# ED2 Model Summary and Assessment

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# ————————INPUT/OUTPUT SUMMARY————————

## Directories

| | |
|---|---|
| **Namelist** | /n/moorcroftfs5/mjohnston/ED2_Ashehad/Case7.6/run048/ |
| **Results** | /n/moorcroftfs5/mjohnston/ED2_Ashehad/Case7.6/run048/analy/ |
| **ED2 src** | /n/moorcroftfs5/mjohnston/ED2_Ashehad/Case7.6/ED/src/ |

## Input files

| | **ED2IN Designation** | **Path** |
|---|---|---|
| **Input Vegetation** | NL%SFILIN | / n / moorcroftfs2 / kzhang / Dropbox / USTonExam / PSS / Tonzi. |
| **Input Meteorology** | NL%ED_MET_DRIVER_DB | / n / moorcroftfs5 / mjohnston / ED2_Ashehad / Case7.6 / met6 / ED_MET_DRIVER_HEADER |
| **Prescribed Phenology** | NL%PHENPATH | / n / moorcroftfs2 / kzhang / Dropbox / USTonExam / Phenology / Tonzi_30asc_ |
| **XML** | NL%IEDCNFGF | / n / moorcroftfs5 / mjohnston / ED2_Ashehad / Case7.6 / run048 / USTon.xml |

### Intended Dates

| Start Request | End Request |
|---|---|
| NL%IMONTHA = 7 | NL%IMONTHZ = 12 ! Month |
| NL%IDATEA = 1 | NL%IDATEZ = 31 ! Day |
| NL%IYEARA = 2001 | NL%IYEARZ = 2016 ! Year |
| NL%ITIMEA = 0000 | NL%ITIMEZ = 0000 ! UTC |

### Output Files

| tscales | numfiles | first | last |
|---|---|---|---|
| D | 5631 | tonzi-D-2001-07-01-000000-g01.h5 | tonzi-D-2016-11-29-000000-g01.h5 |
| E | 184 | tonzi-E-2001-07-00-000000-g01.h5 | tonzi-E-2016-10-00-000000-g01.h5 |
| I | 5632 | tonzi-I-2001-07-01-000000-g01.h5 | tonzi-I-2016-11-30-000000-g01.h5 |
| Q | 184 | tonzi-Q-2001-07-00-000000-g01.h5 | tonzi-Q-2016-10-00-000000-g01.h5 |
| T | 16 | tonzi-T-2001-00-00-000000-g01.h5 | tonzi-T-2016-00-00-000000-g01.h5 |
| Y | 16 | tonzi-Y-2001-00-00-000000-g01.h5 | tonzi-Y-2016-00-00-000000-g01.h5 |

### Plant Functional Types

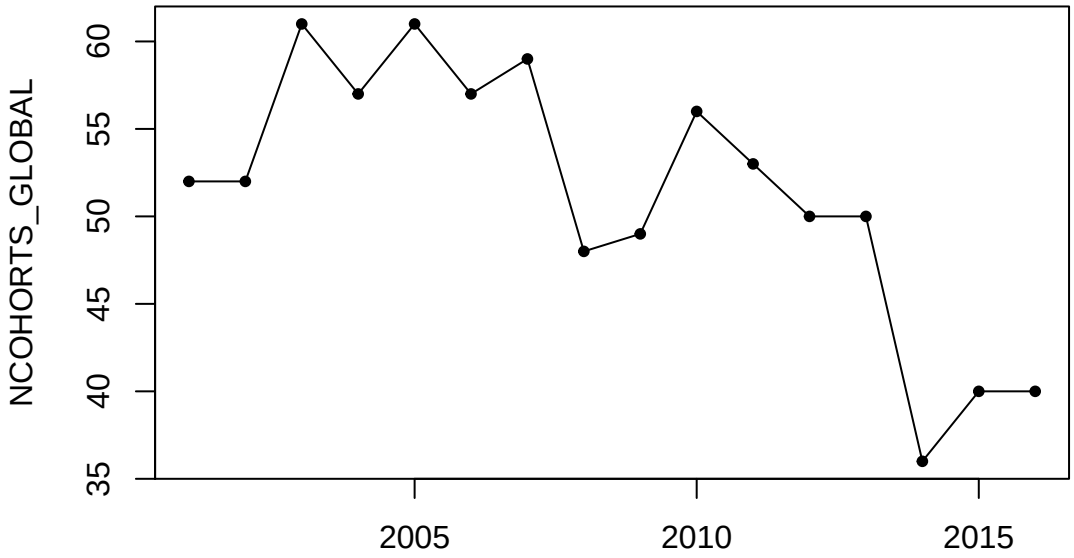
**(see ED/src/init/ed_params for PFT parameter values)**

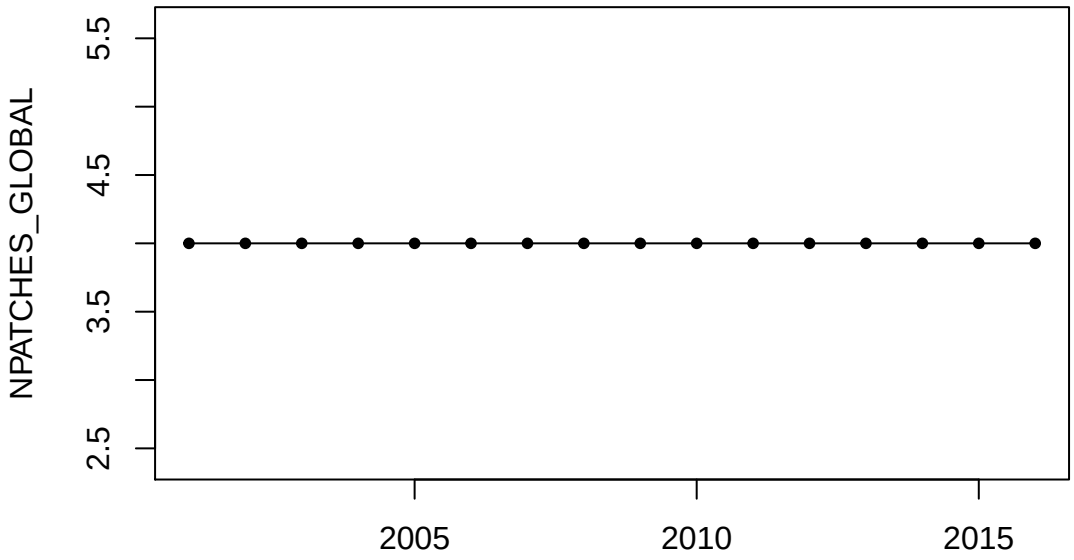
```
pft_name16( 7) = 'South_pine      '
pft_name16(18) = 'West_Hardwood   '
pft_name16(22) = 'Dryland_C3_grass'
```

## YEARLY DIAGNOSTICS

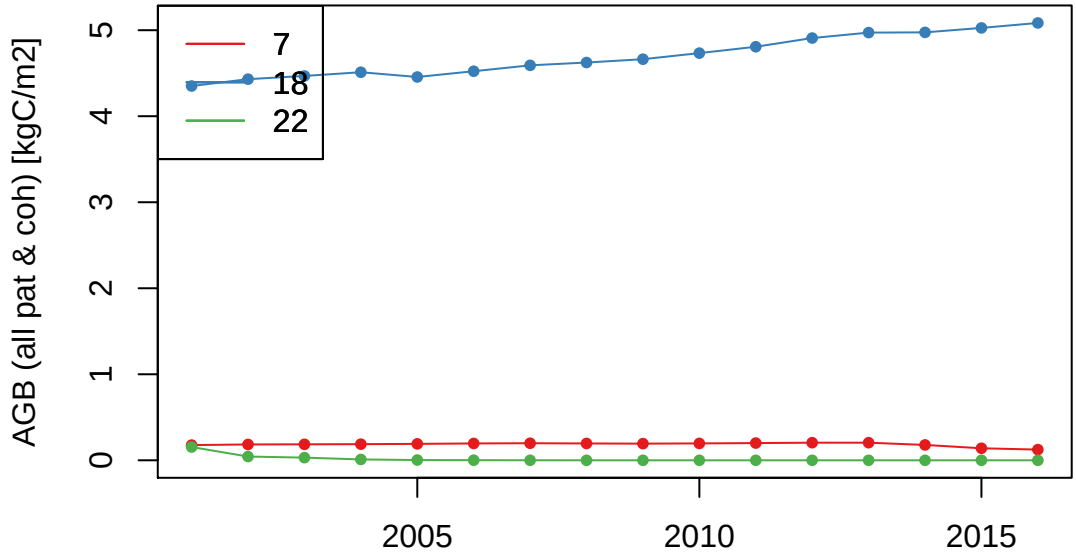
### Number of cohorts and patches over time

```
There are <100 yearly files; extracting data from all of them.
```

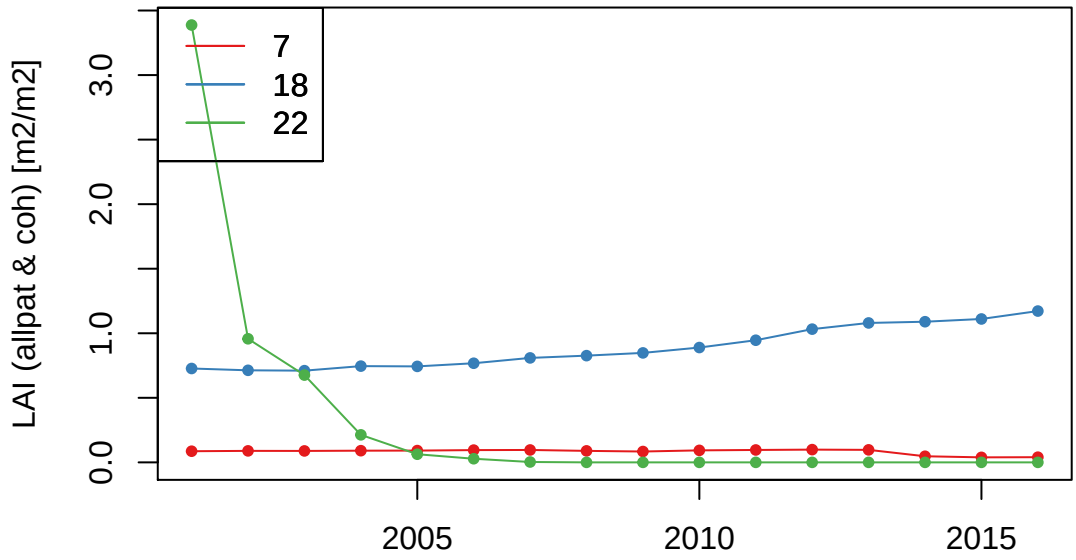




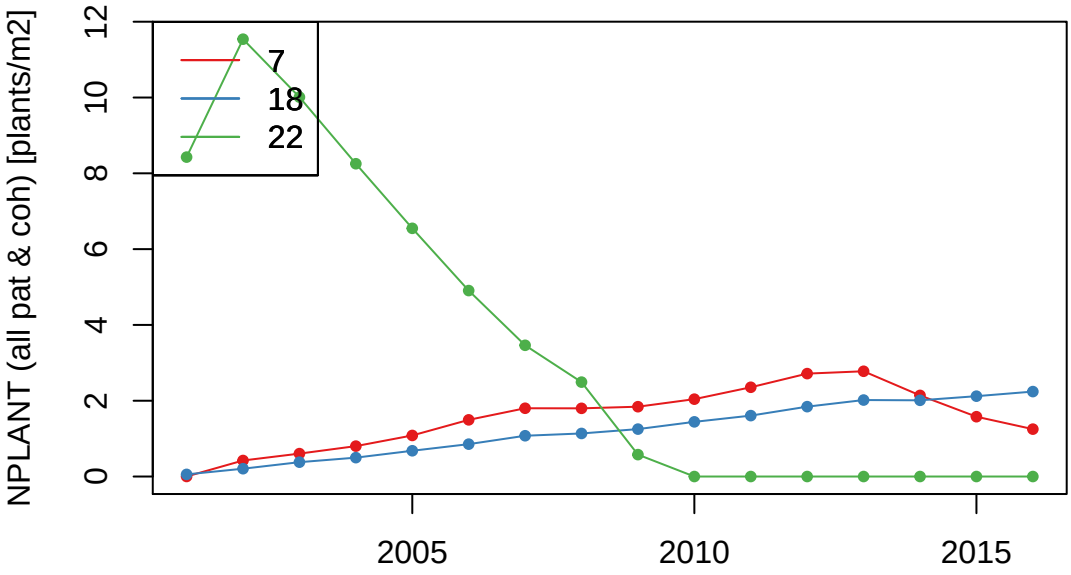

**Above-ground biomass**




**Leaf Area Index**

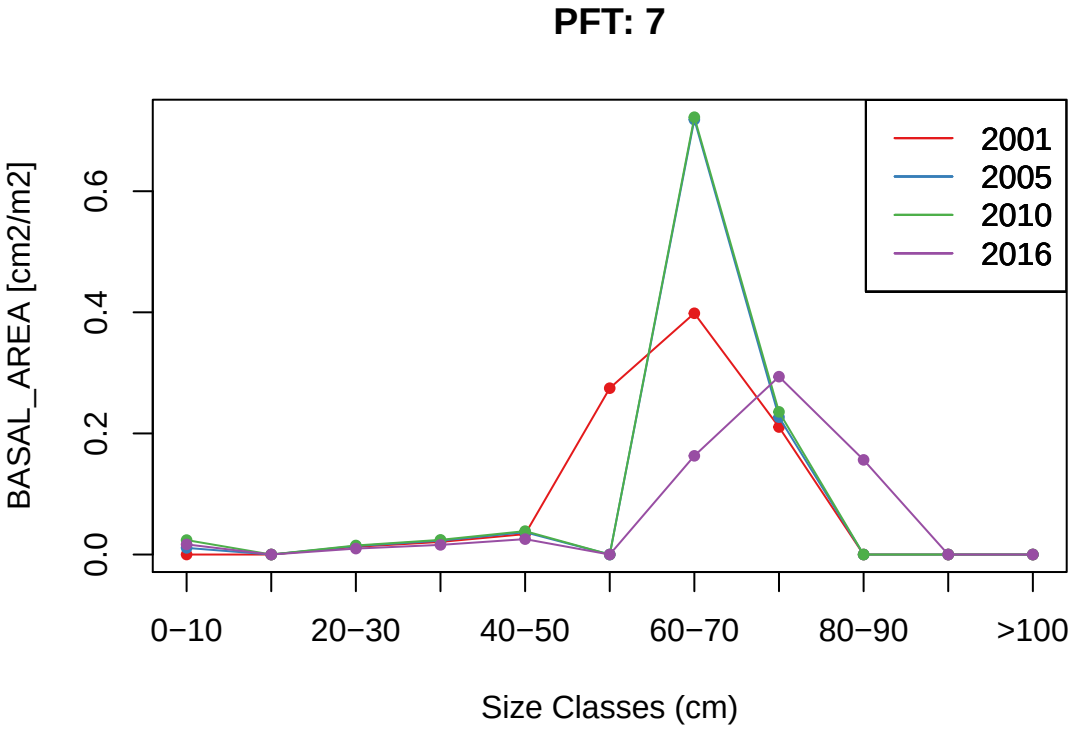


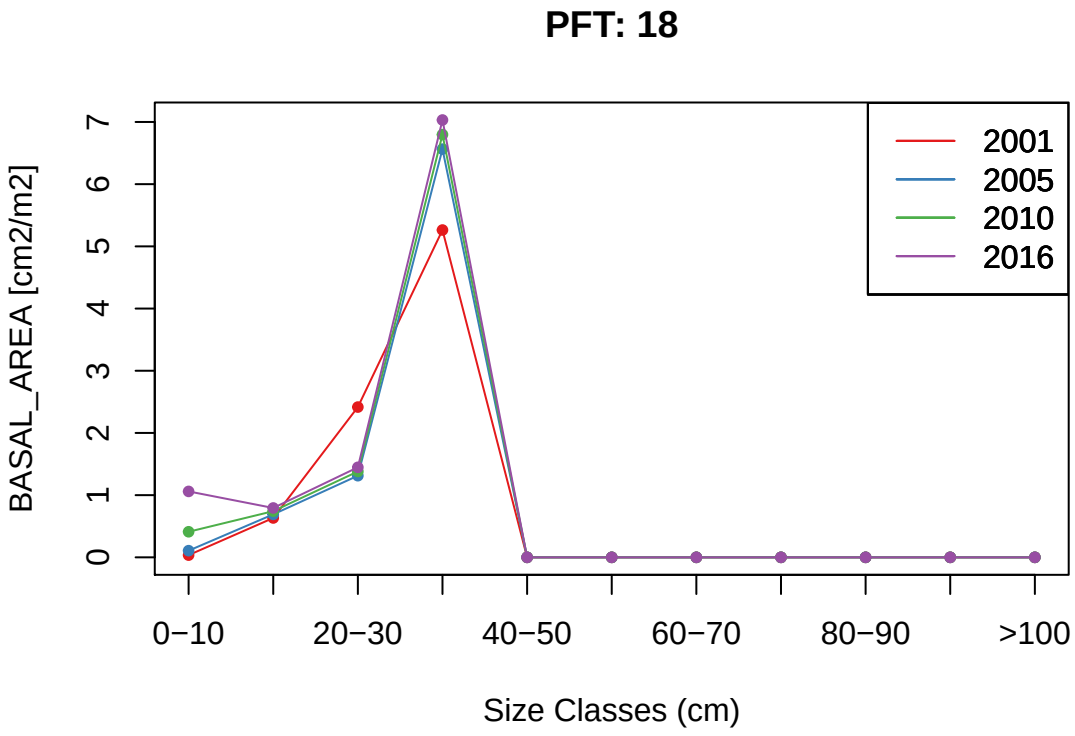
### Number of plants

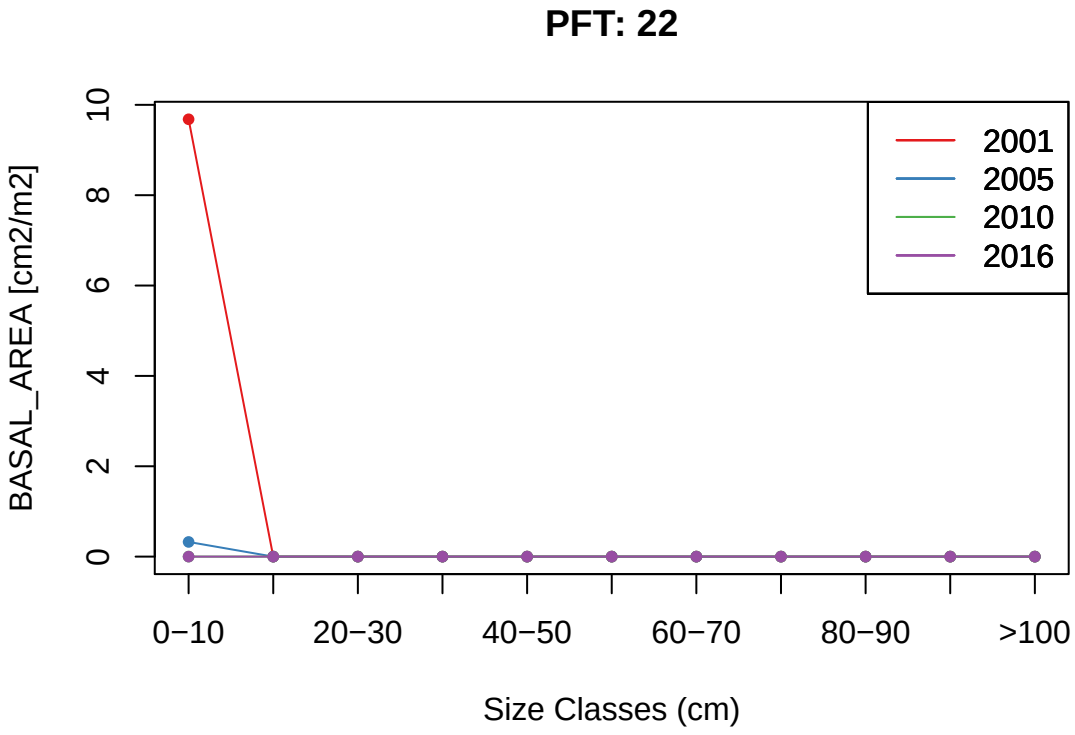



### Basal area

```
Below: showing basal area size distributions of first year, final year,
 year 1/3 through simulation, and year 2/3 through simulation
```



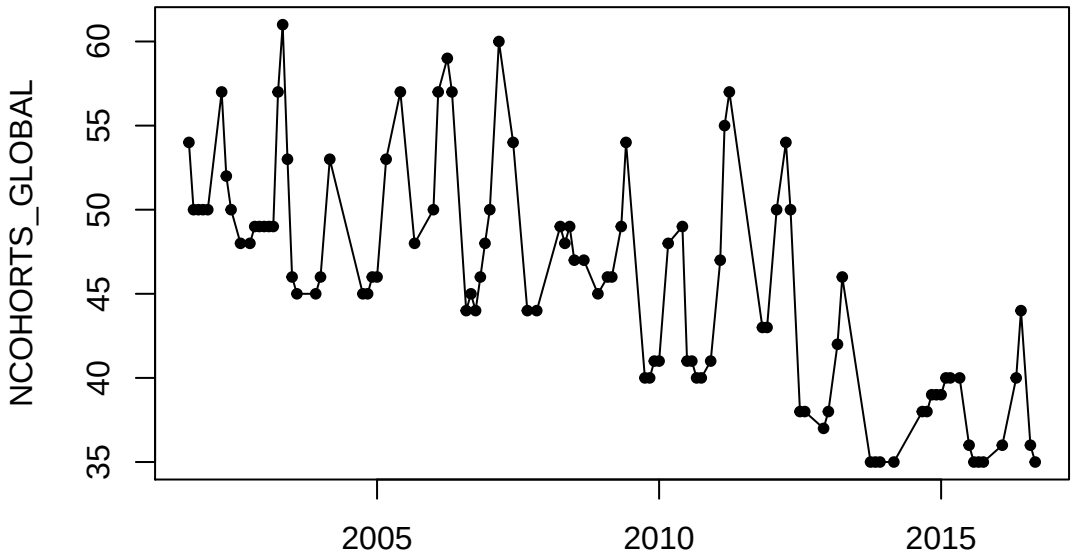


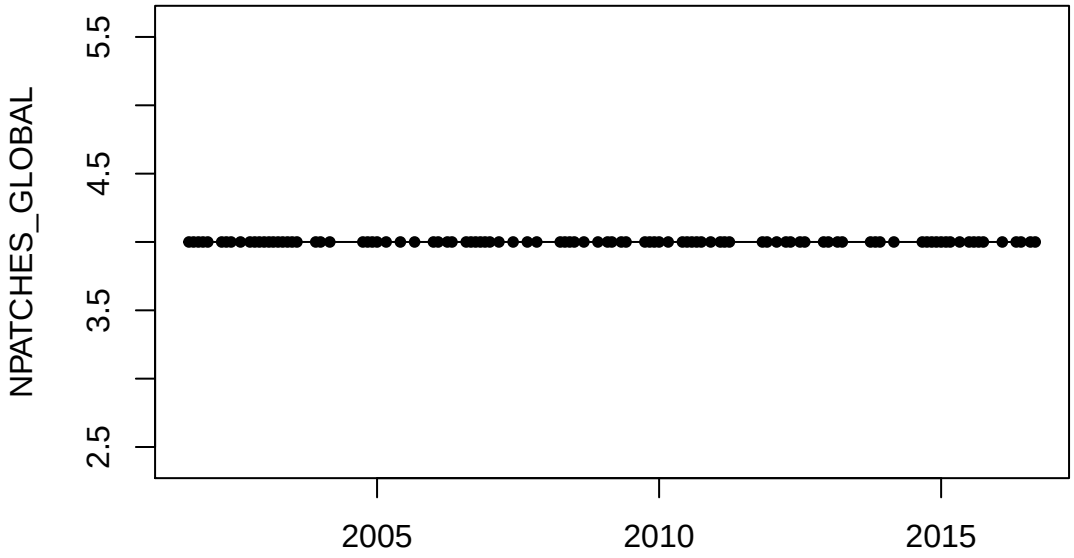




## MONTHLY DIAGNOSTICS

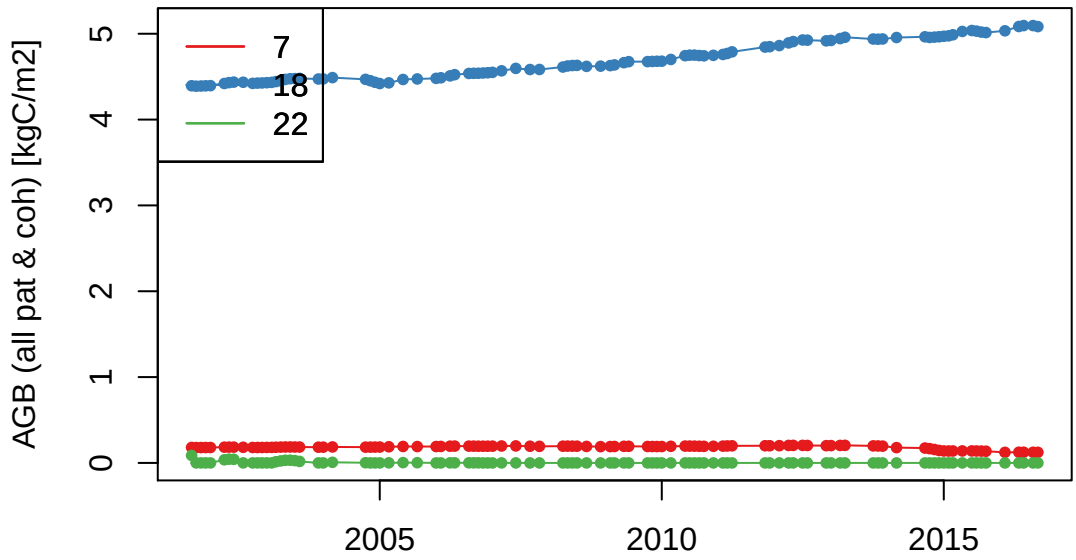
### Number of cohorts and patches over time

```
There are 184 monthly files!
 Full extractions for diagnostic plots will take too long.
 Subsetting Monthly Data to a random 100 months.
```

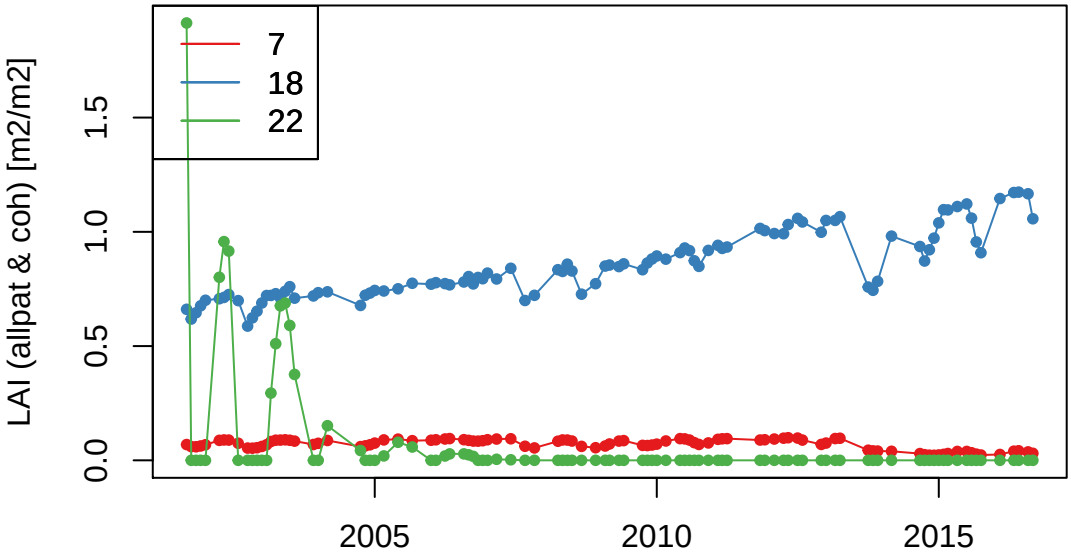


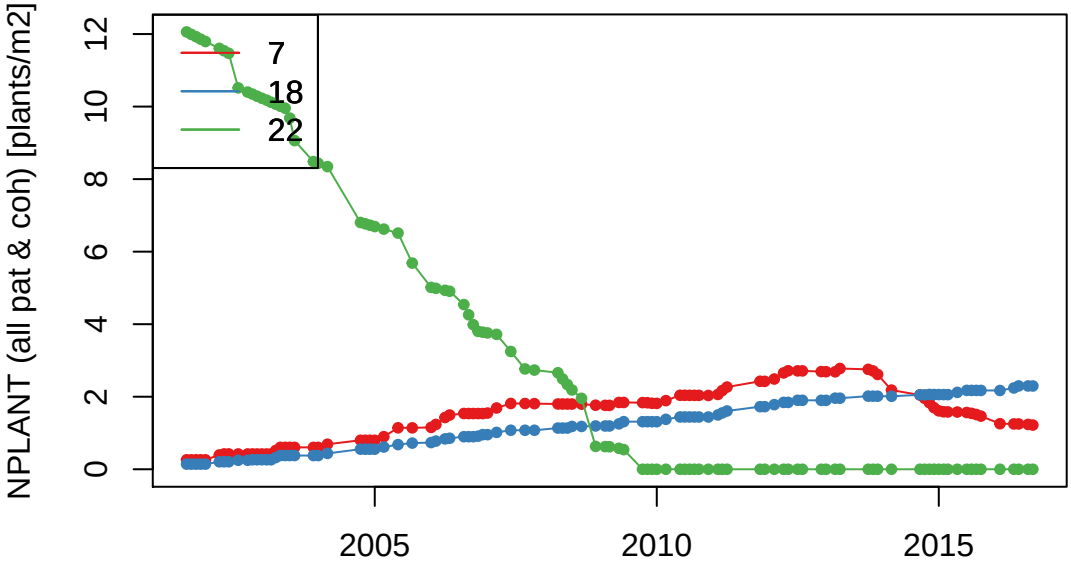

**Above-ground biomass**



### Leaf area index



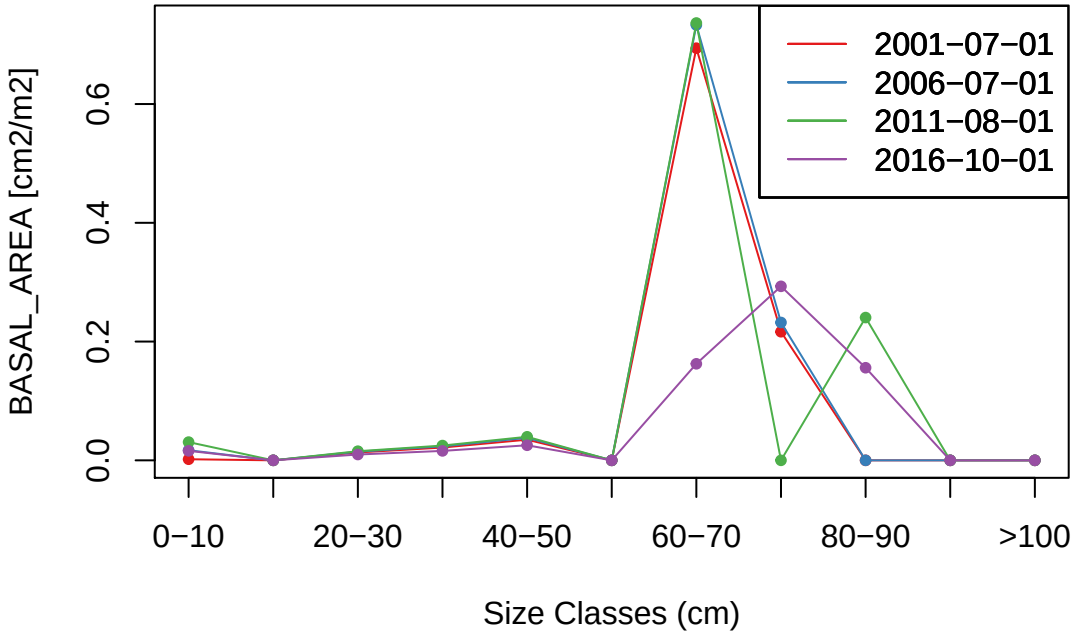

### Number of plants



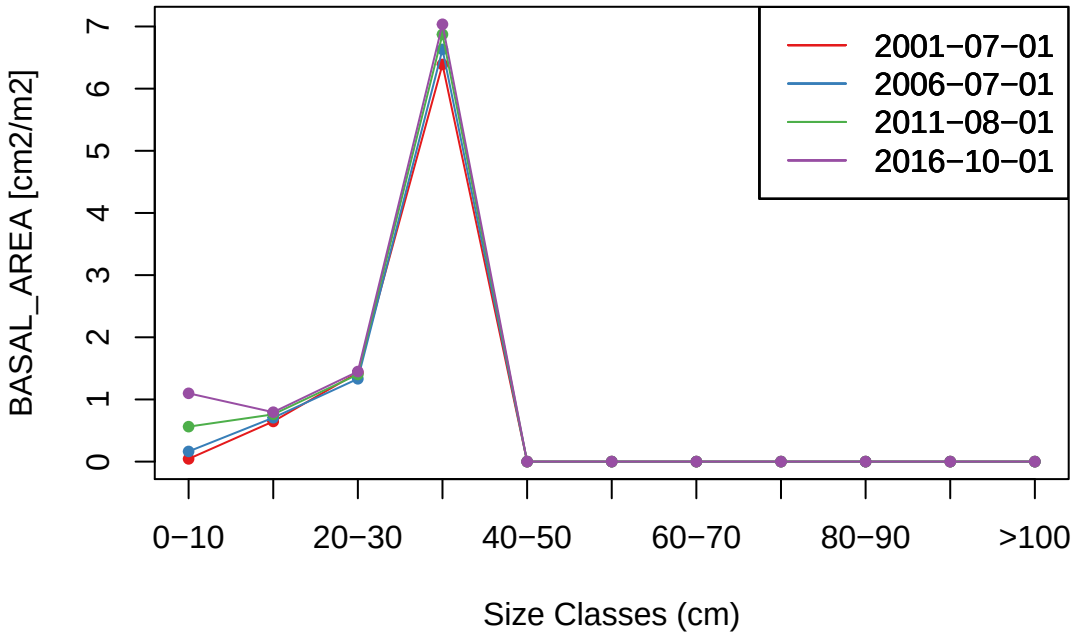

### Basal area

```
Below: showing basal area size distributions of first month, last month,
 month 1/3 through simulation, and month 2/3 through simulation
```

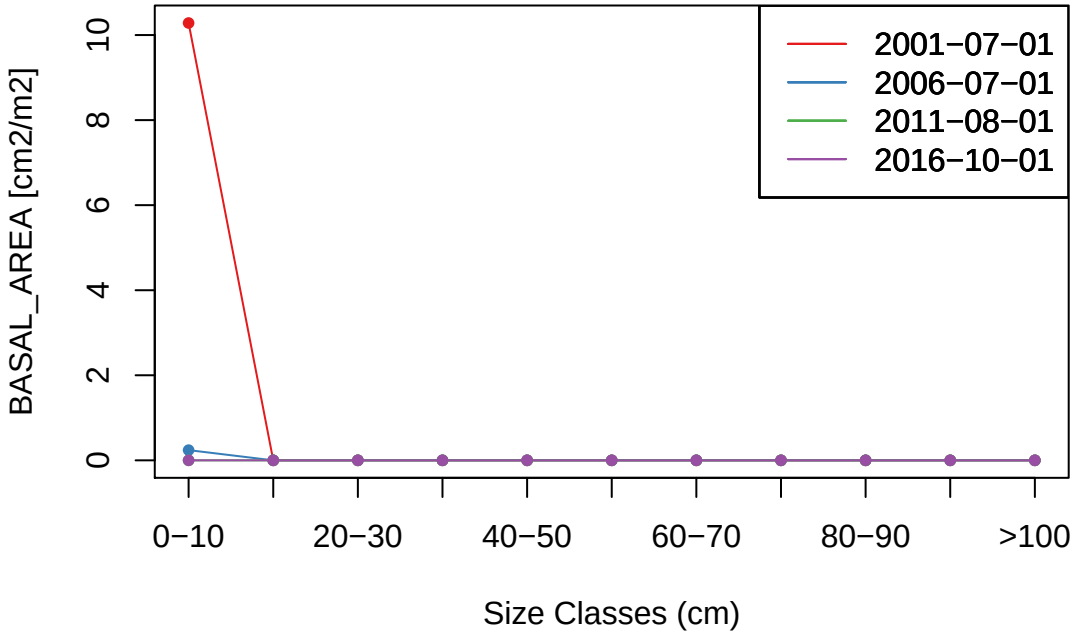
**PFT: 7**


BASAL_AREA [cm2/m2]
0.0
0.2
0.4
0.6
0−10
20−30
40−50
60−70
80−90
>100
Size Classes (cm)
2001−07−01
2006−07−01
2011−08−01
2016−10−01

**PFT: 18**

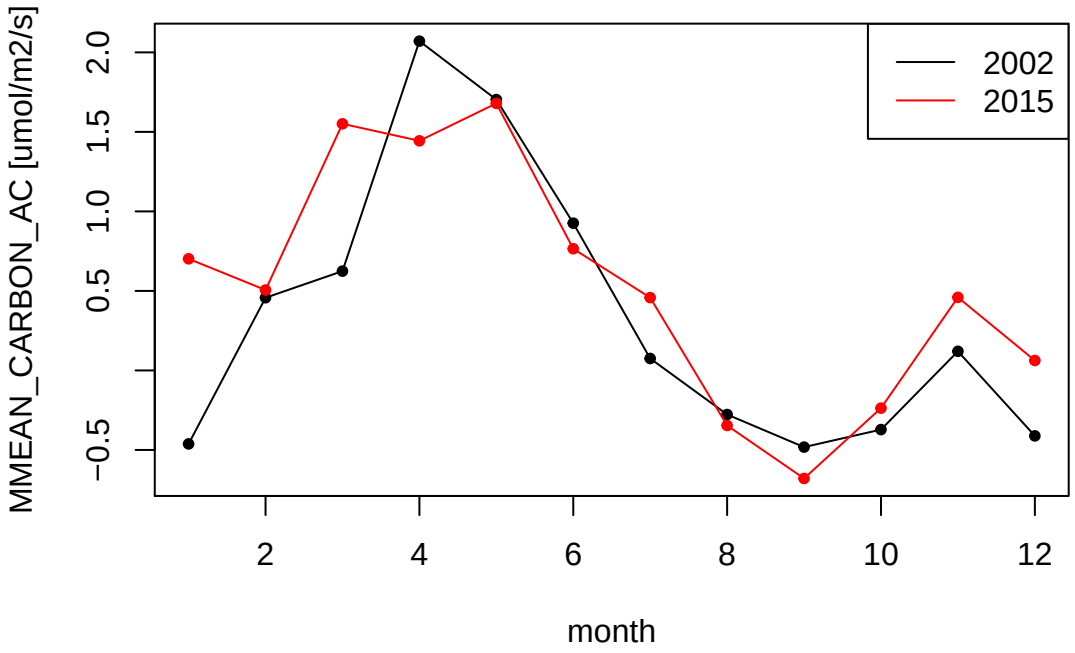

BASAL_AREA [cm2/m2]
0
1
2
3
4
5
6
7
0−10
20−30
40−50
60−70
80−90
>100
Size Classes (cm)
2001−07−01
2006−07−01
2011−08−01
2016−10−01

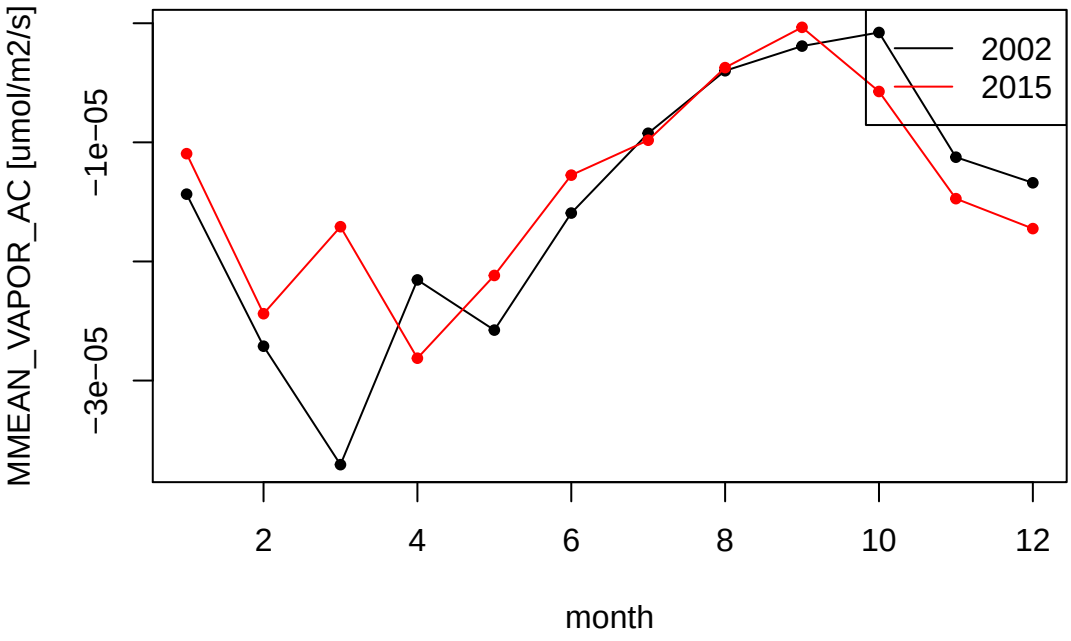
## PFT: 22

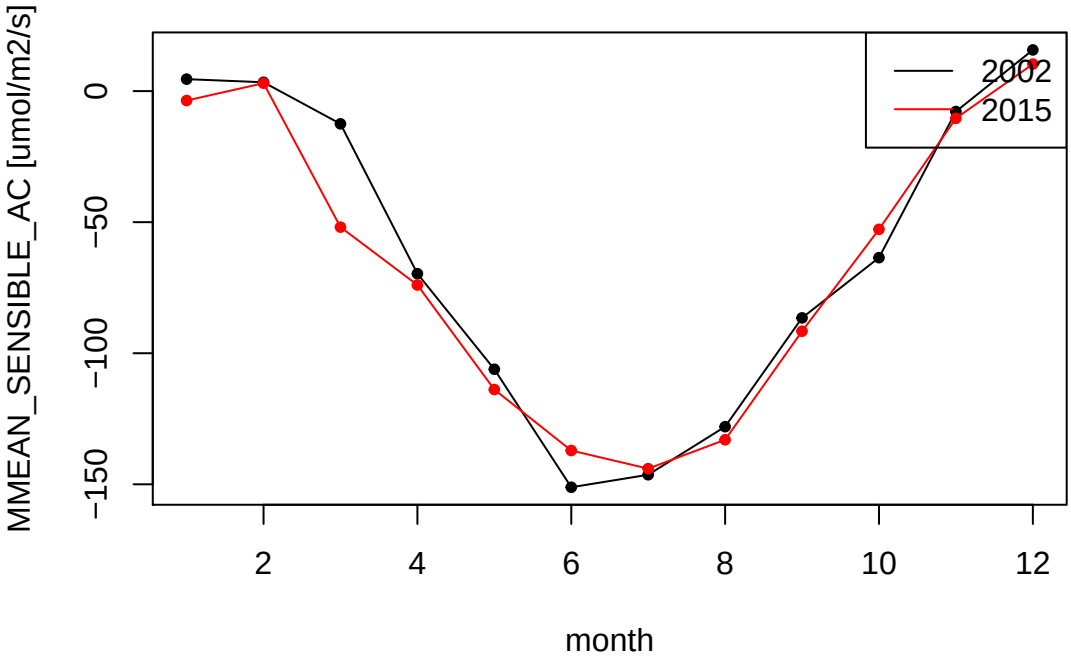



### Fluxes of carbon, water, sensible heat - yearly patterns

Below: showing monthly mean fluxes of the first and last full years of simulation



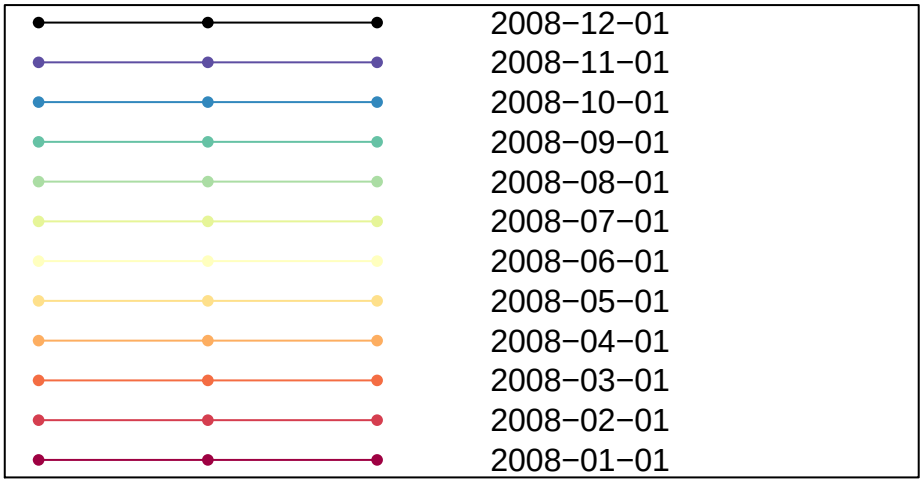

MMEAN_VAPOR_AC [umol/m2/s]
−1e−05
−3e−05
2002
2015
2
4
6
8
10
12
month

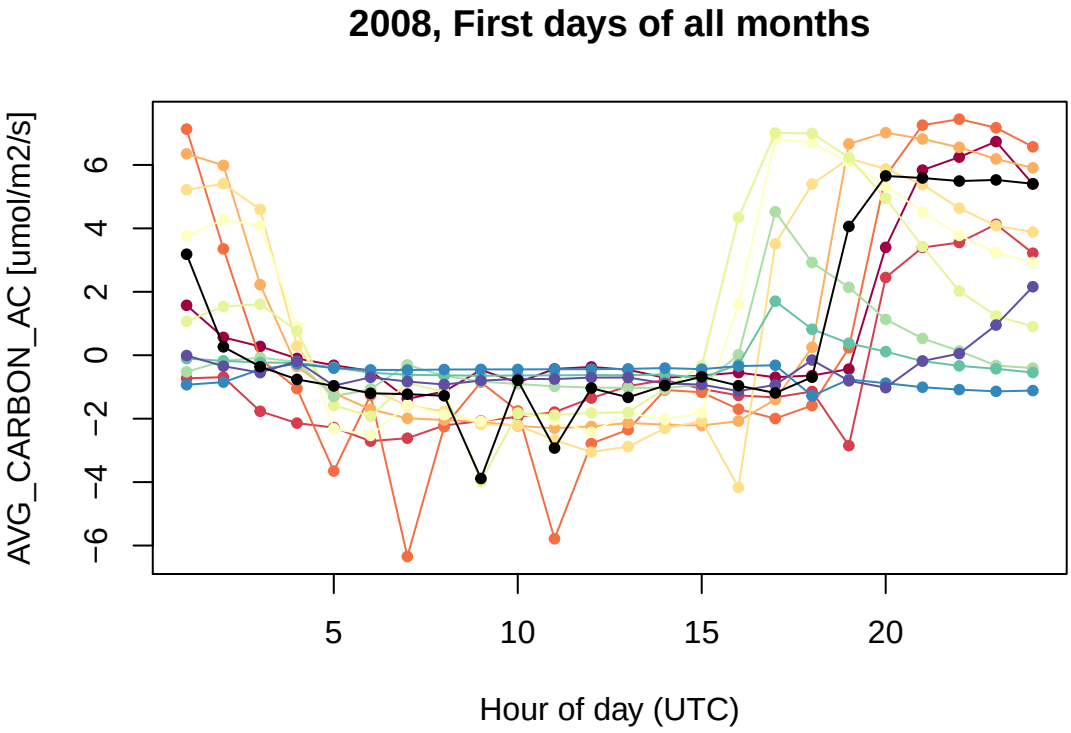

MMEAN_SENSIBLE_AC [umol/m2/s]
0
−50
−100
−150
2002
2015
2
4
6
8
10
12
month

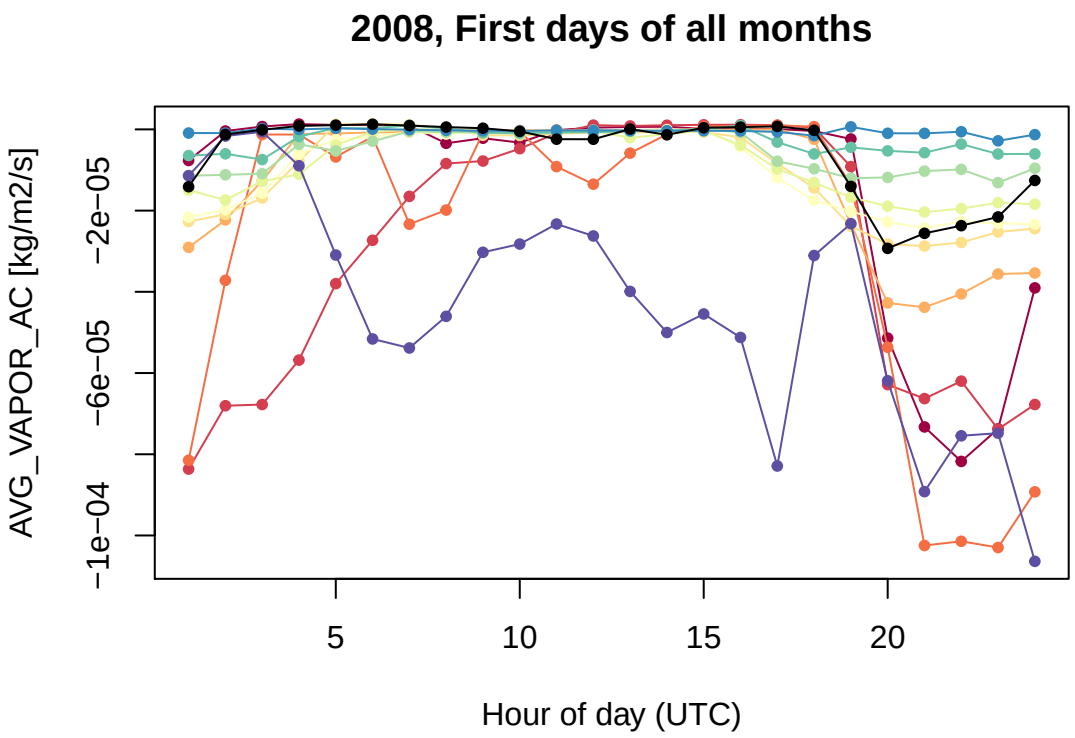
## ‘INSTANTANEOUS’ DIAGNOSTICS

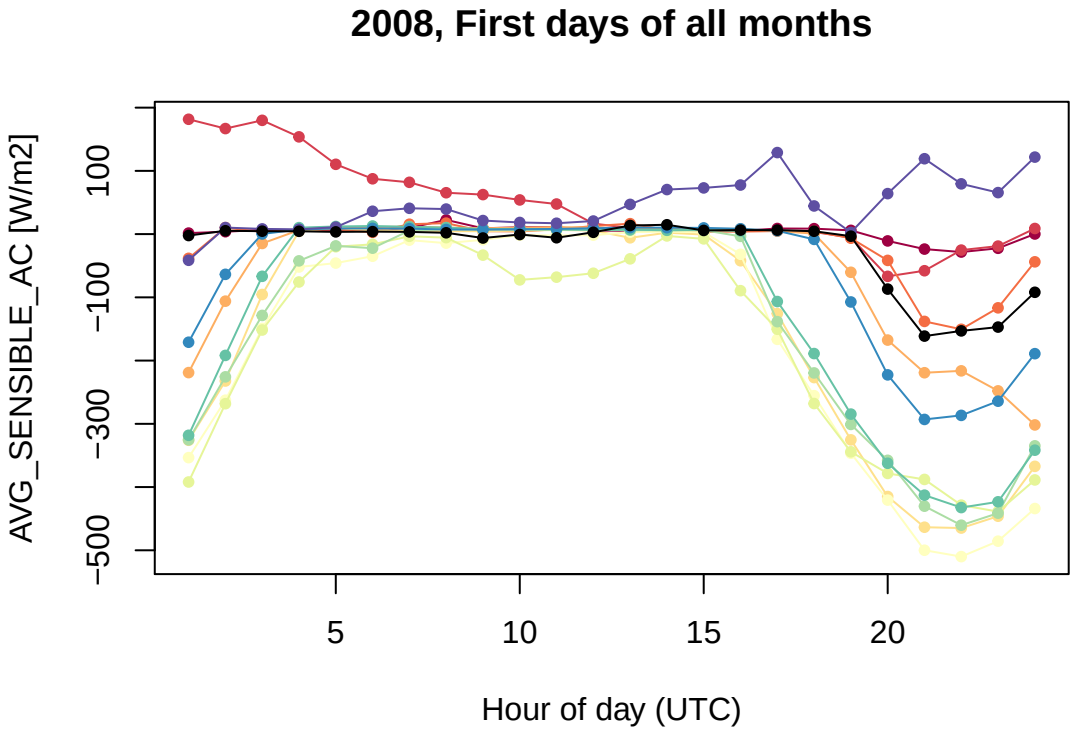
### Fluxes of carbon, water, sensible heat - diurnal patterns

**Legend for the flux plots:**




2008, First days of all months
AVG_VAPOR_AC [kg/m2/s]
−1e−04
−6e−05
−2e−05
5
10
15
20
Hour of day (UTC)


2008, First days of all months
AVG_SENSIBLE_AC [W/m2]
−500
−300
−100
100
5
10
15
20
Hour of day (UTC)