REMODnet tutorial

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Summary

Marine spatial planning maps using REMODnet.

Mapping function

A mapping function.

```
    library(mapdata)
```

```
## Loading required package: maps
```

```
    library(REMODnet)
    library(ggplot2)
    library(raster)
```

```
## Loading required package: sp
```

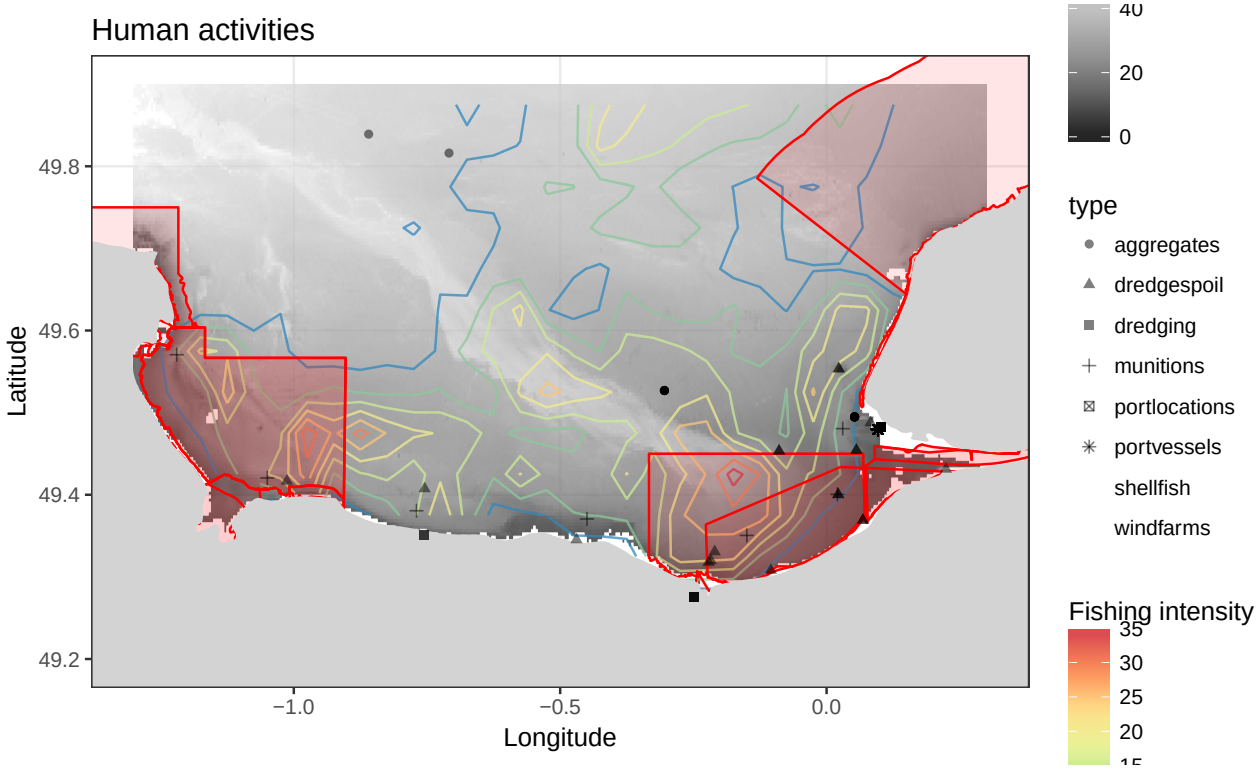
```
testmap<-function(xmin=-1.3,xmax=0.3,ymin=49.2,ymax=49.9){
    #xmin=-1.3;xmax=0.3;ymin=49.2;ymax=49.9
    #xmin=0;xmax=6;ymin=50;ymax=55
    #natura2000
    bbox<-paste(xmin,ymin,xmax,ymax,sep=",")
    #bathy
    bathy<-getbathy("emodnet:mean",xmin,xmax,ymin,ymax)
    bathy<- as.data.frame(as(bathy, "SpatialPixelsDataFrame"))
    #humanact
    ha<-gethumactpointall(xmin,xmax,ymin,ymax)
    #natura2000
    nat<-gethumactpoly(name="natura2000",xmin,xmax,ymin,ymax)
    nat<- fortify(nat, region='id')
    #ais
    b <- as(extent(xmin, xmax, ymin, ymax), 'SpatialPolygons')
    crs(b) <- crs(r)
    fishing<-crop(fishingintensity,b)
    fishing<- as.data.frame(as(fishing[[2]], "SpatialPixelsDataFrame"))

    #a map
    map<-ggplot()+theme_bw()+
        theme(panel.grid.minor.y= element_blank(),
        panel.grid.minor.x = element_blank())+
        #legend.position="bottom")+
        geom_raster(data=bathy,aes(x=x,y=y,fill=emodnet.mean),alpha=.75)+
```

```
        scale_fill_distiller(palette='Greys',name="Depth (m)")+
        stat_contour(data=fishing,aes(x=x,y=y,z=Surface2015,colour=..level..),alpha=.75)+
        scale_colour_distiller(palette='Spectral',name="Fishing intensity")+
        geom_polygon(data=nat,aes(x=long,y=lat,group=group,fill="natura 2000"),colour="red",fill="red",a
        borders("worldHires",xlim=c(xmin,xmax),ylim=c(ymin,ymax),fill="light grey",colour="light grey")+
        geom_point(data=ha,aes(x=x,y=y,shape=type,group=type),alpha=.5)+#,size=2)+
        #geom_point(data=ha,aes(x=x,y=y),alpha=.5,color="green")+#,size=2)+
        coord_quickmap(xlim=range(xmin,xmax),ylim=range(ymin,ymax))+
        ggtitle("Human activities")+xlab("Longitude")+ylab("Latitude")
    #map

    return(map)
}
```

Seine area

```
map<-testmap(xmin=-1.3,xmax=0.3,ymin=49.2,ymax=49.9)
print(map)
```

```
## Warning: The shape palette can deal with a maximum of 6 discrete values
## because more than 6 becomes difficult to discriminate; you have 8.
## Consider specifying shapes manually if you must have them.

## Warning: Removed 9 rows containing missing values (geom_point).
```



North Sea

```
map<-testmap(xmin=0,xmax=6,ymin=50,ymax=55)
print(map)
```

```
## Warning: The shape palette can deal with a maximum of 6 discrete values
## because more than 6 becomes difficult to discriminate; you have
## 10. Consider specifying shapes manually if you must have them.
```

```
## Warning: Removed 102935 rows containing missing values (geom_point).
```