

# TEMPLATE

## Output factsheet: Tools

Version 1

Project index number and acronym	CE614 - SUSTREE
Lead partner	Federal Research and Training Centre for Forests, natural Hazards and Landscape - BFW
Output number and title	O.T3.2 - Web & Smartphone Apps as tools to access vulnerability maps and seed transfer models
Responsible partner (PP name and number)	Czech University of Life Science Prague - PP2
Project website	<a href="https://www.interreg-central.eu/Content.Node/SUSTREE.html">https://www.interreg-central.eu/Content.Node/SUSTREE.html</a>
Delivery date	22.08.2019

### Summary description of the key features of the tool (developed and/or implemented)

The tool is an android based Smartphone App entitled "SusSelect" available on Google Play <https://play.google.com/store/apps/details?id=com.topolynx.susselect&hl=en>.

SUSSelect is essentially a mapping application which displays the current and future vulnerability of 7 European tree species (*Picea abies*, *Abies alba*, *Pinus sylvestris*, *Larix decidua*, *Fagus sylvatica*, *Quercus petraea*, *Quercus robur*), and suggests locations of optimum seed sources. The inputs for the application are maps of species vulnerability available through (D.T1.2.4- Derivation of species distribution models (SDM) for the 7 most important species within CE region) and the transnational delineation model (D.T1.4.2- Maps of delineation models for optimal seed transfer for present and 3 future climate scenarios) and the (D.T2.3.1 Establishing a common database of National Registers of seed sources).

The application works in three steps

1. Selection of location of the user through online navigation
2. Demonstration of vulnerability of the 7 tree species under current climate and two climate change scenarios along with the uncertainty of the prediction
3. In step 3 the application suggests where should the user source the seed materials from in order to have best growth performance.

More information: <https://www.interreg-central.eu/Content.Node/SUSTREE.html>

## NUTS region(s) where the tool has been developed and/or implemented (relevant NUTS level)

The data for A.T2.3 was collected from Austria, Czech Republic, Germany, Hungary, Poland and Slovakia:

### Germany:

DE211, DE212, DE213, DE214, DE215, DE216, DE217, DE218, DE219, DE21A, DE21B, DE21C, DE21D, DE21E, DE21F, DE21G, DE21H, DE21I, DE21J, DE21K, DE21L, DE21M, DE21N, DE221, DE222, DE223, DE224, DE225, DE226, DE227, DE228, DE229, DE22A, DE22B, DE22C, DE231, DE232, DE233, DE234, DE235, DE236, DE237, DE238, DE239, DE23A, DE241, DE242, DE243, DE244, DE245, DE246, DE247, DE248, DE249, DE24A, DE24B, DE24C, DE24D, DE251, DE252, DE253, DE254, DE255, DE256, DE257, DE258, DE259, DE25A, DE25B, DE25C, DE261, DE262, DE263, DE264, DE265, DE266, DE267, DE268, DE269, DE26A, DE26B, DE26C, DE271, DE272, DE273, DE274, DE275, DE276, DE277, DE278, DE279, DE27A, DE27B, DE27C, DE27D, DE27E, DE300, DE401, DE402, DE403, DE404, DE405, DE406, DE407, DE408, DE409, DE40A, DE40B, DE40C, DE40D, DE40E, DE40F, DE40G, DE40H, DE40I, DE803, DE804, DE80J, DE80K, DE80L, DE80M, DE80N, DE80O, DED21, DED2C, DED2D, DED2E, DED2F, DED41, DED42, DED43, DED44, DED45, DED51, DED52, DED53, DEE01, DEE02, DEE03, DEE04, DEE05, DEE06, DEE07, DEE08, DEE09, DEE0A, DEE0B, DEE0C, DEE0D, DEE0E, DEG01, DEG02, DEG03, DEG04, DEG05, DEG06, DEG07, DEG09, DEG0A, DEG0B, DEG0C, DEG0D, DEG0E, DEG0F, DEG0G, DEG0H, DEG0I, DEG0J, DEG0K, DEG0L, DEG0M, DEG0N, DEG0P

### Poland:

PL213, PL214, PL217, PL218, PL219, PL21A, PL224, PL225, PL227, PL228, PL229, PL22A, PL22B, PL22C, PL411, PL414, PL415, PL416, PL417, PL418, PL424, PL426, PL427, PL428, PL431, PL432, PL514, PL515, PL516, PL517, PL518, PL523, PL524, PL613, PL616, PL617, PL618, PL619, PL621, PL622, PL623, PL633, PL634, PL636, PL637, PL638, PL711, PL712, PL713, PL714, PL715, PL721, PL722, PL811, PL812, PL814, PL815, PL821, PL822, PL823, PL824, PL841, PL842, PL843, PL911, PL912, PL913, PL921, PL922, PL923, PL924, PL925, PL926

### Austria:

AT111, AT112, AT113, AT121, AT122, AT123, AT124, AT125, AT126, AT127, AT130, AT211, AT212, AT213, AT221, AT222, AT223, AT224, AT225, AT226, AT311, AT312, AT313, AT314, AT315, AT321, AT322, AT323, AT331, AT332, AT333, AT334, AT335, AT341, AT342

### Hungary:

HU110, HU120, HU211, HU212, HU213, HU221, HU222, HU223, HU231, HU232, HU233, HU311, HU312, HU313, HU321, HU322, HU323, HU331, HU332, HU333

### Czech Republic:

CZ010, CZ020, CZ031, CZ032, CZ041, CZ042, CZ051, CZ052, CZ053, CZ063, CZ064, CZ071, CZ072, CZ080

### Slovakia:

SK010, SK021, SK022, SK023, SK031, SK032, SK041, SK042

For A.T2.2, additional regions were covered: France, Italy, Slovenia and Switzerland.

### Expected impact and benefits of the tool for the concerned territories and target groups

The application is expected to be used as decision support tool for forest, conservation and nursery managers in order to access the vulnerability of the seven major tree species of Europe for both current and expected future climate scenarios. The application extends beyond the targeted boundary of the SUSTREE project i.e. Central Europe. It allows in predicting the vulnerability of trees and suggests seed sources for whole of Europe where the species are expected to occur.

### Sustainability of the tool and its transferability to other territories and stakeholders

The application is based on transnational delineation model and the species distribution models as well as on national registers which have been developed within the SUSTREE project. These models can be optimized for Europe or any part of the world provided climate and tree species occurrence data are available. This app is maintained and coordinated by PP4 (NAIK ERTI) and is being used for training and educational purpose by LP (BFW) and all other PP. Moreover, the developer of the tool has a one year contract with PP4 (NAIK ERTI) for updating and fine-tuning of the application which will ensure it's smooth running beyond the duration of the project. In addition, the delineation models and the App is also being used in an Interreg DANUBE project (REFOCUS) and the recently awarded Interreg CENTRAL EUROPE Cross-fertilization project (TEACHER) where BFW is also a participant. In the Refocus project the delineation models will be applied within the riparian forests of the Danube system and within the TEACHER project, the models will be used within watershed areas of central Europe. In the TEACHER project, a certain budget has been preserved for improvements and updates of the Smartphone App, if required.

### Lessons learned from the development/implementation process of the tool and added value of transnational cooperation

During the early stages of the development of the delineation models, which is the core of the SusSelect application, it was realized that the robustness of the models depends on data from a wide range of growing conditions. Therefore SUSTREE collaborated with stakeholders both within and beyond central Europe and developed a harmonized dataset of provenance trial data which is the base of these delineation models.

This enabled an extension of the application beyond the territorial boundaries of the project i.e. Central Europe and is now applicable to the whole of Europe. This could be achieved only due to trans-national cooperation.

## References to relevant deliverables and web-links

If applicable, pictures or images to be provided as an annex

- D.T1.4.1: Maps of species vulnerabilities and its uncertainties for present and three future climate scenarios
- D.T1.4.2: Maps of delineation model
- D.T1.4.3: Web-GIS and recommendation system to access the transnational delineation model
- D.T1.4.4: Documentation handbook
- D.T2.2.1: Report on climate regime statistics
- D.T2.3.2: Common database
- D.T3.2.1: Database of nature conservation areas linked to the developed Web-GIS
- D.T3.3.1: Smartphone and Web app with simplified user interface for mobile access to the Web-GIS

SusSelect app can be downloaded free of charge:

<https://play.google.com/store/apps/details?id=com.topolynx.susselect&hl=cs>