EVI processing

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```
library(dplyr)
library(moderndive)
library(readr)
library(tidyr)
```

Read in the files

```
EVI_source <- read_csv("./Data/EVI_ts_Zimb.csv")
```

Goal: find the mean, max and min value for precipitation for each month

1. Drop some unessential columns

```
#This is in wide format
EVI_wide <- EVI_source %>%
  select(NAME_2, `2005_03_01_EVI`:`2021_12_30_EVI`) %>% #select needed columns--Distr
icts and observations
  rename(District = NAME_2) #rename column
```

2. Transform it to long format (daily Data)

```
# Parsed through the date with "_". Might need to change the code when it comes with
 different format
# Here the format for observation is yyyy_mm_dd_NDVI. Modify it if your observation c
omes with a different format.
EVI_long <- gather(EVI_wide, Date, EVI, `2005_03_01_EVI`:`2021_12_30_EVI`)%>%
  separate( col=Date, into=c('Year', 'Month', "Day", "EVI11"), sep='_') %>% # Parsed
 it into Year/Month/Day
  select(-EVI11) #drop the _NDVI string segment


# write.csv(EVI_long,"./Data/EVI_long.csv", row.names = FALSE)
```

3. Monthly Data (average, max, and min EVI)

```
EVI_monthly <- EVI_long %>%
  select(-Day) %>%
  group_by(District, Year, Month) %>%   # Group by district, year and month
  summarise(AverageEVI = mean(EVI, na.rm=TRUE),   # Find the mean, max, min by distri
ct
         MaxEVI = max(EVI, na.rm=TRUE),
         MinEVI = min(EVI, na.rm=TRUE),
         MedianEVI = median(EVI, na.rm=TRUE))

# write.csv(EVI_monthly,"./Data/EVI_monthly.csv", row.names = FALSE)
```

4. Find the average, max, and min EVI for annual level

```
EVI_annual <- EVI_long %>%
  select(-Month, -Day) %>%
  group_by(District, Year) %>%    # group by district and year
  summarise(AverageEVI = mean(EVI, na.rm=TRUE),   # Find the mean, max, min by distri
ct
         MaxEVI = max(EVI, na.rm=TRUE),
         MinEVI = min(EVI, na.rm=TRUE),
         MedianEVI = median(EVI, na.rm=TRUE))   # could also find median, standard de
viation, z-score if needed

# write.csv(EVI_annual,"./Data/EVI_annual.csv", row.names = FALSE)
```