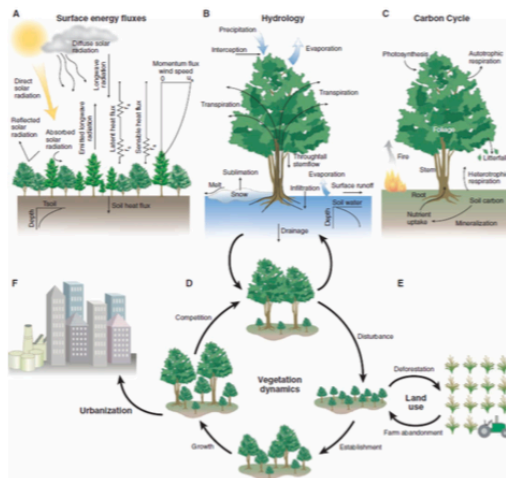


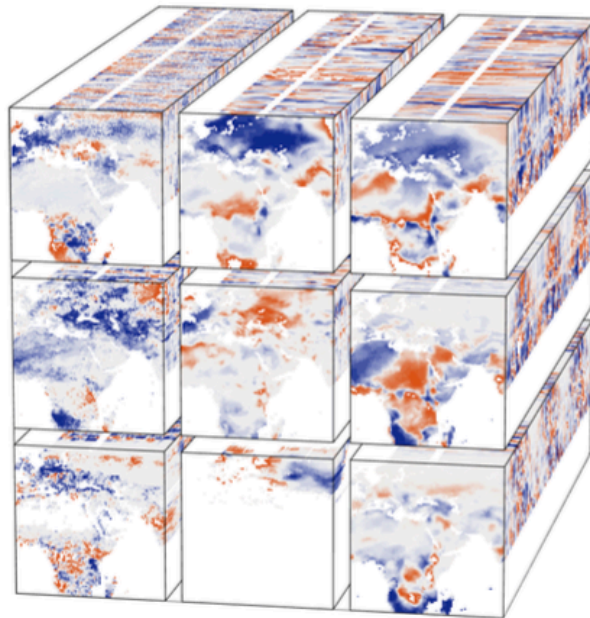
Understanding
Atmosphere-Biosphere
interactions considering ...

- *climate change*
- *extreme anomalies*
- *land use change*



Bonan, G. (2008)

- ▶ Global extent
- ▶ Nested spatial grids (0.083° , 0.25°)
- ▶ Convenience aggregations e.g. to national levels
- ▶ Consistent temporal sampling (8-daily for 2001-2011)
- ▶ Priority on the ESA data suite
- ▶ Including uncertainty information



Atmosphere

- ▶ Radiation
- ▶ Temperature
- ▶ Precipitation
- ▶ Vapor
- ▶ Ozone
- ▶ XCO₂
- ▶ ...

Biosphere

- ▶ Burned Area
- ▶ Actual Evapotranspiration
- ▶ Gross Primary Production
- ▶ Ecosystem Respiration
- ▶ Leaf Area Index
- ▶ fAPAR
- ▶ Land Surface
- ▶ Soil Moisture
- ▶ Snow Water Equivalents
- ▶ ...

Anthroposphere

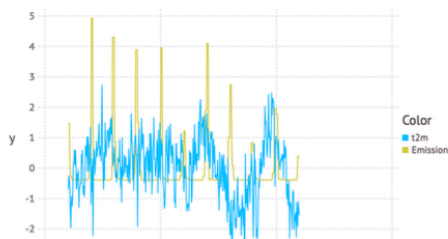
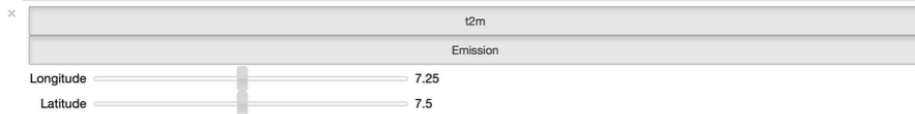
- ▶ World Development Indicators
- ▶ Other national statistics
- ▶ Night time light emission
- ▶ ...
- ▶ *Suggestions most welcome!*

- Get handle to selected spatiotemporal area and variables.

```
In [3]: c = Cube("/Net/Groups/BGI/scratch/DataCube/v1/brockmann-consult.de/datacube")
vars = ["Emission", "SoilMoisture", "t2m"]
cdta = getCubeData(c, latitude=(35,65), longitude=(-10,35), variable=vars)
```

- No data loaded yet!
- Handle can be used for visualization/analyses

```
In [10]: cdta=getCubeData(c,variable=["t2m","Emission"],longitude=(5,10),latitude=(5,10))
plotTS(map(normalize,cdta))
```



Towards biosphere-atmosphere-society system trajectories

