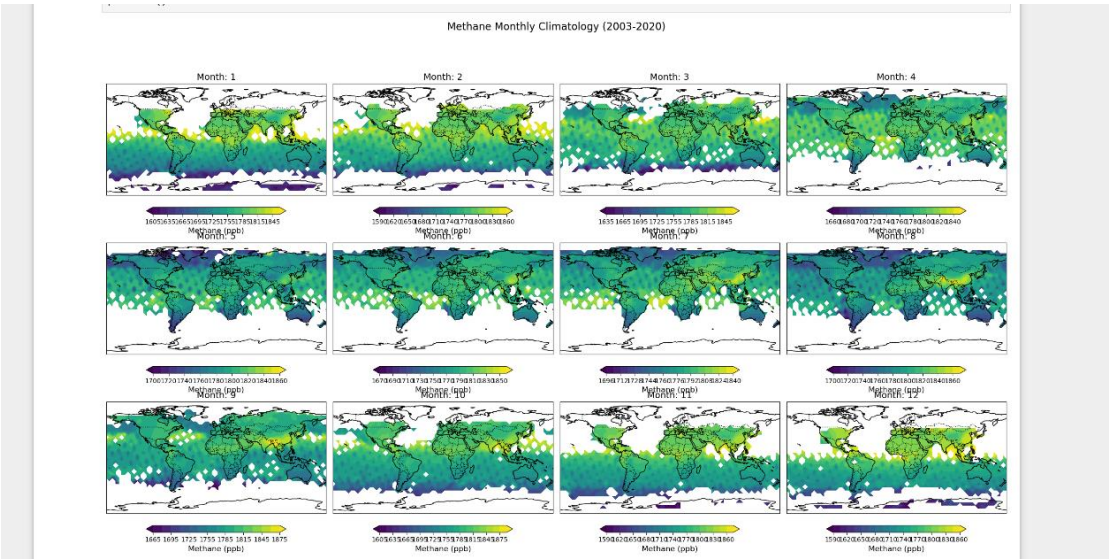
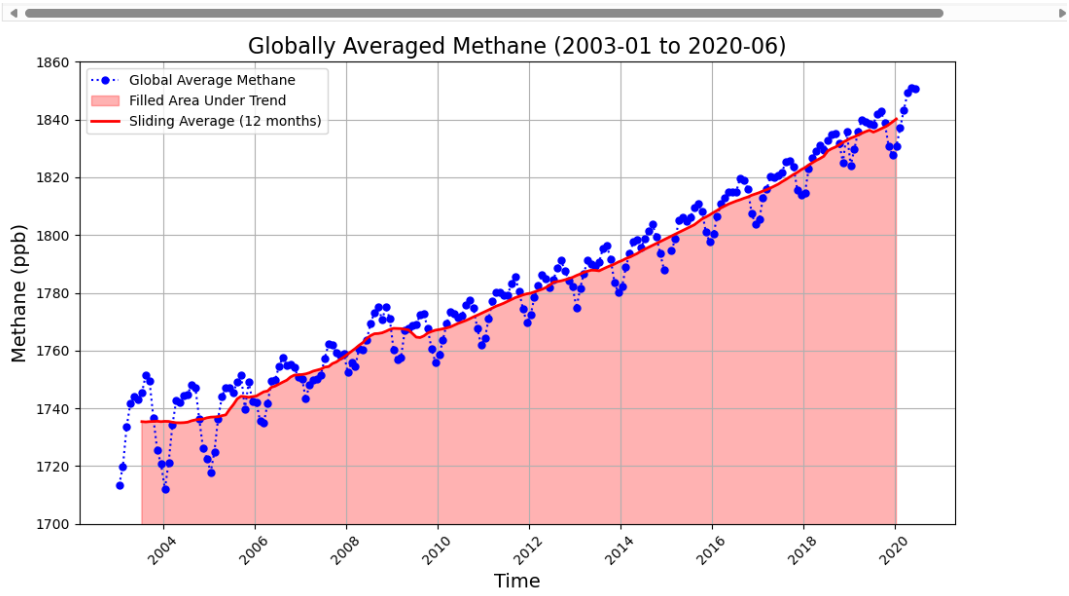
12432894 张晨

Task 1

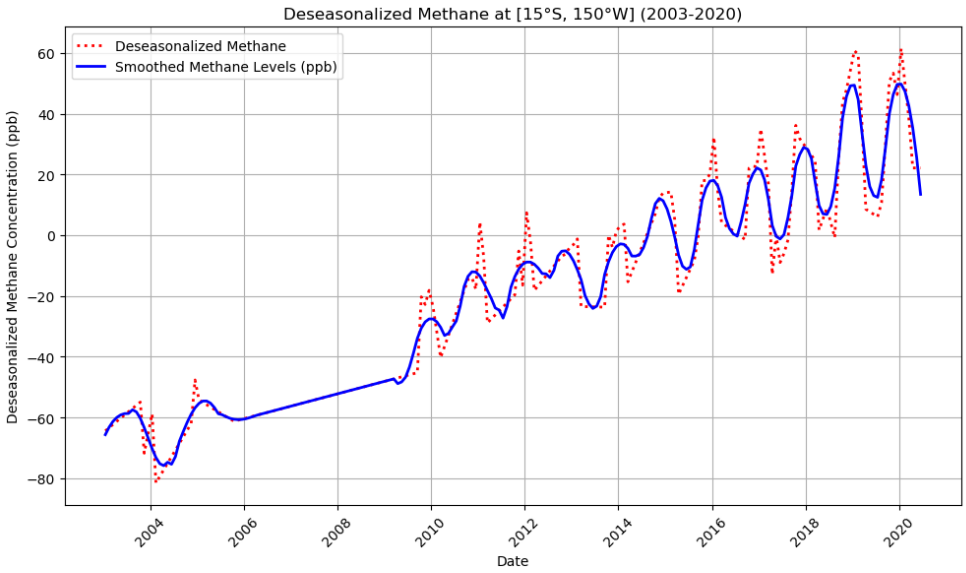
1.1



1.2 甲烷浓度呈现出季节性变化趋势，同时随着年份的增加浓度不断地升高。趋势线则显示出随着年份的增加浓度不断变大。



1.3 随着年份增大略微升高，整体上的偏差波动不大。


Deseasonalized Methane at [15°S, 150°W] (2003-2020)
Deseasonalized Methane
Smoothed Methane Levels (ppb)
Deseasonalized Methane Concentration (ppb)
Date
60
40
20
0
−20
−40
−60
−80
2004
2006
2008
2010
2012
2014
2016
2018
2020

Task 2

2.1

```
Anomalies (SST - Monthly Climatology):
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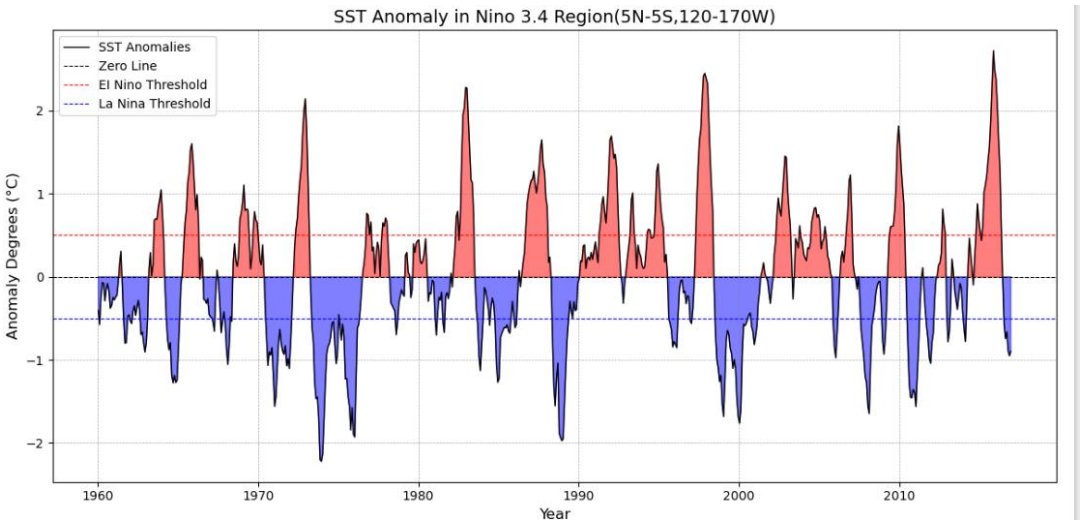
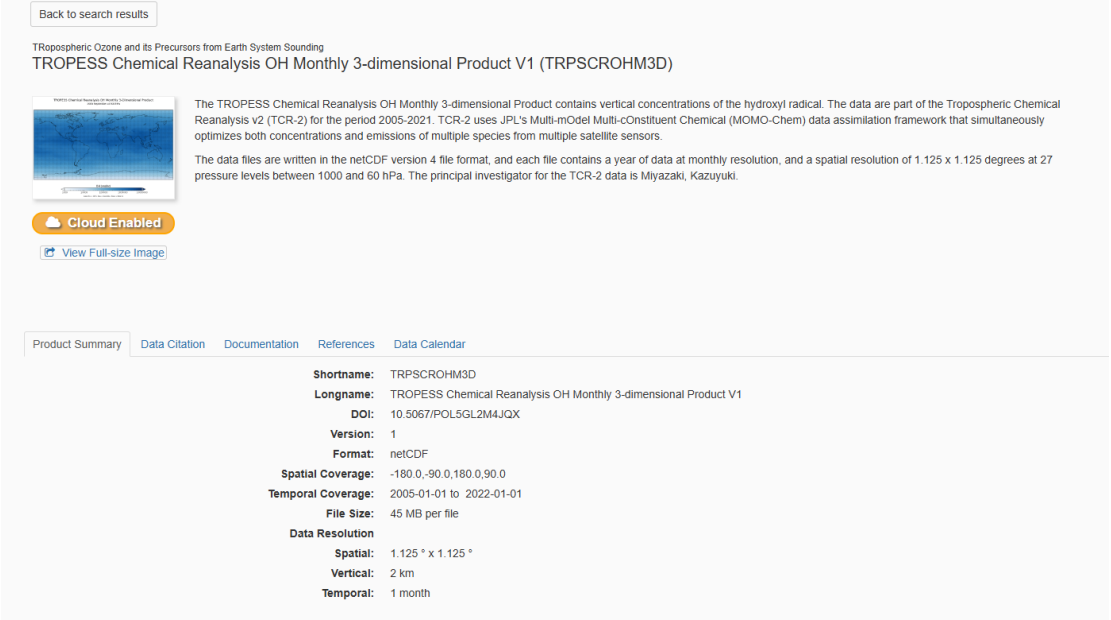
2.2

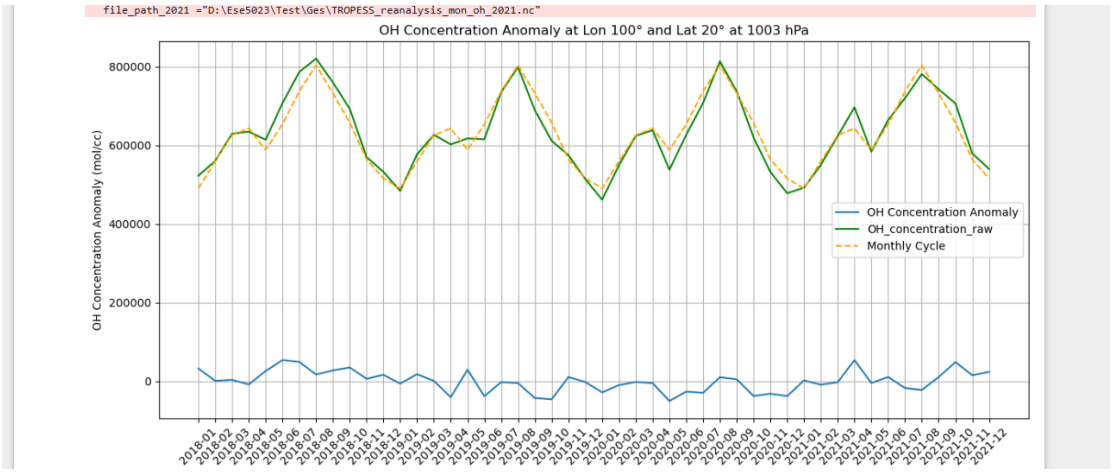


Task3

数据来源：TROPESS Chemical Reanalysis Surface Total NOx emissions Monthly 2-dimensional Product V1 (TRPSCRENOXTM2D)（2018-2021）



3.1 时间序列图



3.2

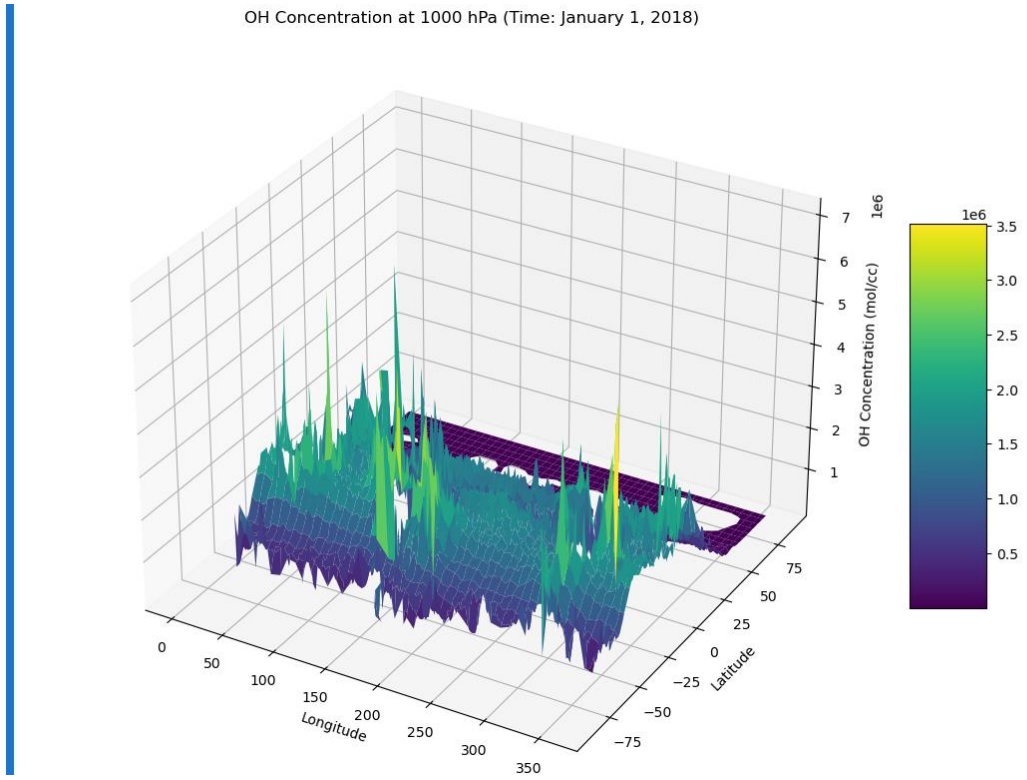


Fig.1: Distribution of OH concentration at a specific time and 1000 hPa pressure level across different latitudes and longitudes

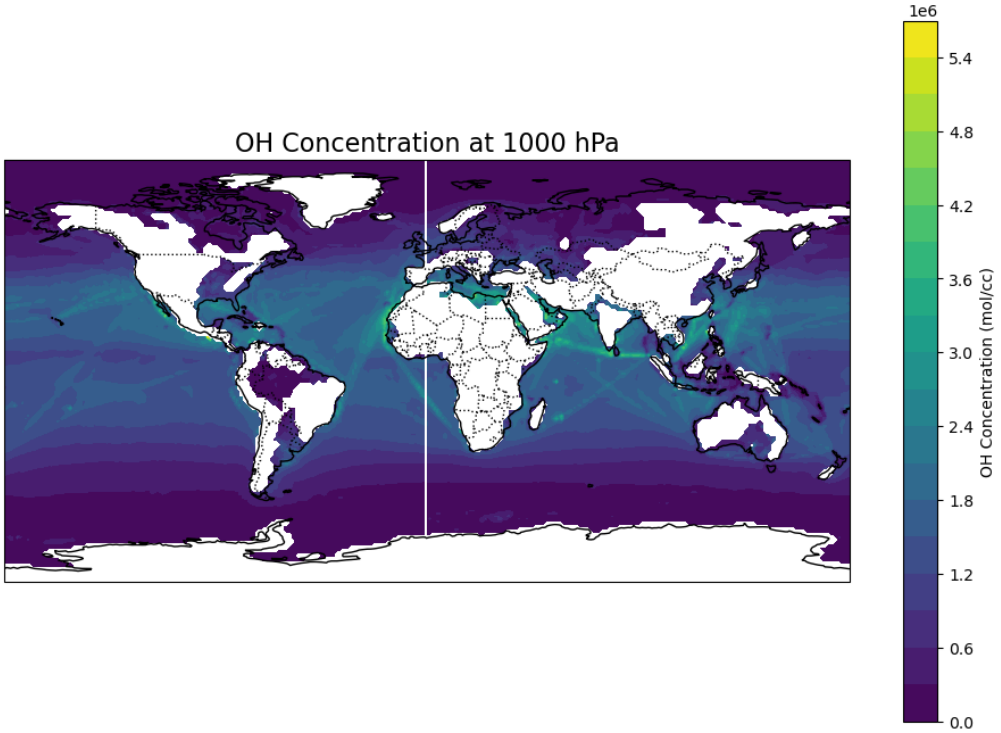


Fig.2: Distribution of average OH concentration at 1000 hPa over four years

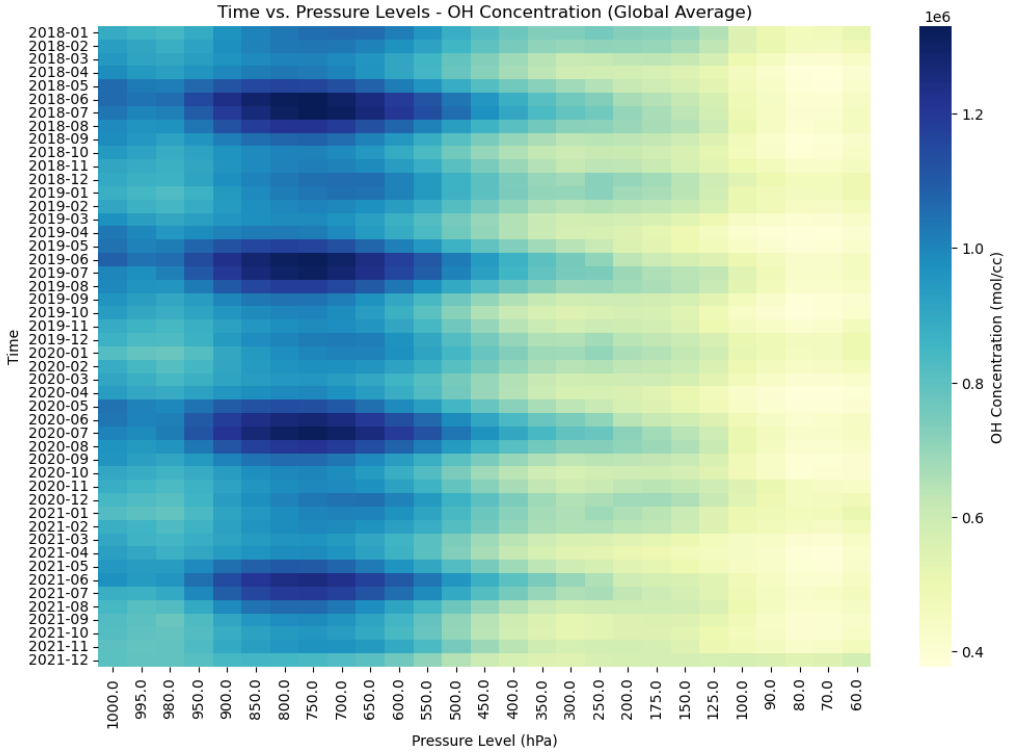


Fig.3: Time vs. pressure levels of OH concentration (global average without considering projection area)

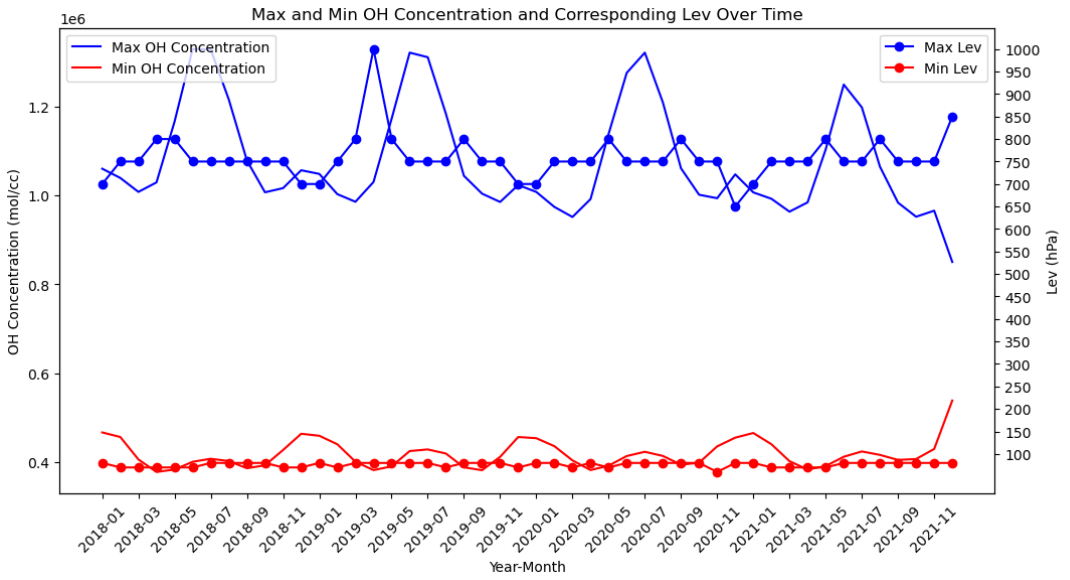


Fig.4: Distribution of maximum and minimum OH concentrations, and their corresponding lev over time for different months and pressure levels

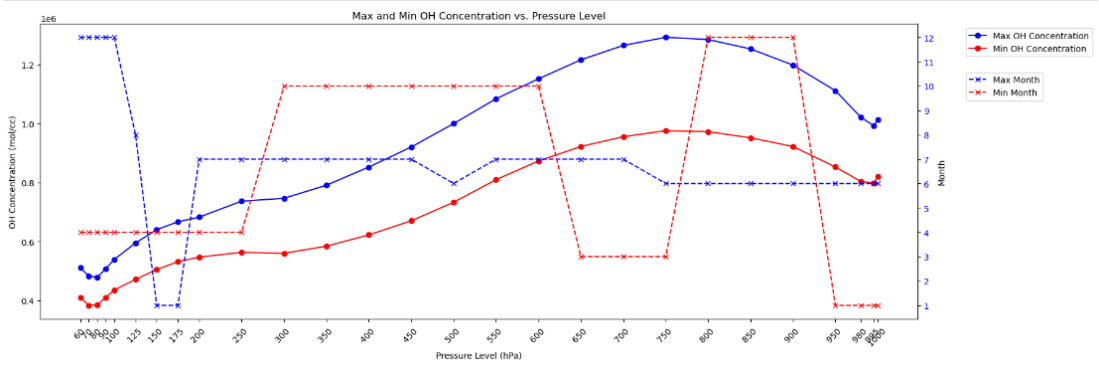


Fig.5: Distribution of maximum and minimum OH concentrations with pressure level (lev) across different months