L4 level data from GOSAT archive can be used to for mapping surface pressure which can be related

With GHG gas emission measurement.

We here have used data from 2017 L4 Global CO2 measurement data,specially file: GOSATTFTS2017010120170131\_4BP01MV0206.nc.

Primarily we mapped data from world wide view for a single day.

The Software used:R

The code:

###netCDF File reading

require(fields)

require(ncdf4)

f=nc\_open("GOSATTFTS2017010120170131\_4BP01MV0206.nc")

lat=ncvar\_get(f,"lat")

lon=ncvar\_get(f,"lon")

time=ncvar\_get(f,"time")

lev=ncvar\_get(f,"lev")

sp=ncvar\_get(f,"ps",start=c(1,1,1),count=c(-1,-1,1))

image.plot(lon,lat,sp)

We generally have interest on finding data of particular region(i.e longitude,latitude)

In that case,the following code is used to get data of longitude(90,92) and latitude(37,38) on the whole time span.

###netCDF File reading

require(fields)

require(ncdf4)

f=nc\_open("GOSATTFTS2017010120170131\_4BP01MV0206.nc")

lat=ncvar\_get(f,"lat")

lon=ncvar\_get(f,"lon")

time=ncvar\_get(f,"time")

lev=ncvar\_get(f,"lev")

sp=ncvar\_get(f,"ps",start=c(1,1,1),count=c(-1,-1,1))

image.plot(lon,lat,sp)

lat\_r=c(37,39)

lon\_r=c(90,92)

lat\_ind=which(lat>=lat\_r[1]&lat<=lat\_r[2])

lon\_ind=which(lon>=lon\_r[1]&lon<=lon\_r[2])

psn=ncvar\_get(f,"ps",start=c(lon\_ind[1],lat\_ind[1],1),count=c(length(lon\_ind),length(lat\_ind),-1))

image.plot(lon\_ind,lat\_ind,psn)