

POSTER PRESENTATION

*Geographic information systems & remote sensing | Poster Presentation as part of the study
programme International Forest Ecosystem Management (B.Sc.)
- A selection!*

Cadastral Tree Register Berlin

2015

Cadastral Tree Register Berlin

Julian Backa 2015

Introduction

With 438.000 street trees Berlin is the greenest capital of Europe. The most important species, with approximately 75 %, are *tilia*, *acer*, *quercus*, *platanus* and *aesculus*. All these trees need to be maintained, to do so Berlin has the **Green Space Information System** (GRIS). The components **Green Space Management** (GFM), **Geographical Information System** (GIS), **Inventory Statistic** and **Internet / Intranet** are forming the GRIS.

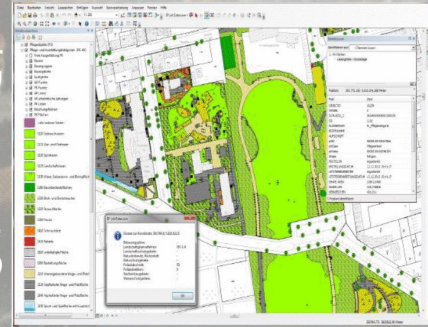
The poster presents the cadastral tree register of Berlin and how it is embedded in the GRIS.

GFM

GFM is used for the administration of green space inventory. There is a green space cadastral, the tree cadastral and the playground cadastral. GFM provides and collects information for the control of all trees. With the software calculations and evaluations are done, for the maintenance effort.

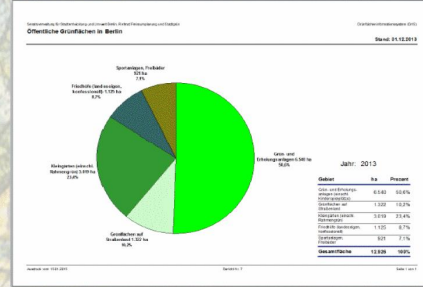
GIS

GIS is used for digital maps of green spaces. The street trees and green space trees are graphical presented by a tree symbol and linked with a key number to the map. So every tree can be clicked on and shows specific information e.g. location or last treatment. The basis for the optical presentation of the trees is to digitize them into the automated land property map. The GIS component is connected to the GFM. The picture below shows the Desktop-GIS ArcMap.



Inventory Statistic

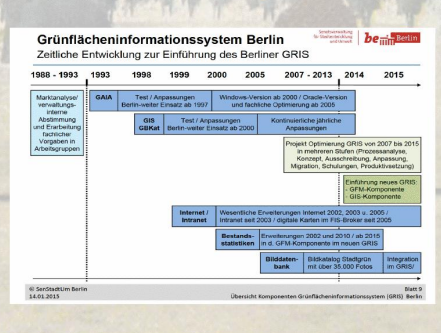
This module is used for statistical information about green spaces, trees, playgrounds, cemeteries, allotments and green spaces maintenance. Further, it serves to manage data aggregation for whole Berlin and data transfer to the other modules of GRIS.



Internet / Intranet

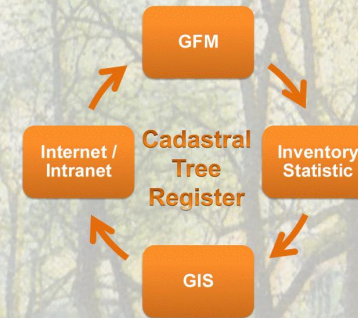
The web presence provides information for the public about the different green spaces, labor agreement, data, contact person, history of Berlin's urban parks and digital maps. The internal administration tool "Stadtgrün" provides short presentation of the special fields, downloads for useful documents and software download. For more information follow this link: www.stadtentwicklung.berlin.de/umwelt/stadtgruen/

Historical Development GRIS



Use of the Cadastral Tree Register

So the cadastral tree register is embedded into the four modules GFM, Inventory Statistic, GIS and Internet / Intranet as displayed in the figure below. Due to the low financial and human resources, the system had become very efficient. To ensure an optimal maintenance of the street trees, a cadastral tree register is very useful. Comprehensive information about the tree stock are available at any time. Furthermore, the possibility to use a statistical evaluation for specific information about any tree is valuable. In e.g. every year all trees need to be checked with the following parameters: Location of control, date of control, name of the controller, sort of carried out control, result of the control and the possible action. Monitoring the trees is crucial for the road users, especially in a big city with high traffic and high numbers of pedestrians.



Conclusion

Over the last 25 years GRIS developed and so the cadastral tree register did. With the campaign "Stadt bäume für Berlin" the city plans to plant 10,000 new trees until 2017. So the work continues to include more into the cadastral tree register. Also every new tree creates more fresh air, shade, windbreak and a nicer atmosphere. The future looks very good for the greenest capital of Europe and their trees.

Sources

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- http://www.in-berlin-brandenburg.com/Infos/berlin_gruen.html
- http://de.wikipedia.org/wiki/Stra%C3%9Fede_des_17._Juni#mediaviewer/File:Hochbahnviadukt_Sch%C3%A4ulestrasse_des_17.juni.JPG
- http://de.wikipedia.org/wiki/Sch%C3%B6nhauser_Allee#mediaviewer/File:Hochbahnviadukt_Sch%C3%B6nhauser_Allee_Berlin.jpg

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Berlin. Unter den Linden mit Brandenburger Tor

Habitat Preference of Koalas in NSW, Australia

2020



Eberswalde University for Sustainable Development

Habitat Preference of Koalas in NSW, Australia

In relation to 2020 fire rehabilitation. Working in conjunction with Southern Cross University and Eberswalde University for Sustainable Development by Eleanor Bastin and Lara Wulsche.

The Koala (*Phascolarctos cinereus*) is listed as vulnerable under the Environment Protection and Biodiversity Conservation Act 1999. A survey was conducted to assess the vegetation at Southern Cross University in Lismore, New South Wales (NSW) in relation to the Koala habitat preference. The data that was retrieved then can assist in implementing conservation tactics based on koala habitat preference, especially in relation to the mass loss of habitat from the 2019/2020 fires.

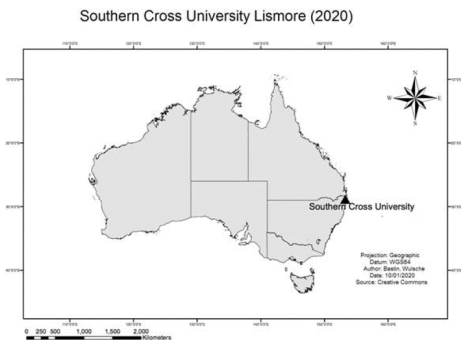


FIGURE 1: Study location, Southern Cross University, Lismore, Northern NSW, Australia.

Southern Cross University in northern NSW falls within the Big Scrub region. Originally a 74000 ha continuous tract of rainforest. (G. Holmes, 1987). This area has always been home to one of the largest populations of Koalas in Australia. The continual clearing rainforest for urbanization has put pressure on the diminishing Koala habitat.



FIGURE 2: average scat count of Koala fecal pellets observed under different vegetation types at Southern Cross University, Northern NSW, Australia. Observations were counted with a two minute time frame at each, within 2 minutes of the tree.

The survey was conducted using modified version of the Spot Assessment Technique (Phillips and Callaghan, 2011). Whereby 241 trees were recorded through a set of multiple measure: scat count, scratch marks, tree species, diameter at breast height (DBH), height of tree (using clinometer) and GPS coordinate.

The Bushfire Season 2019/20 in Australia seems to be one of the heaviest ever. This year an area of about 17mio. hectares has been burned. (F. Noble, 2020). Moreover 1 Billion animals have died, and just in NSW more than 800 million. (C. Dickman, 2020). Forward-looking a further development in prevention measures and in the expansion of geographic information systems supported by the Australian government is necessary, which monitors and evaluates occurring fires and their threats to the surrounding [Figure 4].



FIGURE 4: Distribution of bushfires burning over a 72 hour time frame from the 15/1/2020. Legend: Intense colour: most recently. Map based on Arcgis world imagery: Government and Geoscience Australia Hotspots.

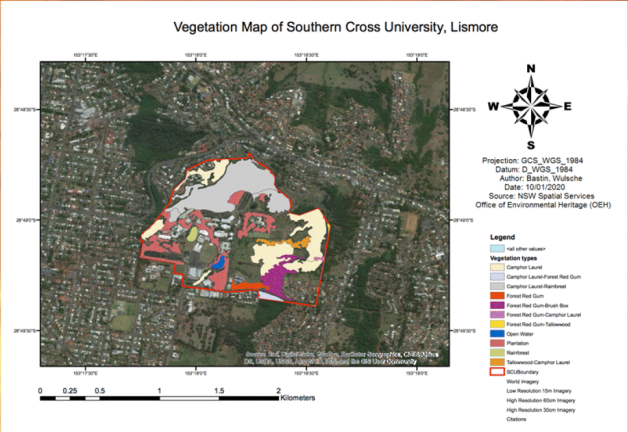


FIGURE 3: Vegetation map with different colors depicting different vegetation types across the study sight at Southern Cross university, Lismore, NSW.

Swamp Mahogany (*Eucalyptus robusta*) had the highest recording of scratch marks [Figure 2]. Which indicates frequent usage and high preference by Koalas. This data retrieved from the surveys can be used to assist in the rehabilitation of the Big Scrub region in revegetating the area with tree species that have a known preference for Koala habitat. In doing so it should encourage the Koala population to return to the area after the fires.

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 Dickman. (2020). University of Sydney: News. <https://sydney.edu.au/news-opinion/news/2020/01/08/australian-bushfires-more-than-one-billion-animals-impacted.html>
 Noble. (2020) Australian Bushfires. <https://www.9news.com.au/national/australian-bushfires-17-million-hectares-burnt-more-than-previously-thought/b8249781-5c86-4167-b191-b9f628bdd164>
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 Phillips & J. Callaghan. (2011). The Spot Assessment Technique: a tool for determining localized levels of habitat use by Koalas *Phascolarctos cinereus*. <https://publications.rzsnsw.org.au/doi/pdf/10.7882/AZ.2011.029>
 Figure 4: <https://hotspots.dea.ga.gov.au/>. Background bushfires: <https://theconversation.com/bright-spark-saves-lives-finding-order-in-the-chaos-of-bushfires-40630> Background Eucalyptus Forest: https://upload.wikimedia.org/wikipedia/commons/c/cf/Eucalyptus_forest2.jpg

Potential of Robinia spp. in Brandenburg for Honey production

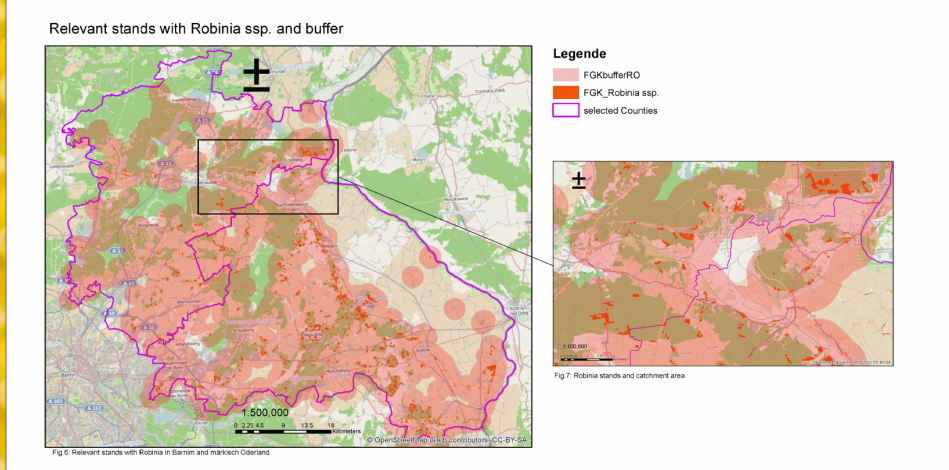
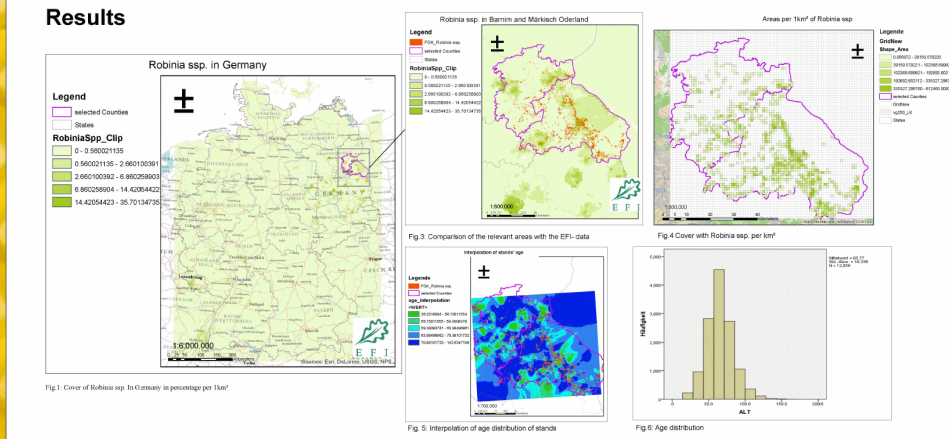
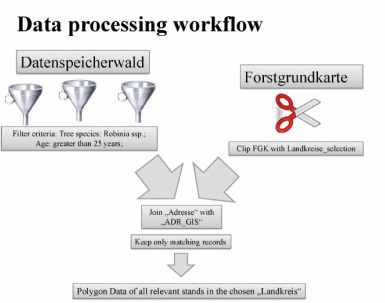
2013/14



Potential of Robinia spp. in Brandenburg for Honey production

Sebastian Zarges
International Forest Ecosystem Management 2013/14

Abstract
The intention of the project is to visualize all Forests in Brandenburg which are relevant for honey production. Mainly the flowers of Robinia spp. are used for that in Brandenburg (up to 50% of the annually total honey harvest). Due to the size of the data only the areas "Barnim" and "Märkisch Oderland" were considered and are shown in the poster. To get a first overview a 1km x 1km raster for the distribution of Robinia spp in Germany from the European Forest Institute is shown. This gives the opportunity to make a comparison with the more accurate data from the LFE (Landeskompentenzentrum Forst Eberswalde). You can see that it is similar for most areas, but in some places on the European scale forests with Robinia spp. were not detected in the LFE data. This is probably due to the fact that those areas are small and not accumulated or are short rotation stands, which are, due to the age, not relevant for honey production. For some areas which are shown with the highest density in the EFI map there is no data available from FGK and DSW because it is probably private or unused area. For the beekeepers' local orientation, the relevant stands need to be shown in a topographical map. Therefore OpenStreetMap is used because it also shows most of the forest roads, which may be needed to put the beehives directly into the stand. All the information needed to examine the relevant stands can be found in the "Forstgrundkarte" and in the "Datenspeicherwald". These need to be joined in ArcMap, but the DSW should be filtered in Excel before because the data in the DSW is more accurate and split into the different layers. This leads to complications when you try to join in ArcMap. It is important that there is a high portion of Robinia spp., so only areas with them as main tree species are filtered out. Also only the areas where Robinia spp. is occurring in the upper tree layer are selected, so that the interference when joining with the FGK is minimized. The next important filtering attribute is the age, because the trees need to be at least 25 years old to flower. Furthermore a buffer around the relevant areas is added with a distance of 2km, which represents the maximum flying distance of bees so that the beekeeper can find the optimal spot for his hives.



Calculations and conclusion

To calculate the maximum potential of Robinia honey harvest per year in Brandenburg a production of 150 to 1000kg honey per ha is estimated. This number is dependent on the number of trees per ha, age and the site factors, especially water availability. Furthermore the accuracy is not that important since these are only rough estimations. The number of beehives in Brandenburg is 38 900 and 2400 beekeepers. One hive can produce between 10kg to 20kg in the first period of the year, when Robinia spp. is flowering. Therewith a rough number of hives can be calculated for each stand. For whole Brandenburg the area covered by Robinia spp. is 17526,68 ha of which 2.629.002kg to 17.526.680kg honey can be produced annually. So if an average of 15kg per hive is assumed, 175.000 to 1.169.000 hives are needed. With the help of the map you can clearly see that in a great part of the two counties, bees have the opportunity to feed on Robinia spp. flowers in the flowering season. To get the purest Robinia spp. honey the hives need to be as close as possible to the stands during the flowering period May to June.



Fig.7: Beekeeper

Sources:
http://www.focus.de/regional/brandenburg/agrarzahl-der-imker-und-bienenvoelker-waechst_id_3498268.html
http://www.waldwissen.net/wald/baume_waldpflanzen/laubhvh-robiniaindex_DE
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 Datenspeicherwald und Forstgrundkarte 2013

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KOMM'POSTEN Soil & Reliefanalysis for our Permacultureproject

2014

KOMM'POSTEN Waldlehrgarten Steinhöfel

Soil & Reliefanalysis for our Permacultureproject

Introduction

KommPosten?

In Cooperation with LandKunstLeben e.V, students from the HNEE and all interested people are currently creating a place to apply the design of **Permaculture** in Steinhöfel close to Fuerstenwalde. It gives room for creative, handcrafting workshops. To realize all of the ideas (like building a hut & compost toilet; planting a forest garden, building water ditches, keeping bees...) we want to involve different groups of people.

Basic ideas:
exchanging of knowledge; collecting experience;
networking & having good times

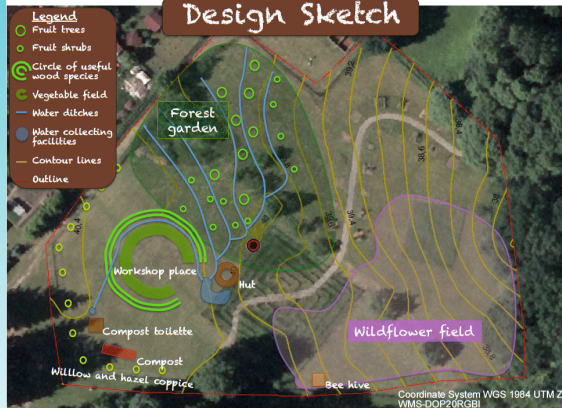
Permaculture?

It's a way of ecological design, which is supposed to lead to the creation of sustainable, harmonious and cooperative interactions between the landscape and the humans.

Keyline Design (P.A. YEOMANS) is a organizing pattern for Permaculture Design and beneficial for **soil development** and water conservation. It combines intelligent water harvesting, storage and irrigation by using the geometry of contour lines.



Pict.1: Example for a Keyline design



Aim of study

- 1. Aim: Finding contour lines** (tree and shrub strips as well as water ditches will follow the geometry of contour lines)
- 2. Aim: carbon storage & pH-value of the soil**



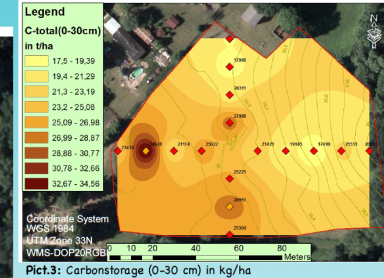
Pict.2: Soil sampling with the Root drill

Methods

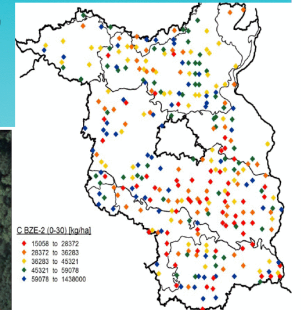
- 1. Contour lines**
 - Altitude measuring with the theodolite
 - Data preparation in ArcMap 10.1
- 2. Carbon storage & pH-value**
 - Soil sampling with a "root drill" (Wurzelbohrer)
 - Analysis of soil samples in the laboratory

Results

1. Counter lines → see Design Sketch
2. Carbon storage

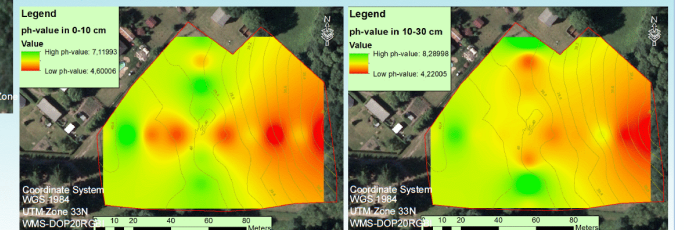


Pict.3: Carbonstorage (0-30 cm) in kg/ha



Pict.4: unpublished map of carbon storage (0-30cm) from the "Bodenzustandserhebung 2013" provided by the Landeskompetenzzentrum Forst Eberswalde; made by Rea Schneider

pH-value



Conclusion

- pH-value:
 - typical for sandy soils in a acidic range
- Carbon storage (comparison to the values of the BZE 2013):
 - low C-values, but Carbon is relatively evenly distributed in the upper and lower soil layers
- Future:
 - enhancement of water balance of the soil through Keyline design + planting of a forest garden
 - improvement of the Carbon storage (leads also to a better water balance)
 - climate protection (C-storage)
 - Repetition of Soil samples to see a change related to the landscaping

made by
Johannes Thomas, Sina van Gerpen, Hans-Günter Müller, Birger Paulsen, Nathalie Richter

www.kommposten.tumblr.com

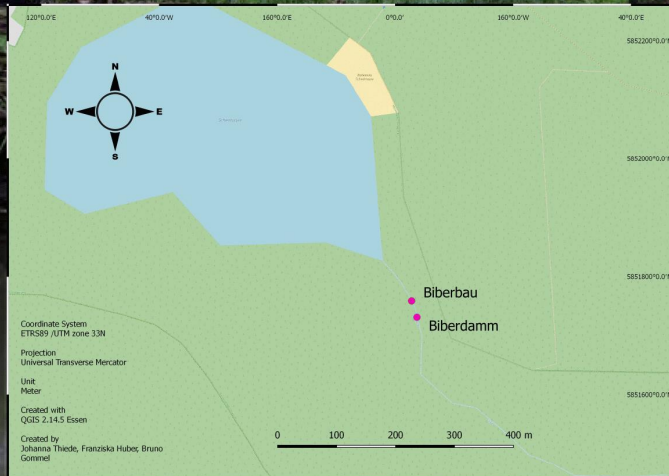
Schwärze Virtual Tours

2018/19

SCHWÄRZE VIRTUAL TOURS

What is a 360° Virtual Tour?

The idea of 360° Virtual Tours is to **visualize** the surrounding of a spot on a digital screen. As the image is constructed from many single images, high resolutions with many details can be achieved. It is possible to **add sounds, videos or other educational content**. This makes it a perfect tool to visualize knowledge or scientific research results. As information via the internet is getting more and more important, 360° virtual tours are an interesting way of **visiting places online**, without ever having seen them in real life. For ecological education, this is an (yet) largely unused opportunity.



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Pictures
Panorama
Tour

Field work

The pictures can be taken with any camera, as long as they are all taken from the **same perspective**. For this purpose, a special **nodal point adapter** on top of a tripod is used. It is important, that the images overlap a little bit. The project aimed for an **overlap of approximately 30%**. For images of the sky, the light exposure had to be adjusted manually. This is why direct sunlight during the shooting is not recommended, as changing shadows may lead to distortions in the image.

Panorama stitching

The images were fused into a large panorama file using the panorama sticher software **PTGui**. The software can stitch most of the images automatically and delivers satisfying results. However, sometimes some control points had to be set manually to adjust some of the images and the brightness had to be adjusted too. The tripod was removed from the image using the tool „mask“, which is helpful to determinate which parts of which image should appear in the final panoramic view.

Creating a virtual tour

Using the software **Kolor Panotour Pro**, different panoramas are used to build a virtual tour. The output file is an HTML file, which can be opened and uploaded in any browser. You can move through the virtual tour using the mouse pointer, zoom in and out and switch into another panoramic view. The file is compatible with virtual reality glasses, which gives an immediate impression of the place.

What we have actually done

We photographed two 360° panoramic views close to each other around a beavers lodge on the Schwärze river, close to Schwärze lake. Taking the pictures (and later stitch them together) standing in the water was a little bit difficult, as the water surface is constantly changing. Using a long light exposure did help. In our final virtual tour, it is possible to move around the beavers lodge and explore its surroundings, without leaving the house. This might be not necessary, if you are living close by and a trip to the Schwärze lake is highly recommended. However, using the interactive tool, we are now able to share this spot with people from Vietnam or Spain, which are rather unlikely to visit the beavers lodge in real life.

Preview:



Mapping unused sites and buildings in Eberswalde

2016

Mapping unused sites and buildings Eberswalde

Unused buildings

Unused sites

- Procure a cadastral map of area of interest
- Develop key for different types of empty properties and buildings
- Collect empirical data on the site (modifying key during process)
- Mark all found objects on paper map

Working Plan ON THE FIELD

Photo points

- Georeference the mosaic of screenshots of the „Liegenschaftskataster“
- clip the new layer
- create different layers for buildings and sites to display collected data in the map
- Implement pictures of houses and properties in the map with eVis Plugin

Problem / issue	solution
<ul style="list-style-type: none"> • Finding open source cadastral map to work with – not easily available for unauthorized people • Only ocular way to distinguish usage of buildings/sites because no official data of ownership available • use relative paths for the pictures, so that the project works at any computer 	<ul style="list-style-type: none"> • We georeferenced a self created .jpg file • Apply the key codes strictly and stick to decisions • Use eVis Plugin for visualization of photos in the digital map

Working Plan ON THE SCREEN

Pia Angelike
Malte von Viebahn
Stella Thoben

Geographic Information System IFEM 2016

Detecting Abandoned Land in Serbia

2016

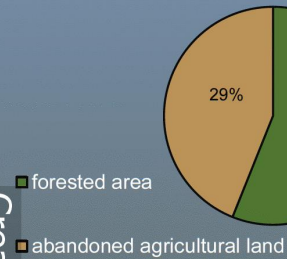
How did we come to our results...?

We used a Bing aerial map along with a previously prepared workflow regarding CORINE categories, abandoned land codes, parcel description and also the legends. Via QGIS the map was divided into three parts, among the group in order to work on them simultaneously. To fill in the categories, we added two columns i.e. abandoned land and CORINE-categories. Moreover, these columns were filled up by the manual checking of each & every parcel. The parcels in the central map are signified by three color scheme representing the land use type.

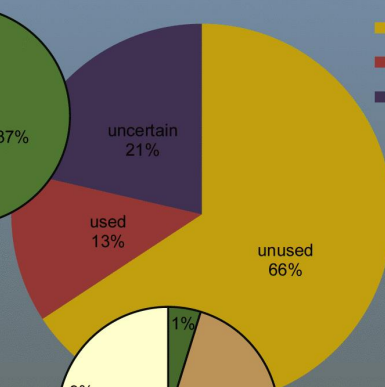
Results

- ✓ Abandoned land approx. 66% => 55% unused forested area
45% abandoned agricultural land
- ✓ 21% uncertain parcels
- ✓ Approx. 7% mixed feature parcels
- ✓ About 9% with individual or several houses.

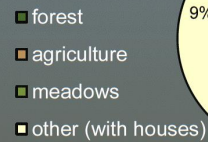
Abandoned Land Subdivision



Land Use Type



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Subdivision of Uncertain Land

Level-I: Other Land Use

Level-II:



Urban Areas Other Land Use Condition Irrigated Agroforestry Burned Agro Areas

Level-I: Agricultural Land

Level-II:



Uncertain Cropland Cropland Other Permanent Crops Meadows & Pastures with Herbaceous Layer Meadows & Pastures Maintained Orchards

Recommendations

Potential

Kalina has a huge potential for designating protection sites or investing in agriculture. Depending on the future use of these areas, funding could be provided by the European Union.

More Has to Be Done with Classification System

There is no ideal classification of land use & cover, with which it is also rare to find the clearly defined classes that one would like. The CORINE Land Cover & the FAO classification seem to be commonly used internationally. As per our observation more effort is required to make regional classification systems much compatible as possible with the commonly used ones that satisfy the needs of majority users.

The previous classification system can be suitable, as it was developed to meet the needs of a specific region, but it was too generalized as well. So from distant processing point of view it is suggested to give more attention up to 2nd & 3rd levels of classification, as well as their definitions, which will be an ease to better decision making in categorization of parcels along with more reliable results.

Land Use Types

Unused: unmanaged & abandoned, not in used any more or still in natural state, not being exploited yet
Used: well managed & still in use, permanent or temporary, also cultivated
Uncertain: doubtful, subject to changes such as scattered regeneration patches on a land, maybe due to abandonment or partial clearing for usage

Scale 1 : 2500

Level-I: Forest Land

Level-II:



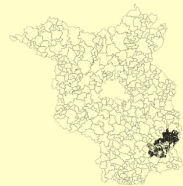
Cultivated Forest Mixed



Deciduous Plantation

Adaptation to the forest cover loss in south-east Brandenburg

Jennifer Kühlewind, Nancy Müller



Introduction

The state Brandenburg is one of the most densely wooded states in Germany. In year 2012, about 37 % of the area has been covered with forest.

This project features the Oberförsterei Cottbus located in south-east Brandenburg.

In the past, the forested areas of Cottbus has been decreased due to several forest fires, clear cuts and open mining. Especially the north of the area has faced a high loss of tree cover during the years 2000 and 2018.

The majority of forest cover in Brandenburg is characterized by planted monoculture, especially pine tree.

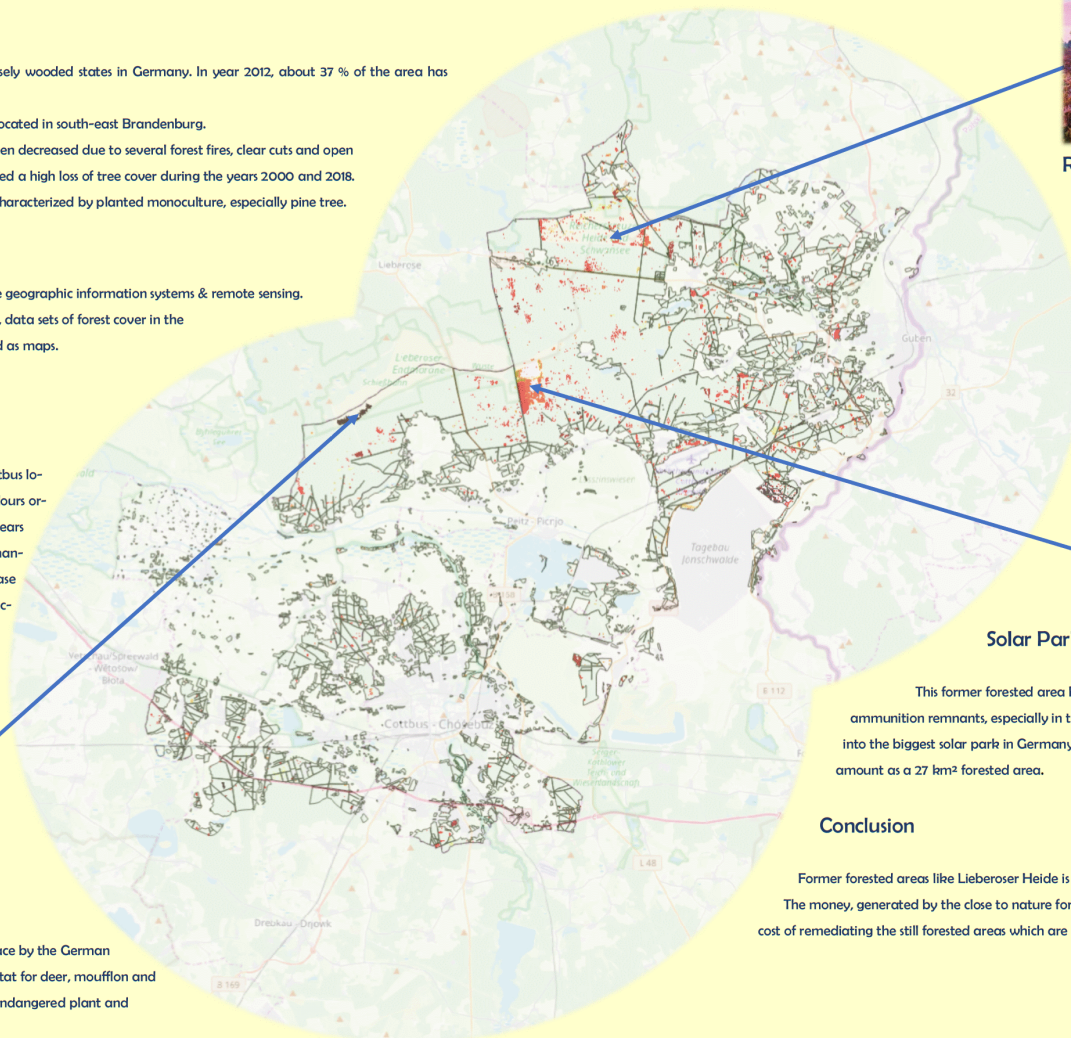
Methods

This project was developed as part of the course geographic information systems & remote sensing.

With the use of geographic information systems, data sets of forest cover in the years 2000 – 2018 were analysed and displayed as maps.

Results

The displayed map shows the Oberförsterei Cottbus located in the south-east of Brandenburg. The colours orange to red mark loss of tree cover during the years 2000–2018. Most tree loss is due to forest fires, management change and desertification. The decrease of forest cover on a small scale was caused particularly by small scale-tree harvesting.



Reigerskreuzer Heide

Forested area was turned into a heath on purpose by laid forest fires in 1942-43 to create a military training area for the SS-army. In 1945 the Soviet army took over the area and expanded its size. After the German reunification, the army closed the place and handed it over to the state of Brandenburg.

As that place is heavily contaminated with ammunition remnants, it is forbidden for the public to enter for safety reasons. Since the majority of its area remained untouched during the military utilisation, a high diversity of birds and insect species could develop.



Solar Park Lieberose

This former forested area has been used as a military training area. Because of the remaining of the ammunition remnants, especially in the soil, the place could not be used for forestry purposes anymore and was turned into the biggest solar park in Germany. In one year, it produces 52 gigawatt hours which saves 35.000 t of CO₂, the same amount as a 27 km² forested area.

Conclusion

Former forested areas like Lieberoser Heide is a popular tourist attraction now.

The money, generated by the close to nature forest management, is used to cover the high cost of remediating the still forested areas which are contaminated by ammunition remnants.



Lieberoser Heide

This heathland was heavily used as a military place by the German Bundeswehr until 1992. Today, it provides a habitat for deer, mouffon and since 2009 also wolf. Furthermore many partly endangered plant and animal species can be found there.

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Adaption to the forest cover loss in south-east Brandenburg

2017

Shinrin Yoku 森林浴

- Waldbaden als alternative Waldnutzungsform

2020

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Hochschule
für nachhaltige Entwicklung
Eberswalde



Abb.1: Yakushima Nationalpark

Einleitung

Anfang der 1980er Jahre wurde im Zuge einer Kampagne des japanischen Forstwirtschaftsministeriums der Begriff Shinrin Yoku (Waldbaden) geprägt, um die japanische Bevölkerung anzuregen mehr in die Natur zu gehen. Inzwischen hat sich Shinrin Yoku in Japan zu einer anerkannten Naturheilmethode entwickelt die auch wirtschaftlich eine alternative zur „klassischen“ Waldnutzung (Holzgewinnung) darstellt.

Was ist Shinrin Yoku?

Shinrin yoku ist eine Form der Naturtherapie, der die Heilkraft des Waldes zugrunde liegt. Diese ist in Japan erforscht und wissenschaftlich anerkannt. Der Wald wird dabei bewusst und achtsam wahrgenommen, um zu einem entspannten und stressreduzierten Daseinszustand zu gelangen und die Gesundheit zu fördern.

Als Heilkraft ist das „typische“ Waldklima, die Ruhe und der optische Eindruck des Waldes beschrieben. Außerdem legen wissenschaftliche Studien nahe, dass die von Pflanzen abgesonderten Phytonzide (antibiotische Pflanzenwirkstoffe) einen positiven Einfluss auf die menschliche Gesundheit haben.

Shinrin Yoku 森林浴

Waldbaden als alternative Waldnutzungsform

Jonathan Thurn • Lukas Janke • Johann Thieme

Steckbrief Japan

- Bevölkerung: 126 Mio.
- Landfläche: 377.915 km² (Deutschland: 357.386 km²)
- Waldanteil: 67% (davon Nationalparks 5,8%)

Wissenschaftlich nachgewiesene Effekte von Shinrin Yoku

- Stärkung des Immunsystems
- Verleiht Energie
- Lindert Depression, Ängste und Wut
- Reduziert Stress
- Führt zu einem entspannten Zustand

Methoden

Die Informationen wurden mittels Lektüre und Online Recherche zusammengetragen.

Die Ausarbeitung der Abbildung des Teilstücks von Japan (Karte 1) erfolgte durch das Open Source Programm Q-GIS mit den öffentlich zur Verfügung gestellten Daten der „Geospatial Information Authority of Japan“.

Schlussfolgerung

Shinrin Yoku verbindet gesundheitliche Aspekte mit alternativer wirtschaftlicher Waldnutzung und schafft ein neues Bewusstsein für Wald. Die positiven Auswirkungen des Waldbadens auf den menschlichen Organismus fördern den bewussten Umgang mit Natur und lassen Themen wie Waldnutzung und Waldschutz greifbarer und zugänglicher werden. Am Beispiel der 62 Zertifizierten Waldtherapie-Zentren in Japan ist zu erkennen, dass Shinrin Yoku eine Ergänzung zu herkömmlicher Waldnutzung darstellt. Shinrin Yoku kann eine wirtschaftliche Alternative zur herkömmlichen Waldnutzung bieten (vergleichbar mit dem Friedwaldkonzept), dient der menschlichen Gesundheit und berücksichtigt gleichwohl die Waldökosysteme.



Karte 1: Teilstück Japans (Forest cover); Beispiel Waldtherapiezentren

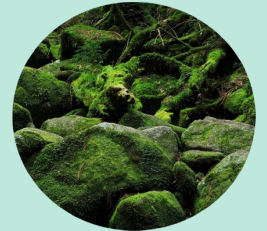


Abb.3: Yakushima Nationalpark



Abb.2: Berg Haguro-san (Shonai)

Quellen:

Li, Q. (2018). Die wertvolle Medizin des Waldes. Hamburg, Deutschland: Rohwolt
https://www.japanfs.org/en/news/archives/news_id02771.html
<http://www.ecotippingpoints.org/our-stories/indepth/japan-community-forest-management-silviculture.html>
<https://www.japandigest.de/reisen/natur/shinrin-yoku/>
<https://www.reikiwege-volkach.de/achtsamkeit-natur/shinrin-yoku-waldbaden/>
<http://www.shinrin.de/shinrin-yoku/>

Abb.1: <https://allabout-japan.com/en/article/969/>

Abb.2: <https://suitcasemag.com/travel/stories/pilgrimage-shonai-japan/>

Abb.3: <https://www.pinterest.com/pin/238268636517028448/>

<http://www.shinrin.de/shinrin-yoku/>

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The City Trail

Creating a digital circuit for Eberswalde



Created by:
 IFEM 3.
 Semester, HNE
 Eberswalde

Analena Meyer
 Konrad Wilke
 Hanna Huschke
 Tobias Ertle
 Marius Schrader

The City Trail – Creating a digital circuit for Eberswalde

2020

Introduction

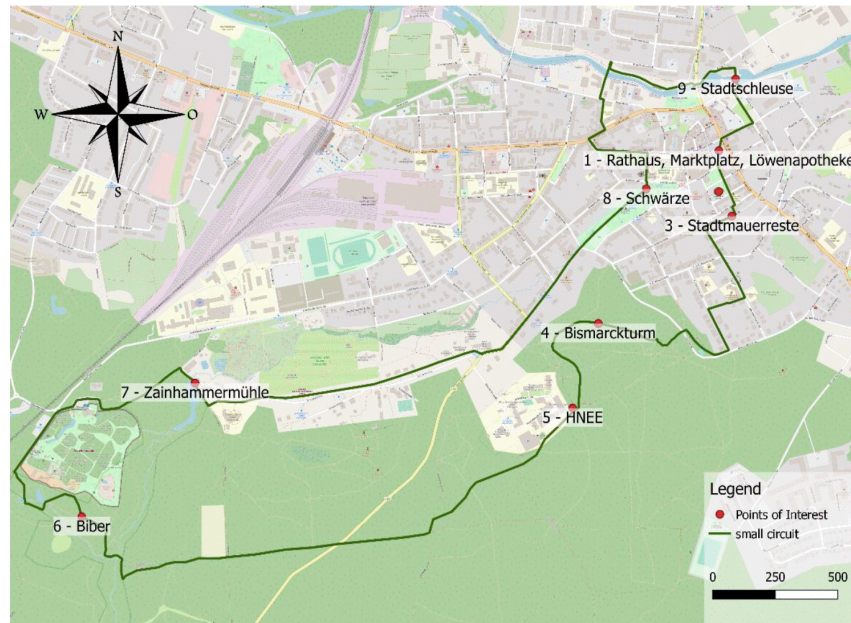
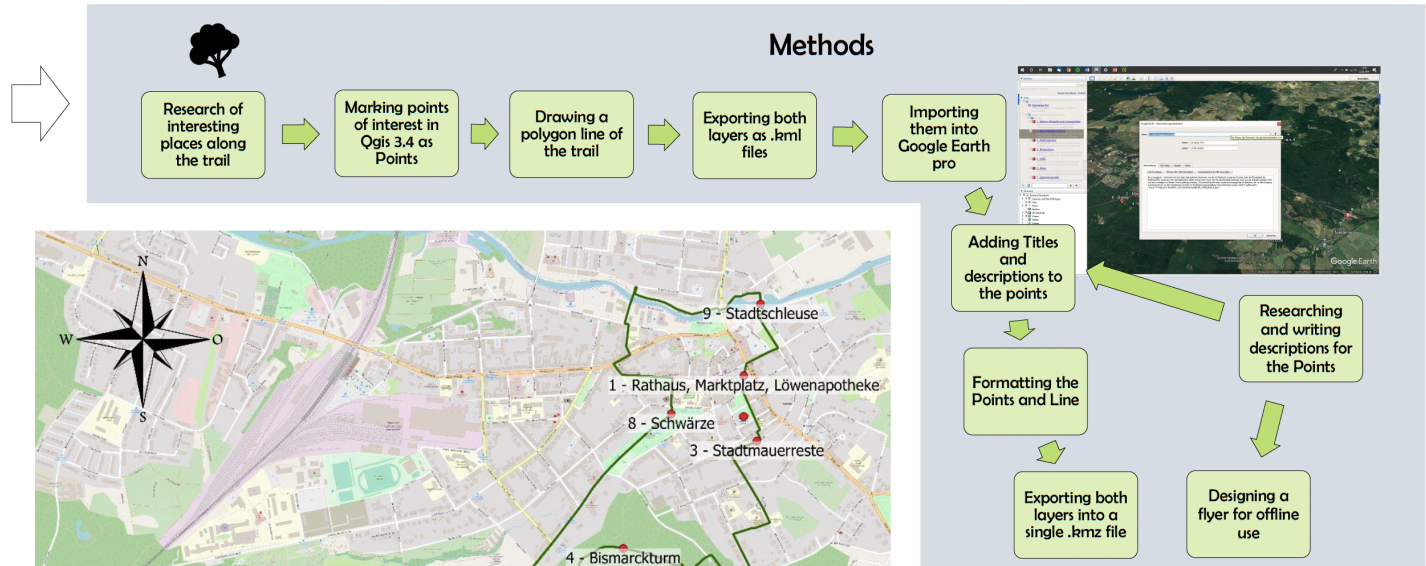
Creating a virtual Circuit useable online for anyone visiting Eberswalde, was the basic Idea when starting this project. The actual „city circuit“ already existed in reality, and was established by the city council of Eberswalde and has a length of about 10 km. But since society is getting used to the benefits of digitization and the use of smartphones or the internet in general, converting this „small city circuit“ into a digital format, especially for tourism, seemed worth the effort. The slightly longer circuit around the city was chosen, because a information sheet for a smaller one already existed and the points of interest along the longer circuit seemed far more suitable for a good impression of not only Eberswalde itself, but also of the stunning Nature surrounding it.



This virtual transmission of the circuit was also done with the aim of using it as a tool in the International Office of the Hnee to introduce foreign students to Eberswalde and/or offering this virtual circuit at the Tourist Information located in the Museum of Eberswalde and also on their Homepage.

Conclusion

The trail has been successfully digitalised, but isn't available for the public yet. This could have been achieved by better time management and a clearer communication with the institutions we want to publish this project with.



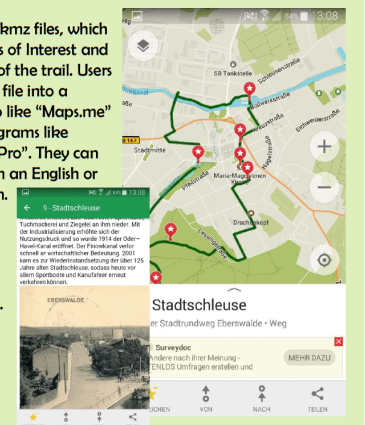
Map of the "Kleiner Stadtrundweg" with Points of Interest created in Qgis 3.4

Once imported into a suitable navigation app it shows the 9 points of interest as Bookmarks on the map, and a green polygon line which shows the intended trail. The Bookmarks all have a number, Title and description of the place, some have historic pictures to give an impression about how different, yet similar some of these places are.

There is also a flyer for offline usage. The green dot, which marks the "Kleiner Stadtrundweg", can be found on signposts in the city center and southern part of Eberswalde. Users are supposed to get the files on the Website of the International Office of the HNEE and the Tourist Information of Eberswalde, those aims haven't been achieved yet, but we are still in contact with the those institutions and are trying to establish a partnership.

Results

There are two .kmz files, which include 9 Points of Interest and a polygon line of the trail. Users can import this file into a navigation app like "Maps.me" or desktop programs like "Google Earth Pro". They can choose between an English or German version.



Created by Universal Document Converter



The Beaver – A Landscape Architect

Fee Trau, Hanna Rhein, Nadine Werner, Zina Zaimche

Faculty of Forest and Environment, Eberswalde University of Sustainable Development

Collection of data:

Data was collected with a GPS. We used the functions tracking and mark waypoint. To map the new water area we walked around the area and recorded our track. Beaver lodges were mapped with the function waypoint. Walking distances from beaver lodge to the eating areas were also mapped with the waypoint function

Introduction:

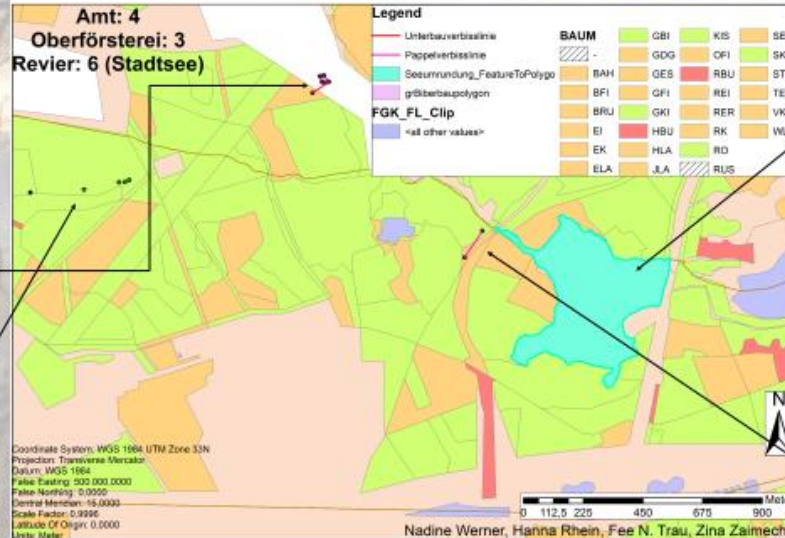
Beavers are on the red list and 2004 it was considered a success when the number of European beavers went up again in Eberswalde. But only 2 years later the conflict between beaver and forestry became larger and the foresters started monitoring the beaver to be able to react fast. This project shows some changes in the landscape done by the beaver and should give some ideas about the lifestyle of the beaver in the area of Eberswalde.

Handling the data:

We used ArcGIS to create our maps. To get the data from the GPS into ArcGIS we used DNRGPS. In ArcGIS we used various functions: Clipping (our area from the Forstgrundkarte), Editing (to close the polygon of the lake), point to line (to see the distance from the beaver lodge to the beavergrub), join (Forstgrundkarte with DSW_bestockung_Hoheit), features to polygon (to draw the large beaver lodge).



In this area a huge beaver's lodge about 500 m2 was built. In certain distances on the lodge the beavers built air holes to secure the ventilation (picture above, left). Around this lodge all subordinary trees (planted 15 years ago) are eaten away (picture above, left). Here the beaver goes up to 75m into the stand.



Due to the congestion of water by the beaver a small lake with an outline of 2,9km and a covered area of 20ha has shaped. The area was covered with alders which died off because of the surplus of water (see picture below). Economically this lead to no losses in profit because alder is not relevant on forestry. However, a radical change in ecology took place. The meadow formerly used by wild game to rut is now a habitat for migratory birds and other new species. Furthermore the map shows where which tree species are growing and how endangered they are by the beaver.

Green means at the moment not endangered. Yellow means medium endangered. Depends on the availability of the red coloured, tree species, those are preferred by the beaver.



At a place called "Finsterer Winkel" we recorded 4 lodges but we assume that there are some more lodges along the river. But the stock became to impassable to go on recording (see pictures below). The area is not used for forestry. Due to congestion of water no heavy machinery can be used. "Finsterer Winkel" is an important habitat for wild game like red deer and wild boars.



In this area was a fence next to the beaver's habitat. Here he goes for young poplar about 120m on land even though there is a street next to the poplar trees. Trees at the water border are also affected by the beaver. He likes his banks sparse.

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 Herr Matthias Krüger (Forster Eberswalderstadtwald)
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Pictures:
 Rhein, Trau, Werner, Zaimche

Hoheitsoberförsterei Eberswalde und die Umsetzung landesweiter Zielsetzungen forstlicher Maßnahmen

2017/18

Created by Universal Document Converter

Hoheitsoberförsterei Eberswalde und die Umsetzung landesweiter Zielsetzungen forstlicher Maßnahmen

Jasmin Snoussi, Annalena Lohaus

Geografische Informationssysteme & Fernerkundung WS 17/18, IFEM

Einleitung

Brandenburg hat mit über 1 Million ha Wald und einem Flächenanteil von ca. 35,4 % die drittgrößte Waldfläche in Deutschland – nach Baden-Württemberg und Bayern. Ziel der Forstwirtschaft ist laut Forstgesetz daher eine Walderhaltung, zu erreichen durch z.B. Ersatzaufforstungen. Neben der Walderhaltung wird laut den Waldbau-Richtlinien der Landesforstverwaltung Brandenburg ein Umbau in Richtung Laubwald angestrebt. Dabei soll der Anteil von Nadelwaldtypen langfristig in allen Waldeigentumsarten von 75% (Stand 2004) auf 45% gesenkt werden. Mischbestände und Laubwaldbestände sind zu bevorzugen, es wird Wert auf Baumarten der potenziellen natürlichen Vegetation gelegt. Neben einer veränderten Baumartenzusammensetzung soll der Strukturreichtum gefördert werden um die Störanfälligkeit zu verbessern. Wichtige Baumarten sind z.B. die Rotbuche (*Fagus sylvatica*), deren Flächenanteil in Zukunft vergrößert werden soll, und weiterhin die Waldkiefer (*Pinus sylvestris*). Die Traubeneiche (*Quercus petraea*) wird als Leitbaumart der potenziellen natürlichen Waldgesellschaft anerkannt, auch ihr Anteil soll erhöht werden. Zusätzlich wird die Douglasie (*Pseudotsuga menziesii*) in der Varietät „viridis“ aufgrund ihrer Stabilität, Vitalität und Wirtschaftlichkeit als Mischbaumart gefördert, jedoch nicht als Reinbestand.

Das Ziel der Untersuchung der Hoheitsoberförsterei Eberswalde besteht darin, anhand bereitgestellter Datensätze die Umsetzung der Zielsetzungen insbesondere in Bezug auf Walderhaltung und Förderung von Laub- und Mischbeständen bzw. Verringerung der Kiefer-Reinbestände in der Hoheitsoberförsterei zu untersuchen.

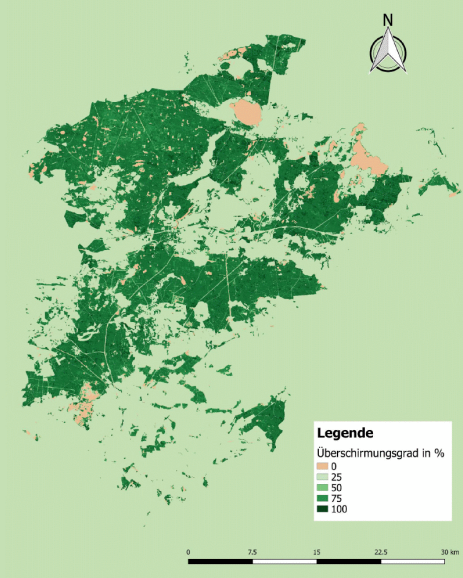
Material Und Methoden

Die Analysen basieren auf drei Quellen:

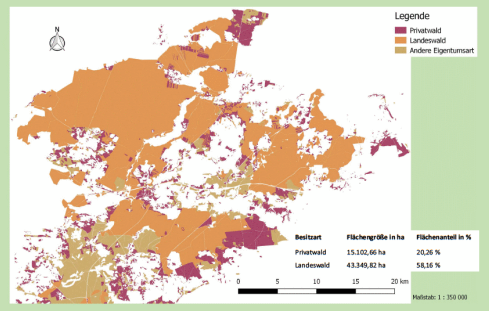
- Global Forest Change - Daten der Universität von Maryland, herausgegeben von Hansen, Potapov, Moore, Hancher et al.
- Walddaten - DSW2; Forstbasis Land Brandenburg, Datenspeicher Wald (Hoheit); Waldfunktionen, Historische Waldkartierungen, Forstwirtschaftsdaten Datenspeicher Wald
- Waldmanagement- und Ertragsdaten seit 2000 für die Region Brandenburg gestellt vom LFE/LFB.

Für die Datenanalyse wurde das Programm QGIS Essen 2.14.5 mit dem Referenzsystem WGS 84/ UTM Zone 33 U verwendet. Die Daten wurden in QGIS eingefügt und mit Hilfe von ArcGIS auf die Hoheitsoberförsterei 8 zugeschnitten. Danach wurde die Attributabelle durch Daten des DSW (CSV-Tabellen) erweitert, wodurch das wichtigste herausgefiltert und markiert werden konnte. Zum Schluss mussten die Datensätze der Karten aufeinander angepasst werden, so liegen zwar für den Waldverlust Daten bis 2016 vor, dargestellt wurden sie aber nur bis 2012, da die Daten des des Waldgewinns sich auf den Zeitraum 2000 bis 2012 beziehen.

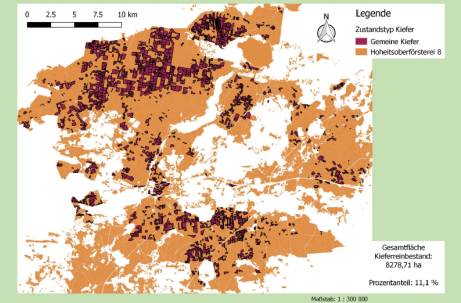
Ergebnisse



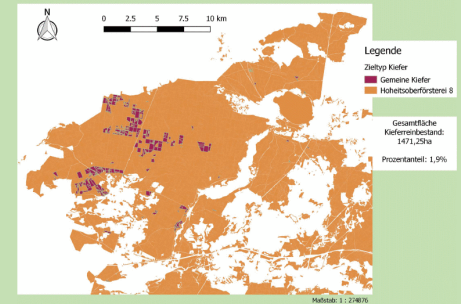
Karte 1: Überschirmungsgrad der Hoheitsoberförsterei Eberswalde (Datenquelle: Hansen/UMD/Google/USGS/NASA)



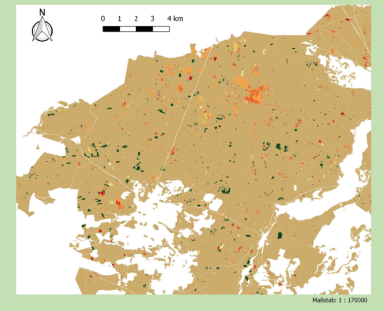
Karte 2: Besitzverhältnisse in der Hoheitsoberförsterei Eberswalde (Datenquelle: Datenspeicher Wald)



Karte 3: Ausgewählte Flächen mit Zustandstyp Kiefer-Reinbestand (Datenquelle: Datenspeicher Wald)



Karte 4: Ausgewählte Flächen mit Zieltyp Kiefer-Reinbestand (Datenquelle: Datenspeicher Wald)



Karte 5: Ausschnitt der Hoheitsoberförsterei mit Waldverlusten in den Jahren 2000 – 2012 sowie dem Waldgewinn im Vergleich zum Jahr 2000 (Datenquelle: Hansen/UMD/Google/USGS/NASA)

Diskussion

Die Untersuchung der Hoheitsoberförsterei Eberswalde in Bezug auf die Umsetzung landesweiter Zielsetzungen forstlicher Maßnahmen hat ergeben, dass diese nur zum Teil erfüllt werden. So lässt sich erkennen, dass der Anteil der Kiefer-Reinbestände laut den geplanten Zieltypen deutlich abnehmen soll – von derzeit ca 11,1 % auf 1,9 % (Karte 3 & 4). Dies entspricht den Zielsetzungen des Waldumbaus in Brandenburg, laut denen Laub- und Mischbestände gefördert und Kiefer-Reinbestände umgewandelt werden sollen. Die Ergebnisse zum Aspekt der Walderhaltung sind weniger deutlich: Hier überwiegt der Waldverlust in den Jahren 2000 – 2012 gegenüber dem Gewinn im selben Zeitraum (Karte 5), sowohl im Privat- als auch im Landeswald. Die Berechnungen beruhen hierbei auf den Daten der University of Maryland.

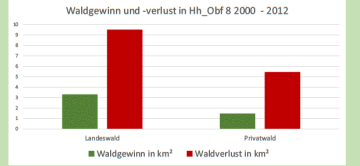


Schaubild 1: Waldgewinn und -verlust in Privat- und Landeswald in der Hoheitsoberförsterei Eberswalde

Daraus lässt sich allerdings nicht ableiten, wie der Waldverlust begründet ist; ob es sich beispielsweise um Verlust nach Sturmereignissen oder anderen Kalamitäten handelt oder geplante forstliche Eingriffe. Großflächige Erstaufforstungen, um den Waldverlust auszugleichen, konnten in der Hoheitsoberförsterei Eberswalde auf Grundlage der vorhandenen Daten nicht festgestellt werden. Dies Zielsetzung des Waldverlusts ist somit nicht erfüllt, während der Waldumbau laut Zieltypenverteilung Fortschritte macht.

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- Daten des LFE/LFB bereitgestellt von Thomas Kindermann

