OPeNDAP access with R

Accessing netCDF/OPeNDAP data with R

Get R, which includes several netCDF4 packages.

```
require(ncdf)
```

1. Go to an OPeNDAP server (e.g. http://opendap.deltares.nl) and pick a netCDF file by copying the contents of the Data URL box. Because the netcdf packages for windows are not yet opendap-enabled, download them.
2. Define the associated url you just copied.

```
url_grid <-
"http://opendap.deltares.nl/thredds/fileServer/opendap/rijkswaterstaat/vaklodingen/vaklodingenKB116_4544.
nc" # note: netcdf4 does not work on windows R

url_time <-
"http://opendap.deltares.nl/thredds/fileServer/opendap/rijkswaterstaat/waterbase
/concentration_of_suspended_matter_in_sea_water/id410-DELFZBTHVN.nc"

download.file(url_grid, "vaklodingenKB116_4544.nc", method = "auto",
quiet = FALSE, mode="wb", cacheOK = TRUE)

download.file(url_time, "id410-DELFZBTHVN.nc", method = "auto",
quiet = FALSE, mode="wb", cacheOK = TRUE)
```

   A complete linux image with the R netcdf package compiled with OPeNDAP is available upon request from ""adaguc "at" knmi.nl"".
3. Extract the data.

```
grid.nc <- open.ncdf("vaklodingenKB116_4544.nc")

# look what's in there...
grid.nc

# Get grid data
G.x <- get.var.ncdf(grid.nc,'x')
G.y <- get.var.ncdf(grid.nc,'y')

# get only first timestep
G.z <- get.var.ncdf(grid.nc,'z')[,,1]

# to get a black background, and set the scale of depth values to start from 0.
G.z[G.z == -9999] <- 0

# image.plot needs sorted x- and y-values;
# as y-values are descending, the order is reversed here...
G.y <- rev(G.y)
G.z <- G.z[,length(G.y):1]
```

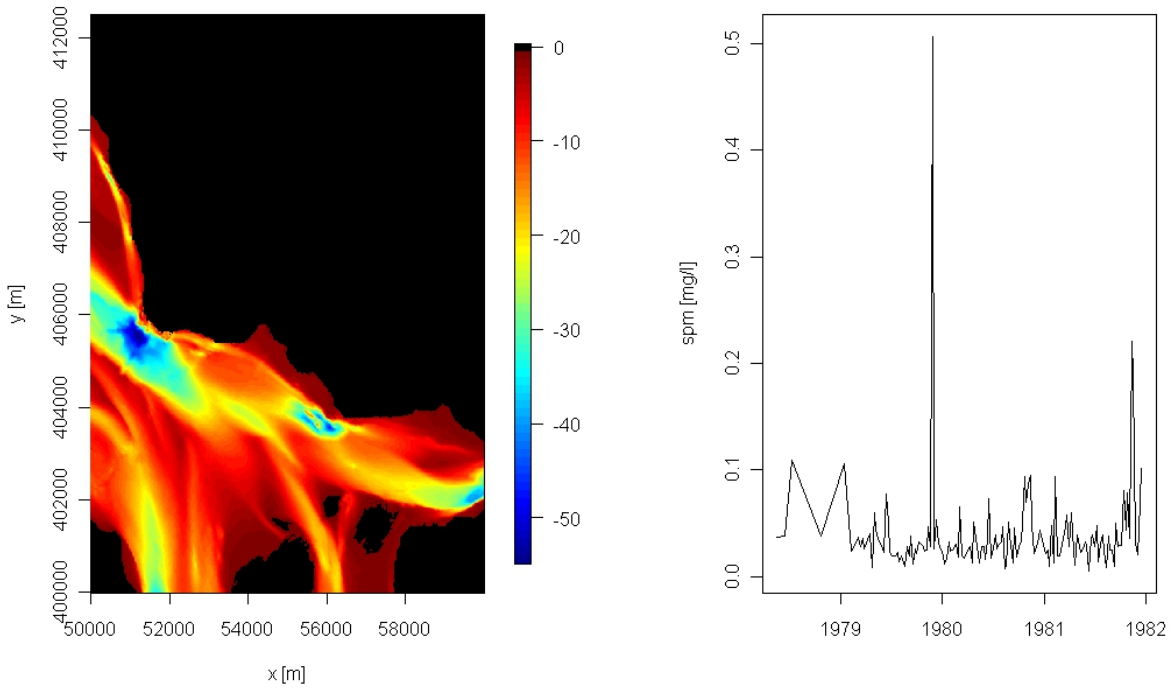
```
time.nc <- open.ncdf("id410-DELFZBTHVN.nc")
# look what's in there...
time.nc

T.t <- get.var.ncdf(time.nc,'time')
T.eta <-
get.var.ncdf(time.nc,'concentration_of_suspended_matter_in_sea_water')
```

4. plot ...

```
# R-package fields provides nice image facilities and color schemes
par (mfrow = c(1,2))
library(fields)
image.plot(G.x,G.y,as.matrix(G.z),
        col = c(tim.colors(),"black"),
        xlab = "x [m]", ylab = "y [m]")
```

```
plot(as.Date(T.t, origin="1970-01-01"), T.eta, type = "l", ylab = "spm
[mg/l]")
```

5. et voila



Download the code of this R example (repos,manual download), which was provided by Karline Soetaert and Tom van Engeland.

See also: Accessing netCDF/OPeNDAP data with **python**, Accessing netCDF/OPeNDAP data with **Matlab**, PostgreSQL access with **R**, OPeNDAP subsetting with **R**