THE FLOODED VILLAGE OF MANDØ

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The flooded village of Mandø
The new village of Mandø

Preface

This project is dedicated to the exploration and research on the flooded village of Mandø. Mandø is one of the small Northern Frisian Islands in the Danish Wadden Sea located between Fanø and Romø.
The research is based on a geological survey and a literature study. I inherited the literature, maps and tales about the island from my family, who originate from there.
Most historians and archaeologists spend hardly any energy on Mandø because the general idea is that nobody could ever have been so stupid as to live there, except if you were desperate, a monk or on the run. This is because the island was unsafe to live on.
All of the ancient towns were built a certain distance from the sea. On the one hand the inhabitants wanted to have profits from sea trade but on the other hand they could not risk being destroyed by the sea or by enemies from the sea.
This idea though is changing among researchers since the excavation of Sønderside, a wealthy hamlet in the neighbourhood of Esbjerg, a hamlet with a harbour almost directly on the seashore.
As is common, much about the tales of history exist only in our minds. During research on the drowned village of Mandø my attention changed.
The question: 'What is buried there under all that sand and clay?' changed to the question: 'What can we learn of Gammel Mandø and its tragic history?'

Especially after reading the work of Poul Holm about a new interpretation of coastal occupations and settlements. Nowhere is the landscape as influential on everyday life as in the Danish Wadden Sea.
Storms, winds and floods regularly reshape the islands by the laws of nature. The islands' inhabitants have always had to adapt themselves and seek safe places to live. Villages, farms, dikes and hills where people settled were often washed away and had to be rebuilt. The remains of the village are buried under a layer of clay on Gammel Mandø.

After completing the study, it can now be said that the evolution of this settlement was accidental, blind, and aimless. In other words, the history of this settlement was mainly a coincidental process about the strength of the sea and the daily battle of fishermen to catch enough fish to feed their families. Perhaps this proves that it was indeed unwise to live on this island, as suggested before, because both hamlets Sønderside and Gammel Mandø disappeared in the waves like so many other hamlets that were flooded long ago in the Wadden Sea.
In conclusion, the balance between the risk to live along the seaside and the livelihood taken from the sea often started with the profits but ended with the risks.

'I Aaret 1763 blev det her om Natten til den 31te December et forfærdeligt stormendes Vejr af Væsten, saa at Floden og de dermed følgende Bølger slog op mod Præstens Toft-Dige. Alt Landfolket var i Allarm og Frygt og jeg kom af samme Aarsag ej heller i min Seng. Peder Lassen, Hans Jørgensen og Hans Simonsen med Hans Jensen maatte kaste op for deres Huse. Niels Jensen tillegemed Peder Larsen maatte trække deres Heste og Koer ud af Husene. Som lob fulde af Vand. Klaus Hansen maatte ligeledes bjerge sine Kreature, og da Huset inden man vidste et Ord deraf var omspændt af Vand, maatte ha nog Kone sætte en stor Kalv tilligemed Faar og Lam op pa adres Loft og selv begive sig ud af Huset til Søren Lambertsens. Hans Simonsen mistede sin store Baad, og Jøregen Fanninger sin lille Baad, og Niels Ibsen mistede alle sine Huse og Redskabet til sin Baad. Skibet kaldet 'Studen' fra Sønderhaae kom flydende og satte sig paa Brinken af min Eng paa Gammel-Mandøe og et Skib med 1100 Tønder Smør strandede imellem os og Sønderhaae.'

Source: Hendrik Bruun (1806)

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PART 1 THE DANISH WADDEN SEA

Development of the Wadden Landscape

Mandø is one of the smaller islands located in the Danish Wadden Sea. It lies near the coast not far from Ribe. The Wadden Sea area is approximately 850 km2 large.

The Ho Bugt Bay lines the north side and the Listerdyb the south side, where the Danish Wadden Sea merges with the German Wadden Sea. From north to south lies the Skallingen peninsula and the Fanø, Mandø, & Rømø islands. South of them, near to the German border, is the island Jordsand which was deserted and now practically under water.

Between these islands lie several sand islands (højsander) such as Kiilsand, Søren Jessens Sand, Peter Meyers Sand and Koresand. The sea level at this point varies between + 0.7m and 1.0m DNN (Dansk Normal Nul). The DNN scale is 14 cm below German and Dutch zero points (N.A.P. normal Amsterdam level).

Approximately 1 billion cubic metres of water flows through the Lister Dyb, Juvre Dyb, Knudedyb and Grådyb towards the Wad at each tide.

The geology and the landscape of Southwest Jutland were described by Kjeld Thamdrup in the book: *Marsk, land, og bebyggelse, Ribeegnen gennem 10.000 år*, band 1 & 2 (1998).

The book *The Morphodynamics or the Wadden Sea* (1988) by J. Ehler deals with the transgression taking place along North Sea coasts.

The Danish geographer Niels King Jacobsen wrote several articles about this region. Recent studies on the Wadden Sea are being done at the department of Geography at the University of Copenhagen where Morton Pejrup and Asger Nielsen, among others, research the development of coastal barrier islands.


Blåvands Huk
Sønderside
Ho Bugt Bay
Skallingen
(peninsula)
Langli
(island)
Grådyb
Esbjerg
Fanø (island)
Peter Meyers Sand
(sand island)
Ribe
Knudedyb
Mandø (island)
Vester Vedsted
Koresand
(sand island)
Gammel Hviding
Juvre Dyb
Rømø (island)
Lister Dyb
Jordsand
(disappeared island)
Sylt (island)


Danish Wadden Sea, aerial pictures 2008 Source: Google Earth
Fanø
Keldsand
Indre-Knude
Mandø Hølade
Peter Meyers Sand
Knudedyb
Knoben
Ydre Knudegrund
Mandø Flak
Sejlrende
Gammel Mandø
Vester Vedsted
Ny Mandø
Koresand
Gammel Hviding
Knuderne
Juvre Dyb
Rømø

Shaping of the Landscape during the Glacial Periods (Pleistocene)

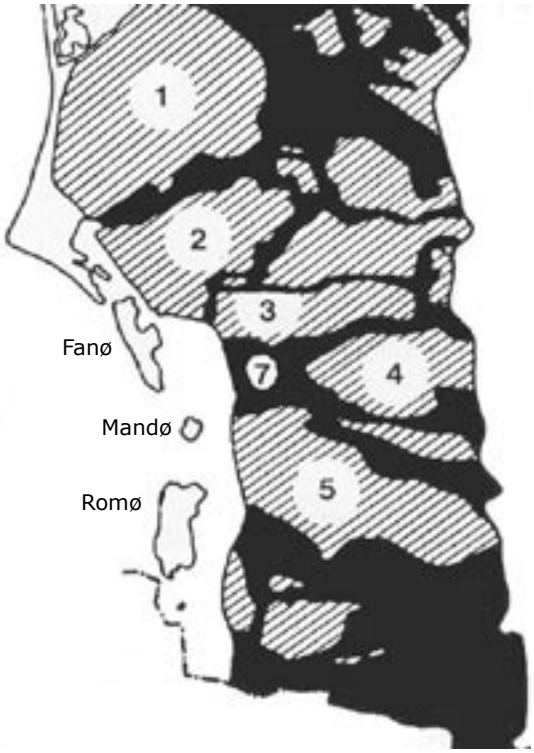
Southwest Jutland was mainly formed during the Saale glacial period. Thick layers of ice covered the region. Deposits of these ice layers left behind what we now call hill-islands. In Denmark one calls these hill-islands 'bakkeø', which used to be covered with woods and heath (hedeslette). Some of them rise up to 75 metres high. Between these hills are peat marshes (mose) and river valleys.

To the west of Ribe lies a plain surrounded by three large hill-islands: Toftlund (south), Rødding (east) and Brørup (north). Although the compositions may differ, their soil contains materials such as lime, moraine sand, and moraine stones. On Toftlund, for instance, the sediment contains so much lime that it can be traced in the groundwater and vegetation. Towards the sea are floodplains (flodslette) and heath land (hedeslette). Along the coast the sea penetrates the floodplain deforming the hilly landscape into finger-like structures. Sometimes the hills have cliffs and boulder loam slopes that run right into the sea. Moreover, the melting of ice has created moraine river valleys and the current dybs. Rivers and streams flow between the hills depositing their sediments on the floodplains. Tracing back the peat in the stratum shows that this region had been forested between glacial periods during the Eemian interglacial time.

During the Weichsel glacial period (the last one), the region changed into a pole desert. Wind erosion seized the landscape and drift sand dunes arose (flyvesand). Saale hills were covered up in that period with sand (bakkensand), forming small dunes in the countryside that were made up primarily of finely grained sand.

In the period after the glaciers the sandy landscape was rinsed to pale coloured sand. To the south and east of Ribe are particularly small hills and drift sand dunes (flyvesand) that set the scene. At the moment there is a large gap between the coastal barrier islands Fanø and Romø. In that gap lie the sand islands Koresand and Peter Meyers Sand. Just in front of and on top of these sand plains are places with names that refer to former mounds or possibly some old coastal barrier systems running north to south:

1. Indre-Knude, a part of the wad above the Knudedyb.
2. Knoben and Ydre-Knudegrund, a part of the wad under the Knudedyb; these two mounds lie beside one another.
3. Knuderne, a sandbar near Koresand off of Juvredyb.



Glacial Hill-islands (Saale glacial)
3 = Brørup
4 = Rødding
5 = Toftlund
Floodplains
7 = Ribe
Source:
Marsk, land, og bebyggelse, Ribeegnen gennem 10.000 år, band 1 & 2 (1998)

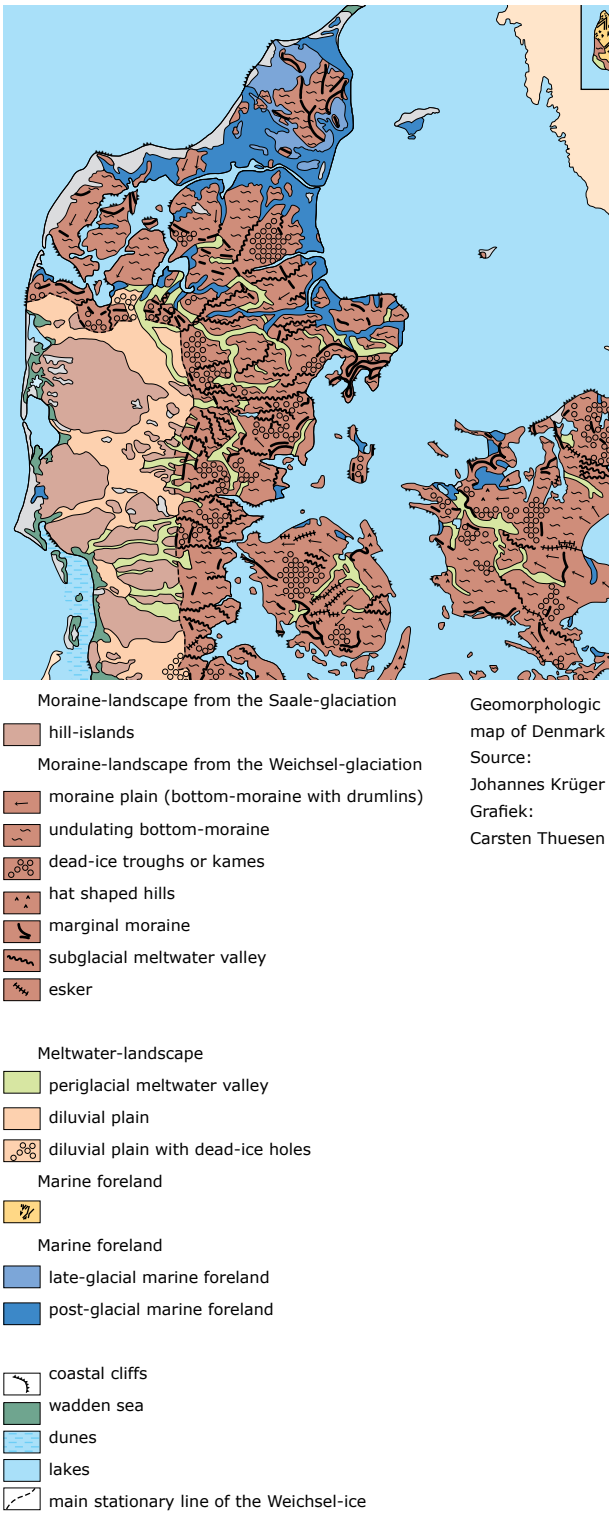
Holocene	(Time table of Blytt-Sernander)	
Subatlanticum	(wet period)	0-2.400
Subboreaal	(dry period)	2.400-5.660
Atlanticum	(wet period)	5.660-9.220
Boreaal	(dry period)	9.220-10.640
Preboreaal	(dry period)	10.640-11.560

Pleistocene	
Weichsel glacial	11.560-117.000
Eemian interglacial	117.000-130.000
Saale glacial	130.000-380.000

The word Knuden means 'knobel' or 'knot'. These mounds roughly link Fanø with Romø and are most probably remains of an old coastal barrier system. Floods and winds could have flattened these mounds while strong drifts displaced much sediment and deposited it somewhere else along the coast. At the moment dunes are growing on Koresand, maybe these 'knots' are the result of the ever changing drift sand landscape of the wad.

Shaping of the Landscape after the Glacial Periods (Holocene)

After periods of dry continental and pole desert climates (Boreaal) the region changed into what is called the Wet Atlantic Period. Peat marshes (ferskvandstørv/ dynd) existed there approximately 5,000 to 7,500 years ago, growing between the hill-islands and the floodplain. Large peat marshes are now found near Darum and Vilsev, but also northeast of Ribe by Kalvslund and Fæsted are enormous marshes. South of Ribe, at Hviding, are wide peat marshes which proceed gradually into a flat heartened landscape. Much sediment from rivers and streams was deposited on the floodplains. The floodplain and the peat marshes between Ribe and the Wadden Sea now have an altitude of approximately 2.5 metres DNN. The heath land forms approximately half of the countryside in the surroundings of Ribe. Except for diluvial sand one finds many stones and grit close to the hill-islands.
In the western part deposits of slick and clay covered over sand layers. Salt marshes (marsk) were formed approximately in the same period as the peat marshes. Drilling in the outer parts of the Wadden Sea has also revealed remains of plants from reed lands.
Beach ridges and barrier islands rose up along the coast. In the lagoon between the barrier islands and hill-islands were Marshlands. With flooding around 2,750 years ago, the rising sea penetrated deeper into the lagoon, breaking through the barrier islands to form the current Wadden Sea.
Roughly speaking, the Danish Wadden Sea is situated between the coastal barrier system (including the islands Rømø and Fanø), the hills remaining from the Saale glacial period and the dikes of the marshlands of Ribe and Hviding.
Salt and peat marshes now lie on a plain that varies between 1.0 and 2.5 m DNN in altitude. Appearing from the peat marshes can still be seen small glacial hill islands and drift sand dunes, such as Indre Bjerrum and Ydre Bjerrum with altitudes of 5.3m DNN.
The sandy coastal barrier system of islands and dunes is at the moment subject of study by the University of Copenhagen. Also Mandø in particular. Originally it was thought that the peat was between 5,000 and 7,500 years old, however new research methods make it possible to determine a more accurate age of the deposits.
The provisional conclusions are that the current barrierislands themselves could not much older than 1,000 years while the finely grained sediment from the lagoon to the leeward side of the islands is between 2,000 and 3,000 years old.
This sediment covered an older peat layer approximately 4,000 years old. With the tides, regression and transgression of the Wadden Sea, the landscape continues to transform. By constructing the Ribe dike in 1911-12 and the Mandø dike in 1937-38, man attempted to maintain the present forms of the landscape.



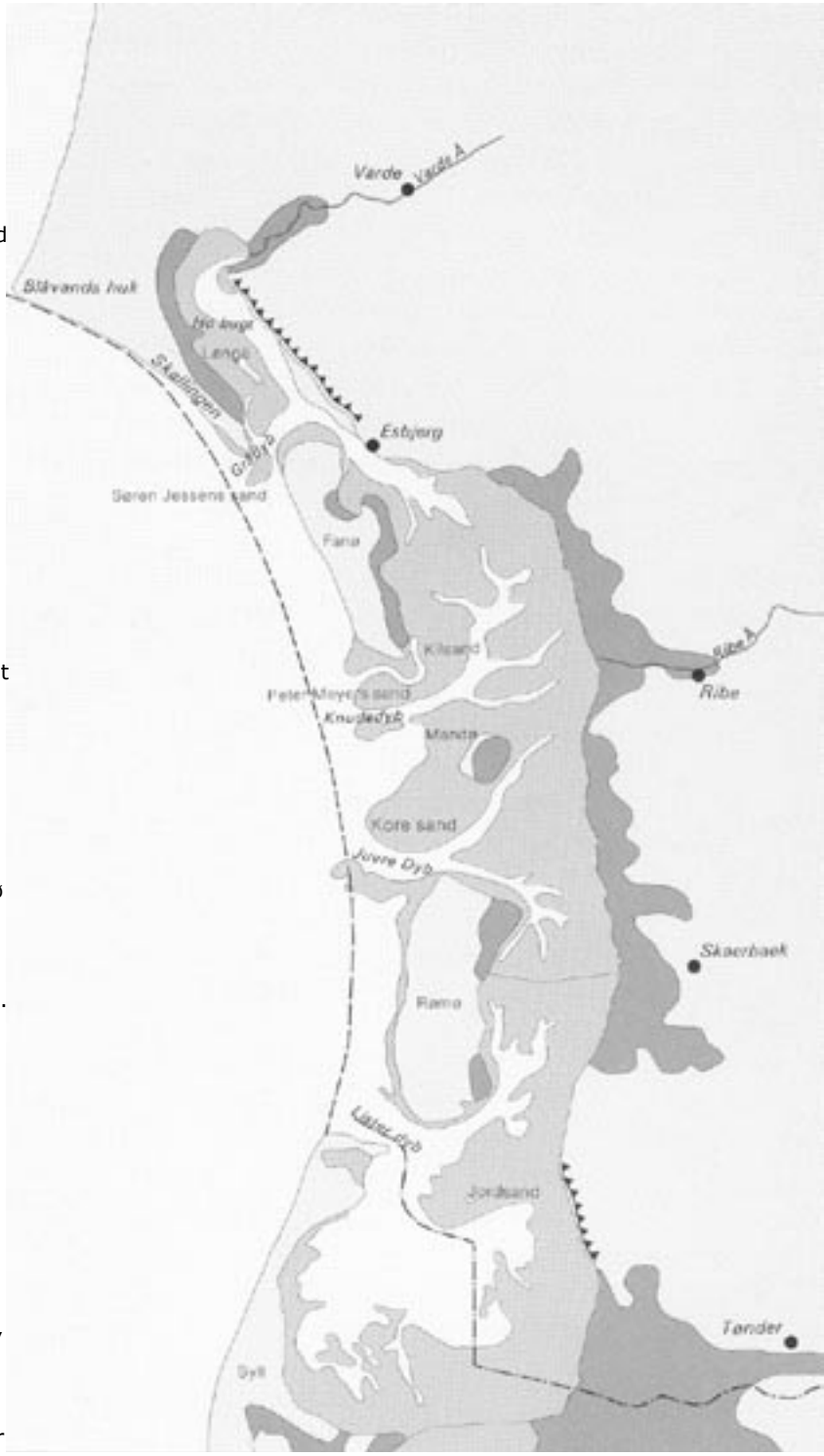
Geomorphologic map of Denmark
Source: Johannes Krüger
Grafiek: Carsten Thuesen

The Balance Theory of Kingo Jacobsen

The landscape of West Jutland, low hillocks from the Saal glacier and sediments from the Weichsel glacier, was formed by land shifts during the glacial periods. The varying sea level had great influence in shaping the coastline, the marshes, peat deposits, channels and tidal trenches while the enormous sand transport from the sea formed the coastline and islands. Furthermore there existed a balance between the sand deposits and erosion.

In the book *Waddenzee* (1976) the geographer Niels Kingo Jacobsen describes these aspects of shaping of the Danish Wadden Sea. His theory basically illustrates that there is a balance curve between two fixed points. To the west of the balance curve sand is disappearing and to the east of the curve sand is appearing.
Those two fixed points along the coast are Horns Rev at Blåvandshuk, in the north, and Rote Kliff on the island Sylt. Kingo Jacobsen drew a fictitious curve called the balance curve between these two islands. Both fixed points have a strong core of boulder loam, which were formed during the Saal glacial period. Skallingen and Fanø almost reach the balance curve. Romø and Mandø still lie east of the curve and Koresand lies right on it. According to Kingo Jacobsen the sand plate is still growing west of Romø on its way to reaching the curve. Also, the tides from the west and northwest carried large quantities of sand, according to him. He says there was a sand transport from Rote Kliff to the north which resulted in the formation of the north point of the island Sylt. We know that wave activity and heavy storms greatly affect the transport of sand over large distances.

The old theory that the islands formed an old coastline, which was broken into pieces after a drop in the sea floor and increase of the sea level, is not maintainable. Kingo Jacobsen maintains that an island may disappear but on that same spot will appear a new sand plate and island after hundreds of years. This could explain the forming of the knots and new dunes on Koresand. The island Mandø, however, lies not on this curve. In fact it lies east of it, more towards the main land.



The Danish Wadden Sea

Source: Waddenzee 1976
from the article: Waddengebied van denemarken
Niels Kingo Jacobsen

Transgression and Regression

Transgression is the moving of the coastline inward as a result of the rising sea level and/or of soil fall along the coast. It is the major condition for shaping the Wadden landscape. Regression is the movement of the coastline towards the sea.
The geographer Kingo Jacobsen (1953) gave an overview of the most important transgression in this region, which can be helpful for understanding and reconstructing the development of the settlement on Mandø.

transgression	from	1600 to 1200 BC
regression	from	1200 to 700 BC
transgression	from	700 to 100 BC
regression	from	100 BC to 200 AC
transgression	from	200 to 600 AC
regression	from	600 to 800 AC
transgression	from	800 to 1000 AC
regression	from	1000 to 1300 AC
transgression	from	1300 to 1650 AC
regression	from	1650 to 1800 AC
transgression	from	1800 to 1986 AC

During the transgression period between 1300 and 1650 AC, eyewitnesses described several floods in documents.

1362 January 16, was the most notorious flood.
1558 Is the flood which washed away old Mandø.
1634 October 1, was the second notorious flood.

The floods of 1362 and 1634 were called:
'Store Manddrukning' or in the local dialect 'Grote Mandrauck'. Many people drowned.

Additionally, during the regression period from 1650 to 1800 numerous flooding occurred:

1720 December 31
1763 December 31
1770 February 16-19
1792 the big fast

The following transgression period floods were registered from the 1800's to the present:

1817 September 27-29
1821 December 1
1824 November 3-4
1825 February 3-4
1825 November 27
1839 January 8
1843 February 2-4
1845 August 20
1846 Autumn
1852 January 9-10

In 1928 there was a flood water level of 4m DNN. During the large flood on Mandø on November 24, 1981, almost the whole island was submerged. Only the high places in the dunes offered protection to people and animals. The water reached a level of 4.51m DNN. After this storm the dikes were reinforced according to the Dutch model with an insipid slope angle so that waves could better roll on and off the dike. The energy from the waves could spread across a larger area on the slope of the dike. That this reinforcement work was not done in vain was proved during the flood of 1999. Water rose higher than 4.51m DNN. Many buildings on the island were heavily damaged by the storm but the water did not break the dike.

The book *The Morphodynamics or the Wadden Sea* (1988) Jürgen Ehlers illustrates the transgression from 1903 to 1978. Koresand lost 1,5 kilometre Wad to the sea and Peter Meyers Sand approximately 1.5 kilometres. During that time the coastline shifted approximately 15 to 20 kilometres a year. Nowadays dunes are emerging and growing on Koresand and other spots on the wad.

Coastal Barrier System

At the moment there is a research project going on where sediment is being examined with a new method. This method is discussed in the article:
The Origin and Genesis or Coastal Barrier Systems (OBS) 2006-2007, written by current researchers Madsen, Murray, Andersen, and Pejrup of the OBS project from the Institute of Geography and Geology at the University of Copenhagen. Basically the origin and development of the coastal barrier system are being examined. Their research area covers the Danish Wadden Sea and Jerup beach in the north of Jutland. By using methods like drilling, ground radar and an entirely new method called OSL-dating, one can examine the genesis of these two regions. The aim is to examine and describe the development and disappearance of the coastal barrier system during the rising sea level. The following questions they posed are central:

1.
What is the age of the Danish barrier islands Rømø, Mandø, Fanø, Skallingen and Langli as they appear today?
2.
Have the sandy barrier islands developed continuously along with the rising sea level in Holocene time or are the lateral barrier migration a discontinuous process?
3.
Have periods with rapid and slowly rising relative sea level resulted in fundamentally different morphological responses of the barrier systems, and can fine-grained sediments deposited in the lagoon survive if the barrier island is eroded away for a longer period?
4.
What is the timescale of the formation of beach ridges (embroynal barrier islands) on a shallow coastal plain experiencing a decreasing sea level?

To get a reliable chronology of sand and mud deposits one uses 'Optical Stimulated Luminescence (OSL) dating'. This system determines the relation between age and the depth of the deposits.
This research is on-going. The geologist Asger Nielsen explains about the OSL-dating method in his research proposal. It is a method to determine the age of Holocene deposits that is based on a technique of accumulating energy in the deposit layer containing quartz. Thus it is possible to determine the age and chronology of the deposit layers by means of taking samples.

This method compliments the Radiocarbon method because, according to researchers, the radiocarbon method can hardly examine sediment at all.
Earlier studies by Madsen, A. T., Murray, A. S., Andersen, T. J., Pejrup, M., 2007th *Optical dating or young tidal sediments in the Danish Wadden Sea*, Quaternary Geochronology, 2, 89-94, examined deposits of the Danish Wadden Sea using the OSL method. In these studies one set limits to the upper deposit layer of approximately 1.5 metres. It was concluded that the barrier islands could not be older than 1,000 years. The fine-grained deposits in the lagoon to the leeside of the islands are however much older, between 2,000 and 3,000 years. These deposits cover an even older peat layer approximately 4,000 years old.

There are two possible explanations for the difference in age between the sand barrier islands and the fine-grained sediment from the bay. The first explanation is that drillings were not deep enough (1 to 1.5 metres in sand). Another explanation is that barrier islands were not continuously developed. Possibly they were eroded completely and disappeared for hundreds of years before they appeared again. It is known that the sandy barrier islands react rapidly to a fast rising sea level. Such a displacement of deposits could explain why the barrier islands have a relatively young age, according to researchers.
To examine this further deep drillings will be necessary of the Wadden Sea islands and the Wadden Sea lagoon with its tides until the glacio-fluvial deposits have been reached. Only then will it become clear if these islands have always existed or if they disappeared for longer periods or if the fine-grained deposits of the Wadden Sea lagoon were ever exposed. The difference in age between the barrier platform and Aeolian dune deposits will also become clearer in terms of the development of the islands.

A number of phenomena are not under discussion in the research at the University of Copenhagen. First of all, archaeological and historical-cultural phenomena are not taken into consideration. Those interests seem to be focused on Fanø where archaeologists in the village Sønderho, for example, have found Neolithic graves. It is also advisable to study the old maps of Johannes Mejer (1634) and Johannes Baptiste Homan (1710) more closely.

They give much information on coastal barrier islands and sand islands in the Danish Wadden Sea.
It is remarkable that a couple of kilometres from the coast is a sandbar called Rodeklijfsand although it is no longer visible. One also sees that Koresand was considerably larger in the past. Furthermore, there are indications that Koresand was a part of Mandø during the Middle Ages.
Several notes by different pastors of Mandø are also informative. Pastor Hendrik Bruun (1806), for instance, reported about the remains of roots from oak trees on Koresand. According to the descriptions by Danckwerts and as seen on a map, there were once large forests on Koresand and on the north end of Mandø, not to mention root remains from a pine forest.
Pastor Bruun calls this place Skøgum. Even now there is a spot on the other side of the dike on the Wad that is still called Skøgum. Skov is the Danish word for Forest. Perhaps the reports that pastor Bruun and his predecessors made concerning the flooded villages on the Wad of Mandø were based on speculation. Yet they used names like 'Kurveby' or 'Corre by' on Koresand and also names like 'Knuden' and 'Knokkenby' or 'Knokken'.
It is unclear if these names concern real villages or farms with barns on wharfs or perhaps they are simply legends. Although the tale of Knokkenby stems from fishermen who found human remains in their nets at the sandbank Rodeklijffsand. In fact, many islanders were former fishermen who knew the Wadden area very well. Some of these places were left in 1632 but it is yet unclear when Knokkenby itself was actually abandoned.
There are marsh-remains of old clay far outside on the Wad, west of Mandø. If the water is very low and you walk along the Sejlrende towards the sea, the tidal trenches that separate Koresand and Mandø Flak, suddenly the stream makes a curve. There on the sea sand a thick layer of black clay appears. This clay deposit is roughly west of the village Ny Mandøby, nearby the North Sea and on the side of the Mandø Flak.
The conclusion by the researchers at the Institute of Geography and Geology at the University of Copenhagen that the barrier islands are about 1,000 years old is provisional. Continual geological research is invaluable for learning and understanding the full development of the Danish Wadden landscape.

Forming of a dune-bow complex

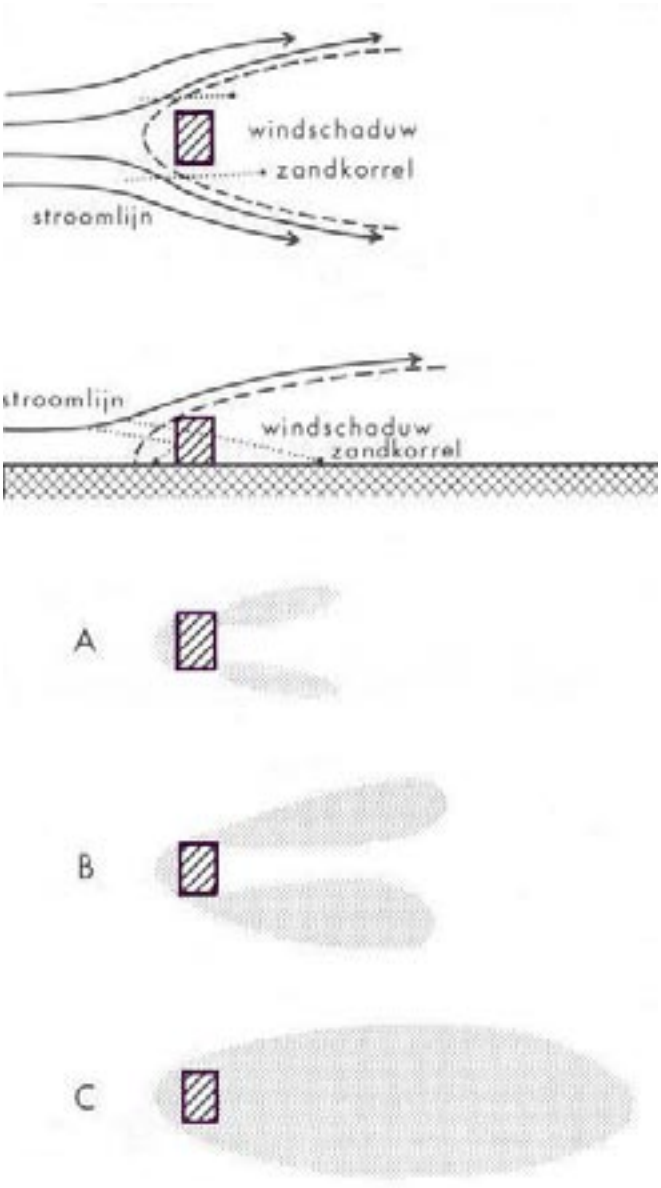
Examining old maps of Mandø reveals that the island comprised two dune-bow complexes, horseshoe shaped parts: the main island Ny Mandø, where the new village lies and the smaller Gammel Mandø, where the flooded village once was. Between these two islands ran a channel that linked Juvre Dyb with Knudedyb. These two islands had a row of dunes in the west that enclosed them like horseshoes, one in the south and the other one in the north. Furthermore, the dunes of Ny Mandø have an altitude of 12m DNN. The plain behind the dunes, where the village lies, is some 6 to 10 metres lower. The washed away dunes at Gammel Mandø were approximately 3m DNN high, some points even 4,4m DNN. The dike adjoining the old dunes now has an altitude of 6m DNN. When water covers the wad with an ordinary flood in summertime, reaching the salt marsh of Mandø, it rises to approximately 1.1m DNN but during heavy flooding the sea can rise to 4m DNN.
After a survey on Gammel Mandø we found the old marine clay ridge described by the geographer Kingo Jacobsen in 1953. He once drilled by Gammel Mandø and he found a wide strip there varying from 200 to 500 metres layered with old marine clay that partly forms the core of Gammel Mandø. This clay ridge is closing the dune-bow complex. Between the dunes and the clay ridge there is a basin, about 1 metre deeper than the ridge. The origin of this clay ridge is unclear. On some spots clay is mixed with sand but not in layers like the marshland sediments. Other spots have the fine and homogenous structures of pot clay, black clay without sand.
It is likely that this clay dates from the transgression period of 700-500 BC, however, although it is rather high. The depth of this layer is unclear. The tang dike lies parallel to this clay ridge, more or less on the edge of the ridge. Further and deeper drillings are necessary to find out about the origin of this layer.
An old 1839 map shows altitudes of 3 to 5m at Gammel Mandø. It is not clear if this is based on the DNN scale or an older altitude measuring system. The flooded village called Mandøby was once on Gammel Mandø.
It seems that both the village that was washed away and the new village on Ny Mandø were above 2.5m DNN, close to relatively safe and high places in the dunes. Supposedly the dunes at Gammel Mandø in former days were higher than those on Ny Mandø.
Inside the dune-bow complexes lay marshes and sandy beaches with drift sand tails at the end of the dune bow.

Low drift sand deposits proceed on the outskirts to the east of the two horseshoe-like dunes. Old dunes are found around a core of old marine clay. Wash-over complexes of sand and clay were later deposited there by the tides. There are also remains of dune islands and increases (mounds). The landscape inside and behind the dune-bow complexes is accentuated. The island is unprotected against the sea on its east side (leeside), which gradually becomes the flat Wadden Sea. At different time periods land was won and dikes were built. Behind the old village of Ny Mandø a tang dike (Toftedige or Skarndige) was built. On Gammel Mandø this tang dike lye parallel to the clay ridge. On maps it is drawn as a road.

In 1887 a dike was built on the southern island of Mandø. The new dike around the northern and southern island was built in 1937 on top of the old dunes of Gammel Mandø and the newer dunes of Ny Mandø.

In the book *Algemene Geologie* (1992 - blz.410, 411) a description is given on how deposits were formed into Dune-bow complexes. These are described as half circular rows of dunes, strand plains landward with peat by the inner dunes and the tidal marsh. Such dunes rose up in a fixed pattern around some sort of obstacle and at either end sand tails were created. This indicates that possibly two obstacles were present at Mandø that shaped the sand tails and drift sand dunes. Wind blew over the sandy plain accumulating sand as it went and as it passed over the obstacle sand was left behind. A wind shadow was formed. In other words, with sudden changes of the wind direction and turbulence, wind cannot hold grains of sand and so they fall and deposit around obstacles according to a fixed pattern. At the sides of the obstacle sand first piles up into a horseshoe like form, pushing the sand away from its centre. Finally the horseshoe closes itself in forming a round island.

In this process, the obstacle itself eventually disappears entirely underneath the drift sand. If there is enough drift sand the dune complex will move into the direction of the wind. The dunes of Mandø moved towards the west-northwest, away from the clay core.



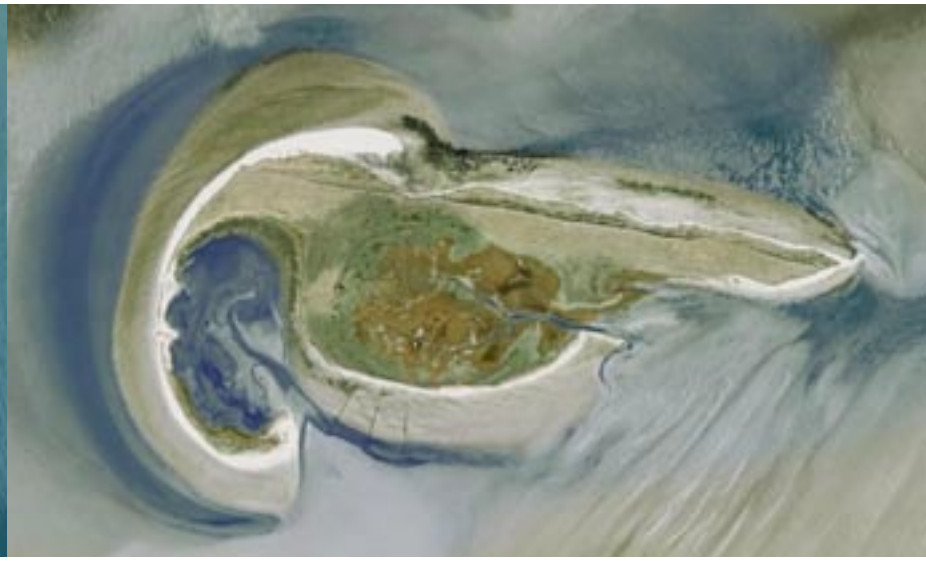
The shaping of an island, after Bagnold 1954
Source:
Pannekoek, A.J., Straaten L.M.J.U. van
Algemene geologie - 1992

The island Memmert near Just, Germany

The island Zuiderduintjes, The Netherlands

The island Trischen, Germany

The island Lutje Horne near Borkum, Germany



The island Griend, The Netherlands

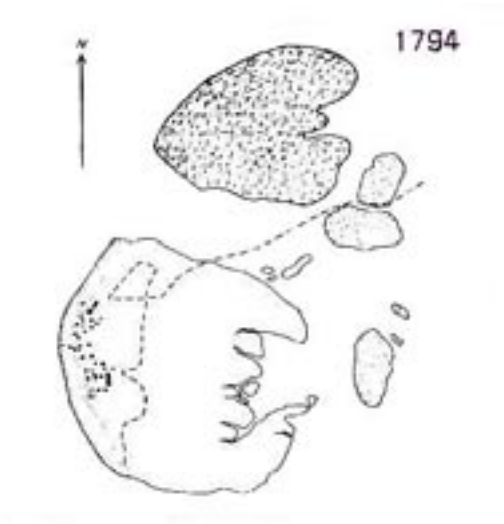
Dune-bow complexes of the North Sea, half circular rows of dunes,
the strandplains landward of it with peats
at the inner dunes and the tidal marsh.
Source: Google Earth

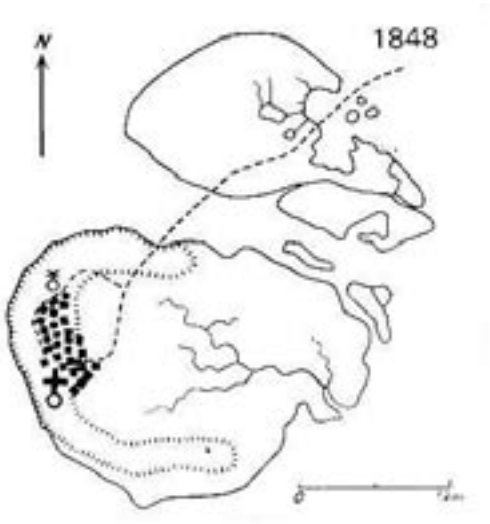
Geology of the Island Mandø

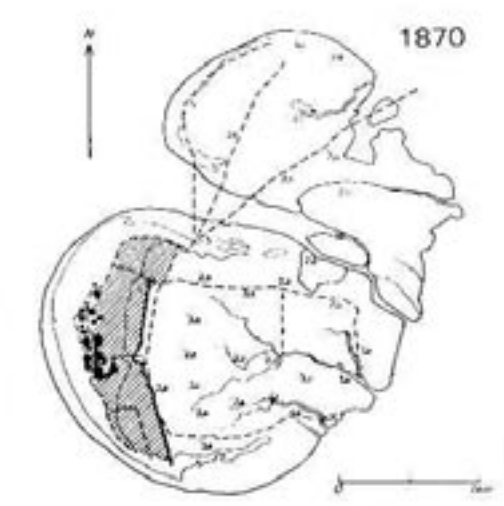
If one examines the geological map of Mandø from 1910 it is evident that drift sand dunes were deposited according to this pattern. Also one can see that drift sand formed the island according to the process described. This could possibly mean that there are not one but two obstacles at Mandø, one at Gammel Mandø and one at Ny Mandø, obstacles that are elongated and run from north-east to south-west. This is an indication that the cores of the two islands contain a solid material. The described clay ridge (pot clay) could be the core of Gammel Mandø. On Gammel Mandø lies a field behind the dunes (and dike). Many different stones can be found there in the earth like flint in various colours and several types of granite. Most of the stones are broken up, probably from ploughing the land. On the surface of the stones you can see that they were once part of a moraine. In their origin they were round stones with grooves. On the spot where the drowned village supposedly stood are many stones.

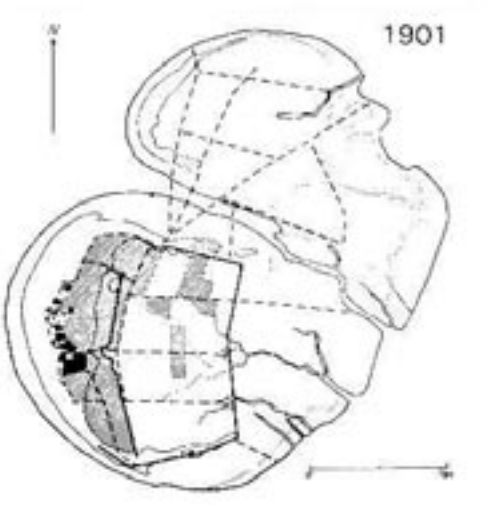
As a little boy on Mandø (before the war) Hartvig Bundesen and his brother earned money to pick up stones and bricks from this part of land. Later farmers put marl on the land to make it more fertile. Also in the dunes on the North side one could find flint. There is also a lot of rubble around, bricks and tiles from a more recent period. A lot is unclear though about the origin of these stones and rubble. A possible explanation for this is given later on.

An other indication is the water household on the island. After a strong rain shower puddles appear in some hollows in the dunes and in some fields. In other places water disappears rather fast. The people living behind the dunes do not know how to handle these rainwater problems. Draining the water into the central sewage system is a permanent source of worry for the island governing board. Normally spoken sweet water is always higher than salt water along the coast but if the rainwater is seeping away, it should do so gradually. That's not the case on Mandø so the conclusion is that there are localized clay layers in the soil.

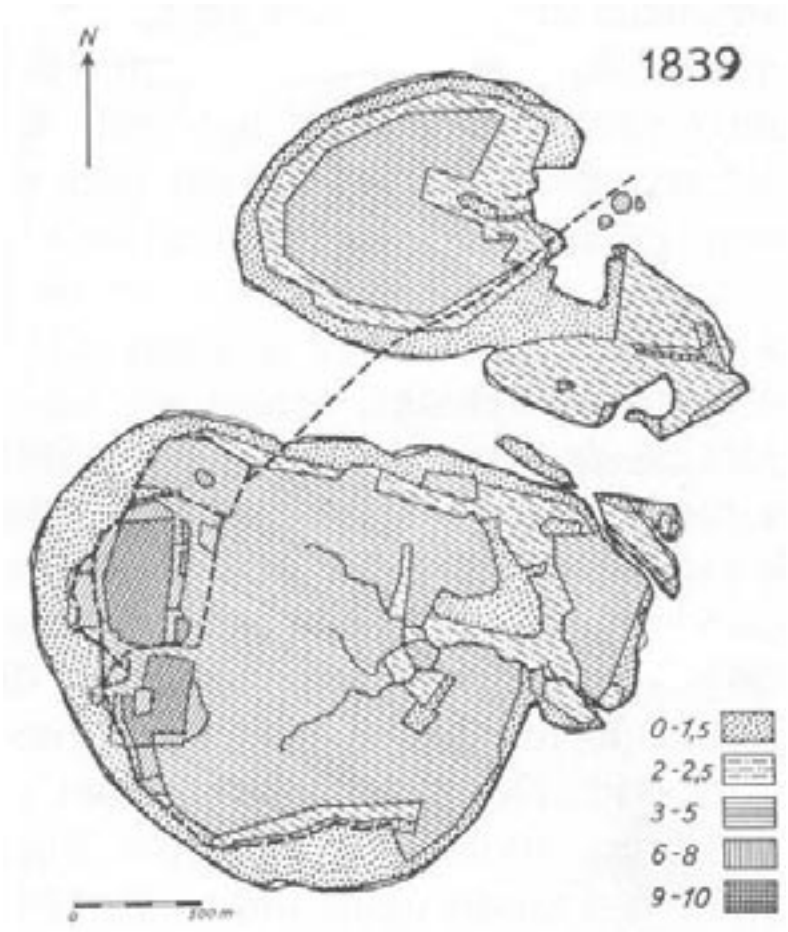








Altitude map of Mandø, 1839
Source:
Zenius, Marianne
Mandø, i hundrede År - 1983

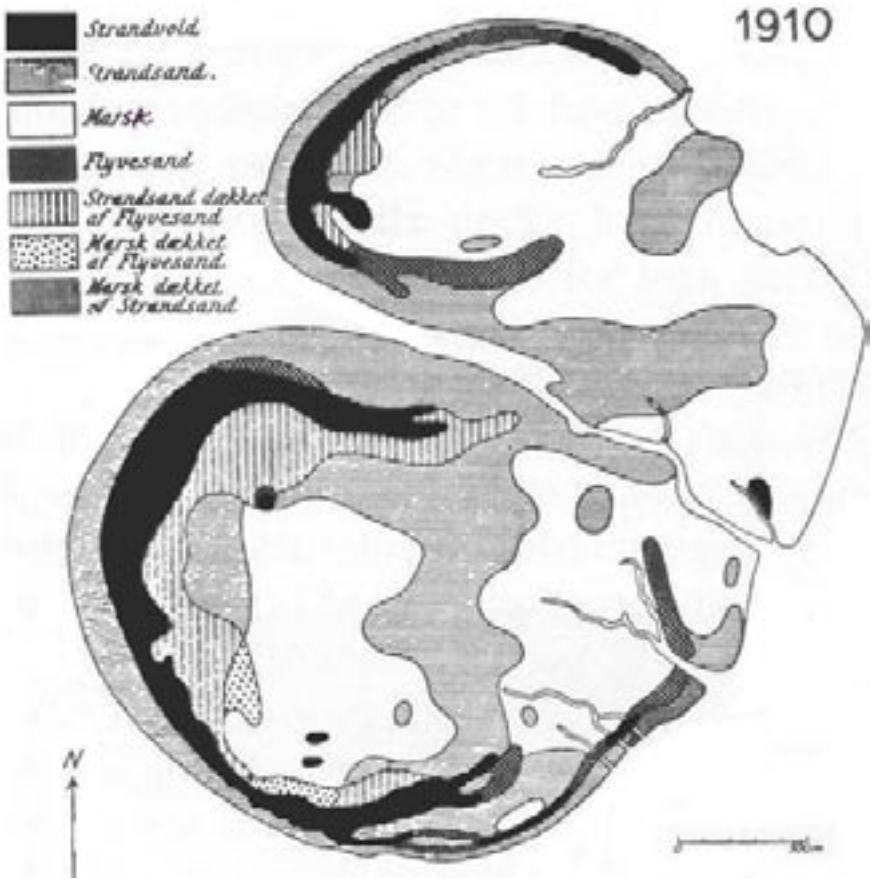


Danisch Level
Dansk Normalnul
DNN = - 0.14 m NAP/NN
(or in former days DVR)

Dutch level
Normaal Amsterdams Peil
NAP = + 0.00 m

German Level
NormalNull
NN = + 0.00 m

Cadastral map of Mandø, 1910
Source:
Zenius, Marianne
Mandø, i hundrede År - 1983



Left
Development of Mandø in four steps
Source:
Kingo Jacobsen, Niels
Mandø. En klit-marskø I Vadehavet - 1952/53

Survey on Gammel Mandø

From September 5-7, 2008 members of the Stichting Verdronken Geschiedenis visited Mandø. The island historian and oldest man on the island, Hartvig Bundesen, joined the team to visit Gammel Mandø. Holes were drilled on some spots approximately 100 cm deep in order to get an impression of the geomorphologic structure of Gammel Mandø.

Place 1 The dunes

Just within the southern dunes we drilled approximately 50 cm deep.

- thin culture layer
- dune or drift sand

Amateur archaeologists in the past found shards in the dunes at the southern edge of Gammel Mandø. These shards were described as being late mediaeval. There is also a lot of rubble in the southern dunes like bricks, tiles, and even pieces of flint. Up until quite recently rubble was allowed to be dumped there. We noticed some of the bricks had holes in them, modern bricks.

Place 2 Between the dunes and the clay ridge

Away from the dunes (50 metres) we drilled a hole approximately 100 cm deep.

- a thick cultural layer approximately 15-20 cm
- marshland, mixed layers of clay and sand

Place 3 The clay ridge

Several holes were drilled near a lake approximately 100 cm deep.

- cultural layer, approximately 15 - 20 cm
- wash-over layer, weak podsol
- one ploughing layer
- sand with layers of iron, 60 - 80 cm
- black fat clay without sand and stones but a lot of lutum; called pot clay, with a homogenous structure

Pot clay looks like 'lauenburger ton', a fat and dark clay deposit from the northern part of Germany and The Netherlands from the Elsterian period. Lauenburger ton is composed of fresh water deposits.

The clay ridge makes up the core of the island Mandø. Kingo Jacobsen already described it in 1953. He called it an old maritime clay layer. There are also traces of one ploughing under the wash-over layer, which consists of a weak podsol layer above it.

Place 4 The basin

This spot is the most likely place to find the drowned village of Gammel Mandø. On aerial pictures one can visibly see structures.

- thick cultural layer, approximately 15-20 cm
- dune sand with iron parts, approximately 80 cm
- iron rudder or limonite, approximately 4-5 cm
- clay layer, homogenous structure

We did not find fragments of bricks or tuff-stone in the sand here. There are many pieces of flint and granite on the land. Interesting are the remarks by Hartvig Bundesen about collecting stones from the meadows of Gammel Mandø and the marl which farmers spread on the land. He also told us that he and his brothers earned money as youngsters by collecting stones from this meadow. Each stone they found earned them a coin. Could these have been remains of the church?

According to Hartvig, farmers scattered marl on this piece of land in the old days as fertilizer. Marl is a soft limestone material with the viscosity of soft clay. It came from behind Ribe. Farmers also used pot clay on the poor land to make it more fertile. Maybe this also explains the lake there. It is unclear how many or what kinds of stones are found in limestone. We know there is a lot of flint in limestone but usually no granite. From the Mandø Posten and from tales of people living on the island we know that the islanders put their rubble (bricks, tiles, wood) into big holes in the ground and the dunes.

The meadow is approximately 100 cm lower than the clay ridge. The dune-bow-complex and the clay ridge enclose it. I call it the basin. The sand in this basin contains a lot of iron. Iron parts above the clay layer are concentrated into a kind of limonite or iron ruder, however this material still has the structure of sand. The sand layer above this layer contains the iron.

Place 3
-cultural layers
-weak podsol
-wash-over layer
-one ploughing layer
-sand with layers of iron
-pot clay (below)
Photo's: Leo Oorschot

Place 4
-cultural layers
-wash-over layer of sand with iron
-iron rudder or limonite
-clay
Photo: Leo Oorschot

Place 5 Behind the dunes on the wad

We drilled twice on the wad behind the dunes approximately 100 cm deep. We only found sea sand. These dunes we know were more or less fixed on the same place where they are now. If there was enough aeolian sand though, the dunes would have migrated into the direction of the wind. Young dunes are nowadays found on Koresand and on the edge of the marshland and the wad.

The road to the wad outside the dunes is paved with rubble. This road once connected the old landing with Gammel Mandø. Different types of bricks were recognizable. Lots of rubble had recently been dumped on the wad. Because of the likeliness that old materials of the church were used to build new houses, it made sense to visit this spot again.

On this spot I later found old bricks 11-12 cm x 24-25 cm and 7-8 cm thick. The joints between these bricks were between 2-3 cm. Tuff-stone also seemed to be used for pavement here.

Place 6 The north point

On aerial pictures one can recognize this as a wharf. This spot is rather high and the vegetation is wild. The clay layer is enormous. Next to this spot is a big hole, a lake. The clay from the lake was used to construct dikes in the sixties yet on the aerial photographs from 1964 the lake is not even there. Still on the other side of the lake's location, the clay layer appears again (see Place 8). We drilled several holes here approximately 100 cm deep.

- thin cultural layer approximately 5-10 cm
- a thick clay layer mixed with a little sand having a homogenous structure; the depth is unknown to us

Place 7 The old road and tangdike

According to old maps and aerial pictures this is the old road and tang dike. On either side of the 3 metre wide road are trenches. Nearby Ny Mandø is also a tang dike, nowadays called 'nedenom'. This low dike or quay protects the village on the east side. On Gammel Mandø this type of low dike borders the clay ridge and the marshland. We drilled a hole here approximately 100 cm deep.

- thin cultural layer approximately 5 -10 cm
- sand layer approximately 20 cm; unclear whether this is dune sand or sea sand
- clay layer approximately 5 -10 cm
- sand with clay in several layers

Place 8 The marshland of Gammel Mandø

We drilled a hole approximately 100 cm deep in the marshland behind the tang dike and road.

- thin cultural layer approximately 5 -10 cm
- sand with clay in several layers

Place 9 Gammel Mandø

We drilled one hole approximately 100 cm deep.

- thin cultural layer, approximately 5-10 cm
- clay layer mixed with a little bit of sand

The clay layer in this place actually continues on to Place 5.

Place 10 Gammel Mandø

We drilled holes on two spots approximately 100 cm deep. On aerial pictures this place looks like a wharf with a water basin in the middle. We drilled one hole in a depression (pit) and one nearby it. There was no significant difference between the two drillings.

- thin cultural layer approximately 5 -10 cm
- dunes or drift sand layer approximately 80 cm
- clay mixed with sand; a homogenous structure, this clay has a different structure and colour than pot clay

In conclusion this was probably the remains of an old dune or drift sand. Nearby this spot we found an old brick with a height of 6 cm while mediaeval bricks were usually 8 cm thick. During previous visits I found building remains like wood and even more bricks on this spot.

Place 11 Ny Mandø

Before the dunes along a path nearby our house Utsigten, we drilled a hole approximately 100 cm.

- sandy clay, marshland
- beach sand approximately 20 - 30 cm
- clay, marshland layer approximately 5 cm
- beach sand

The dunes of Ny Mandø are recognized as fossil dunes. The vegetation draws much attention. Crowberry, heather, bracken and moss are there. This vegetation mainly grows in acidic surroundings where lime in the dunes disappears due to the rain. The podosol layer is not developed on this spot.

Place 12 Mellem Rende

- canal between Ny Mandø and Gammel Mandø

We drilled and found marshland, clay and sea sand layers.

The tang dike and old road.
Left of the road the clay ridge
Right of the road the marshlands
Photo: Leo Oorschot

Latin:	Empetrum nigrum	Calluna vulgaris
Dutch:	Kraaiheide	Struikheide
English:	Crowberry	Heather
German:	Krähenbeere	Besenheide (Heidekraut)
Danish:	Revling	Lyng

The lake in the clay ridge.
Behind the lake the basin and the dunes.
Photo: Leo Oorschot

Time table of Mandø

2000 BC
Peat and woodland.

1600 - 1200 BC
Period of transgression, the sea moved inward.
Rising sea level. According to Kingo Jacobsen.

1000 BC
Fine-grained deposit in the lagoon on the leeside,
according to the University of Copenhagen.

750 BC
The sea broke the coastline according to the book
Marsk, land, og bebyggelse, Ribeegnen gennem
10.000 år (1998)

700 - 100 BC
Period of transgression, the sea moved inward.
Rising of the sea. According to Kingo Jacobsen.

765 - 500 BC
Forming of the clay ridge of Gammel Mandø,

perhaps there is also a clay ridge under Ny Mandø.

600 - 800 AC
Period of regression. Marshes turned to land.

800 - 1000 AC
Period of transgression, the sea moved inward.
Rising sea level. According to Kingo Jacobsen.

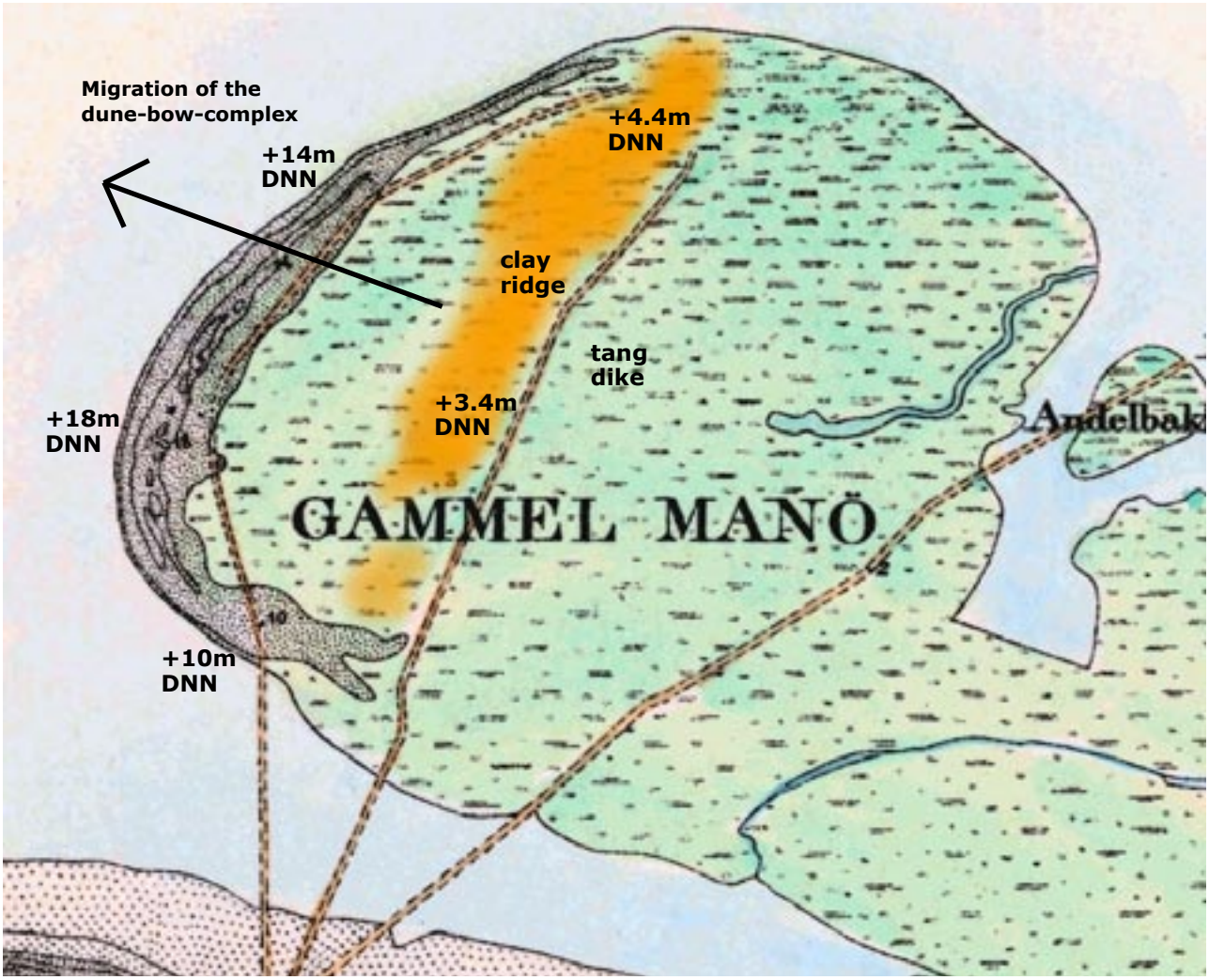
1000 AC
The barrier island Fanø, Mandø and Romø were
appearing, according to the University of Copenhagen.

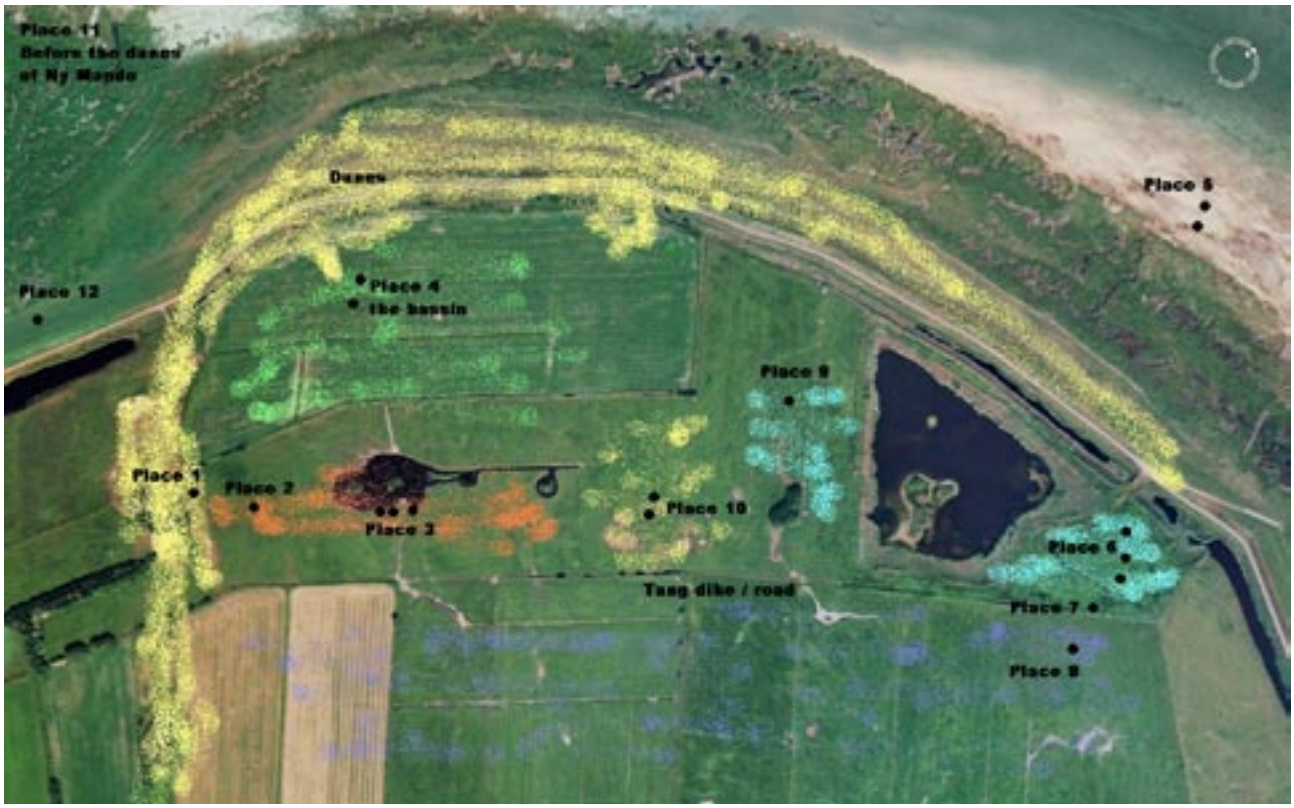
1000 - 1300 AC
Period of regression. Marshes turned to land.
The church of Mandø was built in this period.
The village Mandø was mentioned.
According to the Jordebog there is a 'hus' on Fanø,
Mandø, Romø and Jordsand

1558 AC
The village Gammel Mandø was washed away.

Mandø Maale Bords Kort 1870
the old part of Mandø with dune-bow complex and the clay ridge
Source: Det Kulturhistoriske Centralregister.

Yellow	
Dunes:	thin cultural layer on drift sand
Blue	
Clay ridge:	thick cultural layer on a thick layer of clay mixed with some sea sand
Orange	
Clay ridge:	thick cultural layer on sand above a thick pot clay layer
Green	
The basin:	cultural layer on thick drift or dune sand layer on top of a clay layer about 100 cm below the clay ridge
Purple	
Marshland:	sea sand with clay


Migration of the
dune-bow-complex
+14m
DNN
+4.4m
DNN
clay
ridge
tang
dike
+3.4m
DNN
+18m
DNN
GAMMEL MANØ
Andelbak
+10m
DNN


Place 11
Before the dunes
at Ny Mandø
Dunes
Place 5
Place 12
Place 4
the bassin
Place 9
Place 1
Place 2
Place 3
Place 10
Place 6
Tang dike / road
Place 7
Place 8

Conclusion

The main conclusion of this survey is that we did not find traces of a settlement on the spot between the Dune-bow-complex and the clay ridge. No building remains were found from the church. Farms and houses were probably constructed of wood.

Origin of the rubble?
There is a lot of rubble in the dunes and on the meadows of Gammel Mandø stemming from different periods, although most of it is primarily from recent times. The origin of fragments of granite is quite unclear although we think most probably they are remains from the church floor and foundation. It is also not sure if tuff or bricks were used as building materials for the church. We did find one old brick on Place 10 with a height of 6 cm while we know that mediaeval bricks were usually 8 cm thick. The fragments of flint could perhaps be a part of the marl, which farmers used to put across their land. Later on we found tuff-stone and medieval bricks beyond the dunes which were used for pavement on the road to the old landing.
.

Most likely position of the drowned village?
The geomorphologic structure of Gammel Mandø shows us that the most likely place where the village could have been was at the edge of the dunes and the basin. The dunes and the clay ridge enclose the basin. Along the edge of the clay ridge and the marshlands is the tang dike. On maps this dike or quay is drawn as a road. There is also another road in the dunes.
The clay ridge has different sections. Sometimes it is clay with a little bit of sand mixed in and sometimes it is a thick layer of sand on clay. Other times it is a layer of sand on a fat and dark pot clay layer. According to geological theories about the formation of an island by drift sand around a core, the dune-bow-complex would migrate in the direction of where the wind was coming from if there was enough aeolian sand. Even now new dunes form on the edge of the marshes and the beach. The dunes of Gammel Mandø once migrated west-northwest from the clay core. On Place 10 there were remains of old dunes near the clay core. This is the place where we found the old brick.

Problems with drift sand?
It is likely that the village Gammel Mandø had a problem with sand-drifts before the village was washed away in 1558. The thick layers of drift sand in the basin shows us this occurrence. These problems probably worsened for the villagers because the sheep needed to graze there in the dunes. Erosion of the dunes was likely. People were probably already moving to the new village Ny Mandø or to other safe places. Kjærgaard (1924) had calculated that there were 200 inhabitants, a church and a 'hus' on the island during the mediaeval period. When the village was washed away in 1558 there where 60 people living on the island, 18 fireplaces and a church. In fact, the village Gammel Mandø was already declining at the time the flood ruined it.

Origin of the clay ridge?
The clay ridge which was described by Niels Kingo Jacobsen (1953) and what we found on our excursion is maybe the same clay layer as described in the book Marsk, land, og bebyggelse, Ribeegnen gennem 10.000 år, band 1, p.38 (1998). This is an old maritime clay layer. Kjeld Thamdrup described two drillings, one 500 metres north-northeast of the Kammerslussen and another 1 kilometre west of Gammel Hviding. Age is determined from sediment using C14-dating and paleo magnetic-dating. In general there is a grey sand layer base. Then there is a thin layer of peat and a 120-130 cm thick layer of clay. These are covered by a thick layer of peat. In the drilling near the Kammerslussen the peat layer underneath the clay dates from 765 BC and there is no erosion in the peat layer. The clay layer dates from the transgression period of 700 BC. The development of the marshland started around 500 BC. In the drilling near Gammel Hviding the peat layer underneath the clay dates from 1305 BC. The clay layers themselves are first black, dark and gytje. Then comes a fat grey soap- like clay, then a brown layer with remains of plants and finally a clay layer with sand (2-5 mm) containing iron parts which are covered with a grass peat clay layer. It is possible that the clay ridge of Gammel Mandø is an old maritime clay layer dating from the transgression period of 700 to 500 BC, the period just after the coastal barrier broke.

A closer look at the 'Benthic Foraminifera' could give more information about the age of this clay ridge. The Foraminifera (Hole Bearers) or Forams are a large group of amoeboid protists with reticulating pseudopods, fine strands of cytoplasm that branch and merge to form a dynamic net. They typically produce a test or shell which can have either one or multiple chambers, some becoming quite elaborate in structure. These shells are made of calcium carbonate (CaCO3) or agglutinated sediment particles. About 275,000 species are recognized, both living and fossil. They are usually less than 1 mm in size, but some are much larger. The largest recorded specimen reached 19 cm. Although as yet unsupported by morphological correlates, molecular data strongly suggests that foraminifera are closely related to cercozoa and radiolaria, both of which also include amoeboids with complex shells. These three groups make up the rhizaria. However, the exact relationships of the forams to the other groups and to one another are still not entirely clear. Bentic forams are used as markers in determining the age of the sediment.

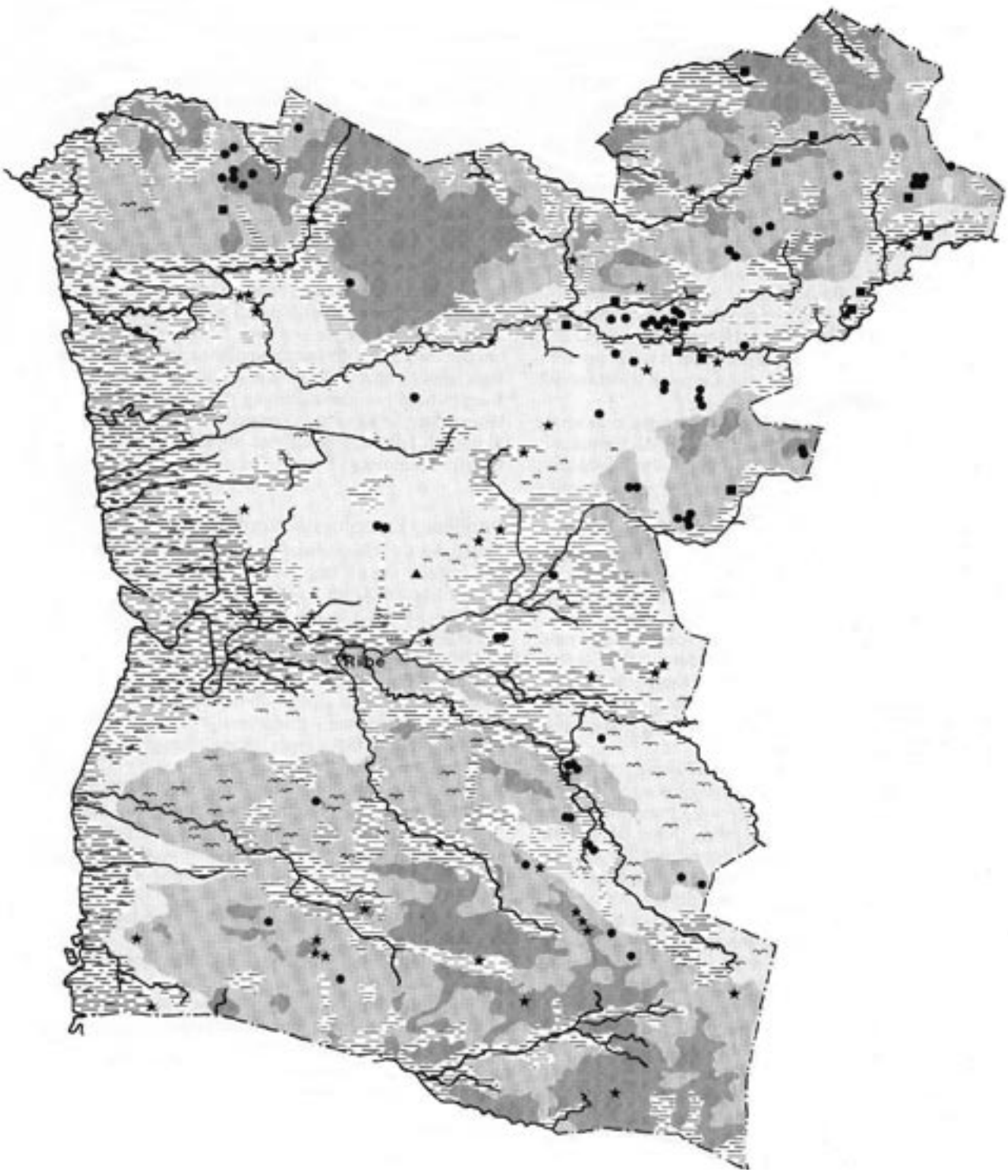
Height of the clay ridge?
The clay ridge of Gammel Mandø is much higher in the landscape compared to the clay layer near Kammerslussen. The tang dike along the clay ridge is approximately 3 DNN. The clay ridge is estimated at 2 DNN. On the north point, place 6, this clay ridge could be 3 DNN. On a map from 1870, the generalstabens kort (the dunes of Gammel Mandø) are 5 DNN (DVR), the tang dike 3,4 DNN (DVR) (place 3) and the north point 4,4 DNN (DVR) (place 6). There could be three explanations for the height of this clay ridge. The first explanation could be that the clay ridge is artificial although this is not likely. The clay ridge is enormous. Maybe the ridge is partially artificial close to the leeside of the island to provide a safe haven for inhabitants. A second explanation is that the clay ridge at the north point (place 6) was a clay depot for dike builders during the sixties. The clay came from the well and was used for reinforcing the dike. This is however unlikely because there is a thick cultural layer on top of this clay mount. This layer consists mainly of sand. Another point is that the map of 1870 shows a height of 4,4 DNN (DVR). On the aerial picture of 1964, before the dike was reinforced with clay from the well, one can already see a rise in the landscape on the north point.

A third explanation might be that there is a tectonic vault underground and the clay ridge is being lifted upwards. The sedimentologist Joseph Houbolt made this suggestion. He points out that there are many tectonic vaults in the lower strata of the North Sea and Wadden Sea, which give clear examples of the rise and fall of the land. This upward rising of the clay ridge must have taken place after 500 BC.

Typology of the flooded village.
The dune-bow-complex on the seaside and the core of clay on the leeside, reinforced by the tang dike, shaped a suitable environment for a settlement. On a map from 1839 one can clearly recognize the structure of the settlement of Ny Mandø. Small houses are spread around in the dunes with gardens surrounded by hedges on the south side. These houses were oriented to the wind direction: west-east. The parcels are also west-east oriented. The typology of the flooded settlement on Gammel Mandø is probably the same as the typology of the settlement of Ny Mandø.

On-going research.
When the research of the Institute of Geography and Geology at the University of Copenhagen is done it will explain how the landscape in the Danish Wadden Sea was formed and give a good picture of the temporality of the Wadden landscape. These studies certainly provide valuable insights for understanding and reconstructing the settlements. From the few sources available from the Middle Ages it is clear that the landscape must have looked completely different around Mandø. There is no information when the rise of the clay core took place. Maybe earlier than the Middle Ages. Researchers at the University of Copenhagen claim that it's quite conceivable that the current dunes could not be more than 1,000 years old. Even now dune shaping takes place around Mandø but that does not rule out that some of the dunes in the Middle Ages might have shifted or disappeared. Islands appear, disappear and appear again on the same spot. The clay ridge which was probably formed during the transgression period 765-500BC, rose later on, fixing the dune-bow-complexes of Gammel Mandø and Ny Mandø more or less on the same spot.

PART 2 SOUTH WEST JUTLAND AND MANDØ IN THE LITERATURE



Finds from the Late Stone Age and Young Bronze Age, 2400-1100 BC

Source: *Marsk, land, og bebyggelse, Ribeegnen gennem 10.000 år* - 1998

Flood plain

· Waves symbol: Drift sand

· Lines: Marsh

· Grass symbol: Peat swamp

· Light grey: Moorland, heathland

Glacial hill-islands

· Grey Sand deposites (diluviaal) on glacial hill-islands

· Dark grey Tops of glacial hill-islands

Finds from the Late Iron Age and Viking Age, 300-1050/1100 AC

Source: *Marsk, land, og bebyggelse, Ribeegnen gennem 10.000 år* - 1998

Flood plain

· Waves symbol: Drift sand

· Lines: Marsh

· Grass symbol: Peat swamp

· Light grey: Moorland, heathland

Glacial hill-islands

· Grey Sand deposites (diluviaal) on glacial hill-islands

· Dark grey Tops of glacial hill-islands

Research area
Wharf
Village on the edge the glacial hills
Border of a Parish
Water
Marshes
Glacial hills
Dunes
Lake
Peat moors
Wadden

Ancient settlements in Southwest Jutland
Source:
Guldberg, Mette
Kulturhistorien i Vadehavsregionen
Fiskeri- og Søfartmuseet - 2005

History of the settlement of the flooded village

Concerning the history of settlements on Mandø during the Viking epoch nothing is known, although this does not mean that Mandø had not been inhabited. After a favourable period of regression between 600 and 800 AC and later between 1000 and 1300 AC, the coastline yielded to the sea and old marshes turned to land. Supposedly Mandø looked very different at that time. Dunes lay in other positions because they were knocked off during storms and arose elsewhere with drift sand. Each day huge quantities of water washes up the wad and back to the sea, on each occasion more quickly seizing sand to form a new dyb. There are sources that claim that Mandø was 14 kilometres long and 8 kilometres wide during the Middle Ages. Very possibly there were farms on the island. Property owned by chieftains from Vester Vested, Hviding or Ribe was not uncommon at that time. The island is a good place to graze cattle. The first bulletins of settlement on Mandø come from the Middle Ages, beginning in Denmark around 1050 and ending with the reformation in 1536. This period coincides roughly with the sovereignty of the Catholic Church in Denmark. It was in this period that written sources became available. There are also travel reports and historical works by Willibrordus, Adam von Bremen and Saxo Grammaticus. These documents give a comprehensive picture of the region from that period. The negative look given by Willibrodus and Adam von Bremen on Jutland was possibly motivated by political aims. In addition, the Jordebog of King Valdemar II provides much information on the partitioning of the country and the taxes which were levied. Excavations were done in neighbouring villages during the 1970's. Stig Jensen and his collaborators gave an idea about the development of the settlements on southwest Jutland in a number of publications. Dirk Meijer (2006) gave an overview of the history of settlements on German wad Islands. Excavations are still going on north of Ribe. Slowly the picture of the history of settlements on southwest Jutland becomes clearer but the information concerning Mandø remains unfortunately sparse.

Settlement on southwest Jutland in the prehistoric period

Excavations especially help in providing information to give good pictures of everyday life in the settlements. In the book *Marsk, land, og bebyggelse, Ribeegnen gennem 10.000 år, band 1 & 2* (1998), Stig Jensen and his colleagues discuss this history. In both the Neolithic period and during the Bronze Age the settlements lay land-inward, along the high banks of the river valleys against the glacial hill-islands. The current wad sea lagoon was then woodland. The coastline stood further out to sea. Around 750 BC the sea broke the coastline and the water pressed increasingly further into the countryside, reaching all the way up to the glacial hill-islands at Vester Vedsted and Hviding. Kingo Jacobsen called this the old theory and he developed the balance theory. The University of Copenhagen showed that the lagoon on the leeside of the islands had fine-grained deposit from 1000 to 0 BC.

According to *Marsk, land, og bebyggelse* (1998) people lived during the Iron Age on the edge of the glacial hill-islands between the water level 2.5 and 5.0m DNN. The border between the high grounds and the marshlands with their tides lay approximately at 2.5 m. DNN. All the villages were built on a narrow belt of land from north to south on the edge of the marshlands and glacial hills. Examples are the settlements of Darum, Dankirke, Vester Vedsted, Gammel Hviding and Ribe. People could profit from the marshlands by raising cattle and using the hill-islands for farming.
Also, at the edge of this landscape limonite (myremalm) was found for iron production. All the way from the Iron Age up to the nineteenth century people virtually lived on the same spots in the southwest of Jutland.

An experiment in 2006 by Thomas Kjerstein, based on a theory developed by Per Mollerup, revealed that people could produce a reasonable quality of iron from limonite and charcoal in those days. Between 550 and 700 AC people left the country because of the rising sea level, which washed away the villages. Later on many of these places were inhabited again, however some had disappeared once and for all. Most of the flooded villages therefore lie in this relatively narrow belt along the coast under the 2.5 m DNN line.

A number of Iron Age villages had not flooded but became of lesser importance after the establishment of the royal city of Ribe. This included villages such as Vester Vested, Hviding and Dankirke at Vester Vedsted. Dankirke was rediscovered in the sixties.
It was determined that these village settlements were once very wealthy because impressive gold treasures were found nearby them. They were situated on a land tongue of the glacial hill-island that had cut deeply into the marshlands. Extending from this land tongue was the island Mandø. In the Ribe Viking centre, south of Ribe, some houses were reconstructed on the basis of excavations done in Hviding and Ribe.

Ribe - Bishop Willibrordus and King Ongendus / Angantyr

The magistrate Adam von Bremen visited Denmark in 1068 and described Jutland in his travel report as a kind of desert with inaccessible salt marshes along the coasts and impenetrable woodlands in the middle, a barren land, hardly suitable for settling. People only lived by river bays or land rises, which included rather large settlements such as Slesvig, Ribe, Århus, and Ålborg. The negative judgement of Adam von Bremen had possibly been motivated by political aims.
It is well known that many people lived in the interior of Jutland. Ribe and its surroundings were a densely populated region. Villages in the close surroundings of Mandø, like Danekirk, Darum, Vester Vested, Hviding and Ribe, were occupied very early on. Tracks are found back to the Bronze and Iron Ages.

On his missions in 714, Willibrordus, the Archbishop of Utrecht, visited King Ongendus in Ribe. Later on the King changed his name to Angantyr. According to Stig Jensen (1991) Willibrordus and his monks possibly had an influence on the reorganisation of the marketplace. The marketplace was already founded around 705 on a piece of land that rose from the sea on a significant layer of sand. Alcuin (735-804) (Alcuinus van York or Alcuinus van Tours) describes the following mission from Willibrord to King Ongendus in Vita Willibrordi:

"Hoofdstuk 9
Deze zelfde man Gods heeft eveneens geprobeerd de stroom der hemelse leer te verleggen buiten de grenzen van het Frankische rijk. Hij aarzelde niet om naar Radboud te gaan, die toen koning van de Friezen was en samen met zijn stam nog heiden, en waar hij ook heenging, predikte hij Gods woord in alle vertrouwen. Maar hoewel genoemde koning der Friezen de man Gods omwille van diens nederigheid vriendelijk ontving, kon deze met geen enkele koesteringen van leven zijn stenen hart verzachten.
En toen de man Gods erkende dat hij bij hem geen succes kon behalen, leidde hij zijn missieweg naar het woeste volk der Denen. Daar regeerde, naar verluidt, Ongendus, een man wreder dan een wild dier en harder dan een steen, die echter, op Gods bevel, de bode der waarheid op eervolle wijze behandelde.
Toen hij (Willibrord) merkte hoe verstokt van zeden zij waren, hoe zij in hun afgoderij opgingen en geen enkele hoop hadden op een beter leven, keerde hij snel terug naar de door God uitverkoren volken van het rijk der Franken, nadat hij dertig jongens uit dat land had meegenomen. Op de terugweg waste hij deze jongens die hij in de christelijke leer had onderwezen, in de levensbron, zodat hij wat hen betreft geen schade zou lijden vanwege de gevaren van de lange tocht of door hinderlagen van de woeste inwoners van dat land; zo wilde hij de listigheid van de oude vijand voorkomen en deze gewonnen zielen versterken door de sacramenten des Heren."

Source:

A.G.Weiler Willibrords missie (1989) Translation: P. Bange

Willibrordus must have been a practical man, someone who had few illusions concerning the conversion of the Danes and the Frisians. In the saga by Gisli Surszoon it is told that Gisli converted to a kind of half Christian in order to be able to trade at Danish markets. Obviously only Christians or half Christians could trade with each other. They had their own quarter in the village of Ribe. At that same time there was a marketplace known as 'Danernes kirke', Dankirke. The place where it stood, approximately 7 kilometres southwest of Ribe, was discovered during the 1960's. It lay nearby the river at Oksholm and Vester Vested on the edge of the glacial hill-islands where one of the chieftains had his farm. Many coins in use at that time from Friesland and England were found there. Also luxurious articles such as glass pearls made from Italian raw materials and slivers of glass from France were discovered.
Possibly the regression in this period also played a role. From 600 up to the year 800 there was a period that the coastline spread out. Marshlands and salt marshes became dry. Dirk Meijer (2006) gives a description of settlements in the German part of the wad sea. He illustrates that Frisians and Saxons once again inhabited these marshes during that period.

Possibly the Saxon-wars (772-804) between the Roman-catholic Francs and the pagan Saxons and Frisians played an important role in the emigration of the families.
Initially the Frisian Kings Aldgisl, Redbad, and Poppo governed the central river area within the provinces currently known as Holland and Utrecht (the cities: Utrecht and Dorestad). Their reign however became more and more repressed by the Frankish expansion to the north.
The last Frisian King, Poppo, was defeated by Karel Martel in the year 733. Friesland, to the west of the Lauwers, then became incorporated into the Frankish kingdom. Around the year 784 the Frisians supported the Saxon uprise against Charlemagne, as they did once before. These Saxon-wars came to a final end with the expedition of the Francs to Nordelbien. The Saxons and Frisians were incorporated firmly into the Frankian realm of Charlemagne. The first Frisian bishop and missionary Liudger (742-809) got more and more followers in the Netherlands from among the Frisians, as they converted to the new religion.

When families first left for the Northern Frisian islands they most likely still believed in their old god 'Fosite'. Places known for worshipping Fosite are Ammeland and Helgoland. Old maps mentioned Helgoland and Fosetiland. In Nordic mythology 'Forsite' or 'Forseti' is the Asen God of Justice, Peace and Truth. He is the son of Baldur and Nanna. The Frisians called this god 'Fosite' or 'Fosete'.
The Viking Age finished around 1050 in a large chaos. There were civil wars between the local chieftains and there was no longer any central authority. The Wenden passed through plundering and pillaging throughout the countryside. People were not able to defend themselves. Between the year 800 and 1000 AC a transgression appeared.
At the end of this transgression period, a lot of land became unusable. In this uncertain period many occupants left the region of Ribe.

Uthlande

From the 8th century on Frisian farmers inhabited the islands and marshlands above the river Eider. According to Dirk Meijer (2006) the main cause of this move was the overpopulation of the homeland between the Vlie and the Lauwers. Also Frankish expansion possibly aided this migration. Both Adam von Bremen and Saxo Grammaticus discuss the movement of the Frisians. Saxo claimed that the Frisians fought for the Danes against the Swedes.
The Frisian Duke Ubo thereby triumphed over twenty Swedish warriors but pierced by a hundred and forty arrows he fell in the stride.
According to records in the Fuldenser Annalen, Roderik van Westfriesland sailed in 857 to North Friesland with a fleet of Norsemen. His feudal lords, the Frankish King Lothar and the Danish King Horik, gave him and his follower's permission to inhabit the coastal region between 'Meer' and 'Eider'. Saxo wrote further that long before his time (1140) the Frisians had moved to Frisia Minor, a region known as Uthlande.
Moreover, in Valdemar II Sejrs *Jordebog* (1231), the marshlands and islands in the diocese Schleswig were also called Uthlande.
According to Dirk Meijer (2006) Uthlande was divided into 14 'harden' which were given to the Frisian farmers. The position of Uthlande, with its inaccessible marshes, gave the occupants a certain independence from the local nobility. Adam van Bremen, once a magistrate born around 1040, described in the Hamburger church history the island-like character of Uthlande. He mentioned Fosetiland (Saints island, Helgoland) where Frisians worshiped the god Foseti and he also mentioned 13 clergymen of duchy Schleswig, which belonged to the King of Denmark.
After the Frisians refused to pay the high taxes imposed by King Abel in 1252, he started a war against the islanders. King Abel and his saddled knights were provided with armour while the Frisians had light weapons such as bows and arrows.
After a guerrilla war had taken place in the marshlands and in the woods, King Abel was struck dead by the arrow of the wagon builder Wessel Hummer.
The extended salt marshes, wads and islands remained an intangible area for Kings. Not all Frisians fought against them though, only those in the 'Harden' of Eidersted, Everschop and Utholm. It were the representatives of the 'Harden' of Pillworminghardе, Belltringharde, Wrykesharde, Osterharde, Føhr, Sildt, Horssbullharde and Bockingharde who ratified in writing their old oral laws.
For a long time the theory held that the original Danish population lived at the Glacial Hill-islands and that the Frisians inhabited the marshlands and the islands. Implicitly one speaks of a separation between the populations. This picture relies on an interpretation of Saxo Grammaticus. The question is if this interpretation does justice to the facts? This picture becomes clearer by reviewing the naming of places and excavation finds.

See the books of Dirk Meijer (2006) and Stig Jensen (1991 and 1998) for this. Frisians, Saxons, Angles and Juts were linguistic relatives of one another and there was a large interaction between these different tribes. The Angles came originally from Sleeswich and the Juts from Jutland. The Danes are the people living in Denmark who had their origin in yet other tribes. Probably the distinguishment between these different populations became of more importance in later years rather than during the Middle Ages.
Finds of Frisian origin (weaving tools) were found in places inland with Frisian names. When places were originally given their names there was not always a distinguishment made between the wad sea and the hill-islands.
Frisian merchants were already present early on at marketplaces in Ribe and Dankirke. Also Danish farmers moved to Uthlande in the favourable regression period between 600 and 800 AC and 1000 and 1300 AC in order to graze cattle on the marshlands, towards Mandø for instance.

Manne

The name Mandø is mentioned for the first time in Valdemar II Sejrs *Jordebog* (1231). The name of the wad island Mandø, for example, was probably taken from the name of the first occupant `Manne', concludes H.P. Kjærgaard (1924).
'Manne' is a pre-Christian Danish name, which was common in both Denmark and Sweden. It has no Frisian origin such as 'Ribe, claims Kjærgaard (1924), basing himself on the historian J. Kinch.
'Rip' or 'ryp' in Frisian means a small stone mound or sand rise (Hardegarijp/Hurdegaryp, Dronryp/Dronryp, Welsrijp/Wjelsryp). It's possible that people referred to one of the grave hills (with stones) on the spot where the monk Ansgar founded the church of Ribe in the year 860. Frisian friends have looked up the word but could not retrieve it in modern dictionaries. Someone did say however that `ryp' is an old fashioned word for wharf.
The name `Manne' does not originate from Norway or the islands. Around 1600 the name became obsolete. Yet there were more places where this name appeared. Kjeargaard mentioned Manderup, Mannerup, Manstrup, Manneville (Normandië), Mannarp and Mannestad.
Manne and Manus were also common Frisian and Dutch names in former days. Usually they were nicknames for Hermanus and Herminus.
Again, the island Mandø got its name thanks to the man Manne, who supposedly inhabited and cultivated the island in the early Middle Ages or perhaps already during the Viking Age.

In the book *Marsk, land, og bebyggelse, Ribeegnen gennem 10.000 år, band 1 & 2* (1998), Aage Andersen discusses the naming of the villages in these surroundings. The names of the places mainly got their origin during three periods, although the actual settlements could have been much older of course.
It was common to tribute a part of the name to a particular person, a landowner or the one who inherited the land or farmhouse, for instance.
According to Andersen, names of the villages before the Viking Period finish with a suffix: - hem, - um, - sted, - inge, - løse and - lev. These names were not used during the Danish sovereignty in the United Kingdom (Danelagen, Danelaw), which is why one can draw the conclusion that the names had their origin before the Viking Period. Take a village such as Vester Vedsted for example. Vedsted means place of residence of Withis. Vilslev means heritage of Wils.
Names of places from the Viking Age mainly end with -torf; -torp; -rup; -drup; -strup; -tved; -bøl and –by, just like names such as -høj, -bjerg, and -borg. Particularly names of villages from the Middle Ages end with -rød, -ryd, -gård.
Due to this classification naming, one can see that Mandøby had its origin during the Viking Age. Also the lost villages around Mandø, such as Curreby, Knudeby, Knokkenby have names which, according to this theory, have their origin in the Viking Age as well, however 'knokken' (bones) and 'knude' (knot, lump, bump) were not names of persons.

Farm in the dunes of Fano
Painting: ?
Source: ?

Ledingshavn

The geographical classification in the early Middle Ages is interesting. Mandø was classified with the municipality/parish (Herred or Sogn) Frøs and not with the Hviding parish. Frøs lies to the north of Ribe and Hviding to the south.
If the waterway to Ribe was the division line between the two municipalities then that would imply that Mandø lie north of that waterway.
A 'herred' or 'sogn' was not only a religious division but also an administrative/military division of the country.
In the Viking Age 'Herred' meant a hundred men.
It's an old Norwegian word. In Denmark this meant that a hundred families each had to provide one man for battle. Every 1300th 'herreder' had access to the sea.
Tacitus earlier mentioned this division system in his description about Germanic tribes.
According to *Marsk, Land og Bebyggelse* (1998), in the region around Ribe such a 'herred' had three ships with a landing (ledingshavn). The main ship was called 'Ledingsskibet' with 42 men on board, a skipper, and a local chieftain with his horse.
One particular 'ledingshavn' in Hviding is mentioned in an old document although generally this sort of information was never documented.
The landing on Mandø was never mentioned, however, it is possible that the landing (ledingshavn) in the municipality Frøs was on the beach of Mandø.
In a later division of municipalities/parishes Mandø became part of Hviding. There was a distinction made between Sogn and Herred because one was larger than the other. Nowadays Mandø Sogn falls under Ribe Herred.
In 1548 a landing for fishing boats was first mentioned in the document: Fiskerleje, while in the previous period only suggestions where made about boat landings along the coasts and dybs.
_Furthermore, according to Hansen (Mandø-posten 1934), there was a landing for ships north of Gammel Mandø used up until WWI. This place is known as Jørgens Lo: the end of a priel of Jørgens or the country of Jørgens. After WWI the landing was moved to the west of Ny Mandø.

Valdemar, Absolon, Saxo Grammaticus

There was a golden period in Denmark and southwest Jutland between the years 1157 and 1241. It is the period of King Valdemar the Great and his two sons Knud VI and Valdemar II (the Victor) and also of bishop Absalon and his clerk Saxo Grammaticus.
The population grew rapidly in this time and changed the Danish landscape in a high tempo. There came an end to the lootings and civil wars and a strong central authority established itself.
One frequently indicates in the history books about the influence of the Catholic Church that maintained an intricate administrative system, penetrating deep into the culture of the people.
No longer were kings chosen from amidst the warriors (Primus inter Pares) but royalty became hereditary.
After King Harald Blåtand (Harald the Good Gormsson) had himself baptised in 970, the whole Danish Kingdom converted to Christianity.
The question is if all Danes were really Christians?
In this period seats were set up for the diocese in Sleswig, Århus and Ribe. During the reigning period of King Valdemar and bishop Absolon, Denmark took on her governing and spiritual forms by merging royalty and religious authorities.
Monks brought with them new agricultural methods and construction techniques. They built cloisters and churches everywhere and ploughed barren heath land into earth for cultivation. Many new villages were founded and large cities such as Lübeck stimulated the shaping of villages along the coast.
Each village naturally wanted its own church so in that period approximately 2000 stone churches were built, usually at places where there was already a wooden church standing. The technique of baking bricks spread and was applied to the construction of churches.
Valdemar the Great reinforced the Danevirke around 1170 with a wall of bricks. Innumerable churches made of tuff and brick were built in southwest Jutland during that time, including one on Mandø.

PART 3 GAMMEL MANDØBY IN THE MIDDLE AGES

Chronology 1205 -1558

1205 Dagmar

According to legend, Dagmar, the beautiful daughter of King Premysl Otakar, came ashore on Mandø to marry King Valdemar II. Her ship possibly stranded at Mandø. She was pleased with the people there. As thanks for their help to the stranded Queen, King Valdemar II gave Hølade to the people of Mandø. Mandø Hølade was raised hay land located at the mouth of the Ribe Å, close to the inhabited hill Yder Bjerrum. The Queen only stayed briefly in Ribe since she passed away in 1212.

1219 Flood

A large flood caused much damage along the North Sea coast on January 16, 1219. According to Dirk Meijer (2006), Valdemar II started constructing dikes and reclaiming marshlands on Frisian Uthlande after the flood. One finds indirect indications in the Jordebog (1231) about these events.

1231 Jordebog

The villages in the vicinity of Ribe such as Danekirke, Vester Vedsted, Hviding, and Darum were busy inhabited places. It is in this period that the name Mandø was first mentioned. There was a 'hus' on the island. It appears in Valdemar II Sejrs' Jordebog (1231). A Jordebog is a book where records of the King's possessions were kept. The island Mandø ('Mannø ' in Danish and 'Mannæø' in Latin) was historically mentioned twice. H.P. Kjærgaard (1924) regarded a 'hus', whether it be a 'borg' (burrough), a 'taarn' (tower) or a 'vold' (wall) like a kind of reinforcement for defending the coast. Such places were noted on a list (Ølisten) which included: `Fanø hus, Mandø hus, Rumø hus ha, Hjortsand hus, Syd hus ha'. An important source for Kjærgaard, concerned two works dealt with by the historian J. Kinch.

Andragende fra en Præst Paa Mandø 1642 (1878-1879)

Ribe Byes Historie og Beskrivelse (1869)

Kjærgaard agreed with Kinch to doubt the island listing (Ølisten) because it was thought in that time that Mandø belonged to a part of Fanø.

A second time that Mandø was mentioned in the Jordebog was on a list dealing with taxes. Mandø belonged to King Valdemar's throne so the people had to pay 16 marks in taxes to him annually.

The rich city of Ribe, in contrast, had to pay 900 marks each year. In the time of King Valdemar II, Mandø was just a farming island although defence forces (hus) were placed there by the King.

1248

A flood caused much damage in Friesland, the Netherlands and Flanders.

1250

Kjærgaard (1924) quoted Velschow from the Historisk Tidskrift, band 4 (1843). He said that just as many people lived on the half-islands off the coast of the merchant city of Ribe around the year 1840, as did in the year 1250. According to Kjærgaard there were about 748,000 people in the whole region, although numbers would diminish due to the plague and flooding. Also the harsh feudal society led to an exodus of people. Further on in the book Kjærgaard points out that practically everyone in the region worked as serfs for several wealthy families.

1283 Herring

Herring was the most important export product of Ribe, according to the historian Kinch. Throughout the Middle Ages and up to the reformation fish trade would play a very important role in the economy of Ribe. Kinch also wrote that the fishing boats bringing in the herring off the coast of Ribe would land on the beaches.

1287 Flood

On New Years Day the Lucia Flood affected the entire coastline from Denmark to The Netherlands.

1292 Landing

In a document from 1292 is written the name 'Mandør' in connection with Erik Mænved. King Erik Medved gave the city Ribe privileges to use the beach in front of Mandø for landing. During the Middle Ages the city Ribe exported approximately 3000 horses each year, possibly using this landing at Mandø. Kinch (book 1, p.111) mentioned that the beaches from List to Mandø were under the jurisdiction of Ribe. Mandø did not belong to the duchy of Sleswig-Holstein. The border stood between Mandø and Romø. During the entire Middle Ages Mandø belonged to the crown of Riberhus, tributary to the King. According to Kjærgaard, the ships of Ribe sailed through the Gammel Ribe Dyb between Romø and Mandø, the borderline between the Danish Kingdom and the Duchy at the time of Erik Medved. Larger ships lay at anchor before the coast of Mandø and Hviding. With small barges they would bring the goods to Ribe. Furthermore, embarking on a long voyage took place from the shores of Mandø.

Church of Hviding
Photo: Leo Oorschot

Church of Kalvslund
Photo: Leo Oorschot

1317 Farm

On Jens Voltersen's donation certificate (Gavebrev) to the Cathedral of Ribe in 1317, the name Manø is mentioned. This wealthy citizen and bishop of Ribe let build a chapel at the Cathedral. He gave land to the church for maintaining the chapel and a chaplain. Kjærgaard follows Kinch in his historical description of this event, describing the land on Mandø with an annual turnover of 5 Skilling Sterling (silver coins), 5 geese and 10 chickens. Supposedly Jens Voltersen had a farm and land on Mandø.

1321 Church

The Church of Mandø is mentioned again on an act which was written in 1321. When it was built is not exactly clear but this is the oldest document concerning the church. It described Mandø as an ecclesiastical municipality (Provsti) together with Frøsherred and Kalslundherred. The first provost is Jacob Kantor. Kinch mentioned all the Provosten, who controlled the church municipality up until the reformation.

1325 Church

The stone church of Mandø was mentioned in the year 1325 in *Ribe Oldemoders Kirkeliste*.
Supposedly Mandø was already quite well inhabited. Churches were only built in populated areas at that time in the region. Construction materials of similar churches included tuff, brick and granite. Also boulders from fields were used for the construction of churches. The tuff probably came from Rhineland, Adernach and transported to Denmark via Deventer. The awareness of the properties of the materials is striking.

In *Marsk, Land og Bebyggelse* (1998) churches in the surroundings are discussed. Dyssel and Dich gathered much information from: *Local Churches, The Deanery or Ribe and Bramming* (1998) which discussed the Romanesque churches in these surroundings.
Krogh discussed the church of Hviding in the article: *De Faldt ned midt udi sommeren* (Skalk, nr.3 1964) Both the construction work and the different contexts were given much attention in this article.
Churches along the coast were usually larger than those inland. The style was Romanesque, just like the cathedral of Ribe. Granite was used in the constructions at places where support was needed most like in the foundation, the corners and in doorways.
In *Ribe Oldemoders Kirkeliste* (1325) it is mentioned that the Church of Mandø had to pay 4 skilling sterling (silver coins) to the Cathedral of Ribe.
The Church of Hviding paid 8 skilling sterling and the Church of Vester Vedsted contributed 5 skilling sterling. The remaining churches paid between 4 and 8 skilling sterling. Obviously the parish of Mandø belonged to the smaller communities. If the ground plans of the different churches are compared with the payments to the diocese, it becomes plausible that the Church of Mandø was not one of the largest.
Possibly this church had the size of churches like Spandet (88m2), Seem (88m2), Kalvslund (66m2), Hjortlund (65m2) and Hunderup (62m2).
These churches were built in the same period in the surroundings of Ribe and each contributed 4 skilling sterling to diocese of Ribe. Still, from studying the tax records, Kjærgaard (1924 - pg.46) drew the conclusion that there was nevertheless a certain wealth on Mandø. Only a large number of people could have paid this tax. Possibly there lived about 200 people on Mandø in that period. Since the exact number of inhabitants is nowhere to be found in documents, this assumption is based on comparisons with other church municipalities. People were farmers and lived in those days mainly from agriculture, thus Kjærgaard.

There was a tradition in Denmark to build the churches outside the villages (Hviding, Ribe). This had to do with how they worshiped the old gods. In Ribe the first wooden church was erected by the monk Ansgar in 860 AC outside the original village. Also in Hviding the church was built on the outskirts. One worshiped the god of the Christians along with the old gods during the Viking Age. Christians and Pagans lived in different parts of the city. The first stone church of Mandø stood probably on a rise outside the village. This 12th century church was also east west orientated. Just like other churches of that age, this church too had been built of volcanic tuff from Rhineland and bricks on a firm basis of granite from Jutland. Perhaps the church had a crypt, which when the island overflowed might have been the cause for the shaping of the unfathomably deep hole in the ground. The hole had later been filled up with rubble but still it was a large water well.
According to the tales, remains of stone cellars are around but the cellars themselves are gone. Supposedly bricks and tuff from the old church were processed in newer built farms on Ny Mandø. According to tale, the deepest well is the place where the first stone church of Mandø stood although it is more likely that the church was built on a rise somewhere like the spot where old dunes were formed around the clay ridge for example.
See place 10 on the picture on page 27.

Church of Ny Mandø,
three oak statues,
Photo: Leo Oorschot

Churches of Ny and Gammel Mandø
Still, there are some artefacts which could originate from the old church.
For example: the three oak statues and a granite doopfont in the new church
are mediaeval and are probably from the old church.

Church of Ny Mandø
granite doopfond,
Photo: Leo Oorschot

1334
The flood of Clemens penetrated deep into the marshes between Wilhemshavn and Butjadingen.
The East Frisian Islands were described for the first time as a result of the flood.

1348-50
The Plague broke out in southwest Jutland taking many lives. According to Kinch in the year 1350, half of the population of Ribe had taken ill.

1362 Store Manddrukning or Grote Mandrauck
On January 16, 1362 the largest flood of the Middle Ages hit the coast of Denmark, Germany and the Netherlands. This notorious flood drowned ten thousand people. Complete settlements of villages, houses, farms and churches were washed away, including about 30 church municipalities.
Some historians find this an absurdly high number of deaths and destruction. According to Krageskov (2005) it was feasible that there had been more floods in a short time span.
The diminishing number of inhabitants in southwest Jutland was probably the result of flooding and the plague. Supposedly Mandø was also affected by these calamities but there are no documents around to verify this.
Marsk, Land og Bebyggelse (1998) describes a number of villages which had been washed away with this flood. Yder Bjerrum (west of Ribe) and Jernkær (northwest of Ribe) were both documented. These places lie on top of small hills in the marshes. Lusby, Boløkke and Hedegård were also abandoned. They laid on top of heath land near to Ribe. The unfertile land most likely was the cause for desertion.

1396
Kjærgaard (1924 - pg.47) said that according to the historian Kinch (book 1, pg. 261), Fanø and Mandø were separated during the 1396 flood. The original source where Kinch refers to is *Chronik der friesischen Uthlande* (1856) by C.P. Hansen. It is unknown what sources Hansen used for this claim. The question remains if this event really took place since Mandø was already mentioned on the island list (Ølisten) in the *Jordebog* of King Valdermar II in 1231.

1415 Four churches
J.K. Hansen (Mandø-posten 1934) claimed that the island was approximately 15 km long and 8 km wide in the year 1415. It then had three churches, one of which stood on Gammel Mandø. Hansen follows here the old topographical description by *Slesvigs Land og Folk*. The island seemed to have belonged to the Earl Schack paa Skakkenborg. Mandø and Koresand together were somewhat smaller but it is still vague if that is what was meant. J.K. Hansen mentioned further no source but Kjærgaard (1924 - pg.48) mentioned Erik Pontoppidan's atlas of Denmark (1859).

Pontoppidan claims that in 1415 Mandø had three churches. This tale came from the historian Johannes Steenstrup who wrote the Article *Danmarks Tab til Havet i den historiske Tid* in the Historisk Tidskrift. According to Steenstrup, Mandø had only one church in 1340, however the tale goes that there were once three churches. The source who Pontoppidan based this on was Caspar Danckwert.

Caspar Danckwert wrote in his *Neu Landesbeschreibung der zwei Herzogtümer Schleswig und Holstein Husum* (1652) that there were once four churches on Mandø and Kore sand: Wester chapel, Süder chapel, Castrup chapel and the Catrine chapel. This information was repeated later on by C.P.Hansen in the *Chronik der friesischen Utlande.*

Kjærgaard (1924 - pg.48) emphasized that these were unreliable sources and that none of these chapels had ever existed. He noticed that *Ribe Oldemoders Kirkeliste* spoke about only one church.
Danckwert (1652) also claimed that Mandø was much larger than 15 x 8 kilometres in 1415. Perhaps Koresand was used for grazing cattle or did it even belong to the island altogether?

Whether the churches existed or not is a subject of interesting discussion. Perhaps the problem lies in how one defines a church. A large stone Parish church is a church but a simple chapel nearby a farm or upon a wharf is also a church. It is yet unclear if a chapel near a farm was actually considered a church at all, according to the *Ribe Oldemoders Kirkeliste* (1325).

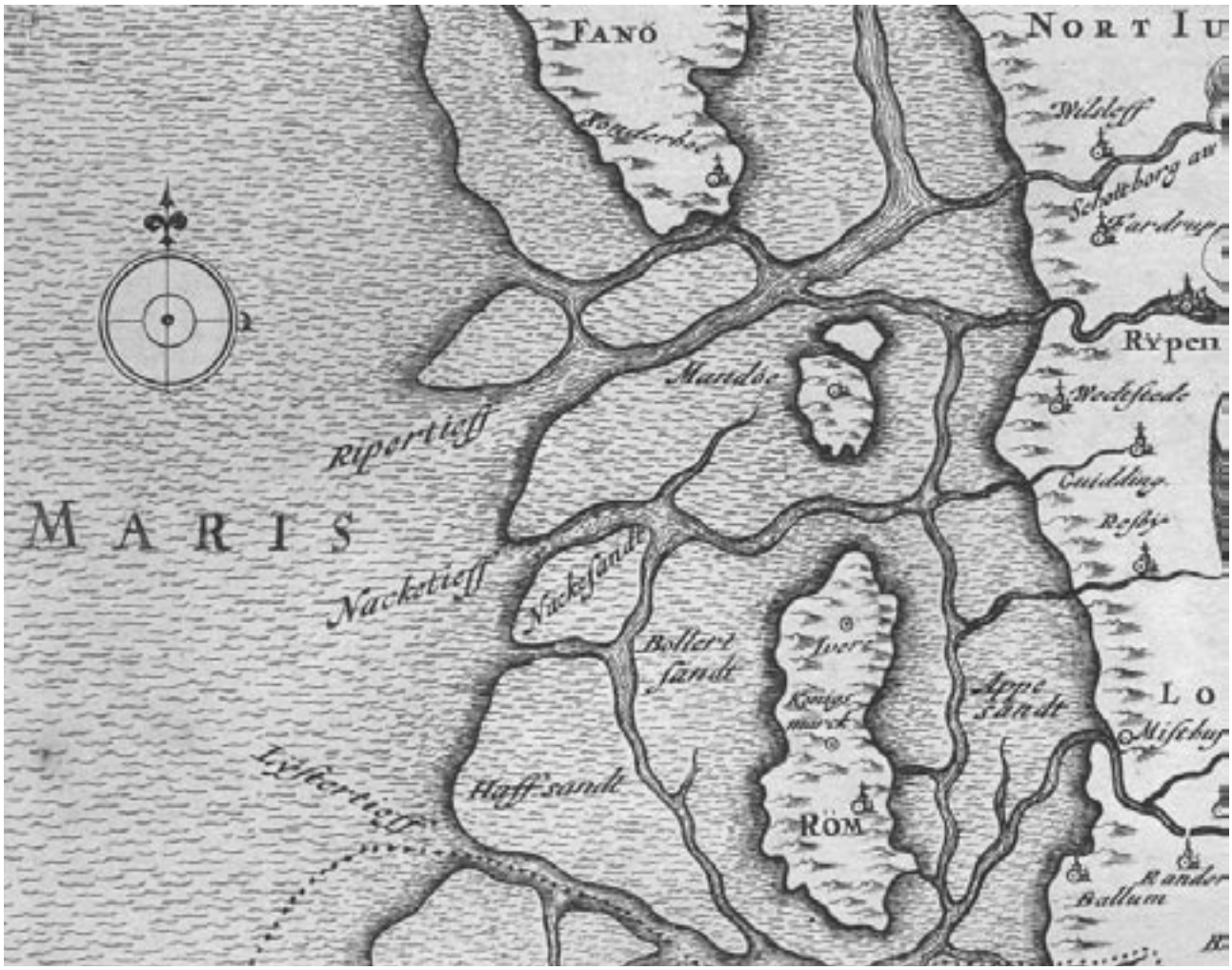
1455
In a document from Christiaan the First it was mentioned that the beaches from Mandø to List were used by the citizens of Ribe for ship landings.

1478
The Skipper's Guild in Ribe was set up at the Saint Sørens-lodge. It had eighty guild members made up partly of skippers and partly of fishermen, says the historian Kinch. Kjærgaard (1924 - pg. 52)

1532
On November 2nd the cloisters of Ribe were flooded. The monks said one could collect fish from the floors of the cloister once the water receded. Kinch (book 1, pg. 488)

1536
In this year the reformation came to Denmark. The period of the Middle Ages and the Catholic church came to an end. It has been reported that in that same year a letter was written by the King demanding that the fishermen of Mandø and other Fiskelejer (landings) donate a part of their catch to the hospital in Ribe. Another letter from the King in the year 1578 also covers this subject.

Newe Landtcarte Von dem Hertzogthumbe Schleswieg (1651)
Johannes Mejer (1606-1674)



1537

In the *Riberhus Slots Regnskabsbog* for 1537 it says that ten men from Mandø each had to pay 100 whiting (1000 whiting in total) to the King as compensation for letting them graze their sheep on marshlands owned by him.

• Svend Nielsen	no longer listed 1562-63
• Mikkel Jespersen	no longer listed 1562-63
• Mads Jespersen	no longer listed 1562-63
• Peter Nissen	no longer listed 1562-63
• Thorbernd Jensen	no longer listed 1562-63
• Anders Knudsen	no longer listed 1562-63
• Anders Espernsen	no longer listed 1562-63
• Ebbe Nielsen	no longer listed 1562-63
• Severin Ucksen	no longer listed 1562-63
• Mads Jensen	lived and fled from the flood

Moreover, six men of Mandø each had to compensate the King 1000 fish and 24 codfish for fishing rights (6144 fish in total).

• Sønnike Nielsen	lived, remained after flood
• Anders Bentsen	no longer listed 1562-63
• Anders Espernsen	unknown
• Niels Nissen	no longer listed 1562-63
• Mikkel Jespersen	unknown
• Mads Jensen	unknown

There was a receipt in which 13 names of men on Mandø were written down. Ten lived from agriculture and six mainly from the fisheries. Three men had therefore a double profession, both farmer and fisherman. Combining farming with fishing for whiting and flatfish was convenient. With lines they caught whiting, codfish, plaice and dab from October to March in the sea at Mandø and in the summertime they worked and ploughed the land. The sheep on the marshland and the cows on the Englodder needed little attention from humans. Probably the women dealt with the small farms while the men were at sea fishing.
The proceeds from the fishery were in that time higher than those from farming, according to Zenius (1983).
It was in that period that each boat had to compensate the King with 1000 fish for the rights to fish, thus Kjærgaard (1924 - pg.62,63)
A striking detail is that the payment had not been written down in Danish but in Plat-German.
The German word 'schap' was written instead of the Danish word 'Faar'.

1548

This was the very first year that landings were reported on Mandø. They called a landing a 'Fiskerleje', although originally it was called a 'Fiskeleje'.
In the regulations set out by Christian the Third the following landings were mentioned:

'Mandøø faanøø Sønderhoffuit, Langelegh
Westersiide Nyeminde oc paa all andre slige
Fiskerleyer under westerlandsiide vdj Riber...'

Mainly whiting and flatfish were caught in the sea nearby Mandø. Supposedly the daily catch was brought directly to Ribe. At home they dried the unsold fish on racks. Initially mostly whiting were caught but later on in the seventeenth century more flatfish were brought in. The fishing boats that were mentioned in this document were called; 'baadene', `fisk bode' or `skude', according to Kjærgaard (1924 - pg.53).

1558 The Flood

The flood of 1558 washed away the first stone churches and the village Mandø by. The 60 inhabitants on the island saved themselves on the rooftops of their farmhouses. After the flood the northern island was no longer inhabited. One calls the island 'Gammel' Mandø, Old Mandø in English. Eight families are known to have moved to Sønderho on Fanø, eight others stayed and relocated to the southern island of Mandø where they built the new village. There are no reports concerning other women and children survivors. The name of the flooded village 'Gammel Mandø' appeared for the very first time in the *Neuses Landesbeschreidung der zwei Herzogtümer Schleswig und Holstein* (1672) from Danckwert. He said that Gammel Mandø was swallowed up in the flood of 1558. This date was taken over in the *Danish atlas* (1769) by Erik Pontoppidan.
Nowadays one assumes that the Flood of 1558 was fatal for the old village of Mandø. Danckwerth mentioned a population of approximately 130 adults and children. Other sources later on spoke about 60 people living at the time of the flood on Mandø.
Also H. Weitemeyer (1911) said specifically that 18 fireplaces had been washed away. If it were 130 inhabitants that would average 7.2 persons per household but with 60 inhabitants there would be approximately 3.3 persons per household, which seems more likely. Here ends the history of the first village of Mandø. To give a picture of life after the flood, there are still a number of reports about the island to discuss, especially the period between the two great floods of 1558 and 1634. After the 'Store Manddrukning' in 1634, the population rapidly began to increase.

Long houses, reconstruction in Ribe Vikinge Center
Photos: Leo Oorschot

Excursion 1 Bricks found on Mandø

Rubble used as pavement on the roads outside Gammel Mandø

Outside the dunes of Gammel Mandø we found rubble used for paving roads. Between the rubble we found many bricks dating back from several different periods. Most probably there are even more bricks buried deeper in the sand. The most important find was piece of tuff-stone. This material was probably used to building the old church. We found soft and damaged bricks with mediaeval sizes. One brick, format 4, is much harder and it has a better quality.

Format 1 General, Modern Danish bricks seizes

Length	Width	Height
21 cm	10 cm	5 a 5,5 cm

Format 2

Length	Width	Height
24.5 cm ± 2	11.5 cm ± 0.5	6.5 cm ± 1

Format 3

Length	Width	Height
26 cm ± 2	12.5 cm ± 0.5	7 cm ± 1

Format 4

Length	Width	Height
? cm	14.5 cm	8.5 cm

Ny Mandøby - Mandø Kro

Length	Width	Height
23.5 cm ± 1.5	10.5 cm ± 1	6 cm ± 1

Built after 1884. I measured the largest bricks from an old piece of brickwork near the entrance and around the corner found about one metre above ground level. The quality of the bricks is poor and they have irregular forms. Some bricks were probably baked too hot so they are dark and deformed. Others were not baked enough and they are soft and orange. Bricks were produced on the building site.

Ny Mandøby - Peder With Hus

Length	Width	Height
23.5 cm ± 1.5	10.5 cm ± 1	7 cm ± 1

Built in 1718. I measured the largest bricks from an old piece of brickwork on the south side. The quality of the bricks is the same as at Mandø Kro.

Ny Mandøby - Church

Length	Width	Height
23.5 cm	10.5 cm ± 0,5	6 cm

Built in 1639. The first impression these bricks give is that they have a better quality than those at Mandø Kro en Peder With Hus.

Medeaevel Ribe - Dom of Ribe

Length	Width	Height
28 cm	13 cm	9 cm

Medeaevel Ribe - Den Gammel Arrest

Length	Width	Height
25 a 26 cm	12 a 13 cm	7 a 8 cm

Medeaevel Ribe - Catharina Klooster

Length	Width	Height
27 a 28 cm	12 a 13 cm	7.5 cm

Medeaevel Ribe - Hotel Dagmar - 1581

Width	Length	Height
13 cm	27 a 28 cm	8 cm

Seventeenth century bricks seizes from Ribe. Patchwork of bricks from several periods set in a wooden framework. A lot of the bricks are mediaeval. Here are the measurements of the newer bricks in this patchwork.

Seventeeth century Ribe - Grønnegade 1666

Length	Width	Height
24 cm	11 a 12 cm	5.5 a 6 cm

Seventeeth century Ribe - Weis Stue

Length	Width	Height
24 cm	11 cm	5.5 cm

Seventeeth century Ribe - Sortebrøgade - 1681

Length	Width	Height
24 cm	11 cm	5.5 cm

Seventeeth century Ribe - Fiskergade

Length	Width	Height
23 cm	? cm	5 cm

Medeaevel Ribe? - Rathus – 1709

Length	Width	Height
28 cm	13 cm	7.5 cm

Seem kirke (east of Ribe)

Bricks in the middle part and the absis.

Length	Width	Height
26 cm ± 2	13 cm ± 0.5	8.5 cm ± 0.5

Bricks on some spots on the south facade

Length	Width	Height
25 cm ± 1	11 cm ± 0.5	6.4 cm ± 0.5
Length	Width	Height
23.5 cm ± 1	?	5,.2 cm ± 0.5

Bricks format 2 found before the dunes of Gammel Mandø
Photo: Leo Oorschot

The bricks in the photographs of different sizes and qualities were once used as pavement on a path leading to the dunes of Gammel Mandø. We compared these bricks with bricks from buildings of Ny Mandøby, Ribe and Seem Kirke and concluded that some of them are even perhaps mediaeval (format 3 and 4). They have the same size as bricks from Seem Kirke and some buildings in Ribe. Their quality is poor. Sometimes they contain little shells and the material is soft.

You can see sometimes that they have been reused because they have not been cleaned properly and there are stucco remains underneath the mortar. the bricks were probably produced in field ovens right on the building sites. We also found a little piece of tuff-stone and one could see an ash layer in the material. It is likely that the bricks of the old church were used for new buildings or pavement. Some sources mention holes in the dunes and dikes which were filled with rubble.

Bricks found before the dunes of Gammel Mandø

above left Brick format 3
under left Brick format 4 brick + tuff-stone
above right Brick format 2

Photo: Leo Oorschot

Whiting

Excursion 2 Skude

Mandø was in 1537 the landing place for six fishing boats. ‘Skude’ is the common word for a fishing boat. The Danish word ‘skude’ means ‘schuit’ in Dutch and ‘barge’ in English. A skude usually had two crew members. Kjærgaard (1924 - pg. 56)
A skude probably looked like the Blankenbergse Scute Sint Pieter or perhaps like a Pink or Pinck, a type of fishing boat used along the coast of South Holland. The Pink was first mentioned around 1558 and was called ‘schuiten van de kust’. They brought fresh herring to the cities of Great Britain and the Netherlands on these vessels. With a Pink it was possible to sail from the Netherlands to England. These boat types had a flat hull, two swords and they were rather broad with an obtuse bow and rear. By their form they were easily dragged up onto the beach. A Pink was approximately 10 to 11 metres long and 3.5 a 4 metres wide.
The hull was made of broad oak planks (clapboards) which were nailed together. Generally they had one mast with a simple square-shaped sail. Later on the boats also had small mizzen masts while it is thought that the ships perhaps had spritsails.
A skude is by definition an open boat. The Pink had a well in the middle for storing the whiting and flatfish catches. In the afterdeck was a storeroom for food. Some boats had a galley in the forward deck, especially if the boat made longer voyages.

Sources that give information concerning these types of boats are:

Website about ‘vzw De Scute’
http://www.descute.be

Website about ‘De Egmonder Pinck’
http://www.pinck.nl

Website on the history of ship types
http://www.vaartips.nl

Blankenbergse Scute
‘Sint Pieter’
Photo: vzw De Scute

DE VOORNAAMSTE KENMERKEN
VAN DE SCUTE

CARACTERISTIQUES PRINCIPALES
DU SCUTE

LENGTE ROMP : LONGUEUR COQUE :	12,5 M
GROOTSTE BREEDTE : MAÎTRE BAU :	4,80 M
DIEPGANG · TIRANT D'EAU :	0.40 - 0.50 M
SPANTEN · BREEDTE × DIKTE : MEMBRURES LARG. × EPAIS. :	0.18 × 0,20 M
AANTAL - NOMBRE :	24
ZWAARDEN - DERIVES :	3.90 × 1.45 M
GEWICHT · POIDS :	200 Kg
ROER - SAFRAN · GEWICHT · POIDS :	150 Kg

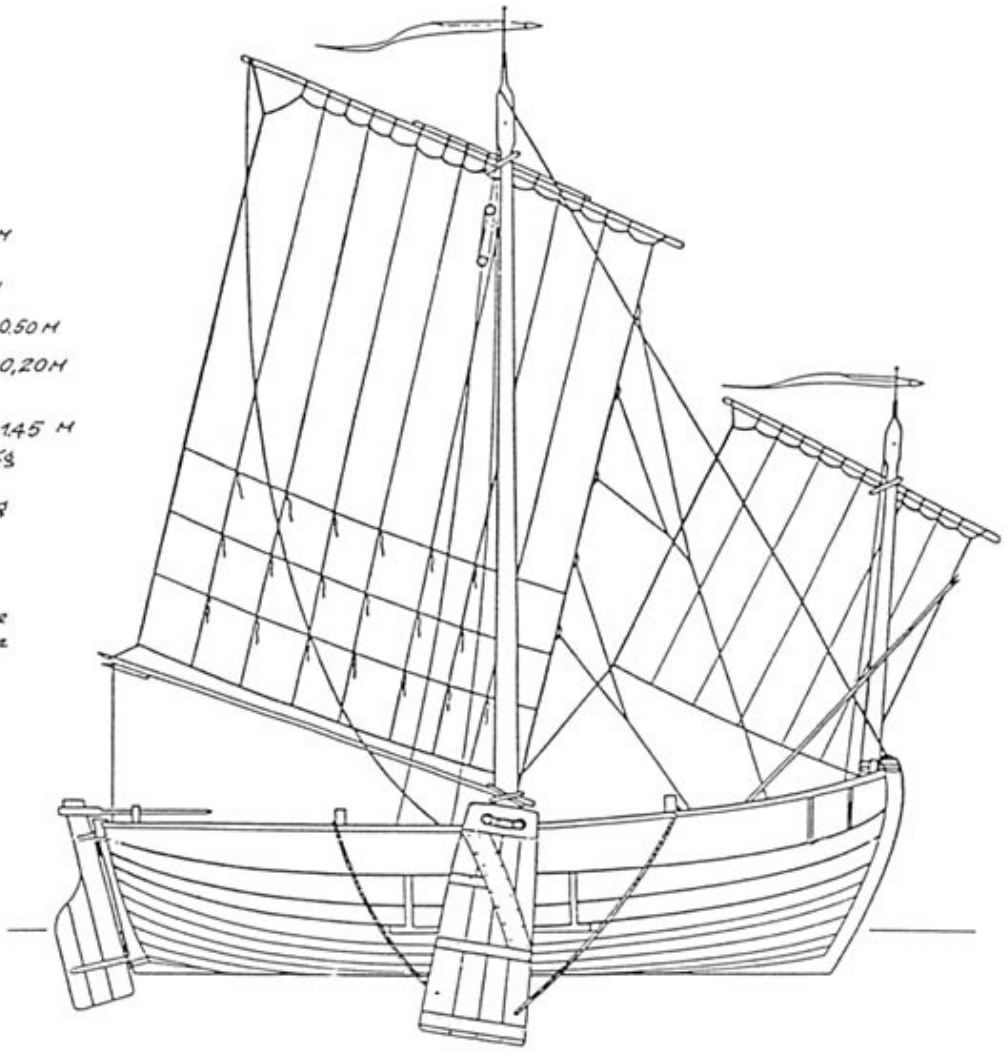
ZEILOPPERVLAK
SURFACE VOILES

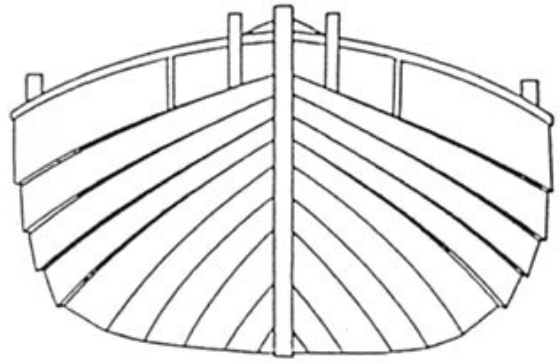
GROOTZEIL - GRAND VOILE :	56 M²
BEZAAN - MISAINE :	24 M²
MAST - MAT LENGTE - LONG. :	13 M
BEZAANMAST LENGTE : MAT DE MISAINE LONG. :	7 M

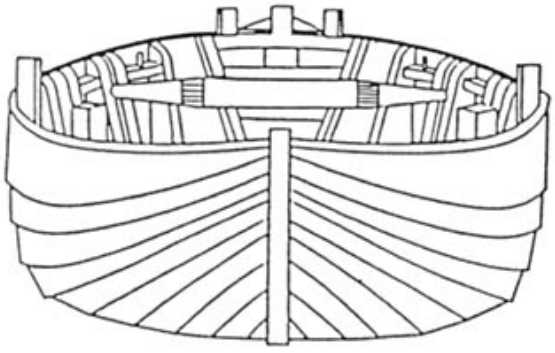
ROMP : EIKENHOUT
COQUE : CHÊNE

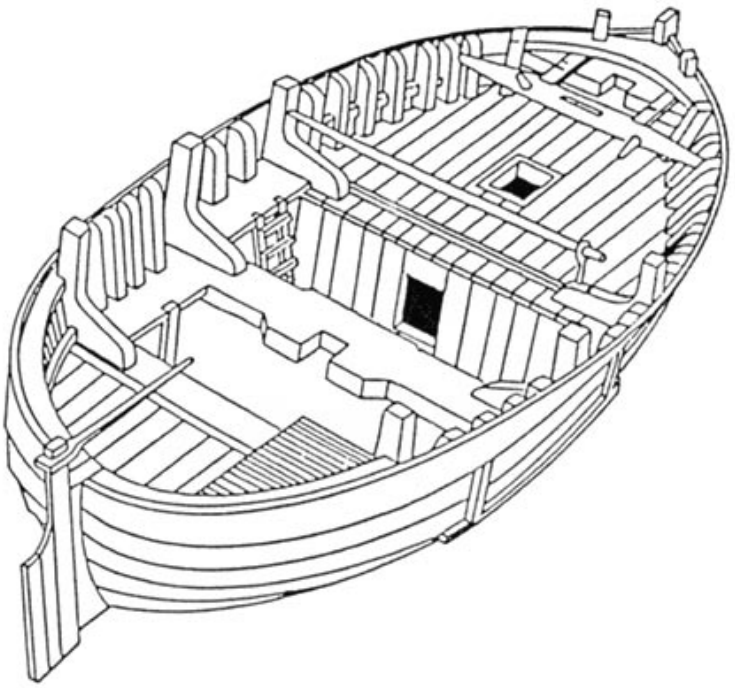
GEWICHT TOTAAL : POIDS TOTAL : ± 20T.

LOGGER GETUIGD
GREEMENT DE LOUGRE

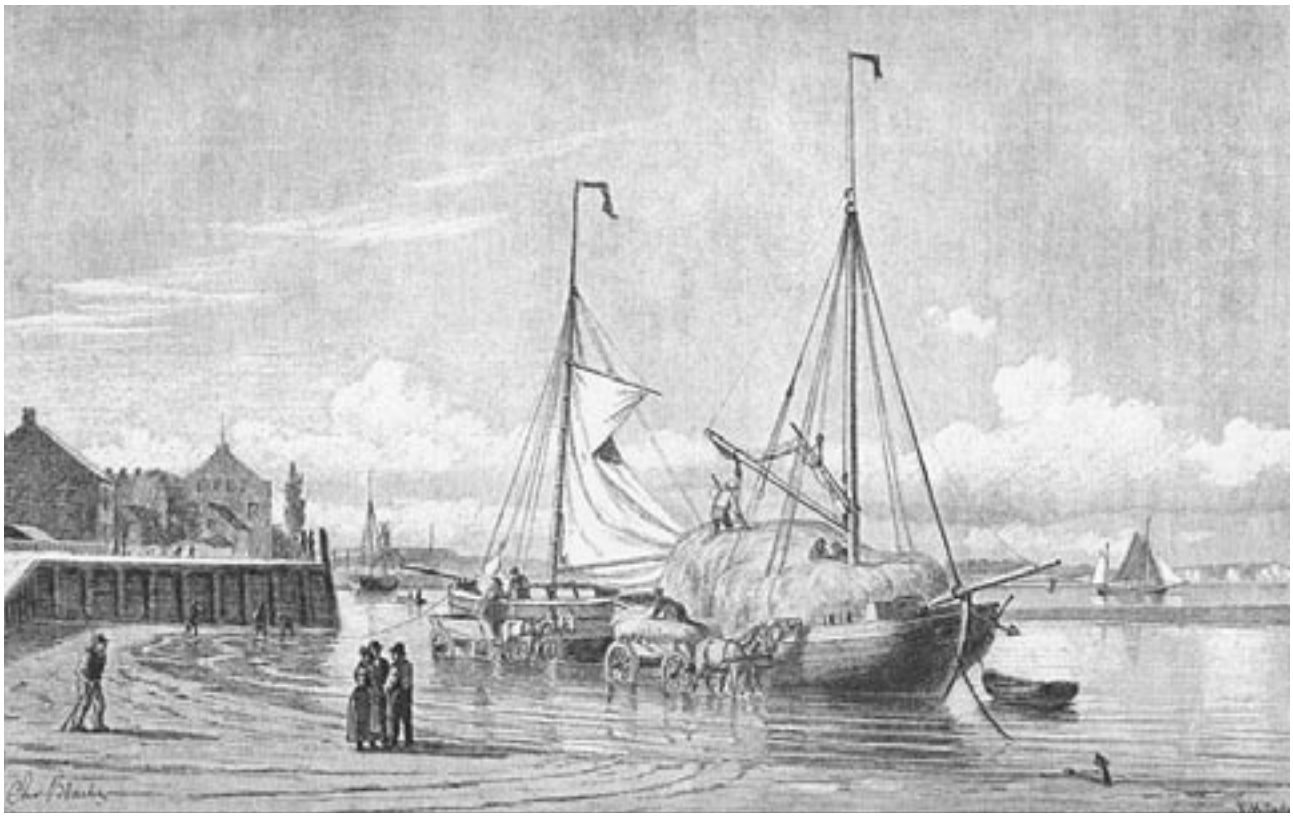








Blankenbergse Scute
'Sint Pieter'
Source: vzw De Scute



Above: Hoebaade from Nordby
Drawing by Christian Blache 1887
Source: ?

Below: A landing on the beach of Fanø.
Litografy after C. Frederik Sørensen 1856
Source: ?

Karen of Mandø
photo: Leo Oorschot

The ship Karen of Mandø was built in Esbjerg in the year 1924. The first owner was Niels P. Lindberg from the island Mandø. In 1929 Knud Hansen bought the ship from him and became the second skipper.
It was usually anchored on Karens-slunde or Kahnes-slunde and for many years it was mainly used for transport between Mandø and the mainland.

In 1936 it brought tools and machines for the dike builders on Mandø. The ship was also used for fishing mussels (skiller) on the Skilbank. During WWII stranded English and American pilots were brought to Esbjerg.
After the war the Karen of Mandø transported islanders moving back to the mainland to live.
Source: Mandø Posten 1971 p.180-181

Karen of Mandø
photo: Leo Oorschot

PART 4 POST FLOOD ERA OF MANDØ

Between the floods of 1558 and 1634

1562-63

In *Ribershus Slots Jordebog* (1562-63) a report was made about a tax which was paid by the land users of Ny Mandø. This was just after the flood.

• Sønnik Nielsen	22 Skilling Lived originally on Mandø, remained after the flood
• Gregers Nielsen	22 Skilling. New to Mandø. Presumebly the son of Niels Nissen on a 1537 list
• Severin Jenvoldsen	22 Skilling. New to Mandø
• Sønnik Nielsen	22 Skilling
• Anders Ebbesen	22 Skilling. New to Mandø. Presumebly the son of Ebbe Nielsen on the 1537 list.
• Niels Nielsen	22 Skilling. New to Mandø. Presumebly the son of Niels Nissen on a 1537 list
• Gregers Nielsen	21 Skilling
• Thomas Petersen	21 Skilling. New to Mandø. Presumebly the son of Peter Nissen on a 1537 list
• Anders Bundesen	22 Skilling. New to Mandø.
• Ib Nielsen	22 Skilling. New to Mandø. Presumebly the son of Niels Nissen on a 1537 list
• Anders Bundesen	22 Skilling. New to Mandø.

The following men escaped after the flood storm of 1558 to Sønderhovet but owned the hayland on Mandøø Høelade.

• Peder Thomsen	2 Mk	New on Mandø
• Mikkel Jensen	2 Mk	New on Mandø
• Jon Thomson	2 Mk	New on Mandø
• Niels Jessen	2 Mk	New on Mandø
• Peder Eskildsen	2 Mk	New on Mandø
• Bertel Tygesen	2 Mk	New on Mandø
• Jes Tygesen	4 Mk	New on Mandø
• Mads Jensen	2 Mk	Originally lived on Mandø but moved after the flood

It was mentioned in the Jordebog that eight men of Mandø escaped to Sønderho after the flood of 1558 and eight landowners remained. One knows from tales that the population diminished by half due to the flood.
The tales also say that eight men stayed on the island after the flood of 1558 and rebuilt the village Ny Mandø.

Kjærgaard (1924 – page 66) compared the list of the Jordebog in 1537 (before the flood of 1558) with that of 1562-63 (after the 1558 flood).
He drew the conclusion that old Sønnik Nielsen and a number of sons of drowned islanders belonged to these eight men. They were probably:

- Gregers Nielsen
- Anders Ebbesen
- Niels Nielsen
- Thomas Petersen
- Ib Nielsen

There were two other survivors but their names are unknown. It is unclear what happened to their families.

1571

The bishop M. Peder Jensen Hegelund of Ribe visited Mandø often. He wrote regularly about Mandø in his diary in the period between 1565 and 1613. He was born in 1542, the son of the Mayor of Ribe. He was initially a priest at the cathedral and bishop from 1595 to 1614. On April 21, 1571 nine Everts 'Effuer' went missing at sea, each with 12 hands on board. Kjærgaard also called them Fiskerbaade.
These were boats with smaller boats on top of their decks, comparable with Dutch and German Everts.
That night altogether 108 men drowned. The bishop mentioned no village landing from where these ships might have originated. In any case, they rather large fishing boats with twelve men on board and small boats on deck.

1578

In a letter from King Frederik the 2nd, the fishermen at the Fiskelejerne (landings) were ordered to give a portion of the day's catch of fish to the hospital of Ribe. The fishermen were: List, Sønder-Rømø, Manø, Fanø, Langelegh, Sønderside, Vesterside, Nyminde, and Hug og Oregab.

1578

'22 Maj. Fick ieg saltfisk hiem fra Mandø - 38 snese huilling, smo oc store.'
Peder Hegelunds Almanakoptegnelser, band 1 - p.128

1579

Bishop Hegelund's diary describes how the Plague broke out in September in Ribe, possibly reaching all the way to Mandø.

1581-82

The historian Kinch (book 2, pg. 861) described a document from the *Riberhus Lensregnskab* that was used for keeping tax records. Recorded on this document was 'Manø havde 5 Skibe'. The ship owners had paid 1200 whiting except for the beach guard, Hans Sønniksen. The ships belonged to:

- Hans Sønniksen
- Lambert Andersen
- Hans Ibsen
- Gregers Nielsen
- Gregers Sunniksen

Moreover, all of 'Mandø Mænd' (farmers) had to pay 11 dried cod fish, 11 thornbacks and 11 x 20 fish bladders (Svømmeblærer) and stomachs altogether. Supposedly at that time there were 11 farmers on Mandø.
In the *Jordebogen for Riberhus Slot* 1581-86 one specifies 11 parcels of ground (Jordlodder) and 10 land owners. Gregers Nielsen had two land parcels. Zenius (1983) spoke about 8 taxpayers.
Kjærgaard (1924 - pg.55) mentioned ships from other landings. Sønderho had 26 ships and Nordby had 14 whiting ships and 6 flatfish ships (Skulleskibe) in that time, some of which were property of the people of Ribe. Whiting was caught with fishing lines in those days.

Landings and ships mentioned in the *Riberhus Lensregnskab* 1581-82

- Mandø 5 ships
- Sønderho 26 ships
- Nordby 14 whiting ships
- Sønderho, Norby 6 flatfish ships (5 ships from people of Ribe)
- Langleg 5 line ships (whiting ships)
- Sønderside 8 whiting ships
- Vesterside 25 flatfish ships
- Huge 7 ships, codfish (from the villages Lönne, Nebel and Houstrup)

1585

'21 Maj. Jeg tog til Mandø for at købe havfisk'
Peder Hegelunds Almanakoptegnelser, band 1 - p.168

1586

'2 Juni. Vaar ieg offuer paa Mand Øe.'
Peder Hegelunds Almanakoptegnelser, band 1 - p.175

1587

'23 Maj. Foer ieg til Mand Øe, til at købe fisk'
Peder Hegelunds Almanakoptegnelser, band 1 - p.185

1589

'27 Oktober. Forgickes ved Mand-ø en skude met to fattige mend: Christen Bremss oc Seffren Ibssøn'
Bishop Hegelunds wrote in his diary on October 27th that a Skude (barge) from Mandø was lost with two men aboard:

- Christen Bremss
- Seffren Ibssøn

Peder Hegelunds Almanakoptegnelser, band 1 - p.204

1593

In bishop Hegelunds' almanac is mentioned an enormous flood on Christmas Eve. The streets from Ribe turned into canals. There was enormous damage.

1603

Another flood at Ribe was mentioned in the almanac of bishop Hegelund. On Sunday April 3rd a strong south-west storm flooded the city for 4 hours.

1606

Zenius (1983) referred to ten farmers and some poor fishermen inhabiting Mandø.

1616

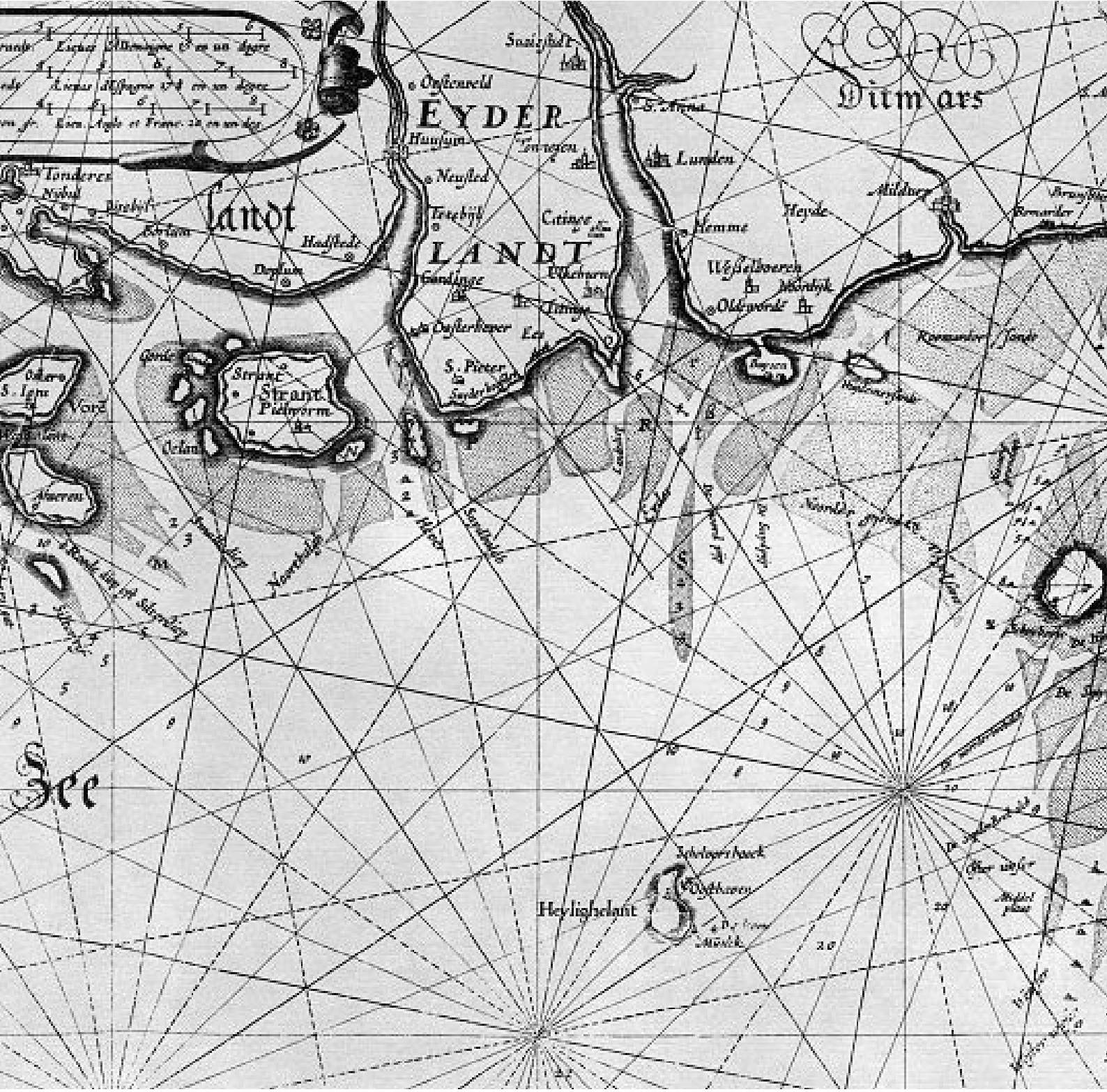
Peter Adler wrote in *Bidrag til Skildring af Byen Ribe i forrige Aarhundrede, Ribe Cathedralskoles Indbydelsesskrift* (1842) that Ribe paid 51 daalders, 1 mark and 12 skilling for placing ship markings (merkstokken - Riskaber) on 'Korre sand' along the 'Gammel Riber Dyb' sea. An interesting point is that the sand plate 'Korre sand' was actually reported for the very first time in this document. Furthermore Adler said that barrels (Søtønderne) had been laid on the 'Ny Riber Dyb' and he also made mention of 'Gammel Riber Dyb' (Juvredyb) and 'Ny Riber Dyb ' (Knudedyb) Kjærgaard (1924 - pg.50).

1624

In the winter of 1624-25 there were several floods. water entered in the houses in Ribe and caused lots of damage.

Map of Willem Janszoon Blaeu from 1612
(Kort-nr-21-1239)
with a description how to sail in the Knudedyb.

1862 Fano Nordsobad
Litografy: ?
Source: Illustreret Tidende 25 may



Excursion 3

To sayle into Knuyts or Ryper Chanel

From the Haven of List to Knuyts or Ryper chanel the course is north & south, about 7 leagues: but Ryper deepe and Holie land lye distant north and somewhat southerly, and south and somewhat easterly.

To sayle into Knuyts or Ryper chanel, when you come out of the south, then runne by the flat of Rim (Romø) and Manu (Mandø), about to the south ende of Phanu (Fanø), called South head or South point, then you shall two capes or beacons upon a drie sand stand a little southward from South head, bring these beacons a little before each other, than is, the innermost or longest a little, or somewhat northerly from you, let them stand so, and there you shall find the uttermost tonne, which lyeth at four fathome on the north land, which you must leave on baghborde, & goe to the second tonne, e. and by s. and when you are by the first tonne, then you may see the second yet they lye a great waie one from the other, you must leave the second tonne also on baghborde, keep along by the south land till, you be past the beacons, for there shooteth off a Flat from the uttermost beacon to the second tonne, which you must shunne somewhat. When you are past the beacons, then loofe because of the Sand whereon the beacons stands, and there anckor where you will, for there it is deepe ands shoring or steepe, there you can doe no harme.

The Ryper shippes which come out lye there staying for a winde. In this chanel, for it is narrowe and flat a great waie without; and then when you have gotten that, then you may see both the sides of the land ravle, when the wind bloweth somewhat hard.

But when you come out of the north, then you must runne upon the south ende of Phanu, until you see the beacons aforesaid, and then do as I shewed you before. The Moone being southsouthwest, and northnortheast maketh there a high water.

Source: The Light of Navigation of Willen Janszoon Blaeu, 1612

Store Manddrukning or Great Mandrauck of 1634

The great flood on October 11, 1634 called 'Store Manddrukning' or 'Great Mandrauck' (the great drowning) also had consequences on Mandø, although the specifics are unknown. It could be that the inhabitants of Mandø in that period took refuge in the dunes nearby their new village. There are just no reports from that period to know for sure. However, Bruun thought that it was this flood that washed the old village away. Perhaps the different floods were mixed up in the literature. On that terrible October night about 500 people drowned between Ribe and Tønder. Krageskov (2005) mentioned in particular the villages Misthusum and Sønderside on Skallingen. Eight mounds nearby Romødam at Misthusum were washed away in 1634. These places are now virtually uninhabited. The mounds had been built together with the dike around the 8th and 9th centuries, possibly by Frisian immigrants.

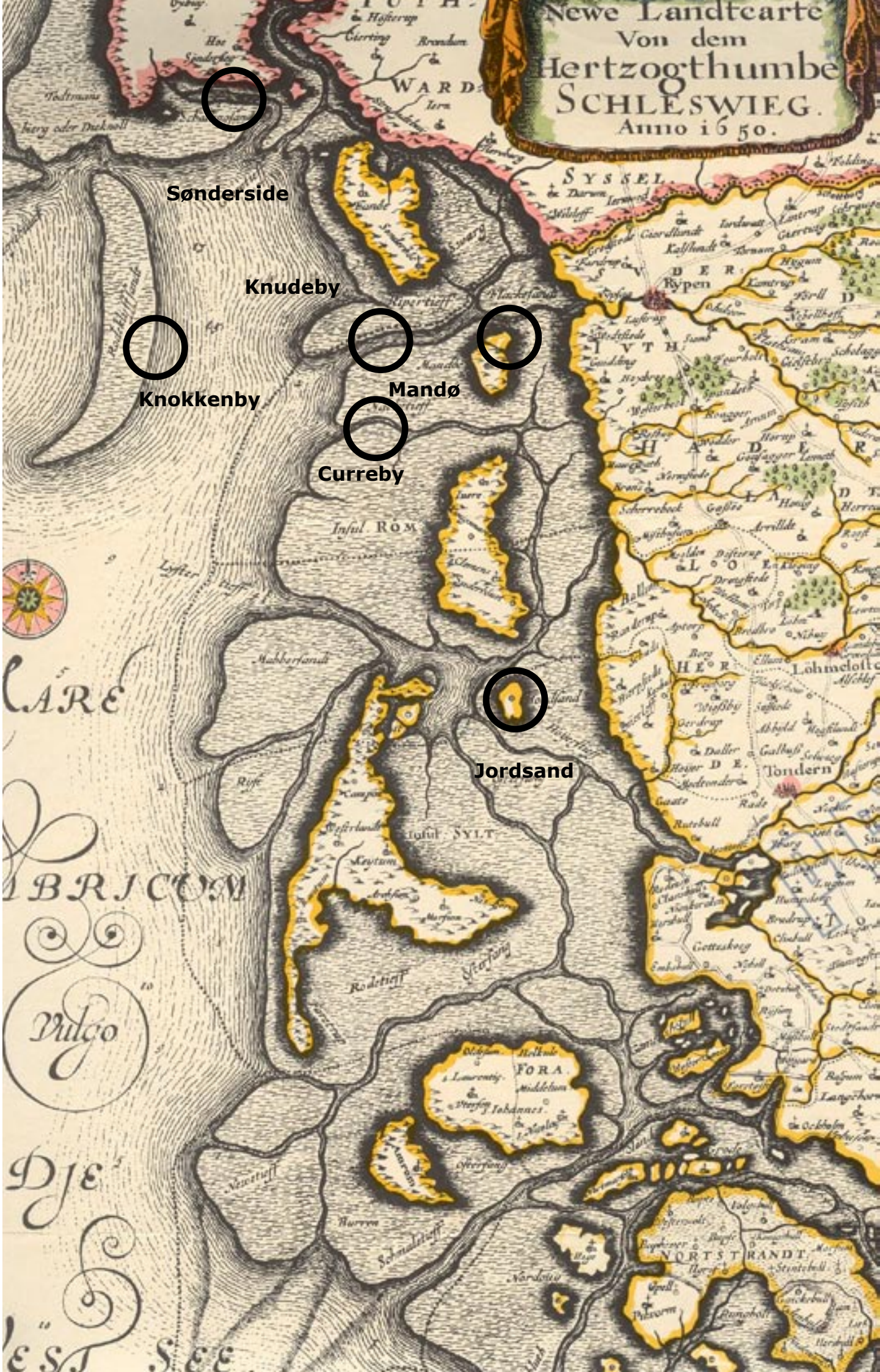
Kjærgaard (1924) and Bruun (1806) each described different villages and forests in the surroundings of Mandø that were washed away by this flood. The descriptions concerned three parishes (Kirkesognes) called Corre by, Knuden and Knokkenby.
Pastor Bruun (1806) spoke about the disappearance of the woods on the wad but he mentioned no sources. Supposedly his information stemmed from tales that went around the island. Kjærgaard (1924) also mentioned these villages and woods but then with a source, an essay in a book by H. Weitemeyer: Om Manø for 150 Aar siden (i Samlinger til jysk historie og Topografi 4th binds Række I (1911). Herein are printed official bulletins made by priests of Mandø to the bishop Jørgen Carstens Bloch of Ribe.
There was a message on February 8, 1768 from Hans Bertram Sønnichsen Fogtmann, priest on Mandø from 1766-74. He described Skogym, Knokkenby, Knuden and Corre by. Fogtmann gave the positions of these flooded settlements on the sand islands.

right
Newe Landtcarte Von dem Hertzogthumbe Schleswieg (1650) of Johannes Mejer (1606-1674)
Gammel Mandø with two flooded settlements Sønderside and Jordsand. Positions of old flooded settlements according to Pastor Hans Bertram Sønnichsen Fogtmann (Priest on Mandø from 1766-74) in his letter to Bishop Jørgen Carstens Bloch of Ribe. Fogtmann mentioned: Curreby, Knudeby, Knokkenby.

CORRE BY
Kjærgaard once mentioned the settlement Corre By which lies on Curresand. The priest Bruun spoke about the settlement Kurveby on Kurvesand. Bruun said that present inhabitants called this sand island Kjørresand. The lost settlement supposedly was on Koresand, 1 ½ old Danish miles southwest of Mandøby. Because the settlement was on a rise it was not flooded by the daily tides but it did get washed away in the flood of 1634. Large populations of birds live there now to breed and lay their eggs. The original report about this settlement came from the priest Fogtmann, told Kjærgaard.

KNUDEN
Knuden (Bruun 1806) or Knudeby is a settlement somewhere between Mandø and Fanø. In former days the canal between the islands was a small stream; Mandø and Fanø were virtually connected to each other at the time. Here along the Knudendyb was the settlement Knuden. The enormous water currents which flowed through the Knudenbyd had erased any traces once and for all. Knude means knot, bump or rise. Even now many names on the wad refer to Knude, another village washed away in the flood of 1634.

KNOKKENBY
Bruun (1806 - pg.129) wrote about the lost settlement of Knokkebye (knokken = bones), far west of Mandø in the sea. In the time of Bruun it had already long disappeared in the waves and Bruun never mentioned any sources or eyewitnesses. Knok is, according to Kjærgaard (1924 - pg.62), a sand island where an old settlement stood called Knokkenby. He refers to pastor Fogtmann as his source. Knokkenby lies four old Danish miles west of Mandø. Fishermen supposedly found tree roots originating from there in their fishnets. According to an old legend human remains were also found.
From time to time the sand island would appear above water. It is interesting that on the map of Johannes Mejer (1650) a sand plate called Rodeliffsandt is visible on that spot. On later maps the sand plate is gone. According to the legend the settlement was washed away in 1416. Others claim that the settlement had washed away in 1634. Using old maps the distance calculated between Mandø by and Ribe (church to church as the crow flies) is exactly 2 old Danish miles. See the map of Johannes Mejer where the most likely positions of the settlements are indicated.


Newe Landtcarte
Von dem
Hertzogthumbe
SCHLESWIEG.
Anno 1650.
Sønderside
Knudeby
Knokkenby
Mandø
Curreby
Jordsand

SKOGUM

Fogtmann, priest on Mandø from 1766-74 (Kjærgaard 1924 - pg.62) mentioned a notebook kept by Brasen, priest of Norbye on Fanø, as a source about the existence of a large pinewood forest (Fyrskov) on Gammel Mandø called Skogum Skov. Nowadays this place is called Skogum and many remains of the roots from these pine trees can be found on the wad (Fyr = Pinus sylvestris or pitch-pine). On the map of Johannes Mejer (1543) the place north of Gammel Mandø was called 'Scogum sandt'. The book Ribes skibsfart efter 1850 mentions Skjögum and Skøgum on the maps. This spot lies a couple of hundred metres outside the lock of Ribe on the wad. Bruun said that root remains had been found on the wad north of Mandø. He refers to remains of roots of an enormous pinewood forest at a place called Skøgum. Currently, where the Ribe Å finds its way to the wad, there is a spot off the dike on the wad which is still called Skogum. Skov means forest in Danish. The priest Hendrik Bruun (1806 - pg.130) also spoke about roots of oak trees on Kjørresand or Kurvesand (Koresand). According to a map and descriptions by Danckwerts there was once a large forest on Koresand.

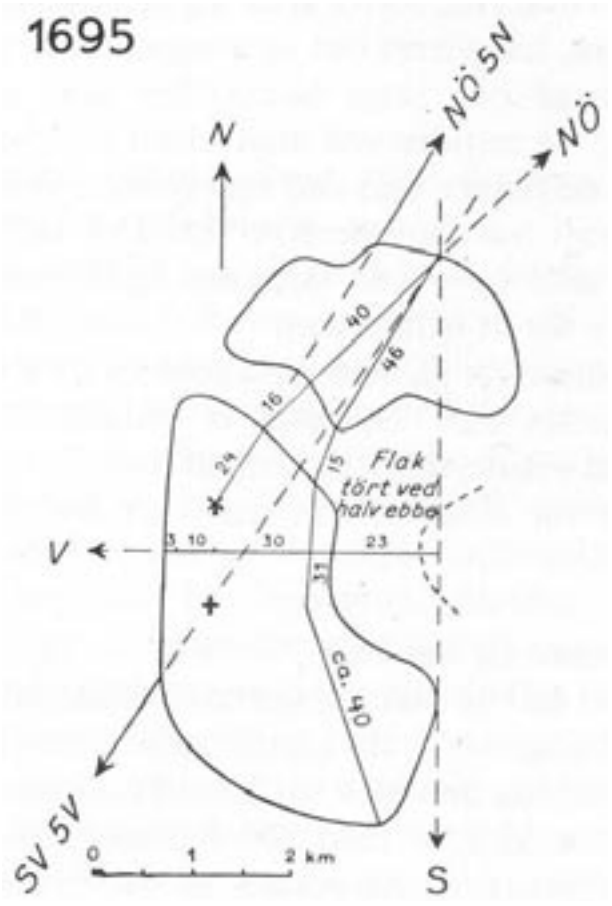
Skoven i havet.
Sandpumperen nr. 5 udfører et stort arbejde, der skal beskytte Mandø imod fremtidige storme. Nr. 5 ligger som en jernfæstning med voldgrave udenom, i det tørre vadehav, en lille kilometer fra strandkanten på Mandø. man kan gå ud til sandpumperen og videre ud i Vadehavet, praktisk talt tørskoet.
Sandpumperen nr. 5 er en alvorlig sag, den lille Mandø-by på øen af samme navn har hidtil kun været nødtørftig beskyttet mod det undertiden voldsomme Vesterhav af et stærkt truet dige fra 1880'erne, og inden der igen kommer storme, skulle diget ved sandpumperens hjælp gerne være modstandsdygtigt nok til, at faren skulle blive betydeligt mindsket. 25.000 kubikmeter havsand til en pris af 4,00 kr. pr. meter skal pumpes ind på forlandet foran der gamle dige, så bølgerne i en storm kan rulle op og miste kraften, inden de når digekronen og ødelægger denne, sætter byen under vand og truer livet på øen.
Dette skete i 1634, da alt liv på øen blev skyllet i havet. Indtil nu har man ikke fundet levn af der sunkne land, men nr. 5 har dog fundet noget; hele træer og masser af tørvejord har undertiden pludselig stoppet hele maskineriet, dette har man undret sig over, da der ikke findes mose på øen, men man har fundet noget, der ligner mose, ca. 30 meter under øens overflade.
Måske stammer træet i udgravningerne fra 1634, man arbejder med den teori, at der har ligger en betydelig skov, mest egetræer, vestpå ude i der nuværende Vadehav, man mener, at vandspejlet for århundreder siden har ligger 80 meter under den nuværende vandhøjde.
From: 'Politikenen' 8 august 1970
Quoted in Mandø Posten 1970-77, page 35

There are marsh-remains of old clay far outside on the wad. If the water is very low and you walk along the tidal trenches that separate Koresand and Mandø Flak, towards the sea, suddenly the stream makes a curve and on the sea sand a thick layer of black clay appears. This clay deposit is roughly west of the village Ny Mandøby, nearby the North Sea and on the side of the Mandø Flak. It is about 30 to 50 metres long and 10 to 20 metres wide. The stream that is flowing along and around this clay deposit is pretty deep. The slope from the clay layer to the water is steep, maybe around 75 degrees and the water flows quicker than on other spots in the tidal trenches. It not possible to see how deep the clay layer is disappearing into the Sejlrende.

KORRESAND & DYB

'Korre sand' was the first variation seen in a name. It appeared in 1616. According to Bruun (1806 - pg.130) Kurvesand was the original name although in local dialect the people called it 'Kjørresand.'
Later on people used names like: 'Korresand', 'Koresand', 'Curresand', 'Curre sand', and 'Chorosand'. The north canal, Knudedyb, also had a couple of old alternative names like 'Ripertief ' and 'Ny Riber Dyb' (wrote Adler in 1616). Likewise, the south canal, Juvre Dyb, was also called 'Nacketieff' or 'Gammel Riberdyb' (Adler, 1616). Mandø lies between Knudedyb in the north and Juvre Dyb in the south. The latter dyb turns into the Østerdyb which runs between Mandø and the mainland. The two main canals are presently 15 and 17 metres deep. Mandø stood in the delta of the Ribe Å at the time before the dike was built. After the dike was built in 1912, the flow of the Ribe Å was directed once and for all to one point in the dike leading out to sea. So came an end to tides overflowing the landscape. The main sailing route would now take place north of Mandø by means of the Knudedyb. On the map of Johannes Meijers are seen the old canals. The north and south canals were obviously linked with each other between Mandø and the glacial hill-islands. This can also be seen on the map of Den sydlige Deel af Danmark ca. 1861. During high tides skilled sailors could take this route to Ribe Å. The direction of the current flows from south to north, Juvre Dyb to Ribe. According to Bruun (1806) and Kjærgaard (1924) the original main waterway of Ribe flowed towards the sea along the south side of Mandø. The current Juvre dyb (the northern dyb) was already there in the Middle Ages, however it did not have the width it has today.

Thorning, priest on Mandø from 1750-60, believed that Fanø and Mandø were once connected or it was said anyway that people could walk over to the other island. The historian Kinch also described this and his is the oldest source reporting it. In the time of Valdemar, the Knudendyb between Fanø and Mandø was already present, however, according to Kjærgaard (1924), it was narrower. The old naming of the dybs would most likely have contributed to the idea that the main sailing route to Ribe was to the south of Mandø.
In the reports two issues are always mixed up which have little to do with one other.
The first question is: to what extent was Mandø connected to Fanø?
The second question is: where did the main sailing route to Ribe lie?
The first question is difficult to examine and the second question has been answered in present documents.
The main sailing route did lie south of Mandø. There are several reasons why. The most important one seems to be that no large ships came into the port of Ribe. They remained on the beach in front of Hviding. In the harbour of Ribe it is impossible to manoeuvre in the strong tides, Ribe Å as well.



Post Flood Era

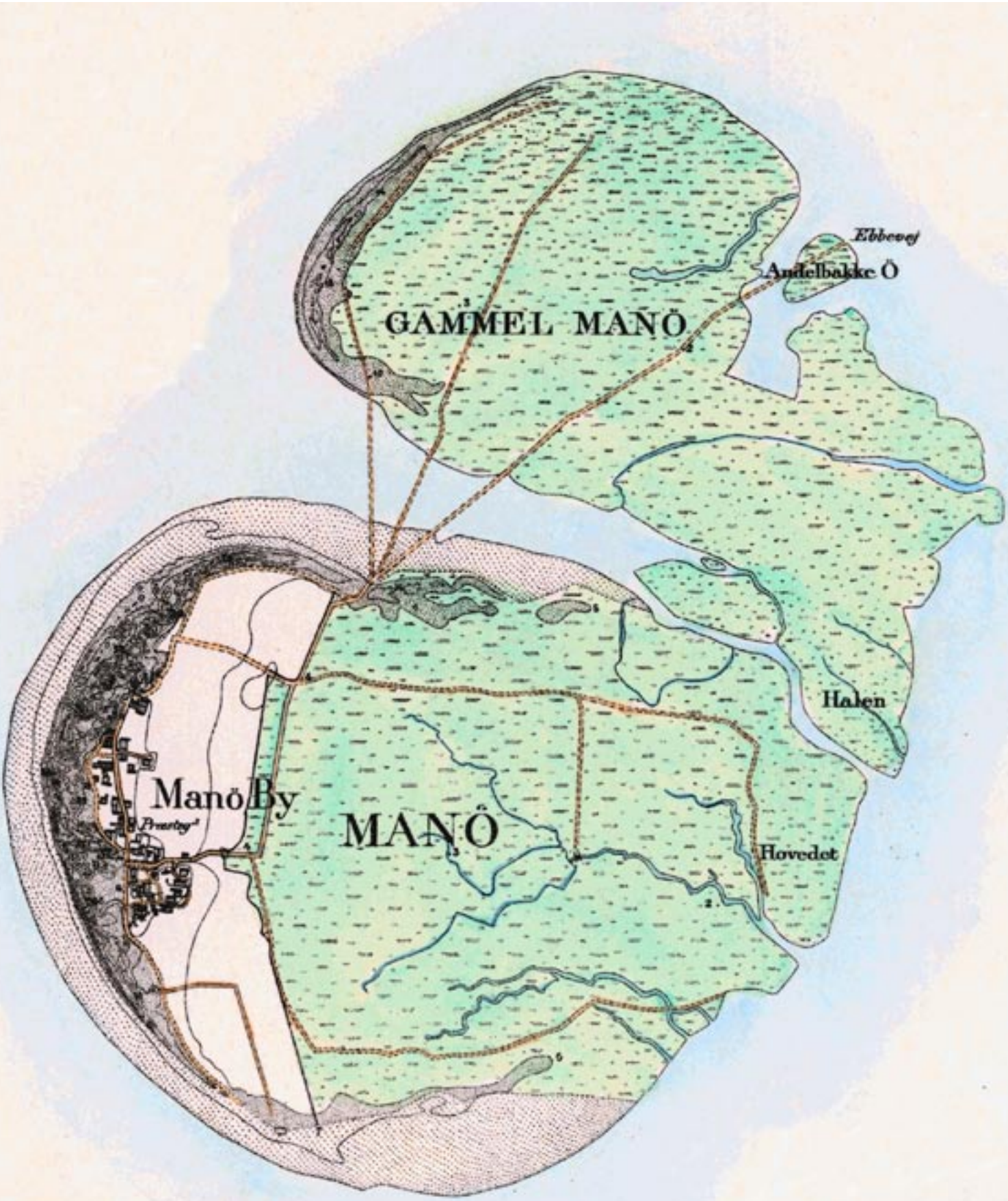
1639
The second stone-built church was constructed around 1639 in the new village of Mandø. In 1727 and 1767 changes were made to parts of the church.
Still, there are some artefacts which could have originated from the old church. For example: the three oak statues and a granite doopfont in the new church are mediaeval and are most likely from the old church. (see page 47)The three old oak wood statues were found in the attic at a later renovation.
According to experts of the National Museum they represent Saint Anna with Maria on her lap, a walking man, and the local Saint Jørgen (referring to the legend of Svendborg). They are nicely cut statues made of driftwood and supposedly they had been on the wad for a long time. Exactly when the statues were found and which protestant priest had hid them is unknown. People on the island once said that they were found on Koresand, however it can't be confirmed anywhere. The fact that all three were found not far away from each other and that one of the statues was of a local saint gives one the idea that they could not have washed ashore from afar. They were probably made somewhere in the area. Now the statues can be seen in the church of Mandø.

1683
On a land register map from 1683 exactly 26 landowners are mentioned for Mandø.

1692
The tax records in the year 1692 stated that there were 13 couples, 1 widow, 1 widower, 5 adult children, and 4 teenage girls, all poor and ill. This totals 37 persons. The record also mentions 15 fireplaces.

1695
The mapmaker and geographer Jens Sørensen visited Mandø in 1695. He counted 26 houses and the priest's farmhouse in the new village. The people were mainly occupied with fishery and agriculture. There were a lot changes going on inside the households at that time. One wonders if Jens Sørensen counted households or buildings. After the flood of 1634 there came a quiet period. Not many floods where noted.

Left
The two islands of Mandø
Map of Jens Sørensens from 1696


Ebbevej
Andelbakke Ø
GAMMEL MANØ
Halen
Manø By
Præstegd
MANØ
Hovedet

Excursion 4 Coastal occupations and settlements

According to Poul Holm, in his book: *Kystens erhverv og bebyggelse, 1500-2000* (2000), the history of the Danish landscape normally takes its starting point in the agricultural landscape. His research project, however, looks at the varied use of the coast and the many resources of the sea. The rich fish and bird life of the coastal zone used to be of high value to the population and it is only within the last generation that these values have lost their economic significance. Since 1700 about 4 per cent of the population have lived off the sea.

He claims that a historical definition of the settlement in the coastal zone should ideally be based on the actual use of the coastal resources rather than a certain distance from the coast. Such an historical definition, however, is not possible and it therefore makes sense to use the proposed definition, which defines all parishes within fifteen kilometres from the coast as coastal settlements.
Almost half of the Danish parishes have access to the sea or lakes, and though there is nothing surprising in this statistics it should be noted in future work on settlement patterns.
An examination of the settlement pattern of cottagers compared to farm-owners showed that there were more cottagers along saltwater coasts whereas manorial settlements are often found by the fjords and the farmers dominated the inland areas.

On the basis of data from the land registry from 1688 they had calculated that each farm had 0,6 houses in the Wadden Sea area. Along the North Sea each farm had 0.85 houses, and along the The Belt and the Baltic Sea the calculated that each farm had 0.7 houses.
In the countryside farms had usually 0,3 – 0,4 houses.
The population in the coastal area from Middel Ages onwards up to 1800 lived mainly from fishing in combination with other activities. Women, children and the elderly were often keeping small farm while father was at sea.
There were additional activities such as to store cargo from the stranded ships, salt production, whale blubber production, cut peat or brick production. The easiest work for coastal residents is beach combing, especially driftwood to build the houses.

Besides fishing the coastal population relied on a variation of sustenance for their survival.
According to Holm the key words for this group of people were adaptability and flexibility.
They had to constantly adapt to changes caused by new circumstances in ecology and markets.
They managed to survive because they continued to find new combinations of sideline activities.
After 1860 many of the sidelines disappeared and had to be substituted by increased work in fishing or fishing related industries if the population were to stay at the coast.

The maritime settlement increased between 1830 and 1870 due to shipping as the main freight carrier and again until the 1930s, a time characterised by increased fishing. These two periods and their characteristic settlement structures have come to define what we today understand as a maritime environment.

Poul Holms said furthermore that the globalisation of recent times has drastically altered this picture leaving few maritime environments based on a maritime economy. Coastal policies are furthermore characterised by technological, economic and biological parameters while considerations for the societal and mental consequences of this policy hardly exist. This, however, does not mean that the maritime settlements no longer have a function; rather they have transformed their function and are now becoming a part of the identity for people who choose to live by the coast.

left
Mandø Maale Bords Kort 1870
Source: Det Kulturhistoriske Centralregister.
The heights are in DVR, equal to DNN

The Dune-bow complex is on the sea side and the core of clay on the lee side, reinforced with a tang dike, shaping a suitable environment for a settlement. On a map from 1839 one could clearly recognize the structure of the settlement of Ny Mandø. Small houses spread in the dunes with a garden surrounded by hedges on the south side, these houses were oriented towards the wind: west-east. The parcels are also west-east oriented. The typology of the flooded settlement on Gammel Mandø is probably the same as the typology of the settlement of Ny Mandø.

Conclusion

Here ends the history of the flooded fisherman village on Gammel Mandø. Nowadays there is not much to see of the old village. Between the dune-bow complex and the old main road or tang dike, the place where the villages once were, are now empty meadows.
The new dike in 1937 was built on top of these old dunes. A segment of the original dunes disappeared during the construction of the dike, the dike road and the canal. On maps and aerial photographs the old roads, water basins (fethings), mounds, old dunes and land parcels are still recognisable.

ENGLODDER
The name Englodder refers to the old village. Eng in Dutch is also 'eng'. An 'eng' village in the Netherlands is an almond shaped village with a road and farmhouses alongside it. The road encircles a mound in the middle. When the water rose the cattle were driven to this rise on the land. Lodder means kavel in Dutch and parcel in English. It appears that the village was situated between the Englodder and the dunes on Gammel Mandø.

ROADS
Old maps show three roads. One road runs directly along the dunes, the road in the middle goes along the west side of the Englodder, which was the old main road, and the other road to the east. The old main road is still seen on maps and easy to recognize in the landscape. Maybe it was once a 'tang dike'.
A dike of skarn, built by the villagers, was made from plant remains. Washed ashore cane from the marshes was stamped to a low dike or quay with clay and sand. All along the old main road from north to south is a ditch full of dead trees and shrubs. It is between this road and the dunes that lie the flooded village of Mandø which washed away in 1558. The east road connected the new village Mandø with the mainland. Even today these roads unlock the island.

WELLS
Even today there are still a number of other wells around. Trees grew in the middle of the wells.
Perhaps the other wells were once water basins called fethings or fetings. Some wells were not on the aerial photograph of 1964. There is also a well with trees around it and a small canal. In Die Nordseeküste Geschichte einer Landschaft (2006) Dirk Meijer defined fethings as drinking holes, holes in the ground clad with clay up on a wharf or mound. Cattle drank sweet water from the fethings. Furthermore there were sometimes canals heading towards larger basins at the edge of the mounds. All kinds of constructions were created, for instance, to wash the sheep before they were shaved. In an aerial photograph of Mandø it is possible to see that several wells had even been linked to one another. They must have been dug later than 1964.

EYEWITNESS
H. Weitemeyer (1911) mentioned in his article an official letter from Ove Andersen Thorning, priest on Mandø from 1750-60. He said that the village on Mandø was washed away in the flood. Eighteen fireplaces (18 Snese Ildsteder) had disappeared then. He claimed that the village lay west of the eng. Thorning also said that Knudedyb was just a light stream (Rende) easy to cross over. Moreover, the legend goes that Queen Dagmar, who stranded on Mandø, came from Thorning. The people on the island brought her to Ribe. As thanks, the King gave the people of Mandø the eng that was called Mandøe Hølade. This is the place where nowadays the Ribe Å flows through the dike to the wad. Thorning described further that the remains of the flooded village could be seen. He said the cellars were visible with lots of bricks and crockery. Where the church stood was an unfathomable deep hole in the ground. His perceptions were recorded approximately 200 years after the calamity which destroyed the village. It is conceivable that many tales were spread around since the flood took place only a couple of generations ago. Pastor Thorning also mentioned witnesses of the flood like Maren Svenster, a 75 year old lady who heard the story from her 80 year old mother, her grandmother and her great-grandmother, who was 38 years old when the village drowned. Furthermore there was Hans Bodsersen who heard the story of the flood from his grandfather and great-grandfather. Although Thorning had doubts to the reliability of these witnesses, which he noted down in his letter.

A trunk from the central wharf, place 10
Photo: Leo Oorschot

North part of the clay ridge with traces of agriculture, place 6
Photo: Leo Oorschot

Building remains from the central wharf, place 10
Photo: Leo Oorschot

Remains of trees and bushes along the old main road and tang dike
Photo: Leo Oorschot

Skarn from the marshes, used by people from the island to construct low tang dikes and quays, they where cladded with clay.
Photo: Leo Oorschot

The old main road and tang dike
Photo: Leo Oorschot

FINDS

Findings in dune remains from the Middle Ages on the south side of the island included pieces of pottery. On the North side was a wharf or mound of land by the dike. It stood higher up than its surroundings and it was made of sand with a thick maritime clay layer. Tracks of cultivation could be seen there. Everywhere in the meadows, on farmland and by the old dunes, is rubble. It's probably not leftover from the time of the first stone church of Mandø but certainly from the twentieth century, if not the nineteenth century. Inhabitants have told that holes and ditches were filled up with garbage & remains from old houses which were at one time used as dumping places. The entire island is heavily polluted with rubble and asbestos. Almost all paths on the island have been paved with asbestos and rubble.

POPULATION

During the Middle Ages the village and the island were supposedly larger than at present. It has been mentioned that approximately 200 people lived in an area of 14 x 8 km. There were extra reinforcements established by the King (Hus) as well as a landing for ships. Perhaps in the old days people lived more spread out on the island. Flooding and poverty steadily brought back the population to about 60 people who were overcome by the flood of 1558. At the time of the flood there lived sixteen tax-payers (mentioned in 1537) and approximately 60 inhabitants. The conclusion can be made that there were approximately 4 persons per household and perhaps 16 to 20 houses with sheds. Weitemeyer said eighteen fireplaces were washed away.

FARMHOUSES

The farmhouses and homes of fishermen were built of driftwood. Perhaps the wicker-work walls were clad with loam and the roofs with tang or skarn (reed and seaweed from the marshlands). Supposedly the houses kept their original parcelling such as can be seen on old land register drawings. The farmhouses usually had hips on both sides of the roof which were situated in an east-westerly direction with the head in the wind. The original parcelling also had an east-west orientation. Between the small houses was a sandy road with canals, open drains, free-range chickens and geese all around. The farms had vegetable gardens protected from the wind with thorny shrubs. In the middle of the village was a `towt `. In the west were 'juts or 'toft', which were open places like a small square of hard ground or grass.

Some farmhouses were built on mounds called a 'wharf' or a dune-tail complex. From the air these mounds can still be recognised. The priest had his own farmhouse. Poor people could find lodgings there, paying for it by working on the land and foreseeing to the needs of the priest. Outside the village other mounds were possibly inhabited. These could have been farms with annexes and chapels like those at Knuden and Corre by. The mounds where washed away with the flood of 1634. It is thought that people lived before the flood of 1558 at Ny Mandø because it seemed a favourable place to live.

HAYLAND

The farmers had their hay land on the Englodder and on Mandø Hølade. The sheep were kept on the marshes, perhaps with some cows and horses. It is thought that Korresand and Ny Mandø were still partially marshlands where sheep could run. There were drinking basins 'fething' for the animals west of the eng nearby the mound.

FISHERY

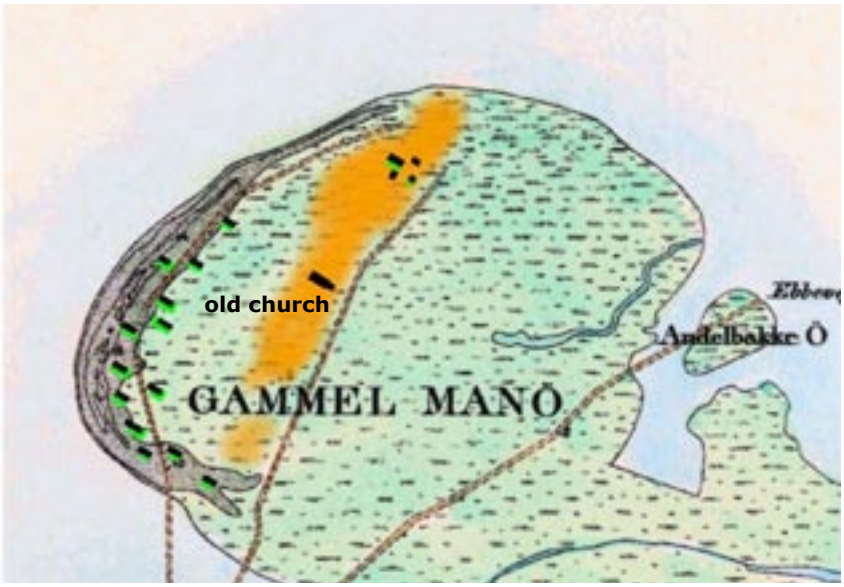
Whiting and flatfish were dried on racks in the dunes while six fishing boats 'skude' floated in front of the dunes and marshlands in the north along the beaches at Jørgens Lo. The dyb that made it easy to reach Ribe was a good spot for day fishermen. Approximately half of the men were occupied with fishery. There were six sea bearing vessels 'skude' with two men on board each. Men possibly took their sons or farmers with nothing to do out fishing. It is likely that there were even more men on board of a Skude since farmers were also fishermen. Whiting and flatfish were mainly caught using fishing lines.

LANDING

The large landing for ships at Ribe was Hviding Nakke, the beach in front of Hviding and Vester Vedsted. Otherwise Ribe was easy to reach by cart or flatboats. It was simple to manoeuvre large trading vessels (handelskoggen) in the wide Gammel Ribber dyb (Juvre dyb). Glacial hill-islands and the sea met each other at Hviding Nakke. Even up until the seventeenth century cows were still rounded up here for transport by ship to the large ports of Hamburg and Amsterdam. Mandø was then also mentioned as a landing place. From Jørgens Lo one could simply move cargo from the flatboats onto the larger ships that were anchored there.

Mandø Maale Bords Kort 1870
Source: Det Kulturhistoriske Centralregister.

With the most likely position
of the buildings of Gammel Mandø
The possition of the old church is unknown.
The solid clay ridge or the old dunes are possibly
used for this stone building.



Below
Aerial pictures of ca. 1980-2000?
Gammel Mandø
Source: Det Kulturhistoriske Centralregister.

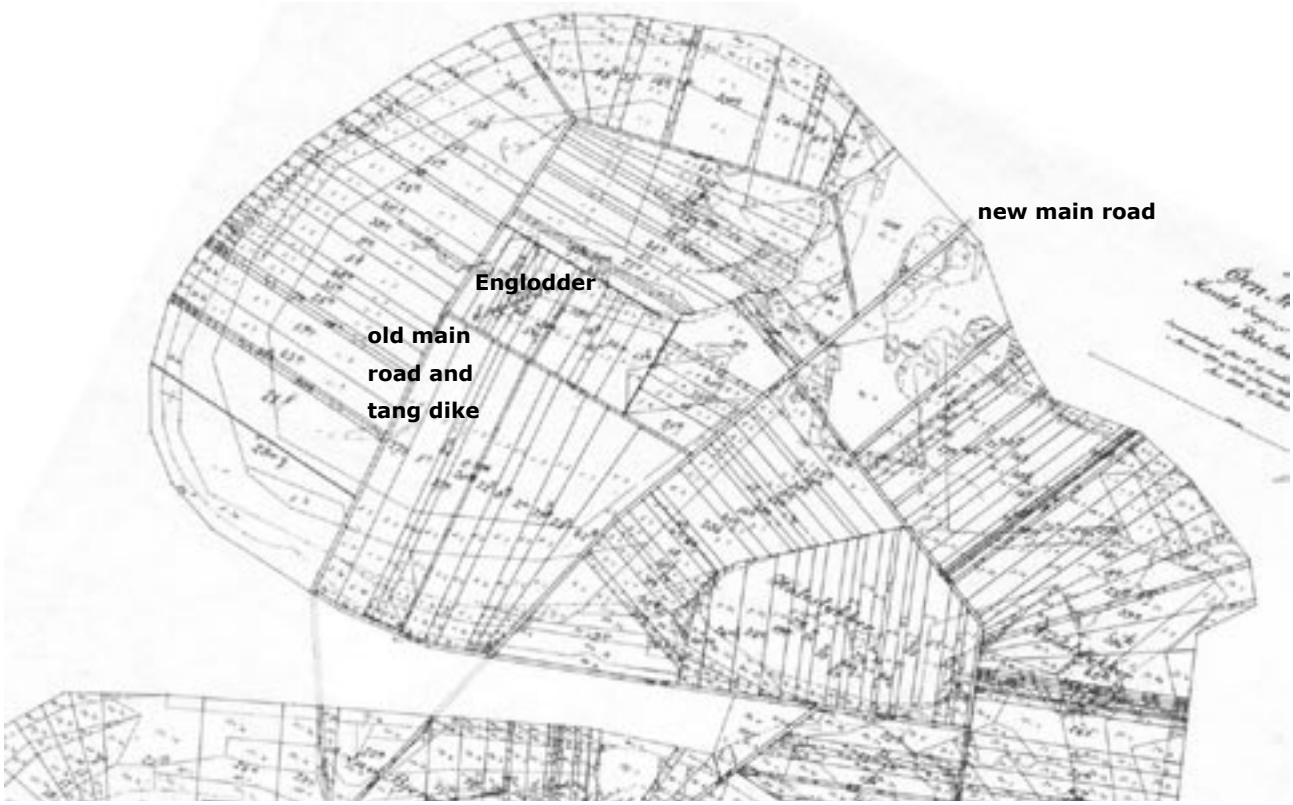
TYPOLOGY

The Dune-bow complex and the sea side and the core of clay on the lee side, reinforced with a tang dike, shaping a suitable environment for a settlement.
On a map from 1839 one could clearly recognize the structure of the settlement of Ny Mandø. Small houses spread in the dunes with a garden surrounded by hedges on the south side, these houses where oriented on the wind: west-east. The parcels are also west-east oriented. The typology of the flooded settlement on Gammel Mandø is probably the same as the typology of the settlement of Ny Mandø.

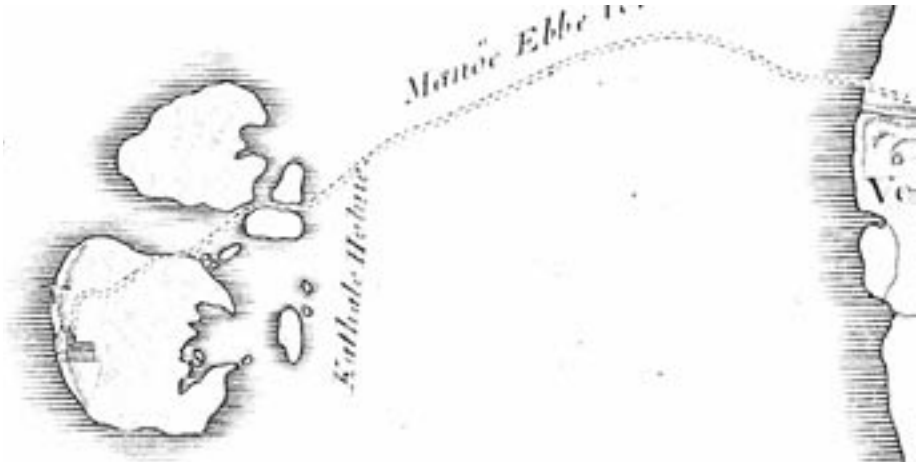
DECLINE

All evidence shows the decline of the community that once lived on Gammel Mandø. It was not a sudden death by the flood of 1558, it is more a gradual process that took years.
There were already problems with drift sand in the village, possibly due to grazing sheep in the dunes.
In the Middle Ages there were quite a number of people living there but gradually there came a decline in the population. Still, there was at least one rich farmhouse, the farm of Jens Voltersen from 1317, a wealthy citizen and bishop of Ribe. This farm had an annual turnover of 5 skilling sterling (silver coins), 5 geese and 10 chickens. There was much invested in a stone church (1325) for the local people. The church paid 4 skilling sterling (4 silver coins) to the diocese of Ribe. Only a large group of people could have been able to pay this tax. It's possible that there lived about 200 people on Mandø at that time. However, when the village washed away in 1558 there remained 60 poor and ill people living on the island, 18 fireplaces and a church.
It is likely that a part of the population had already moved to the other part of the island. In fact, the village Gammel Mandø was already declining at the time the flood ruined it.

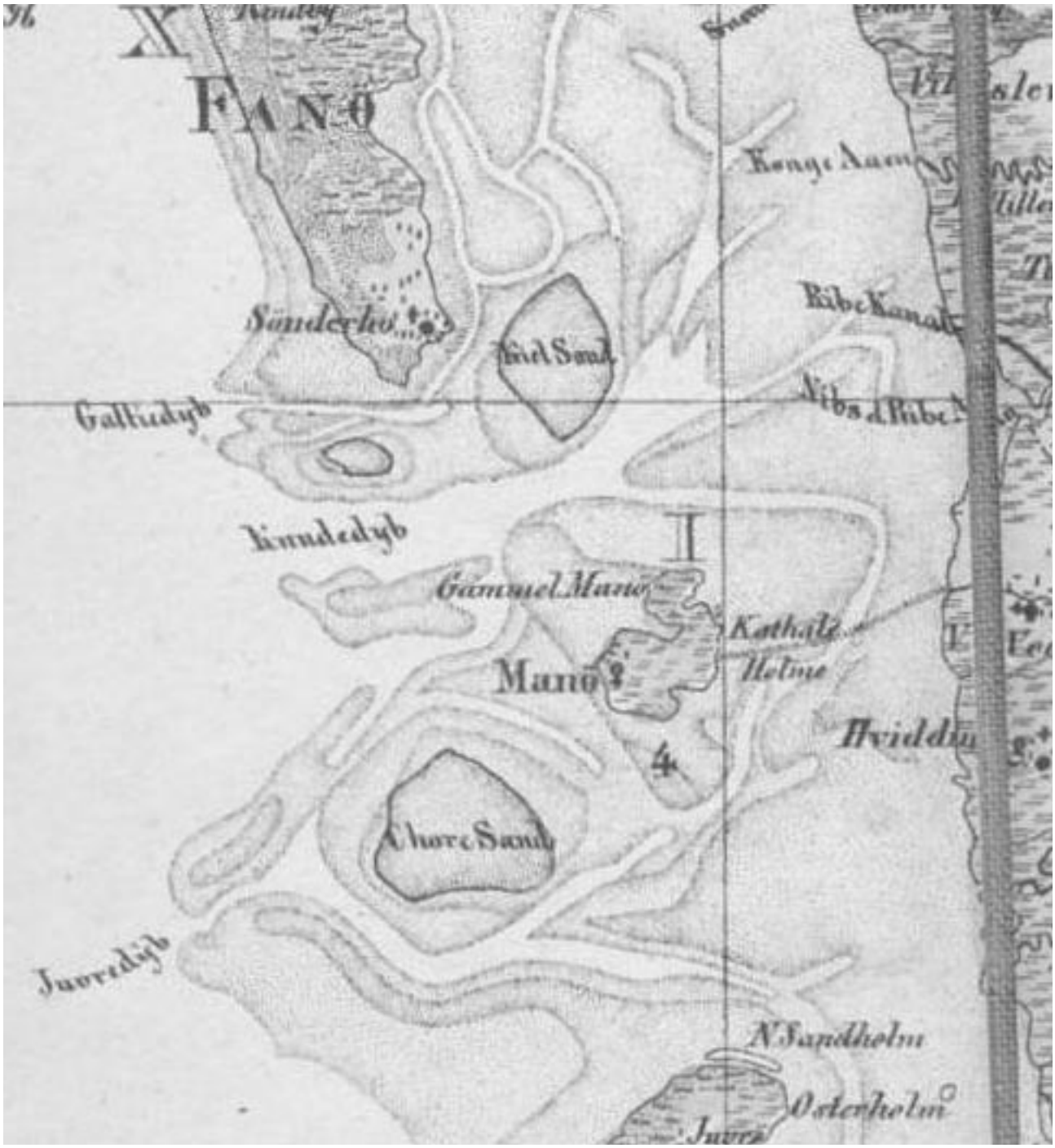
Gammel Mandø 1884 Cadastral map
Source: Zenius, 1983



Right
1794 VidenskabsKort



Below
1861 ca Den sydlige Deel af Danmark



PART 5 SOURCES

Literature about Mandø

There are a number of books, maps and studies concerning Mandø that contain a lot of information about the history of the island. Generally this is work published by people who stayed there longer.
It is especially the Mandø-posten which completes all this information, reproduces it and sends it around the world.
The book *Forsøg til en fysisk-oekonomisk Beskrivelse over Ejlandet Mandø under Riber Stift og Amt* was written by the pastor Hendrik Bruun, who lived and worked on Mandø. In 1806 he published his book in Haderslev. It is quite an informative book. Bruun paid particular attention to the period after the flood of 1558. As a priest with a sharp eye for detailing daily matters, he described the typical things that were done on the island. He wrote many things about daily routines and schedules, what one ate, what time someone did something, how people congregated, how weddings went about, where clothing and costumes came from, the spices that were used in the kitchen and local dancing traditions. Especially though, he documented eyewitness reports. Bruun's book is of importance because he absorbed the emotional life of the people. Pastor Bruun based his stories, it seems, on the testimonies of the citizens themselves and perhaps he used the church archives of Mandø as well. Unfortunately he does not mention his sources. Many stories and legends of Bruun fit in with letters of his predecessors, the pastors Thorning and Fogtmann, although he did not name them as sources. It's possible he did not even know about these letters written to the bishop.
Published in 1924 was the book *Om forholdene paa Mandø* written by Dr. med. Hans P. Brasch Kjærgaard. He stayed during the winter months of 1922 and 1923 on Mandø. Kjærgaard's book is important because he examined and summarised medieval archives (*Jordebogs*) from different periods. He also incorporated the book by Hendrik Bruun (1806) into the appendix of his own book. On a number of points he contradicted Bruun's book on certain subjects and continued inquiring further into the archives.
J. Kinch is an important source for the description of the history which Kjærgaard always quoted.
It concerns:

Ribe Byes Historie og Beskrivelse
(1878-1879)
Andragende fra en Præst Paa Mandø 1642
(1878-1879)

Kjærgaard mentions further H. Weitemeyer as an important source. He wrote the following essay:

Om Manø for 150 Aar siden.
(i Samlinger til jysk Historie og
Topografi 4de Række I Bind (1911)

Printed in this article are official letters written to bishop Jørgen Carstens Bloch. One letter was written by Ove Andersen Thorning, who was a pastor on Mandø from 1750-60. The other one was sent to the bishop in 1768 by Hans Bertram Sønnichsen Fogtmann, pastor on Mandø from 1766-74.

Mandø-posten are especially important sources because many church and tax archives are discussed in them. This is a good supplement to the books of Bruun and Kjærgaard. Certainly before the war, the *Mando-posten* discussed extensively the history of the island. There were endless poems dealing with the history of the island and sailors' tales about voyages all over the world. In 1934 a local teacher at the school on the island wrote a number of articles concerning the history of Mandø. J.K. Hansen basically followed Kjærgaard but he too mentioned few sources unfortunately.

The books of Bruun and Kjærgaard have been incorporated into the appendices of the *Mando-posten*. Furthermore, this newspaper describes family life in former and present days. Also the system of naming on the island is explained (Nielsdatter, Jørgensen). In several articles it appears that there were many more building structures in the village prior to now. The village was even more densely populated (200 - 300 people). The *Mando-posten* also discussed the tales of eyewitnesses of local people whose stories were noted down by several pastors on the island.

The book *Mandø, i hundrede År* (1983) by Marianne Zenius is 'the' history book for Mandø. The author used the books of Bruun, Kjærgaard and articles from the *Mando-posten* for her research. In particular, she sketches a picture of living on Mandø in the new time, after the flood of 1558. Archaeological excavations from South West Jutland have been described in *Marsk, land, og bebyggelse, Ribeegnen gennem 10.000 år*, by Jysk Arkæologisk Selskab (1998). This study comprises two books with several articles written by archaeologists. These were reviewed by Stig Jensen, Pauline Asingh and Lene Lund Feveille.

In these articles Mandø is also briefly discussed. We know that amateur archaeologists have found pieces of pottery and glass beads from the Middle Ages at gammel Mandø. There is also mention of a possible landing (ledingshavn) and the church of Mandø. Archaeological finds in Denmark are monitored on Danmarkskort. 'Det Kulturhistoriske Centralregister', a database maintained by the Danish government: http://www.dkconline.dk/html/menu1/geosearch.htm

Mandø is mentioned there with several findings from the Middle Ages. The site also mentions that traces of the Bronze Age were discovered on Fanø, on the southern part at Sønderho (a neighbouring village near Mandø). Many traces of settlements are also mentioned that were found from the Bronze, Iron and Viking Ages at Vester Vested and Hviding. In Vester Veststed, for example, an impressive gold treasure was found with Arab coins and splendid bracelets. One can see these in the Ribe museum. No traces of settlements were found on Mandø before the Middle Ages, although little research has been done up until now.

Other sources are the old maps of Mandø and its surroundings. The following maps are known:

1612 Map of Willem Janszoon Blaeu
1643/50 Newe Landtcarte Von dem
Hertzogthumbe Schleswieg
Johannes Mejer (1606-1674)
1683 Matrikelkortet af Christian V
1695 Specialkort over Sønderjylands vestkyst,
Jens Sørensen
1740 Danmarkskort
Johann Baptiste Homann (1663-1724)
1794 Opmåling of øen til Videnskabernes
Selskabs kort
1839 Matrikelkortet (kadastrale kaart)
1861(?) Den sydlige Deel af Danmark
1870 Generalstabskortet (stafkaart)
1870 Maale Bords Kort
1884 Matrikelkortet (kadastrale kaart)
1938 Geodætisk Instituts

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Fiskeri- og Søfartmuseet - 2005

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www.fanoe.info	Website Fanø.
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Germany

www.geschichte-s-h.de	Gesellschaft für Schleswig-Holsteinische Geschichte
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The Netherlands

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www.pinck.nl	Website 'De Egmonder Pinck'
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Translations

Dutch	Danish	English	German
Aanlegplaats	Anløbssted, Ledingshavn	Landing	Anlegestelle
Afzetting	Aflejring	Deposits	Ablagerung
Bewoninggeschiedenis	Beboelses historie	History of settlements	Besiedlungs geschichte
Dorp (Terp)	Landsby, By, Torp	Village	Dorf (Terp)
Dorpsplein	Torv, Toft, Towt	Town square	Markt
Diep	Dyb	Dyb, Canal, Inlet	Tief, Seegat
Drieschepig woonstalhuis	Treskibede langhuse	Three aisled long house	Drieschiffiges Wohnstallhaus
Duin	Klit	Dune	Düne
Eiland	Ø	Island	Insel, Hallig (laag eilandje)
Eng, Es	Eng	Meadow	Anger
Engdorp		Meadow village	Angerdorf, Angerdörp
Evert	Evert, Effuer, Fiskerbåd		Evert
Fries	Frisisk	Frisian	Friesisch
Geestgrond	Geest, Bakkelandskab	Glacial hill island	Geest
Bos	Skov	Forest, Woods	Wald
Gemeente	Sogn, Kommune, Herred	Municipality, County	Gemeinde, Harden, Amt Vogtei
Heide (plant)	Lyng	Heather	Heide
Struikheide (Calluna vulgaris)	Lyng	Heather	Besenheide (Heidekraut)
Kraaiheide (Empetrum nigrum)	Revling	Crowberry	Krähenbeere
Heidelandschap	Hede, Hedelandskab, Hedeslette	Heathland, Moorland	Heidelandschaft
Heuvel, Heuveleiland (Saale-glacial)	Bakke, Bakkeø (Saale-glacial)	Hill, Glacial hill island	Hügel, Glazial-Hügel Inseln
Hooiberg	Høstak, Staklade, Hialm	Haystack	Heudieme(n), Heuklampe, Heuhaufen
Hutkom, kuilhut	Grubehus	Pitt dwelling	
IJstijd	Istid	Glacial period	Eiszeit
Kade	Kaj	Quay	Kai
Kavel	Lodder	Parcel	Parzelle
Keileem	Ler	Boulder clay / loam	Flußsteinlehm
Klei	Klæg, Ler	Clay	Klei, Heller. Grode
Kwelder (zout water)	Marsk (zout water)	(Tidal) Marsh	Seemarschen, Fluβmarschen (zout) Marsch (binnendiks kleigebeid)
Land	Land	Land	Land
Landschap	Landskab	Landscape	Landschaft
Limoniet, IJzeraarde IJzerroer	Myremalm, Jernmalm	Limonite, Iron rudder	Limonite, Eisensteuer
Moeras (zoet water)	Mose (zoet water)	Swamp	Sumpf, Moor
Morene	Moræne	Moraine	Moräne
Noordzee	Nordsøen	North Sea	Nordsee
Open hut	Bod (Booth) (Risbothæ) Hytte (Kotzæth)	Open shed	
Overstromingsvlakte	Flodslette	Flood plain	Flutebene
Parochie	Sogn	Parish	Gemeinde
Platbodem	Fladbundet	Flatboat	Flach(bodig)
Platvis	Flatfisk, Flynder, Skuller	Flatfish	Plattfisch
Priel (op het Wad)	Priel, rende	Tidal trenches	Priel, (Wasser)rinne
Schuit, Pink, Bom	Skude, Båd, Baadene, Fisk bode	Barge, Boat	Schiff, Kahn, Boot
Sloep	Slup	Sloop	Slup
Slik	Slik	Mud	Schlick
Spiekers (opslagruimte)	Lager (Lathæ)		Speicher
Stal	Stald (Stollæ, Fæ huus)	Stall	Stall
Strandwal	Strandvold		Strandwall
Stuifzand	Flyvesand	Drift sand	Flugsand
Veen, turf	Tørv	Peat	Torf
Veenmoeras	Tørvesump /-dynd	Peat swamp	Torfsumpf
Wad	Vade	Wad	Watt
Waddenzee	Vadehavet	Wadden Sea	Wattenmeer
Waterbekken, Dobbe	Feting	Water basin	Fething, Feting
Werkplaats	Værksted	Workplace	Werkstatt
Wijting	Hvilling	Whiting	Wittling
Wierd, Warf, Werf, Wierde	Værft, Varft	Wharf, Mound	Warft, Wurt, Wierde
Zaalhuis	Salhus, Ildhus (Salhws) (Jeld hws)	Long-house	Saalhaus
Zand	Sand	Sand	Sand
Zandbank	Sandbanke	Sandbank	Sandbank
Zoetwaterafzettingen	Ferskvand aflejring / sand	Fresh water deposits / sand	Süβwasserablagerung / Sand