

Data Overview: Predicting Future Springs

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1 Overview of the phenological data

There are two main files with the phenological data. They can both be downloaded from <https://github.com/AileneKane/radcliffe>.

1.1 Experimental data

```
> setwd("~/GitHub/radcliffe")
> obsdata <- read.csv("radmeeting/obspheno.csv", header=TRUE)
> expdata <- read.csv("radmeeting/exppheno.csv", header=TRUE)
>
> #setwd("~/GitHub/radcliffe/sweave/figures") # sadly SweaveOpts above is not working so making it work
```

We'll walk through the experimental datafile first.

```
> head(expdata)
```

	site	plot	event	year	genus	species	doy
1	marchin	1	bbd	2011	Acer	rubrum	88
2	marchin	1	bbd	2011	Acer	rubrum	83
3	marchin	1	bbd	2011	Acer	rubrum	96
4	marchin	1	bbd	2011	Acer	rubrum	79
5	marchin	1	bbd	2011	Acer	rubrum	83
6	marchin	1	bbd	2011	Acer	rubrum	80

site: the first author's name (usually)

plot: the plot or chamber number, given by the author

event: phenological event (bbd=leaf budburst date, lod=leaf out date, lud=leaf unfolding date,ffd=first flower date,ffrd=first fruiting date)

genus and species:

doy: day of year that the phenological event occurred

1.2 Observational data

Next, the observational data.

```
> head(obsdata)
```

	site	plot	event	year	doy	date	genus	species	scrub	varetc	cult
1	fitter	<NA>	ffd	1954	130	1954-05-10	Acer	campestre	0	NA	NA
2	fitter	<NA>	ffd	1955	131	1955-05-11	Acer	campestre	0	NA	NA
3	fitter	<NA>	ffd	1956	137	1956-05-16	Acer	campestre	0	NA	NA
4	fitter	<NA>	ffd	1957	121	1957-05-01	Acer	campestre	0	NA	NA
5	fitter	<NA>	ffd	1958	128	1958-05-08	Acer	campestre	0	NA	NA
6	fitter	<NA>	ffd	1959	129	1959-05-09	Acer	campestre	0	NA	NA

Then we could discuss the sites, and the phenological events ...

```
> unique(obsdata$site)
```

```
[1] fitter   harvard hubbard konza   niwot   mikesell concord mohonk  marsham
[10] fargo   washdc  bolmgren gothic  uwm     rousi
15 Levels: bolmgren concord fargo fitter gothic harvard hubbard konza ... washdc
```

```
> table(obsdata$site, obsdata$event)
```

	bbd	ffd	fld	L75mdoy	L95mdoy	lod	lud
bolmgren	0	1622	0	0	0	0	0
concord	0	9320	0	0	0	0	0
fargo	0	4725	0	0	0	0	0
fitter	0	13721	0	0	0	0	0
gothic	0	162352	0	0	0	0	0
harvard	483	284	0	0	0	0	0
hubbard	72	0	0	0	0	72	0
konza	0	3403	0	0	0	0	0
marsham	0	2131	660	0	0	0	0
mikesell	445	0	0	0	0	549	554
mohonk	0	673	0	0	0	0	0
niwot	648	371	0	0	0	0	0
rousi	1021	147	0	0	0	0	0
uwm	414	0	0	415	415	0	0
washdc	0	7455	0	0	0	0	0

1.3 Species