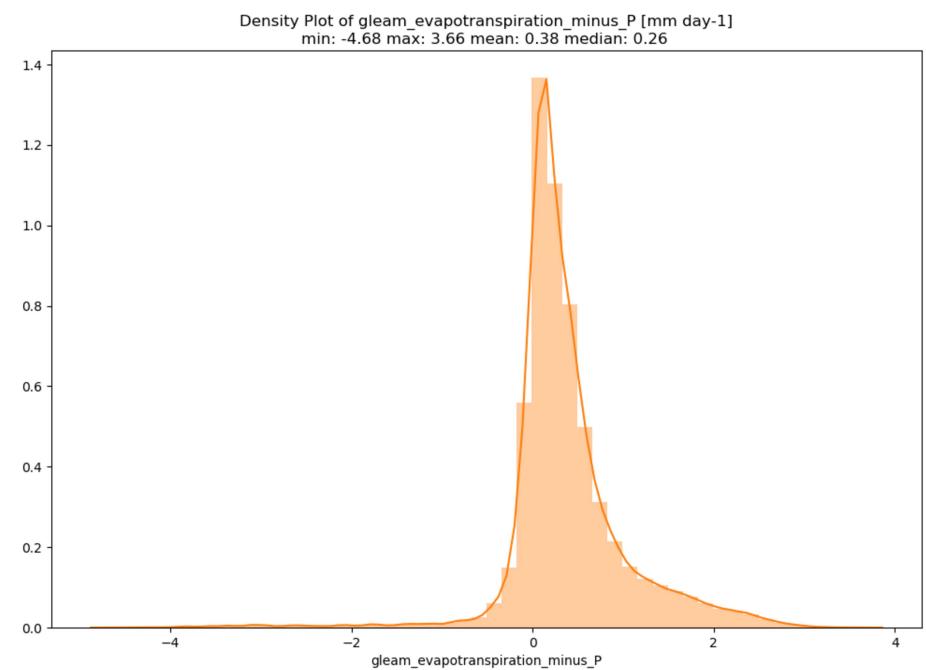
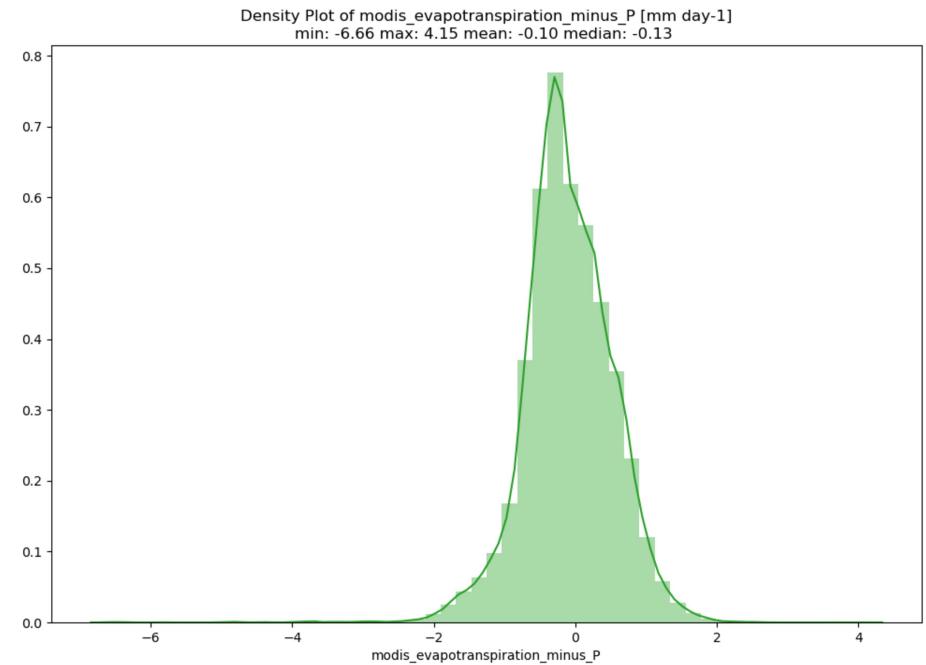
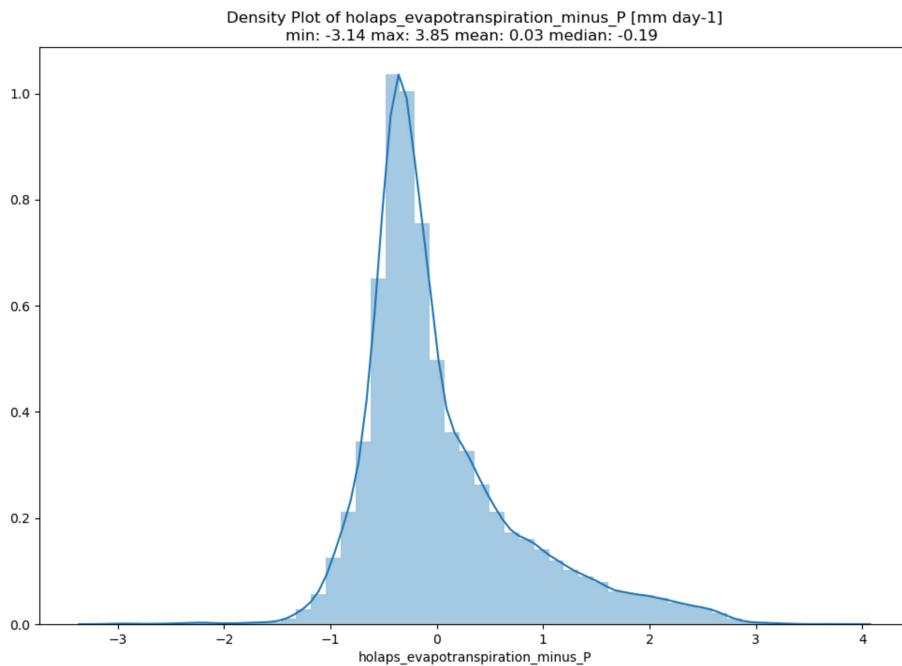


5 yr P-E



silent
presenter

intro
methods
results
discussion
plots

GLEAM offers the most consistent **evaporation product** over East Africa when validated against a simple **water balance calculation**

scrapbook

tables
references
coefficients
methods

KEY FIGURE



ENVIRONMENTAL RESEARCH
DOCTORAL TRAINING PARTNERSHIP

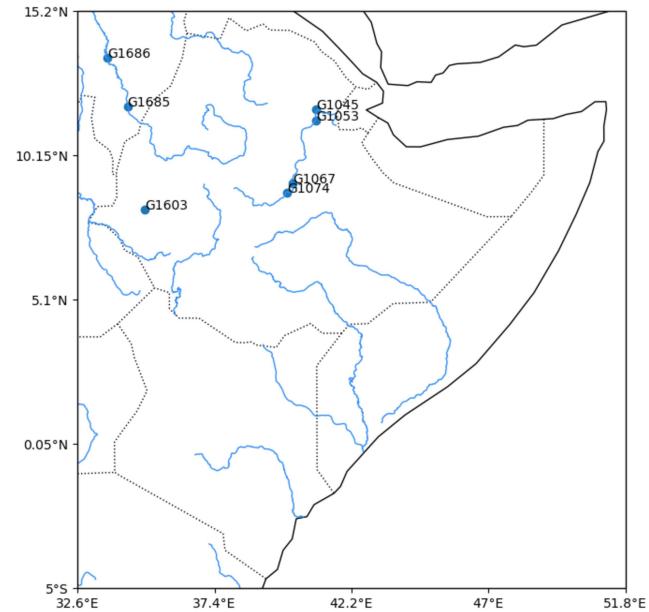
The station runoff is too high

```
# normalise
def calculate_flow_per_day(df, lookup_gdf):
    """ convert flow in m3/s => mm/day in new columns, `colnames` = ID + '_perday'

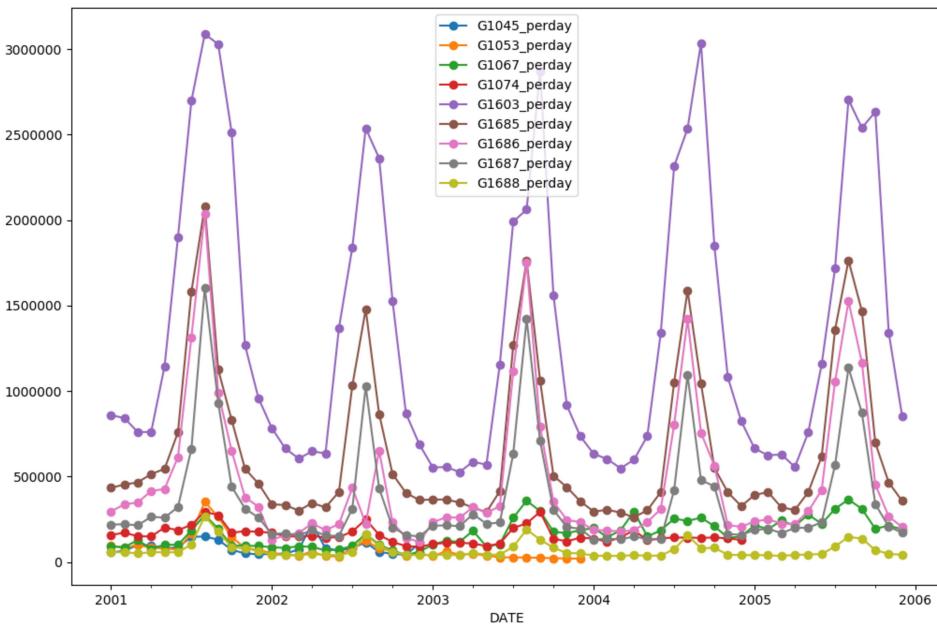
    value = runoff / size(m2) * 1000 (mm in m) * 86,400 (s in day)

    Steps:
    1) normalise per unit area
       runoff (m3) / m2
    2) Convert m => mm
       * 1000
    3) convert s => days
       * 86,400
    4)
    """
    for ID in lookup_gdf.ID:
        drainage_area = lookup_gdf.query(f'ID == "{ID}"').DrainArLDD.values[0]
        # TODO: what units is DrainArLDD in?
        # df[ID+'_norm'] = df[ID].apply(lambda runoff: ((runoff*1e9) / 86_400) / drainage_area )
        df[ID + '_perday'] = df[ID].apply(lambda runoff: ((runoff/(drainage_area)) * 86_400 * 1000) )

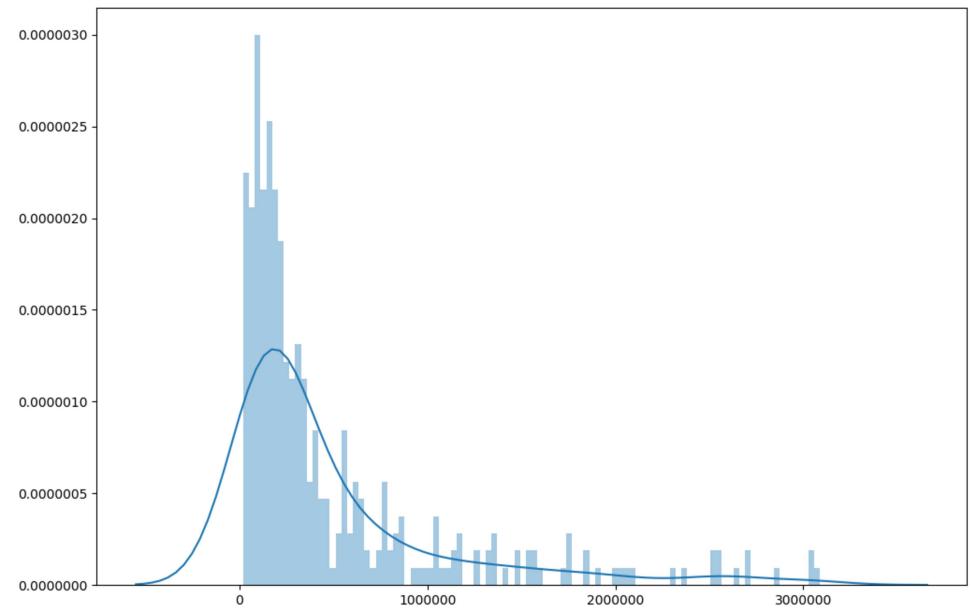
    return df
```

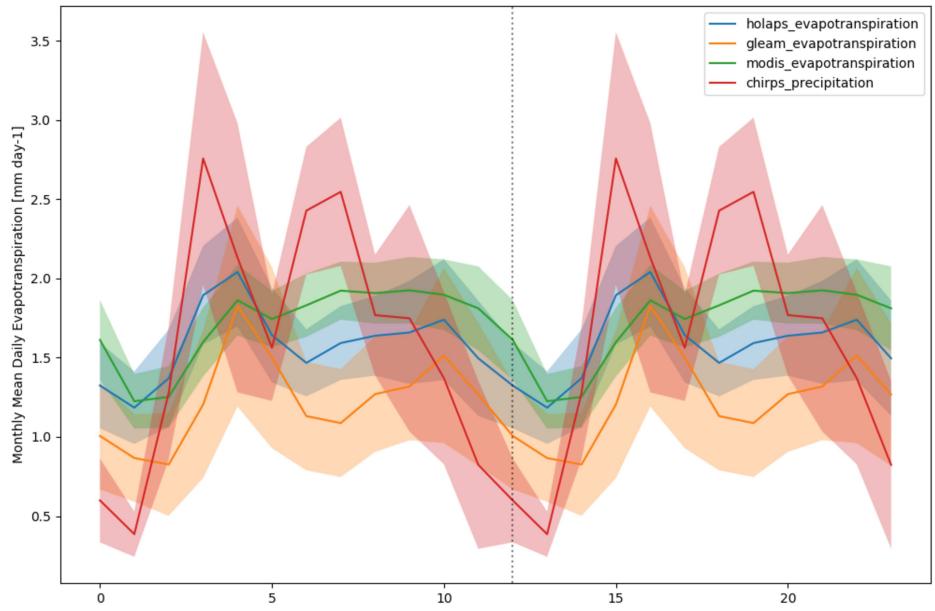


Monthly Mean Runoff Values [mm day⁻¹]
value = runoff / size(m2) * 1000 (mm in m) * 86,400 (s in day)

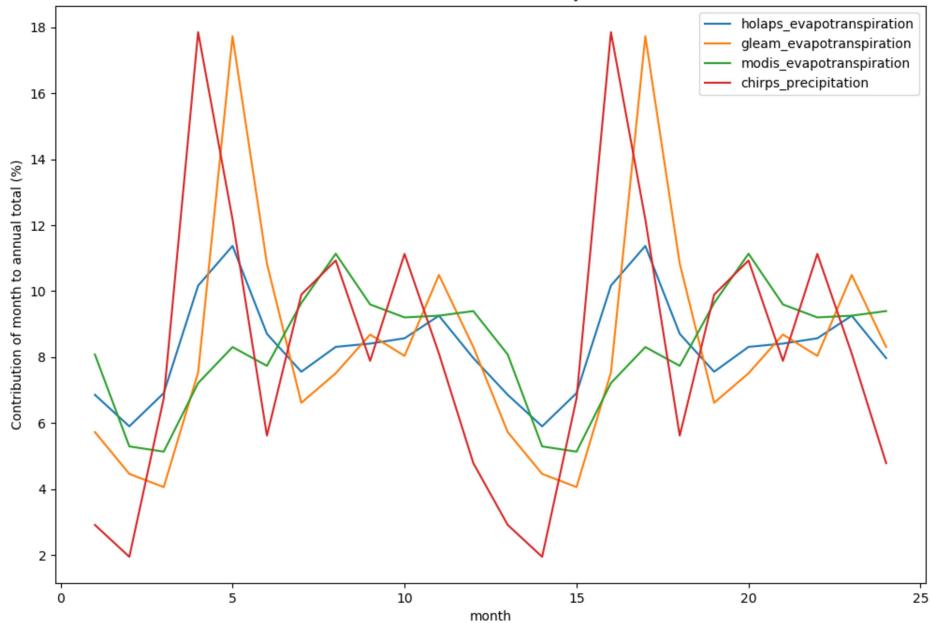
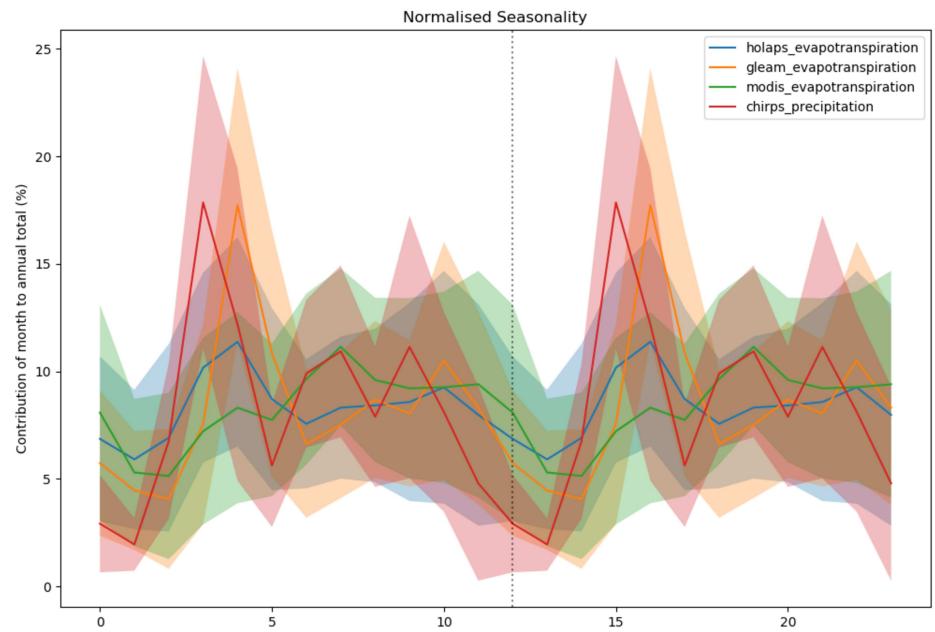


Monthly Mean Runoff Values [mm day⁻¹]
value = runoff / size(m2) * 1000 (mm in m) * 86,400 (s in day)

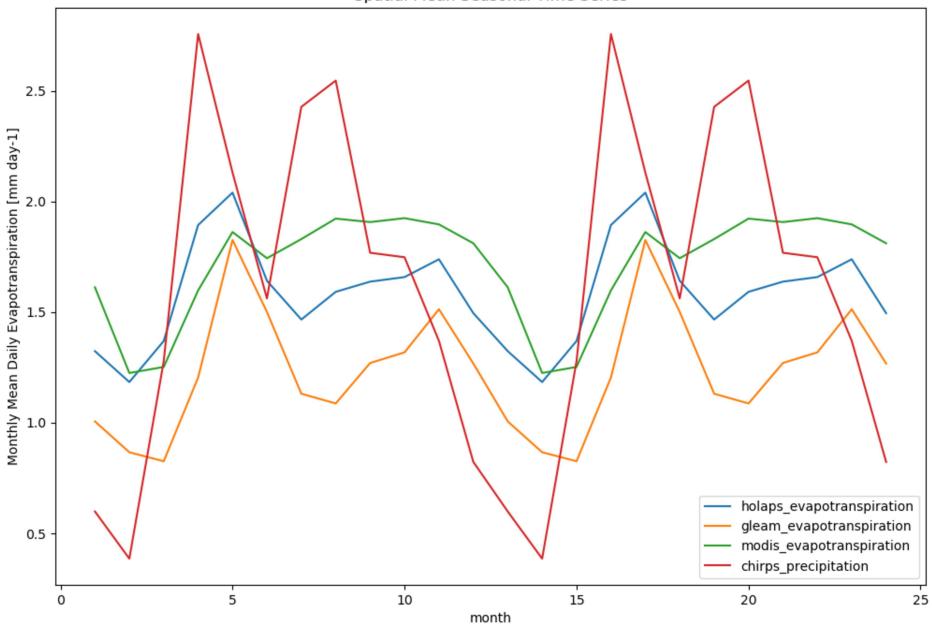


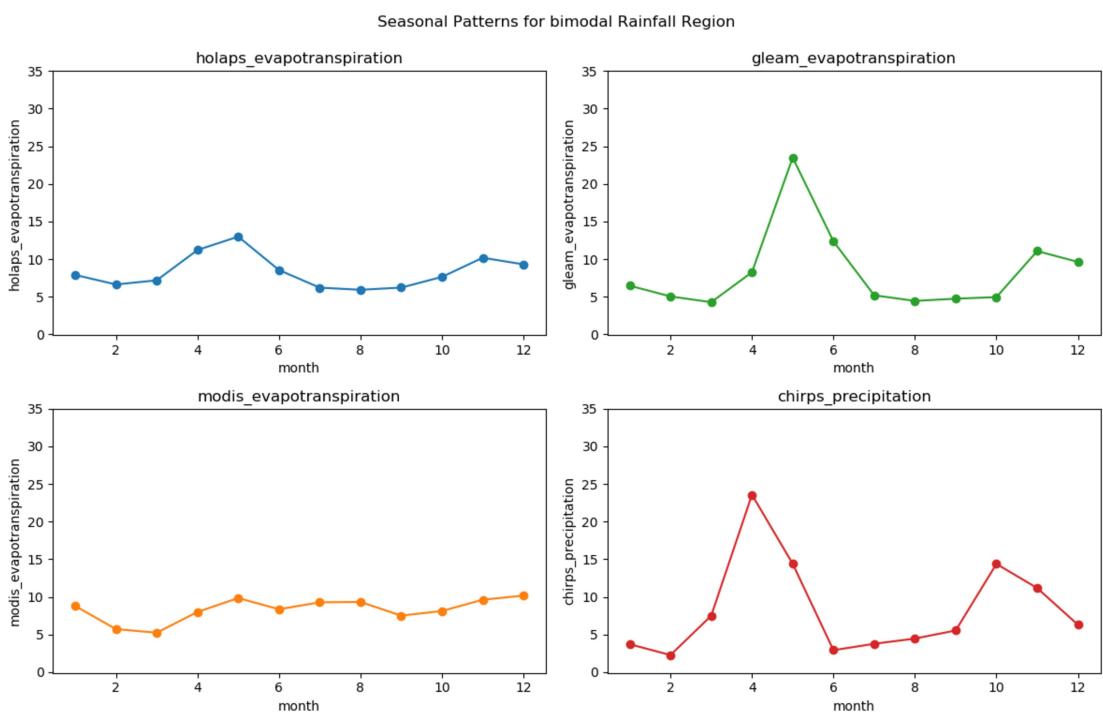
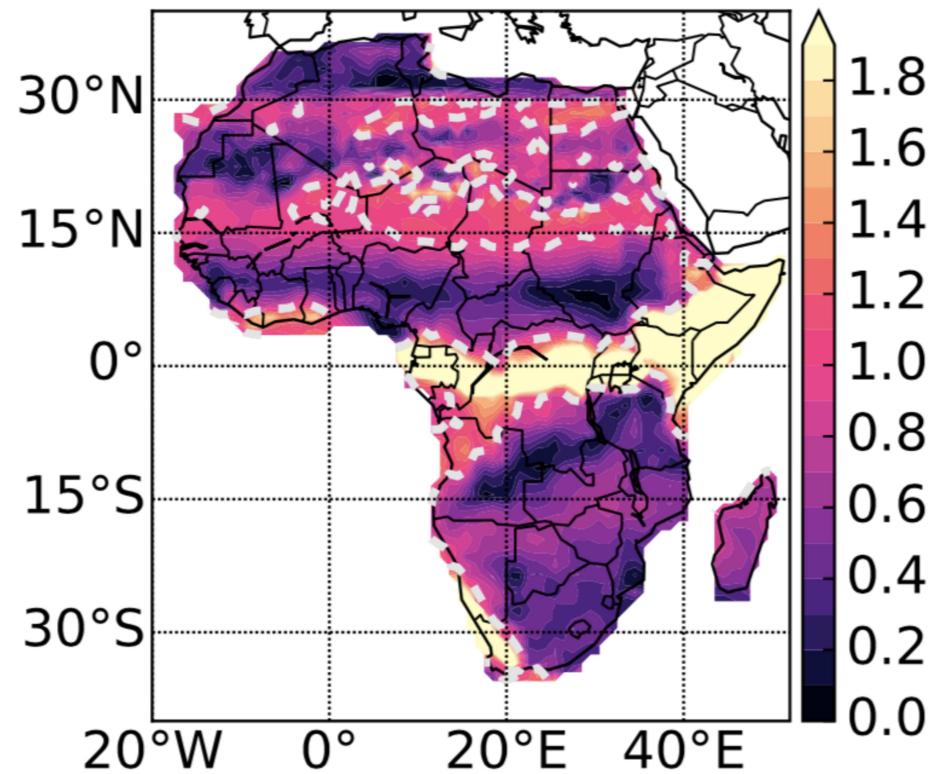
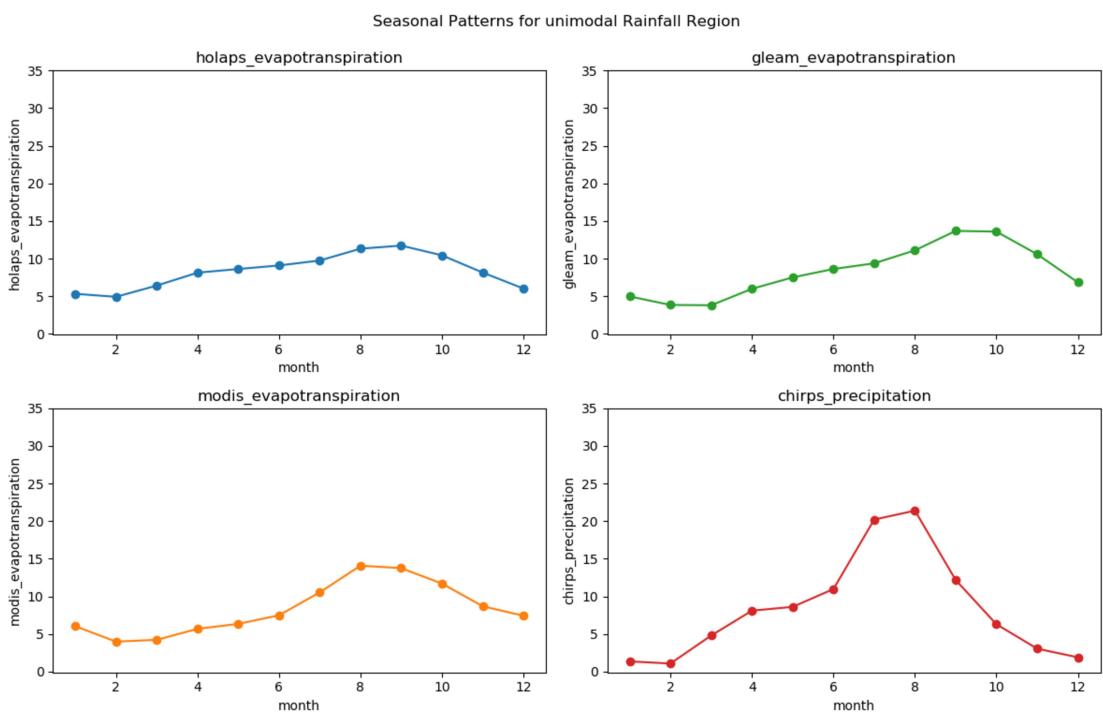
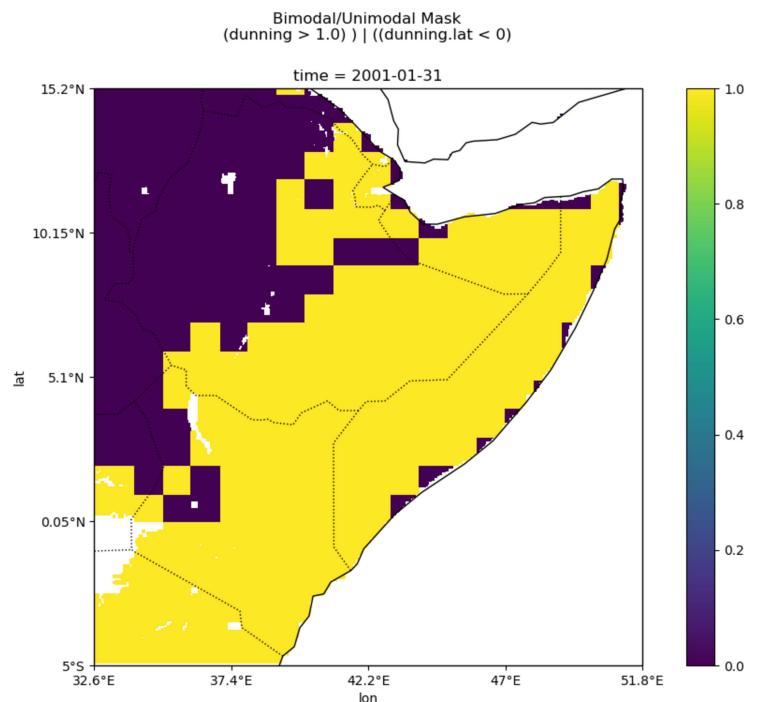
Monthly Mean Seasonality With ± 1 S.D variability

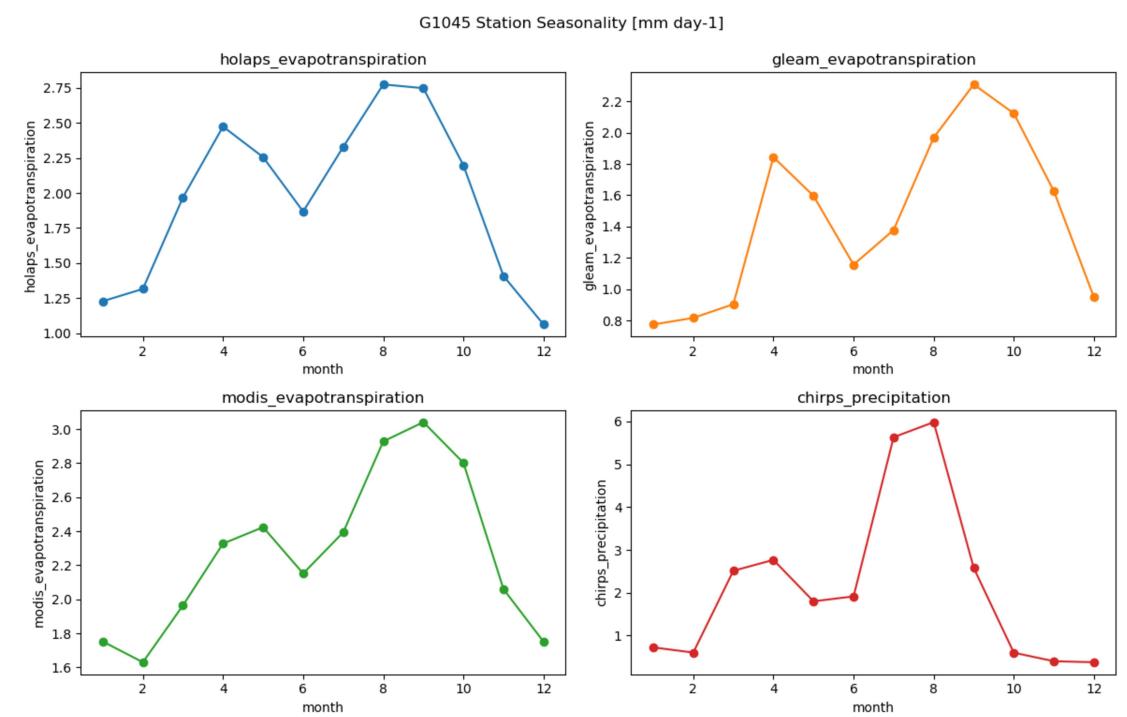
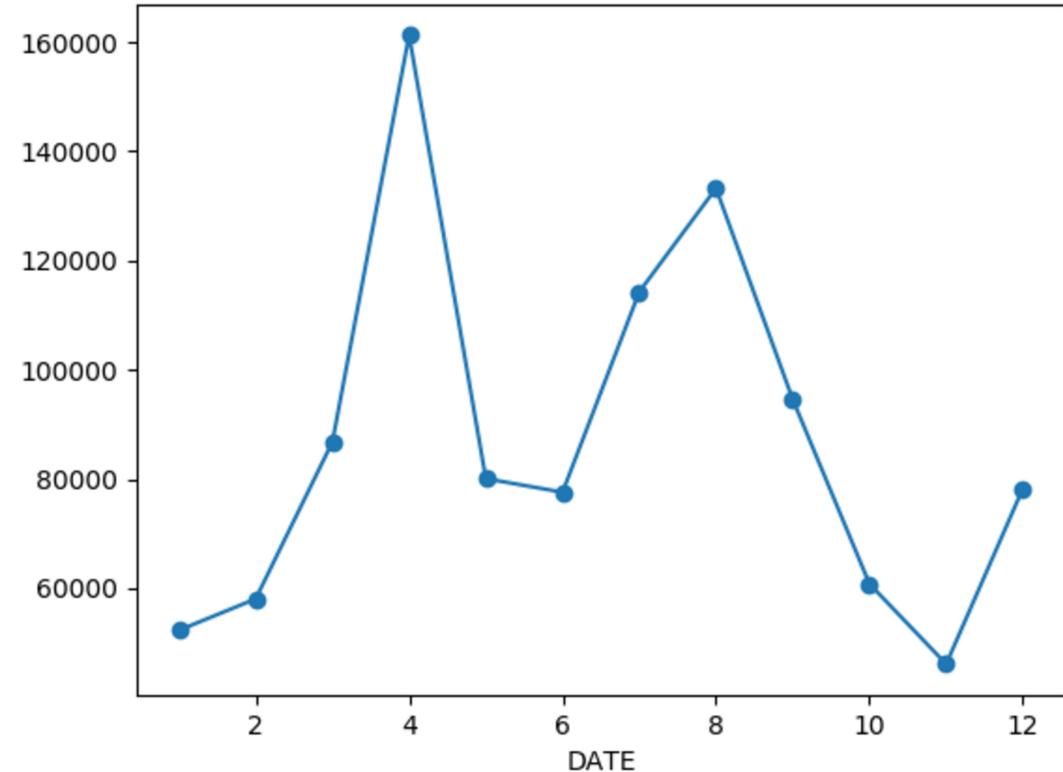
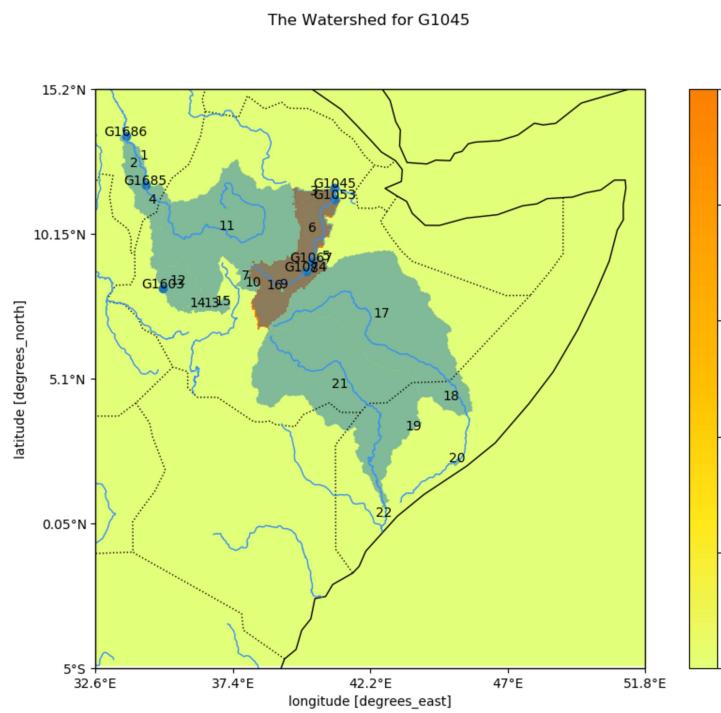
Normalised Seasonality

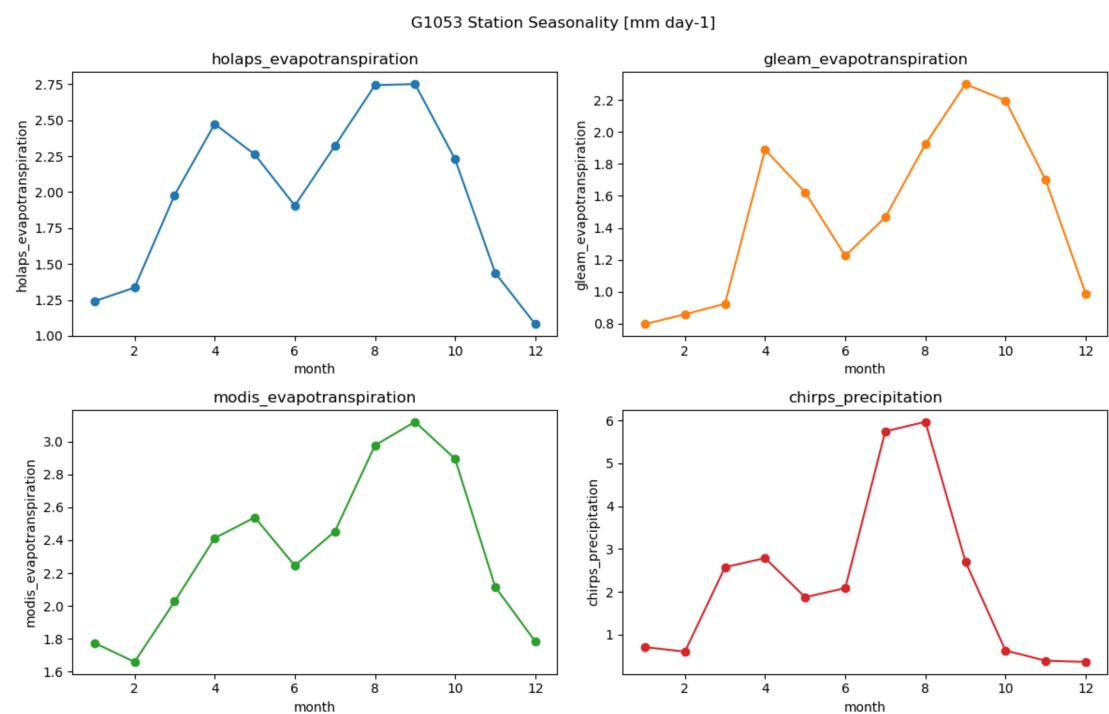
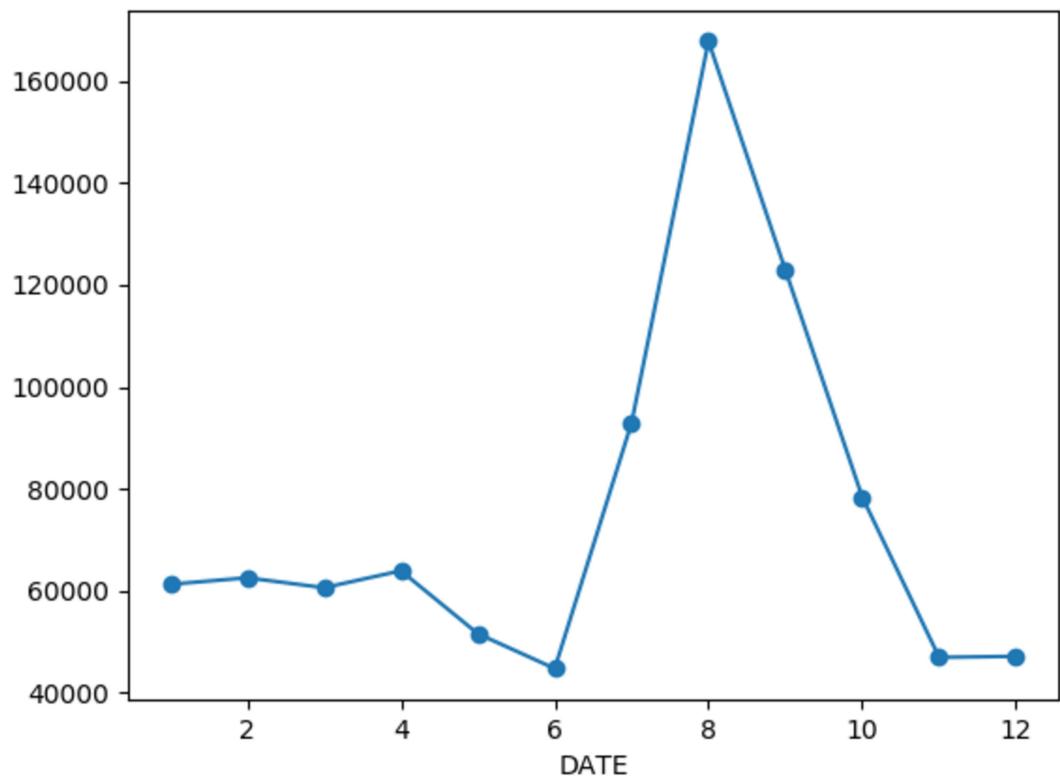
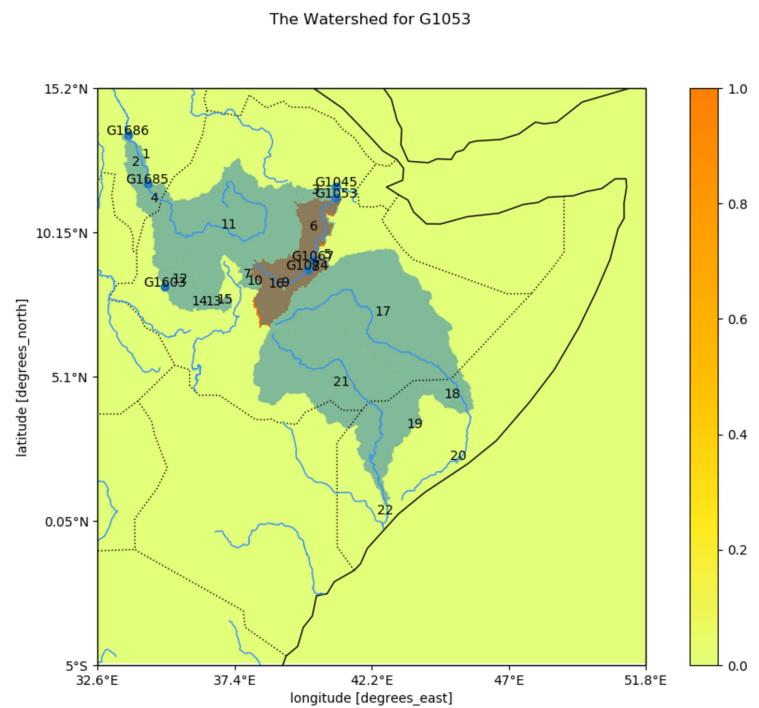
Monthly Mean Normalised Seasonality With ± 1 S.D variability

Spatial Mean Seasonal Time Series

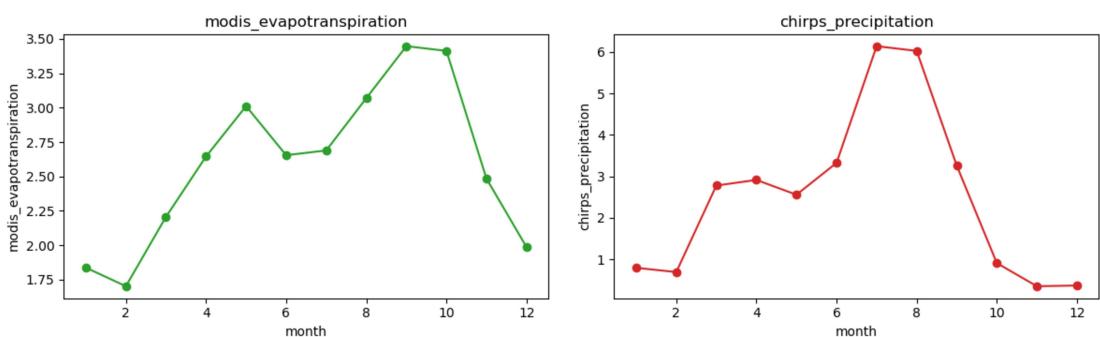
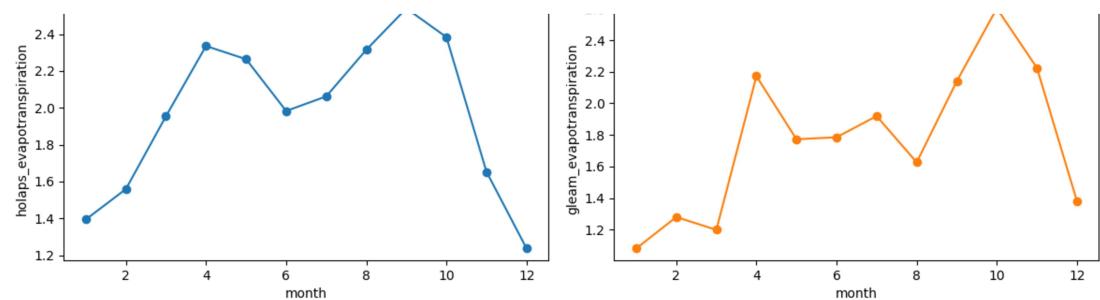
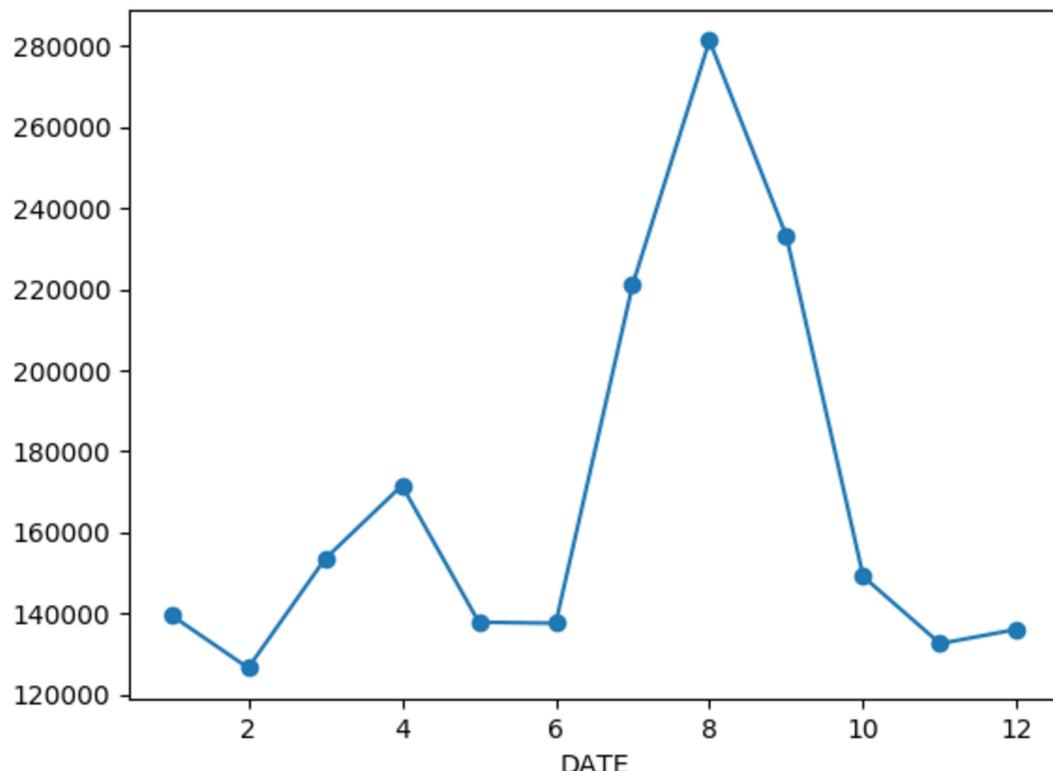
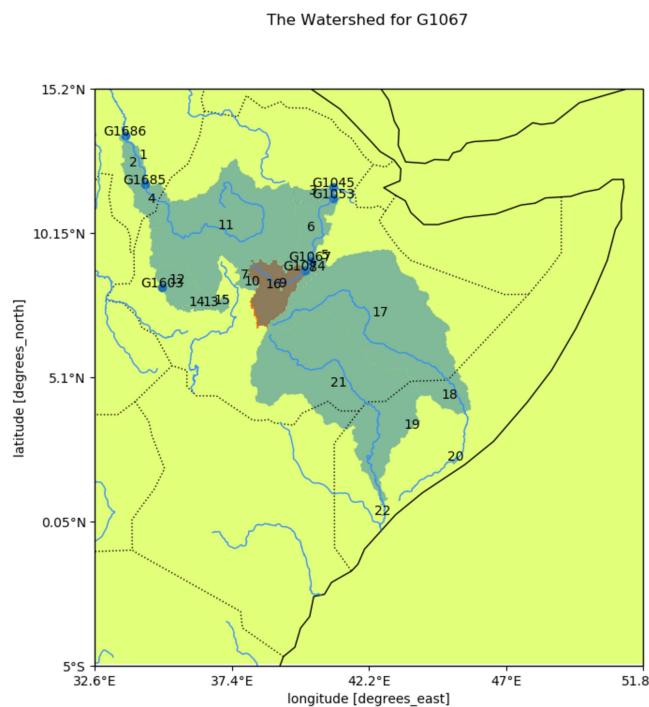




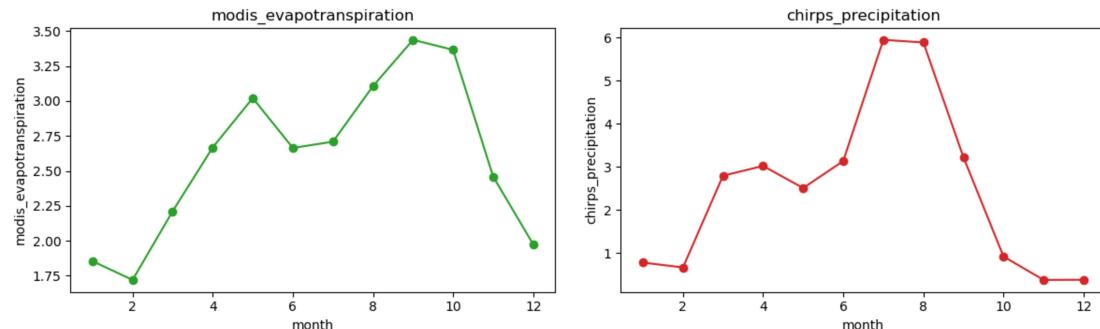
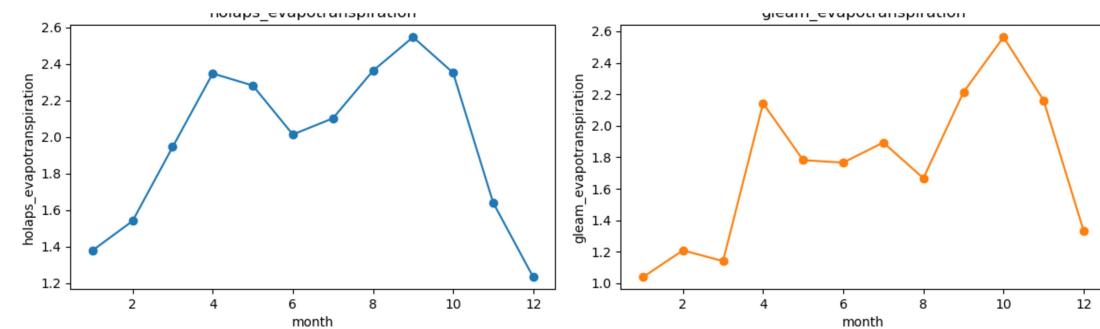
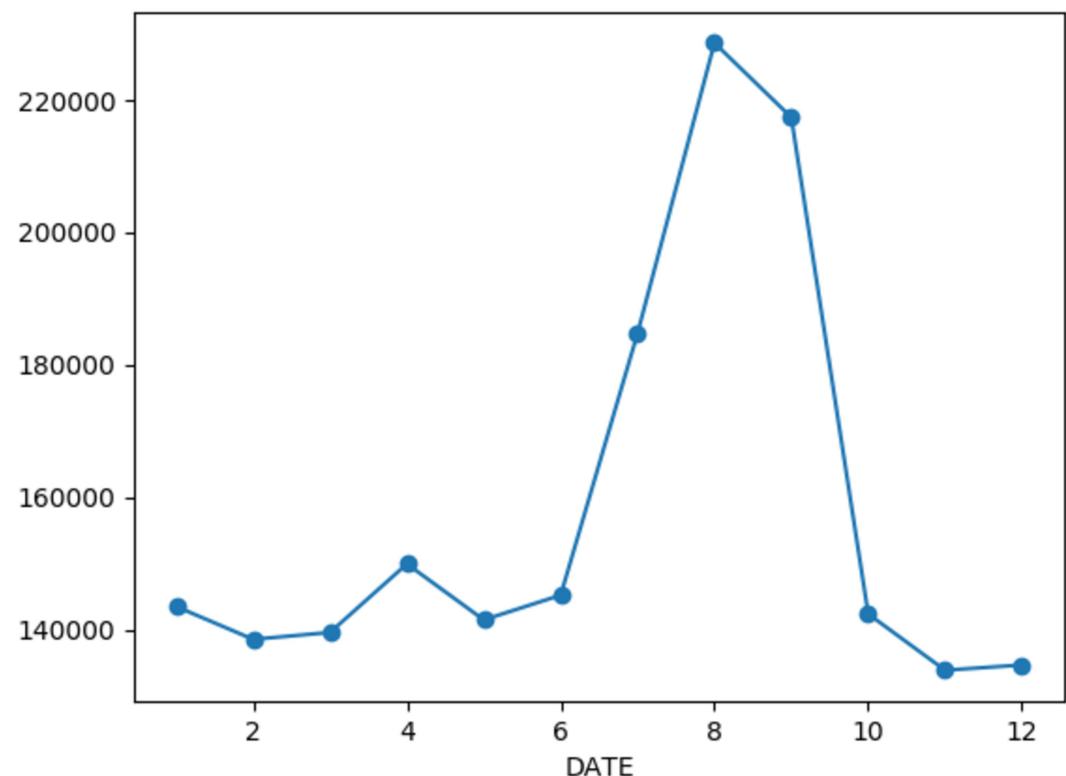
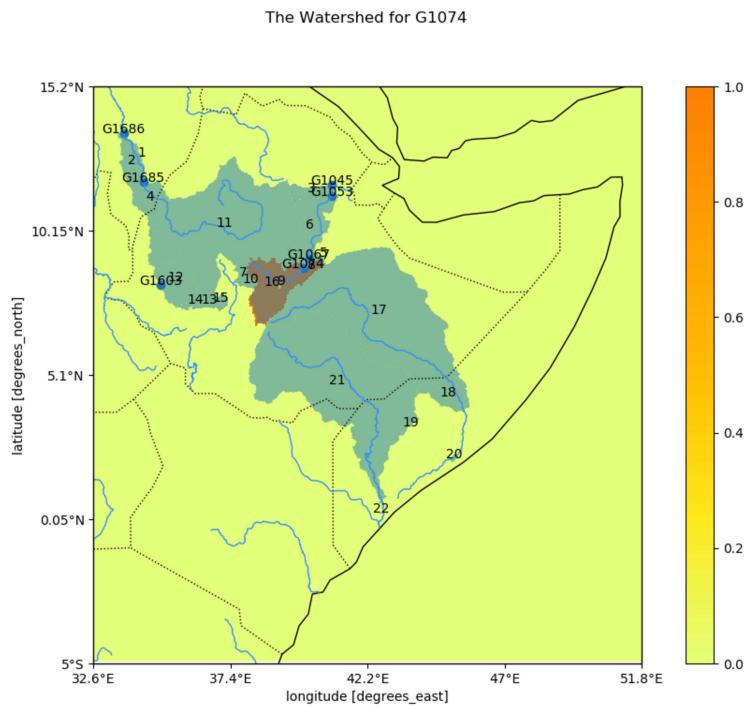


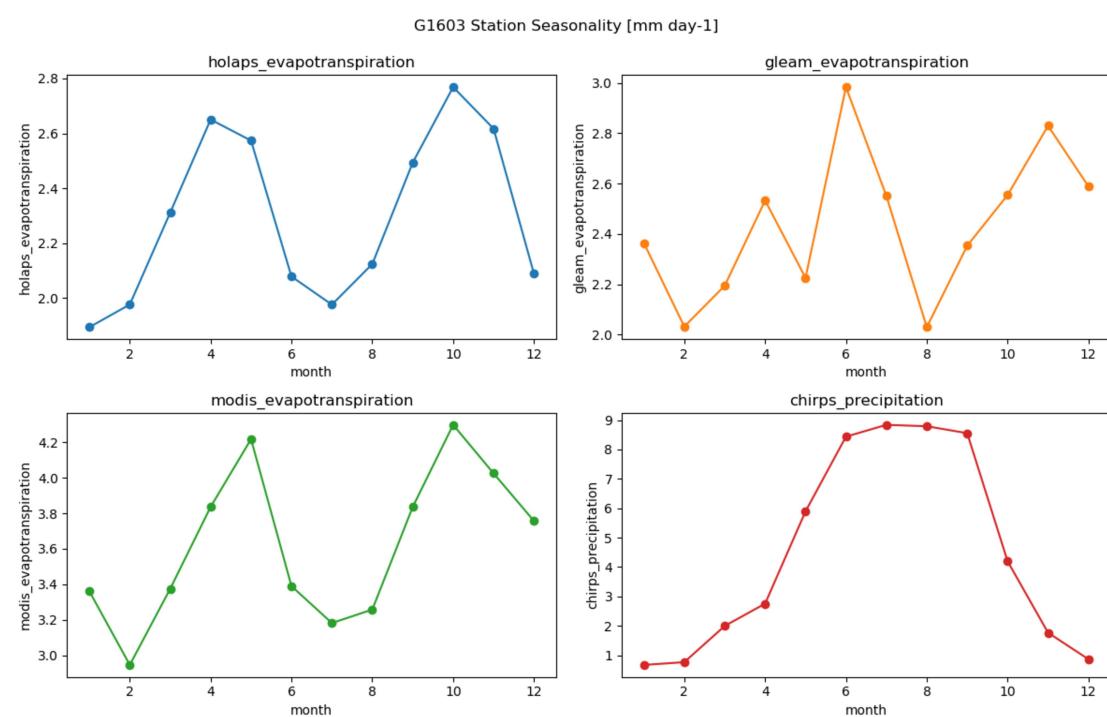
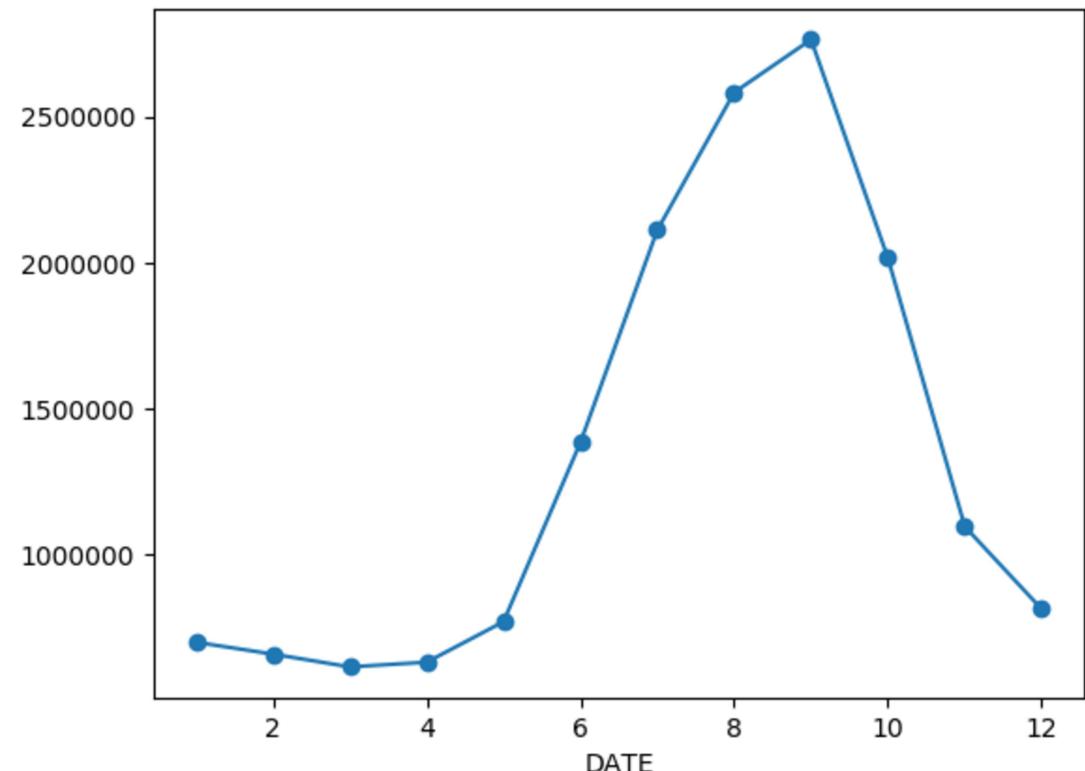
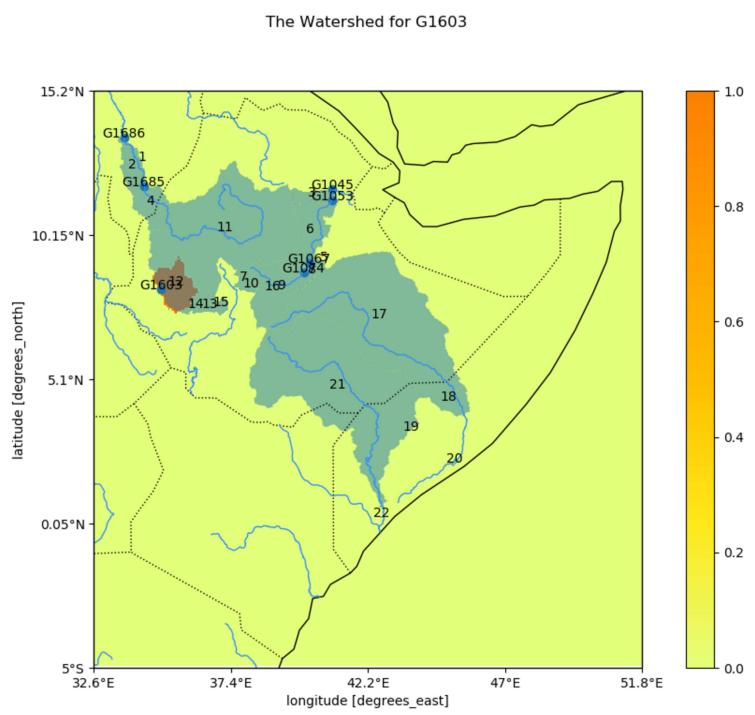


G1067 Station Seasonality [mm day-1]

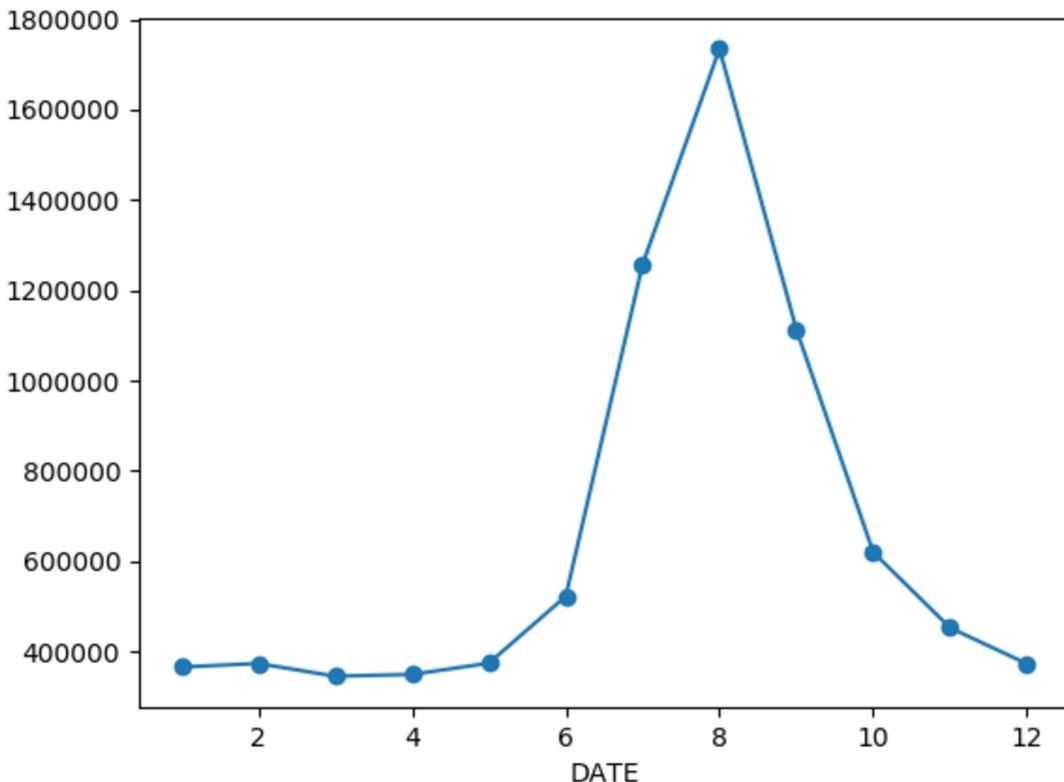
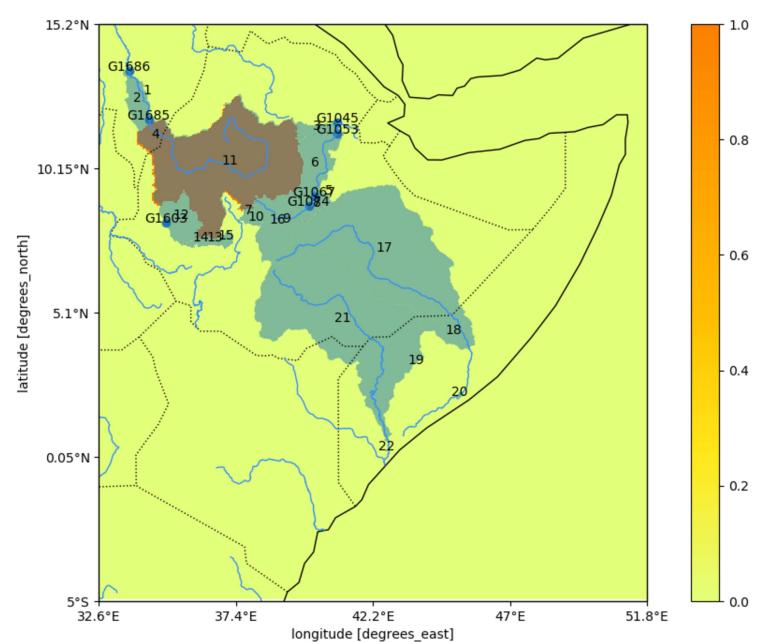


G1074 Station Seasonality [mm day-1]

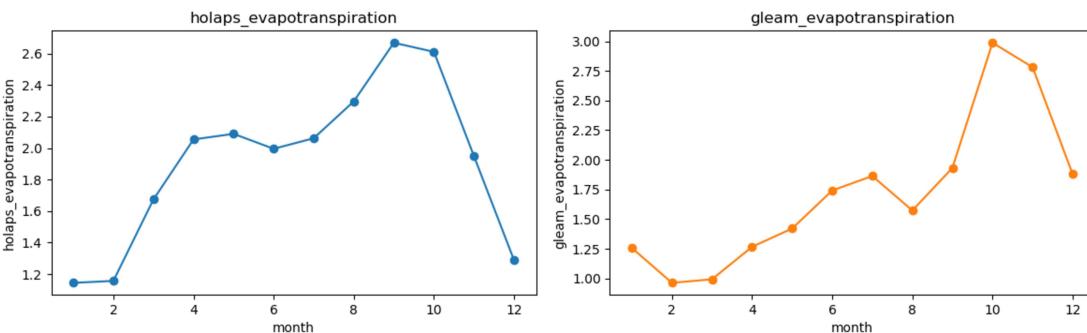




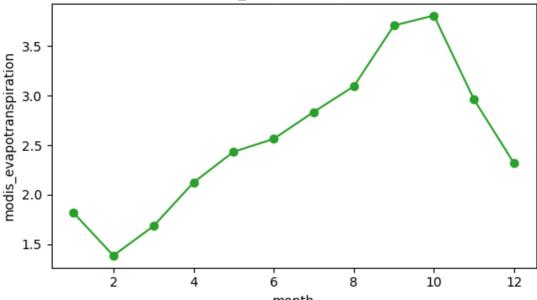
G1685 Station Seasonality [mm day-1]



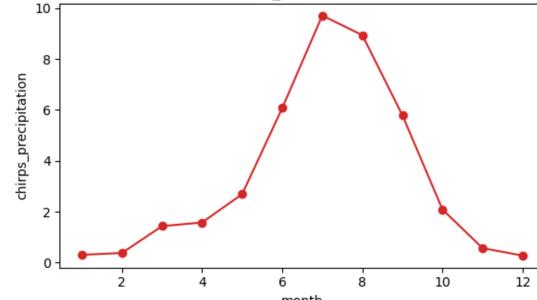
G1685 Station Seasonality [mm day-1]



modis_evapotranspiration



chirps_precipitation



G1686 Station Seasonality [mm day-1]

