

Verify Coefficient Creation

Started June 3, 2019

Steps in running model

- get weather data from source
 - cron running on arcus.sws.uiuc.edu
 - data 2 days behind current date
 - verified 03 Jun 2019
- daily weather
 - convert to cm and celsius
 - average min and max temps
 - put into year-month-week dictionary
 - (verified 03 Jun 2019)
- calculate_seasonal_weather
 - **problem with seasons** 03 Jun 2019
 - change made large difference in winter seasonal values (below)
 - values:
 - temp avg summed and divided by 13
 - precip avg is summed (not divided by 13) (changed 14 Jun 2019 to divided by 13)
- calculate_weekly_30yr_normals
 - looks ok
- calculate_seasonal_30yr_normals
 - **mistake** divided season average by 13 not 30

calculate_seasonal_weather	Notes	output winter 2016	Coefficients
	• For winter, previous calendar year should be for weeks 49-52 (3) not 1-9 • for first year of data, all seasons within if count_years > 1 block	before <pre>2016: {'fall': {'degree_week_average_c': 16.087301587301575, 'precip_week_average_cm': 21.488400000000002}, 'spring': {'degree_week_average_c': 0, 'precip_week_average_cm': 28.5242}, 'summer': {'degree_week_average_c': 6.838827838827833, 'precip_week_average_cm': 40.9194}, 'winter': {'degree_week_average_c': 4.9499389499389475, 'precip_week_average_cm': 11.556999999999999}}},</pre>	before <pre>"2": { "dW2precip4": "-0.0005795453", "lastsummertemp": "0", "wintertemp": "0.1617251", "dW2precip3": "-0.1668376", "dW2precip2": "0.003797379", "dW2precip1": "-0.3367884", "dW3precip1": "0.293194", , "dW1precip4": "-0.02145926",</pre>

before

```
for epi_week in weekly_weather[epi_year]:
    if count_years > 1:
        if 1 <= epi_week <= 9:
            seasonal_weather[epi_year]
            ["winter"]["degree_week_average_c"] +=
            weekly_weather[epi_year-1][epi_week]
            ["degree_week_c"]
            seasonal_weather[epi_year]
            ["winter"]["precip_week_average_cm"] +=
            weekly_weather[epi_year-1][epi_week]["precip_cm"]
            if 49 <= epi_week <= 52:
                seasonal_weather[epi_year]
                ["winter"]["degree_week_average_c"] +=
                weekly_weather[epi_year][epi_week]
                ["degree_week_c"]
                seasonal_weather[epi_year]
                ["winter"]["precip_week_average_cm"] +=
                weekly_weather[epi_year][epi_week]["precip_cm"]
                if 23 <= epi_week <= 35:
                    seasonal_weather[epi_year]
                    ["summer"]["degree_week_average_c"] +=
                    weekly_weather[epi_year][epi_week]
                    ["degree_week_c"]
                    seasonal_weather[epi_year]
                    ["summer"]["precip_week_average_cm"] +=
                    weekly_weather[epi_year][epi_week]["precip_cm"]
                    if 10 <= epi_week <= 22:
                        seasonal_weather[epi_year]
                        ["spring"]["degree_week_average_c"] +=
                        weekly_weather[epi_year][epi_week]
                        ["degree_week_c"]
                        seasonal_weather[epi_year]
                        ["spring"]["precip_week_average_cm"] +=
                        weekly_weather[epi_year][epi_week]["precip_cm"]
                        if 36 <= epi_week <= 48:
                            seasonal_weather[epi_year]["fall"]
                            ["degree_week_average_c"] += weekly_weather
                            [epi_year][epi_week]["degree_week_c"]
                            seasonal_weather[epi_year]["fall"]
                            ["precip_week_average_cm"] += weekly_weather
                            [epi_year][epi_week]["precip_cm"]
```

```
"precilag1
":
"-0.045655
07",

"dwlag1":
"0.6759879
",

"winterpre
ci": "0",

"dwlag3":
"-0.362320
5",

"springtem
p":
"-1.443487
",

"dw3preci3
":
"0.0817753
1",

"dw1preci2
":
"-0.062638
24",

"dw1preci3
":
"0.0292632
5"
}
```

after	after	after
<pre> for epi_week in weekly_weather [epi_year]: if 1 <= epi_week <= 9: seasonal_weather[epi_year] ["winter"]["degree_week_average_c"] += weekly_weather[epi_year][epi_week] ["degree_week_c"] seasonal_weather[epi_year] ["winter"]["precip_week_average_cm"] += weekly_weather[epi_year][epi_week]["precip_cm"] if 49 <= epi_week <= 52: seasonal_weather[epi_year] ["winter"]["degree_week_average_c"] += weekly_weather[epi_year-1][epi_week] ["degree_week_c"] seasonal_weather[epi_year] ["winter"]["precip_week_average_cm"] += weekly_weather[epi_year-1][epi_week]["precip_cm"] if 23 <= epi_week <= 35: seasonal_weather[epi_year] ["summer"]["degree_week_average_c"] += weekly_weather[epi_year][epi_week] ["degree_week_c"] seasonal_weather[epi_year] ["summer"]["precip_week_average_cm"] += weekly_weather[epi_year][epi_week]["precip_cm"] if 10 <= epi_week <= 22: seasonal_weather[epi_year] ["spring"]["degree_week_average_c"] += weekly_weather[epi_year][epi_week] ["degree_week_c"] seasonal_weather[epi_year] ["spring"]["precip_week_average_cm"] += weekly_weather[epi_year][epi_week]["precip_cm"] if 36 <= epi_week <= 48: seasonal_weather[epi_year] ["fall"]["degree_week_average_c"] += weekly_weather[epi_year][epi_week] ["degree_week_c"] seasonal_weather[epi_year] ["fall"]["precip_week_average_cm"] += weekly_weather[epi_year][epi_week]["precip_cm"] </pre>	<pre> 2016: {'fall': {'degree_week_average_c': 16.087301587301575, 'precip_week_average_cm': 21.488400000000002}, 'spring': {'degree_week_average_c': 0, 'precip_week_average_cm': 28.5242}, 'summer': {'degree_week_average_c': 6.838827838827833, 'precip_week_average_cm': 40.9194}, 'winter': {'degree_week_average_c': 2.1733821733821777, 'precip_week_average_cm': 18.7706}}, </pre>	<pre> { "2": { "dw2prec4": "0.05358239", "lastsummertemp": : "0.8415992", "wintertemp": "-1.313953", "dw2prec3": "-0.1343593", "dw2prec2": "-0.05608847", "dw2prec1": "-0.3259052", "dw3prec1": "0.2693502", "dw1prec4": "-0.07662612", "precilag1": "-0.01489565", "dwlag1": "0.6213925", "winterprec1": "-0.07753674", "dwlag3": "-0.3471082", "springtemp": "1.298059", "dw3prec3": "0.06238141", "dw1prec2": "-0.01130325", "dw1prec3": "0.007980013" } } </pre>

Compare input parameters (diffs) for 2005 week 18 illinois climate div 2 18 Jun 2019

[illegible]