

Supplementary material

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```
## here() starts at /home/isak/phd/assessing.sealevel.dating
## -- Attaching packages ----- tidyverse 1.3.1 --
## v ggplot2 3.3.5     v purrr    0.3.4
## v tibble   3.1.6     v dplyr    1.0.7
## v tidyverse 1.1.4     v stringr  1.4.0
## v readr    2.1.0     v forcats  0.5.1

## -- Conflicts ----- tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()   masks stats::lag()

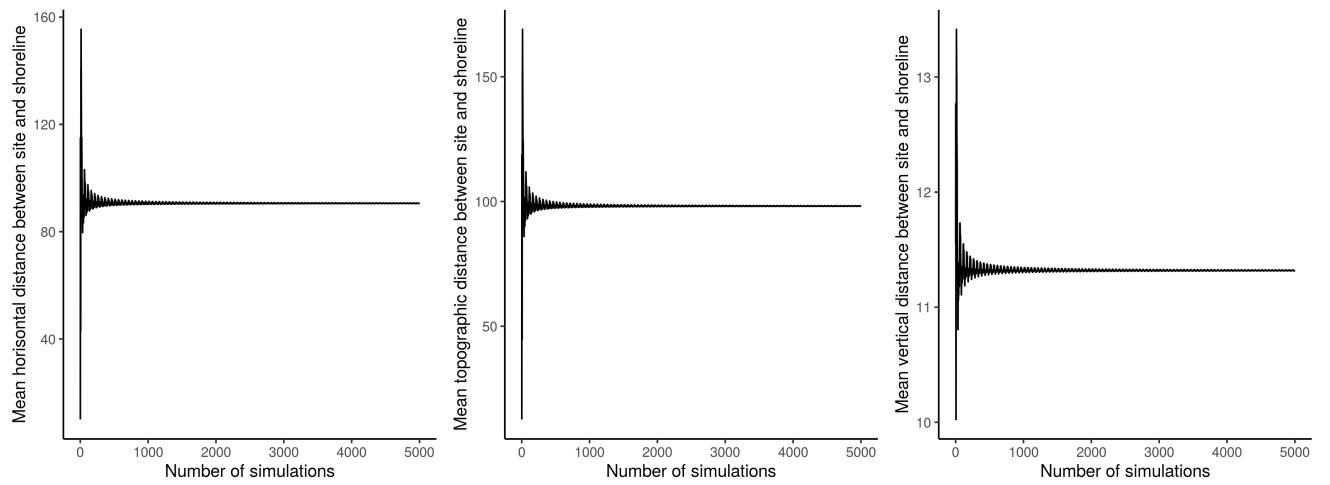
##
## Attaching package: 'kableExtra'

## The following object is masked from 'package:dplyr':
## 
##     group_rows
```

This document shows the simulation results for each individual site analysed in the study with some additional notes pertaining to edits to the DTM, treatment of ^{14}C -dates and other relevant information. The sites are presented in alphabetical order.

The first figure shows the result of a test run for the site Hovland 5 where the simulations were run 5000 times to identify when the means for the different distance measures converged. This was used to inform the use of 1000 simulation runs for the subsequent analysis of the other sites, as the means appear to have stabilised sufficiently by this point. Hovland 5 was chosen because the site only has a single ^{14}C -date, giving a wide uncertainty range, and because it is located in an area of the landscape where the landscape results in quite large variability on the distance measures.

Test-run on Hovland 5 to inform number of simulation runs

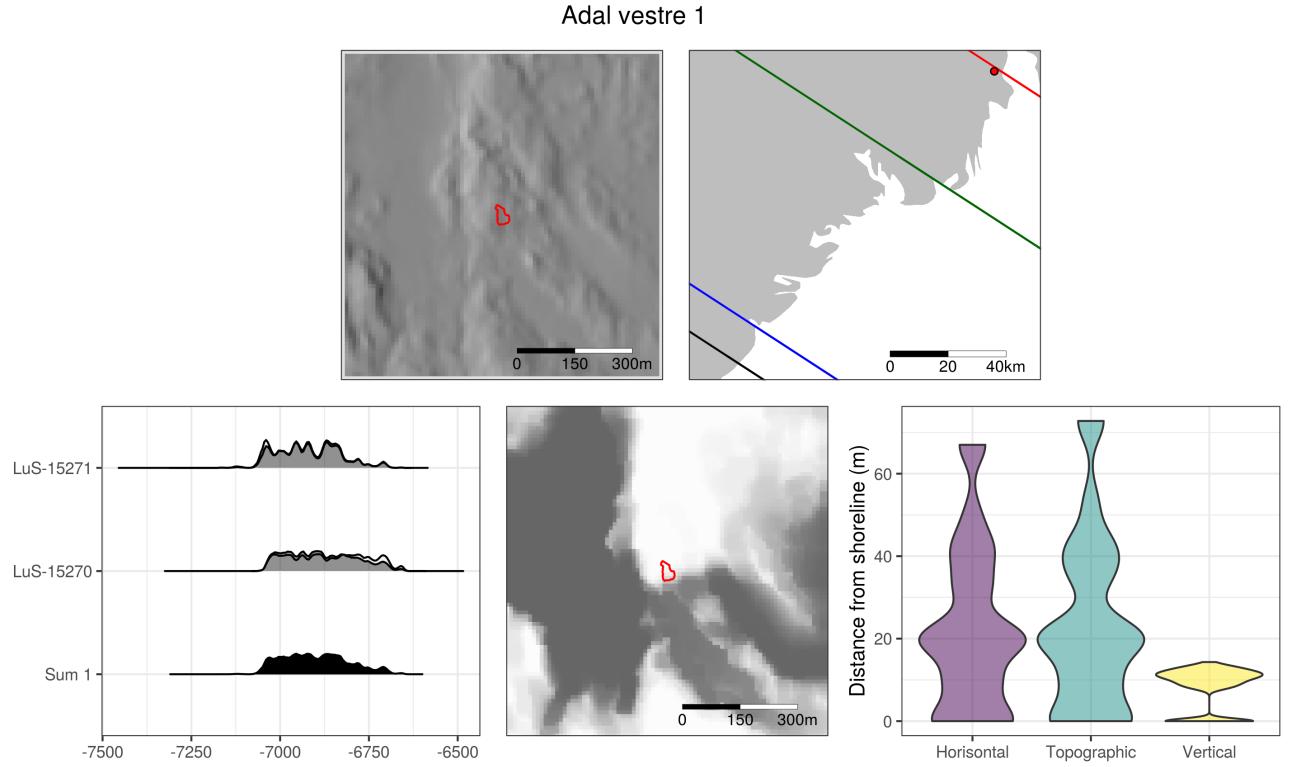


Below follows the presentation of the individual sites. The first plot on the first row for each site shows all calibrated radiocarbon dates from the Stone Age associated with the site (see analysis/data/raw_data/radiocarbon.csv for all dates, including those falling outside of the period). The fill colour of the radiocarbon dates indicates whether they are interpreted as belonging to the same phase, and each sum indicates that multiple dates for a phase have been modelled using the Boundary function and then summed using OxCal. Each phase is assumed to be independent of other phases. A red outline indicates that the date(s) were not seen as related to the artefact inventory in the original report. The second plot on the first row displays the site location in the present day landscape on the edited DTM (i.e. highways and railways impacting the adjusted sea-level have been removed, and elevation values are interpolated from the surroundings; see main text and analysis/script/03script.R). The third plot on the first row shows the site location within the study area relative to the isobases of the shoreline displacement curves in use.

Subsequent rows for each site then show the simulation results. The first plot on these rows shows the probability density function from which site dates were drawn during simulation. The second plot shows the result of the simulation runs, where the intensity of the colour indicates the number of times the sea was simulated to be present at any given location. The third plot displays a violin plot of the measured distances between site and shore-line across all simulation runs. Measures for central tendency and dispersion associated with these are then given in the table.

Table 1: Adal vestre 1

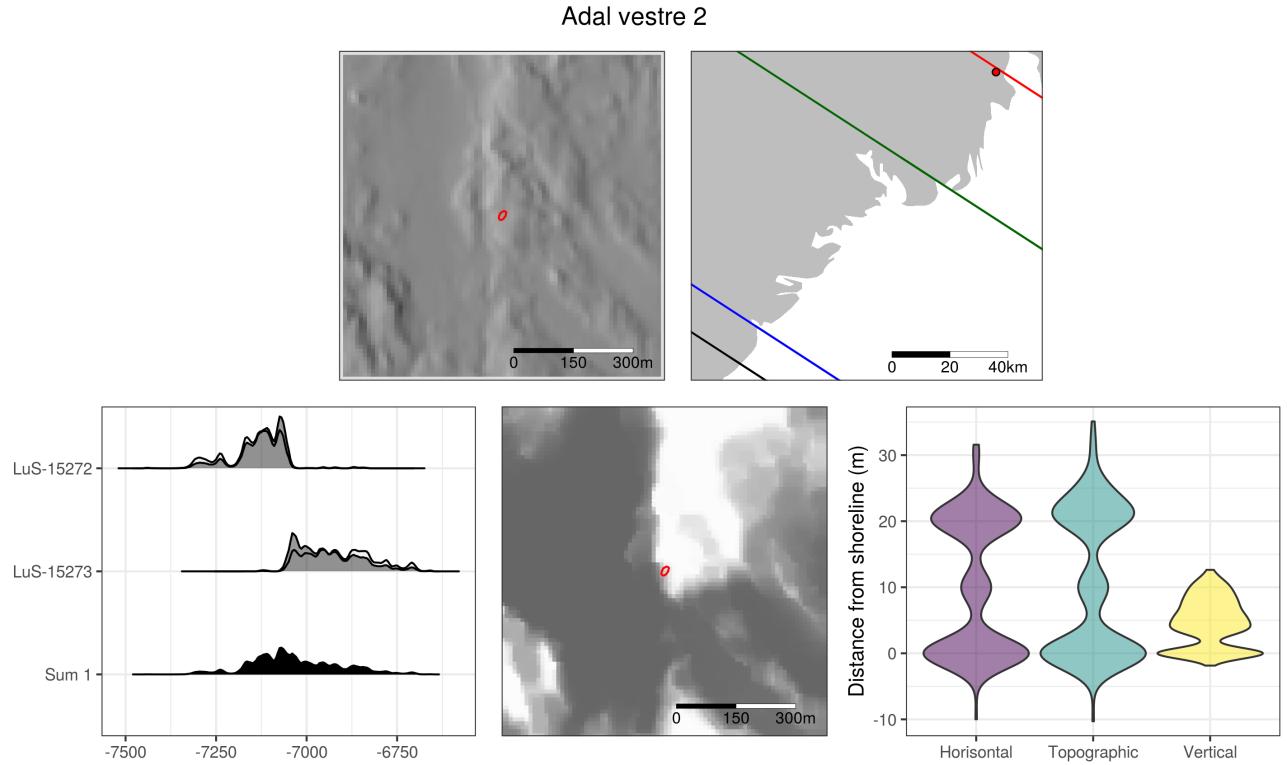
ID	^{14}C BP	Error	Material	Context
LuS-15264	665	35	Spruce (Picea)	Possible post hole (ID 4050)
LuS-15265	770	35	Pine (Pinus)	Possible post hole (ID 4050)
LuS-15266	1885	35	Pine (Pinus)	Fireplace (ID 6032)
LuS-16260	3255	35	Conifer (Coniferae indet.)	Cooking pit/fireplace (ID 11485)
LuS-15268	2445	35	Pine (Pinus)	Cooking pit (ID 11508)
LuS-15269	1020	35	Birch (Betula)	Cooking pit (ID 11508)
LuS-15270	7950	45	Hazel (Corylus), nutshell	Cooking pit/fireplace (ID 11521)
LuS-15267	2250	35	Hazel (Corylus), nutshell	Cooking pit/fireplace (ID 11556)
LuS-15271	8020	45	Hazel (Corylus), nutshell	Quadrant (574x401ySW, layer 2/3)



Adal vestre 1 is situated close to a field, but this does not appear to have resulted in any relevant changes to the terrain.

Table 2: Adal vestre 2

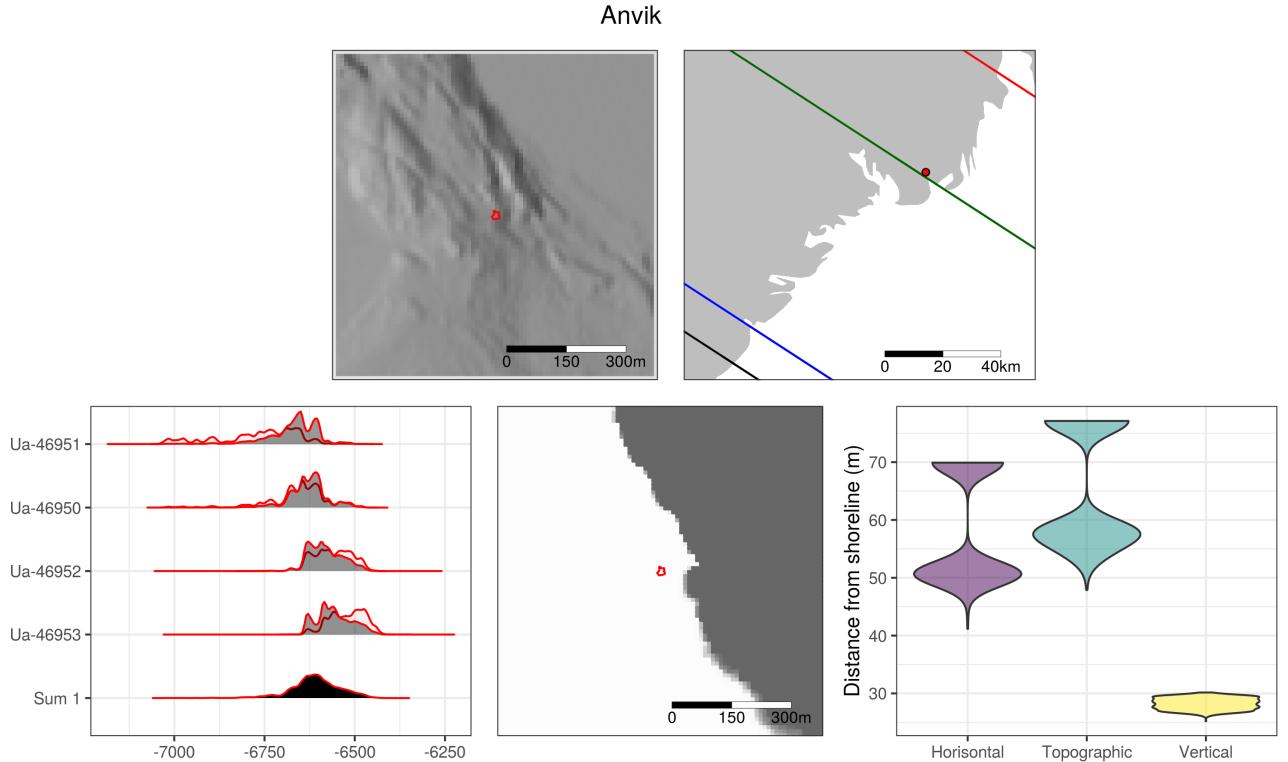
ID	^{14}C BP	Error	Material	Context
LuS-15272	8140	45	Hazel (<i>Corylus</i>), nutshell	Cooking pit/fireplace (ID 10036)
LuS-15273	8000	45	Hazel (<i>Corylus</i>), nutshell	Cooking pit/fireplace (ID 10051)



Adal vestre 2 has a similar location in the present day landscape to that of Adal vestre 1 (above).

Table 3: Anvik

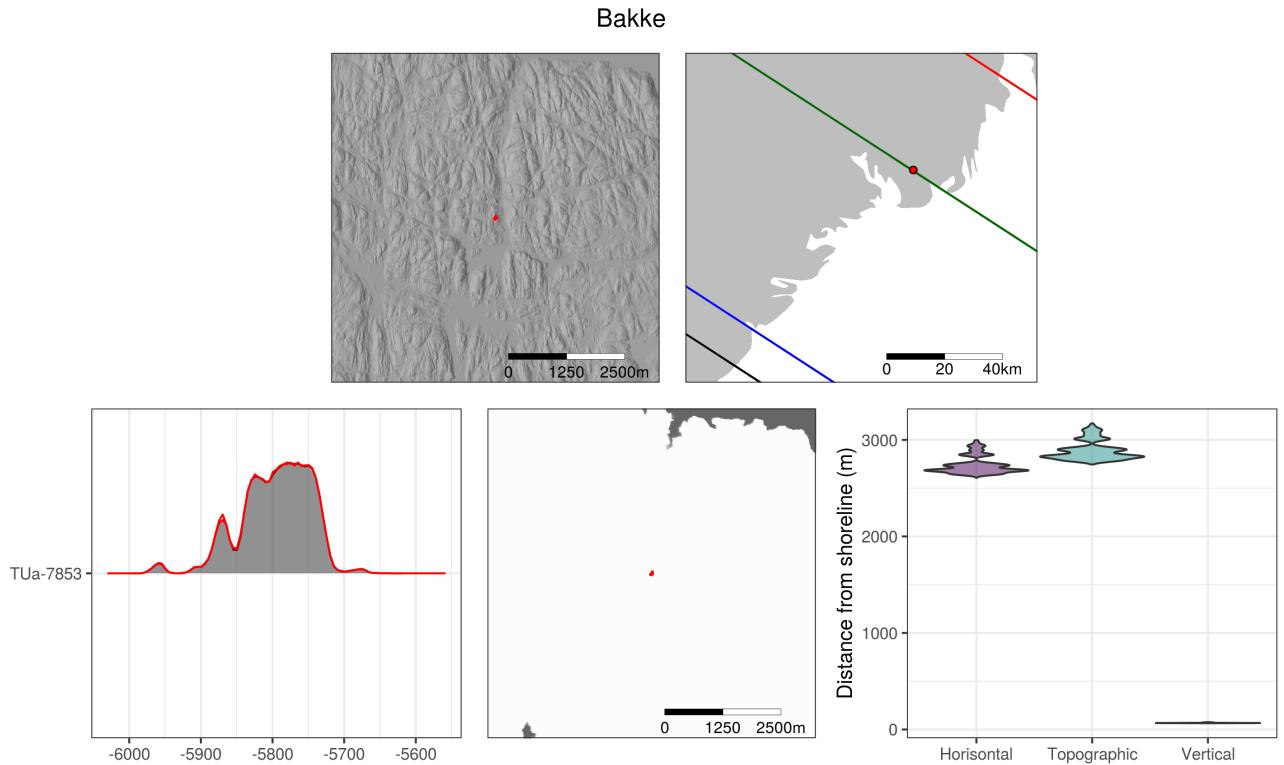
ID	^{14}C BP	Error	Material	Context
Ua-46950	7818	49	Hazel (<i>Corylus</i>), nutshell	Fireplace (ID 10520)
Ua-46951	7875	52	Willow (<i>Salix</i>)	Fireplace (ID 10520)
Ua-46952	7744	49	Willow (<i>Salix</i>)	Fireplace (ID 10520)
Ua-46953	7678	49	Pine (<i>Pinus</i>)	Fireplace (ID 10520)



Anvik (eymundsson2014a?) is situated by the highway and a smaller road. Neither appear to impact the simulation results. The dated fireplace is not seen as related to lithic material, which is believed to hail from the latest part of the Early Mesolithic (c. 8500-8250 BCE).

Table 4: Bakke

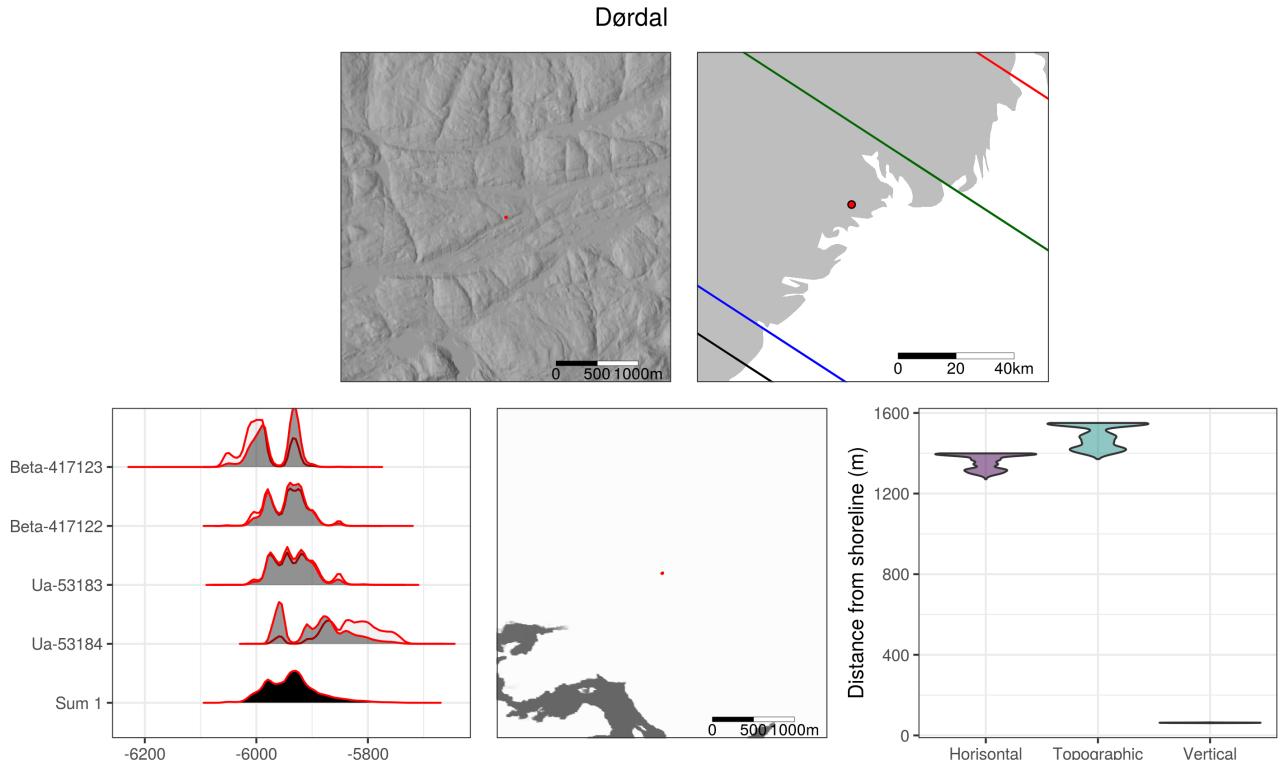
ID	^{14}C BP	Error	Material	Context
TUa-7852	2115	30	Birch (Betula)	Fireplace (ID 2)
TUa-7853	6915	40	Birch (Betula)	Fireplace (ID 2)



The radiocarbon date to the Stone Age is not related to the site inventory, which is distinctly Early Mesolithic in character ([nyland2012b?](#)).

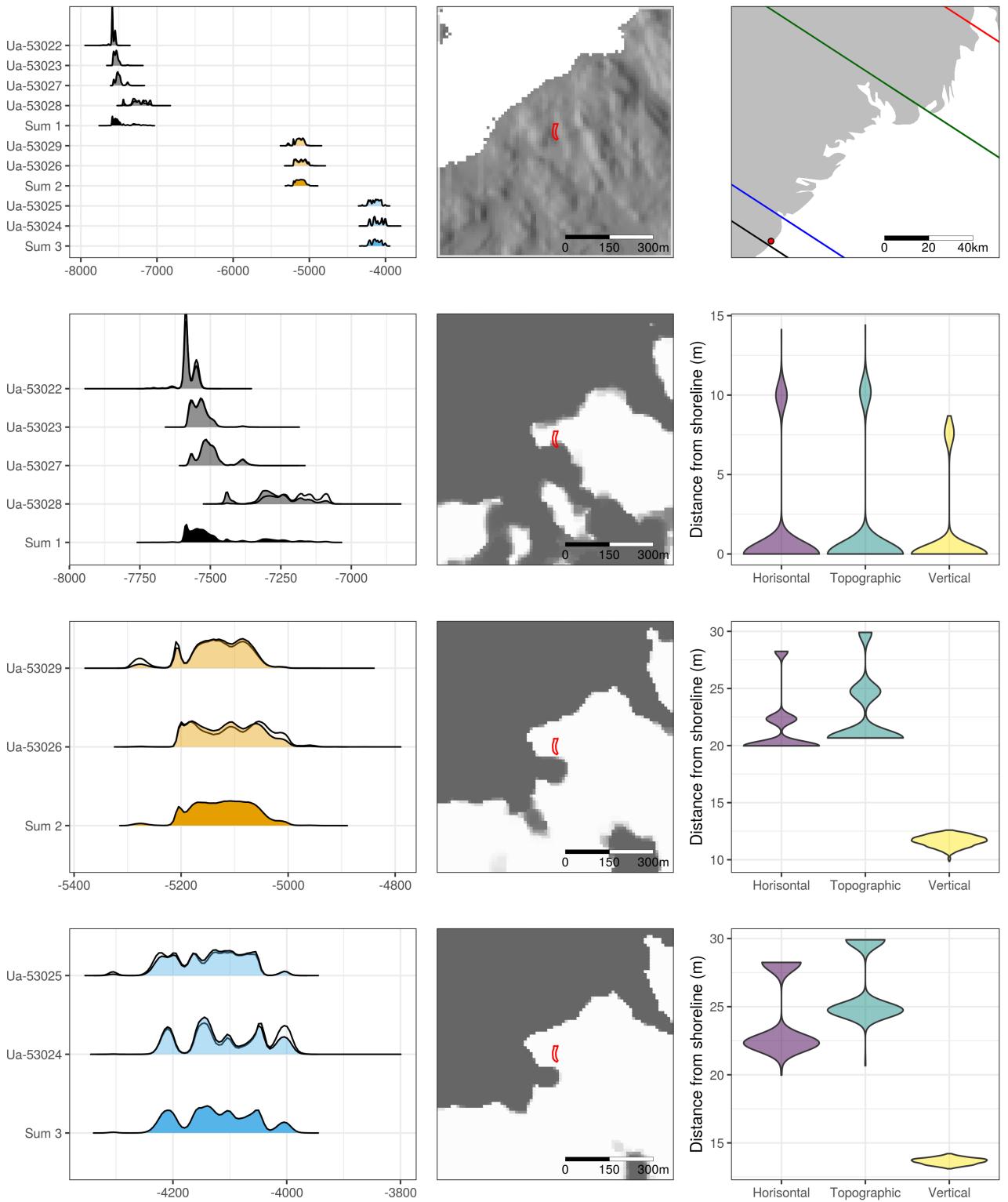
Table 5: Dørdal

ID	^{14}C BP	Error	Material	Context
Beta-417122	7070	30	Pine (Pinus)	Fireplace (ID 1134)
Ua-53184	6956	31	Pine (Pinus)	Fireplace (ID 1134)
Beta-417123	7120	30	Pine (Pinus)	Fireplace (ID 792)
Ua-53183	7050	31	Pine (Pinus)	Fireplace (ID 792)



The ^{14}C -dates from two fireplaces at Dørdal are not related to the lithic inventory, where there are no typological indicators pointing the Late Mesolithic. The report suggest that the results might reflect a contamination through a natural process of some sort (**solheim2017?**).

Dybdalshei 1



Dybdalshei 1 was subject to a very limited excavation (Granum and Schülke 2018), and the lack of data might therefore lead one to question whether or not the site actually represent a settlement area. Furthermore,

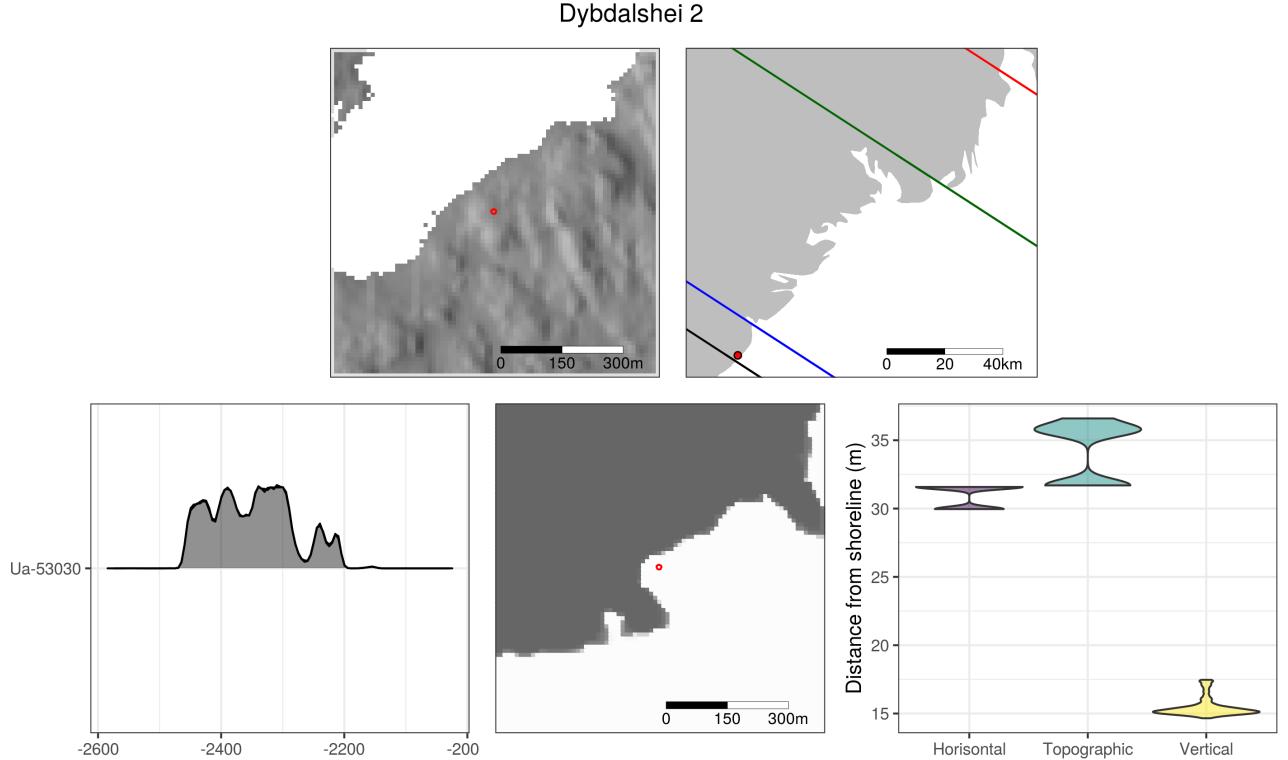
Table 6: Dybdalshei 1

ID	^{14}C BP	Error	Material	Context
Ua-53022	8566	36	Willow (Salix)	Cooking pit (ID 501)
Ua-53023	8462	36	Pomoideae (Malinae)	Cooking pit (ID 519)
Ua-53027	8422	36	Pomoideae (Malinae)	Cooking pit (ID 545)
Ua-53028	8199	35	Pomoideae (Malinae)	Cooking pit (ID 556)
Ua-53029	6202	32	Birch (Betula)	Cooking pit (ID 566)
Ua-53026	6150	32	Alder (Alnus)	Cooking pit (ID 537)
Ua-53025	5310	31	Aspen (Populus)	Cooking pit (ID 531)
Ua-53024	5262	31	Oak (Quercus)	Cooking pit (ID 526)

Table 7: Dybdalshei 2

ID	^{14}C BP	Error	Material	Context
Ua-53030	3868	30	Pine (Pinus)	Cooking pit (ID 650)

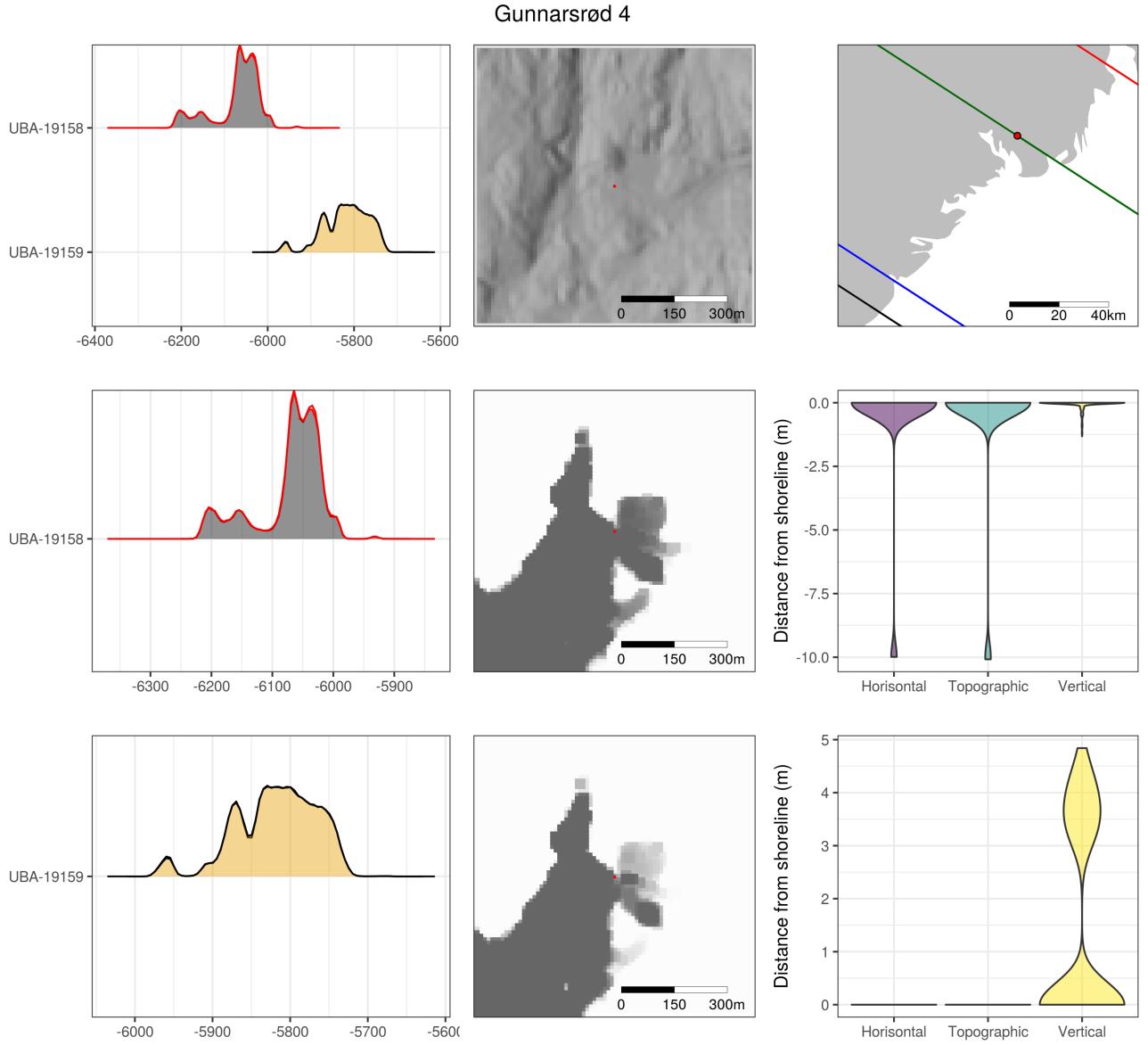
what little lithic material was retrieved is too generic to offer any typological support to the radiocarbon dates of the dated cooking pits. Nonetheless, the site and the ^{14}C -dates are still treated the same way as the other sites. This is based on the spatial relation between the lithic artefacts and the features, which offers some additional support to the fact that the cooking pits do in fact represent remnants from visits in the Mesolithic.



The situation on Dybdalshei 2 is similar to that on Dybdalshei 1 (above, Granum and Schülke 2018), but with only a single date from a single feature and no lithics, the site is not included in the final results.

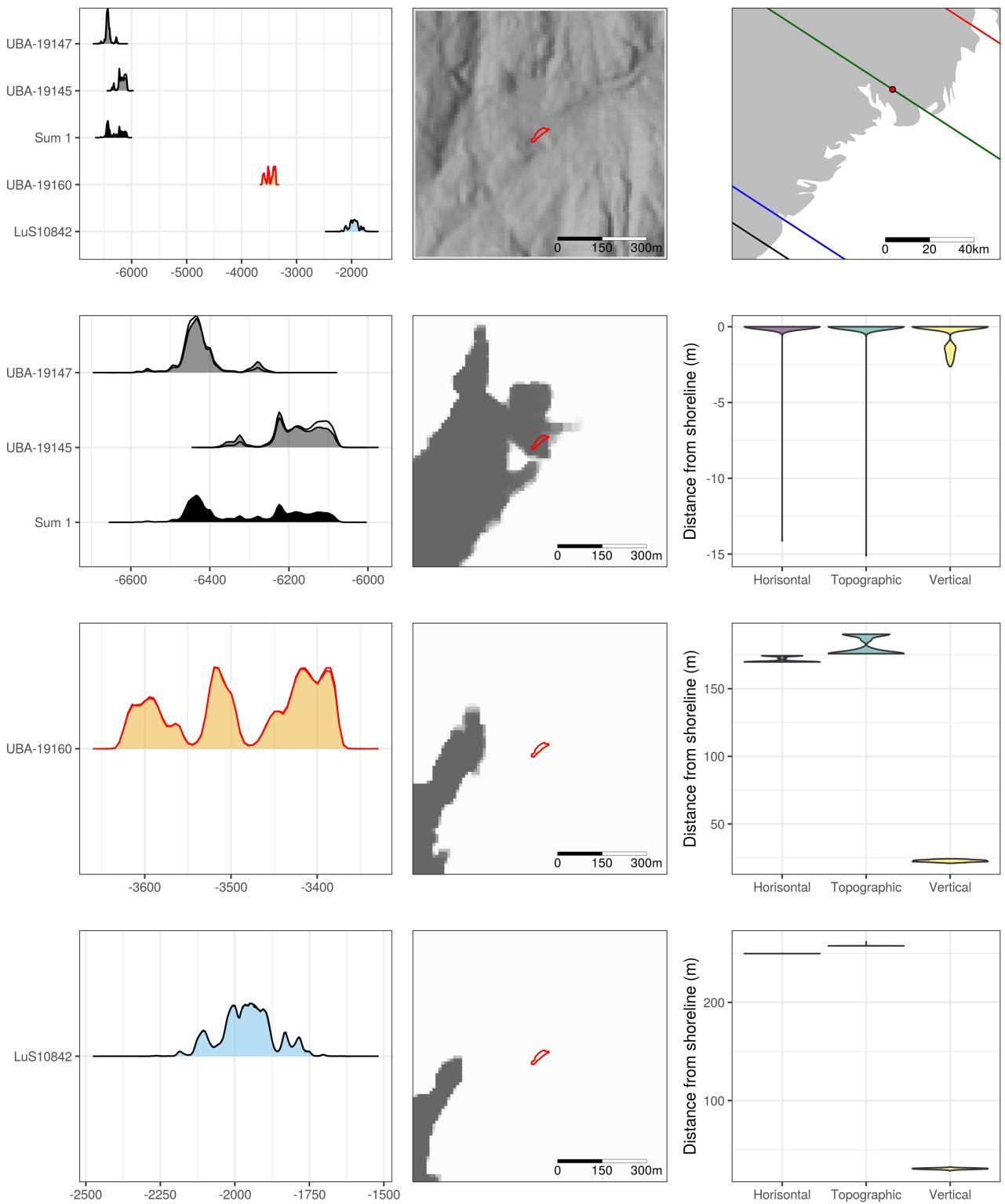
Table 8: Gunnarsrød 4

ID	^{14}C BP	Error	Material	Context
UBA-19134	2396	24	Hazel (<i>Corylus</i>)	Fireplace (ID 100000)
UBA-19159	6941	36	Birch (<i>Betula</i>)	Cultural layer, top (ID 100002)
UBA-19158	7210	38	Pine (<i>Pinus</i>)	Cultural layer, bottom (ID 100002)



Gunnarsrød 4 (**reitan2014k?**), and Gunnarsrød 5 (below), were situated close to where the railway runs today, and therefore required editing of the DTM. Based on maps from the report, this appears to have given adequate, although not perfect results (**reitan2014k?**). The date from the bottom of the cultural layer was seen as possibly impacted by old-wood effect, a notion that is in line with the simulation results, as this date would have the site located beneath the sea-level (**reitan2014k?**).

Gunnarsrød 5

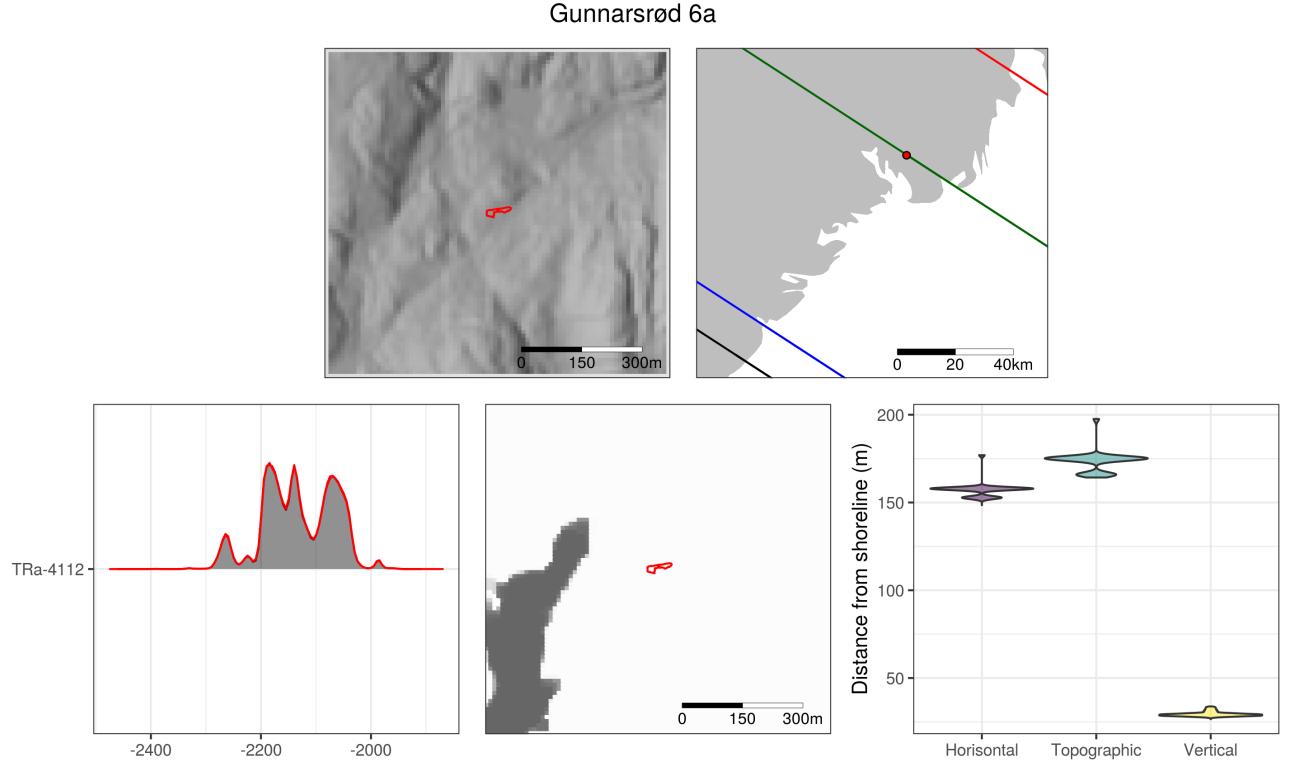


The location of Gunnarsrød 5 is today situated at the exit of a railway tunnel. The construction of the tunnel entrance has lead to a removal of parts of what used to be a hill on which the site was situated

Table 9: Gunnarsrød 5

ID	^{14}C BP	Error	Material	Context
UBA-19147	7582	47	Hazel (<i>Corylus</i>), nutshell	Fireplace (ID 1206)
UBA-19145	7336	38	Birch (<i>Betula</i>)	Undefined feature (ID 1420)
UBA-19160	4716	31	Hazel (nutshell)/birch (<i>Corylus/Betula</i>)	Pit with pottery (ID 1519)
LuS10842	3600	60	Soot extracted from pottery sherd	Pit with pottery (ID 1519)
UBA-19146	168	29	Birch (<i>Betula</i>)	Disturbance (ID 1085)

(reitan2014d?). While the editing and interpolation of the DTM appears to give reasonable results for the rest of the flatter marsh area where the railway runs today (see also Gunnarsrød 4, above), the site itself would thus have been situated slightly higher. This has likely led to the negative values on the distance measures. In combination, the simulation results and the site map in the report indicate that the site would not have been situated any significant distance from the shoreline. The values have therefore been set to zero for the final aggregative analysis. A note can also be made on the date that is seen as unrelated to the artefact inventory. This is from charcoal from a pit with ceramics which had a far younger date. The date was therefore interpreted as the result of contamination of some kind.



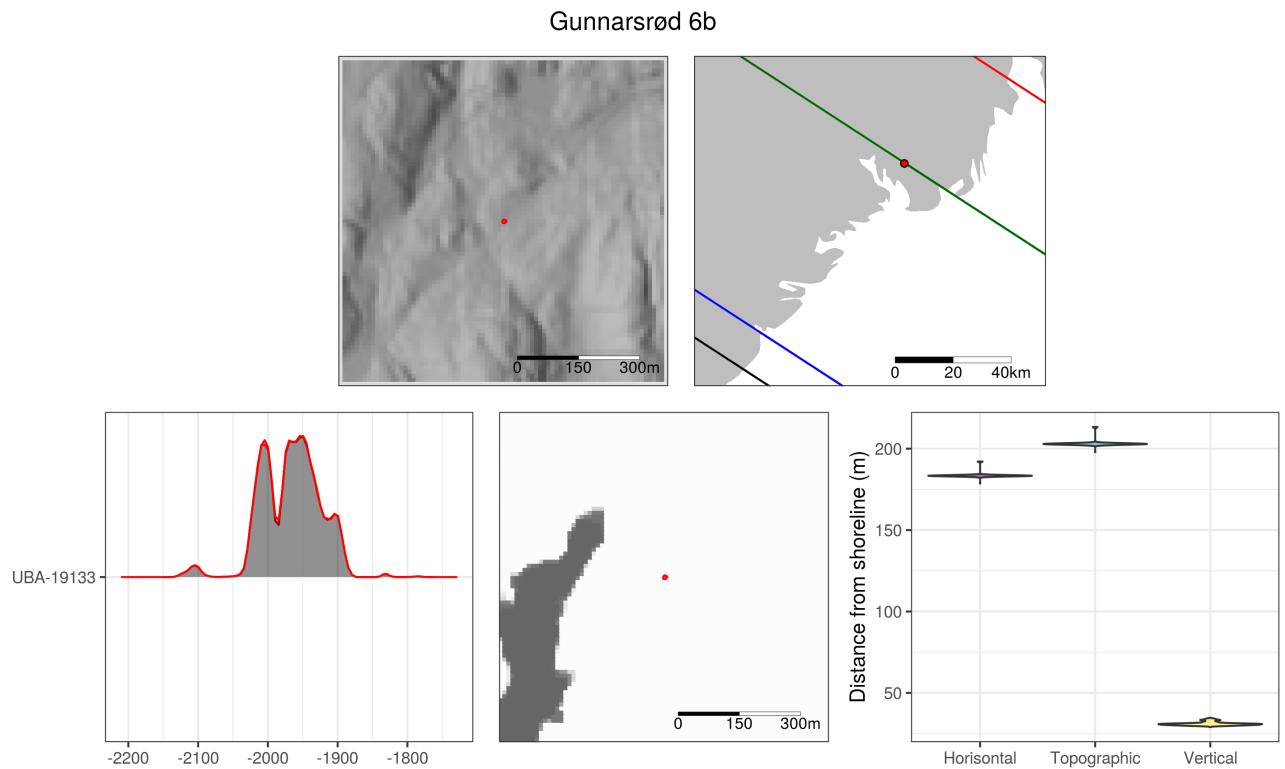
The ^{14}C -date to the Stone Age from Gunnarsrød 6a is not related to the lithic inventory on the site, which is clearly Mesolithic (Carrasco et al. 2014).

Table 10: Gunnarsrød 6a

ID	^{14}C BP	Error	Material	Context
TRa-4112	3735	35	Birch/ash (Betula/Fraxinus)	Cooking pit/fireplace (ID 600)
UBA-19130	2369	24	Birch (Betula)	Charcoal layer
UBA-19131	1330	27	Hazel (Corylus), nutshell	Square (965x46y, layer 4)
UBA-19132	883	23	Hazel (Corylus), nutshell	Quadrant (969x49ySE, layer 3)

Table 11: Gunnarsrød 6b

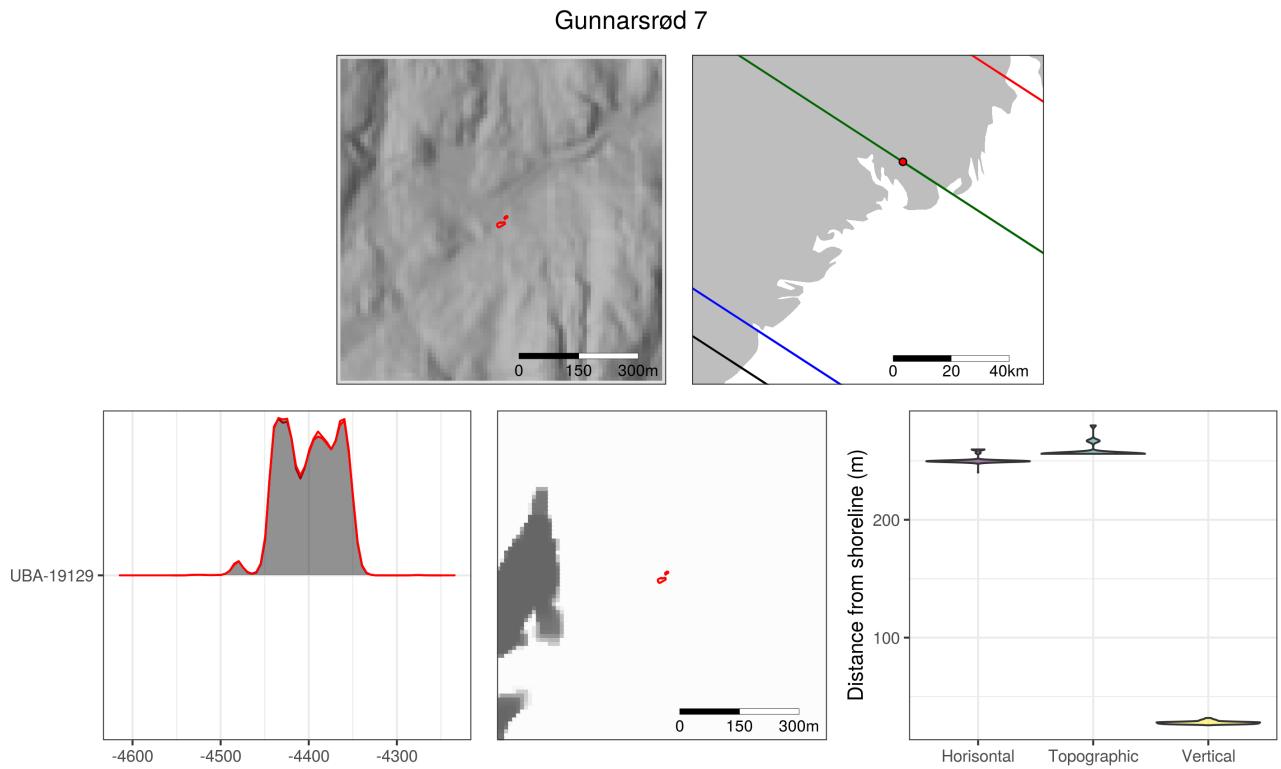
ID	^{14}C BP	Error	Material	Context
TRa-4113	335	25	Pine (Pinus)	Undefined feature (ID 1313)
UBA-19133	3608	25	Hazel (Corylus), nutshell	Squares (917x626y, 916x626y, layer 5)



As with Gunnarsrød 6a above, the ^{14}C -date to the Stone Age from Gunnarsrød 6b is not related to the Mesolithic inventory on the site (Carrasco et al. 2014).

Table 12: Gunnarsrød 7

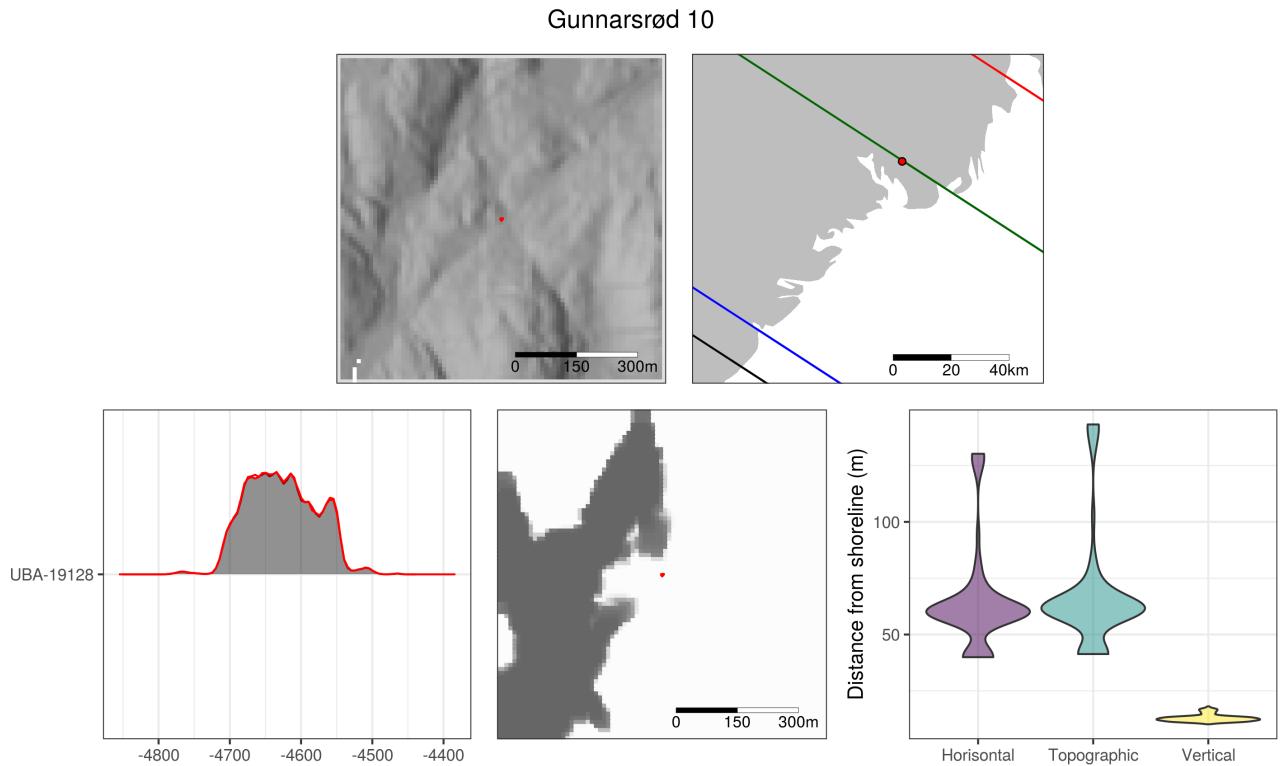
ID	^{14}C BP	Error	Material	Context
UBA-19129	5563	30	Birch (Betula)	Undefined feature (ID 1000)
UBA-19162	1697	26	Birch/oak (Betula/Quercus)	Undefined feature (ID 1016)



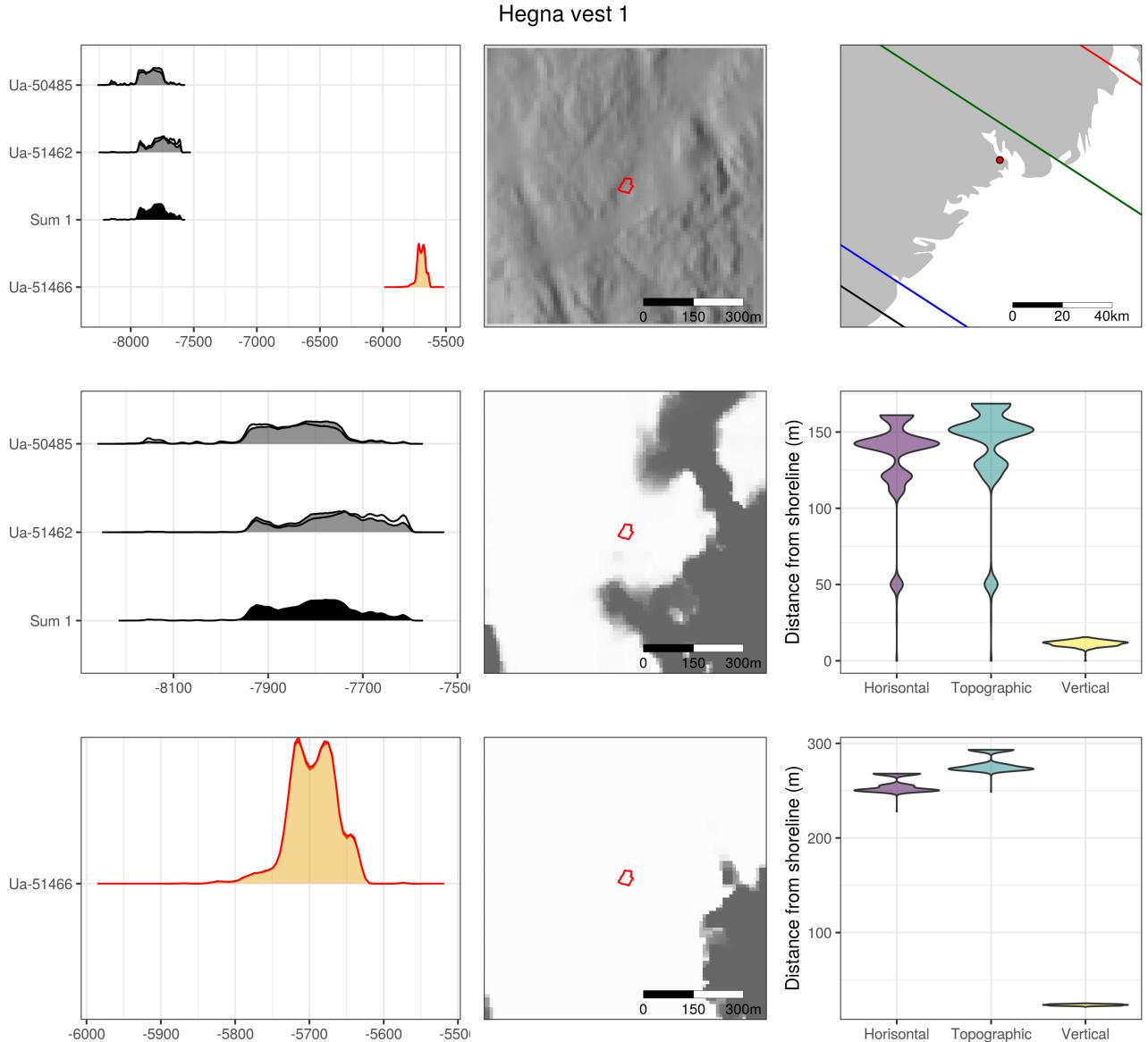
Gunnarsrød 7 is situated on a slope, stretching from 55 masl up to 59 (**fossum2014b?**). The lithic inventory is of a Middle Mesolithic character and does not match the ^{14}C -dates.

Table 13: Gunnarsrød 10

ID	^{14}C BP	Error	Material	Context
UBA-19128	5778	31	Birch (Betula)	Fireplace (ID 100001)



Based on the location of Gunnarsrød 10 on a steep ledge, and the site inventory, the ^{14}C -date is not believed to be related to the main occupation of the site (**reitan2014!**?).

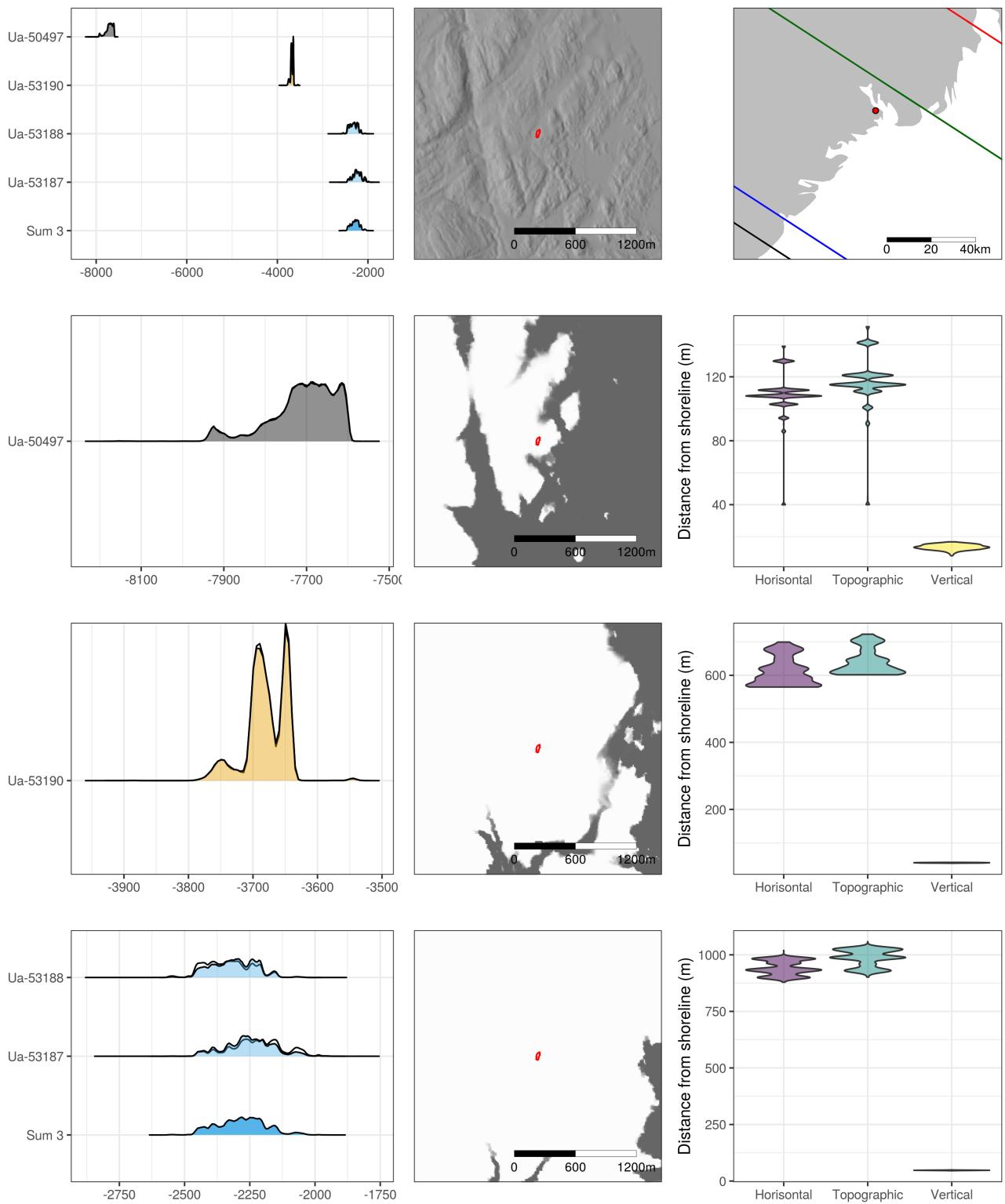


Example site from the main text. Hegna vest 1 has been visited multiple times throughout prehistory. The lithic inventory is distinctly Middle Mesolithic and Neolithic in character, with some finds that might be even younger. This is also reflected in the pottery finds, which are deemed to be from the Bronze Age–Early Iron Age. The ^{14}C -date to the Late Mesolithic is therefore considered unrelated to the main occupation of the site, as it cannot be related to any elements of the site inventory (fossum2017a?). The highway runs right by Hegna vest 1 and has been removed. This seems successful in that it doesn't appear to impact the simulated sea-levels.

Table 14: Hegna vest 1

ID	¹⁴ C BP	Error	Material	Context
Ua-50485	8788	34	Aspen/willow (<i>Populus/Salix</i>)	Fireplace (ID 14834)
Ua-51462	8732	40	Willow (<i>Salix</i>)	Fireplace (ID 9819)
Ua-51466	6816	36	Willow (<i>Salix</i>)	Undefined feature/three throw (ID 100079)
Ua-51461	3318	32	Alder (<i>Alnus</i>)	Undefined feature (ID 9807a)
Ua-50484	2831	24	Ash (<i>Fraxinus</i>)	Cooking pit (ID 14417)
Ua-51467	2724	34	Hazel (<i>Corylus</i>), nutshell	Undefined feature (ID 11663)
Ua-51463	2670	33	Birch (<i>Betula</i>)	Undefined feature (ID 11663)
Ua-51460	2667	33	Alder (<i>Alnus</i>)	Stone packing/fireplace (ID 9725)
Ua-51465	2474	33	Hazel (<i>Corylus</i>)	Undefined fture (ID 15034)
Ua-50472	2440	24	Pine (<i>Pinus</i>)	Fireplace (ID 9642)
Ua-50475	2225	28	Aspen (<i>Populus</i>)	Cooking pit (ID 10127)
Ua-50482	2215	21	Hazel (<i>Corylus</i>)	Undefined feature (ID 14324)
Ua-50483	2197	21	Hazel (<i>Corylus</i>)	Undefined feature (ID 14383)
Ua-50486	2186	23	Hazel (<i>Corylus</i>)	Undefined feature (ID 100078)
Ua-50473	2186	21	Birch (<i>Betula</i>)	Fireplace (ID 9659)
Ua-50480	2186	23	Aspen (<i>Populus</i>)	Cooking pit (ID 14280)
Ua-50481	2178	24	Aspen (<i>Populus</i>)	Cooking pit (ID 14298)
Ua-50477	2174	27	Birch (<i>Betula</i>)	Undefined feature (ID 11767)
Ua-50479	2154	23	Hazel (<i>Corylus</i>)	Cooking pit (ID 14637)
Ua-51464	2124	33	Birch (<i>Betula</i>)	Undefined feature (ID 11683)
Ua-50476	2118	30	Birch (<i>Betula</i>)	Undefined feature (ID 100077)
Ua-51468	2063	33	Hazel (<i>Corylus</i>), nutshell	Undefined feature (ID 15034)
Ua-50474	1702	22	Birch (<i>Betula</i>)	Cooking pit (ID 9745)
Ua-50478	1685	20	Birch (<i>Betula</i>)	Cooking pit (ID 11828)
Ua-50487	971	26	Birch (<i>Betula</i>)	Fireplace (ID 11707)

Hegna vest 2



As with Hegna vest 1 (above), Hegna vest 2 has been used throughout prehistory. This includes the Middle Mesolithic, the Neolithic, the Bronze Age and the Early Iron Age. The ^{14}C -dates are believed to be related to

Table 15: Hegna vest 2

ID	¹⁴ C BP	Error	Material	Context
Ua-50497	8708	38	Pine (Pinus)	Cooking pit (ID 11906)
Ua-53190	4900	30	Burnt bone, mammal	Square (523x346y)
Ua-53188	3863	57	Burnt bone, beaver (Castor)	Undefined feature (ID 11546)
Ua-53187	3789	60	Burnt bone, Sus/Canis	Undefined feature (ID 11546)
Ua-50494	3337	27	Pine (Pinus)	Undefined feature (ID 11546)
Ua-51469	3121	31	Ash (Fraxinus)	Undefined feature (ID 9029)
Ua-51470	3085	31	Ash (Fraxinus)	Concentration of stones (ID 9057)
Ua-53189	3083	29	Burnt bone, mammal	Undefined feature (ID 11546)
Ua-53191	3079	28	Burnt bone, sheep/goat (Ovis/Capra)	Square (523x346y)
Ua-50499	2659	25	Aspen (Populus)	Cooking pit (ID 11954)
Ua-50490	2239	25	Aspen (Populus)	Fireplace (ID 9238)
Ua-50493	2216	23	Hazel (Corylus)	Cooking pit (ID 8903)
Ua-50496	2203	27	Birch (Betula)	Cooking pit (ID 9181)
Ua-50495	2193	23	Birch (Betula)	Undefined feature (ID 9002)
Ua-50492	2190	23	Birch (Betula)	Undefined feature (ID 8940)
Ua-50498	2188	24	Hazel (Corylus)	Cooking pit (ID 11926)
Ua-50500	2180	22	Birch (Betula)	Cooking pit/ditch (ID 11975)
Ua-50491	2168	28	Pine (Pinus)	Cooking pit/fireplace (ID 9261)
Ua-50488	1810	23	Alder (Alnus)	Cooking pit (ID 9181)
Ua-50489	1781	24	Hazel (Corylus)	Cooking pit (ID 9211)

the site activities (**fossum2017?**). Hegna vest 2 is located where the highway runs today. This was removed, which appears to have been successful in relation to the simulation results.

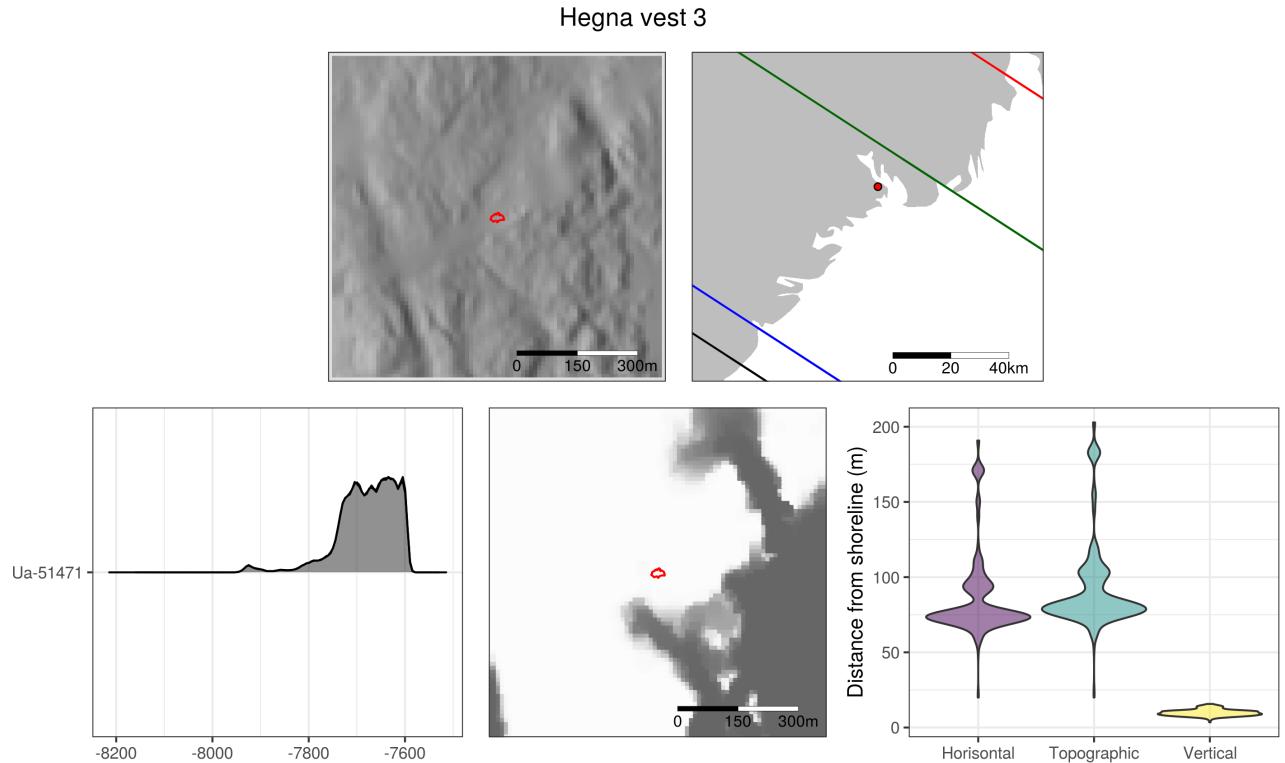
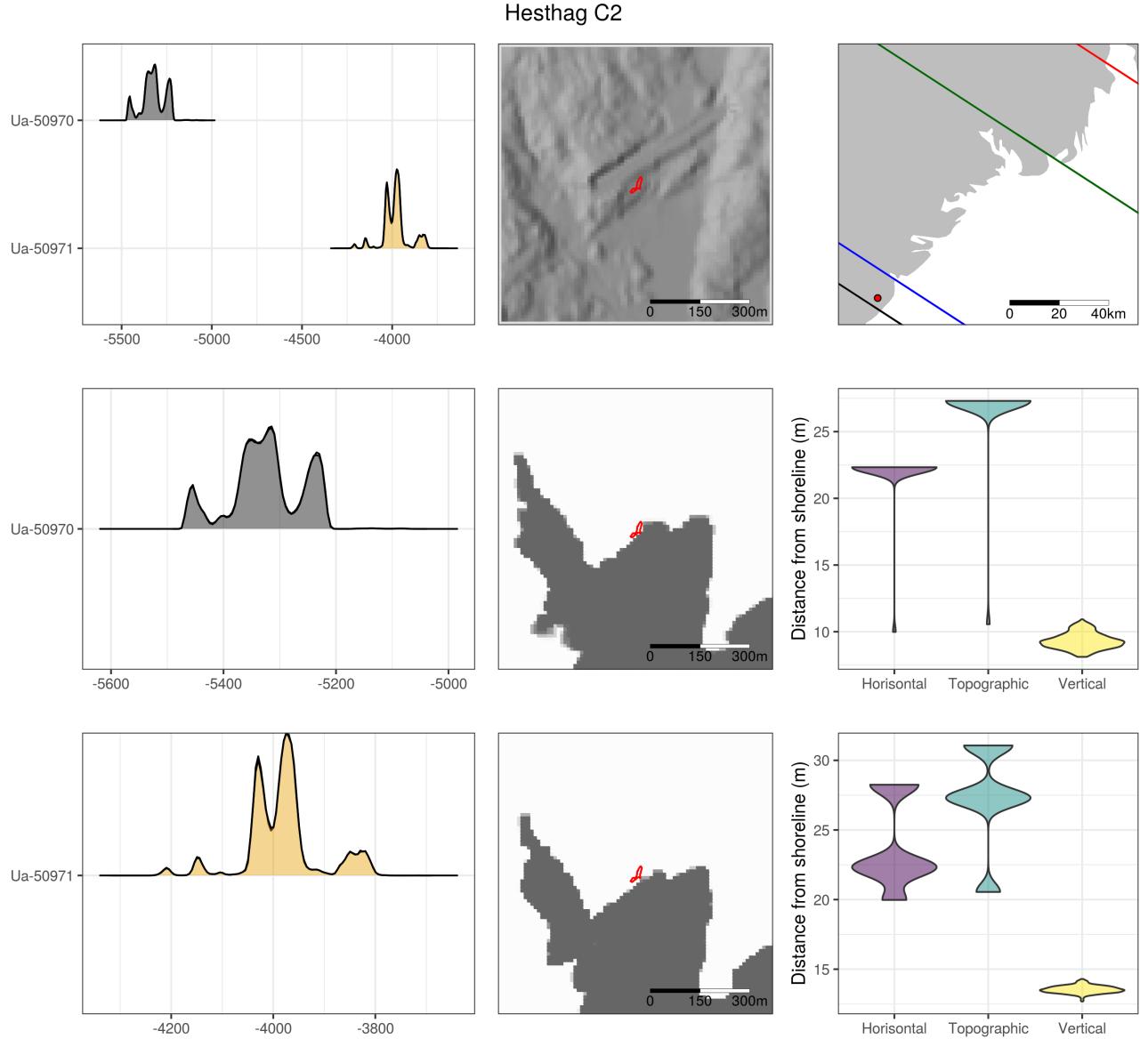


Table 16: Hegna vest 3

ID	^{14}C BP	Error	Material	Context
Ua-51471	8679	39	Aspen/willow (<i>Populus/Salix</i>)	Cooking pit (ID 11620)

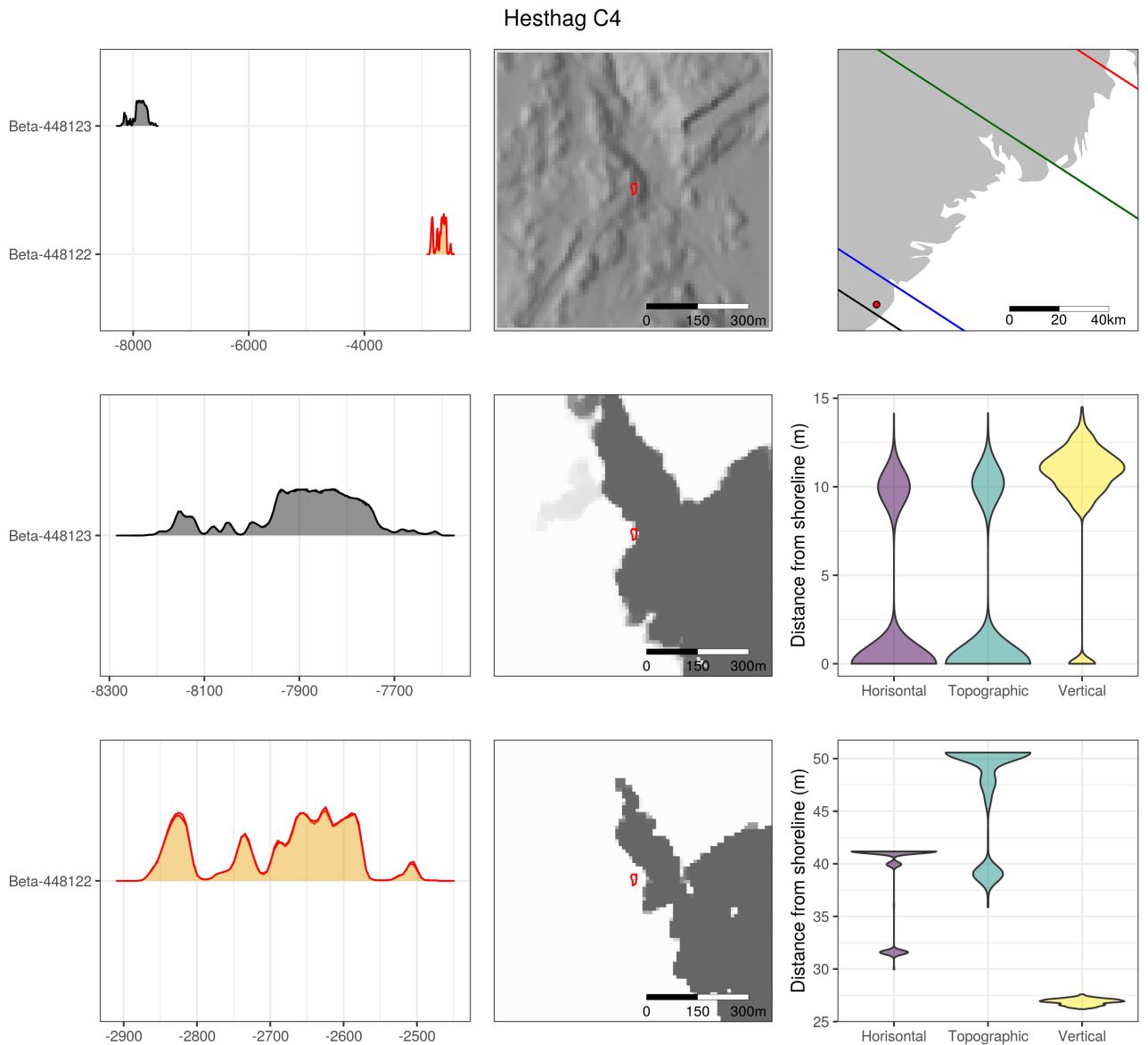
Along with Hegna vest 2 (above), Hegna vest 3 was situated where the highway runs today. The highway has been removed, and it would seem successfully so, as related to the sea-level adjustments. The ^{14}C -date to the Middle Mesolithic fits well with the lithic inventory (**eigeland2017?**).



Hesthag C2 has seen repeated use, as evidenced both by ^{14}C -dates and the artefact inventory (**viken2018e?**). While only a few finds can be typologically dated to the Late Mesolithic, these were deemed substantial enough to trust the two ^{14}C -dates to the period (**viken2018e?**). No editing of the DTM was necessary.

Table 17: Hesttag C2

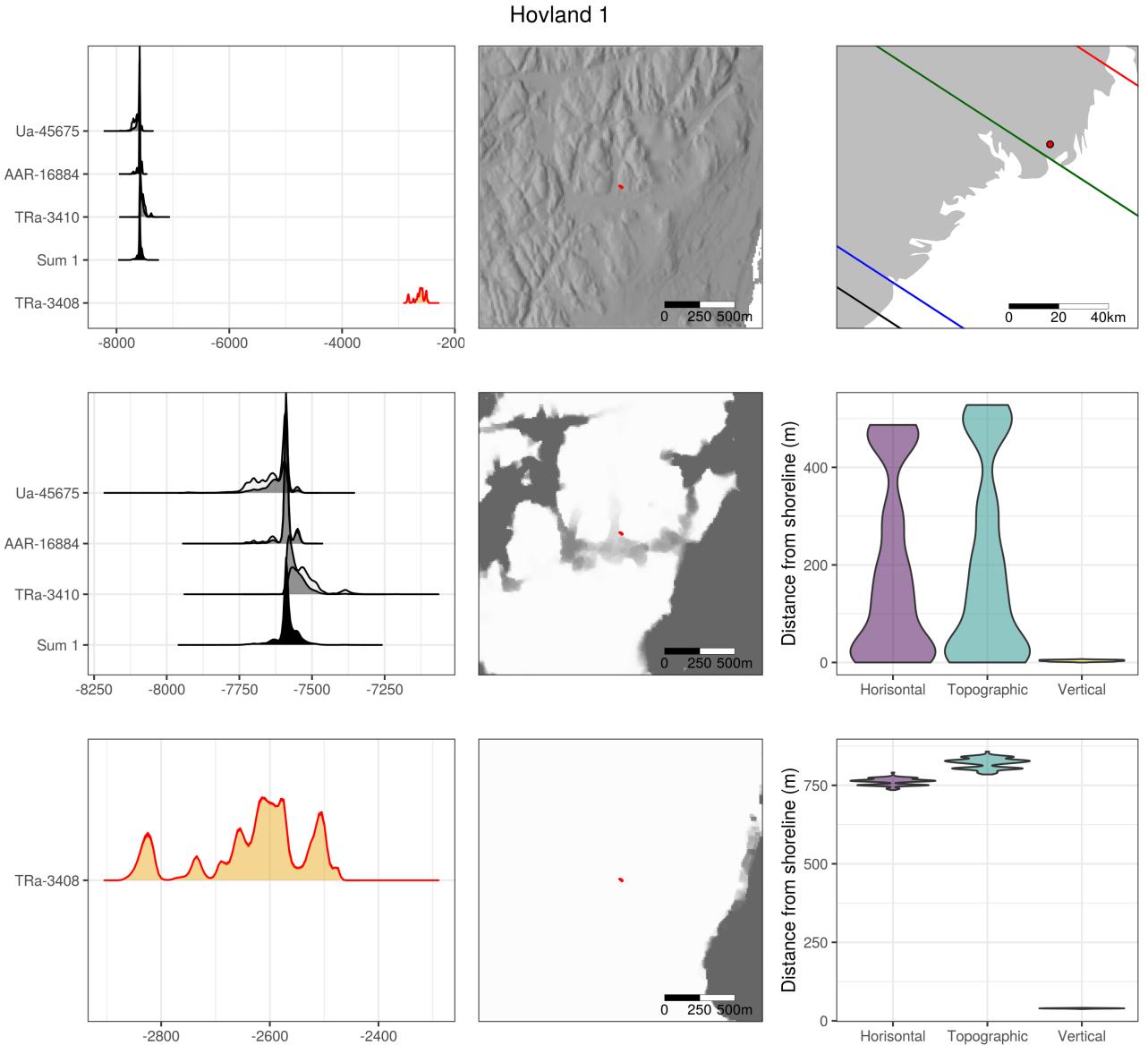
ID	^{14}C BP	Error	Material	Context
Ua-50970	6351	45	Oak (<i>Quercus</i>)	Fireplace (ID 2726)
Ua-50971	5172	44	Hazel (<i>Corylus</i>)	Fireplace (ID 2736)
Ua-50972	2182	30	Birch (<i>Betula</i>)	Fireplace (ID 4049)
Ua-50984	2143	32	Hazel (<i>Corylus</i>)	Cooking pit (ID 5366)
Ua-50973	1977	30	Birch (<i>Betula</i>)	Fireplace (ID 4063)
Ua-50974	1866	31	Birch (<i>Betula</i>)	Fireplace (ID 4224)



Typology and radiocarbon date match, and there are no modern disturbances in the vicinity of the site ([viken2018b?](#)). The second ^{14}C -date is a reference date of charcoal from a context believed not to be anthropogenic.

Table 18: Hesttag C4

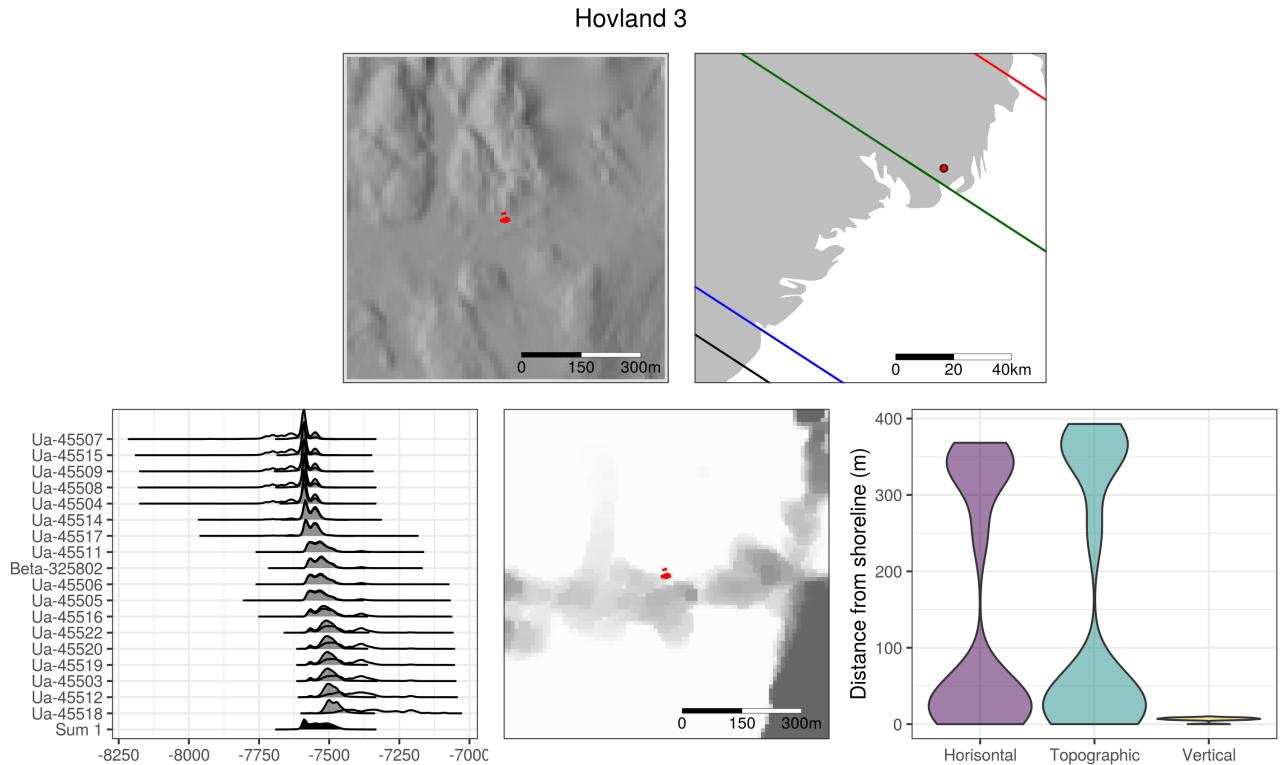
ID	^{14}C BP	Error	Material	Context
Beta-448123	8800	40	Pine (<i>Pinus</i>)	Cooking pit (ID 41178)
Beta-448122	4100	30	Birch (<i>Betula</i>)	Quadrant (993x863yNW)



It was noted in the report that it is uncertain how close to the shoreline Hovland 1 would have been situated, based on the ^{14}C -dates (olsen2013b?). The earliest dates match the lithic inventory. The later date is the only indication of activity from the Early Bronze Age/Early Iron Age. The site is not located far from the highway, which was been edited for the analysis of Hovland 1 and 4, as well as Torstvet (see below).

Table 19: Hovland 1

ID	¹⁴ C BP	Error	Material	Context
TRA-3410	8465	55	Hazel (<i>Corylus</i>)	Cooking pit (ID 4)
Ua-45675	8623	50	Aspen/willow (<i>Populus/Salix</i>)	Cooking pit (ID 4)
AAR-16884	8582	33	Birch resin (<i>Betula</i>) on microblade	Quadrant (172x159ySW, layer 2)
TRA-3408	4070	35	Hazel (<i>Corylus</i>), nutshell	Square (158x164y, layer 2)
TRA-3409	2435	35	Hazel (<i>Corylus</i>)	Cooking pit (ID 2)



Hovland 3 is securely dated both typologically and radiometrically (**solheim2013?**). It is, however, located just by the highway. This appears to have been successfully removed.

Table 20: Hovland 3

ID	^{14}C BP	Error	Material	Context
Ua-45507	8609	54	Birch (<i>Betula</i>)	Post hole (ID 13)
Ua-45515	8606	50	Hazel (<i>Corylus</i>), nutshell	Quadrant (99x66yNE, layer 2)
Ua-45509	8594	48	Birch (<i>Betula</i>)	Post hole? (ID 17)
Ua-45508	8591	50	Rowan (<i>Sorbus</i>)	Post hole (ID 14)
Ua-45504	8584	49	Birch (<i>Betula</i>)	Undefined feature (ID 24)
Ua-45514	8552	50	Rowan (<i>Sorbus</i>)	Dwelling structure (0-5 cm)
Ua-45517	8540	51	Hazel (<i>Corylus</i>), nutshell	Dwelling structure (10-15 cm)
Ua-45505	8467	53	Rowan (<i>Sorbus</i>)	Undefined feature (ID 23)
Ua-45511	8465	48	Birch (<i>Betula</i>)	Undefined/ditch/post hole (ID 18)
Ua-45506	8458	48	Rowan (<i>Sorbus</i>)	Cooking pit (ID 21)
Beta-325802	8450	40	Hazel (<i>Corylus</i>), nutshell	Quadrant (100x66yNE, layer 3)
Ua-45516	8428	50	Hazel (<i>Corylus</i>), nutshell	Dwelling structure (0-5 cm)
Ua-45522	8398	49	Hazel (<i>Corylus</i>), nutshell	Undefined/ditch/post hole (ID 18)
Ua-45520	8387	47	Hazel (<i>Corylus</i>), nutshell	Dwelling structure (30-35 cm)
Ua-45519	8383	47	Hazel (<i>Corylus</i>), nutshell	Dwelling structure (25-30 cm)
Ua-45503	8376	51	Birch (<i>Betula</i>)	Cooking pit (ID 25)
Ua-45512	8348	47	Birch (<i>Betula</i>)	Post hole (ID 7)
Ua-45518	8291	48	Hazel (<i>Corylus</i>), nutshell	Dwelling structure (20-25 cm)
Ua-45523	3423	34	Hazel (<i>Corylus</i>), nutshell	Post hole (ID 8)
Ua-45521	2674	32	Hazel (<i>Corylus</i>), nutshell	Stone packing (ID 15)
Ua-45502	2408	34	Hazel (<i>Corylus</i>)	Fireplace (ID 5)
Ua-45501	2188	33	Hazel (<i>Corylus</i>)	Fireplace (ID 27)
Ua-45510	1833	30	Birch (<i>Betula</i>)	Fireplace (ID 11)
Ua-45513	1334	30	Birch (<i>Betula</i>)	Quadrant (101x67ySW, layer 3)

Table 21: Hovland 4

ID	^{14}C BP	Error	Material	Context
Ua-45500	8747	64	Burnt bone	Quadrant (93x46yNW, layer 2)
Ua-45499	8630	49	Hazel (Corylus), nutshell	Quadrant (90x45ySW, layer 2)
Ua-45493	8568	51	Birch (Betula)	Cooking pit (ID 6)
Ua-45494	8526	52	Birch (Betula)	Fireplace (ID 1)
Ua-45495	3534	34	Hazel (Corylus)	Fireplace (ID 8)
Ua-45496	3016	32	Hazel (Corylus)	Fireplace (ID 10)
Ua-45497	2327	32	Hazel (Corylus)	Cooking pit (ID 14)
Ua-45492	2090	32	Birch/hazel (Betula/Corylus)	Fireplace (ID 3)
Ua-45498	1751	31	Hazel (Corylus), nutshell	Quadrant (101x59yNE, layer 2)

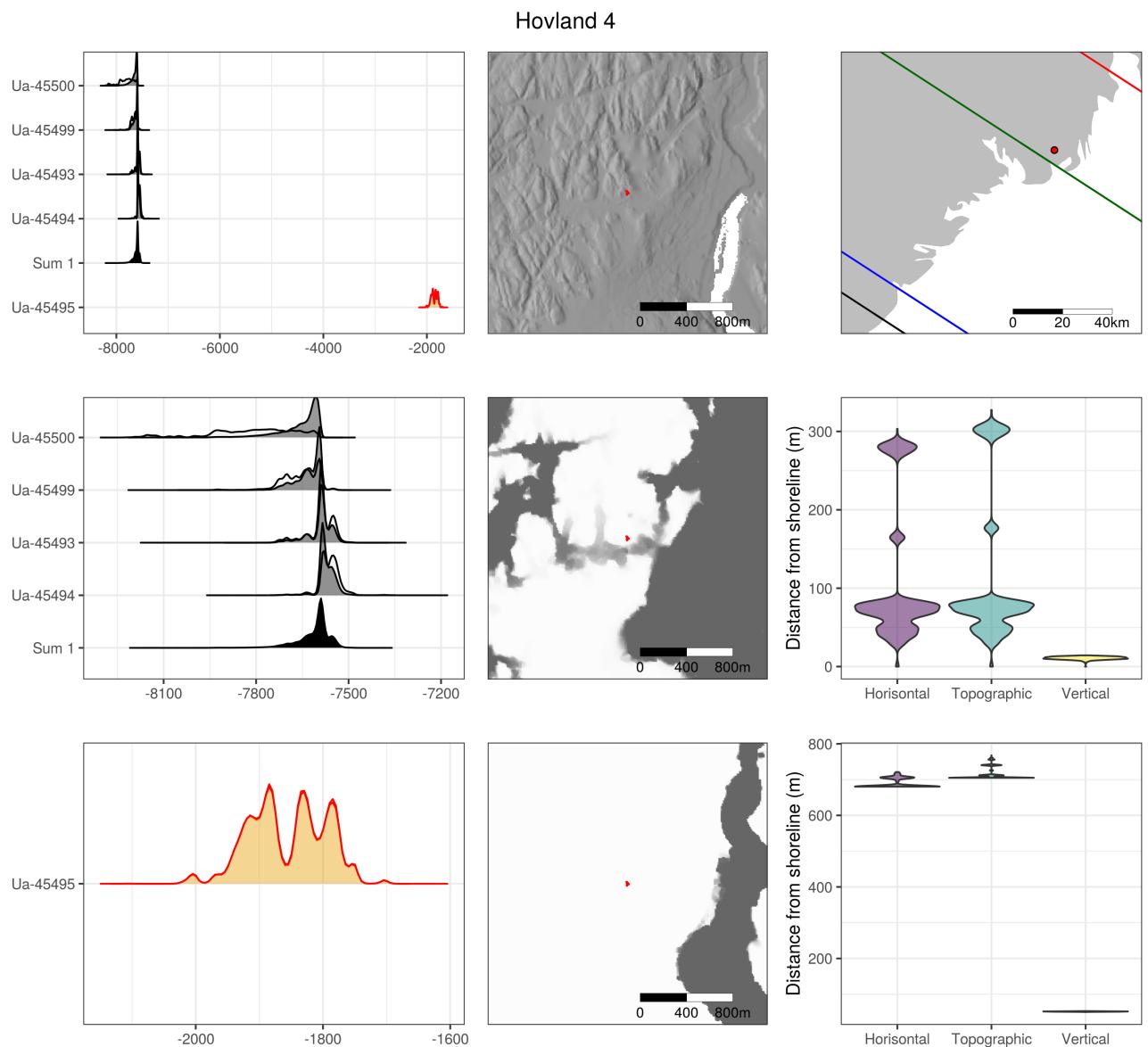
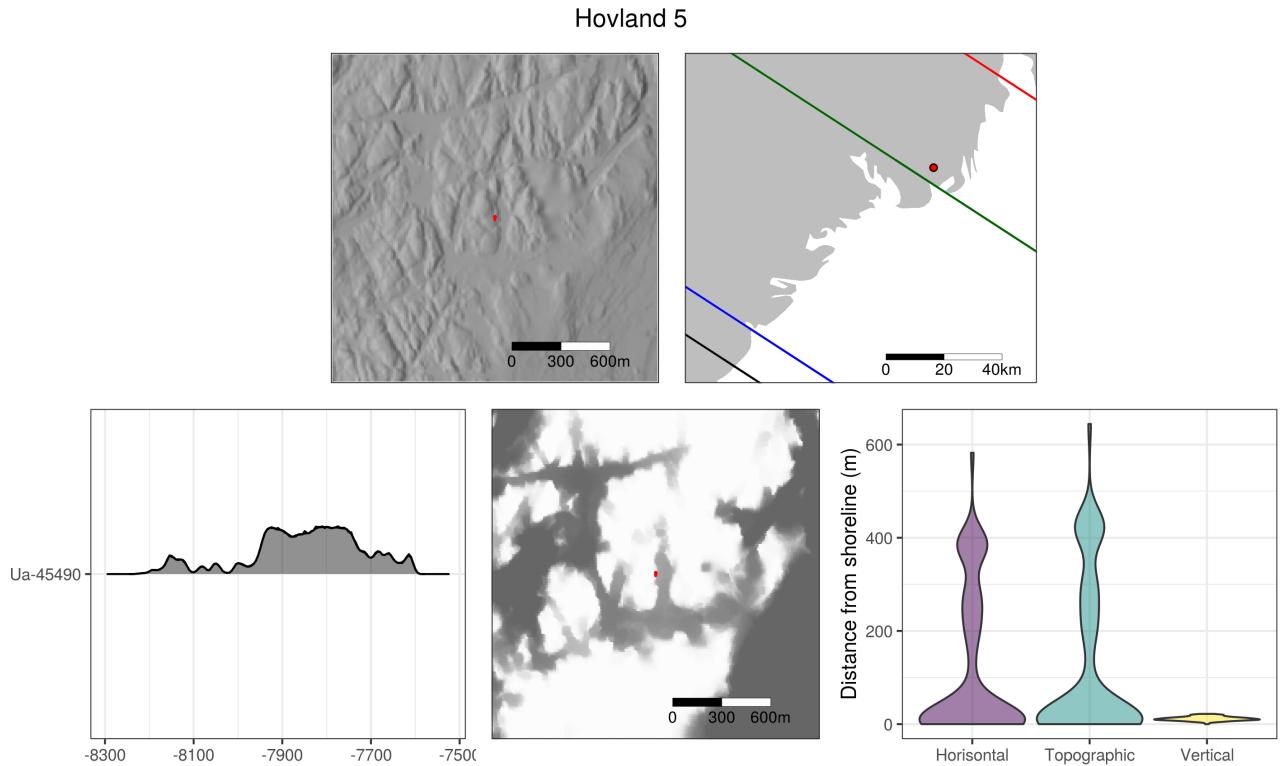


Table 22: Hovland 5

ID	^{14}C BP	Error	Material	Context
Ua-45490	8775	52	Hazel (<i>Corylus</i>), nutshell	Quadrant (66x104ySE, layer 2)
Ua-45491	2674	34	Hazel (<i>Corylus</i>), nutshell	Quadrant (67x104ySE, layer 1)

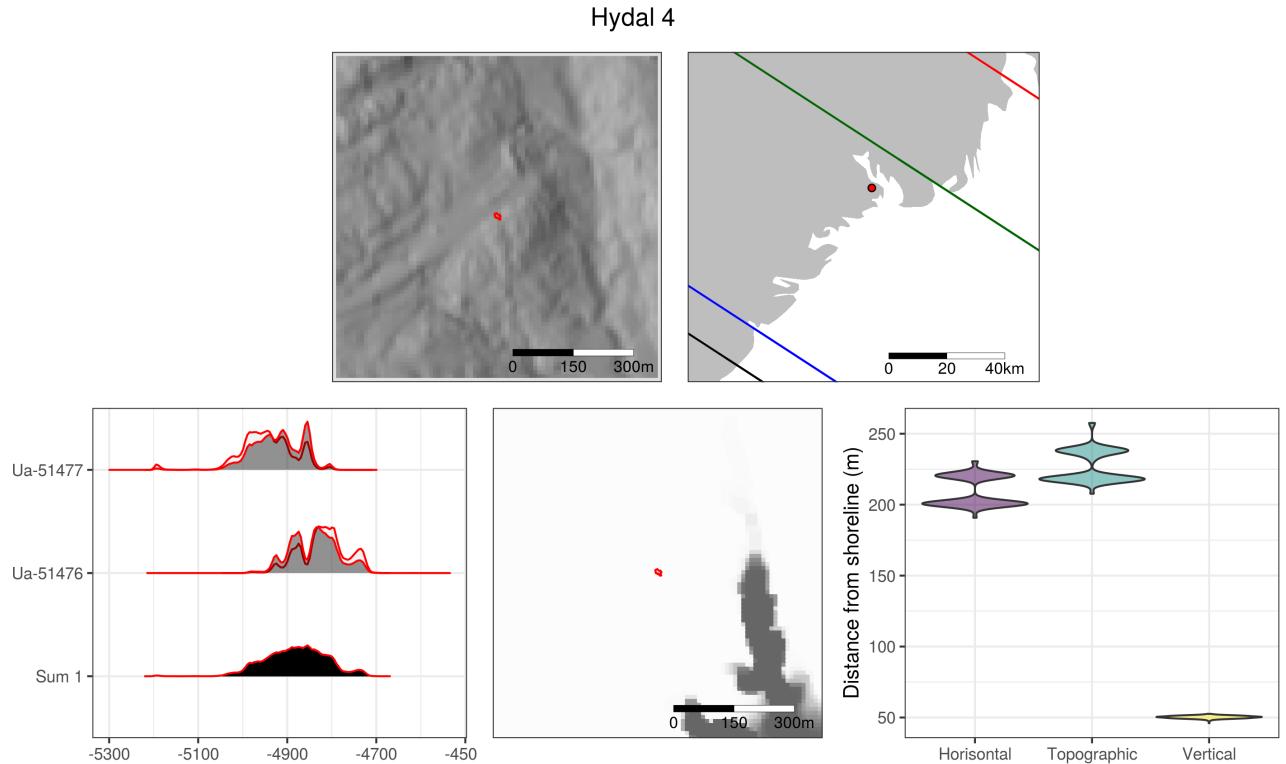
Hovland 4 is well-dated both typologically and with ^{14}C -dates to the Mesolithic. It has a similar location to that of Hovland 3 (above), and editing of the highway seems to have been successful.



Hovland 5 is situated more withdrawn from the highway than the other Hovland sites (above). It only has a single ^{14}C -date, but this does match the typological indicators of the assemblage (**mansrud2013?**).

Table 23: Hydal 4

ID	^{14}C BP	Error	Material	Context
Ua-51475	2064	33	Willow (Salix)	Grave, urn (ID 5442)
Ua-51476	5944	35	Oak (Quercus)	Fireplace (ID 5459)
Ua-51477	6049	36	Hazel (Corylus), nutshell	Square (107x604y, layer 2)
Ua-51478	2361	29	Burnt bone, human	Grave, urn (ID 5442)



The lithic inventory from Hydal 4 is distinctly Middle Mesolithic in character, and therefore does not match the ^{14}C -dates to the Late Mesolithic (**koxvold2017e?**). The simulation of the sea-level does not appear impacted by any modern disturbances.

Krøgenes D1

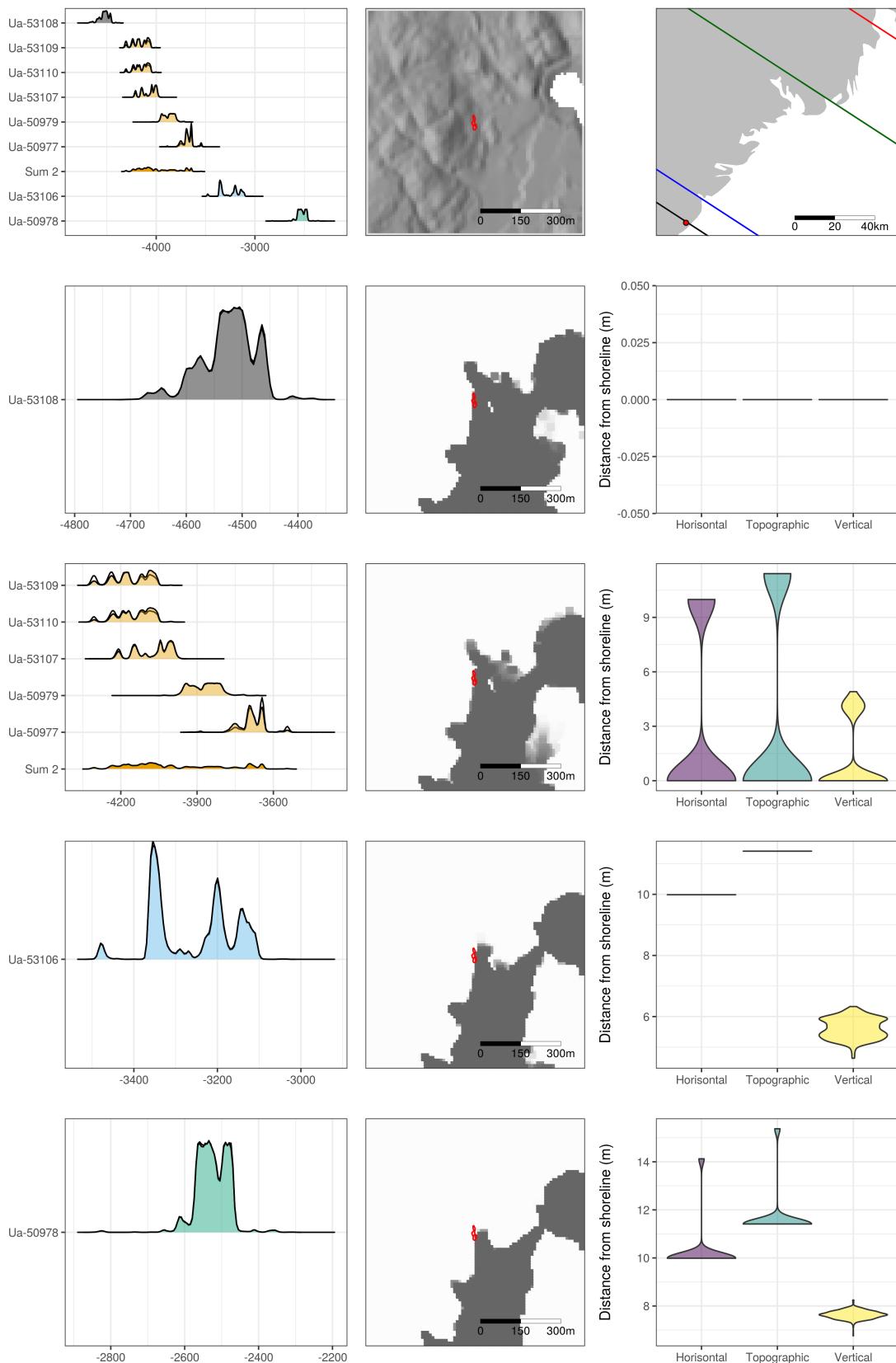


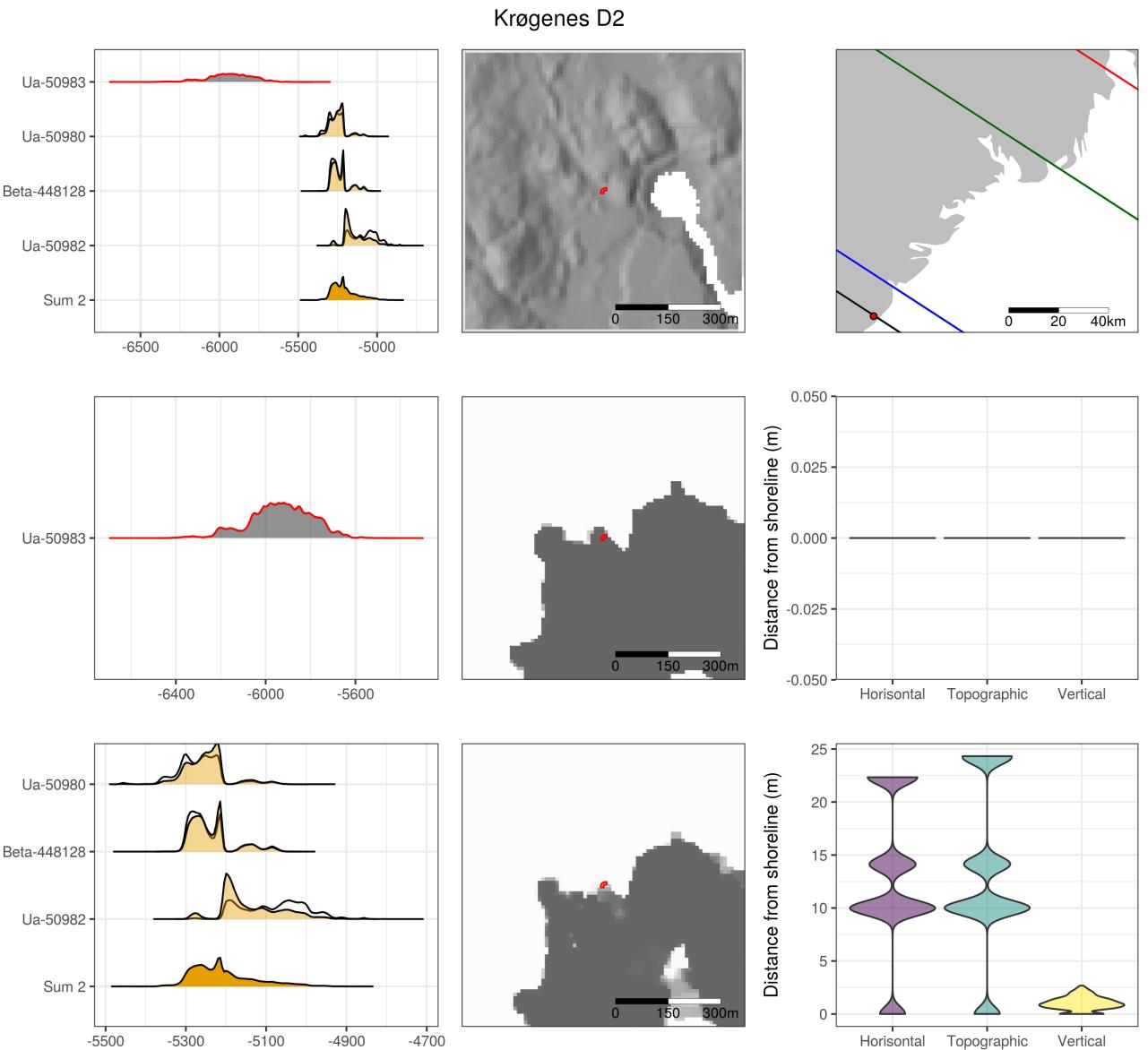
Table 24: Krøgenes D1

ID	^{14}C BP	Error	Material	Context
Ua-53108	5694	32	Ash (<i>Fraxinus</i>)	Cooking pit/fireplace (ID 204387)
Ua-53109	5351	31	Pine (<i>Pinus</i>)	Cooking pit/fireplace (ID 207098)
Ua-53110	5334	31	Pine (<i>Pinus</i>)	Cooking pit/fireplace (ID 207811)
Ua-53107	5249	31	Birch (<i>Betula</i>)	Posthole? (ID 204397)
Ua-50979	5082	40	Willow/alder (<i>Salix/Alnus</i>)	Ditch (ID 204424)
Ua-50977	4883	40	Willow/alder (<i>Salix/Alnus</i>)	Cooking pit/fireplace (ID 204413)
Ua-53106	4559	31	Pine (<i>Pinus</i>)	Ditch (ID 203549)
Ua-50978	4005	34	Ash (<i>Fraxinus</i>)	Cooking pit/fireplace (ID 206352)
Ua-50975	1641	30	Ash (<i>Fraxinus</i>)	Cooking pit/fireplace (ID 203533)

All ^{14}C -dates from Krøgenes D1 are believed to be related to use of the site, which has been reused multiple times over a long time-span and which is evidenced in the artefact inventory as well (reitan2018?). To what degree the different dates are related to different or the same settlement phases is difficult to ascertain, but is here, as with for the rest of the sites, simply based on grouping dates overlapping with 99.7% probability. The site is situated around 100 meter from a road to the south, but this does not appear to impact simulation results, and is therefore left unedited in the DTM.

Table 25: Krøgenes D2

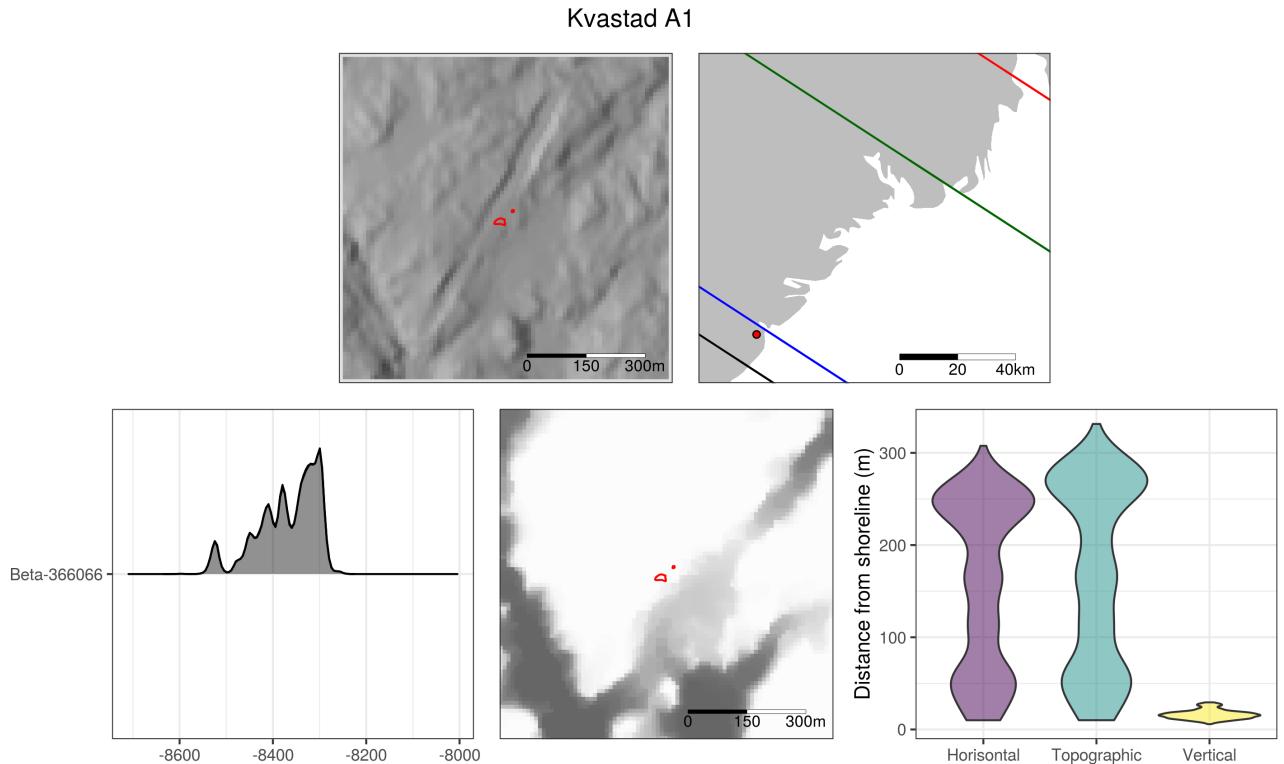
ID	^{14}C BP	Error	Material	Context
Ua-50983	7059	143	Pine (Pinus)	Stone packing (ID 206735)
Ua-50982	6132	45	Pine (Pinus)	Cultural layer (ID 206712)
Beta-448128	6260	30	Alder (Alnus)	Cultural layer (K2, sample ID 3102)
Ua-50980	6297	44	Pine (Pinus)	Cultural layer (ID 206712)
Ua-50981	3379	34	Birch (Betula)	Sand layer (ID 206652)
Beta-448127	1760	30	Hazel (Corylus)	Cultural/Cultivation layer (K1, sample ID 3646)



The oldest date is not seen as relevant for the main occupation on the site, in part also due to the large error (**mansrud2018b?**). The site location is similar to that of Krøgenes D1 (above), and did not require any editing.

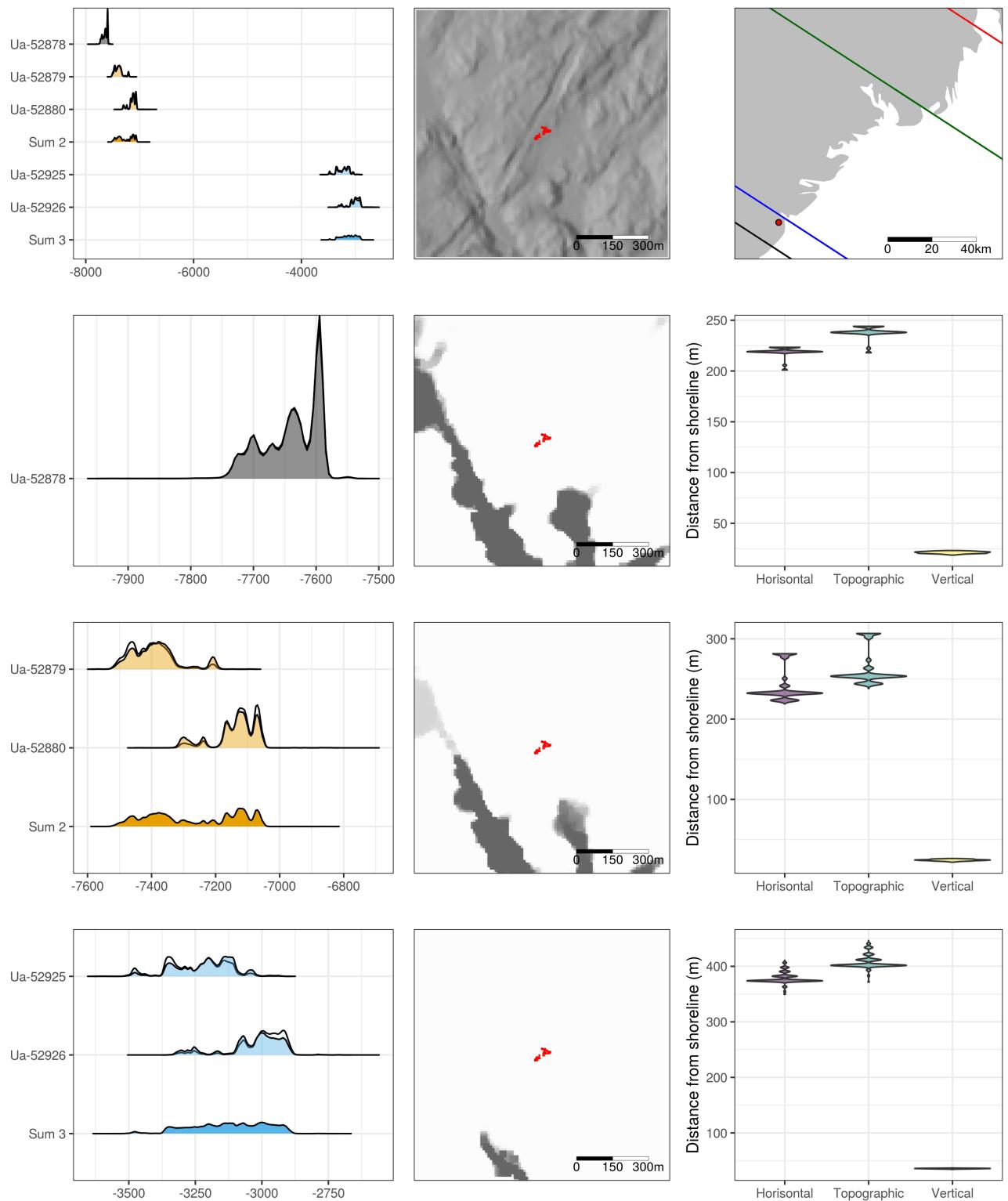
Table 26: Kvastad A1

ID	^{14}C BP	Error	Material	Context
Ua-53920	2400	30	Yew (<i>Taxus</i>)	Fireplace (ID 1108)
Ua-53921	2388	29	Indet.	Fireplace (ID 1108)
Ua-53918	2249	29	Alder (<i>Alnus</i>)	Fireplace (ID 1108)
Ua-53917	2176	29	Birch (<i>Betula</i>)	Fireplace (ID 1108)
Ua-53919	2164	29	Indet.	Fireplace (ID 1108)
Ua-52872	2264	27	Birch (<i>Betula</i>)	Fireplace (ID 1108)
Beta-366066	9150	40	Pine (<i>Pinus</i>)	Test pit (ID 20993)



^{14}C -date and lithic inventory at Kvastad A1 correspond with a date to the end of the Early Mesolithic (stokke2018?). The highway to north of the site is clearly visible on the DTM, but does not impact the simulation results.

Kvastad A2



The two find areas are predominantly Mesolithic (to the south-west) and Neolithic (to the north-east) but were treated in combination here as one Mesolithic date is from the Neolithic area (**stokke2018b?**). There is

Table 27: Kvastad A2

ID	^{14}C BP	Error	Material	Context
Ua-52878	8625	35	Pine (<i>Pinus</i>)	Fireplace (ID 57753)
Ua-52879	8339	35	Pine (<i>Pinus</i>)	Fireplace (ID 57995)
Ua-52880	8130	34	Coniferous (Conif. indet.), cone seed scale	Undefined feature (ID 54075)
Ua-52925	4551	56	Hulless barley (<i>Hordeum vulgare</i> var. <i>nudum</i>)	Fireplace (ID 54643)
Ua-52926	4351	55	Emmer (<i>Hordeum vulgare</i> var. <i>nudum</i>)	Fireplace (ID 54643)
Ua-52875	3464	28	Hulless barley (<i>Hordeum vulgare</i> var. <i>nudum</i>)	Fireplace (ID 54643)
Ua-52876	3477	28	Oat (<i>Avena</i> sp.)	Fireplace (ID 54643)
Ua-52877	3470	29	Oat (<i>Avena</i> sp.)	Fireplace (ID 54643)
Ua-52874	3431	28	Oat (<i>Avena</i> sp.)	Cultivation layer (ID 53485)

Table 28: Kvastad A4

ID	^{14}C BP	Error	Material	Context
Ua-52887	2395	27	Ash (<i>Fraxinus</i>)	Cooking pit (ID 153273)
Ua-52882	809	26	Oak (<i>Quercus</i>)	Fireplace (ID 150637)
Ua-52886	1100	26	Pine (<i>Pinus</i>)	Trench profile (ID 153311)
Beta-366067	8760	40		Test pit (ID 21410)

also a late Neolithic element in the lithic inventory that is not reflected in the ^{14}C -dates. As with Kvastad A1 (above) the highway runs north of the site, clearly visible on the DTM, but does not impact the simulation results.

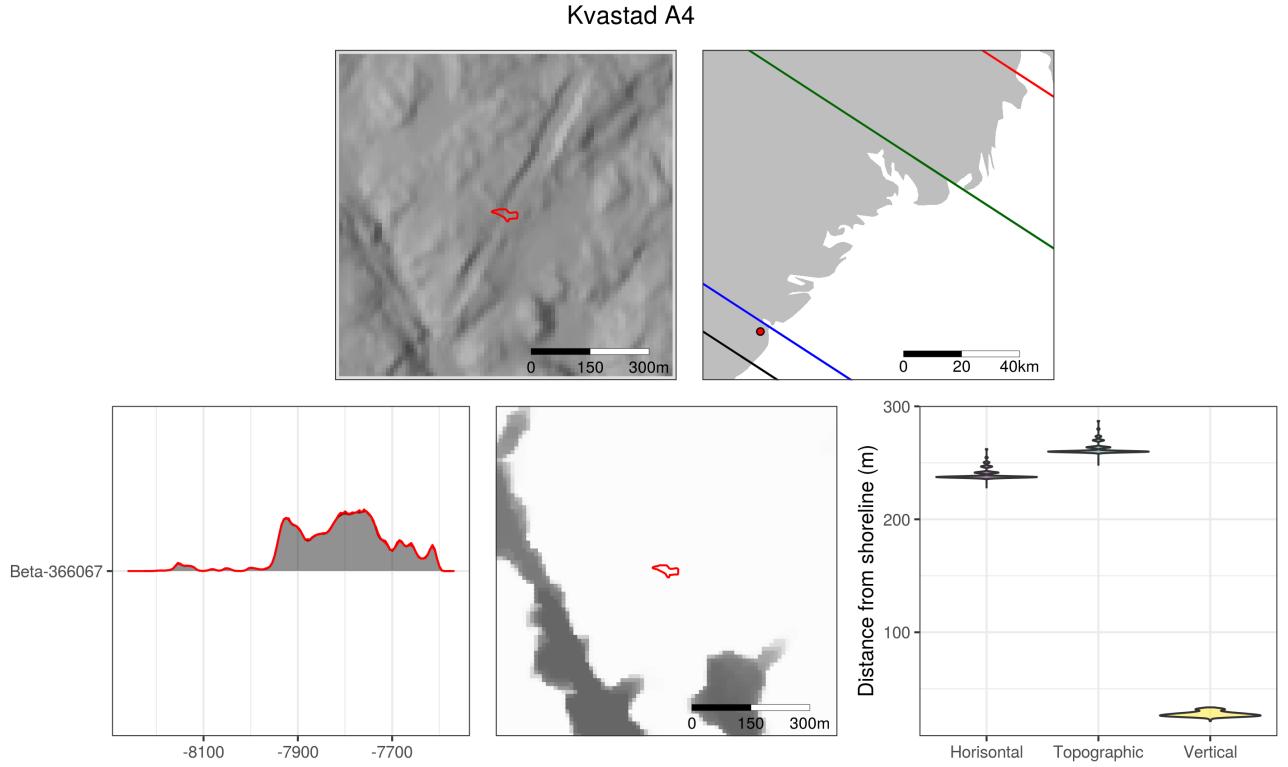
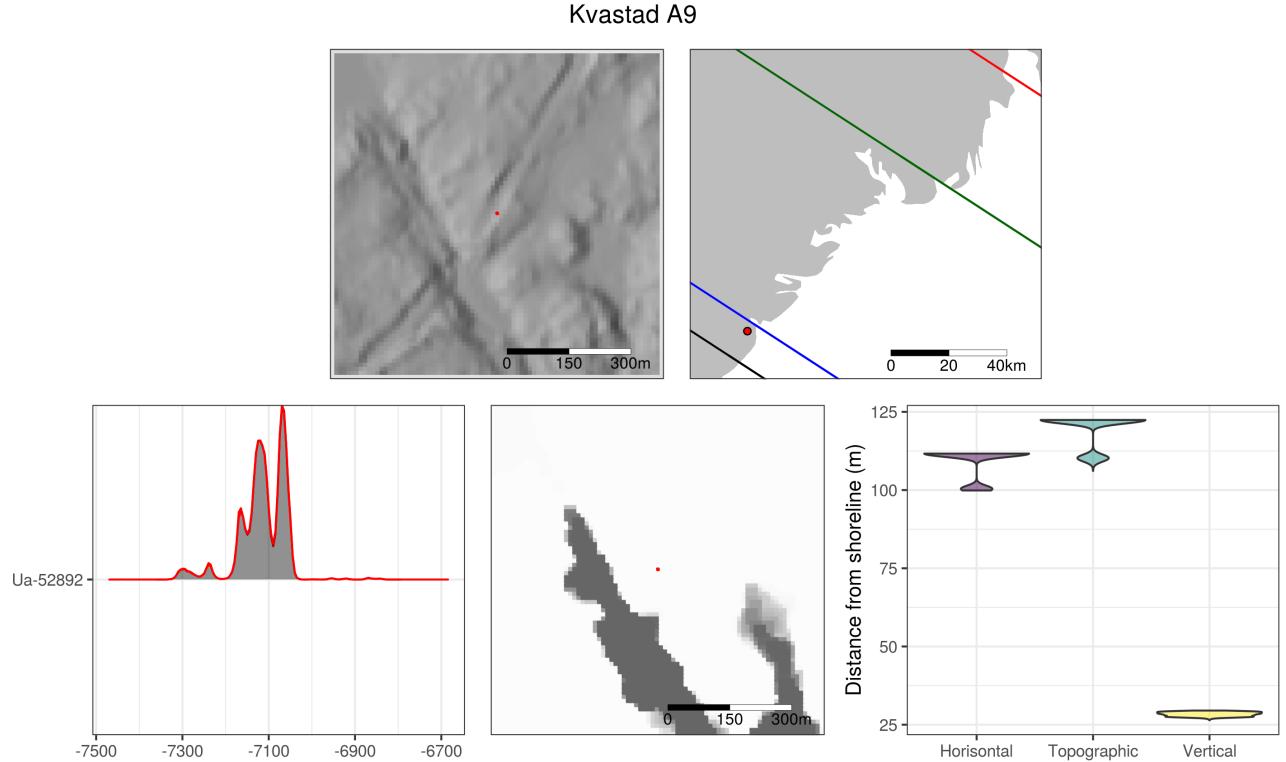


Table 29: Kvastad A9

ID	^{14}C BP	Error	Material	Context
Ua-52891	2476	27	Oak (<i>Quercus</i>)	Fireplace (ID 400076)
Ua-52892	8119	34	Pine (<i>Pinus</i>)	Stone packing (ID 400159)
Ua-52893	3187	28	Pine (<i>Pinus</i>)	Fireplace (ID 400180)

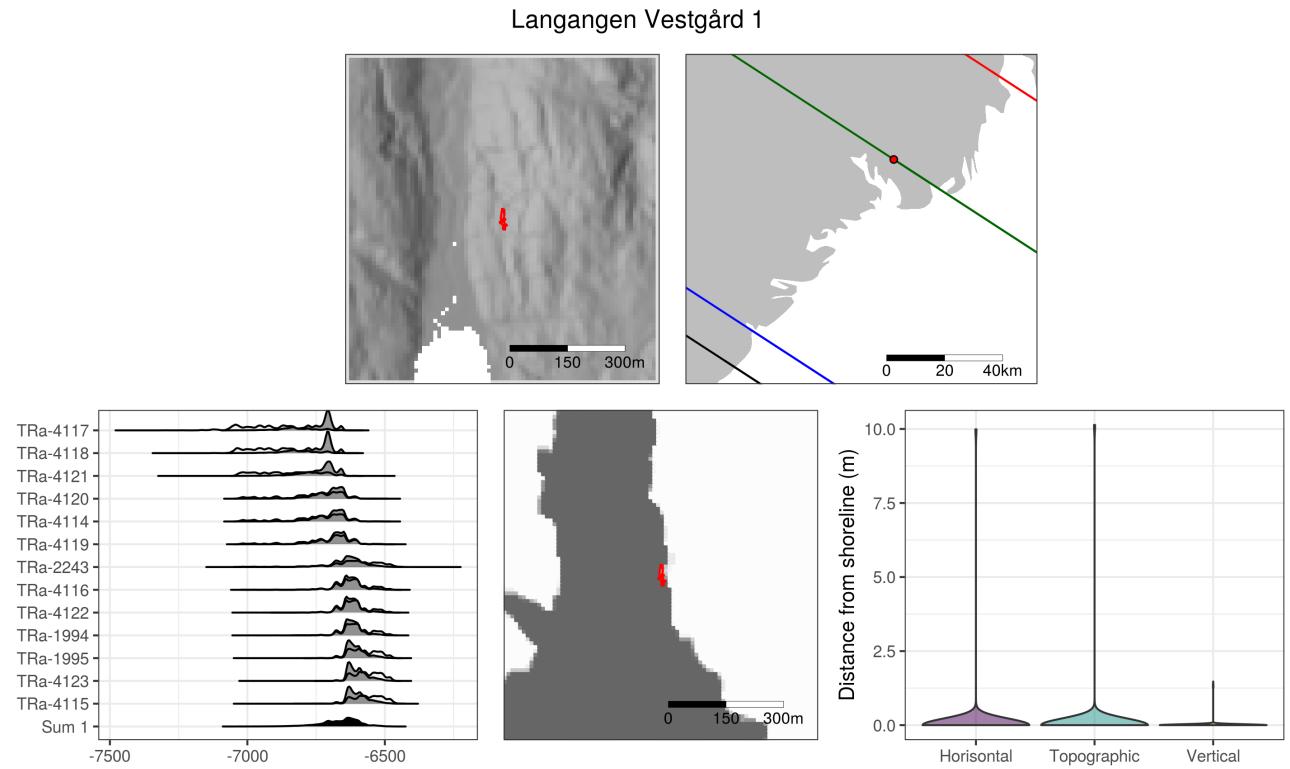
While there are a few elements of the lithic inventory from Kvastad A4 that could be related to the Stone Age date, it is not related to main visit to the site, which are Early and Middle Mesolithic in character (**darmark2018c?**). The highway runs over the site today, but this is not relevant for the shore-line reconstruction done here.



The Stone Age date from Kvastad A9 is not related to the Early Mesolithic assemblage (**darmark2018b?**). The highway running by the site does not seem relevant to the simulation results.

Table 30: Langangen Vestgård 1

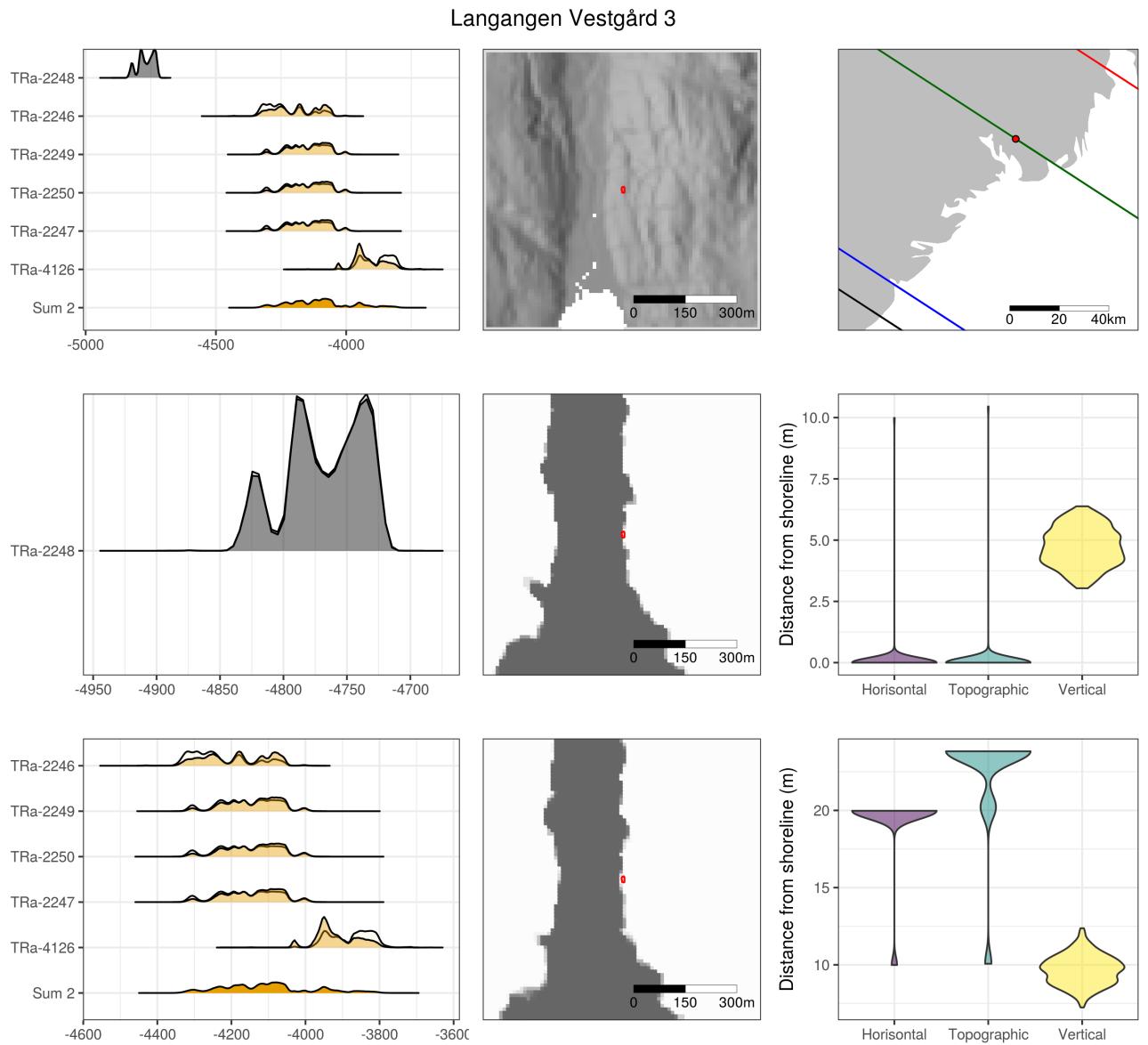
ID	^{14}C BP	Error	Material	Context
TRa-1994	7785	40	Burnt bone	Quadrant (579x937ySW, layer 2)
TRa-1995	7760	40	Burnt bone	Quadrant (580x938yNE, layer 2)
TRa-2243	7780	70	Pine (Pinus)	Floor layer (ID 1)
TRa-4114	7870	45	Birch/rowan (Betula/Sorbus)	Cooking pit (ID 3600)
TRa-4115	7740	45	Hazel (Corylus)	Cooking pit (ID 3601)
TRa-4116	7800	45	Hazel (Corylus)	Cooking pit (ID 4044)
TRa-4117	8030	55	Pine (Pinus)	Cooking pit (ID 4286)
TRa-4118	8005	45	Willow (Salix)	Undefined feature (ID 6)
TRa-4119	7850	45	Birch/hazel (Betula/Corylus)	Undefined feature (ID 8a)
TRa-4120	7875	45	Hazel (Corylus)	Undefined feature (ID 13)
TRa-4121	7945	45	Birch/willow (Betula/Salix)	Undefined feature (ID 12)
TRa-4122	7795	40	Burnt bone	Quadrant (583x929yNE, layer 1+2)
TRa-4123	7745	35	Burnt bone	Quadrant (589x931yNE, layer 2)



Langangen Vestgård 1 is a securely dated site with both ^{14}C -dates and typology (**melvold2014?**). No modern disturbances appear relevant for the sea-level adjustment.

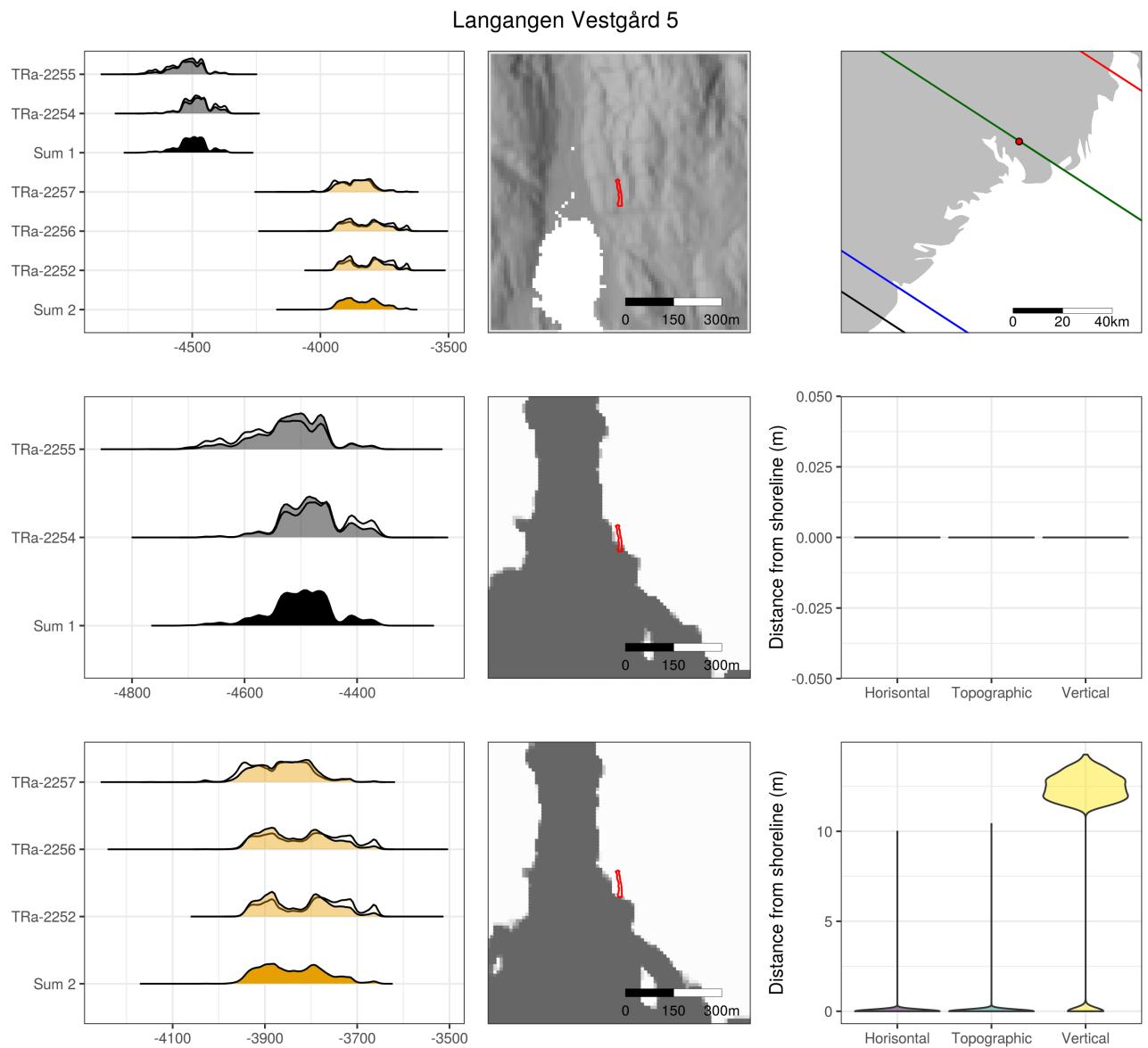
Table 31: Langangen Vestgård 3

ID	^{14}C BP	Error	Material	Context
TRa-2245	1080	30	Birch (Betula)	Cooking pit (ID 1640)
TRa-2246	5400	55	Pine (Pinus)	Cooking pit (ID 1600)
TRa-2247	5325	50	Pine (Pinus)	Cooking pit (ID 1600)
TRa-2248	5910	10	Pine (Pinus)	Cooking pit (ID 1664)
TRa-4126	5095	40	Pine (Pinus)	Cooking pit (ID 1664)
TRa-2249	5325	45	Birch (Betula)	Cooking pit (ID 1700)
TRa-2250	5325	50	Birch (Betula)	Cooking pit (ID 1700)



Typology of the site inventory from Langangen Vestgård 3 match the ^{14}C -date ([eggen2014a?](#)). Typological indicators are too coarse to offer any insight on the division into two phases done here for the ^{14}C -dates. No

editing of the DTM was necessary.



Langangen Vestgård 5. Typology match the ^{14}C -dates and a division of two phases, one Late Mesolithic and one Early Neolithic (**reitan2014b?**). No editing of the DTM necessary.

Table 32: Langangen Vestgård 5

ID	^{14}C BP	Error	Material	Context
TRA-2255	5695	50	Pine (<i>Pinus</i>)	Cooking pit (ID 2800)
TRA-2254	5645	45	Birch/willow (<i>Betula/Salix</i>)	Cooking pit (ID 2821)
TRA-2257	5085	50	Birch/linden (<i>Betula/Tilia</i>)	Cooking pit/fireplace (ID 395)
TRA-2256	5015	55	Birch/willow/rowan (<i>Betula/Salix/Sorbus</i>)	Cooking pit (ID 2300)
TRA-2252	5005	45	Birch/willow/rowan (<i>Betula/Salix/Sorbus</i>)	Cooking pit (ID 2329)
UBA-19135	3066	25	Birch (<i>Betula</i>)	Cooking pit? (ID 5316)
TRA-2253	2255	45	Birch/hazel/willow/rowan (<i>Betula/Corylus/Salix/Sorbus</i>)	Cultural layer? (ID 352)
UBA-19136	1819	26	Ash (<i>Fraxinus</i>)	Fireplace (ID 3369)
TRA-2251	1785	35	Birch/hazel (<i>Betula/Corylus</i>)	Fireplace (ID 350)
TRA-2258	1785	35	Birch/hazel (<i>Betula/Corylus</i>)	Charcoal/406x46ySWSE,layer
TRA-1996	100	30	Burnt bone, mammal (1.6g)	Quadrant (369x55yNW, layer)

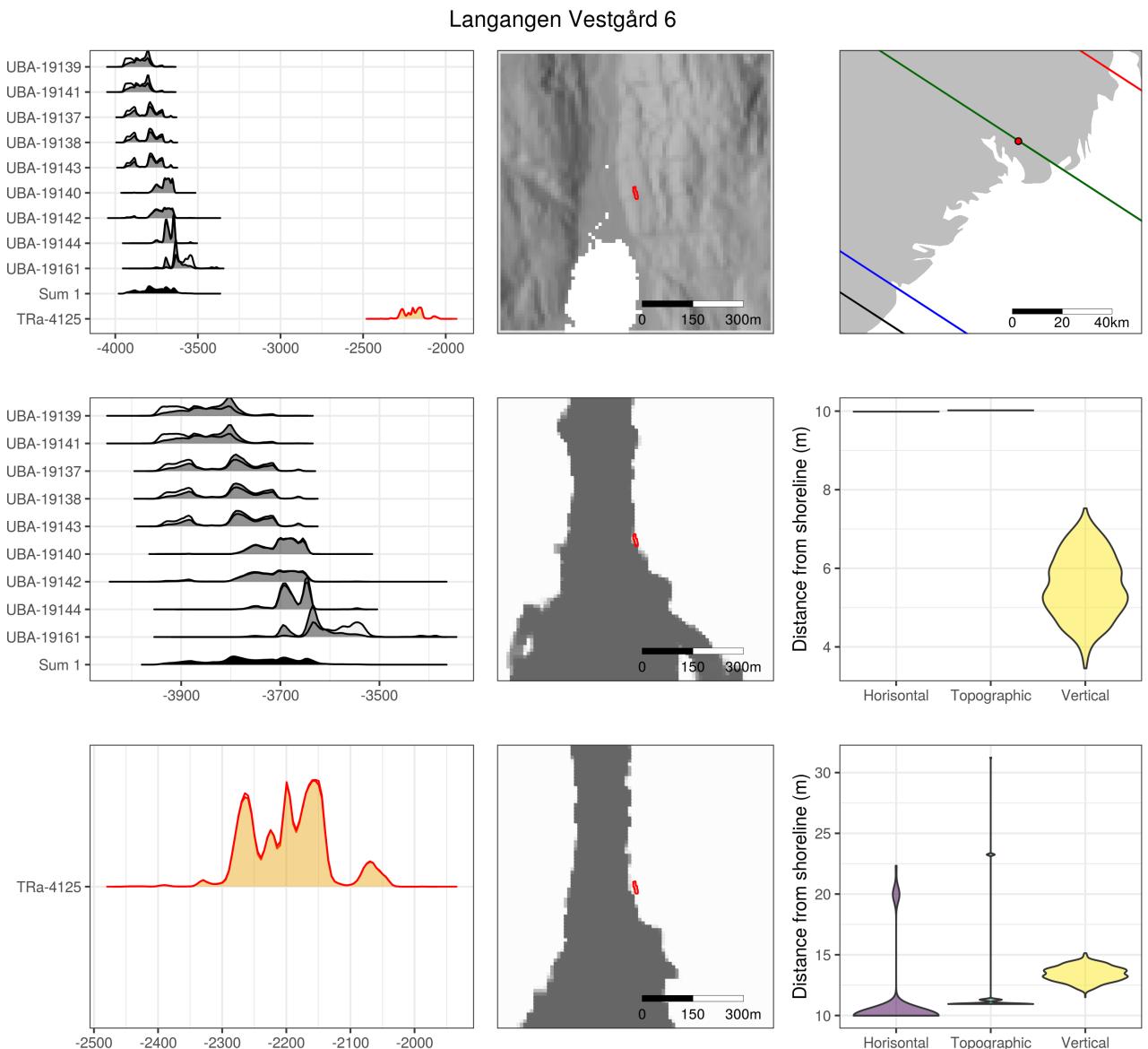


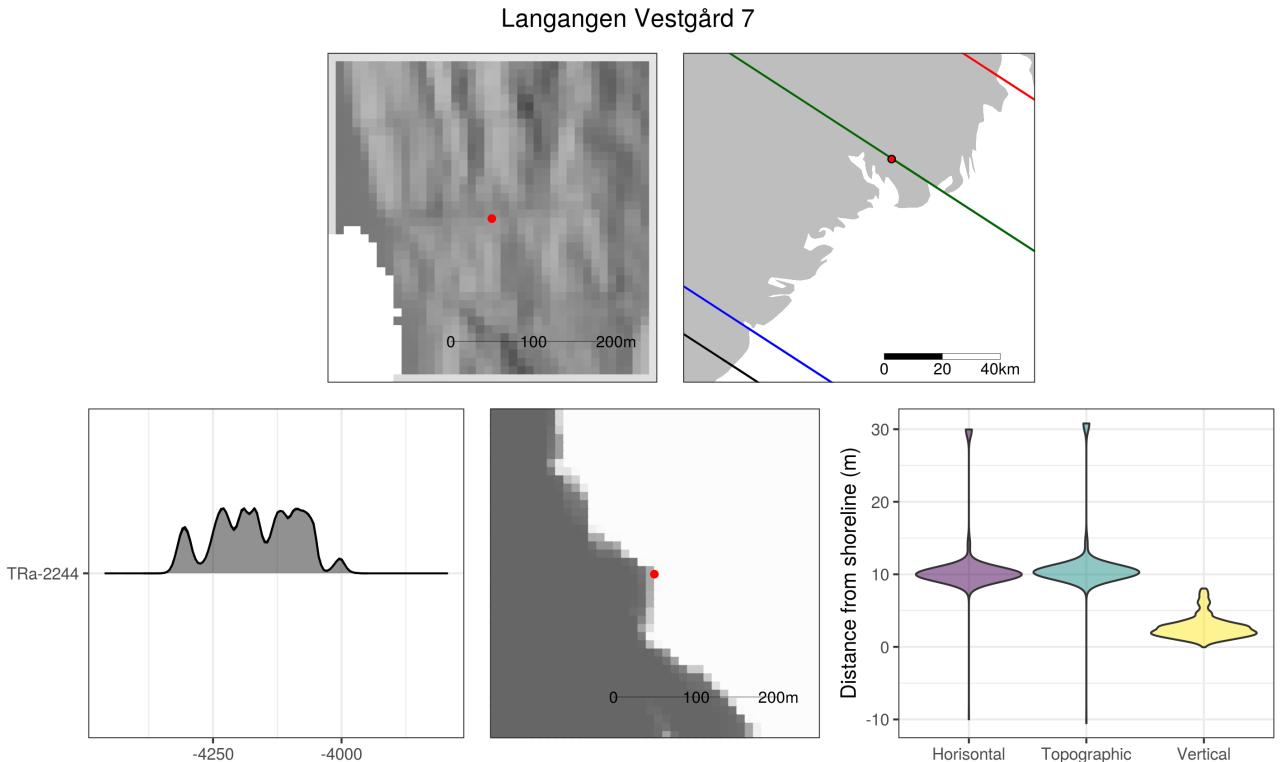
Table 33: Langangen Vestgård 6

ID	¹⁴ C BP	Error	Material	Context
UBA-19139	5057	28	Birch (Betula)	Cooking pit (ID 2045)
UBA-19141	5055	27	Birch/aspen (Betula/Populus)	Cooking pit? (ID 214)
UBA-19137	5021	28	Birch (Betula)	Cooking pit (ID 1732)
UBA-19138	5017	29	Birch (Betula)	Cooking pit (ID 2000)
UBA-19143	5010	27	Hazel (Corylus)	Cooking pit (ID 1886)
UBA-19142	4939	47	Birch/hazel (Betula/Corylus)	Undefined feature (ID 572)
UBA-19140	4931	31	Birch (Betula)	Fireplace (ID 1776)
UBA-19144	4891	31	Birch/willow (Betula/Salix)	Cooking pit (ID 163, east)
UBA-19161	4813	46	Birch (Betula)	Cooking pit (ID 2032)
TRa-4125	3775	30	Burnt bone, beaver (Castor)	Quadrant (61x890yNE, layer 1)

Table 34: Langangen Vestgård 7

ID	¹⁴ C BP	Error	Material	Context
TRa-2244	5335	50	Birch/willow (Betula/Salix)	Cooking pit (ID 214)

Pottery and the lithic inventory of Langanven Vestgård 6 match ¹⁴C-dates to the Early Neolithic (**reitan2014c?**). Nothing in the artefact inventory could be related to the Late Neolithic date. The DTM did not require editing.

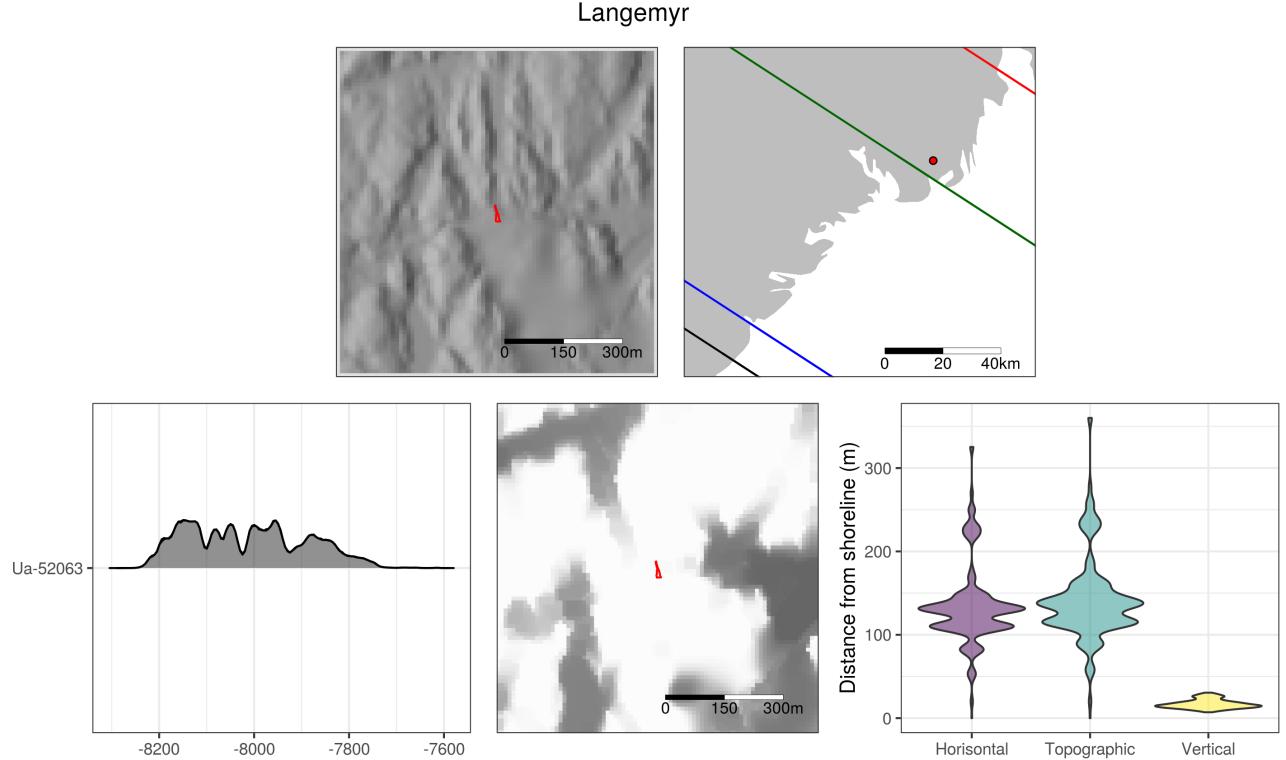


Langangen Vestgård 7 is represented by a cooking pit found on one of two terraces scattered with lithics that was not known or originally part of the excavation project (**reitan2014j?**). It was therefore only investigated

Table 35: Langemyr

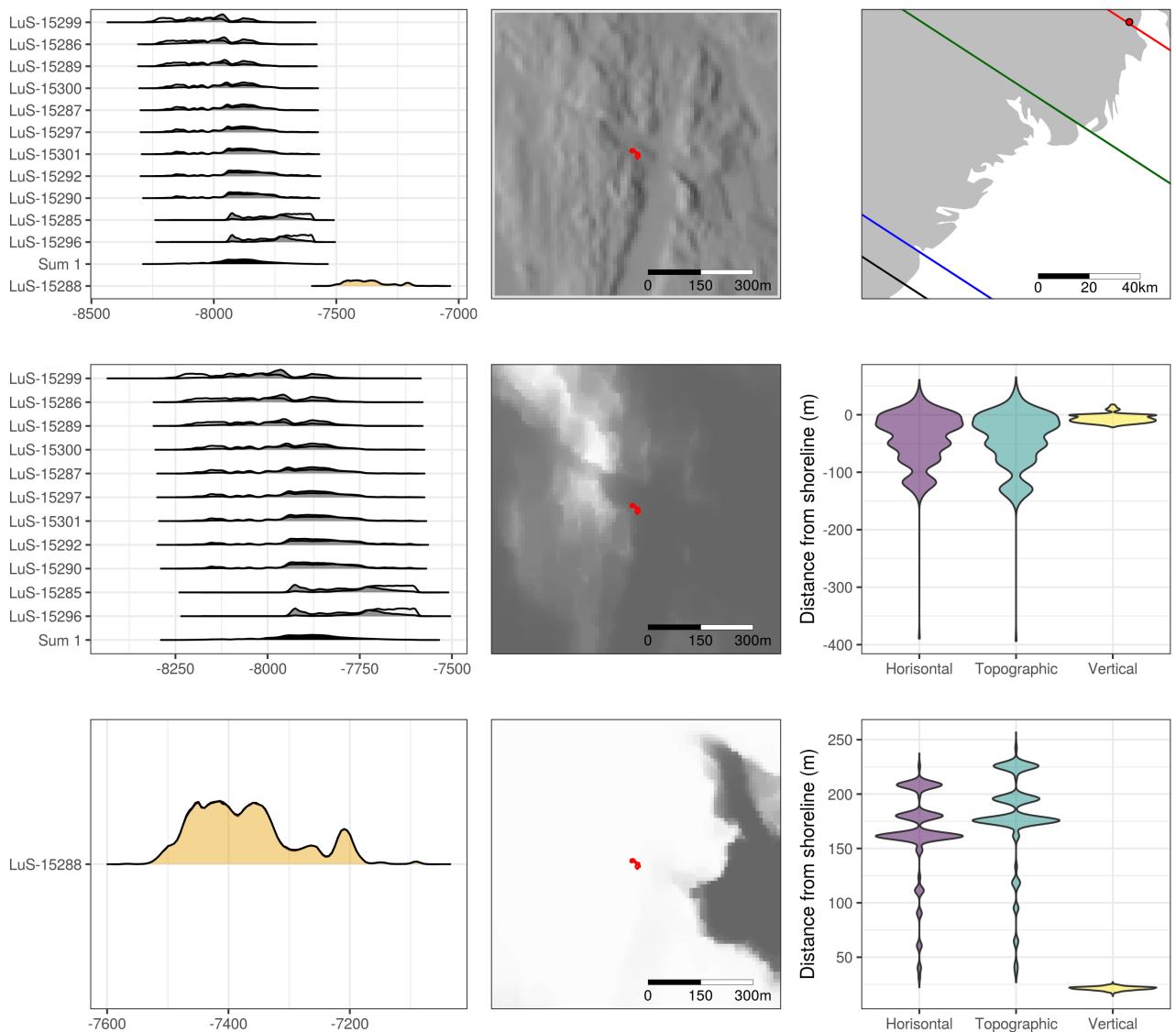
ID	^{14}C BP	Error	Material	Context
Ua-52063	8853	43	Hazel (<i>Corylus</i>), nutshell	Quadrant (60x102y, layer 2)

to a limited degree. However, the material does typologically match the ^{14}C -date.



Langemyr is typologically and radiometrically dated to the Middle Mesolithic (**koxvold2018a?**). Construction area just south the site was removed. This is the same highway-project and raster editing that was done for some of the Hovland sites above.

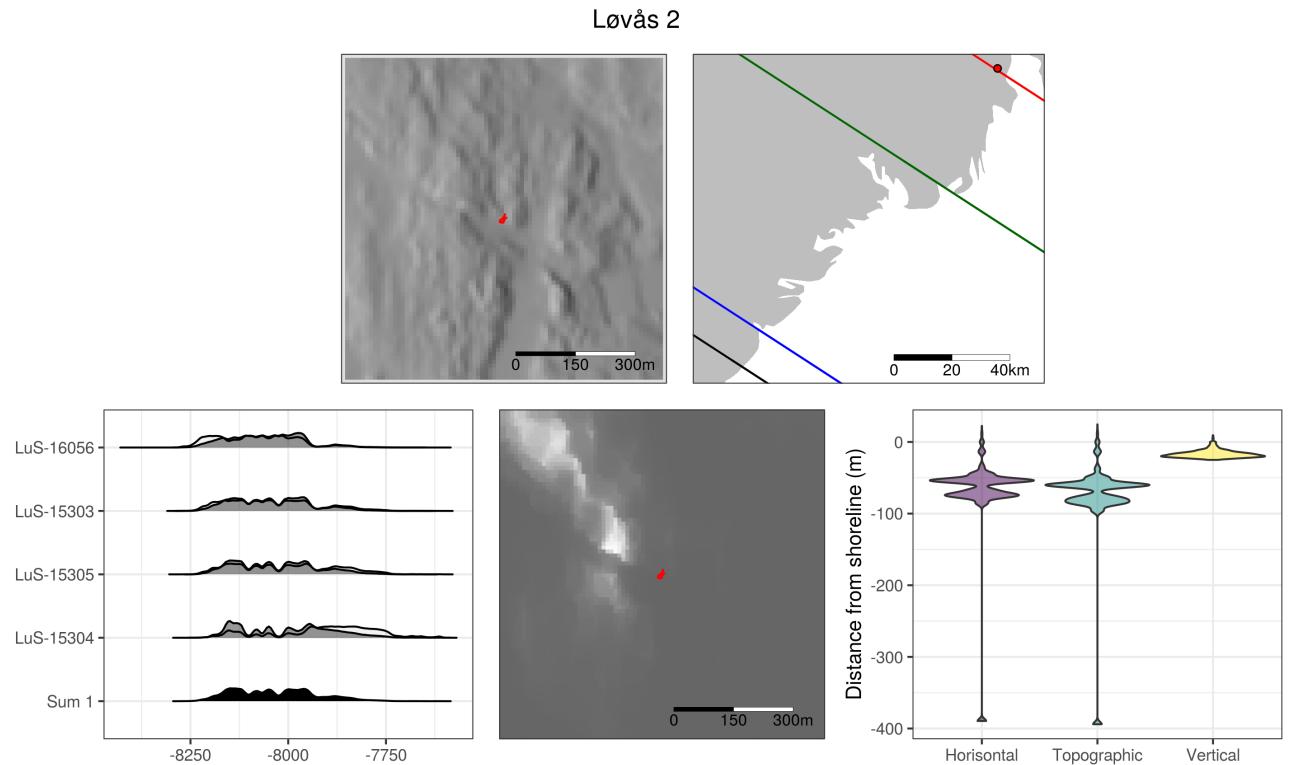
Løvås 1



Løvås 1. No editing of the raster appeared to be necessary. Interestingly only the Løvås sites were simulated to be situated beneath the sea-level. The typologically secure inventory combined with the many overlapping dates from various features does indicate that the issue is with the displacement curve and not the dating of the site. Similar situation to that on Løvås 2 and 3 (below).

Table 36: Løvås 1

ID	¹⁴ C BP	Error	Material	Context
LuS-15299	8920	50	Hazel (<i>Corylus</i>), nutshell	Cultural layer (ID 50), sample (ID 100094)
LuS-15286	8880	45	Hazel (<i>Corylus</i>), nutshell	Cultural layer, dwelling structure? (ID 10693)
LuS-15289	8865	45	Hazel (<i>Corylus</i>), nutshell	Cultural layer, dwelling structure? (ID 10693)
LuS-15300	8840	45	Hazel (<i>Corylus</i>), nutshell	Cultural layer (ID 51), sample (ID 100097)
LuS-15287	8825	45	Hazel (<i>Corylus</i>), nutshell	Cultural layer, dwelling structure? (ID 10693)
LuS-15297	8815	45	Hazel (<i>Corylus</i>), nutshell	Fireplace (ID 26606)
LuS-15301	8805	45	Hazel (<i>Corylus</i>), nutshell	Cultural layer (ID 51), sample (ID 100108)
LuS-15292	8790	50	Pome fruit tree (Pomoideae)	Fireplace (ID 11838)
LuS-15290	8790	45	Pine (<i>Pinus</i>)	Fireplace (ID 11804)
LuS-15285	8690	45	Willow (<i>Salix</i>)	Fireplace (ID 8849)
LuS-15296	8675	45	Pine (<i>Pinus</i>)	Fireplace (ID 24085)
LuS-15288	8315	45	Willow (<i>Salix</i>)	Cultural layer, dwelling structure? (ID 10693)
LuS-15295	2220	35	Hazel (<i>Corylus</i>)	Fireplace (ID 24057)
LuS-15293	2205	40	Hazel (<i>Corylus</i>)	Fireplace (ID 21143)
LuS-15294	2190	40	Hazel (<i>Corylus</i>)	Fireplace (ID 21167)
LuS-15298	1570	35	Oak (<i>Quercus</i>)	Fireplace (ID 27064)
LuS-15291	875	35	Oak (<i>Alnus</i>)	Fireplace (ID 11818)
LuS-15302	500	35	Pine (<i>Pinus</i>)	Square (828x208y), sample (ID 100086)



Løvås 2. Similar situation to that on Løvås 1 and 3 (above and below).

Table 37: Løvås 2

ID	¹⁴ C BP	Error	Material	Context
LuS-16056	8910	50	Burnt bone, reindeer (<i>Rangiferus tarandus</i>)	Square (913x202ySW, layer 1), sample (ID 1)
LuS-15303	8870	45	Hazel (<i>Corylus</i>), nutshell	Square (915x203yNW, layer 2), sample (ID 1)
LuS-15305	8850	45	Hazel (<i>Corylus</i>), nutshell	Square (914x203ySW, layer 2), sample (ID 1)
LuS-15304	8805	45	Hazel (<i>Corylus</i>), nutshell	Square (913x206yNW, layer 2), sample (ID 1)
LuS-15692	2355	35	Hazel (<i>Corylus</i>), nutshell	Square (916x208yNW, layer 1)
LuS-15690	2330	35	Hazel (<i>Corylus</i>), nutshell	Square (912x207yNW, layer 1)
LuS-15688	2220	35	Hazel (<i>Corylus</i>), nutshell	Square (911x205ySW, layer 1)
LuS-15306	2210	35	Willow (<i>Salix</i>)	Square (912x204yNW, layer 2), sample (ID 1)
LuS-15689	2190	35	Hazel (<i>Corylus</i>), nutshell	Square (914x205ySE, layer 1)
LuS-15691	200	25	Hazel (<i>Corylus</i>), nutshell	Square (911x203yNW, layer 1)

Table 38: Løvås 3

ID	¹⁴ C BP	Error	Material	Context
LuS-15311	8920	45	Hazel (<i>Corylus</i>), nutshell	Possible dwelling structure (ID 27142)
LuS-15312	8860	45	Hazel (<i>Corylus</i>), nutshell	Possible dwelling structure (ID 27142)
LuS-15310	8820	45	Hazel (<i>Corylus</i>), nutshell	Possible dwelling structure (ID 27142)
LuS-15307	8800	45	Pome fruit tree (Pomoideae)	Fireplace (ID 24176)
LuS-15308	8750	45	Aspen (<i>Populus</i>)	Fireplace (ID 24195)
LuS-15309	8745	45	Pome fruit tree (Pomoideae)	Fireplace (ID 24154)

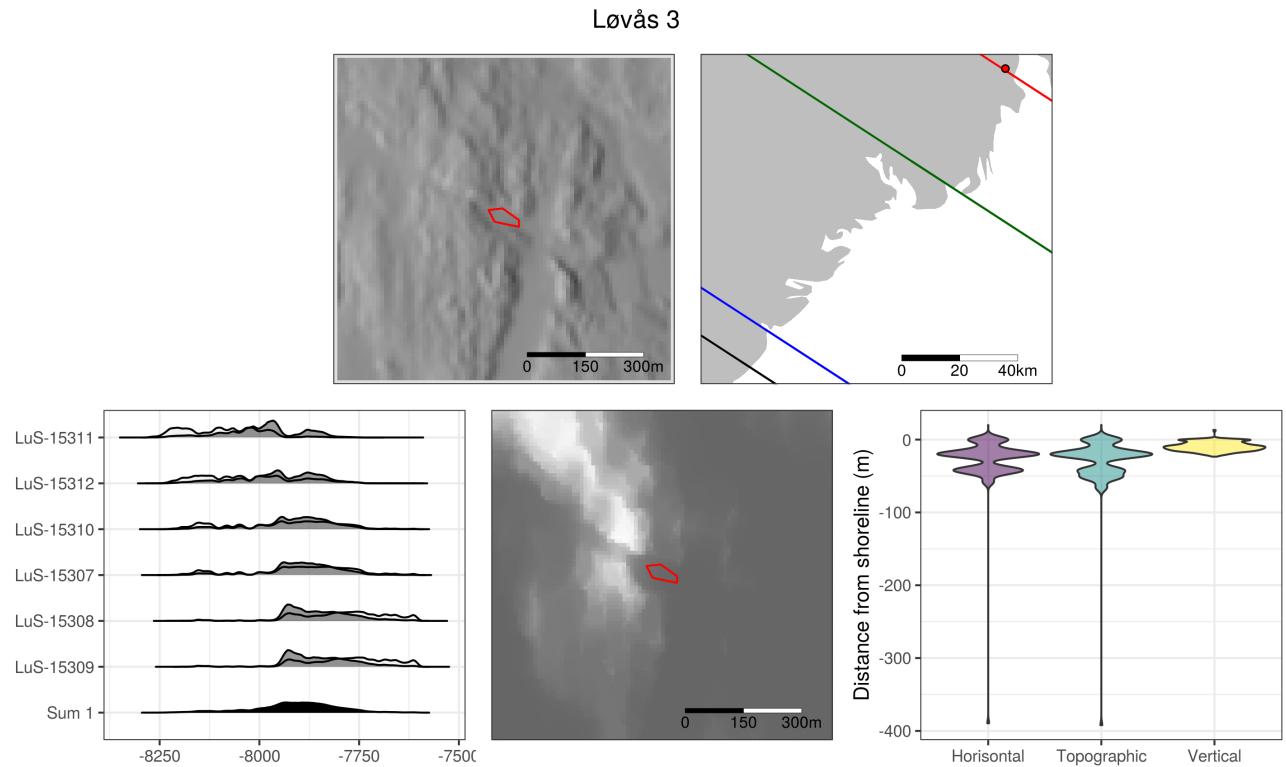
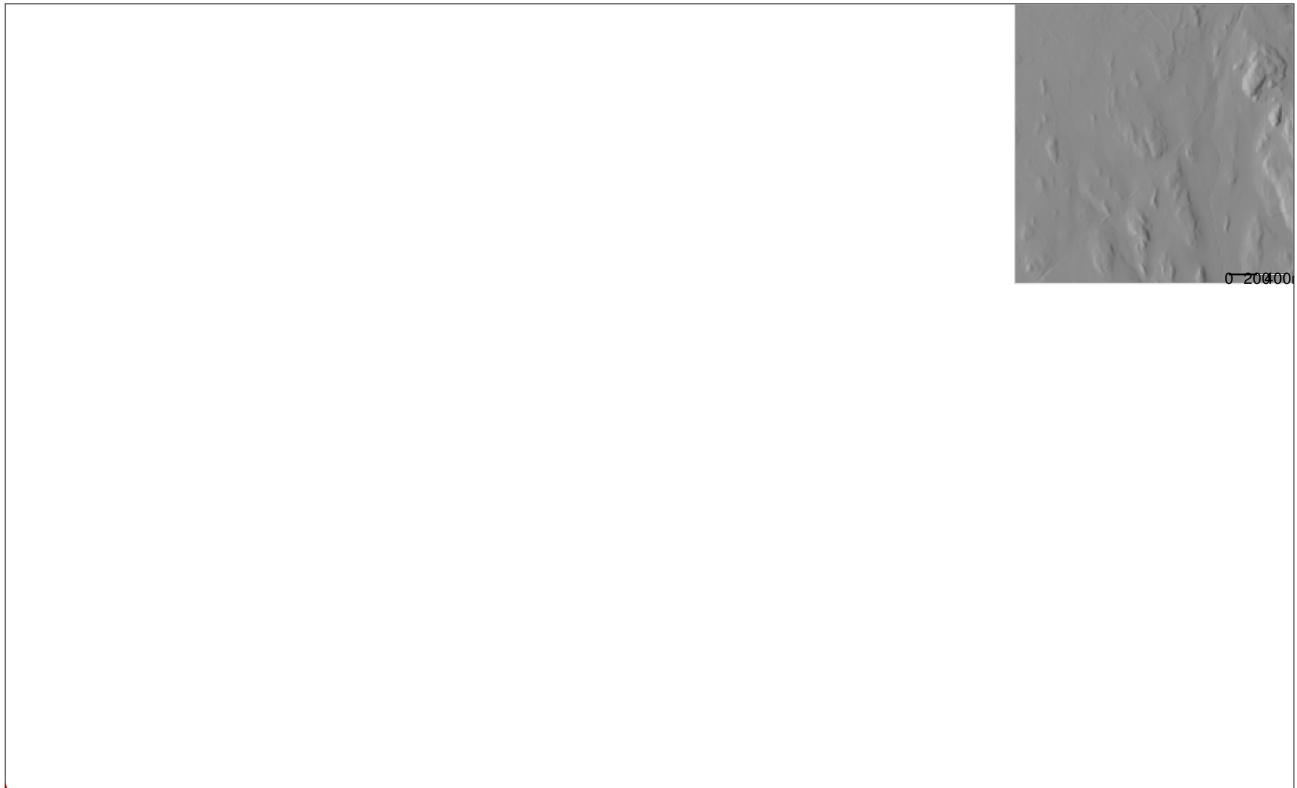


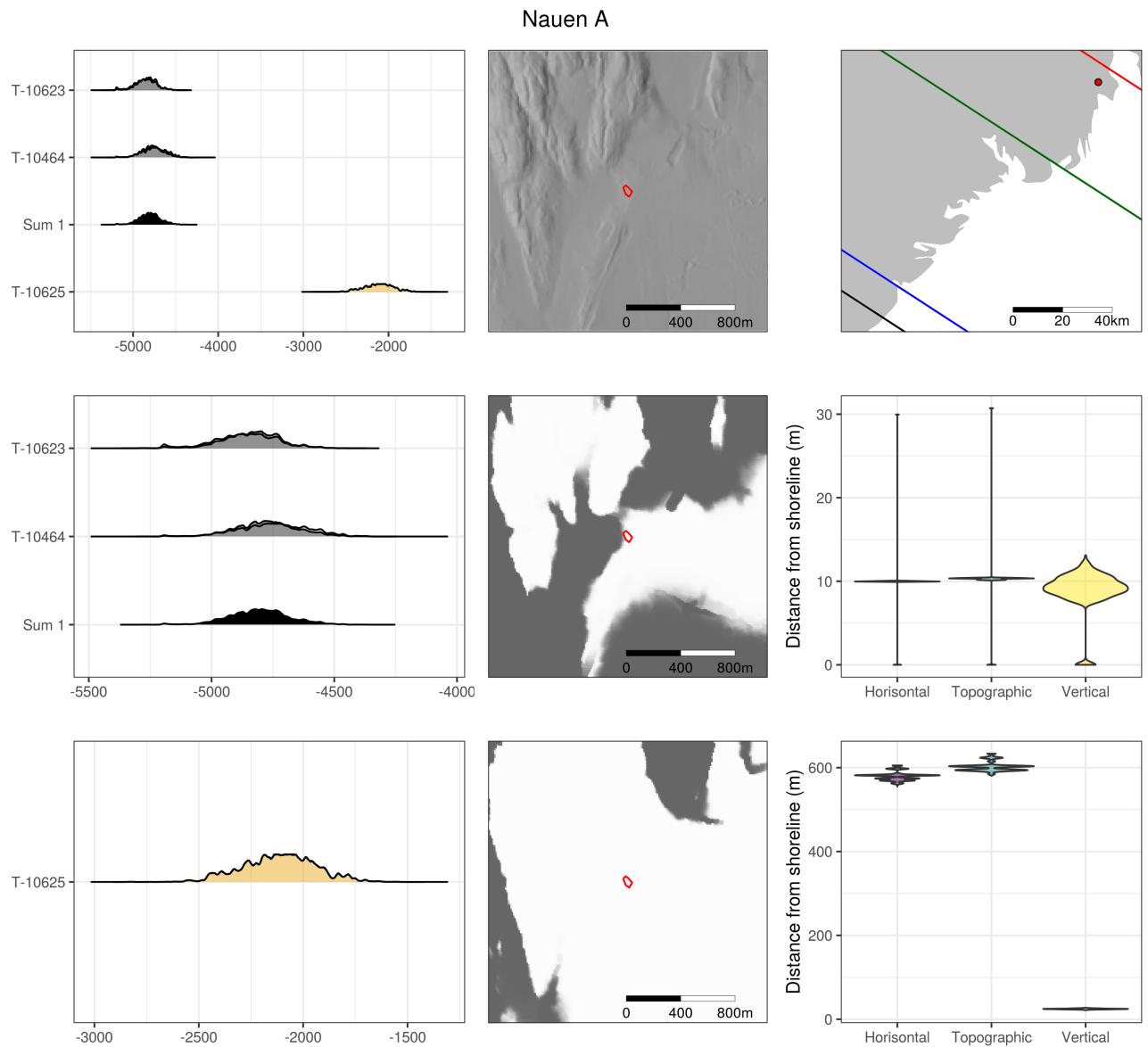
Table 39: Lunaveien

ID	^{14}C BP	Error	Material	Context
Beta-276197	1430	40	Birch (<i>Betula</i>)	Square (50x53y, layer 1)
Beta-276198	60	40	Pine (<i>Pinus</i>)	Square (50x50y, layer 1)
Beta-276199	1690	40	Birch (<i>Betula</i>)	Square (51x55y, layer 1)
Beta-276200	3620	40	Pine (<i>Pinus</i>)	Square (53x52y, layer 1)
Beta-278526	2350	40	Burnt bone	Square (50x50y, layer 2)
Beta-278527	2380	40	Burnt bone	Square (51x55y, layer 2)

Similar situation to that on Løvås 1 and 2 (above).



Lunaveien is a grave cairn site, and the report states that it is unlikely that any of the finds relate to a settlement pre-dating the construction of the cairn (Reitan 2010). The results have therefore been excluded from the aggregative analysis.



Typology of the lithic inventory on Nauen A points to a Late Mesolithic date (**persson2008?**). The later date is seen as related to the establishment of a field for grazing or agriculture, which is also supported by dates that fall outside the analysis here. A section of the highway located a few hundred meters to the south was pre-emptively edited in the DTM. This does not appear to be relevant for the simulated sea-level.

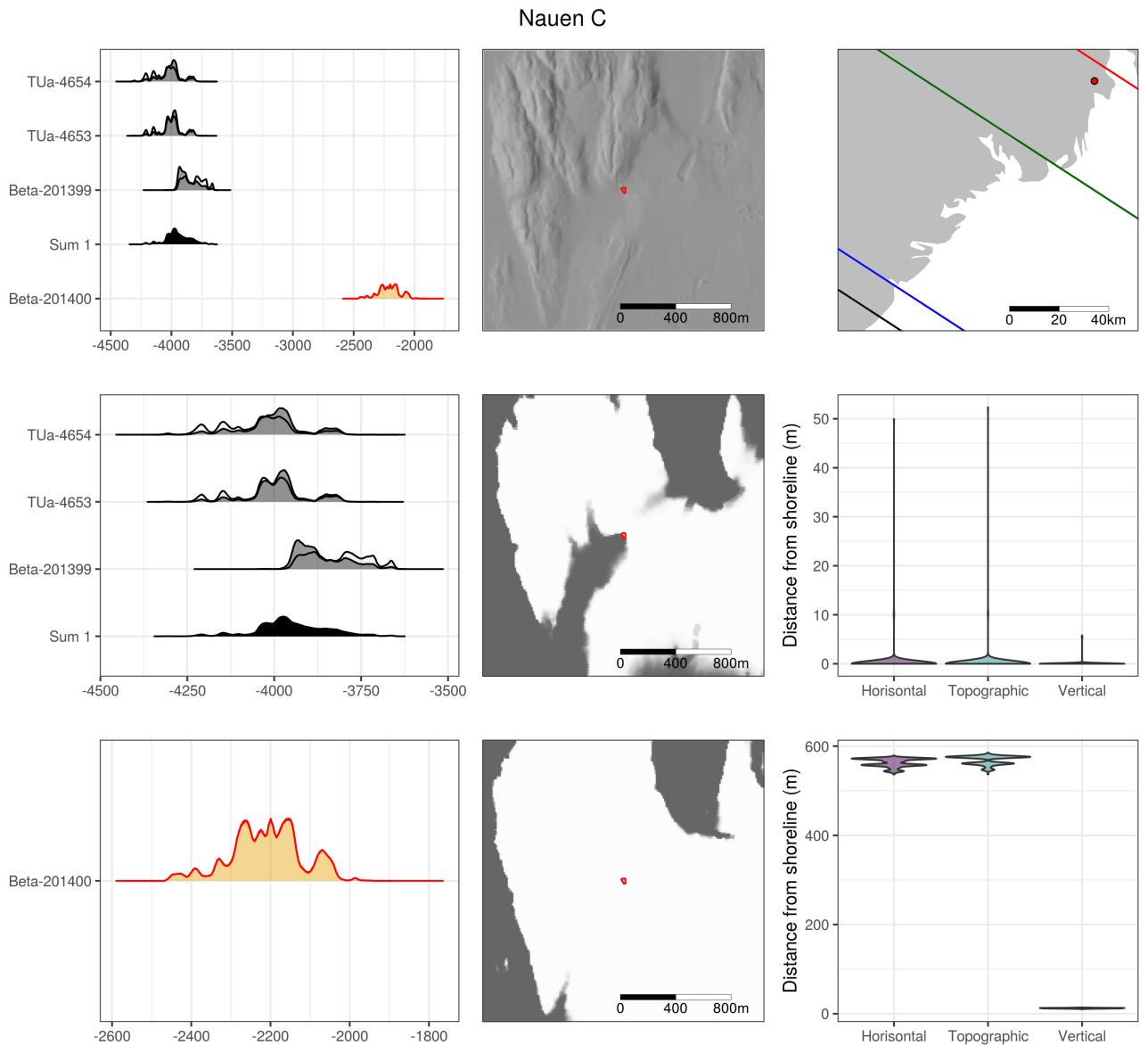
Nedre Holtan.

Table 40: Nauen A

ID	^{14}C BP	Error	Material	Context
TUa-4651	3360	55	Charcoal, not specified	Undefined layer (ID 153)
Beta-204709	3020	50	Charcoal, not specified	Undefined layer (ID 156)
T-10907	1665	50	Charcoal, not specified	Unspecified
T-10463	1485	100	Charcoal, not specified	Unspecified
T-10908	1755	65	Charcoal, not specified	Unspecified
T-10622	2810	85	Charcoal, not specified	Unspecified
T-10623	5965	100	Charcoal, not specified	Unspecified
T-10624	3175	90	Charcoal, not specified	Unspecified
T-10464	5875	115	Charcoal, not specified	Unspecified
T-10625	3705	120	Charcoal, not specified	Unspecified
T-10626	875	100	Charcoal, not specified	Unspecified
T-10465	1005	155	Charcoal, not specified	Unspecified
T-10627	1000	90	Charcoal, not specified	Unspecified
T-10909	285	50	Charcoal, not specified	Unspecified
T-10628	1335	155	Charcoal, not specified	Unspecified
T-10629	1840	150	Charcoal, not specified	Unspecified
T-10466	635	150	Charcoal, not specified	Unspecified
T-10462	2925	80	Charcoal, not specified	Unspecified
T-10630	3595	110	Charcoal, not specified	Unspecified
T-10467	2235	80	Charcoal, not specified	Unspecified
T-10906	510	40	Charcoal, not specified	Grave (ID 2)
T-109061	490	40	Charcoal, not specified	Grave (ID 2)
T-11050	2760	70	Charcoal, not specified	Concentration, stone? (ID 47)
TUa-4652	2765	35	Charcoal, not specified	Transect (ID 630)

Table 41: Nauen C

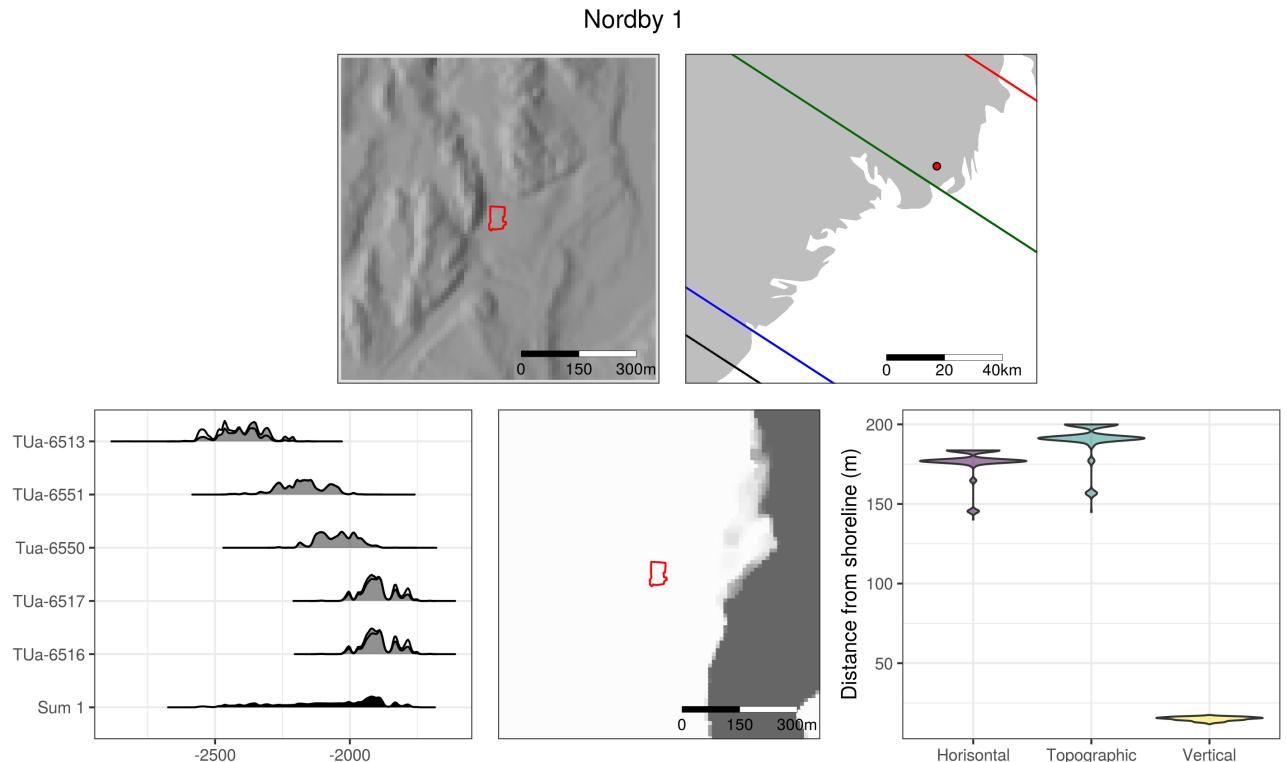
ID	^{14}C BP	Error	Material	Context
TUa-4653	5190	60	Charcoal, not specified	Unspecified
TUa-4654	5210	70	Charcoal, not specified	Possible tree throw (ID 2/4)
Beta-201399	5020	50	Charcoal, not specified	Possible tree throw (ID 2/4)
Beta-201400	3780	50	Charcoal, not specified	Possible tree throw (ID 2/4)
T-17050	3525	110	Charcoal, not specified	Possible tree throw (ID 2/4)
Beta-201401	2360	40	Charcoal, not specified	Undefined feature (ID 1)



The typological indicators of the lithic inventory from Nauen C match the earliest dates (**persson2008?**). As with Nauen A, above, the DTM was edited pre-emptively and does not appear to have been necessary.

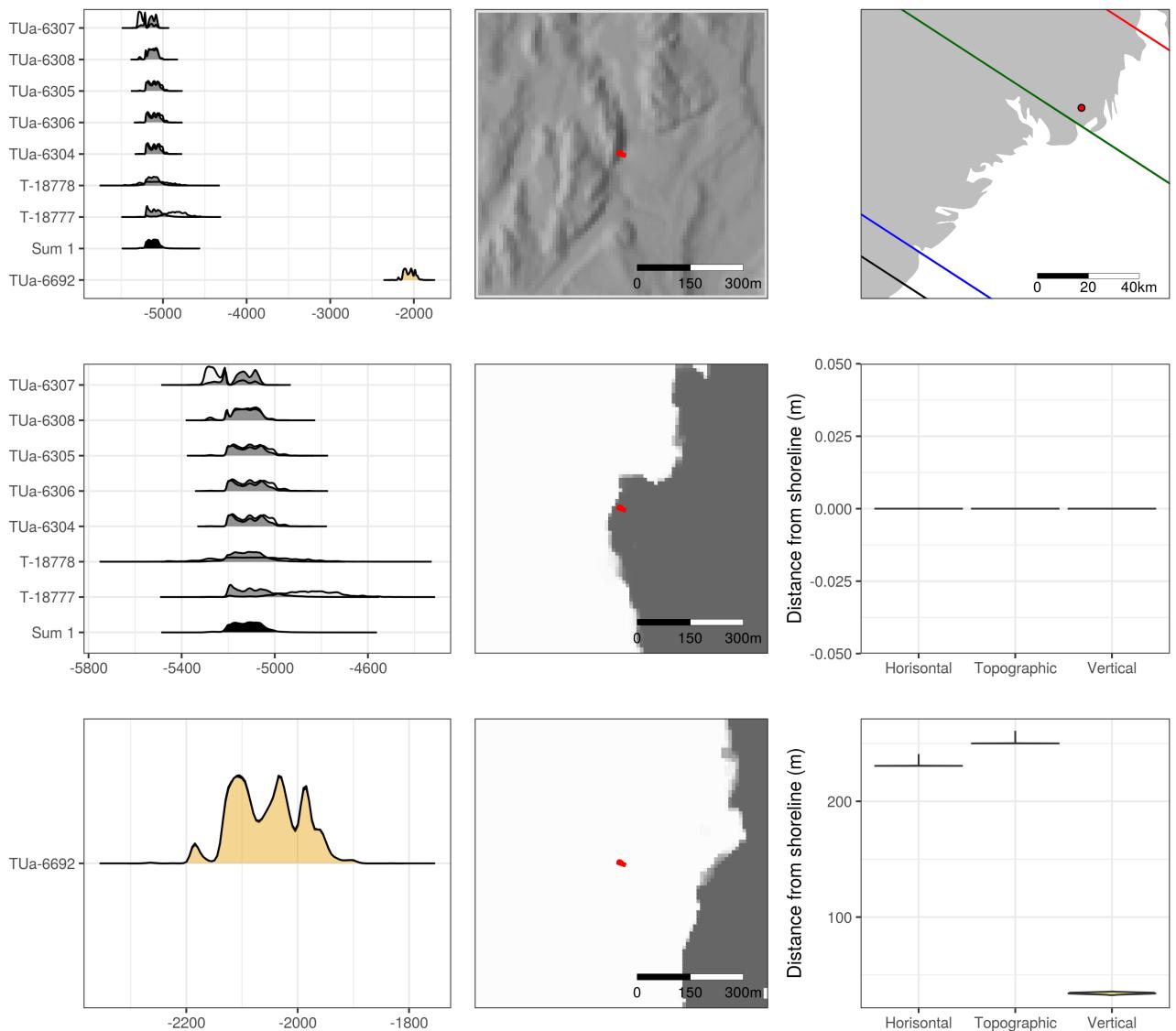
Table 42: Nordby 1

ID	¹⁴ C BP	Error	Material	Context
TUa-6513	3945	45	Hazel (<i>Corylus</i>), nutshell	Post hole, house 4 (ID 35188)
Tua-6550	3665	45	Oak (<i>Quercus</i>)	Post hole, house 4 (ID 35191)
TUa-6555	2025	30	Plant remains, unspecified	Post hole, house 3 (ID 35082)
TUA-6511	1805	35	Barley (<i>Hordeum vulgare</i>)	Post hole, house 3 (ID 35081)
TUA-6556	1595	45	Charcoal, unspecified	Post hole, house 3 (ID 35036)
TUA-6551	3760	50	Deciduous (Decid, indet.)	Post hole, house 2 (ID 35086)
TUA-6558	3385	45	Oak (<i>Quercus</i>)	Post hole, house 2 (ID 35091)
TUA-6557	3340	45	Oak (<i>Quercus</i>)	Post hole, house 2 (ID 35099)
Beta-238363	3250	40	Cereal, unspecified	Post hole, house 2 (ID 35115, 35028)
TUA-6517	3555	35	Barley (<i>Hordeum vulgare</i>)	Post hole, house 1 (ID 35047)
TUA-6518	3465	35	Barley (<i>Hordeum vulgare</i>)	Post hole, house 1 (ID 35063)
TUA-6516	3550	35	Barley (<i>Hordeum vulgare</i>)	Post hole, house 1 (ID 35056)
Beta-234329	750	40	Birch (<i>Betula</i>)	Post hole, house 1 (ID 35047)
Tua-4412	940	50	Oak (<i>Quercus</i>)	Undefined feature (ID 35074)
Tua-6301	3300	25	Birch/ash (<i>Betula/Fraxinus</i>)	Undefined feature (ID 35064)
T-18774	740	75	Birch/hazel (<i>Betula/Corylus</i>)	Undefined feature (ID 35054)
Tua-6302	2575	25	Birch/ash (<i>Betula/Fraxinus</i>)	Cooking pit (ID 35141)
T-18773	845	75	Pine (<i>Pinus</i>)	Cooking pit (ID 35013)
T-18772	1925	100	Birch/hazel (<i>Betula/Corylus</i>)	Fireplace (ID 35006)



Building structures from the Late Neolithic, Bronze Age and Early Iron Age (**gjærpe2008b?**). Lithics and pottery finds support this. Site located on what is today a highway which was edited also for Nordby 52 (below), but is not relevant for the sea-level reconstruction for Nordby 1.

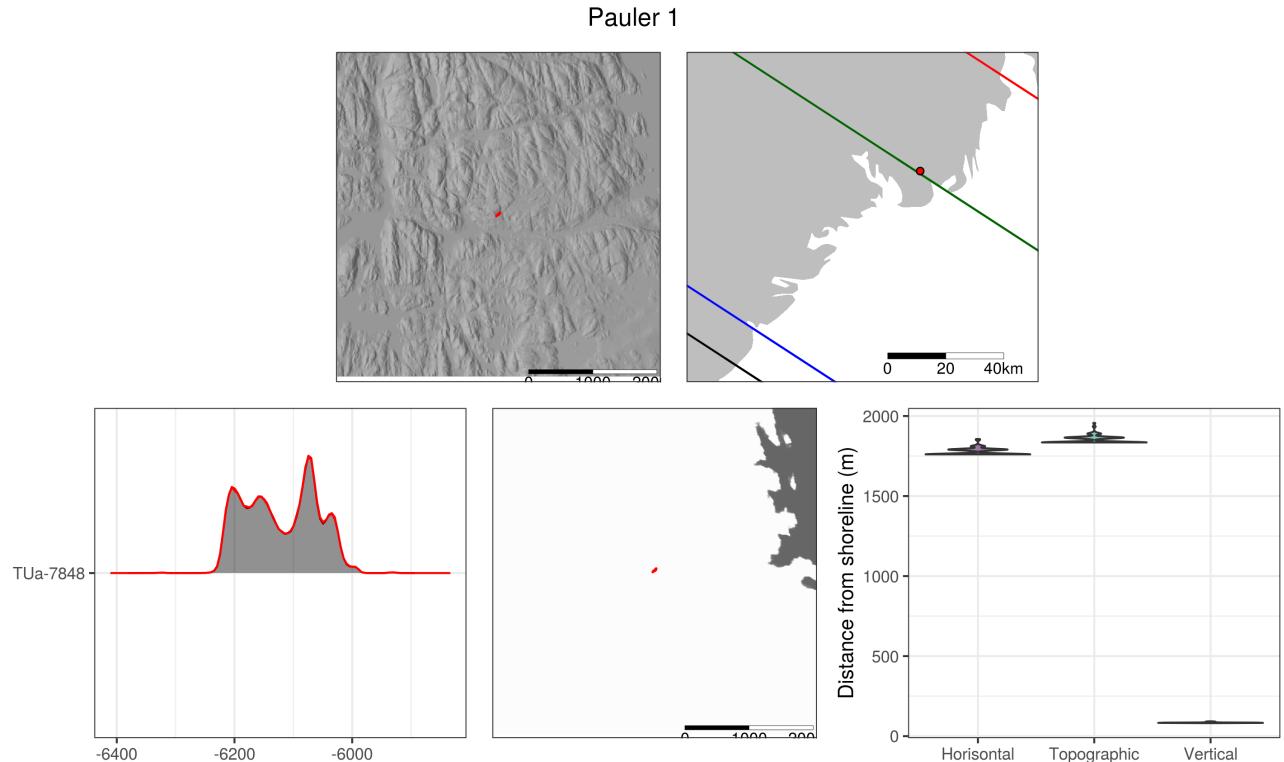
Nordby 52



Nordby 52 is a rock-shelter that has been visited throughout prehistory ([gjærpe2008?](#)). Clear typological date to both of the Stone Age periods defined by the ^{14}C -dates treated here. The site is located by where the highway runs today (see also Nordby 1 above). Edit appears to have been successful.

Table 43: Nordby 52

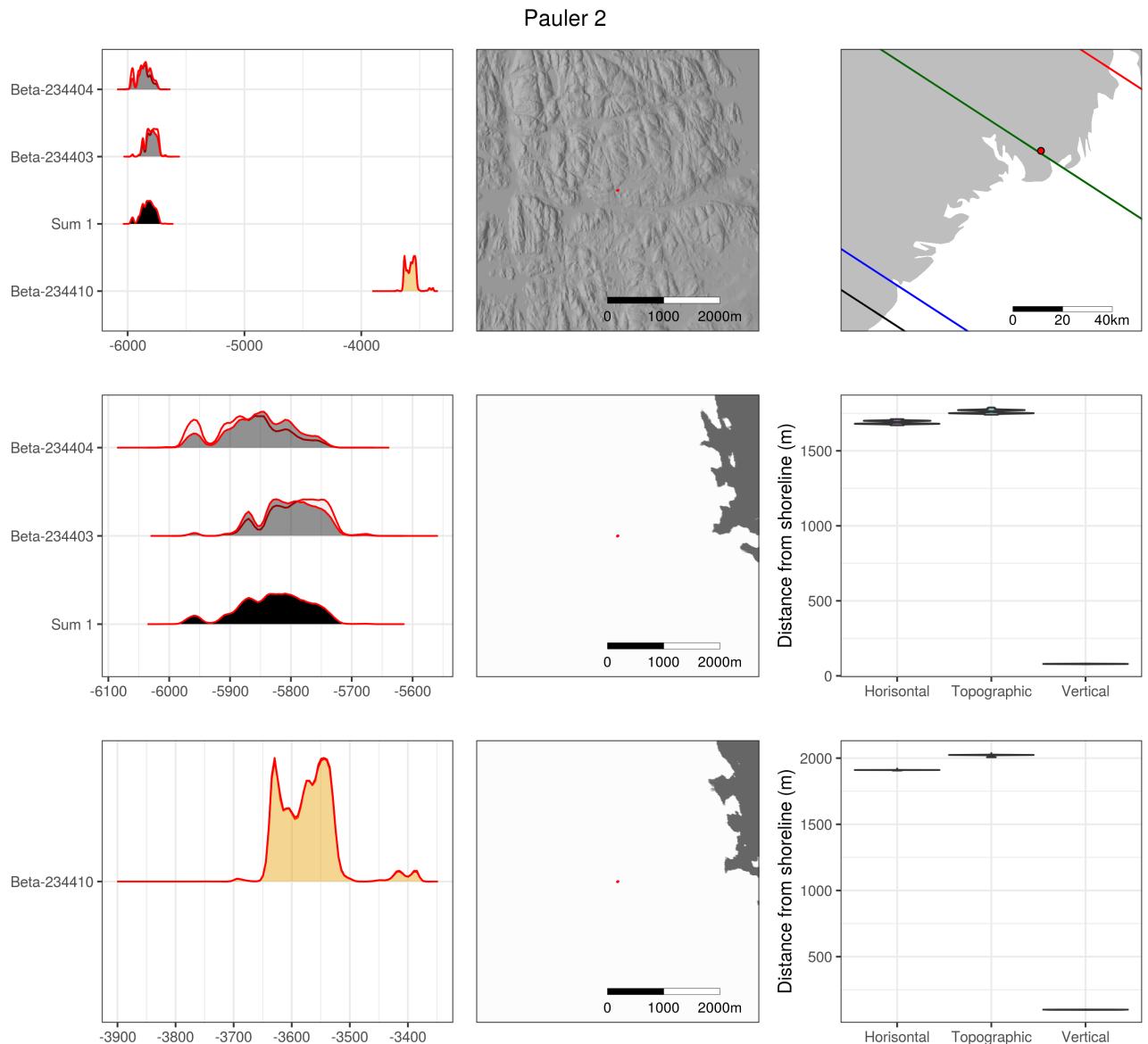
ID	^{14}C BP	Error	Material	Context
TUa-6308	6190	35	Charcoal, not specified	Fireplace? (ID 35136)
TUa-6307	6260	35	Charcoal, not specified	Fireplace? (ID 35185)
T-18777	5960	100	Charcoal, not specified	Fireplace (ID 35211)
TUa-6306	6140	40	Charcoal, not specified	Fireplace (ID 35212)
T-18778	6155	130	Charcoal, not specified	Cooking pit/fireplace (ID 35213)
TUa-6304	6140	35	Charcoal, not specified	Fireplace (ID 35215)
TUa-6305	6150	40	Charcoal, not specified	Fireplace? (ID 35216)
T-18775	2350	85	Charcoal, not specified	Fireplace (ID 35002)
T-18776	2490	105	Charcoal, not specified	Fireplace (ID 35125)
TUa-6303	610	25	Charcoal, not specified	Forge (ID 35217)
T-18779	505	75	Charcoal, not specified	Forge (ID 35217)
TUa-6694	3120	35	Burnt bone, harbour seal (<i>Phoca vitulina</i>)	Unspecified excavation unit
TUa-6692	3670	35	Burnt bone, mammal indet.	Unspecified excavation unit



Pauler 1 has a distinctly Early Mesolithic artefact inventory that is not related to the ^{14}C -dates (schallerahrberg2012?). No modern disturbances appear to impact the reconstruction of the sea-level corresponding to the ^{14}C -dates.

Table 44: Pauder 1

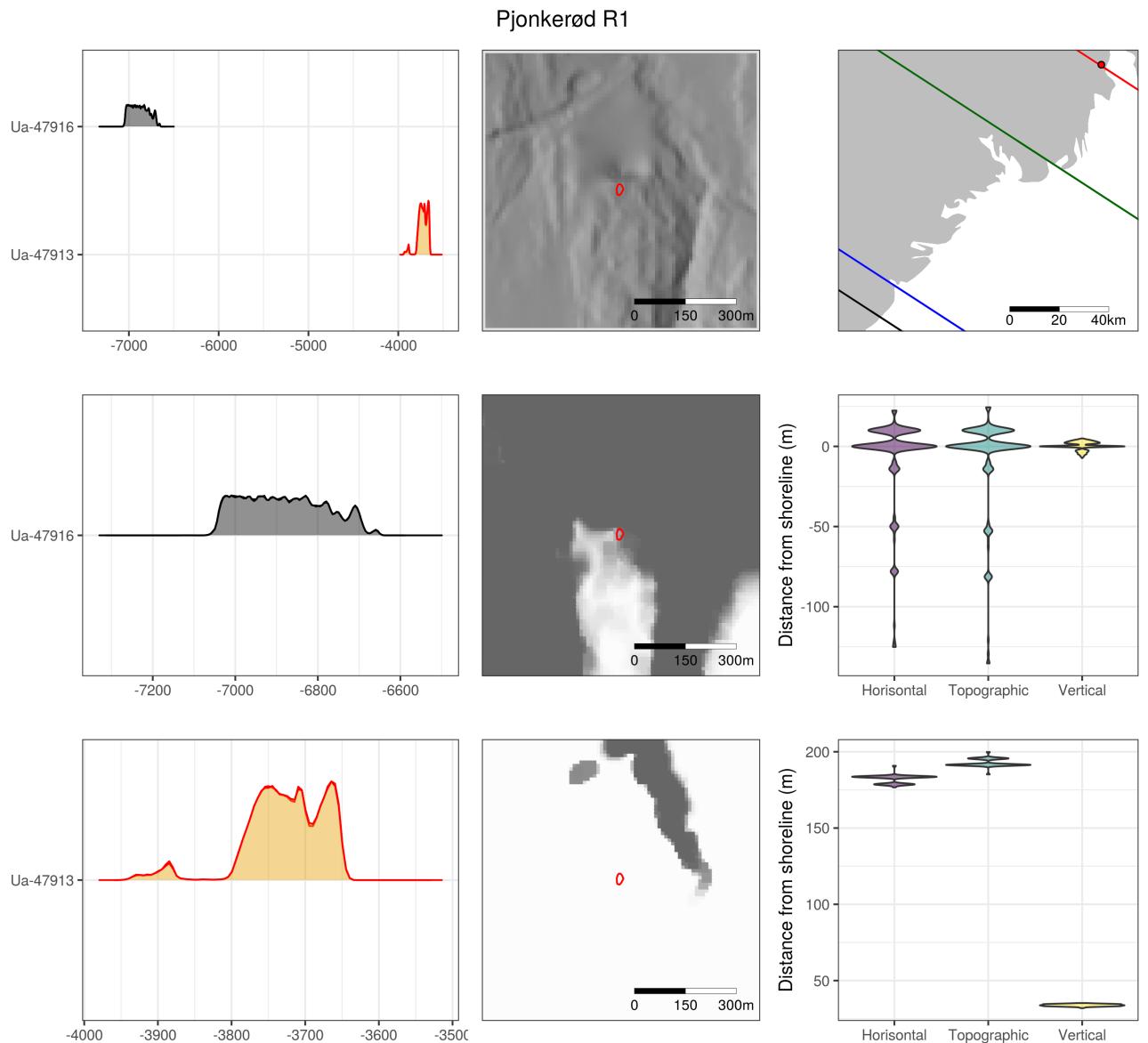
ID	^{14}C BP	Error	Material	Context
Beta-234411	3460	40	Pine (<i>Pinus</i>)	Fireplace (ID 1)
Beta-234412	910	40	Pine (<i>Pinus</i>)	Fireplace (ID 1)
Beta-234413	960	40	Birch (<i>Betula</i>)	Fireplace (ID 1)
Beta-234414	910	40	Deciduous (Decid, indet.)	Fireplace (ID 1)
TUa-7848	7245	45	Pine (<i>Pinus</i>)	Fireplace/Burnt root (ID 15)



As with Pauder 1 (above), Pauder 2 has a distinctly Early Mesolithic artefact inventory that is not related to the ^{14}C -dates ([nyland2012?](#)). No modern disturbances appear to impact the reconstruction of the sea-level corresponding to the ^{14}C -dates.

Table 45: Pauer 2

ID	^{14}C BP	Error	Material	Context
Beta-234403	6910	40	Hazel (<i>Corylus</i>), nutshell	Fireplace (ID 1)
Beta-234404	6990	40	Pine (<i>Pinus</i>)	Fireplace (ID 1)
Beta-234407	3260	40	Pine (<i>Pinus</i>)	Fireplace (ID 1)
Beta-234410	4800	40	Pine (<i>Pinus</i>)	Fireplace (ID 1)
Beta-234409	1440	40	Oak (<i>Quercus</i>)	Fireplace (ID 1)
Beta-234408	900	40	Birch (<i>Betula</i>)	Fireplace (ID 1)
Beta-234405	870	40	Birch (<i>Betula</i>)	Fireplace (ID 2)
Beta-234406	300	40	Pine (<i>Pinus</i>)	Fireplace (ID 2)



Pjonkerød R1. Situated by a quarry today which has been fairly successfully edited. However, as the few

Table 46: Pjonkerød R1

ID	^{14}C BP	Error	Material	Context
Ua-47916	7970	44	Burnt bone	Quadrant 50x50x10 (112x51y NE, layer 2)
Ua-47914	3178	32	Pine (Pinus)	Undefined feature (ID 2001)
Ua-47915	3117	31	Pine (Pinus)	Cooking pit (ID 2002)
Ua-47917	1373	30	Oak (Quercus)	Cooking pit (ID 2007)
Ua-47913	4959	34	Pine (Pinus)	Undefined feature (ID 2001)

Table 47: Prestemoen 1

ID	^{14}C BP	Error	Material	Context
Ua-45176	8671	45	Hazel (Corylus), nutshell	Square (620x149y, layer 6)
Ua-45177	8620	45	Burnt bone	Square (620x149y, layer 6)
Ua-45178	8593	46	Hazel (Corylus), nutshell	Square (620x149y, layer 8)

negative values across the results are likely to result from the interpolation process and the fact that this is a quite large area, and not issues with the displacement curves or ^{14}C -dates, the negative values were forced to zero for the aggregative analysis.

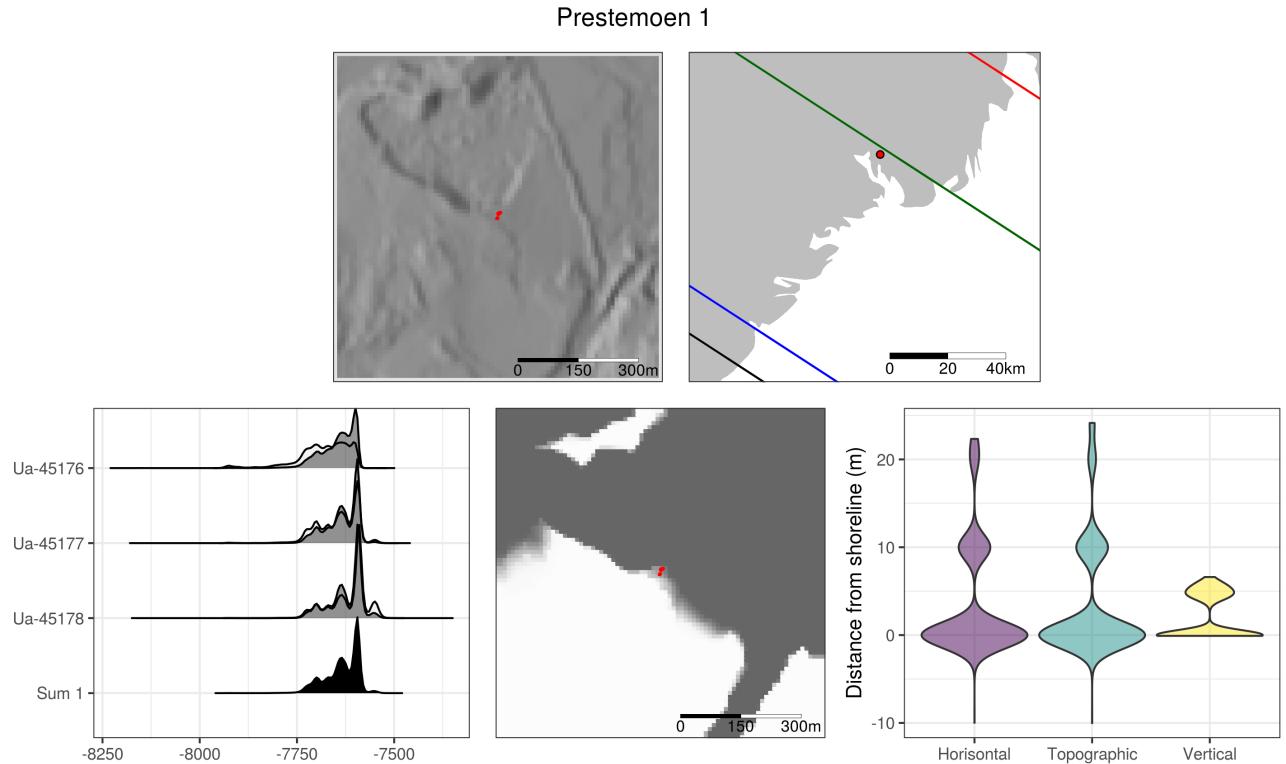




Table 48: Ragnhildrød

ID	^{14}C BP	Error	Material	Context
TRa-2278	7915	90	Oak (<i>Quercus</i>)	Layer, dwelling entry-way (ID 1351061)
TRa-1796	3690	45	Hazel (<i>Corylus</i>)	Post hole (ID 1350035)
UBA-17796	2926	22	Hazel (<i>Corylus</i>), nutshell	Post hole (ID 1350035)
TRa-1120	2325	40	Hazel (<i>Corylus</i>)	Cooking pit (ID 1350020)
TRa-1124	2285	35	Hazel (<i>Corylus</i>)	Cooking pit (ID 1351121)
UBA-17797	2275	28	Hazel (<i>Corylus</i>), nutshell	Cooking pit (ID 1351087)
TRa-1123	2225	55	Hazel (<i>Corylus</i>)	Fireplace (ID 1350026)
UBA-17800	2220	24	Hazel (<i>Corylus</i>)	Floor layer (ID 1351069)
TRa-1798	2195	40	Hazel (<i>Corylus</i>)	Cooking pit (ID 1351087)
TRa-1795	2190	30	Hazel (<i>Corylus</i>)	Cooking pit (ID 1350015)
TRa-1125	2185	45	Hazel (<i>Corylus</i>)	Outer wall ditch (ID 1351134)
UBA-17795	2170	43	Hazel (<i>Corylus</i>)	Cooking pit (ID 1350020)
TRa-1118	2140	40	Hazel (<i>Corylus</i>)	Cooking pit (ID 1350017)
TRa-1121	2130	40	Hazel (<i>Corylus</i>)	Fireplace (ID 1351071)
TRa-1799	1945	30	Hazel (<i>Corylus</i>)	Fireplace (ID 1351127)
TRa-1122	1660	45	Birch (<i>Betula</i>)	Fireplace (ID 1351057)
UBA-17799	1533	33	Hazel (<i>Corylus</i>)	Fireplace (ID 1351127)
TRa-1117	810	40	Beech (<i>Fagus</i>)	Fireplace (ID 1350004)

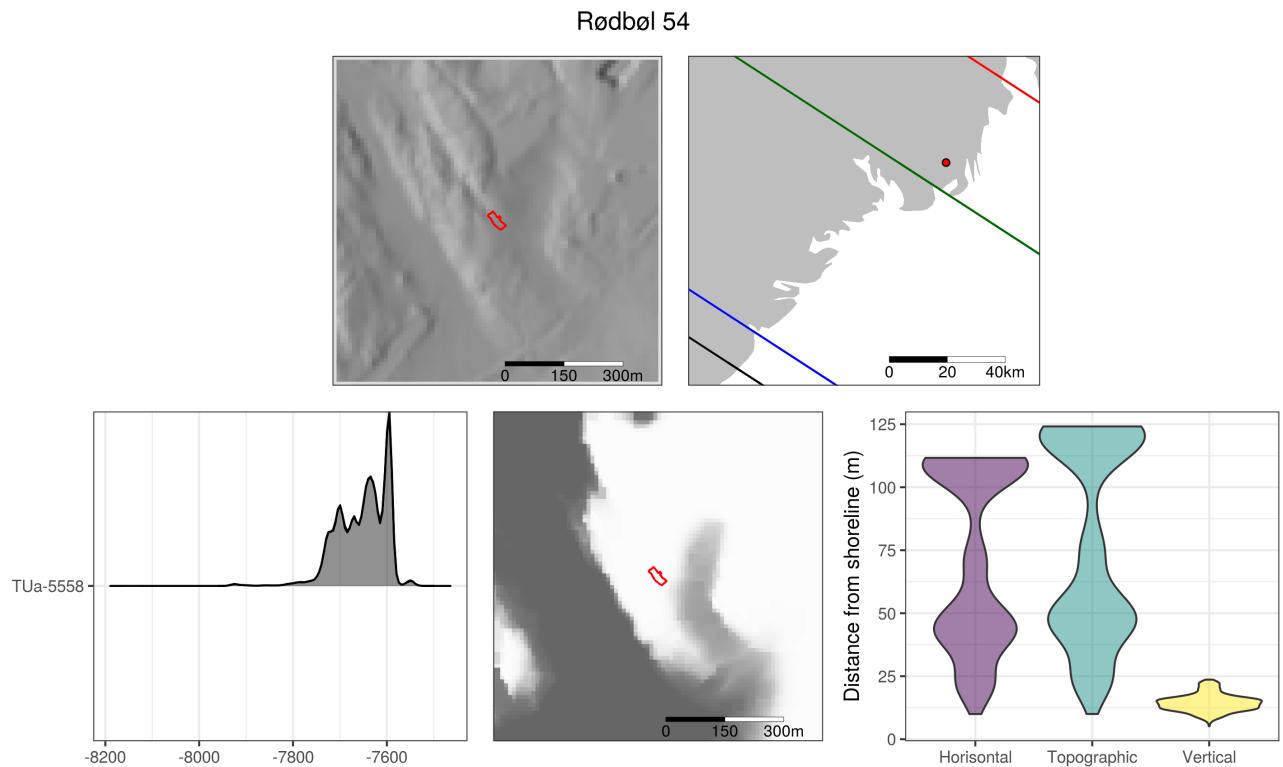


Table 49: Rødbøl 54

ID	^{14}C BP	Error	Material	Context
TUa-5558	8630	45	Hazel (<i>Corylus</i>), nutshell	Fireplace (ID 20013)
TUa-6053	1770	30	Birch (<i>Betula</i>)	Fireplace (ID 20019)
T-18456	1715	55	Birch (<i>Betula</i>)	Cooking pit (ID 20057)
T-18454	1610	70	Birch/hazel (<i>Betula/Corylus</i>)	Cooking pit (ID 20005)

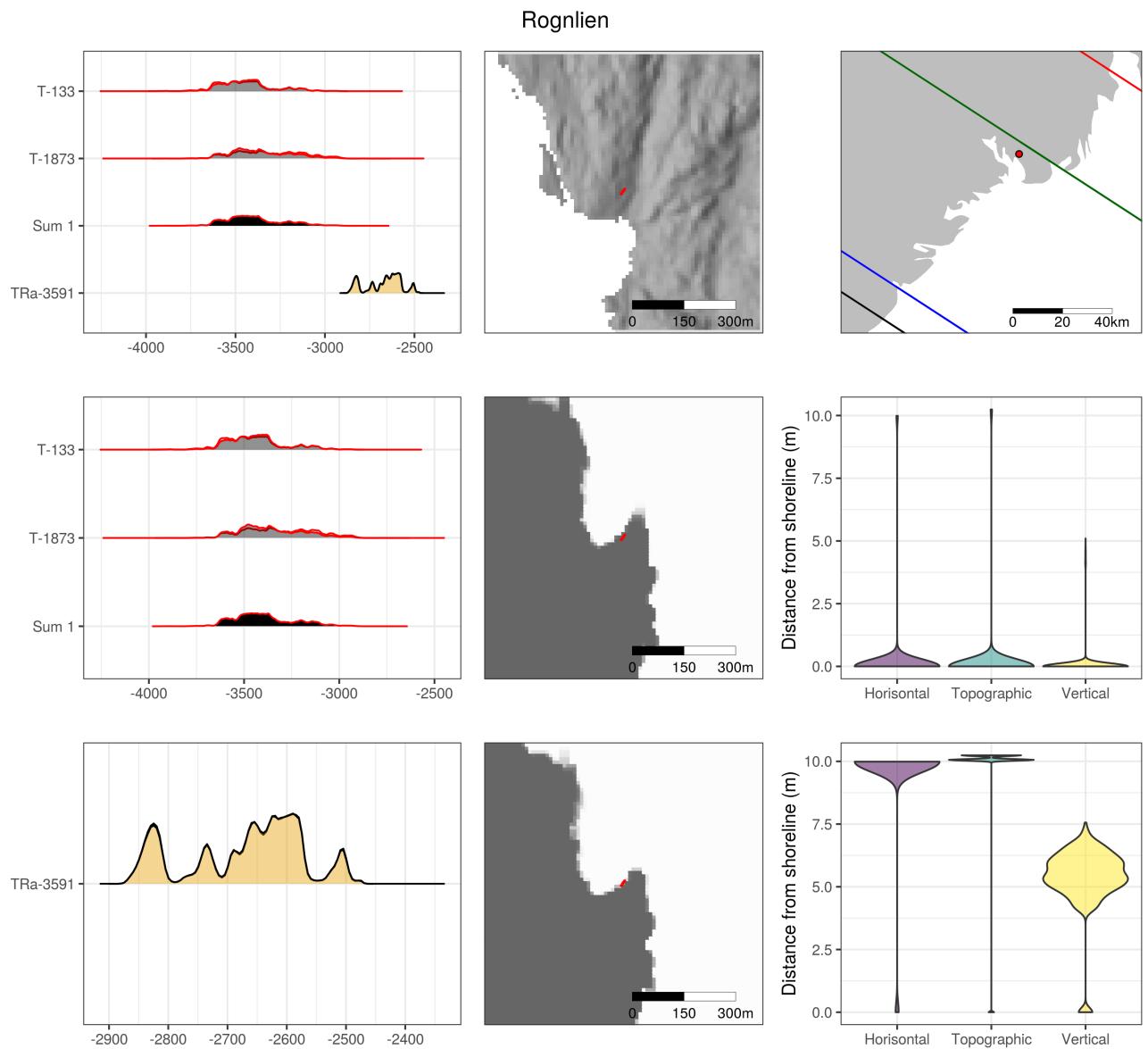


Table 50: Rognlien

ID	^{14}C BP	Error	Material	Context
T-133	4700	120	Charcoal, unspecified	Unspecified excavation unit
T-1873	4600	130	Charcoal, unspecified	Unspecified excavation unit
TRA-3591	4090	35	Burnt bone, elk (<i>Alces alces</i>)	Unspecified excavation unit

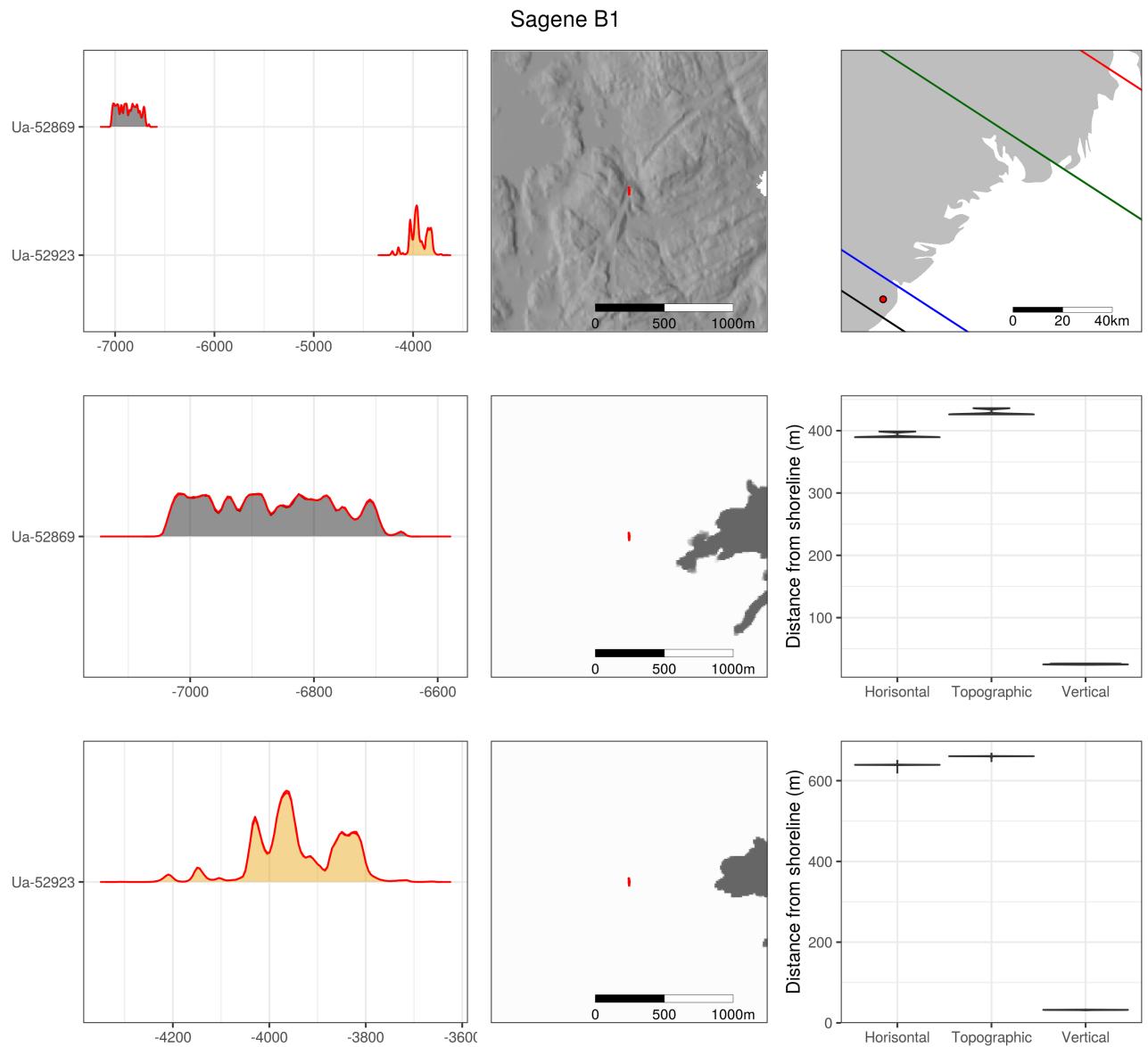


Table 51: Sagene B1

ID	^{14}C BP	Error	Material	Context
Ua-52869	7954	32	Pine (Pinus),	Post-hole (ID 456141)
Ua-52923	5150	58	Deciduous (Decid, indet.)	Post-hole (ID 456149)
Ua-52868	3352	27	Pine (Pinus)	Post-hole (ID 456132)
Ua-52866	2254	43	Ash (Fraxinus)	Fireplace (ID 454792)
Ua-52867	1766	47	Coniferous (Conif. indet.), cone seed scale	Floor layer (ID 451586)

Table 52: Sagene B2

ID	^{14}C BP	Error	Material	Context
Ua-52870	4946	29	Deciduous (Decid, indet.)	Tree throw (ID 503080)
Beta-411673	2640	30	Pine (Pinus)	Cooking pit (ID 500001)
Beta-411674	2460	30	Birch (Betula)	Cooking pit (ID 500001)
Ua-52924	1305	51	Coniferous (Conif. indet.), cone	Tree throw (ID 503080)

Sagene B2

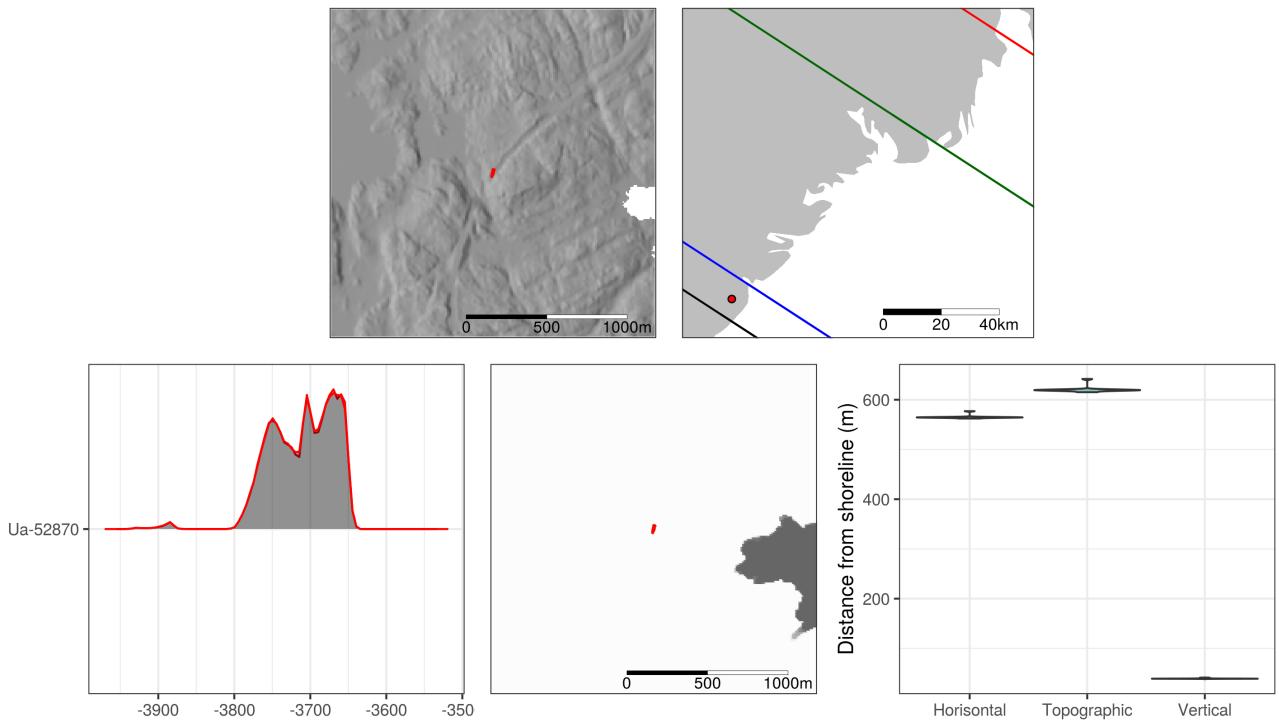


Table 53: Solum 3

ID	^{14}C BP	Error	Material	Context
Ua-45179	3039	31	Hazel (<i>Corylus</i>)	Undefined feature/wooden construction (ID 350)
Ua-47125	3622	34	Burnt bone (1.4g)	Undefined feature/wooden construction (ID 350)

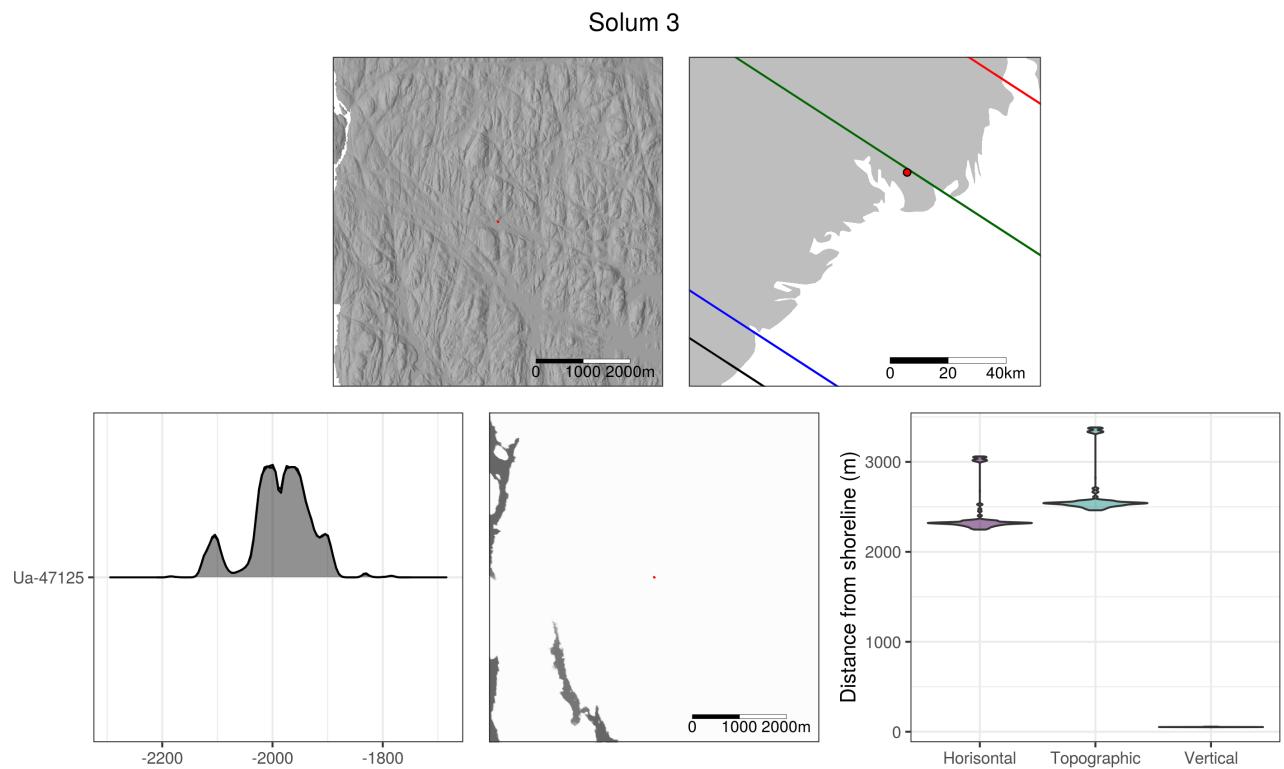


Table 54: Stokke/Polland 1

ID	^{14}C BP	Error	Material	Context
Ua-48259	5353	101	Hazel (<i>Corylus</i>)	Cooking pit (ID 22029)
Ua-48260	192	30	Spruce (<i>Picea</i>)	Charcoal clamp (ID 18176/22964)
Ua-48261	88	31	Spruce (<i>Picea</i>)	Cooking pit (ID 10537)
Ua-48264	4911	39	Elm (<i>Ulmus</i>)	Cooking pit (ID 18358)
Ua-48263	1514	30	Birch (<i>Betula</i>)	Undefined feature (ID 21259)
Ua-48262	4583	38	Willow (<i>Salix</i>)	Cooking pit (ID 22994)
Ua-48265	4667	39	Hazel (<i>Corylus</i>)	Undefined feature (ID 21238)
Ua-48266	1549	30	Birch (<i>Betula</i>)	Undefined feature (ID 15546)
Beta-359783	2960	30	Hazel (<i>Corylus</i>), nutshell	Tree throw (ID 1568)

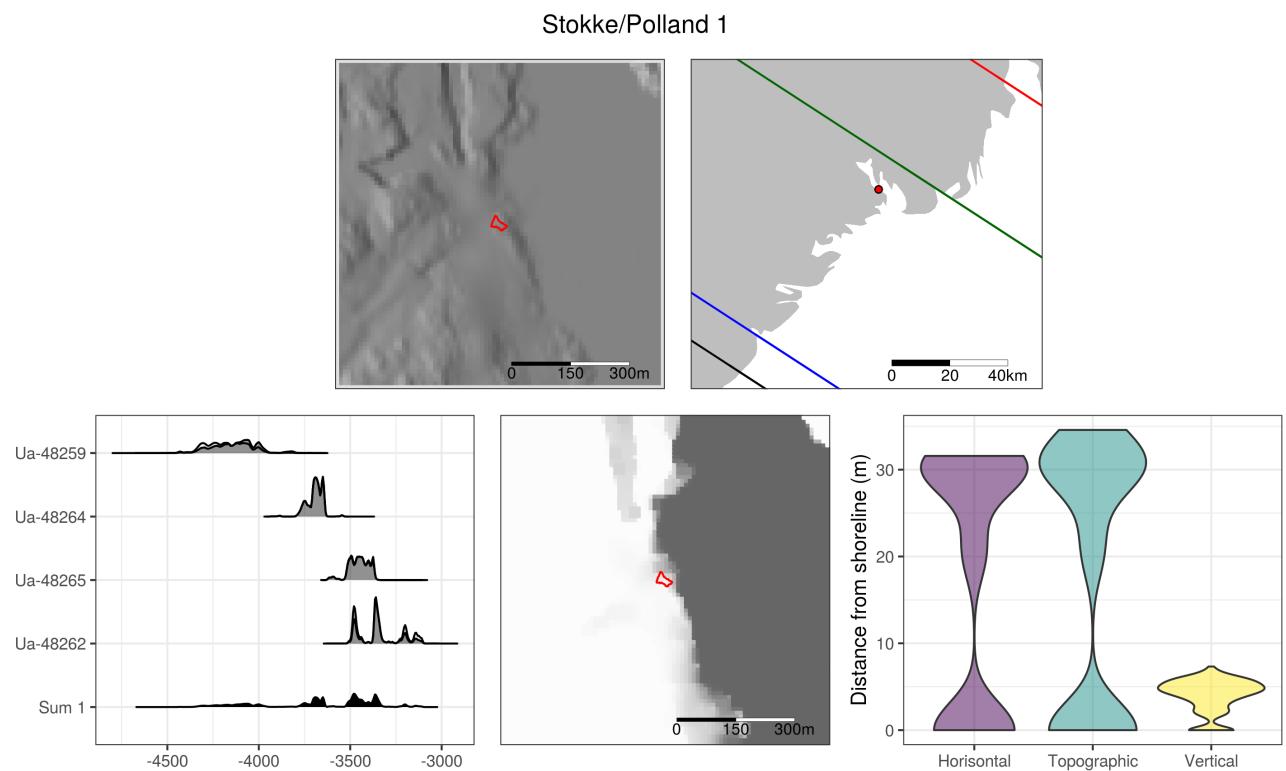


Table 55: Stokke/Polland 5

ID	^{14}C BP	Error	Material	Context
Ua-48256	6196	40	Alder (<i>Alnus</i>)	Cooking pit (ID 20345)
Ua-48257	6098	40	Pomoideae (<i>Malinae</i>)	Cooking pit (ID 20289)
Ua-48258	6177	42	Hazel (<i>Corylus</i>)	Cooking pit (ID 20270)

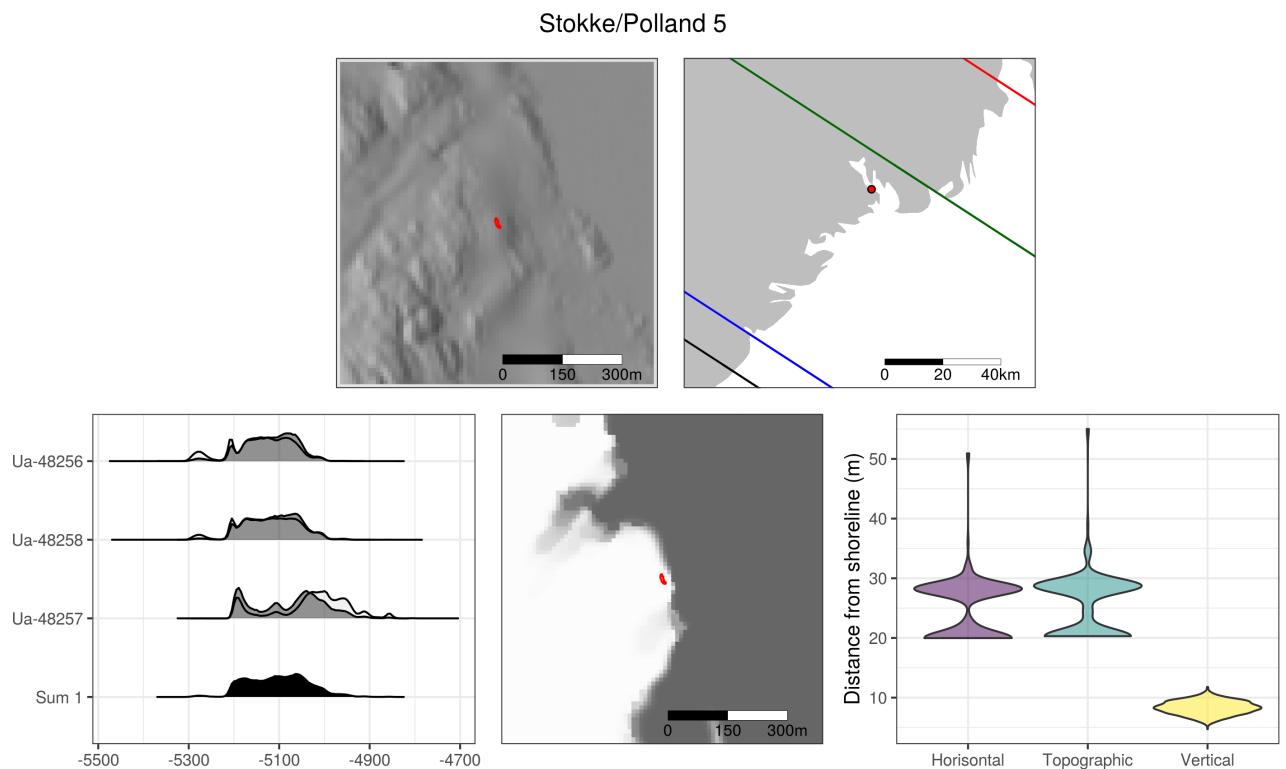


Table 56: Stokke/Polland 8

ID	^{14}C BP	Error	Material	Context
Ua-51840	6215	35	Birch (Betula)	Cooking pit/fireplace (ID 24210)

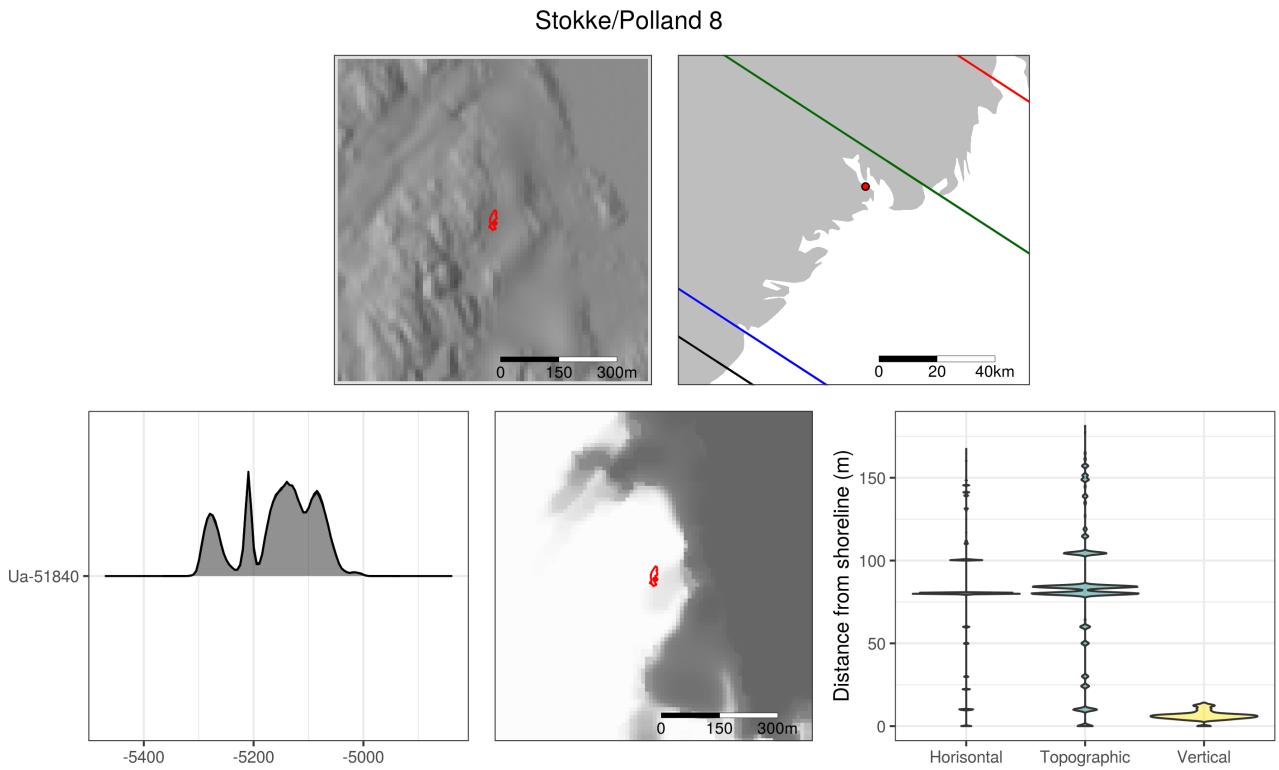


Table 57: Torstvet

ID	^{14}C BP	Error	Material	Context
TRa-3406	8460	55	Hazel (<i>Corylus</i>), nutshell	Square (61x101y, layer 2)
TRa-3407	8425	55	Hazel (<i>Corylus</i>), nutshell	Square (61x102y, layer 2)
Ua-45677	2218	34	Birch (<i>Betula</i>)	Fireplace (ID 1)
TRa-3405	3090	30	Birch/willow (<i>Betula/Salix</i>)	Fireplace (ID 1)

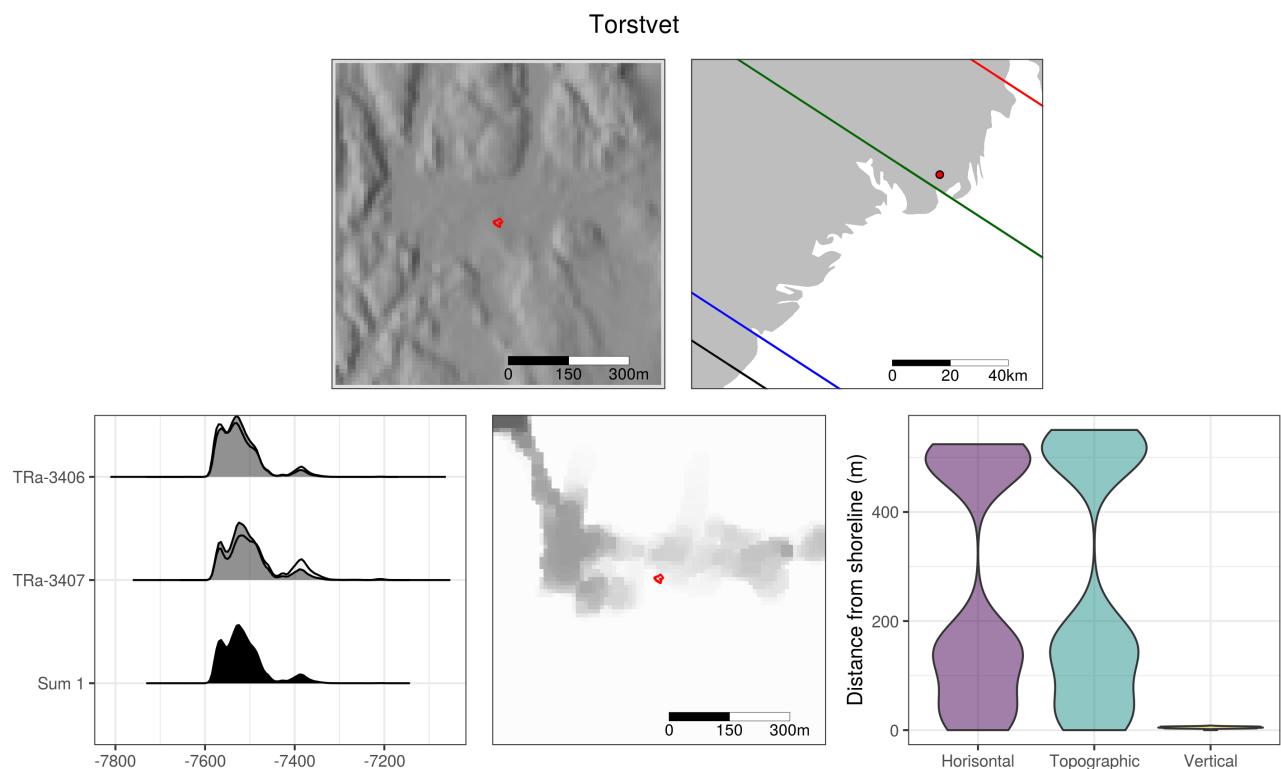


Table 58: Trondalen

ID	^{14}C BP	Error	Material	Context
Ua-50174	5425	42	Hazel (<i>Corylus</i>)	Fireplace (ID 2)
Ua-50175	5557	43	Alder (<i>Alnus</i>)	Fireplace (ID 3)
Ua-50176	5156	44	Willow (<i>Salix</i>)	Cooking pit (ID 7)

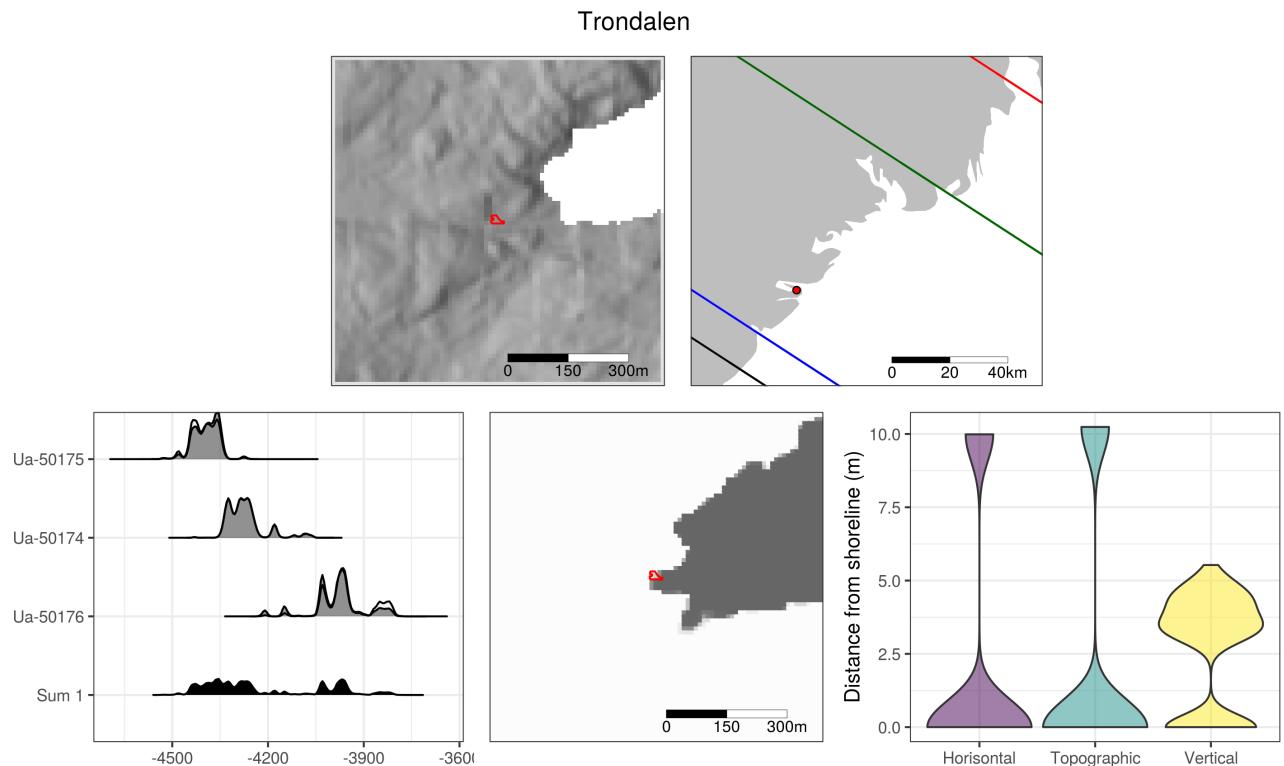


Table 59: Tverdal

ID	^{14}C BP	Error	Material	Context
TRa-443	2480	35	Yew (Taxus)	Cultural layer, quadrant (16x10ySE)
TRa-444	4370	45	Birch (Betula)	Cultural layer, quadrant (14x10yNW)
TRa-445	2535	30	Birch (Betula)	Cultural layer, quadrant (16x10yNW)
TRa-446	2475	40	Yew (Taxus)	Cultural layer, quadrant (16x10ySW)
Ua-47406	4536	131	Dog (Canis familiaris)	Cultural layer, quadrant (16x10y)
Ua-47407	4622	48	Boar (Sus scrofa)	Cultural layer, quadrant (16x10y)
Ua-47408	4401	36	Mammal (Mammalia)	Cultural layer, quadrant (16x10y)

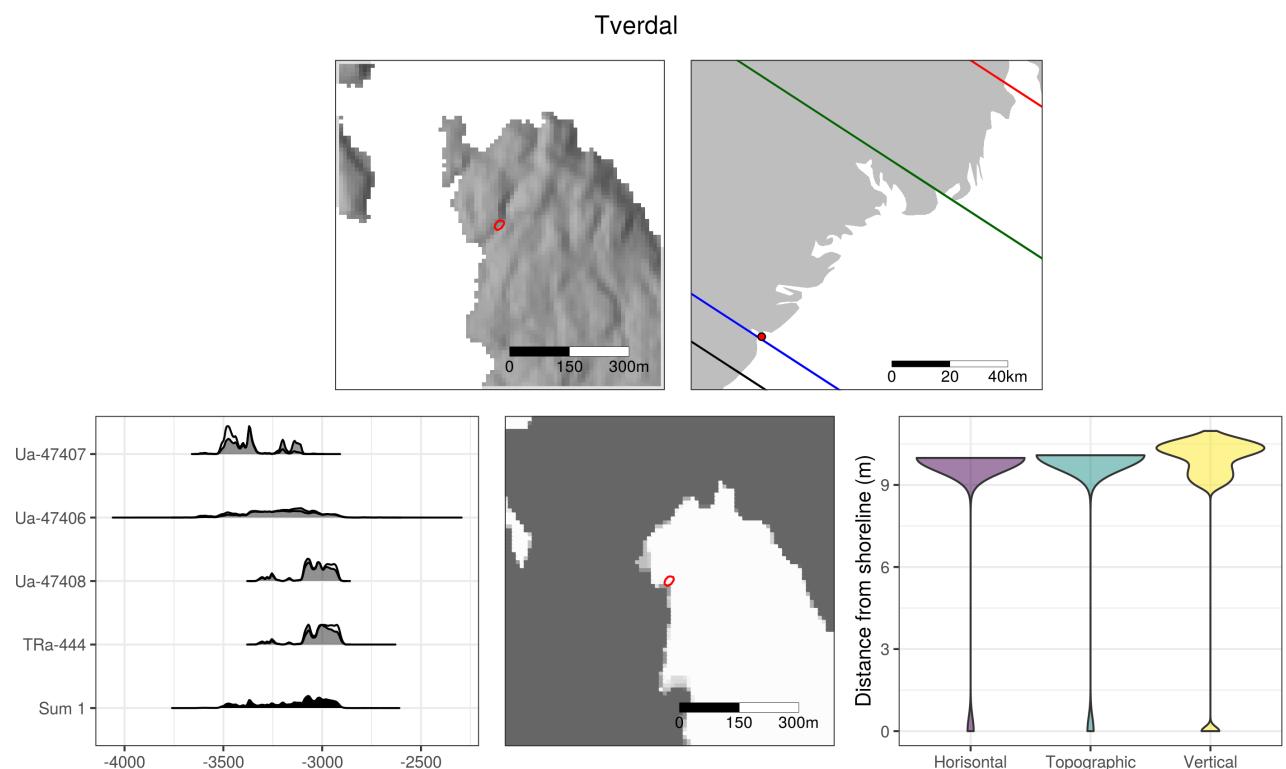


Table 60: Vallermyrene 1a

ID	^{14}C BP	Error	Material	Context
Ua-45182	5770	35	Pine (Pinus)	Fireplace (ID 322)
Ua-45181	5748	35	Pine (Pinus)	Cooking pit/fireplace (ID 301)

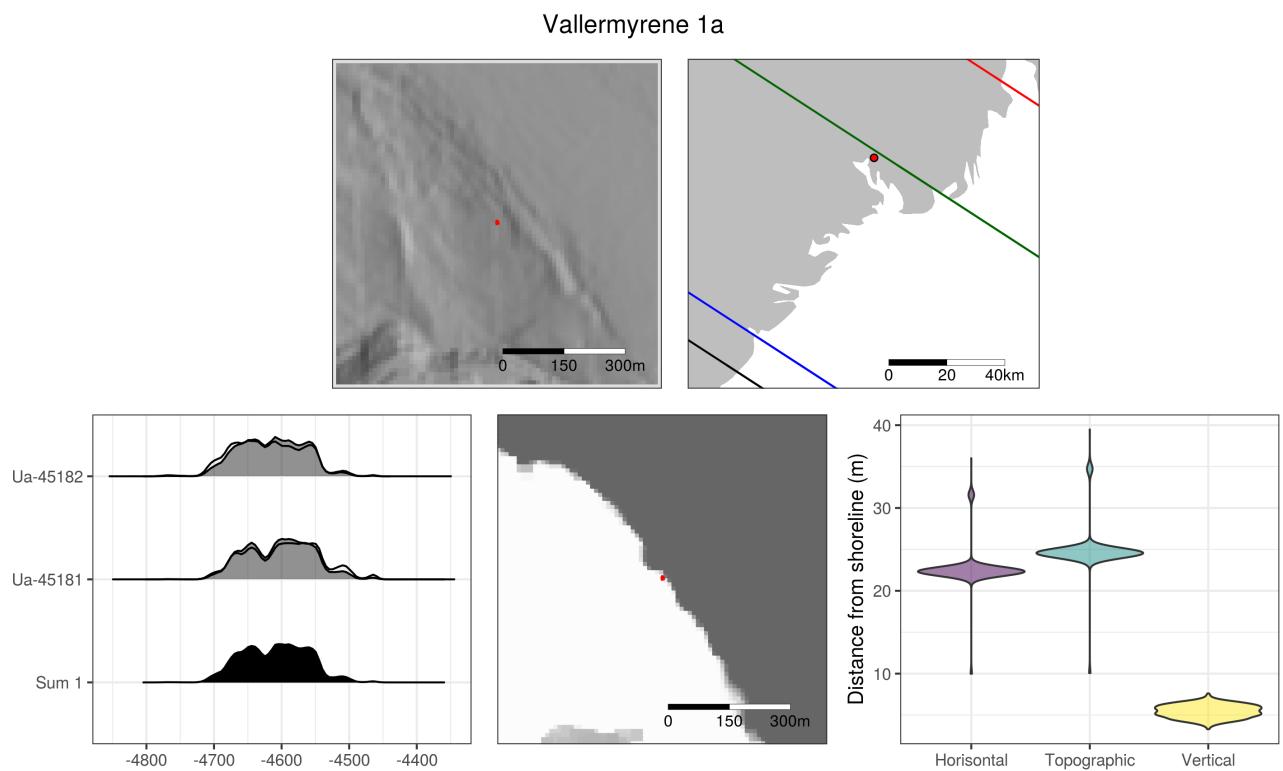


Table 61: Vallermyrene 1b

ID	^{14}C BP	Error	Material	Context
Ua-45180	5373	34	Birch (Betula)	Cooking pit/fireplace (ID 391)

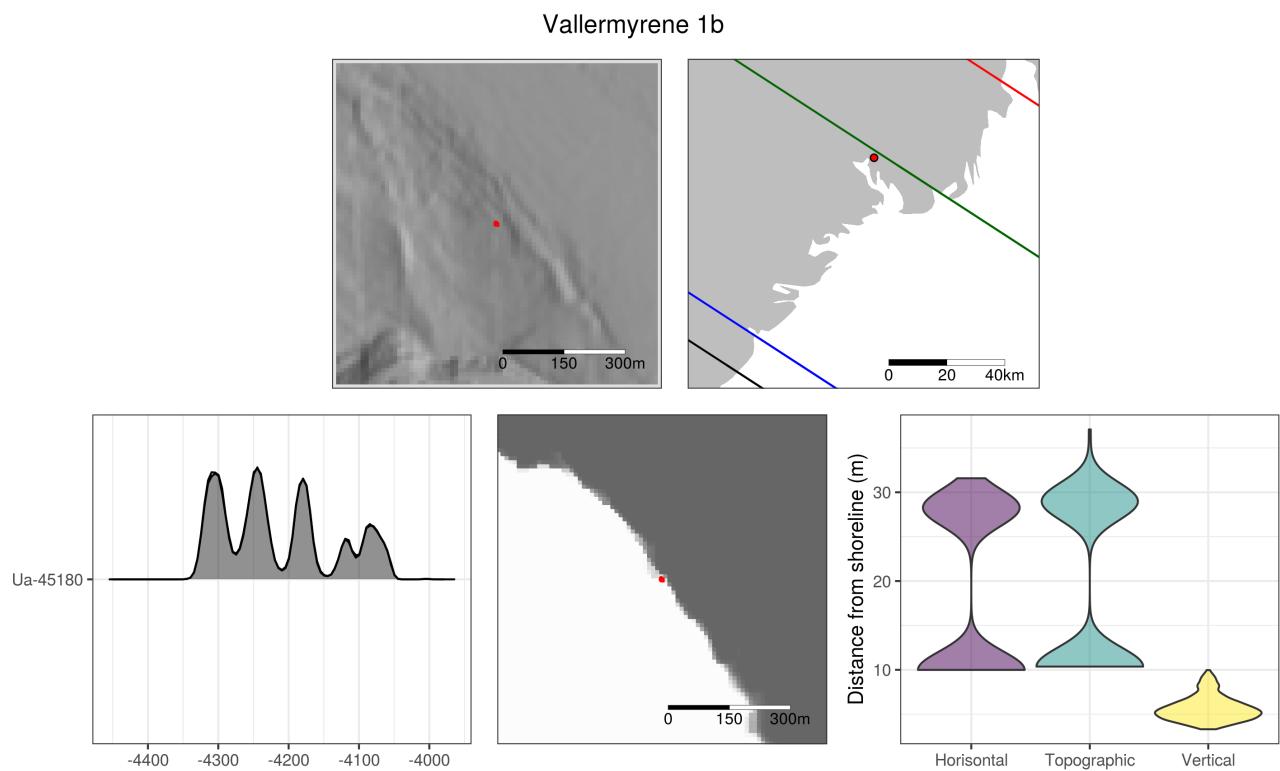


Table 62: Vallermyrene 2

ID	¹⁴ C BP	Error	Material	Context
Ua-45257	4890	32	Hazel (<i>Corylus</i>)	Fireplace (ID 1017)
Ua-45253	3047	32	Birch (<i>Betula</i>)	Cooking pit? (ID 4026)
Ua-45258	2821	30	Willow (<i>Salix</i>)	Post hole? (ID 4455)
Ua-45251	2243	32	Willow (<i>Salix</i>)	Cooking pit (ID 350)
Ua-45256	2181	30	Birch (<i>Betula</i>)	Post hole (ID 2889)
Ua-45255	2156	30	Birch (<i>Betula</i>)	Cultivation layer (Profile in trench)
Beta-324757	2120	30	Hazel (<i>Corylus</i>)	Cultivation layer (611x554y)
Ua-45259	2009	30	Birch (<i>Betula</i>)	Cultivation layer (Profile)
Ua-45260	1942	30	Birch (<i>Betula</i>)	Post hole (ID 4210)
Ua-45249	1846	31	Birch (<i>Betula</i>)	Cooking pit (ID 545)
Ua-45248	1803	31	Birch (<i>Betula</i>)	Cooking pit (ID 437)
Ua-45252	1654	30	Birch/hazel/rowan (<i>Betula/Corylus/Sorbus</i>)	Undefined feature (ID 3351)
Ua-45254	1593	30	Pine (<i>Pinus</i>)	Post hole (ID 4468)
Ua-45250	1560	32	Birch (<i>Betula</i>)	Cooking pit/fireplace (ID 1043)

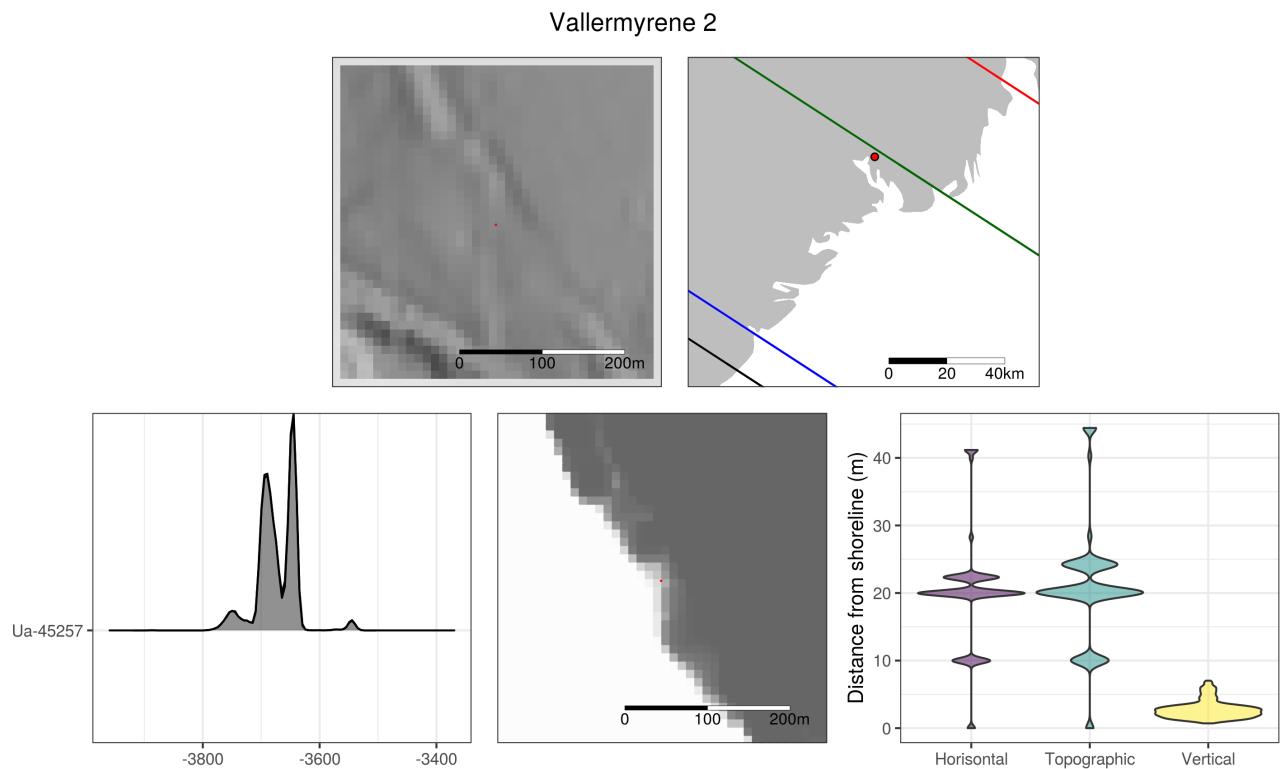


Table 63: Vallermyrene 4a

ID	^{14}C BP	Error	Material	Context
Ua-45169	6489	50	Burnt bone, mammal (0.5g)	Quadrant (894x242yNE, layer 1)
Ua-45170	6381	37	Burnt bone, mammal (1g)	Quadrant (892x243yNW, layer 3)

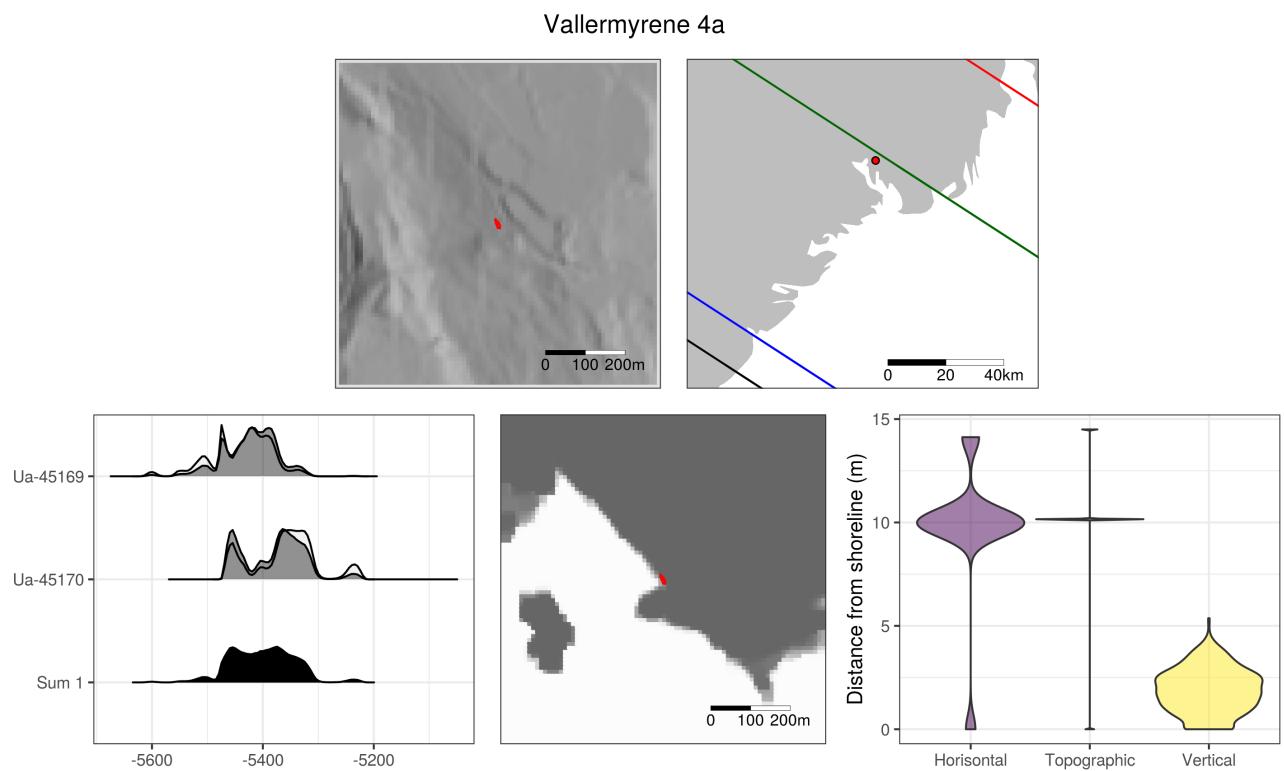
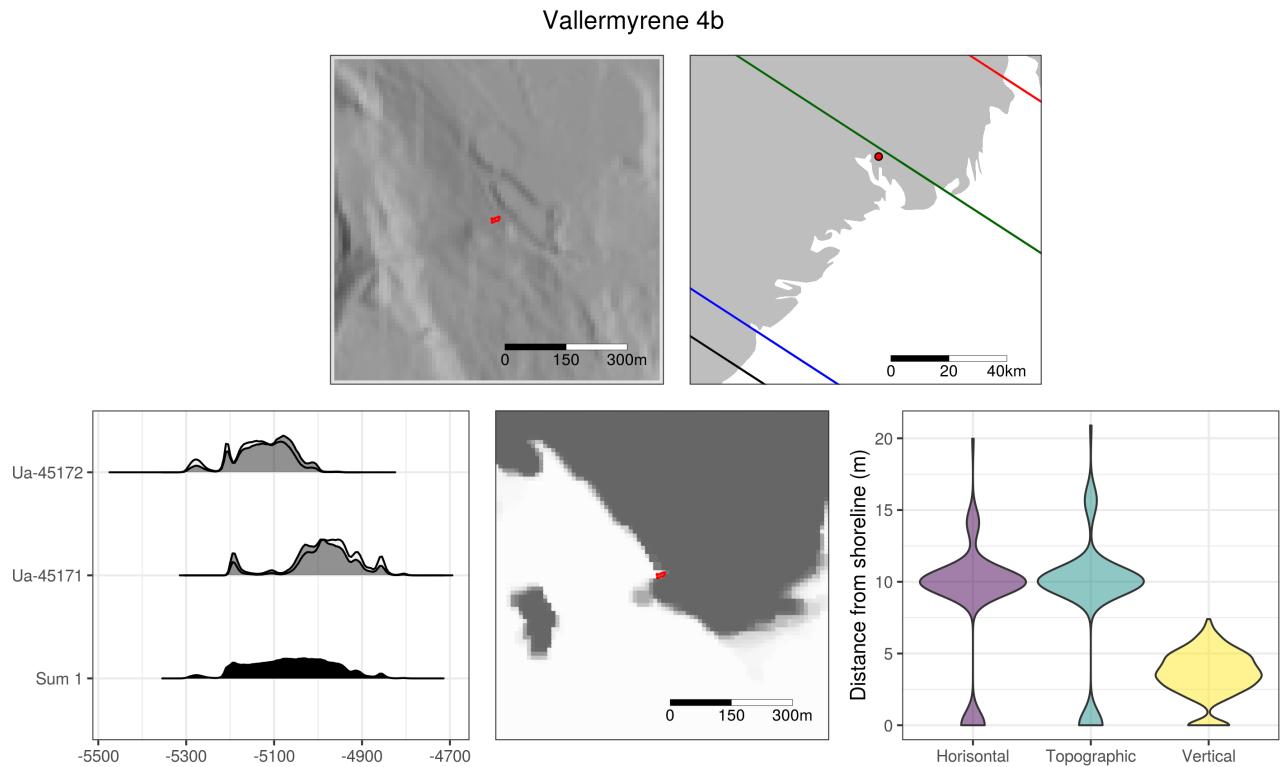


Table 64: Vallermyrene 4b

ID	^{14}C BP	Error	Material	Context
Ua-45172	6197	40	Pine (Pinus)	Refuse/storage pit (ID 896)
Ua-45171	6067	41	Pine (Pinus)	Refuse/storage pit (ID 896)



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