LandWeb_preamble

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Module Overview

Module summary

Set up study areas and parameters for LandWeb simulations.

Parameters

Provide a summary of user-visible parameters.

paramName	paramClass	default	min	max	paramDesc
bufferDist	numeric	25000	20000	1e+05	Study area buffer distance (m) used to make ‘studyArea‘.
bufferDistLarge	numeric	50000	20000	1e+05	Study area buffer distance (m) used to make ‘studyAreaLarge‘.
forceResprout	logical	FALSE	NA	NA	‘TRUE‘ forces all species to resprout, setting ‘resproutage_min‘ to zero, ‘resproutage_max‘ to 400, and ‘resproutProb‘ to 1.0.
friMultiple	numeric	1	0.5	2	Multiplication factor for adjusting fire return intervals.
dispersalType	character	default	NA	NA	One of ’aspen’, ’high’, ’none’, or ’default’.
minFRI	numeric	40	0	200	The value of fire return interval below which, pixels will be changed to ‘NA‘, i.e., ignored
pixelSize	numeric	250	NA	NA	Pixel size in metres. Should be one of 250, 125, 50, 25.
ROStype	character	default	NA	NA	Rate of spread preset to use. One of ’burny’, ’equal’, ’log’, or ’default’.
treeClassesLCC	integer	1, 2, 3,....	0	39	AKA ‘forestedLCCClasses‘. The classes in the ‘LCC2005‘ layer that are considered ’trees’ from the perspective of LandR-Biomass.
treeClassesToReplace	numeric	34, 35, 36	0	39	The transient classes in the ‘LCC2005‘ layer that will become ’trees’ from the perspective of

Data dependencies

Input data

Description of the module inputs.

objectName	objectClass	desc	sourceURL
canProvs	SpatialPolygonsDataFrame	Canadian provincial boundaries shapefile	NA

Output data

Description of the module outputs.

objectName	objectClass	desc
CC TSF	RasterLayer	Time since fire (aka age) map derived from Current Conditions data.
fireReturnInterval	RasterLayer	fire return interval raster
LandTypeCC	RasterLayer	Land Cover Classification map derived from Current Conditions data.
ml	map	'map' object containing study areas, reporting polygons, etc. for post-processing.
LCC	RasterLayer	The result of 'LandR::overlayLCCs()' on 'LCC2005' and 'LandTypeCC'.
nonTreePixels	integer	NA
rasterToMatch	RasterLayer	NA
rasterToMatchLarge	RasterLayer	NA
rasterToMatchReporting	RasterLayer	NA
ROSTable	data.table	A 'data.table' with 3 columns: 'age', 'leading', and 'ros'. The values under the 'age' column can be 'mature', 'immature', 'young' and compound versions of these, e.g., 'immature_young' which can be used when 2 or more age classes share same 'ros'. 'leading' should be vegetation type. 'ros' gives the rate of spread values for each age and type.
rstFlammable	RasterLayer	NA
speciesParams	list	list of updated species trait values to be used to updated 'speciesTable' to create 'species'.
speciesTable	data.table	a table of invariant species traits with the following trait colums: 'species', 'Area', 'longevity', 'sexualmature', 'shadetolerance', 'firetolerance', 'seeddistance_eff', 'seeddistance_max', 'resproutprob', 'resproutage_min', 'resproutage_max', 'postfireregen', 'leaflongevity', 'wooddecayrate', 'mortalityshape', 'growthcurve', 'leafLignin', 'hardsoft'. Names can differ, but not the column order. Default is from Dominic Cyr and Yan Boulanger's project.
sppColorVect	character	A named vector of colors to use for plotting. The names must be in 'sim$sppEquiv[['LandWeb']]', and should also contain a color for 'Mixed'
sppEquiv	data.table	table of species equivalencies. See 'LandR::sppEquivalencies_CA'.
studyArea	SpatialPolygonsDataFrame	Polygon to use as the simulation study area.
studyAreaLarge	SpatialPolygonsDataFrame	Polygon to use as the parametrisation study area. Note that 'studyAreaLarge' is only used for parameter estimation,

Links to other modules

Originally developed for use with the LandR Biomass suite of modules, with LandMine fire model.