initBaseMaps

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Overview

Loads, reprojects and crops all initial maps and shapefiles required to run LandWeb models.

The present version facilitates testing of the LandWeb neutral fire model.

All the objects to be processes are assumed to already exist in the sim list, having been specified as inputs in any model containing this module.

We assume that a Canada Landcover 2005 (Rasim Latifovic, Richard Fernandes, Darren Pouliot, Ian Olthof 2008) map will exists as `sim$LCC05` and that shapefile `sim$shpStudyRegion` will exist to delineate the study region.

Events

There is a single `Init` event that performs the GIS operations.

Usage

```r
devtools::install_github("PredictiveEcology/reproducible@development")
library(magrittr) # for %>% pipe
library(SpaDES)
library(raster)
cachePath <- file.path("initBaseMaps", "cache")
modulePath <- Cache(
  readline,
  paste0("Where is the module path? (e.g., ~/module, with no quotes).\n",
         "Press Enter to accept the path in getPaths()$modulePath: "),
  cacheRepo = cachePath
)
if (nchar(modulePath) == 0) modulePath <- getPaths()$modulePath
canadaMap <- Cache(getData, 'GADM', country = 'CAN', level = 1,
                   cacheRepo = cachePath, digestPathContent = FALSE)
dev()
clearPlot()
Plot(canadaMap, speedup = 5, visualSqueeze = 0.9) # 5 seemed optimal
if (!exists("shpStudyRegionFull")) {
  message("Since there is no object called 'shpStudyRegionFull' ",
          "please draw a study area with 10 points.")
  severalrandompoints <- Cache(clickCoordinates, 10, cacheRepo = cachePath)
  if (startsWith(attr(severalrandompoints, "tags"), "cache"))
    message("Taking shpStudyRegionFull from Cache")
  shpStudyRegionFull <- SpatialPolygons(list(
    Polygons(list(Polygon(severalrandompoints$coords)), ID = 1)
```

```r
  ), proj4string = crs(canadaMap))
}
Plot(shpStudyRegionFull, addTo = "canadaMap", col = "red")
inputDir <- file.path(tempdir(), "inputs") %>% checkPath(create = TRUE)
outputDir <- file.path(tempdir(), "outputs")
times <- list(start = 0, end = 10)
parameters <- list()
modules <- list("initBaseMaps")
objects <- list("shpStudyRegionFull" = shpStudyRegionFull,
                "useCache" = TRUE,
                "successionTimestep" = 2)
paths <- list(
  cachePath = cachePath,
  modulePath = modulePath,
  inputPath = inputDir,
  outputPath = outputDir
)
mySim <- simInit(times = times, params = parameters, modules = modules,
                 objects = objects, paths = paths)

simOut <- spades(mySim)
```

References

Rasim Latifovic, Richard Fernandes, Darren Pouliot, Ian Olthof. 2008. *Characterization and Monitoring Change of Canada's Land Surface.* Natural Resources Canada. http://www.nrcan.gc.ca/earth-sciences/land-surface-vegetation/land-cover/north-american-landcover/9146.