***Press release of GLOBE and Nature Today on 20 March 2017***

**GrowApp: make an animation of climate change in your backyard**

 **The newly launched GrowApp allows people to make animations of trees, gardens and landscapes by taking pictures with their smartphone. The app directly transforms these pictures in a time lapse movie that shows changes over the seasons and even over the years. While having fun making an animation of their backyard, users help scientists better understand climate change impact on the environment.**

The start and duration of the growing season in Europe has significantly been influenced by the increase of European temperature by 1.5 °C compared to pre-industrial levels. This conclusion can be drawn based on the analysis of hundreds of thousands of observations of flowering, leaf unfolding and leaf colouring done by volunteers from all over Europe. The flowering of 17 spring plants in Europe, for example, advanced with two weeks on average since 1982. In addition to these so-called phenological observations satellites track changes in the greenness of the land cover. However, up till now it remains a challenge to link field observations with satellite observations. Ideally the process of leaf unfolding, leaf colouring and leaf fall of individual species is continuously observed. This is very time consuming for most volunteers who therefore only record the date of first leaf unfolding or end of leaf colouring.

**Visualize seasonal changes**

The GrowApp ([www.growapp.today](http://www.growapp.today)) provides a new opportunity to easily follow the seasonal changes of individual plants, trees, gardens and even whole landscapes over weeks, months or even years. People are encouraged to frequently make photos with the GrowApp. With a new innovative method of smartphone photography, a time lapse animation is generated making changes in our environment visible. Changes which often escape our attention. To enable a nice animation and to allow for an analysis of the change in greenness the GrowApp helps to position the new photo in exactly the same way as the previous photos. The app indicates the place where the first image in the animation was made and the first photo is transparent on the background while making a new photo to allow an optimal overlay. The updated animation is directly visible on www.GrowApp.today. By adding hashtags a selection of animations can be made.

**Making animations together**

Any person who has the GrowApp installed can add new photo locations and start his/her own animation. Everybody can add images to an existing animation if he/she is at that location. In this way it becomes possible to more frequently add photos to an animation which helps the analysis and interpretation of the greenness changes captured in the animation.

**School children do science**

The GrowApp is a citizen science instrument that has been developed in the context of the Global Learning and Observations to Benefit the Environment program ([GLOBE](http://www.globe.gov)) together with the nature news platform [NatureToday.com](https://www.naturetoday.com/intl/en/home), Wageningen University and Geodan. GLOBE is an international science and education program that provides students and the public worldwide with the opportunity to participate in data collection and the scientific process, and contribute meaningfully to our understanding of the Earth system and global environment. The GrowApp is accompanied by educational material (simple and advanced assignments) that can be used by teachers and children. Engaging in real science becomes easy. Scientists will provide regular feedback to the schools about the seasonal changes that take place. GLOBE coordinators in 16 European countries indicated to contribute to the project (contact information is added below).

**European green wave: six species**

In an attempt to harmonize the observations and to allow European-wide comparison of the seasonal changes we ask special attention for six species: oak, hazel, beech, birch, sour cherry and small-leaved lime. If people from all over Europe participate with the app, a green wave from the south to the north of Europe will become visible. Moreover, the GrowApp images will add a new dimension to the study of climate change induced impacts on our natural environment. Besides the value for science, the animations will allow new ways of visualizing and communicating the seasonal dynamics and changes in people’s own ‘backyards’.

Satellite data are included in the GrowApp with detailed information on when the growing season started, whether there is a trend for more or less plant biomass in the area as well as yesterday’s day temperature.

The GrowApp is currently only available for Android. A version for iPhones will be presented in a few weeks.

**Note for editors:**

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* Or any of the national contact persons in the list below (to be added to the international press release).

Additional links:

* Website GrowApp: <http://www.growapp.today/>
* Website Nature Today: <https://www.naturetoday.com/intl/en/observations/growapp>
* Website GLOBE European Phenology Campaign: <https://www.globe.gov/web/european-phenology-campaign/overview/>
* Phenological changes in Europe: <http://www.eea.europa.eu/data-and-maps/indicators/plant-phenology-2/assessment>
* European temperature change: <http://www.eea.europa.eu/data-and-maps/indicators/global-and-european-temperature-3/assessment>

Species of the GrowApp campaign, their English name, scientific name and the hashtag to add to a picture with the GrowApp:

Pedunculate oak (*Quercus robur*), #oak

Common hazel (*Corylus avellana*), #hazel

Common beech (*Fagus sylvatica*), #beech

Silver birch (*Betula pendula*), #birch

Sour cherry (*Prunus cerasus*), #cherry

Small-leaved lime (*Tilia cordata*), #lime