CLIMATE WIKIENCE

Easier, Faster, Clearer

Data: problems

Data are free and open, but…

- Have large volumes

  MERRA – 24 TB

  CFSRR – 100 TB

- Complex storage formats

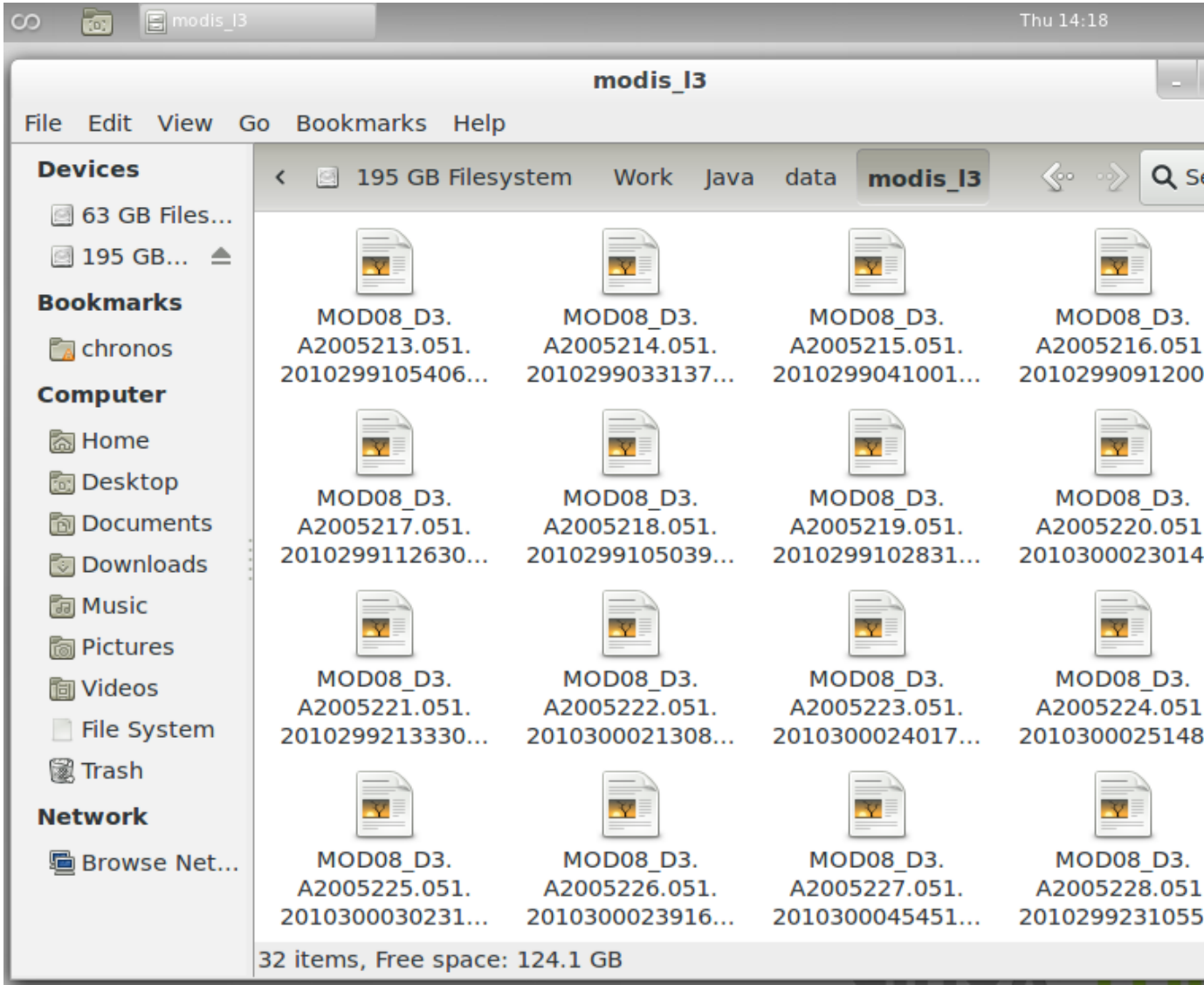
  HDF4, HDF5, NetCDF, GRIB

- Disconnected storage and visualization tools

Data: problems

Data are free and open, but…

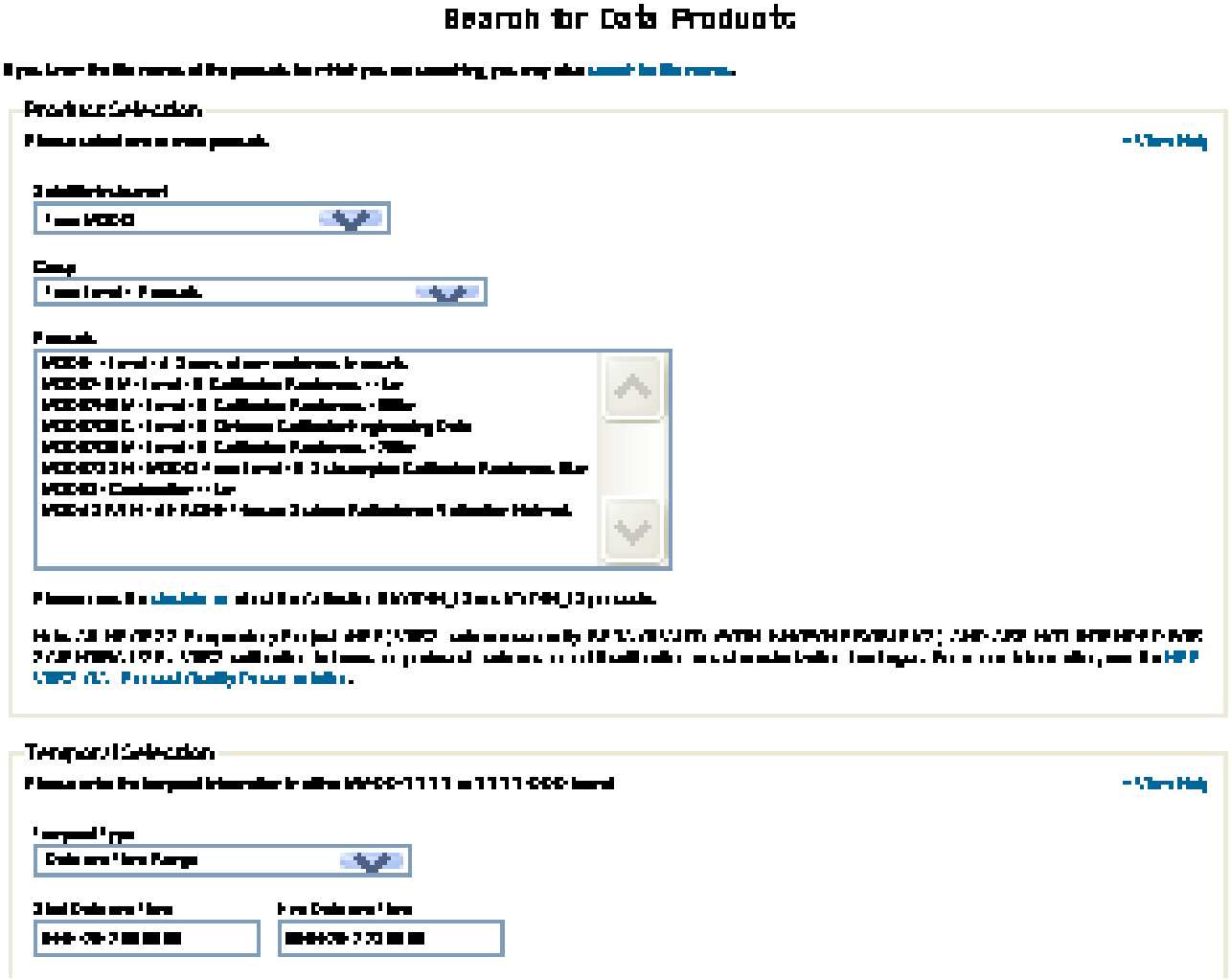
- Thousands of files with unreadable names



Data: problems

Data are free and open, but…

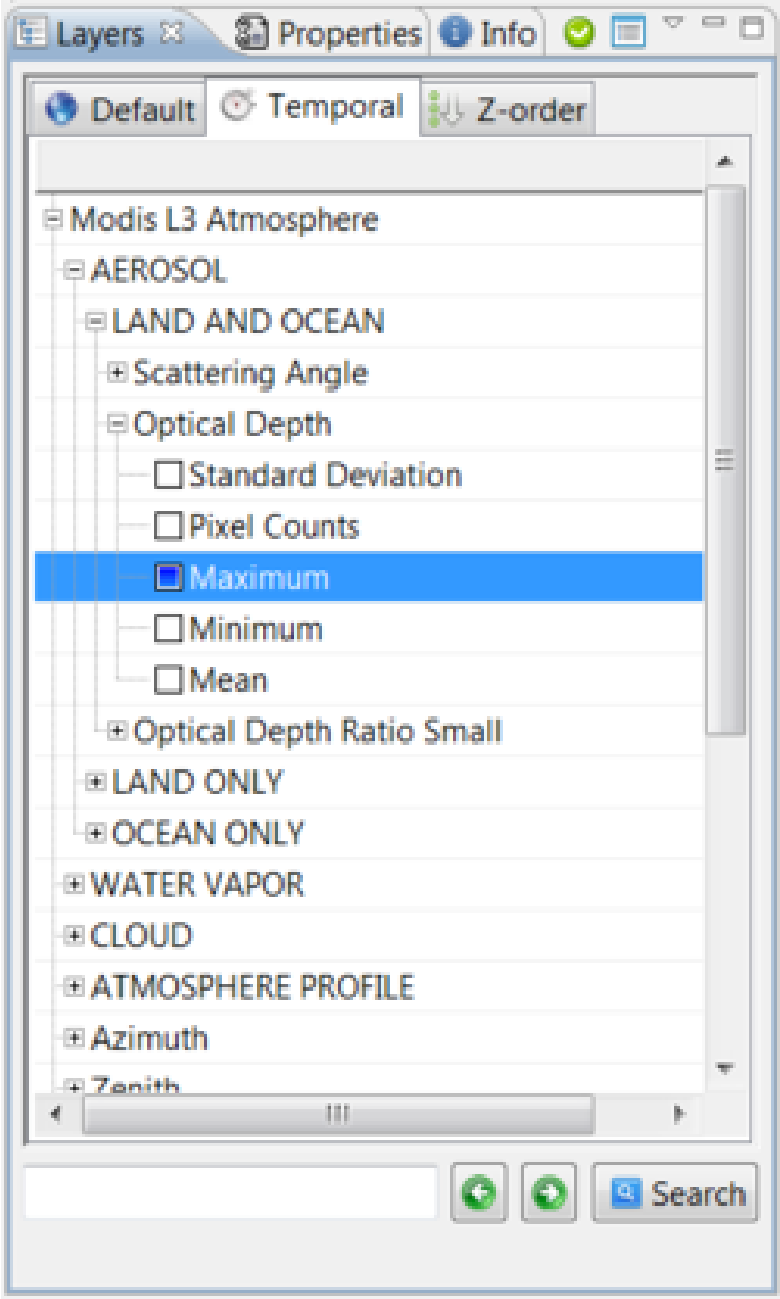
- Files must be ordered via a web page to download further with FTP/HTTP



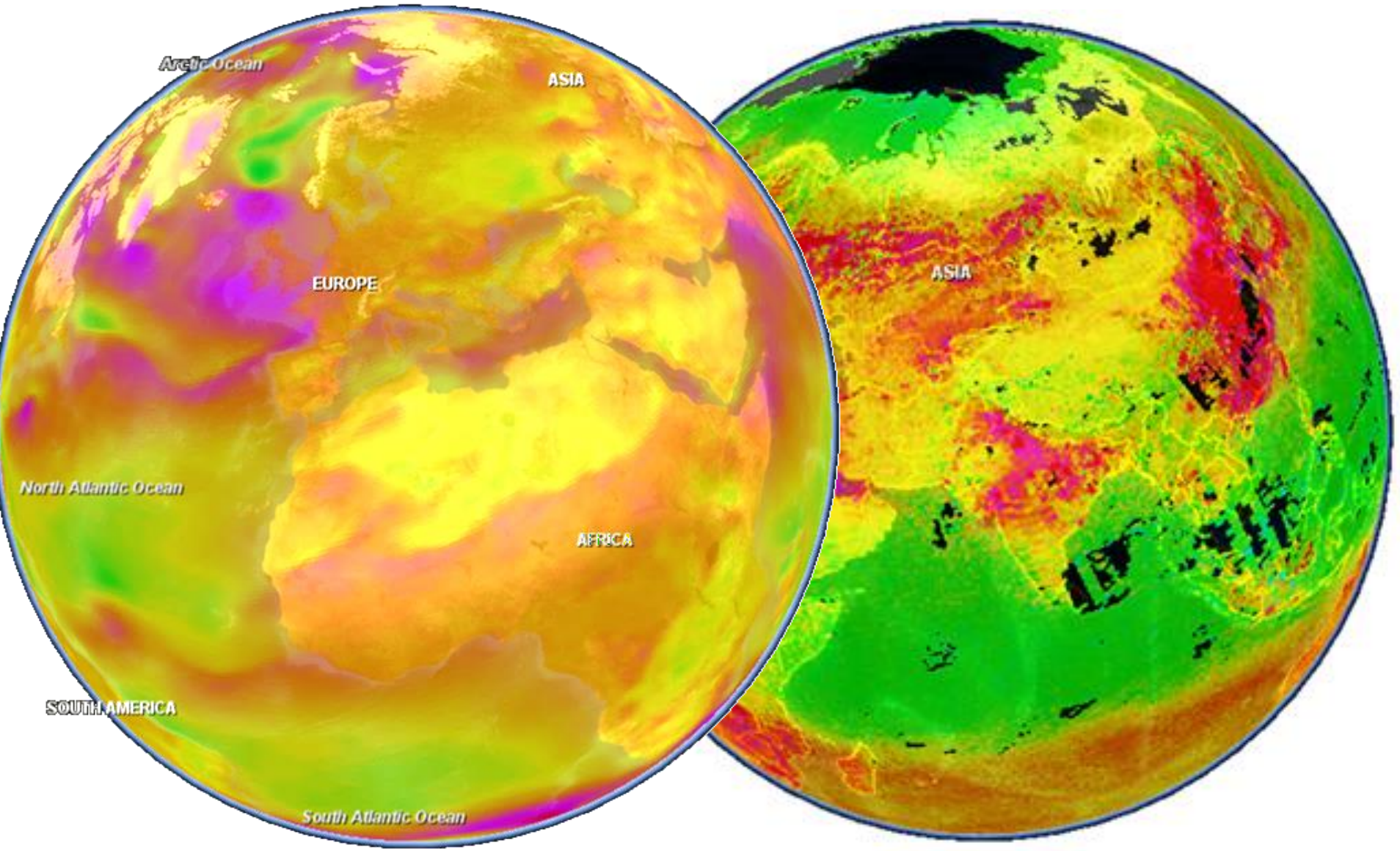
Climate Wikience

Provides easier, faster and clearer way to perform exploratory data analysis

- Over 700 variables (meteorology, air pollution, vegetation) are accessed the same way regardless of files quantity, names, volumes

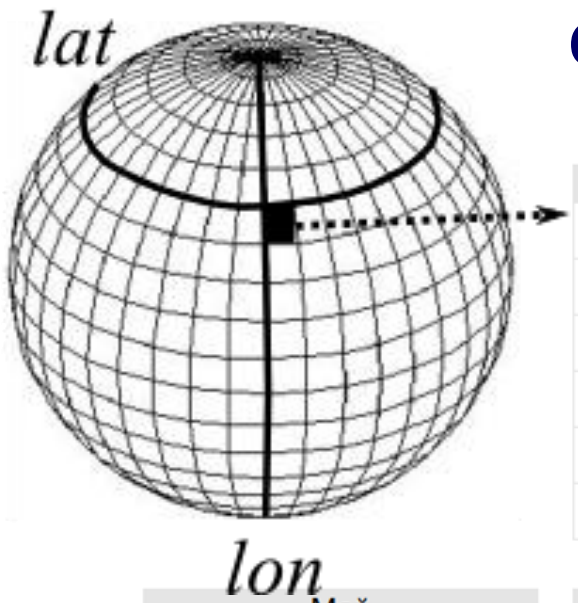


A mouse click to view data in 3D



The clearest visualization ever

Climate Wikience provides time series for each globe point



Февраль

26	27	28	29	30	31	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
1	2	3	4	5	6	7

С В П В С Ч П

Март

23	24	25	26	27	28	29
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	1	2	3	4

С В П В С Ч П

Апрель

29	30	31	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	1	2
3	4	5	6	7	8	9

С В П В С Ч П

Май

26	27	28	29	30	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	1	2	3	4	5	6

С В П В С Ч П

Июнь

31	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	1	2	3	4
5	6	7	8	9	10	11

С В П В С Ч П

Июль

28	29	30	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	1
						8

П

Август

26	27	28	29	30	31	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31	1	2	3	4	5

С В П В С Ч П

Сентябрь

30	31	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	1	2	3
4	5	6	7	8	9	10

С В П В С Ч П

Октябрь

27	28	29	30	1	2	3
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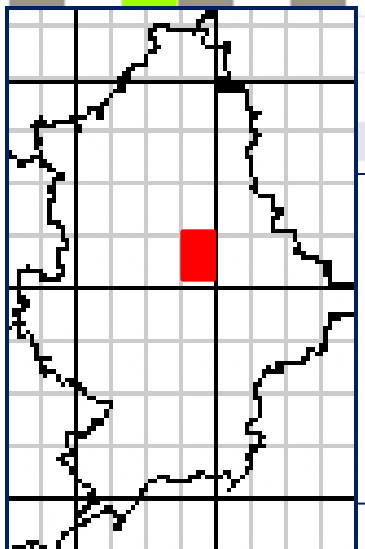
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31
1	2	3	4	5	6	7

С В П В С Ч П

Декабрь

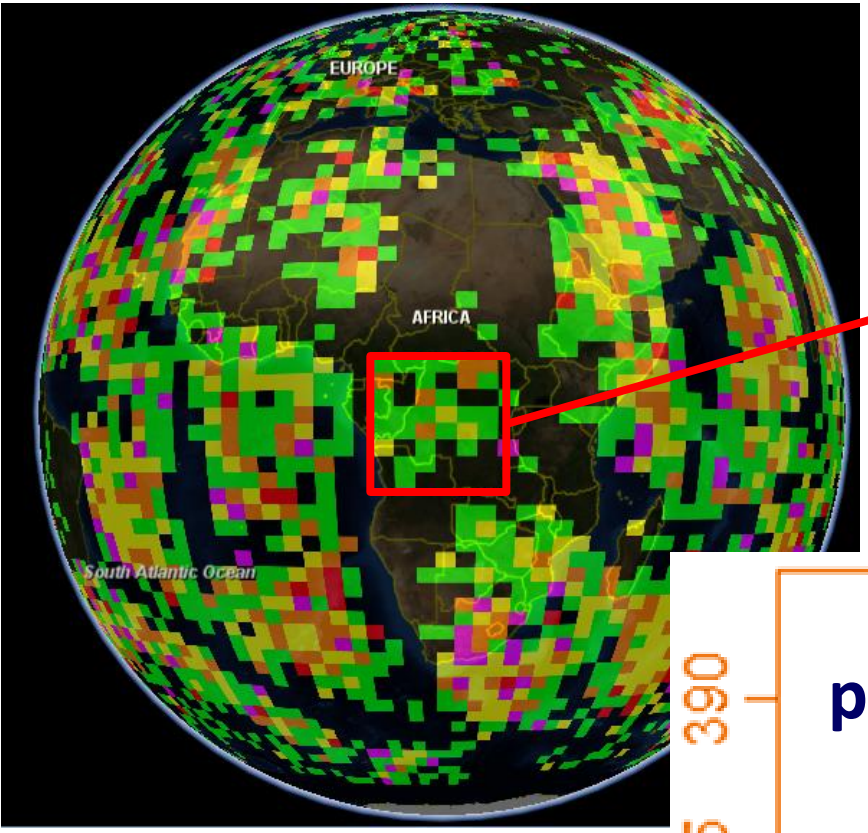
						5
						12
						19
						26
						2
						9

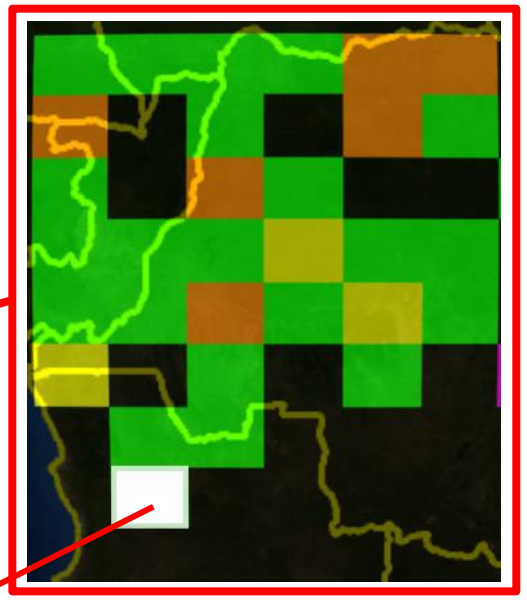
П С В П В С Ч П

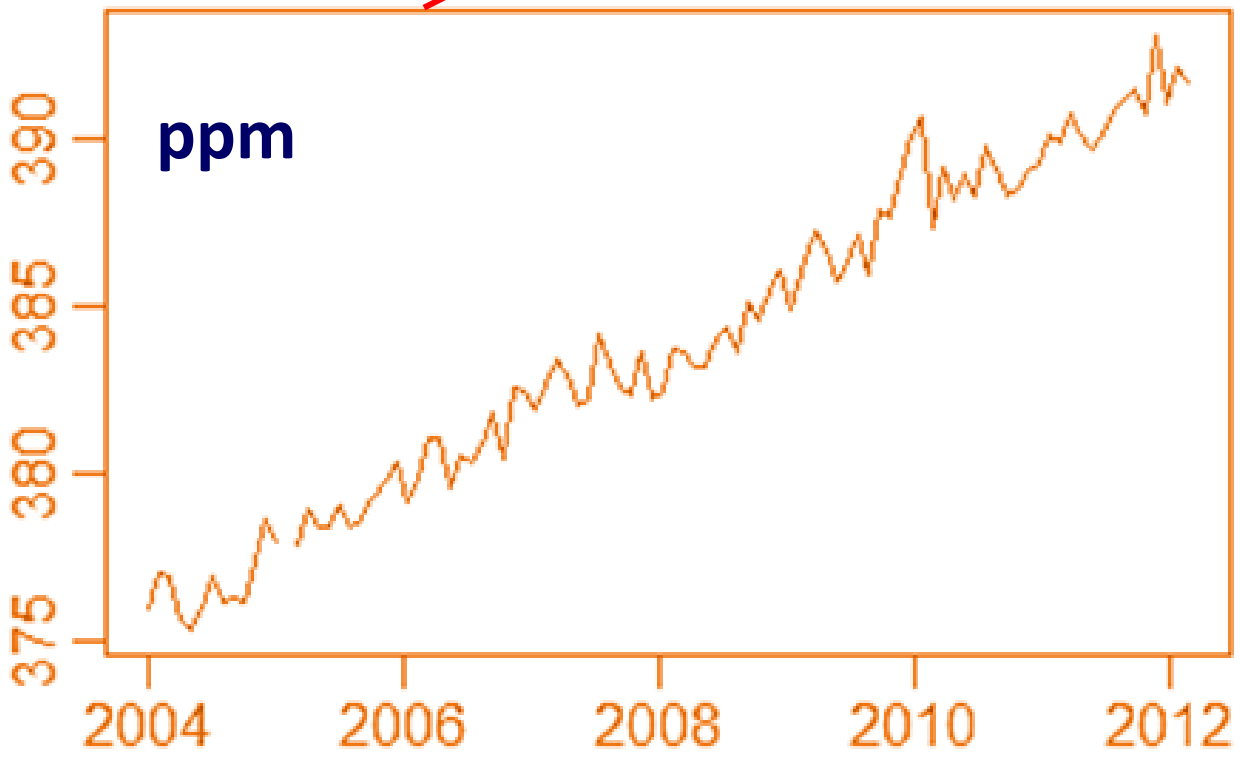


SO_2 Donetsk 2008

Time series for a point

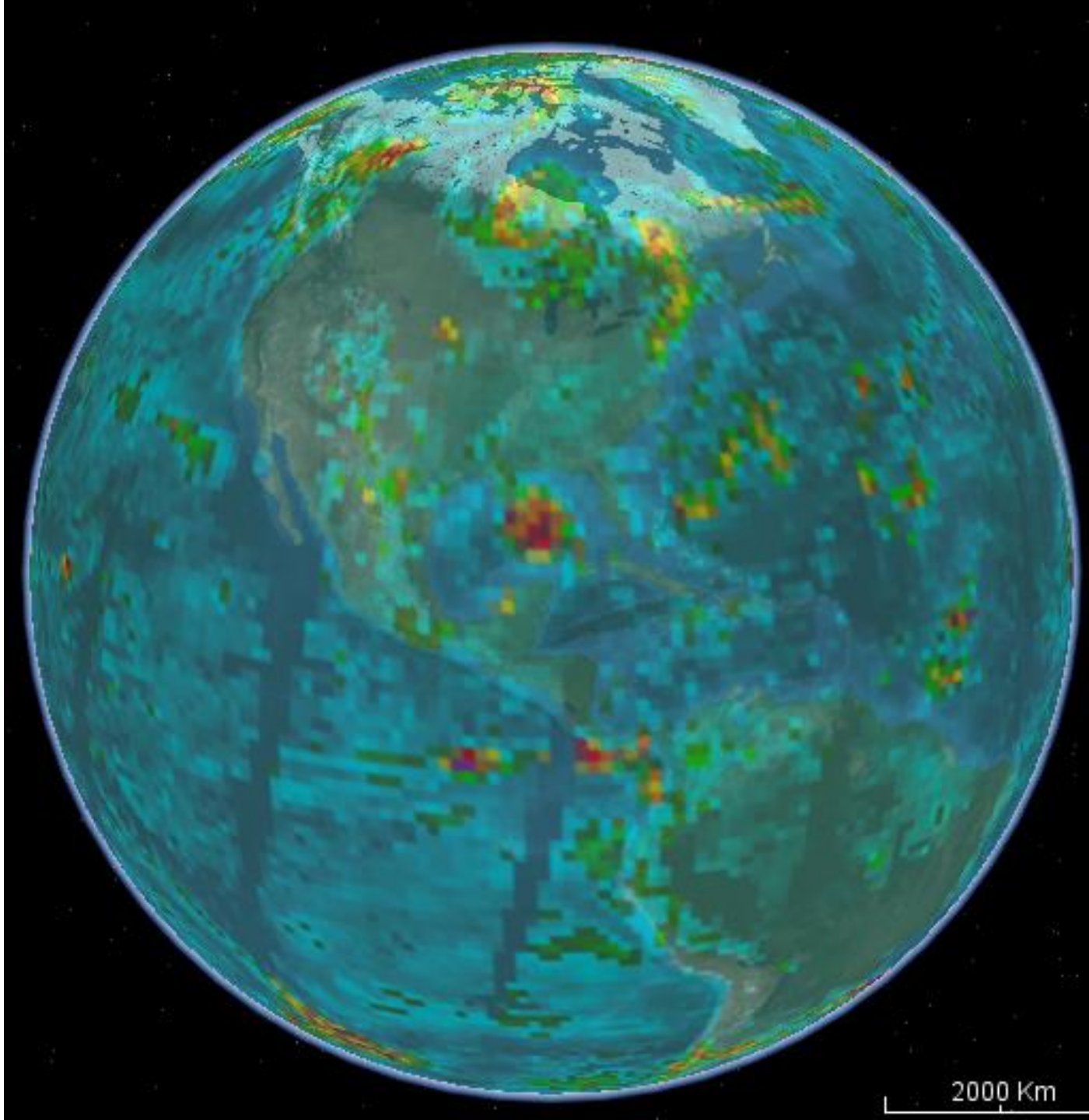






Monthly CO_2 concentration for a region

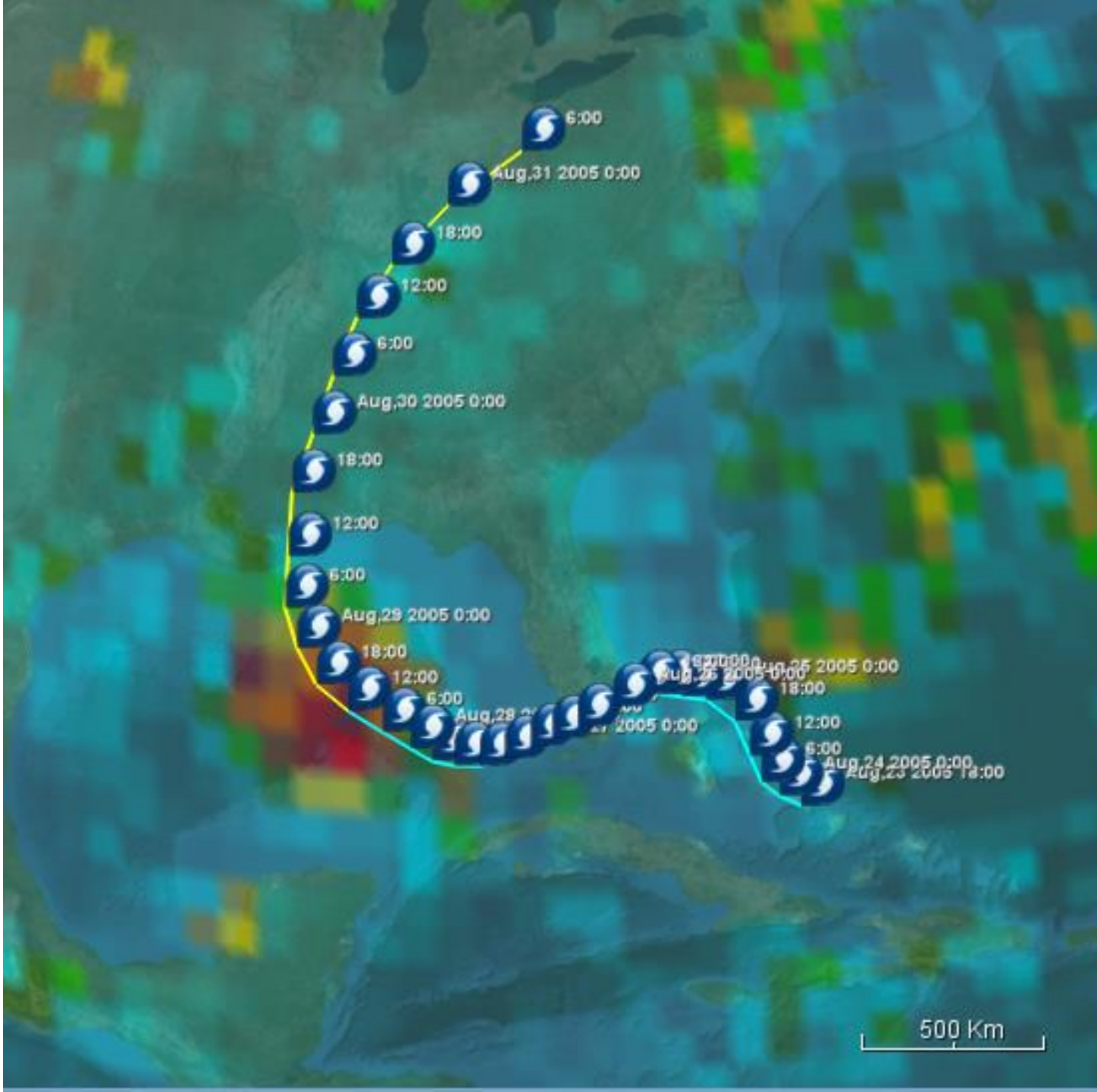
Terra MODIS: optical cloud thickness

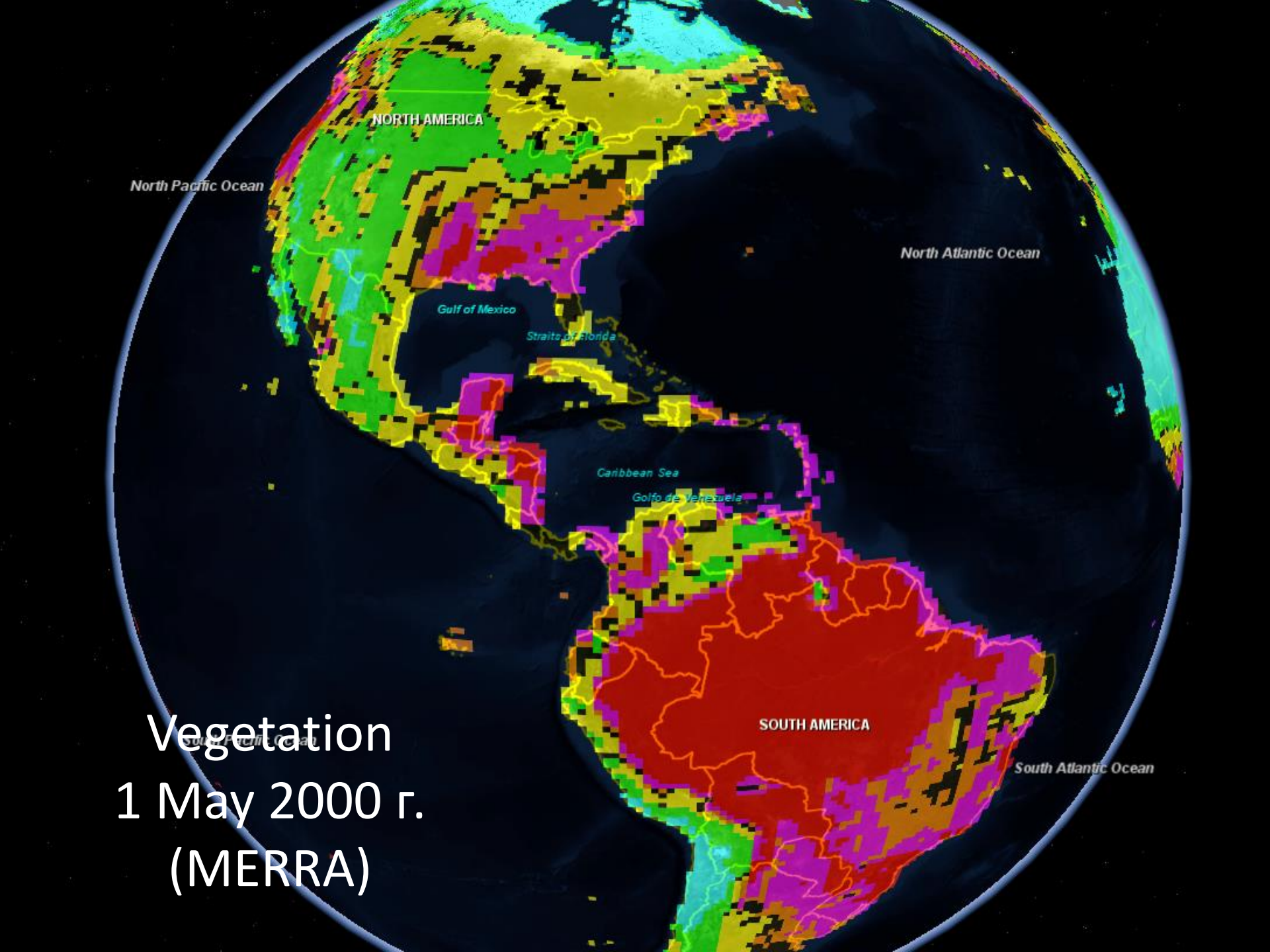


Hurricane Katrina path (IBTrACS) and optical cloud thickness (MODIS)

August 28, 2005

Peak strength





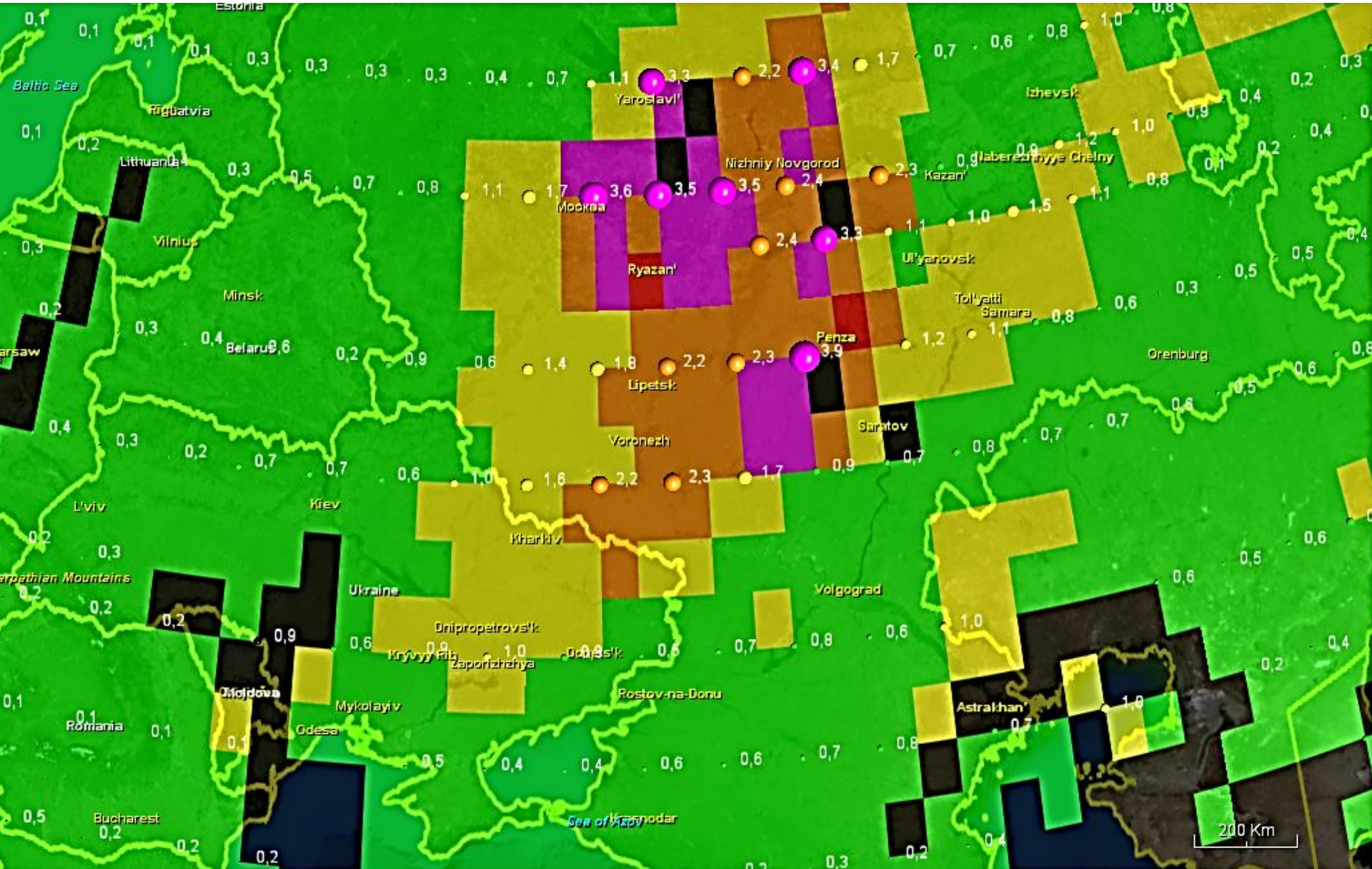
Vegetation
1 May 2000 г.
(MERRA)

Wildfire in Russia, August 2010

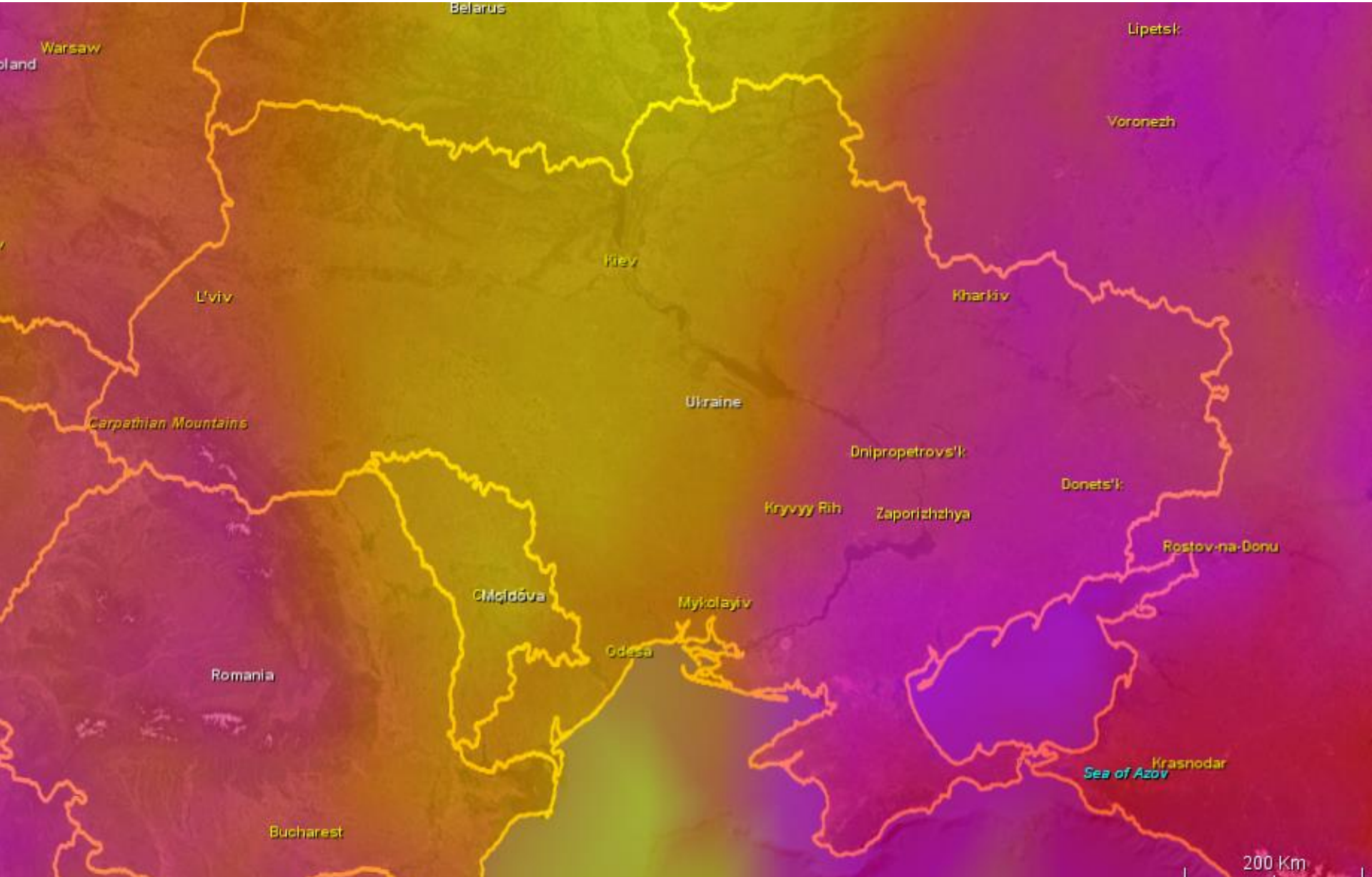
Moscow, Red Square

Wildfire in Russia

Optical Aerosol Thickness, August 2010

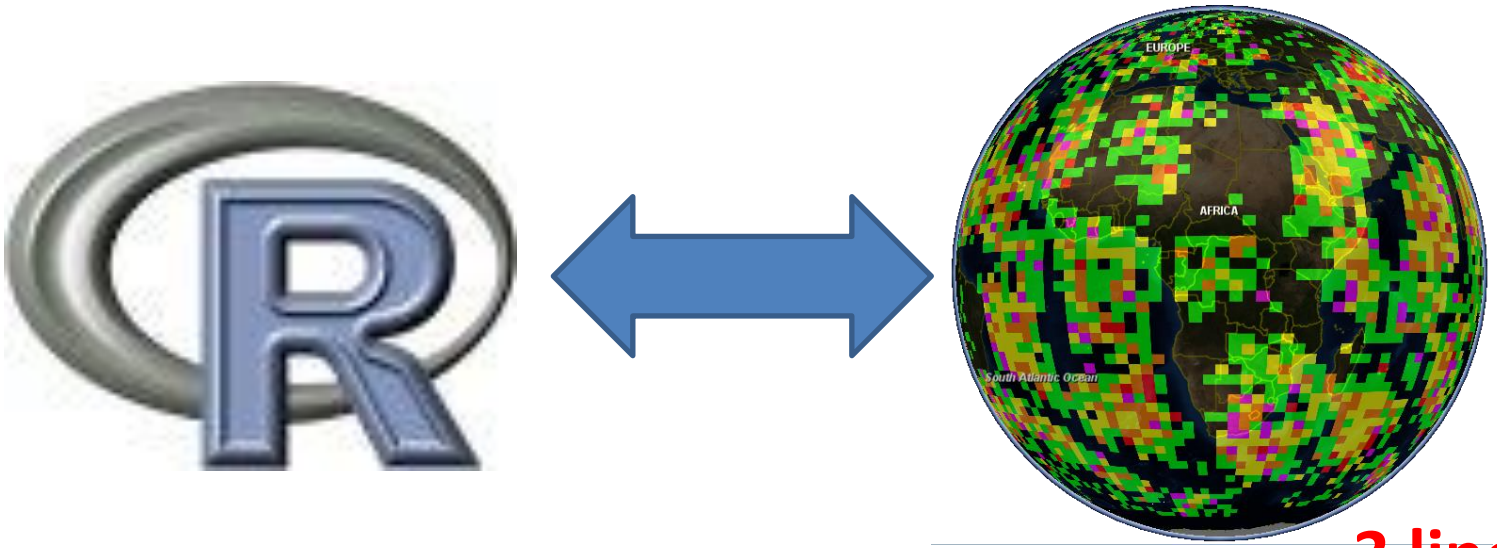


Ozone, 1 May 2006



RWikience

- Bridging Climate Wikience and R

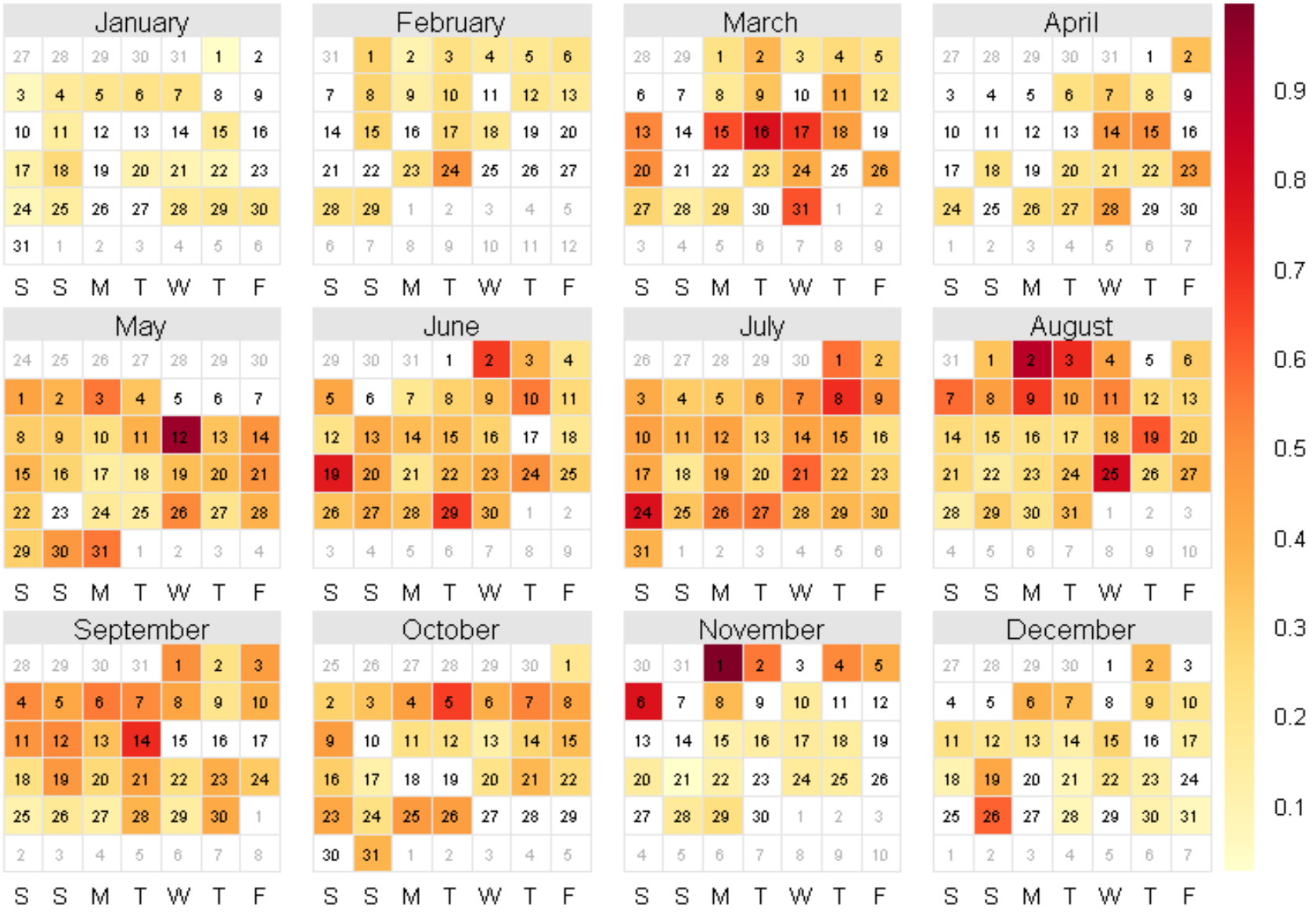



```
library(RWikience)
w<-WikienceConnect()
m <- getFloatMatrix(w, "CO2", "01 03 2005")
```

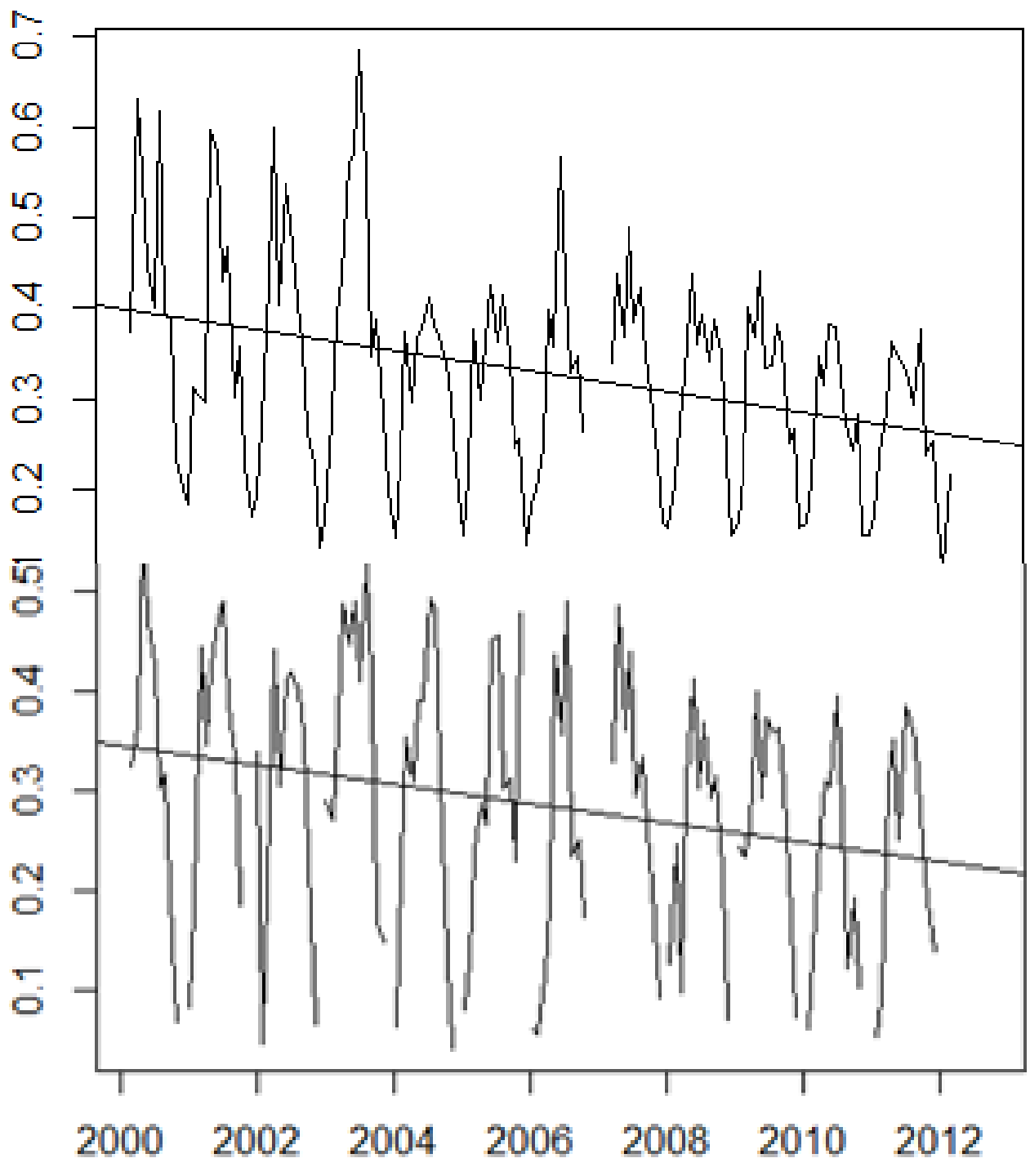
3 lines of code

All data are avaialble from R

Rome, Italy



Daily aerosol optical thickness, 2004

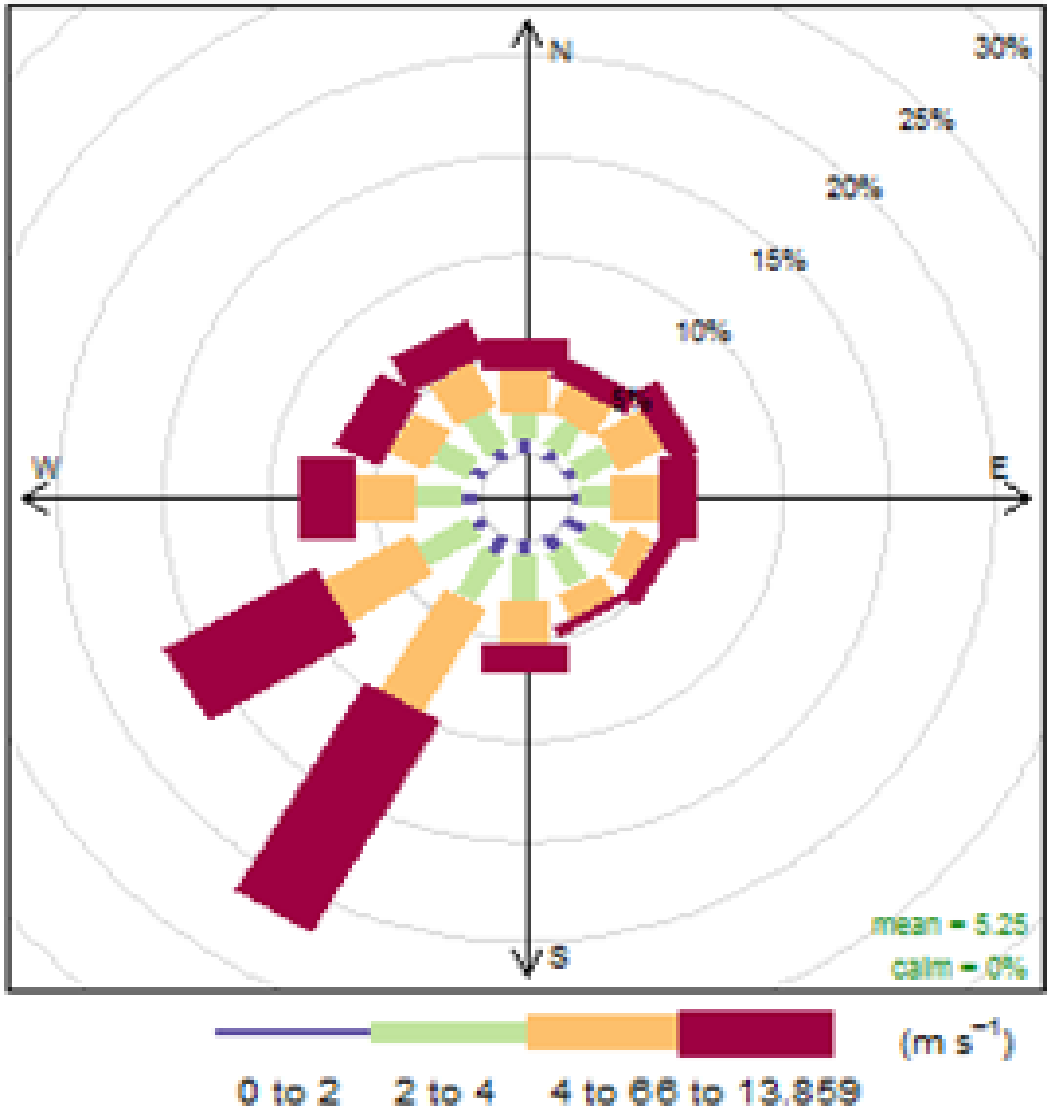


Rome

London

Optical Aerosol Thickness

Wind rose for a point on the globe



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