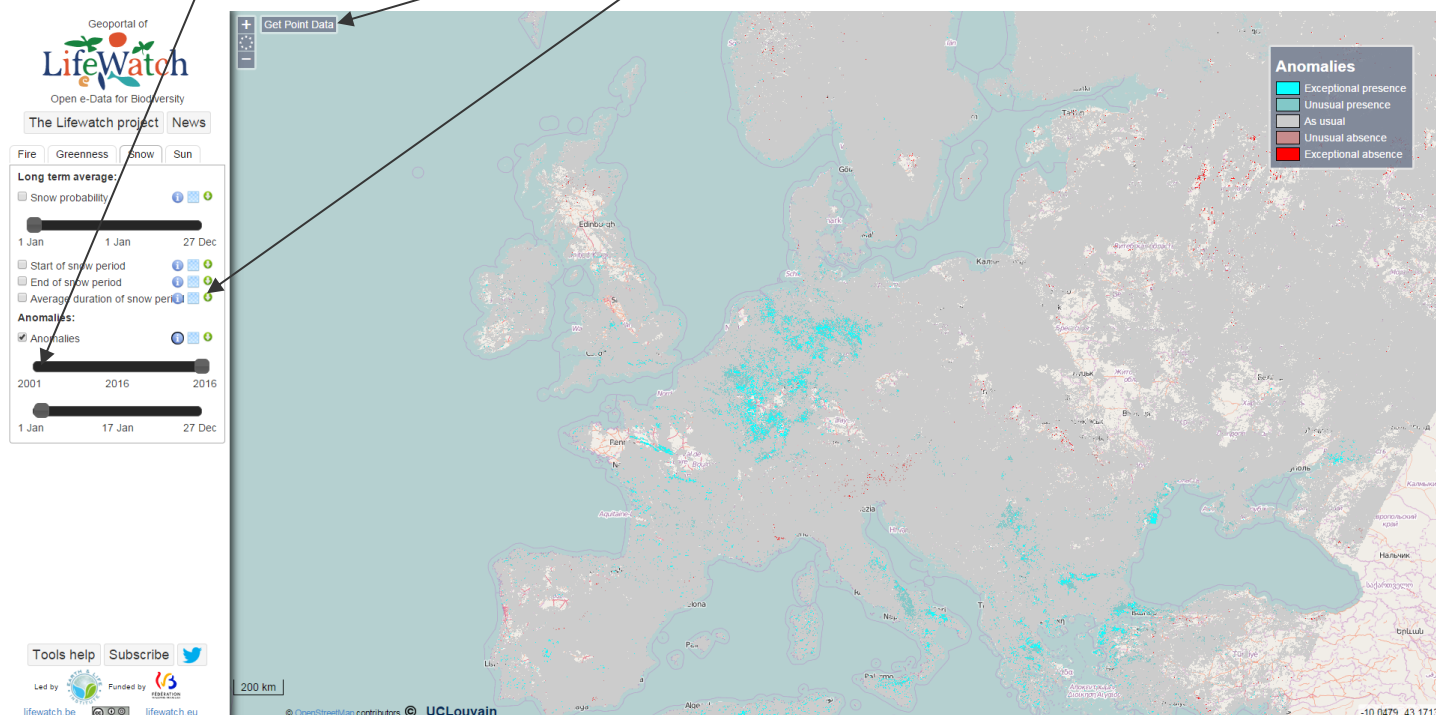
Figure 5: Exceptional absence of snow in Estonia from mid-February to mid-March 2017

Web portal to view and download data

All this information (and more) can be visualized from the web portal where a point based and a raster (.tif) extraction tools are also provided (see below): www.uclouvain.be/lifewatch. All data are available at least from 2001 to present and are regularly updated. Follow us on Twitter to get the latest news @LifeWatch_WB. For comments, suggestions or unusual data request, contact us at lifewatch@uclouvain.be

Date (Here: 17th of January 2016)

Get Point Data and raster (Green arrow) extraction tools: Download data you need!



LifeWatch: Biodiversity and Ecosystem research

LifeWatch Wallonia-Brussels is one of the Belgian contributions to the European Research Infrastructure Consortium for Biodiversity and Ecosystem research (LifeWatch). It is funded by the Fédération Wallonie-Bruxelles. Information about the Belgian contributions to LifeWatch can be found on www.lifewatch.be

Lifewatch is one of the most ambitious European initiatives for the study of biodiversity and ecosystems. LifeWatch is not a research project, but an infrastructure that offers services and tools to the scientific community, the policy makers and the public. In addition, LifeWatch will provide opportunities to construct personalized 'virtual labs', also allowing entering new data and analytical tools. More information about LifeWatch can be found on: www.lifewatch.eu

Methods

The summarized land surface dynamics are developed from remote sensing time series of daily global observations by satellites. The time series allow to derive average state of variables at any given time of the year. Data can be compared to this average to highlight anomalies. The average state of variables is developed within the CCI Land Cover project <http://www.esa-landcover-cci.org>. Metrics and anomalies are then derived in the frame of the Lifewatch-WB project. Data from the Belgian satellite Proba-V are used to continue the vegetation greenness time series after the end of SPOT-VEGETATION.