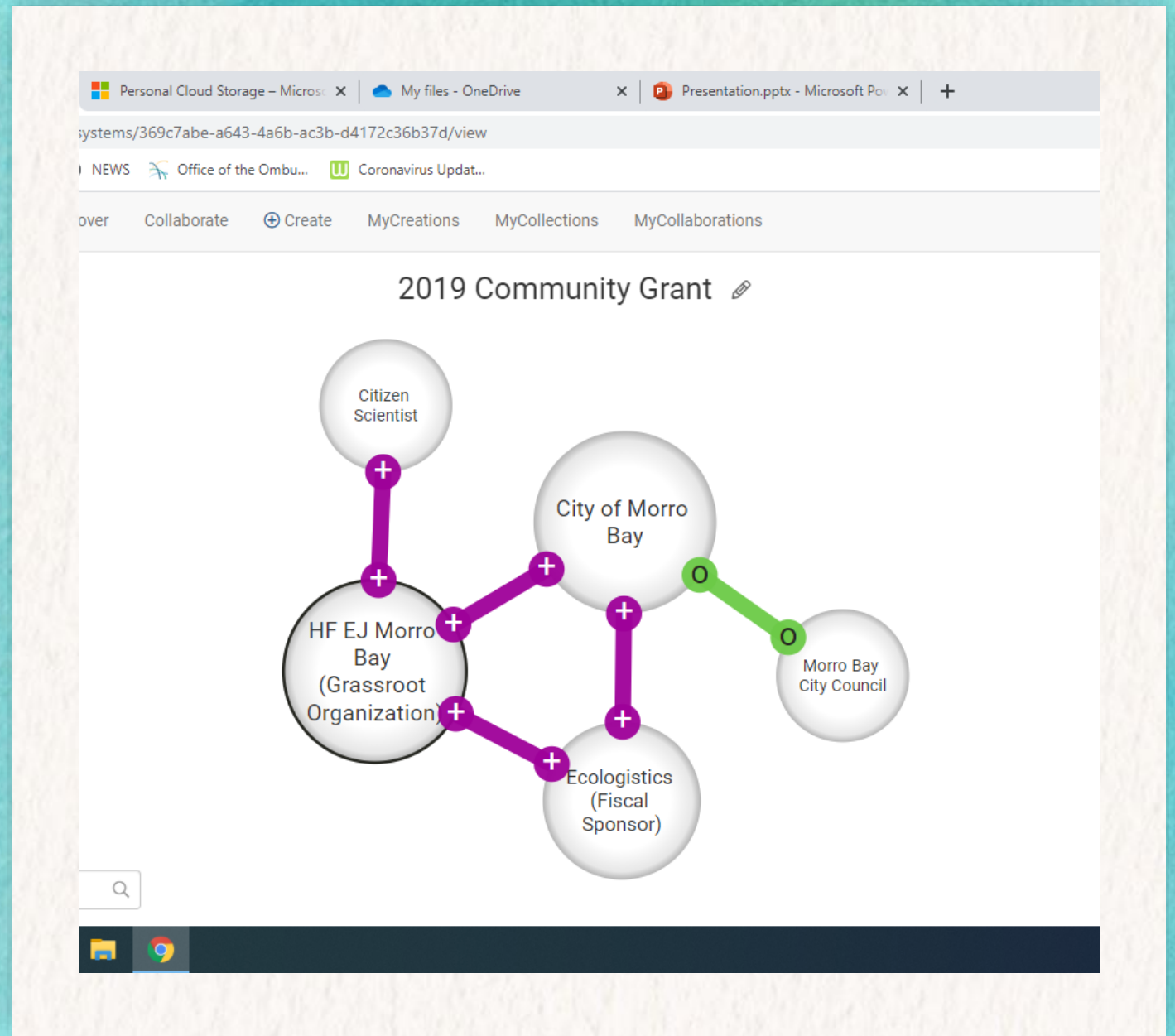


Introduction

- Thank you for the Grant
- CO2 Air Monitoring
- Summary/Findings



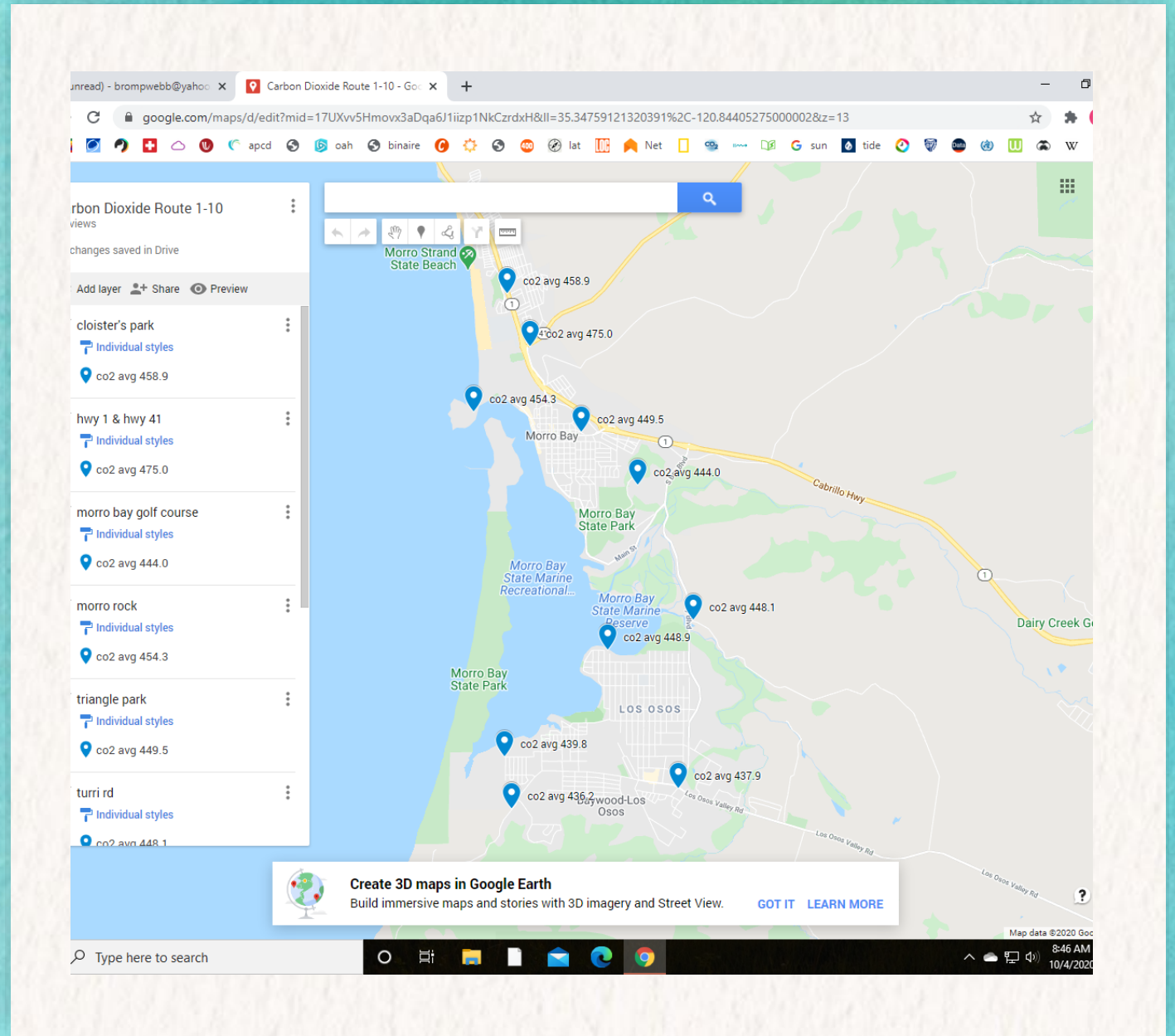
Morro Bay Estuary Air Monitoring (MBEAM)

Pilot Project

May 11, 2021

MBEAM Locations

- Methodology
- Interpretation
- Route reversed mid-point



CO2 matrix for the year

- Bi-monthly readings for 1 year
- Results per date & location
- Overall CO2 avg of 456.3 ppm
- Safe level of CO2 is 350 ppm

20 x +

'Users/User1/OneDrive/Pictures%20and%20reports/MBEAM%20Data%20Report/Field_Data_Notes_Averages_2020-21....

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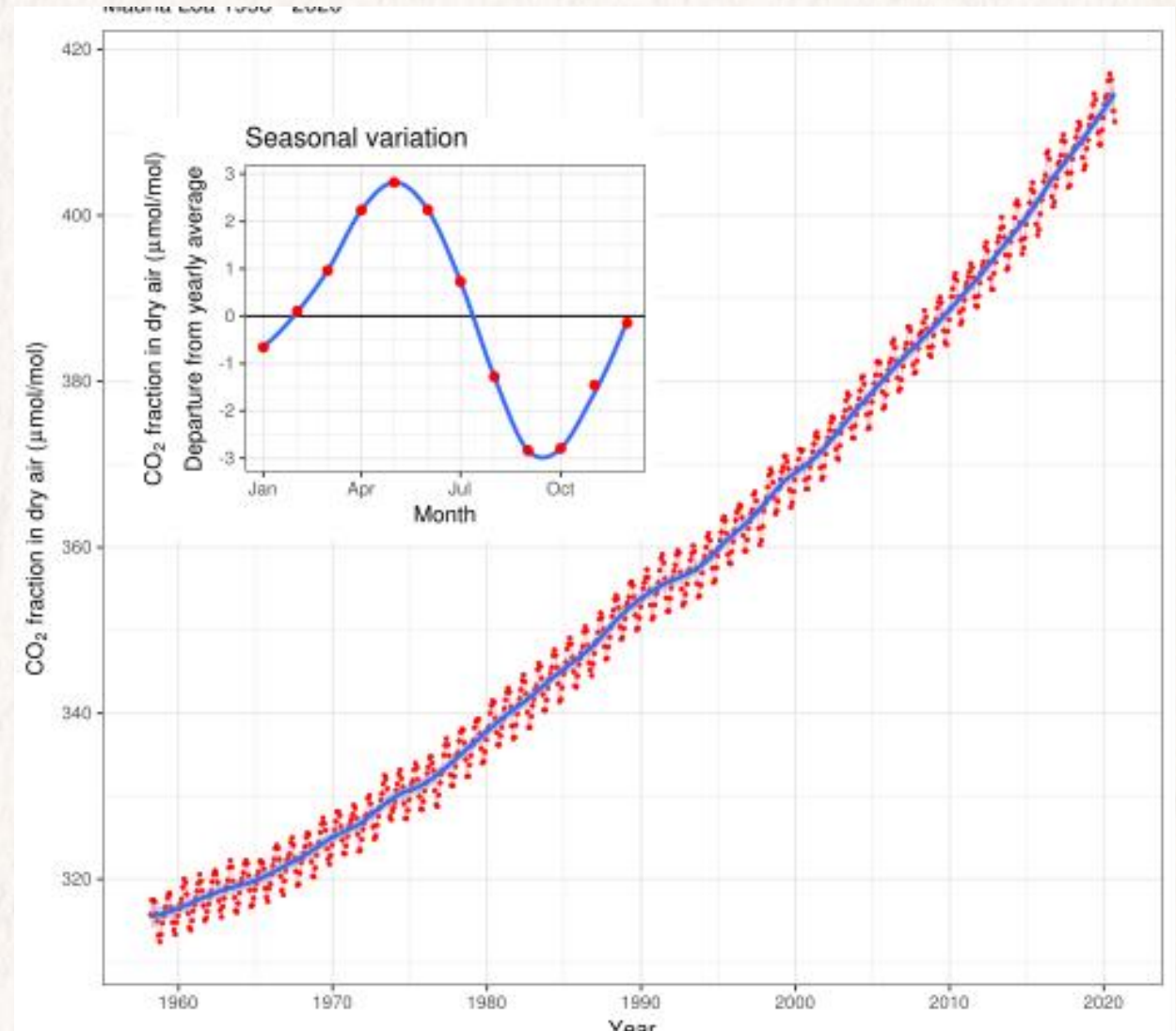
— + ↺ ↻ | Page view | A Read aloud | Draw ▾ Highlight ▾

	Location #1	Location #2	Location #3	Location #4	Location #5	Location #6	Location #7	Location #8	Location #9	Location #10	day avg.
03.02.20	439	460	430	427	439	425	417	417	422	409	428.5
03.07.20	442	453	422	436	433	-	-	-	-	-	437.2
03.14.20	-	-	-	-	-	444	447	455	453	444	448.6
03.28.20	450	444	444	444	432	444	436	431	425	431	438.1
04.10.20	469	480	450	-	-	-	-	-	-	-	466.3
04.13.20	-	-	-	460	458	-	-	-	-	-	459.0
04.18.20	-	-	-	-	-	458	458	458	440	440	450.8
04.25.20	466	472	431	447	460	444	439	444	444	439	448.6
05.09.20	444	466	438	439	458	433	444	444	433	435	443.4
05.24.20	464	480	458	450	455	444	444	444	435	444	451.8
06.06.20	466	475	444	428	444	425	444	420	428	438	441.2
06.20.20	458	466	450	460	458	447	444	442	439	436	450.0
07.04.20	464	472	439	436	450	444	470	440	433	439	448.7
07.18.20	439	464	450	465	453	447	433	428	420	433	443.2
08.01.20	458	483	447	450	458	458	458	439	444	439	453.4
08.15.20	470	483	444	447	477	450	433	444	428	439	451.5
08.29.20	466	477	428	439	458	439	440	433	420	433	443.3
09.12.20	475	491	464	472	472	488	486	472	472	520	481.2
09.26.20	450	481	453	458	475	472	458	470	464	470	465.1
10.10.20	460	483	458	458	444	464	466	455	483	483	465.4
10.24.20	450	461	444	431	439	458	472	455	477	543	463.0
11.07.20	444	450	447	444	442	458	458	447	453	458	450.1
11.21.20	447	458	444	455	458	453	469	458	453	483	457.8
12.05.20	470	477	455	468	472	458	469	477	470	500	471.6
12.19.20	461	439	458	450	453	458	477	469	464	483	461.2
01.02.21	475	483	461	475	472	468	488	469	502	516	480.9
01.16.21	453	453	433	455	464	453	472	469	477	480	460.9
01.30.21	468	496	472	475	477	488	483	477	480	502	481.8
02.13.21	469	494	466	466	466	466	469	466	466	480	470.8
02.27.21	475	491	455	472	472	472	483	469	472	483	474.40
location avg.	459.0	471.6	447.6	452.1	457.0	454.0	457.7	451.6	451.7	463.0	456.3

File Chrome

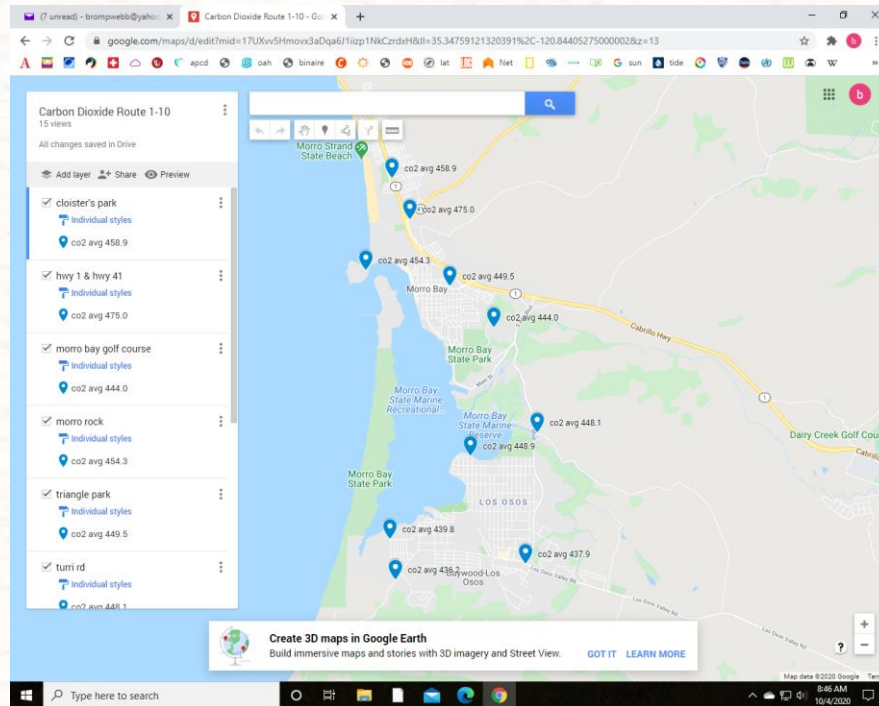
Keeling's Curve

- Earth's CO₂ avg 417 ppm
- Seasonal variation
- Data consistent

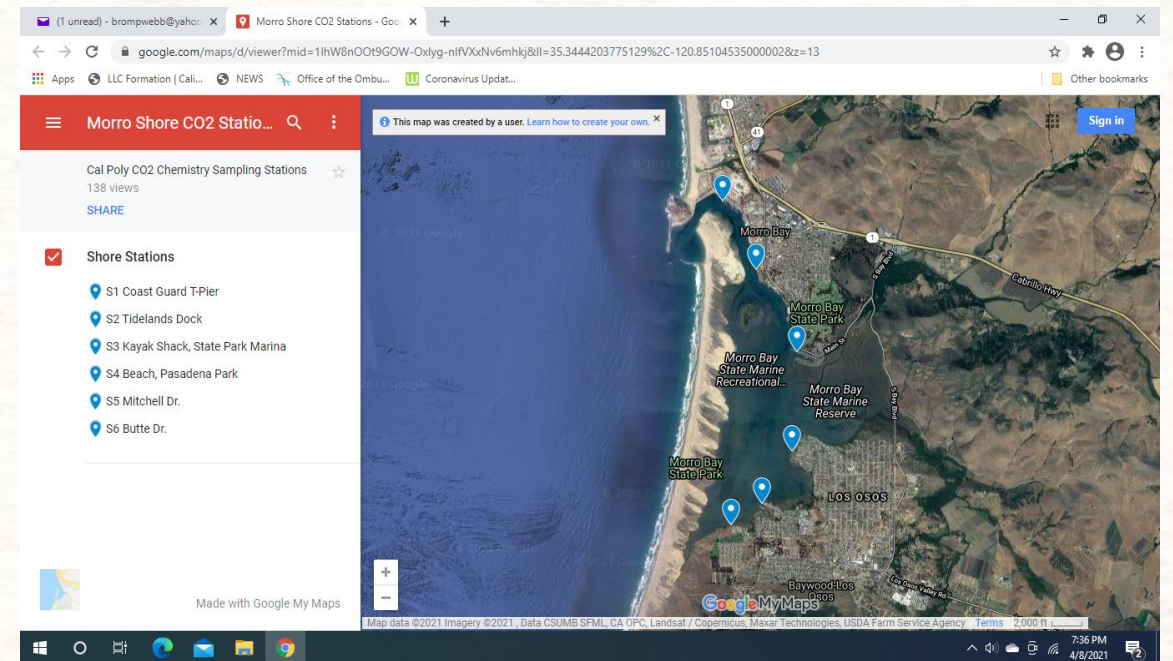


Collaboration w/Cal Poly Ocean Acidification Crew

MBEAM Locations 1-10

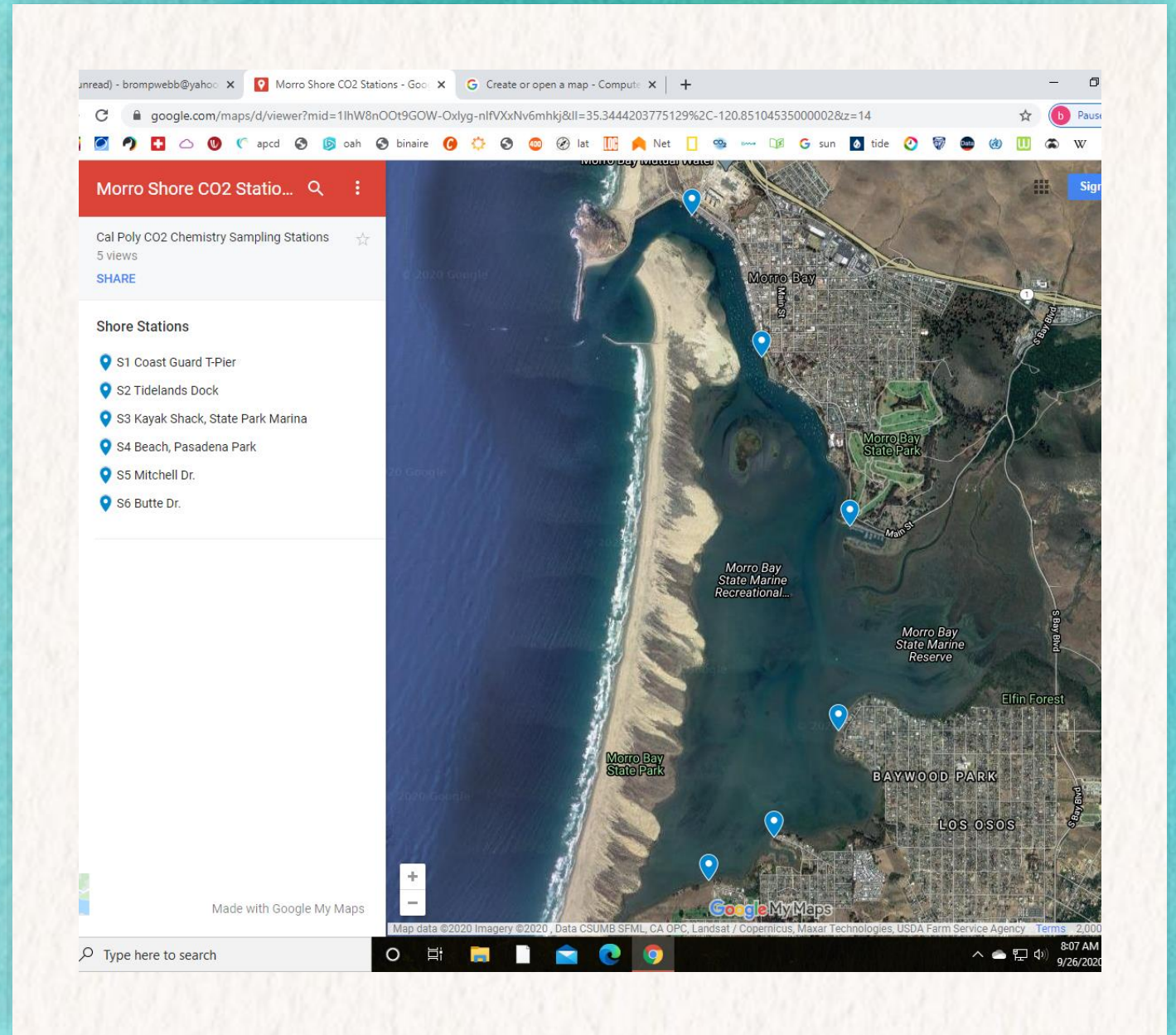


Cal Poly OA Locations S1-S6



Cal Poly OA Locations S1-S6

- 6+ Locations
- Starting point depends on tide
- Measuring CO₂, pH and salinity in the Estuary



Working with Cal Poly OA Crew

- Shea
- Richard
- Amanda
- Emily



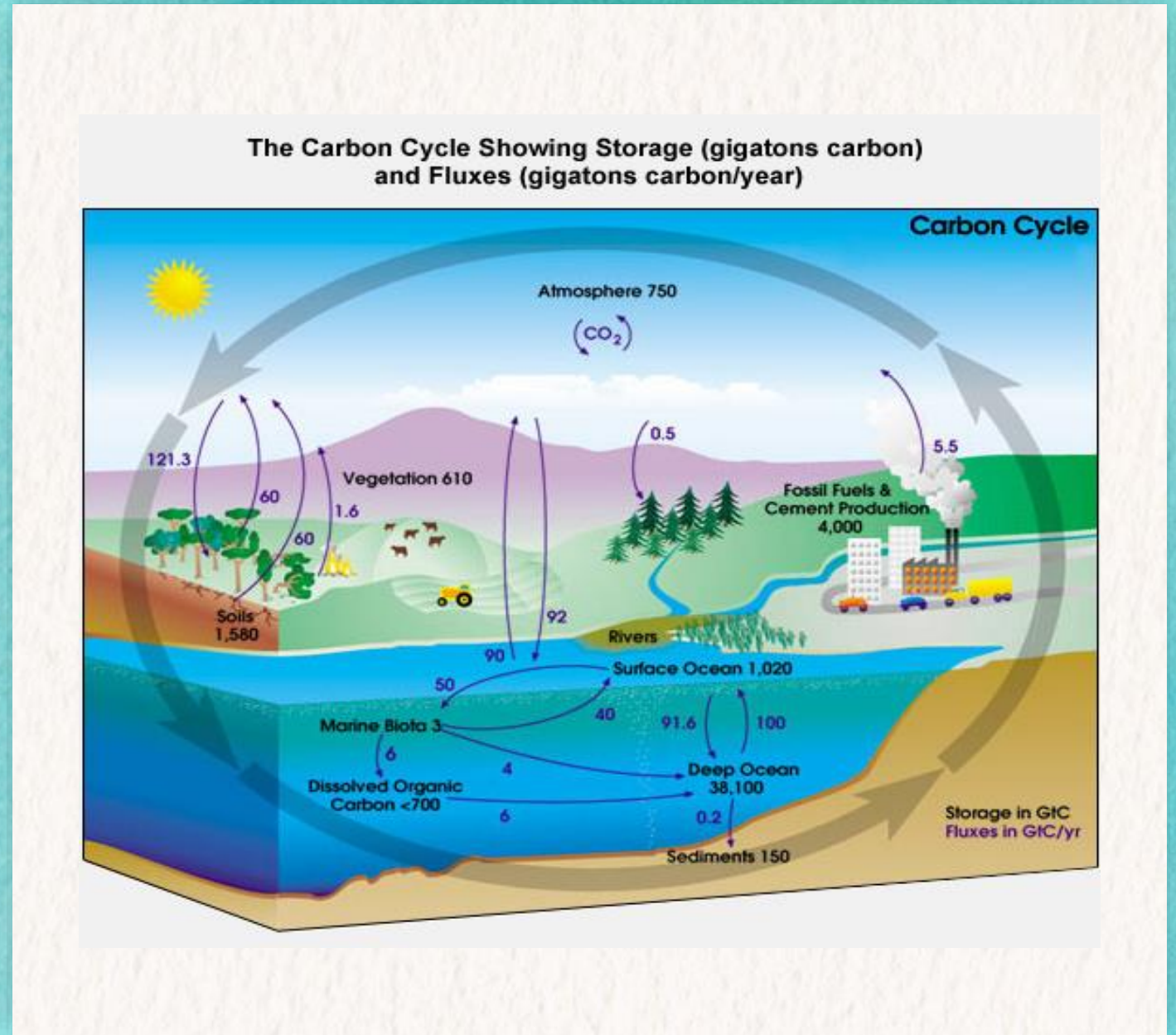
Cal Poly OA Crew

- Amanda
- Shea
- Stephen



Ocean Acidification

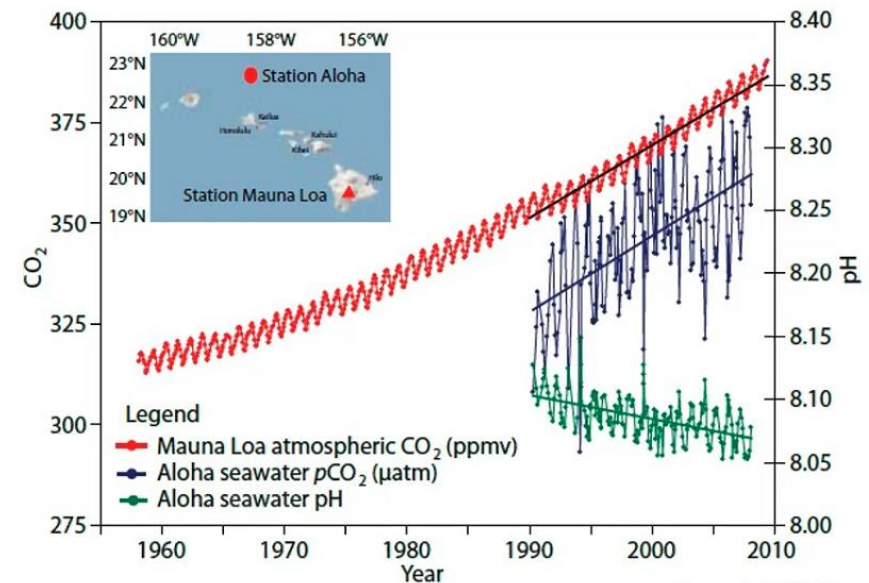
- Convection cycle
- Increased CO₂ decreases pH
- Endangering life that inhabits the Estuary



Atmospheric CO₂ & Ocean Acidification Correlation

- CO₂ in the atmosphere
- Inverse correlation with CO₂ & pH levels in the Oceans
- Compromising the Estuary

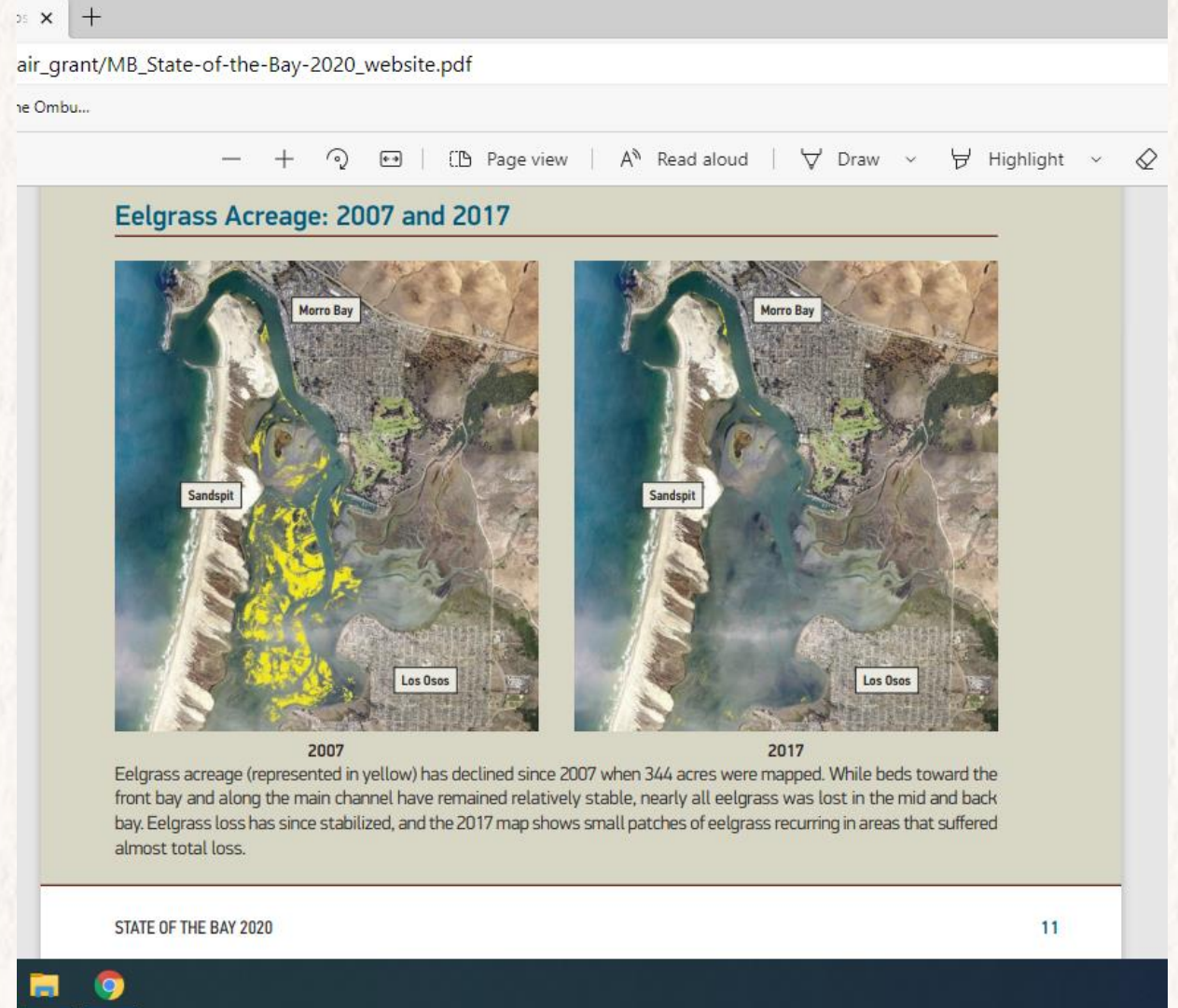
Ocean acidification: the data



Doney et al. 2009, *Oceanography*

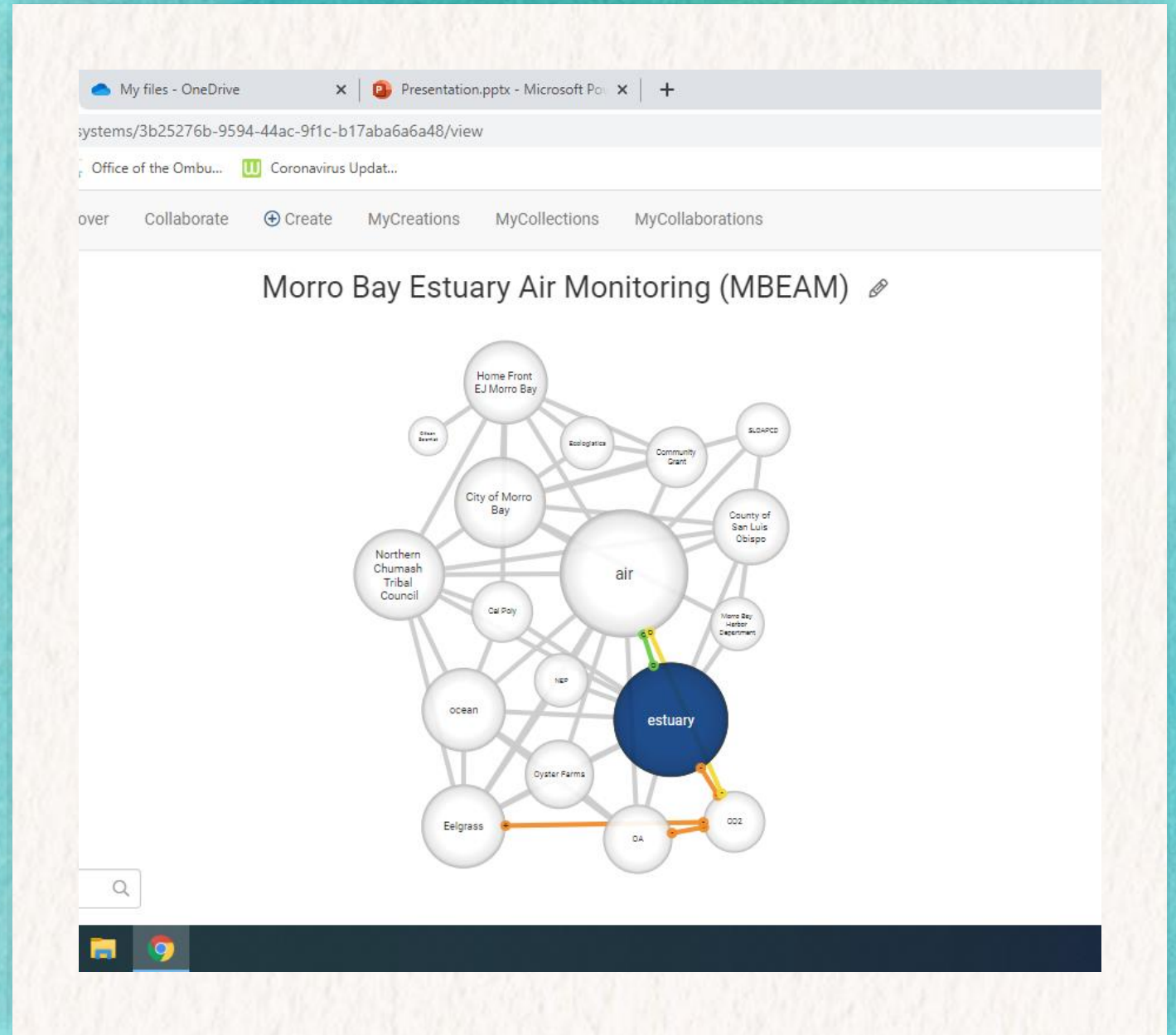
Eelgrass

- Natural solution
- Sequesters carbon dioxide
- Complements oyster beds



Conclusions

- Education
- Collaboration
- Restoration



MBEAM Pilot Project

- Thank you to the Mayor & City Council for the opportunity to provide this presentation.



Question and discussions