Biology Paper.

CARBON DIOXIDE GLOBAL WARMING

Steam Week

NOVEMBER 21th

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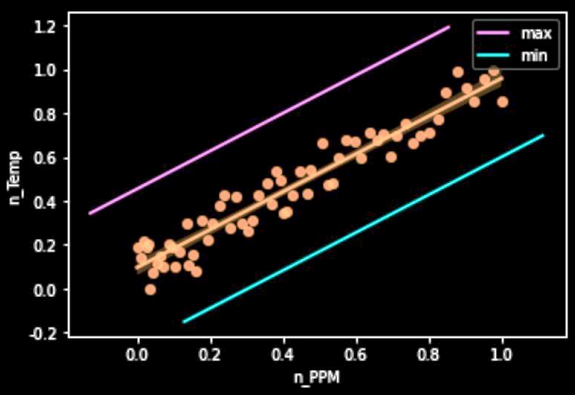
The **Prediction** and the **Factors**

The world's population has entered a period of rapid growth, which means more carbon dioxide emissions, but now governments are also beginning to enact environmental protection policies. In addition, natural factors such as volcanic eruptions and wildfires also affect global warming

We show future trends using the LSM model, the least squares method, and data from 1951 to 2021. We also plot the data for these two values on the plot and figure out that PPM has a significant effect on temperature.




```
np.polyfit(range(len(df_CO2_copy["PPM"])),df_CO2_copy["
PPM"],deg=2)
a,b,c =
np.polyfit(range(len(df_CO2_copy["PPM"])),df_CO2_copy["
PPM"],deg=2)
def pred(t):
    t=t-(min(df_CO2_copy["Year"]))
    return a*t**2+b*t+c
plt.plot(df_CO2_copy["Year"],df_CO2_copy["PPM"],label='
Actual values')
P =
np.arange(min(df_CO2_copy["Year"]),max(df_CO2_copy["Y
ear"])+1)
P_pred = np.arange(max(P),max(P)+40)
plt.plot(P,pred(P),label='Fitted values')
plt.plot(P_pred,pred(P_pred),linestyle='--',label='Prediction')
plt.title("fit_prediction")
plt.scatter(2050,pred(2050),label='2050(PPM496.8)')
plt.legend()
plt.show()
s=np.sqrt( ( (df_CO2_copy["PPM"][:]- pred(P)[:])
**2) .mean())
```

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