

locoh-xy Functions

Function	Description
Create a locoh-xy object	
xyt.lxy	Create a <i>lxy</i> object
move.lxy	Convert a Move object from the <i>move</i> ¹ package to a <i>lxy</i> object
Manipulate and Manage locoh-xy objects	
summary	View a summary of an <i>lxy</i> object
lxy.save	Save a <i>lxy</i> object to disk using an intelligent file name
lxy.repair	Repair a <i>lxy</i> object
lxy.merge	Merge two <i>lxy</i> objects together
lxy.subset	Create a new <i>lxy</i> object containing a subset of points
lxy.id.new	Assign new id value(s)
lxy.anv.add	Add an ancillary variable
lxy.proj.add	Add projection information
lxy.reproject	Reproject locations
lxy.gridanv.add	Add ancillary values from one or more rasters
Clean and Thin Data	
lxy.thin.bursts	Thin out short-timed 'bursts' of points which were an artifact of the recording hardware
lxy.thin.byfreq	Selectively remove points to achieve a common time period and/or sampling frequency for a <i>lxy</i> object containing the locations for multiple individuals.
Selecting Space-Time Balance	
lxy.ptsh.add	Find the values of 's' that achieve a range of proportion of time selected hulls
lxy.plot.ptsh	Plot s-values v. the proportion of time-selected hulls
lxy.plot.sfinder	Plot the values of s which equalize the spatial and temporal terms in TSD
lxy.plot.tspan	Plot the distribution of the time span of nearest neighbors for different values of s
lxy.plot.mtdr	Plot distribution of the ratio the maximum theoretical distance ratio for nearest neighbors
Identify Nearest Neighbors	
lxy.amin.add	Compute a value that ensures all points have enough neighbors
lxy.nn.add	Identify nearest neighbors
Plotting functions	
plot	Plot an <i>lxy</i> object
hist	Create histograms of the properties of a <i>lxy</i> object, including step length, speed, and sampling interval
lxy.plot.freq	Plot the number of observations and/or sampling interval over time
lxy.plot.pt2ctr	Plot the distance of each point to the centroid to help find the periodicity of 'natural' cycles in the data
Export locoh-xy objects	
lxy.exp.csv	Export a <i>lxy</i> object to a csv file
lxy.exp.mov	Prepare frames for animation; create QuickTime video (or other video formats with a different encoder tools)
lxy.exp.kml	Export locations and time stamps to kml for animation in Google Earth
lxy.exp.shp	Export to shapefile format

¹ <http://cran.r-project.org/web/packages/move/>

locoh-hullset functions

Function	Description
Creating Hullsets	
lxy.lhs	Create a <i>lhs</i> object from a <i>lxy</i> object
Manipulating Hullsets	
summary	View a summary of a <i>lhs</i> object
lhs.save	Save a <i>lhs</i> object to disk using an intelligent filename
lhs.select	Take of subset of hullsets
lhs.merge	Merge hullsets together
lxy.anv.add.R	Add an ancillary variable
lhs.anv.del	Delete ancillary variable(s)
Plotting	
plot	Plot hulls, hull parent points, isopleths, and/or ellipses
Hull Metrics	
hm.expr	View all possible hull metrics
lhs.visit.add	Compute hull metrics for revisitation and duration
lhs.ellipses.add	Compute bounding ellipses
Isopleths	
lhs.iso.add	Create isopleths
lhs.iso.del	Delete saved isopleths
Hull Metrics – Plots	
hist	View a histogram of hull metrics
lhs.plot.scatter	Create a scatterplot of two hull metrics
lhs.plot.scatter.auto	Create scatterplots for a whole bunch of pairs of hull metrics
lhs.plot.isoarea	Plot the area of each isopleth for each value of the k/a parameter
lhs.plot.isoear	Plot the edge:area ratio of each isopleth for each value of the k/a parameter
lhs.mf.plot	Multi-frame plot
lhs.hsp.add	Save a hull scatterplot in the <i>lhs</i>
lhs.plot.revisit	Plot revisitation
lhs.hsp.del	Delete a saved hull scatterplot
Exporting	
lhs.exp.shp	Export hulls, hull parent points, and/or isopleths as shapefiles
lhs.exp.mov	Create a Quicktime animation from a LoCoH-hullset object
lhs.exp.csv	Export hull metrics as a CSV file
hulls	Extract hulls as a list of SpatialPolygonsDataFrame objects
isopleths	Extract isopleths as a list of SpatialPolygonsDataFrame objects
Filtering	
lhs.filter.anv	Create subsets of hulls based on an ancillary variable
lhs.filter.hsp	Create subsets of hulls based on manually defined regions in a hull metric scatterplot space
Other	
lhs.dr.add	Identify directional routes, which are segments between temporally contiguous points whose hulls are also highly elongated

tlocoh.dev functions (development package)

Function	Description
Working with Large Datasets	
lxy.lhs.batch	Create separate <i>lhs</i> objects saving each one to disk as a separate file (for large datasets)
lhs.exp.isodata	Extract and compile isopleth attributes from multiple hullsets saved to disk
isodata.plot	Plot dataframe compiled by <i>lhs.exp.isodata</i>
Association Analysis	
lhs.so.add.R	Add metric(s) for temporally overlapping hulls
lhs.to.add.R	Add metric(s) for spatially overlapping hulls
lhs.pep.add	Compute a hull metric for proportion of enclosed points
Hull Metrics	
lhs.revisit.add	Compute interval-specific revisitation metrics
lhs.revisit.del	Delete interval-specific revisitation metrics
Rasterized Isopleths	
lhs.iso.rast	Convert isopleths to raster