

Raw data: pf = dependent variable; reg\_quarter = categorical variable with two categories; other variables = continuous explanatory variables.

pf	EVI_Jul_recode_100_10km	dist_coast_update	reg_quarter	tmin_6to8_C_5km	precip_6to8_cm_5km	altitude_surv_100m
0	42.69334	0.2600656	1	22.2	5.6	0.2
0	42.69334	0.2600656	1	22.2	5.6	0.2
0	42.69334	0.2600656	1	22.2	5.6	0.2
0	42.69334	0.2600656	1	22.2	5.6	0.2
0	42.69334	0.2600656	1	22.2	5.6	0.2
0	42.69334	0.2600656	1	22.2	5.6	0.2
0	42.69334	0.2600656	1	22.2	5.6	0.2
0	42.69334	0.2600656	1	22.2	5.6	0.2
0	42.69334	0.2600656	1	22.2	5.6	0.2
0	42.69334	0.2600656	1	22.2	5.6	0.2
0	42.69334	0.2600656	1	22.2	5.6	0.2
0	42.69334	0.2600656	1	22.2	5.6	0.2
0	42.69334	0.2600656	1	22.2	5.6	0.2
0	42.69334	0.2600656	1	22.2	5.6	0.2
0	42.69334	0.2600656	1	22.2	5.6	0.2

Showing 1 to 15 of 9,687 entries

Data file discretised: continuous variables discretised using quantile method with two breaks.

	EVI_Jul_recode_100_10km	dist_coast_update	tmin_6to8_C_5km	precip_6to8_cm_5km	altitude_surv_100m	pf	reg_quarter
5643	[9.25,48]	(0.0334,1.89)	[6.9,21.5]	[3.2,14.3]	(0.4,26]	0	1
5644	[9.25,48]	(0.0334,1.89)	[6.9,21.5]	[3.2,14.3]	(0.4,26]	0	1
5645	[9.25,48]	(0.0334,1.89)	[6.9,21.5]	[3.2,14.3]	(0.4,26]	0	1
5646	[9.25,48]	(0.0334,1.89)	[6.9,21.5]	[3.2,14.3]	(0.4,26]	0	1
5647	[9.25,48]	(0.0334,1.89)	[6.9,21.5]	[3.2,14.3]	(0.4,26]	0	1
5648	[9.25,48]	(0.0334,1.89)	[6.9,21.5]	[3.2,14.3]	(0.4,26]	0	1
5649	[9.25,48]	(0.0334,1.89)	[6.9,21.5]	[3.2,14.3]	(0.4,26]	0	1
5650	[9.25,48]	(0.0334,1.89)	[6.9,21.5]	[3.2,14.3]	(0.4,26]	0	1
5651	[9.25,48]	(0.0334,1.89)	[6.9,21.5]	[3.2,14.3]	(0.4,26]	0	1
5652	(48,63]	[3.98e-05,0.0334]	(21.5,23.6]	(14.3,96.2]	[0,0.4]	0	2
5653	(48,63]	[3.98e-05,0.0334]	(21.5,23.6]	(14.3,96.2]	[0,0.4]	0	2
5654	(48,63]	[3.98e-05,0.0334]	(21.5,23.6]	(14.3,96.2]	[0,0.4]	0	2
5655	(48,63]	[3.98e-05,0.0334]	(21.5,23.6]	(14.3,96.2]	[0,0.4]	0	2
5656	(48,63]	[3.98e-05,0.0334]	(21.5,23.6]	(14.3,96.2]	[0,0.4]	0	2
5657	(48,63]	[3.98e-05,0.0334]	(21.5,23.6]	(14.3,96.2]	[0,0.4]	0	2
5658	(48,63]	[3.98e-05,0.0334]	(21.5,23.6]	(14.3,96.2]	[0,0.4]	0	2
5659	(48,63]	[3.98e-05,0.0334]	(21.5,23.6]	(14.3,96.2]	[0,0.4]	0	2
5660	(48,63]	[3.98e-05,0.0334]	(21.5,23.6]	(14.3,96.2]	[0,0.4]	0	2
5661	(48,63]	[3.98e-05,0.0334]	(21.5,23.6]	(14.3,96.2]	[0,0.4]	0	2

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Data file with discretised states named

	EVI_Jul_recode_100_10km	dist_coast_update	tmin_6to8_C_5km	precip_6to8_cm_5km	altitude_surv_100m	pf	reg_quarter
5644	low	ni	low	low	ni	U	southern
5645	low	hi	low	low	hi	0	southern
5646	low	hi	low	low	hi	0	southern
5647	low	hi	low	low	hi	0	southern
5648	low	hi	low	low	hi	0	southern
5649	low	hi	low	low	hi	0	southern
5650	low	hi	low	low	hi	0	southern
5651	low	hi	low	low	hi	0	southern
5652	hi	low	hi	hi	low	0	northern
5653	hi	low	hi	hi	low	0	northern
5654	hi	low	hi	hi	low	0	northern
5655	hi	low	hi	hi	low	0	northern
5656	hi	low	hi	hi	low	0	northern
5657	hi	low	hi	hi	low	0	northern
5658	hi	low	hi	hi	low	0	northern

Showing 5,644 to 5,659 of 9,687 entries

Conditional probability table for bn

```

Parameters of node pf (multinomial distribution)
Conditional probability table:
, , EVI_Jul_recode_100_10km = low, reg_quarter = southern
  dist_coast_update
pf      low      hi
0 0.981973435 0.995176849
1 0.018026565 0.004823151
, , EVI_Jul_recode_100_10km = hi, reg_quarter = southern
  dist_coast_update
pf      low      hi
0 0.979052823 0.984174085
1 0.020947177 0.015825915
, , EVI_Jul_recode_100_10km = low, reg_quarter = northern
  dist_coast_update
pf      low      hi
0 0.964241677 0.984509466
1 0.035758323 0.015490534
, , EVI_Jul_recode_100_10km = hi, reg_quarter = northern
  dist_coast_update
pf      low      hi
0 0.939544103 0.929712460
1 0.060455897 0.070287540

```

## Lookup text file

```
bn_classes_enviro_jul_2018_all_variables - Notepad
File Edit Format View Help
EVI_Jul_recode_100_10km
low, hi
9.25, 48, 63
dist_coast_update
low, hi
.0000398, 0.0334, 1.89
tmin_6to8_C_5km
low, hi
6.9, 21.5, 23.6
precip_6to8_cm_5km
low, hi
3.2, 14.3, 96.2
altitude_surv_100m
low, hi
0, 0.4, 26
reg_quarter
southern, northern
1, 2
```

```
bn_pf <- bnsatial(network, 'pf', spatialData, lookup)
```

## Error message

```
low hi
Discretized by intervals:
3.98e-05 <-> 0.0334 <-> 1.89
-----
"tmin_6to8_C_5km" points to:
-> tmin_6to8_C_5km

with states:
low hi

Discretized by intervals:
6.9 <-> 21.5 <-> 23.6
-----
"precip_6to8_cm_5km" points to:
-> precip_6to8_cm_5km

with states:
low hi

Discretized by intervals:
3.2 <-> 14.3 <-> 96.2
-----
"altitude_surv_100m" points to:
-> altitude_surv_100m

with states:
low hi

Discretized by intervals:
0 <-> 0.4 <-> 26
-----
Error in linkNode(spatialData[names(lookup) == nm][[1]], network = network, :
Integer values in categorical data do not match categories provided.
> -|
```