Vmstools Reference Card

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Data

data(eflalo) load eflalo2 test dataset
data(tacsat) load the tacsat test dataset
data(harbours) load the harbour test dataset
data(VMShf) load the VMS high ping rate test dataset
data(correspLevel7to5) load species linking dataset
data(correspMixedMetier) load Mixed métier dataset
data(europa) load shapefile of Europe
data(speciesLatinNames) load Latin name lookup table
formatEflalo(eflalo) put eflalo columns in right format
formatTacsat(tacsat) put tacsat columns in right format
readEflalo(file,sep,dec) read eflalo from file
readTacsat(file,sep,dec) read tacsat from file

Metièr definitions

compareToOrdination(data, step,clusters,tabClusters) compare metiers by simple ordination methods
extractTableMainSpecies(data, names,#params,logevent) find métier from small eflalo dataset
getEflaloMetierLevel7(data,names,path,criteria,#param,logevent,...) find métier from full eflalo dataset
predictMetier(data,cluster,newData) predict métier for new eflalo data

Tacsat Behavior Analyses

filterTacsat(tacsat) filter out records that do not lay within a speed range and/or change of heading interval
pointInHarbour(tacsat) flags tacsat points that are positioned in a harbour
pointOnLand(tacsat) flags tacsat points that are positioned on land
segmentTacsatSpeed(tacsat,vessel,settings) detect fishing speed thresholds
sortTacsat(tacsat) sort tacsat data by year, date and position

Link eflalo - tacsat

merge.vms.to.logbook.at.the.ping.scale(eflalo2,tacsatplus,general,vesselid) merge eflalo2 and tacsat+ on tacsat ping level
mergeEflalo2Tacsat(eflalo2,tacsat) merge eflalo2 and tacsat at trip level
effort(x,level,unit) calculate effort by trip from eflalo or tacsat
mergeEflalo2Pings(x,level,unit) coupling and dispatching eflalo data onto tacsat pings
splitAmongPings(tacsat,eflalo,variable,level) dispatching eflalo data onto tacsat pings

Interpolate tacsat

interpolateTacsat(tacsat,interval,margin,res,method,params,headingAdjustment) interpolate tacsat data between pings *x* minutes apart using straight line or cubic Hermite spline interpolation
interpolation2Tacsat(interpolation,points) convert interpolation format into tacsat format
calculateCI(longitudes,latitudes,interpolations,indexInterpolation,tacsat,grid,spatialDataFrame,singleInterpolation,indexTacsat,parameters) calculate a confidence interval around the interpolation
diffInter(interpolation,tacsatHighRes) calculate difference between true high-resolution data and interpolated dataset
distanceInterpolation(interpolation) calculate length of interpolation
distanceTacsat(tacsat,index) calculate distance between gps coordinates of a complete VMS dataset
addWidth(interpolation, gearWidth) add a gearwidth to an interpolation

Calculate indicators

indicators(#indicator,tacsat,...) calculate DCF indicators 5-7 based on tacsat dataset
tacsatMCP(tacsat,threshold) flag pings within a minimum convex polygon

Plotting

createGrid(xrange,yrange,resx,resy) create spatial grid
mapGrid(spatialDataFrame,...) map grids
vmsGridCreate(data,cellsize,...) create and map grids
Grid2KML(output,quantity) export data to KML file
landingsMaps2GIFanim(files,species) create animated GIF from single plots
pings2EffortMaps(output,file) auto-create effort maps from output file
pings2LandingsMaps(output,file) auto-create landings maps from output file

Databases

pings2Fishframe(output,year,country) format data from mergeEflalo2Pings into Fishframe format

Converting

bearing(lon1,lat1,lon2,lat2) calculate bearing from tacsat longitude and latitude data
degree2Km(lon,lat,degree) convert degrees to kilometers, only in longitudinal direction
distance(lon1,lat1,lon2,lat2) calculate distance between two gps coordinates
lonLatRatio(lon,lat) ratio between longitude and latitude

km2Degree(lon,lat,km) convert kilometers to degrees, only in longitudinal direction

ICESarea(tacsat) calculate ICES area from gps location
ICESrectangle(tacsat) calculate ICES rectangle from gps location
ICESrectangle2LonLat(rectangle) calculate gps location from ICES rectangle from
CSquare(lon,lat, degrees) calculate CSquare notation from gps Location
surface(grid,method) calculate surface of grid cells