Spatial assignment of test sample

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Contents

Input

Website Identifier: Blind 3_KE

Isotope values of test sample

Table 1: Isotope values of test sample

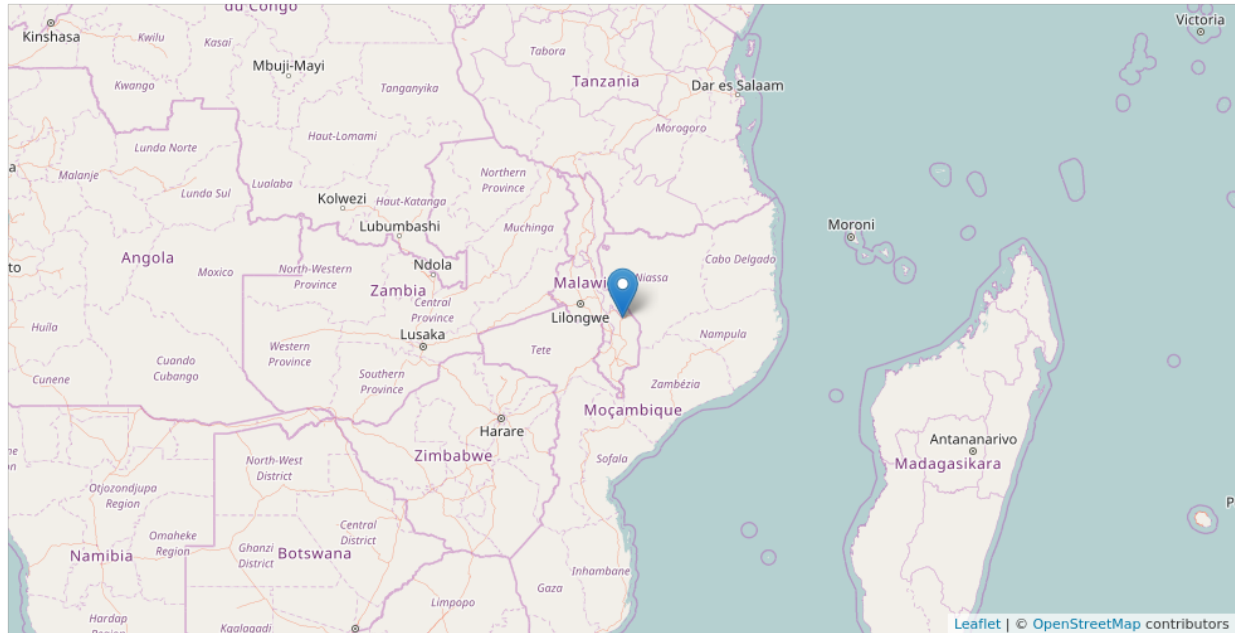| 13C/12C	15N/14N	18O/16O	2H/1H	34S/32S
-21.9	7.1	13.6	-47.2	10.6

Output

Model

```
##
## Call:
## train.kknn(formula = fmla, data = ivory.train, kmax = 15, distance = 2,     kernel = knl)
##
## Type of response variable: nominal
## Minimal misclassification: 0.3765867
## Best kernel: triangular
## Best k: 15
```

Classifier: **country_code**

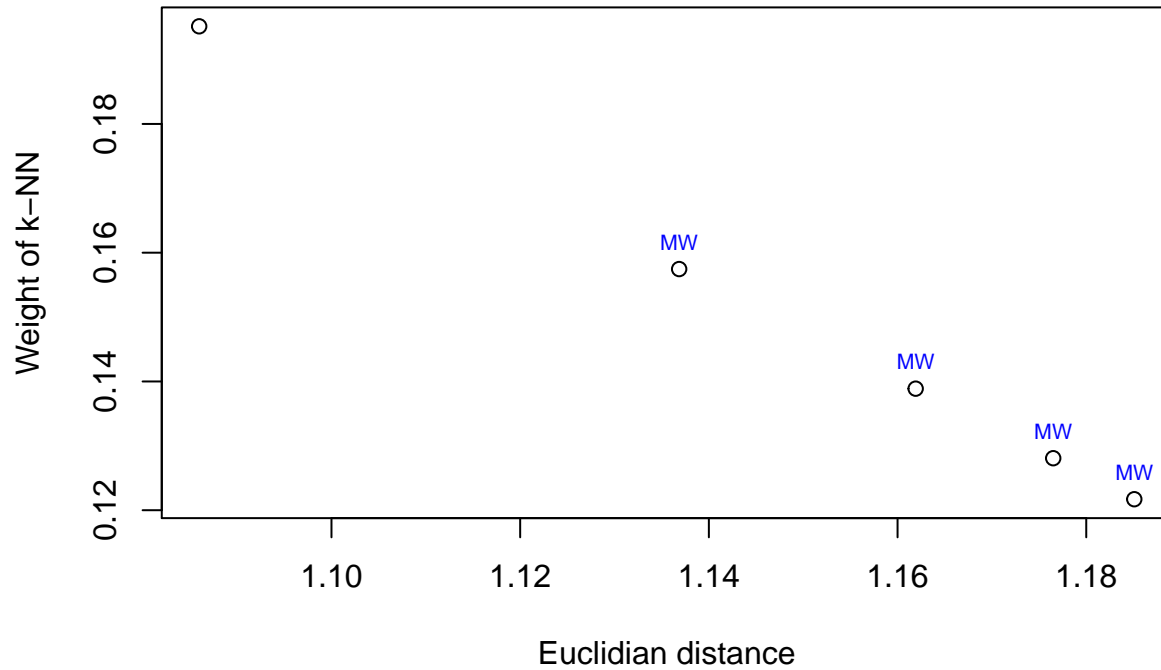# Map of best fitted reference sample

Best fitted reference sample:

- Site: Malawi, Mangochi
- Country: MW
- Region: Southern Africa
- CITES: Appendix I
- Lat: -14.48
- Lon: 35.25

Assignment of test sample to nearest neighbours

Best fitted reference entries

Table 2: Details of best fitted reference entry (row 1) and other fitted entries within best classifier

lon	lat	location	13C/12C	15N/14N	18O/16O	2H/1H	34S/32S
35.25	-14.48	Malawi, Mangochi	-22.1	7.3	14.7	-54.4	12.8
33.13	-12.91	Malawi, Kasungu	-20.4	6.4	14.9	-51.0	10.1
33.13	-12.91	Malawi, Kasungu	-22.6	5.9	14.7	-54.4	9.5
33.13	-12.91	Malawi, Kasungu	-21.1	5.8	15.0	-53.0	10.3
33.13	-12.91	Malawi, Kasungu	-21.1	6.1	13.7	-57.7	10.2

Country of prediction: MW

Testing robustness of assignment: Wilcoxon signed rank test

If p-value > 0.05, the test concludes that the isotope signature of the test sample is similar to the respective nearest neighbour reference sample.

P-values for the k nearest neighbours in Wilcoxon Test

"0.10230860, 0.00589024, 0.00000701, 0.00000077, 0.00000018"

Goodness of fit of test sample:

- good fit: if p > 0.05 for at least two tested nearest neighbour reference samples;
- moderate fit: if p > 0.05 for at least one tested nearest neighbour reference samples;
- uncertain: if p > 0.05 for none of the tested nearest neighbour reference samples.

Assumption: At least two nearest reference samples are available.

Overall goodness of fit of test sample: "**moderate fit**"