Spatial assignment of test sample

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Input

Website Identifier: 005p562-18

Isotope values of test sample

Table 1: Isotope values of test sample

13C/12C	15N/14N	18O/16O	2H/1H	34S/32S
-24.2	6.4	16.4	-44.9	10.9

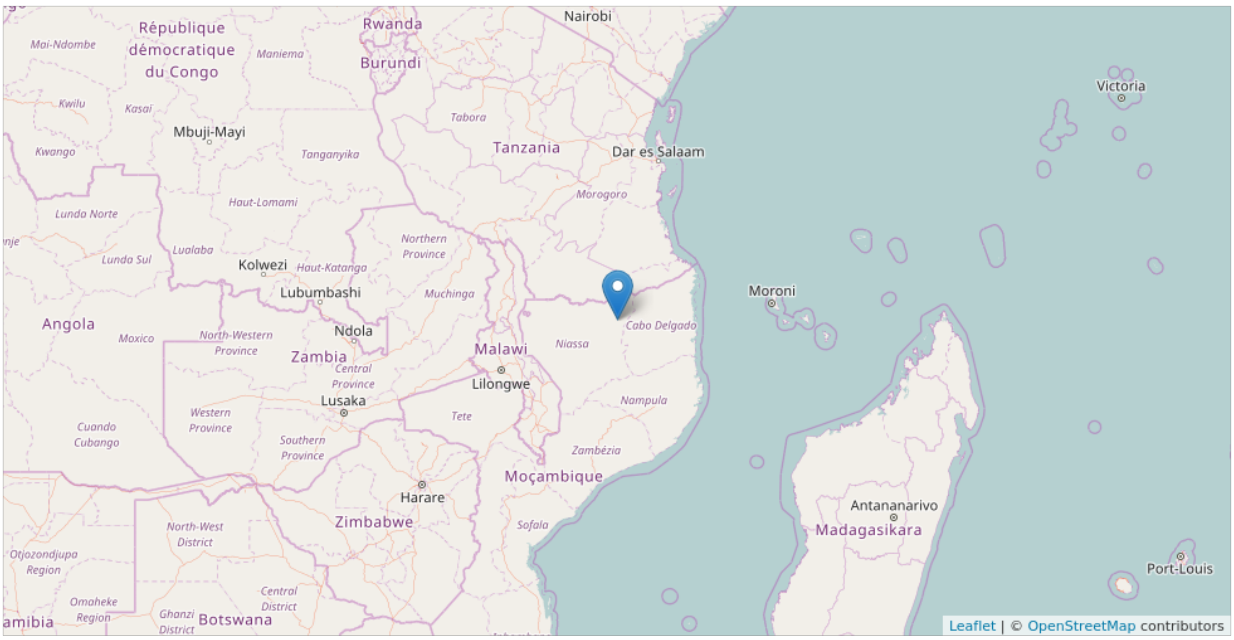
Output

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
```

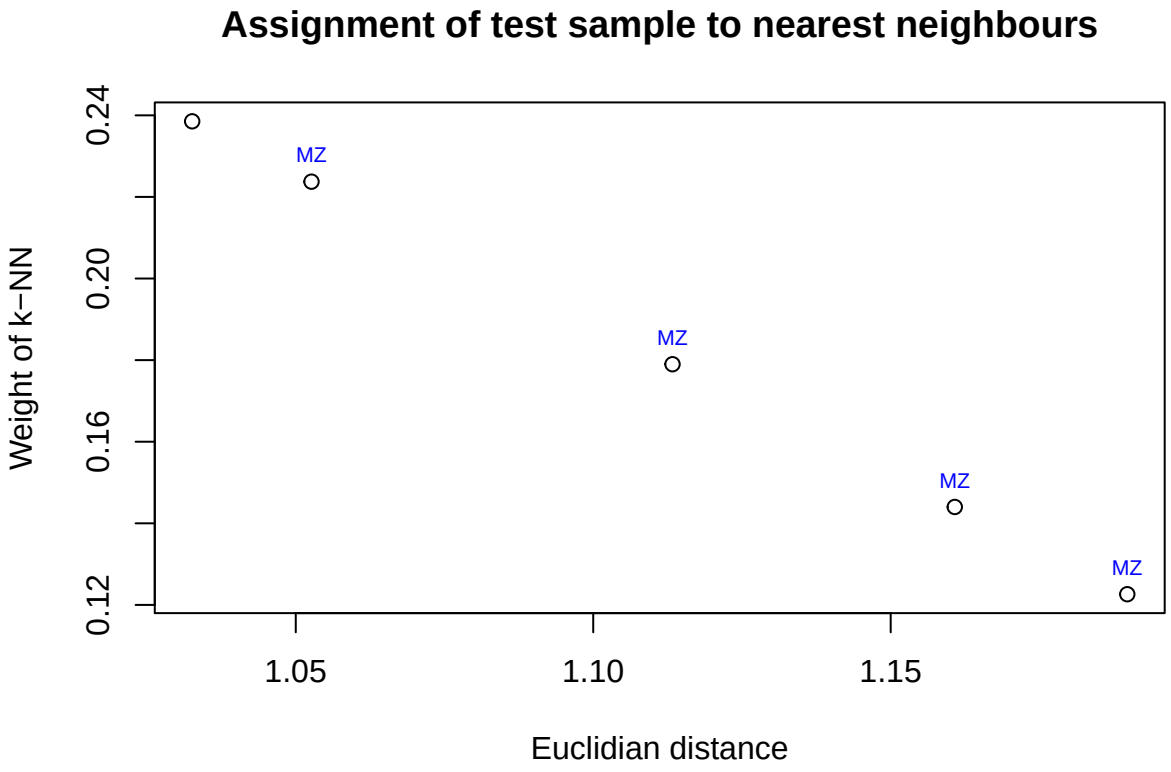
Classifier: **country_code**

Map of best fitted reference sample



Best fitted reference sample:

- Site: Mozambique, Block L7 - Lugenda south bank
- Country: MZ
- Region: Southern Africa
- CITES: Appendix I
- Lat: -12.308
- Lon: 37.84



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
37.84	-12.31	Mozambique, Block L7 - Lugenda south ban	-23.1	7.0	15.5	-45.2	8.6
37.84	-12.31	Mozambique, Lugenda	-23.3	7.4	15.2	-45.8	9.1
37.30	-12.00	Mozambique, Luwure (block L7) area	-22.5	6.7	16.5	-41.6	8.9
32.00	-14.75	Mozambique, Kambako	-23.6	7.7	17.4	-37.0	11.5
31.86	-14.75	Mozambique, Kambako	-23.4	7.9	16.8	-46.0	8.2

Country of prediction: MZ

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

"0.0120794, 0.0000171, 0.0000171, 0.0000077, 0.0000051"

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: "**uncertain**"