An overview of Maxent parameters and their implementations in R.

ID	Parameters in Maxent (or flag*)	Abbreviation of parameters*	Type of parameter*	Default value in Maxent*	Description of parameter*	Implemented in R	Usage in R	Note
1	responsecurves	P	boolean	FALSE	Create graphs showing how predicted relative probability of occurrence depends on the value of each environmental variable.	Yes	prepPara(responsecurves = TRUE)	The default value is set as TRUE.
2	pictures	n/a	boolean	TRUE	Create a .png image for each output grid.	No	n/a	n/a
3	jackknife	J	boolean	FALSE	Measure importance of each environmental variable by training with each environmental variable first omitted, then used in isolation.	Yes	prepPara(jackknife = TRUE)	The default value is set as TRUE.
4	outputformat	n/a	string	logistic	Representation of probabilities used in writing output grids.	Yes	prepPara(outputformat = "logistic")	The ourpur format of projection, values can be "logistic","cumulative","raw".
5	outputfiletype	n/a	string	asc	File format used for writing output grids.	Yes	prepPara(outputfiletype = "asc")	The format of writing output of projection, values can be "asc","mxe","grd", or "bil".
6	outputdirectory	o	directory	n/a	Directory where outputs will be written. This should be different from the environmental layers directory.	No	n/a	n/a
7	projectionlayers	j	file/directory	n/a	Location of an alternate set of environmental variables. Maxent models will be projected onto these variables. Can be a .csv file (in SWD format) or a directory containing one file per variable. Multiple projection files/directories can be separated by commas.	Yes	prepPara(projectionlayers = "D:/data/climate/")	Should use absolute path, because the path will be passed to Maxent.jar
8	samplesfile	s	file	n/a	Please enter the name of a file containing presence locations for one or more species.	No	n/a	n/a
9	environmentallayers	e	file/directory	n/a	Environmental variables can be in a directory containing one file per variable, or all together in a .csv file in SWD format. Please enter a directory name or file name.	No	n/a	n/a
10	randomseed	n/a	boolean	FALSE	If selected, a different random seed will be used for each run, so a different random test/train partition will be made and a different random subset of the background will be used, if applicable.	Yes	prepPara(randomseed = FALSE)	Could be used if raster layers are used as input. Similar like the set.seed() function in R.
11	logscale	n/a	boolean	TRUE	If selected, all pictures of models will use a logarithmic scale for color-coding.	No	n/a	n/a
12	warnings	n/a	boolean	TRUE	Pop up windows to warn about potential problems with input data. Regardless of this setting, warnings are always printed to the log file.	No	n/a	n/a
13	tooltips	n/a	boolean	TRUE	Show messages that explain various parts of the interface, like this message.	No	n/a	n/a
14	askoverwrite	r	boolean	TRUE	If output files already exist for a species being modeled, pop up a window asking whether to overwrite or skip. Default is to overwrite.	No	n/a	n/a
15	skipifexists	S	boolean	FALSE	If output files already exist for a species being modeled, skip the species without remaking the model.	No	n/a	n/a
16	removeduplicates	n/a	boolean	TRUE	Remove duplicate presence records. If environmental data are in grids, duplicates are records in the same grid cell. Otherwise, duplicates are records with identical coordinates.	Yes	prepPara(removeduplicates = TRUE)	n/a
17	writeclampgrid	n/a	boolean	TRUE	Write a grid that shows the spatial distribution of clamping. At each point, the value is the absolute difference between prediction values with and without clamping.	No	n/a	n/a
18	writemess	n/a	boolean	TRUE	A multidimensional environmental similarity surface (MESS) shows where novel climate conditions exist in the projection layers. The analysis shows both the degree of novelness and the variable that is most out of range at each point.	No	n/a	n/a
19	randomtestpoints	X	integer	0	Percentage of presence localities to be randomly set aside as test points, used to compute AUC, omission etc.	No	n/a	n/a
20	betamultiplier	b	double	1	Multiply all automatic regularization parameters by this number. A higher number gives a more spread-out distribution.	Yes	prepPara(betamultiplier = 1.5)	n/a
21	maximumbackground	MB	integer	10000	If the number of background points / grid cells is larger than this number, then this number of cells is chosen randomly for background points.	No	n/a	n/a
22	biasfile	n/a	file	n/a	Sampling is assumed to be biased according to the sampling distribution given in this grid file. Values in this file must not be zero or negative. MaxEnt will factor out the bias. Requires environmental data to be in grids, rather than a SWD format file.	Yes	prepPara(biasfile = "D:/data/biasfile.asc")	Should use absolute path, because the path will be passed to Maxent.jar
23	testsamplesfile	T	file	n/a	Use the presence localities in this file to compute statistics (AUC, omission etc.) The file can contain different localities for different species. It takes precedence over the random test percentage.	Yes	prepPara(testsamplesfile = "D:/data/testing.csv")	n/a
24	replicates	n/a	integer	1	Number of replicate runs to do when cross-validating, bootstrapping or doing sampling with replacement runs.	Yes	prepPara(replicates = 5)	Should be integer.

25	replicatetype	n/a	string	crossvalidate	If replicates > 1, do multiple runs of this type: Crossvalidate: samples divided into replicates folds; each fold in turn used for test data. Bootstrap: replicate sample sets chosen by sampling with replacement. Subsample: replicate sample sets chosen by removing random test percentage without replacement to be used for evaluation.	Yes	prepPara(replicatetype = "crossvalidate")	Possible values are: crossvalidate, bootstrap, or subsample.
26	perspeciesresults	n/a	boolean	FALSE	Write separate maxent Results file for each species.	No	n/a	n/a
27	writebackgroundpredictions	n/a	boolean	FALSE	Write .csv file with predictions at background points.	No	n/a	n/a
28	responsecurvesexponent	n/a	boolean	FALSE	Instead of showing the logistic value for the y axis in response curves, show the exponent (a linear combination of features).	No	n/a	n/a
29	linear	l	boolean	TRUE	Allow linear features to be used.	Yes	prepPara(userfeatures = "L") or prepPara(userfeatures = "LQ") or prepPara(userfeatures = "LQPTH")	L
30	quadratic	q	boolean	TRUE	Allow quadratic features to be used.	Yes	prepPara(userfeatures = "Q")	Q
31	product	p	boolean	TRUE	Allow product features to be used.	Yes	prepPara(userfeatures = "P")	P
32	threshold	n/a	boolean	TRUE	Allow threshold features to be used.	Yes	prepPara(userfeatures = "T")	T
33	hinge	h	boolean	TRUE	Allow hinge features to be used.	Yes	prepPara(userfeatures = "H")	H
34	addsamplestobackground	d	boolean	TRUE	Add to the background any sample for which has a combination of environmental values that isn't already present in the background.	No	n/a	n/a
35	addallsamplestobackground	n/a	boolean	FALSE	Add all samples to the background, even if they have combinations of environmental values that are already present in the background.	No	n/a	n/a
36	autorun	a	boolean	FALSE	Start running as soon as the the program starts up.	No	n/a	n/a
37	writeplotdata	n/a	boolean	FALSE	Write output files containing the data used to make response curves, for import into external plotting software.	Yes	prepPara(writeplotdata = TRUE)	The default value is set as TRUE.
38	fadebyclamping	n/a	boolean	FALSE	Reduce prediction at each point in projections by the difference between clamped and non-clamped output at that point.	No	n/a	n/a
39	extrapolate	n/a	boolean	TRUE	Predict to regions of environmental space outside the limits encountered during training.	Yes	prepPara(extrapolate = TRUE)	n/a
40	visible	z	boolean	TRUE	Make the Maxent user interface visible.	No	n/a	n/a
41	autofeature	A	boolean	TRUE	Automatically select which feature classes to use, based on number of training samples.	Yes	prepPara(userfeatures = NULL)	n/a
42	doclamp	n/a	boolean	TRUE	Apply clamping when projecting.	Yes	prepPara(doclamp = TRUE)	To enable this function, user should specify the "projectionlayers" while training the model.
43	outputgrids	x	boolean	TRUE	Write output grids. Turning this off when doing replicate runs causes only the summary grids (average, std deviation etc.) to be written, not those for the individual runs.	No	n/a	n/a
44	plots	n/a	boolean	TRUE	Write various plots for inclusion in .html ouput.	No	n/a	n/a
45	appendtoresultsfile	n/a	boolean	FALSE	If false, maxentResults.csv file is reinitialized before each run.	No	n/a	n/a
46	maximumiterations	m	integer	500	Stop training after this many iterations of the optimization algorithm.	No	n/a	n/a
47	convergencethreshold	c	double	1.00E-05	Stop training when the drop in log loss per iteration drops below this number.	No	n/a	n/a
48	adjustsampleradius	n/a	integer	0	Add this number of pixels to the radius of white/purple dots for samples on pictures of predictions. Negative values reduce size of dots.	No	n/a	n/a
49	threads	n/a	integer	1	Number of processor threads to use. Matching this number to the number of cores on your computer speeds up some operations, especially variable jackknifing.	No	n/a	n/a
50	lq2lqptthreshold	n/a	integer	80	Number of samples at which product and threshold features start being used.	No	n/a	n/a
51	l2lqthreshold	n/a	integer	10	Number of samples at which quadratic features start being used.	No	n/a	n/a
52	hingethreshold	n/a	integer	15	Number of samples at which hinge features start being used.	No	n/a	n/a
53	beta_threshold	n/a	double	-1	Regularization parameter to be applied to all threshold features; negative value enables automatic setting.	Yes	prepPara(beta_threshold = NULL) or prepPara(beta_threshold = 1.5)	If betamultiplier is specified, this parameter will be omitted.
54	beta_categorical	n/a	double	-1	Regularization parameter to be applied to all categorical features; negative value enables automatic setting.	Yes	prepPara(beta_categorical = NULL) or prepPara(beta_categorical = 0.5)	If betamultiplier is specified, this parameter will be omitted.
55	beta_lqp	n/a	double	-1	Regularization parameter to be applied to all linear, quadratic and product features; negative value enables automatic setting.	Yes	prepPara(beta_lqp = NULL) or prepPara(beta_lqp = 1.5)	If betamultiplier is specified, this parameter will be omitted.
56	beta_hinge	n/a	double	-1	Regularization parameter to be applied to all hinge features; negative value enables automatic setting.	Yes	prepPara(beta_hinge = NULL) or prepPara(beta_hinge = 0.3)	If betamultiplier is specified, this parameter will be omitted.
57	logfile	n/a	string	maxent.log	File name to be used for writing debugging information about a run in output directory.	No	n/a	n/a
58	cache	n/a	boolean	TRUE	Make a .mxe cached version of ascii files, for faster access.	No	n/a	n/a

59	defaultprevalence	n/a	double	0.5	Default prevalence of the species: probability of presence at ordinary occurrence points. See Elith et al., Diversity and Distributions, 2011 for details.	No	n/a	n/a
60	applythresholdrule	n/a	string	n/a	Apply a threshold rule, generating a binary output grid in addition to the regular prediction grid. Use the full name of the threshold rule in Maxent's html output as the argument. For example, 'applyThresholdRule=Fixe d cumulative value 1'.	Yes	prepPara(applythresholdrule = "Fixed cumulative value 1")	Possible values are: Fixed cumulative value 1; Fixed cumulative value 5; Fixed cumulative value 10; Minimum training presence; 10 percentile training presence; Equal training sensitivity and specificity; Maximum training sensitivity plus specificity.
61	togglelayertype	t	string	n/a	Toggle continuous/categorical for environmental layers whose names begin with this prefix (default: all continuous).	No	n/a	n/a
62	togglespeciesselected	E	string	n/a	Toggle selection of species whose names begin with this prefix (default: all selected).	No	n/a	n/a
63	togglelayerselected	N	string	n/a	Toggle selection of environmental layers whose names begin with this prefix (default: all selected).	No	n/a	n/a
64	verbose	v	boolean	FALSE	Gived detailed diagnostics for debugging.	No	n/a	n/a
65	allowpartialdata	n/a	boolean	FALSE	During model training, allow use of samples that have nodata values for one or more environmental variables.	No	n/a	n/a
66	prefixes	n/a	boolean	TRUE	When toggling samples or layers selected or layer types, allow toggle string to be a prefix rather than an exact match.	No	n/a	n/a
67	nodata	n	integer	-9999	Value to be interpreted as nodata values in SWD sample data.	No	n/a	n/a

*Note: information is directly from Maxent help document.