Micrometeorology Analysis in Colorado

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Contents


```
COweather <- read_csv("COstations_weather.csv")
```

```
## Rows: 6388 Columns: 23
```

```
## -- Column specification --------------------------------------------------------
## Delimiter: ","
## chr   (3): Station_ID, Date, ASCE_ETo
## dbl  (15): Avg_T, Max_T, Min_T, RH_max, RH_min, VP, Precip, Wind, Gust_spd, ...
## time  (5): Max_T_time, Min_T_time, RH_max_t, RH_min_t, Gust_t
```

```
##
## i Use `spec()` to retrieve the full column specification for this data.
## i Specify the column types or set `show_col_types = FALSE` to quiet this message.
```

```
COdata <- COweather %>%
  mutate(Date = mdy(Date)) %>%
  mutate_at(vars(Date), funs(year, month)) %>%
  mutate(DOY = format(Date, "%j")) %>%
  filter(DOY >= 131 & DOY <= 284) %>% #filter to May 10 - Oct 10
  mutate(Avg_T = na.approx(Avg_T), Max_T = na.approx(Max_T), Min_T = na.approx(Min_T),
         RH_max = na.approx(RH_max), RH_min = na.approx(RH_min), Precip = na.approx(Precip),
         Srad = na.approx(Srad), Rso = na.approx(Rso), ASCE_ETr = na.approx(ASCE_ETr),
         ASCE_ETo = na.approx(ASCE_ETo), ASCE_hr_ET = na.approx(ASCE_hr_ET),
         PK_ET = na.approx(PK_ET)) #interpolate missing values via linear interpolation (na.spline = po


#write.csv(COdata, "~/Dropbox/Kaydee's docs/Code/Micrometeorology-CO-irrigatedsites/COdata.csv", row.na

#Individual sites datasets

#Greeley
Gly <- COdata %>%
```

```
  filter(Station_ID == "gly04")

#Rocky Ford
RF <- COdata %>%
  filter(Station_ID == "rfd01")

#Rogers Mesa Research Station
RM <- COdata %>%
  filter(Station_ID != "gly04") %>%
  filter(Station_ID != "rfd01") %>%
  filter(Station_ID != "ctr01")

#Center
Ctr <- COdata %>%
  filter(Station_ID == "ctr01")
```

Analysis

Temperatures

Average Growing Season Air Temperature Per Site

Yearly Average Air Temperatures

Precipitation

Average Growing Season Precipitation Per Site

Yearly Average Precipitation