

# Views on “castrum cuscin”

## Archeology and archaeometry under water

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*Abstract: The landscape of Mecklenburg-Vorpommern in northern Germany is characterized by more than 700 lakes. Remains of wooden bridges verify a run to the sheltered islands in the late-slavonian, indicated by dendrochronology to the 11<sup>th</sup> and 12<sup>th</sup> century AD. A research project on the exploitation and variability in the district of the upper lakes (obere Seen) from the 10<sup>th</sup> to the 13<sup>th</sup> century was started by the department of Eastern European History at Greifswald University in cooperation with the National Agency for Archaeological Research of Mecklenburg-Vorpommern.*

*“Castrum cuscin”, belonging to a late Slavic castle is the main area of investigation. These island is situated in the Plauer See. Different on-shore and off-shore techniques, like under water survey, geophysical prospection, sediment sonar and drilling are used to get information about the changes of water-level as well as the visible and hidden remains around the island. All obtained data, including aerial and water photography are provided in a data base. At the presentation different views on “castrum cuscin” are given. The application of GIS allows to compare details and find archaeological features of the slavic fortification.*

*The used technologies, mostly based on non-destructive techniques, will be applied on other islands of the Germania-Slavica project. By the connected GIS we get comprehensive answers as well as new questions to documented projects. May it support description and protection of archaeological places under water.*

### Introduction

Mecklenburg Vorpommern is situated in the north-east of Germany. It borders to Schleswig Holstein in the west, Poland in the east and Berlin-Brandenburg in the south. Mecklenburg Vorpommern's landscape is shaped by more than 750 freshwater lakes. They are aligned from south-west to north-east. This area is called “Mecklenburger Seenplatte”. Among others the largest lakes are the Müritz, the Plauer See, the Kummerower See, and the Schweriner See. This area was inhabited by Slavic people at least since the 8<sup>th</sup> century AD. They settled on islands and peninsulas; their existence is proved by numerous archaeological sites that were discovered on islands and along the shore.

In the 19<sup>th</sup> century, the first lacustrine dwellings were explored in southern Germany and Switzerland. But also in

the north of Germany freshwater lakes became subject of prehistoric studies. In search of the legendary temple “Rethra”, scientists investigated bridge posts. Using so called “glass boxes”, the archaeologists crossed the lakes in boats in order to examine wooden posts between the former settlements and the mainland.<sup>1</sup> More than 60 sites, dating back to the late Slavic period, were recorded up to the present.<sup>2</sup> They are located in freshwater lakes, rivers and lowland areas. Since the 1960ies divers, formerly lead by the “Akademie der Wissenschaften” (Academy of Sciences) of the GDR, have contributed to the study of bridge constructions.<sup>3</sup> They took part in excavations of Slavic castle mounds. Such mounds are named, for example, Teterow in the Teterower See and Fergitz in the Oberuecker See.<sup>4</sup> Since 1990 the “Landesamt für Bodendenkmalpflege Mecklenburg-Vorpommern” (National Agency for Archaeological

Research) has been responsible for archaeological research under water. Surveys are conducted together with the "Landesverband für Unterwasserarchäologie Mecklenburg-Vorpommern" (National Association for Nautical Archaeology Mecklenburg-Vorpommern), an association for archaeologists, professional and sports divers who share an interest in nautical archaeology. The major task is protection, preservation and documentation of submerged sites.<sup>5</sup> Since 1996, the archaeologists have also been responsible for the study of sites in freshwater lakes, dating back to the Slavic period.<sup>6</sup> During the systematic documentation of Slavic bridge remains, the scientists discovered a remarkable site in the Plauer See, where features promised extensive information on late Slavic water bodies. Together with the Flesensee, the Kölpinsee and the Müritze, the Plauer See belongs to the so called "upper lakes". The average water level of 62 m MSL is relatively high. All lakes are connected by the river "Elde" and form a closed system of water bodies. Numerous archaeological sites as well as historical and geological research work concerning the water level fluctuation of lakes provide a solid base for this interdisciplinary study of the regional development.<sup>7</sup>

Since 2000, the Institution for East European History at the University of Greifswald and the Landesamt für Bodendenkmalpflege Mecklenburg-Vorpommern have investigated the use of and the man made influences on lakes and rivers during the late Slavic and early German period. The research work covers the time from the 10<sup>th</sup> to the 13<sup>th</sup> century AD.<sup>8</sup>

This interdisciplinary study is supposed to extend the knowledge of the Germania-Slavica-research work. The registration of archaeological sites in freshwater lakes is important for the protection of the national heritage. In addition the studies increase methodical skills that are needed for underwater prospections. Moreover, this work is concentrated on the cultural structure and means of transportation in the late Slavic and early German period. Furthermore, a certain relevance is put on the man made influence on the changes of the water body. The main interest is the variation of the water level and its consequences for settlements. To answer these questions, the interdisciplinary co-operation of different scientific branches, as archaeology, geology, geophysics, botany, and history is necessary. Finally, a GIS (Geographical Information System) helped to combine all present results. By means of this system, the mapped lakes and sites were connected to a two- and three dimensional projection of the documented archaeological features.

This report shall give an overview of the results won since last year. The research work was concentrated on the Kohlinsel and its surroundings.

### First surveys in the Plauer See

The Kohlinsel is situated in the Plauer See (fig. 1), 120 m off the north-western shore. The island is 100 m long and 50 m wide. It rises only 1 m above the surface (fig. 2). To a high extent, the island's shore is affected by strong waves from southern and south-eastern directions (fig. 3). They cause a continuous ero-

sion; this process is mirrored by the island's present form. There are bays along the shore in the east and in the west, as well as numerous trees that fell into the water.

Right in front of the shore wooden remains were continuously scoured (fig. 4). The discovered wooden objects and the high amount of other late Slavic finds, as for example pottery, iron knives, parts of jewellery, and weapons proofed the existence of the late Slavic nobility castle "cuscin" on the island.<sup>9</sup> About 1900, scientists already suspected Slavic remains on the Kohlinsel. First excavations took place in the 1950ies. A relation between the castle and a rampart, dating back to the 11<sup>th</sup> or 12<sup>th</sup> century, was suggested.<sup>10</sup>

The present work aims at mapping a part of the island shore in order to ascertain the functional affiliation of the wooden remains and taking samples for dendrochronological determination. The results are supposed to explain the relation between single features which were found on the island.

To gain the necessary information, measurements had to be taken. A local grid was established in up to 1 m deep water, the grid extended to 10 x 10 m squares. The measuring points under water facilitated the drawing of the features. Every single square was marked with measuring tape and galvanized poles. This arrangement enabled the drawing of all wooden remains on a scale of 1:20. 839 wooden remains were recorded on the bottom of the lake (fig. 5). 444 of them could be identified as former posts. 90 were found in their original constructional assemblage, as for example an anchor beam and an eyebeam (fig. 6). They are still fastened to the bottom by posts driven through eyes. In addition, there are 305 round timbers, boards and planks. Their position might have been changed over the years.

After the digitalisation, the master plan of the features shows two functional units (fig. 5):

In up to 70 cm deep water the mentioned remains of a rampart were discovered. They are situated in front of the shore. This construction consists of wooden boxes which were put up one behind the other. Posts were used to fix long cut timbers and sharpened anchor beams to the outer castle mound (fig. 6). Additionally, long cut timbers and crossbeams were put one upon the other. The high amount of wooden posts and the sharpened anchor beams in situ suggest the situation of rampart's outside in this area. It cannot be said yet whether the wooden remains lying in front of this construction eventually belong to it or were part of an earlier rampart (fig. 5). They might also have been part of a run around corduroy road. To avoid an interference into the ecological sensitive surface along the shore, we mapped the mentioned area with the help of a magnetometer (fig. 7). This work was conducted by Eastern-Atlas, Leipzig.<sup>11</sup> The raster graphic shows semicircular constructional interferences into the lake bottom, pointing to a fragment which consists of two eyebeams and with wisely lying round timbers (fig. 5). In addition, those structures are



orientated according to course of the outer castle mound. A continuation of the magnetometer tests this year will hopefully shed light on the multiple phases of the rampart.

Up to now 30 samples were taken from this site in order to date the rampart. Several of them led to the following results (fig. 6): Four oak samples which were taken from the constructional assemblage dated back to AD 1095 (Waldkante), AD 1040 (without sapwood), AD 1089 (without sapwood) and AD 1123 (without sapwood). Only feature no. 2685 was completely preserved. The other three samples might be much younger than it is suggested here. Taking into account the average of all samples, the relatively young date of feature no. 2438 (AD 1123) is noteworthy. In this case a younger construction or repairing phase can be assumed. Three other oak samples which were probably not found in situ complete the picture. Number 2357 and 2371 are lying next to each other, pointing to the long cut timber no. 2384. Especially remarkable is the result of feature no. 2357 which dates back to AD 1095 (Waldkante). This allows the conclusion that it may belong to an older construction- or repairing phase.

After all wooden remains along the south-eastern shore were measured, the course of the rampart can be imagined. During the survey on the island, a fragment of a wooden box was discovered exactly at the place where it was suspected. This is proof of an oval rampart, running around the island.

Apart from the wood found in front of the Kohlinsel, divers discovered a row of posts (fig. 5). This wooden palisade varies in its breadth. It was found in 2 m deep water along a former embankment. This embankment had already earlier been recognized in the relief.

The row of posts consists of very thin oak and birch poles of less than 10 cm in diameter. The row continues around the south eastern shore of the Kohlinsel but it is not preserved around the whole island.

One of the oak sticks dated back to AD 1089 (Waldkante). This result proves the simultaneousness of the palisade and older construction or repairing phases of the rampart.

As the row of thin poles faces the lake and due to its situation close to the former embankment, it allows the conclusion that it served as a shore protection against wave erosion.

### **Archaeological excavations on the island**

During a second survey numerous late Slavic occupation layers were discovered. On the bottom of a trench a thick wooden grating was found. It partly consists of carbonised oak trunks and is situated in a height of 60,7 m MSL. This grating can be expected on the whole island and give an explanation for the

fact that it was impossible to take drilling cores which would have been needed for geological research and pollen analysis. However the core drill was not able to penetrate the grating.

Samples taken from above the grating dated back to AD 945 (Waldkante) and AD 972 (Waldkante). They are distinctively older than the earliest rampart remains.

Dendro dates taken in 1996/97 seem to confirm our results. Those samples were taken from a bridge that leads to the mainland (AD 956 Waldkante and AD 976 without sapwood). To ascertain the water level of the lake Plauer See in the late Slavic period, a chart combining the results of the geological drillings and the excavation was drafted.

It becomes obvious that the remains of the rampart are to be found between 61,51 m MSL and 61,11 m MSL on the bottom of the lake (fig. 8). On the island, it was discovered at 61,64 m MSL. The upper edge of the wooden grating lies at 60,74 m MSL in test trench I. The palisade posts were discovered between 60,38 m MSL and 59,91 m MSL.

Assuming a thickness of 30 cm for the wooden grating, the water level of the Plauer See did not rise above 60,44 m MSL during the second half of the 10<sup>th</sup> century.

The question of the palisade's location during the late Slavic period seems to be very important: In case it served as protection against the water, the palisade was probably situated very close to the shore in low waters. On the other hand, if it was built as a defensive measure, the palisade might have been located on the island.

Thus, the water depth measured in the area close to the posts can not be compared to the surface in late Slavic times without further proof. Only future geological studies can give final certainty.

The consequences that water level alterations of only a few centimetre can have on water bodies are visible in a chart made with the help of a high and low frequency sonar by K. Storch, SonderSonar Jena (fig. 9).

The island's former extension can clearly be recognized. Furthermore, a dike-like low elevation rises from the sea bottom between the island and the mainland. This elevation does not correspond to the bridge that dates back to the 10<sup>th</sup> and 12<sup>th</sup> century AD.

The poles belonging to the palisade are located on the former embankment. By laying a depth contour line across the highest points of the palisade, the island character of the Kohlinsel is confirmed. It may be concluded that the nobility castle was built on an island.

Picturing a depth contour line that is put across the lowest points of the posts, a connection between island and mainland is to be noticed.

It has to be mentioned that for the end of the 11<sup>th</sup> century AD no dendrochronological dates for the bridge were recorded

although the rampart and the palisade already existed in those days. Only two samples dating back to the 10<sup>th</sup> century and two samples of the 12<sup>th</sup> century were documented.<sup>12</sup> The breadth of the bridge and the location of the posts in relation to the length of the crossbeams suggest a construction that was built in at least two phases. The dam might be an explanation for the missing proof of a bridge in the 11<sup>th</sup> century.

With the help of wood samples and pollen analysis the regional development of climate and vegetation will be investigated. There are indications for a supraregional climate change.

We might not be able to reconstruct a single, uninterrupted cultural settlement landscape during the late Slavic period but have to take changes of the water bodies into account.

These changes might have had a deep influence on the settlements. Whether humans were causally connected to the changes and how people adjusted to new living conditions will be subject of future research work.<sup>13</sup>

## Endnotes

<sup>1</sup> Virchow 1881:267.

<sup>2</sup> Bleile 1999:127-169.

<sup>3</sup> Herrmann 1975:138-141.

<sup>4</sup> Herrmann 1966, Unverzagt/Schuldt 1963.

<sup>5</sup> Lübke 2000:17-35, Förster 2000:46-49.

<sup>6</sup> Bleile 1998.

<sup>7</sup> Kaiser 1998, Ruchhöft 1999.

<sup>8</sup> These studies are sponsored by the Deutsche Forschungsgemeinschaft DFG (German Research Association), the Kultusministerium Mecklenburg Vorpommern (Ministry of Culture), the Arbeitsgemeinschaft limnische Archäologie e.V. (Limnic Archaeology Working Group) and by the Mecklenburger Brewery Lübz GmbH.

<sup>9</sup> Helmold:92, 310, 328, 344.

<sup>10</sup> Bleile 1999a:33.

<sup>11</sup> Ettl/Meyer 2000:143-149.

<sup>12</sup> Bleile 1999:132-139.

<sup>13</sup> Translation: K. Auer and O. Uhlmann.

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Figures

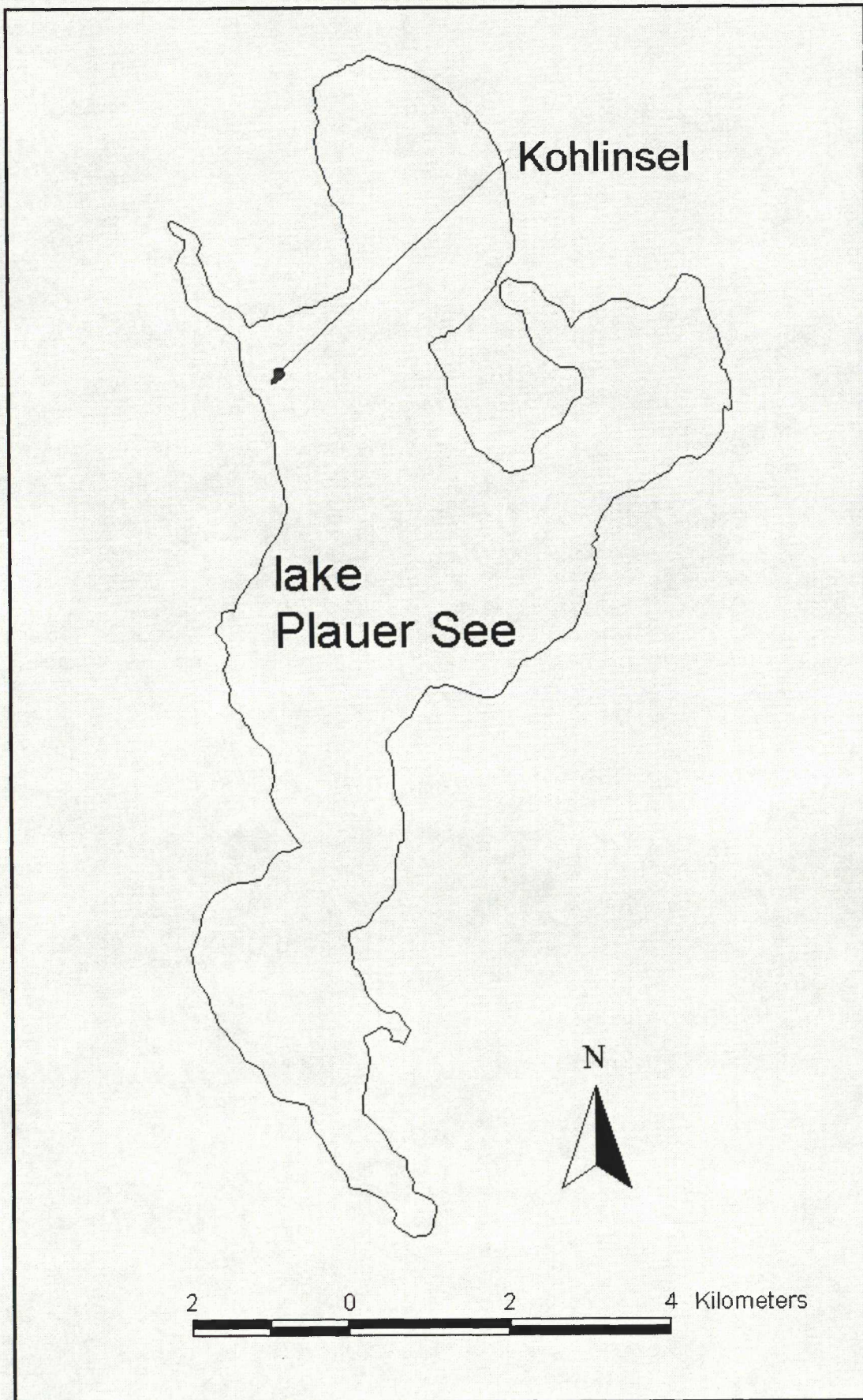


Figure 1. Germany, Mecklenburg-Vorpommern: lake Plauer See and Kohlinsel.





*Figure 2. Plauer See, Kohlinsel rises only 1 m above the surface.*



*Figure 3. Plauer See, Kohlinsel: The island's shore is affected by strong waves from southern and south-eastern directions.*





Figure 4. Plauer See, Kohlinsel: Wooden remains on the bottom.

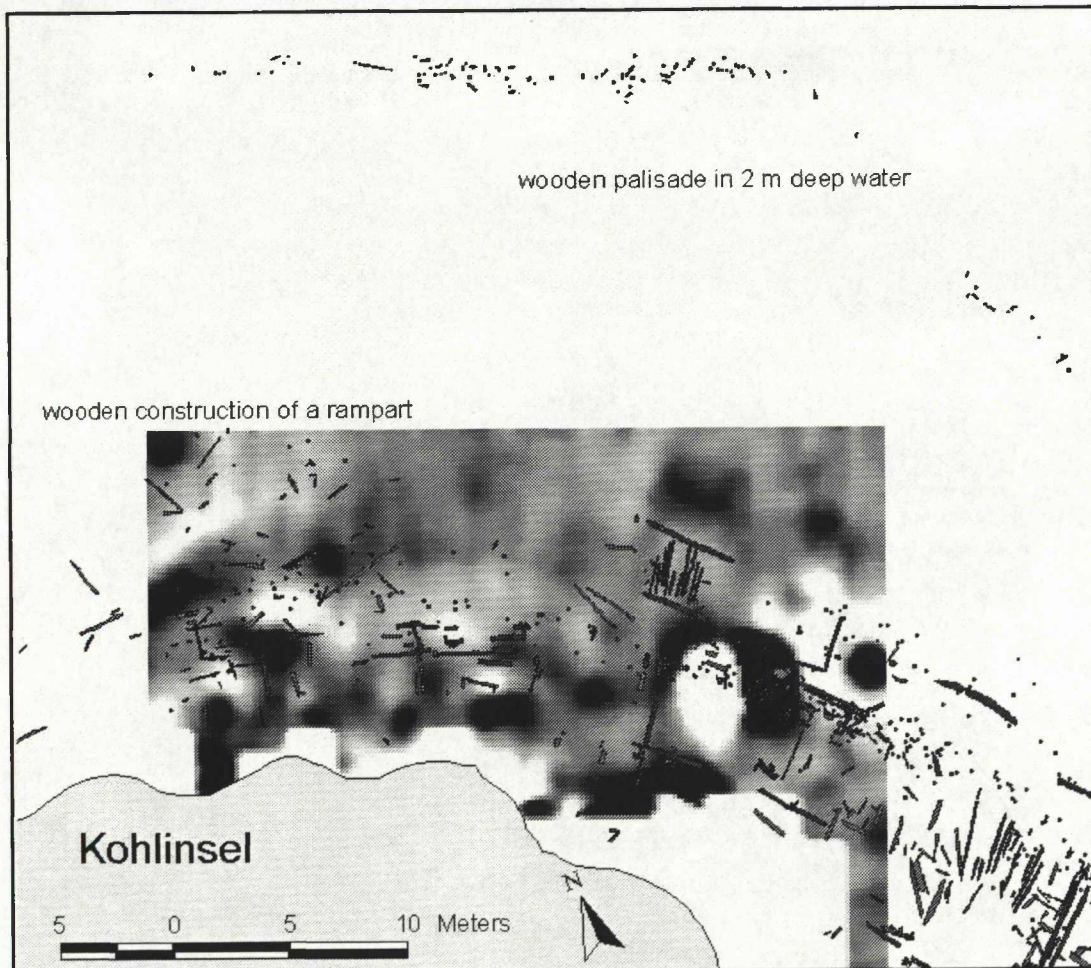


Figure 5. Plauer See, Kohlinsel: Master plan of the features and raster graphic of the magnetometer mapping.



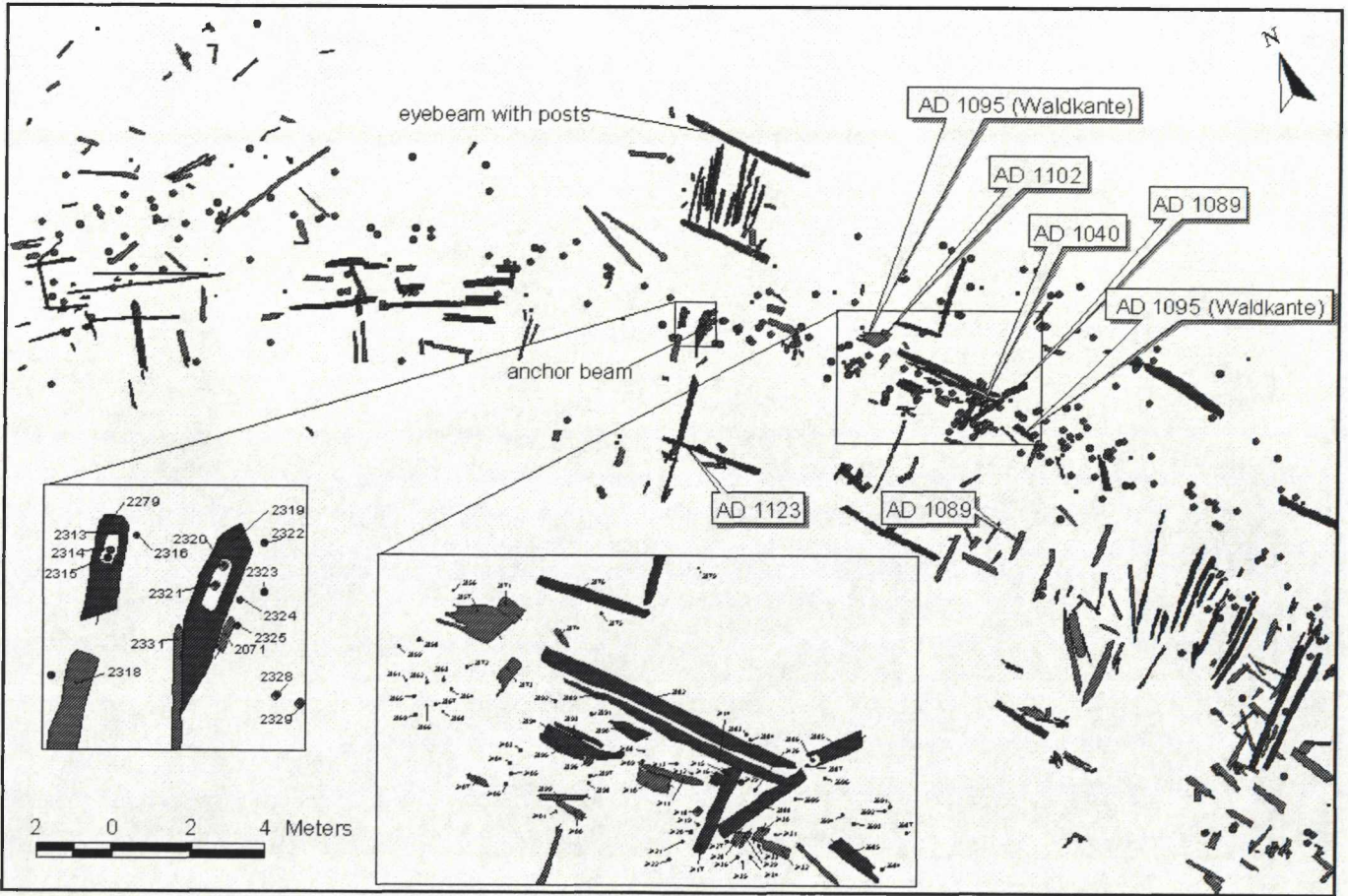


Figure 6. Plauer See, Kohlinsel: Wooden construction of the rampart and dendrochronological dates.



Figure 7. Plauer See, Kohlinsel: Magnetometer on the water.



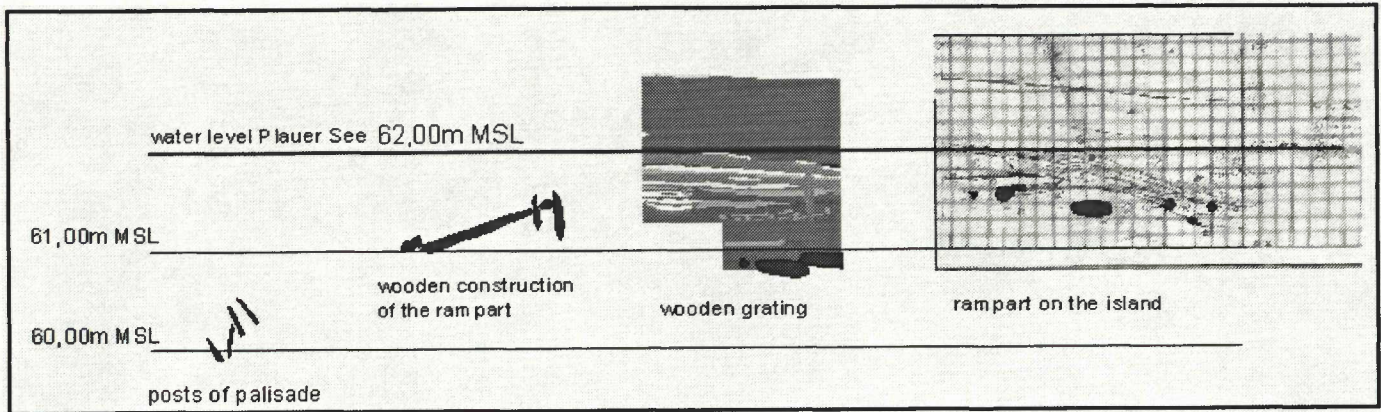


Figure 8. Plauer See, Kohlinsel: Wooden construction under the water level.

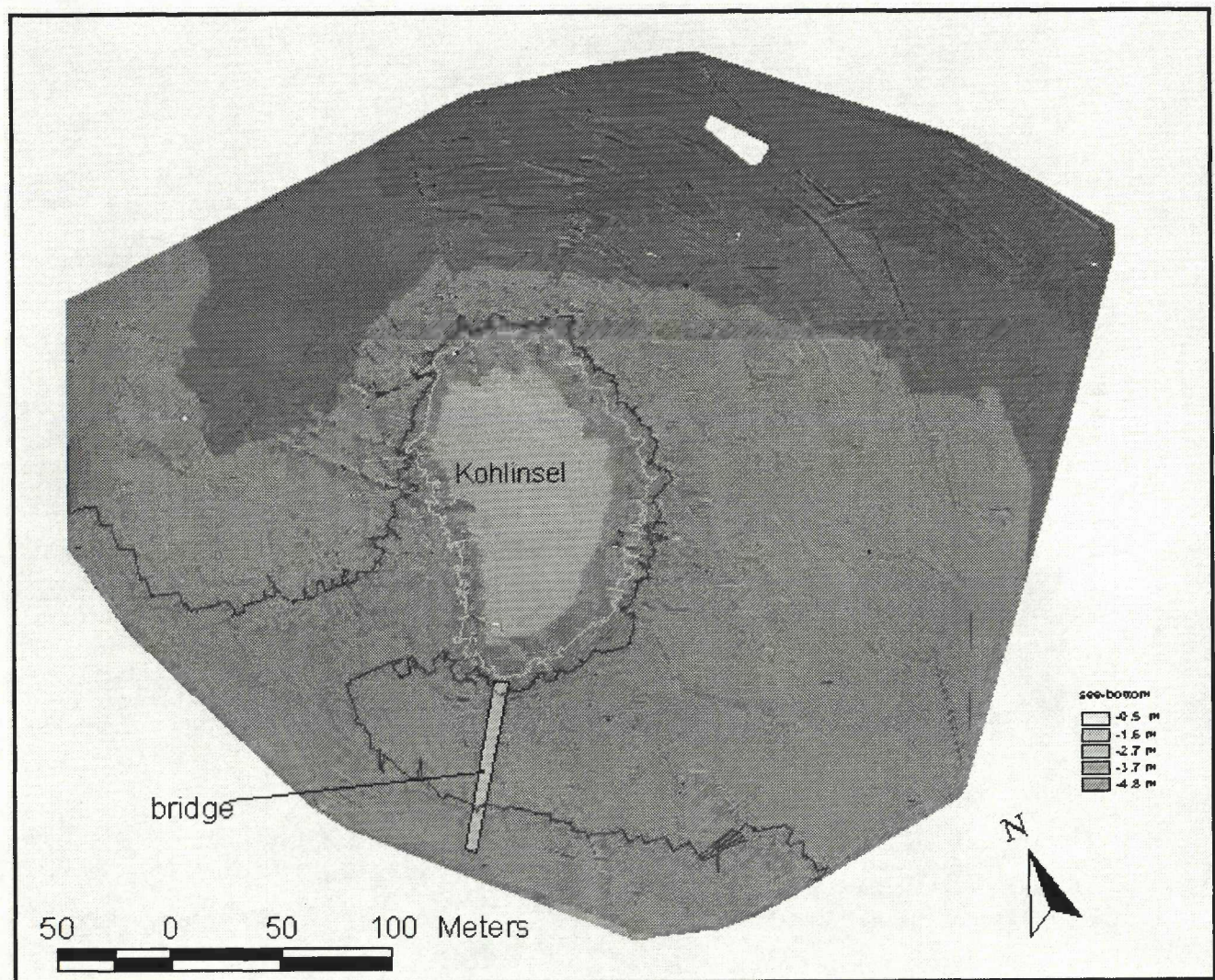


Figure 9. Plauer See, Kohlinsel: See-bottom around the island.