Webex Agenda, 7 November 2013

1. Status and schedule for data from the last two deployments
2. Fall AGU
3. AQAST meeting attendance
4. Upcoming science team meeting
5. Colorado site survey plans
6. Science presentations

Data Status and Schedule

California

- Still waiting for a few data sets
- P-3B is complete except for DACOM
- A P-3B merge will be available for download by next Monday and will be update as soon as DACOM data becomes available

Houston

- A large portion of the preliminary data is available. Let us know if you can provide more data before working on final QC
- More merging of the P-3B data is needed, but depends on whether more data is coming
- We would like preliminary data to be available for AQAST meeting in January
- Final data deadline is 31 January 2014
- Despite the furlough, we would like to keep the data deadline in the interests of a productive science team meeting in February
- Please let Gao know if your circumstances will require an extension beyond the original deadline

24 Abstracts covering 15 Sessions

Something to see everyday, only vacant period is Thursday AM

All 24 entries can be found by searching the abstracts for “DISCOVER-AQ”

AQAST Representation

NASA Air Quality Applied Sciences Team (AQAST)
6th Biannual Meeting
Rice University
January 15-17, 2014

Home | Program | Registration | Venue and Accommodations

6th NASA AQAST MEETING (AQAST6)

The 6th meeting of the NASA Air Quality Applied Sciences Team (AQAST6), will be held on January 15-17, 2014, at Rice University in Houston, TX. The meeting is open to all, and air quality managers are particularly invited to attend.

AQAST is a NASA-funded team of atmospheric scientists focused on serving air quality management needs through the use of Earth Science data and tools. AQAST conducts a wide range of projects in partnership with air quality agencies at the local, state, regional, and national levels. It has the flexibility to continually take on new projects based on input from the air quality management community. For more information please visit the **AQAST website**.

AQAST meetings are held every six months and bring together team members, air quality managers, and research and applications partners. The goals of these meetings are to:

1. Share information and progress on AQAST activities;
2. Hear from air quality managers about pressing issues and determine how AQAST can help;
3. Inform air quality managers of the resources available through AQAST.

We could support travel for a few team members to attend.

Who is interested?

The meeting will precede the data deadline.

What preliminary data and/or model analyses could be ready?

This is an important opportunity to identify items of high priority for the science team meeting in February

Science Team Meeting

When: 24-28 February

Where: NASA Langley Research Center (Hampton, VA)

Preliminary Agenda:
24-25 February California deployment
26-27 February Houston deployment
28 February Colorado deployment

Venue: Reid Conference Center

Travel Support: The project has budgeted for the typical travel support for each PI plus one group member to attend. We are willing to consider additional requests and would appreciate any creative solutions (e.g., sharing of accommodations) to increase attendance.

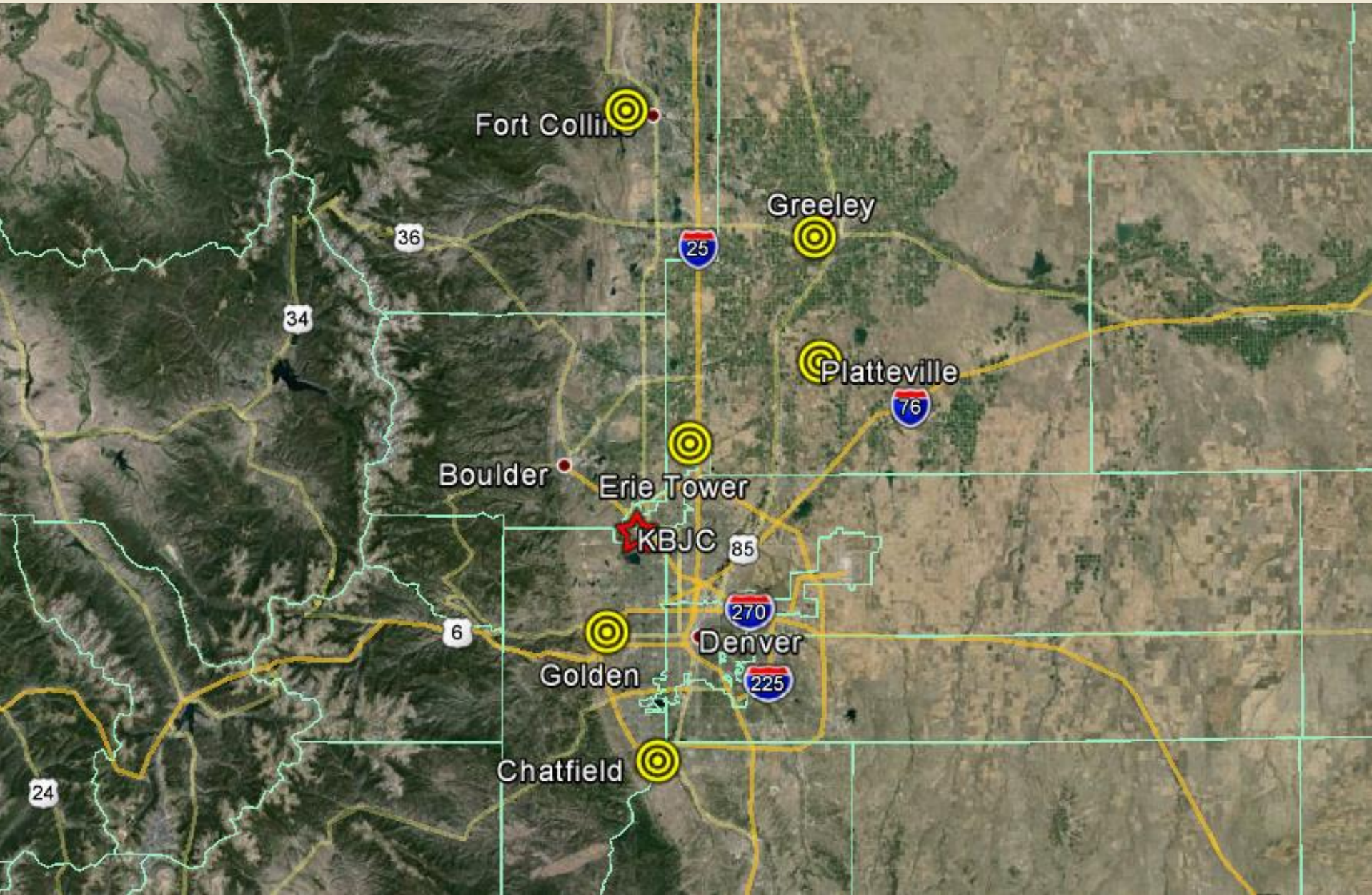
Badging: Badges will be necessary since the meeting is on the NASA grounds

Please start informing Mary Kleb of attendees from your group.

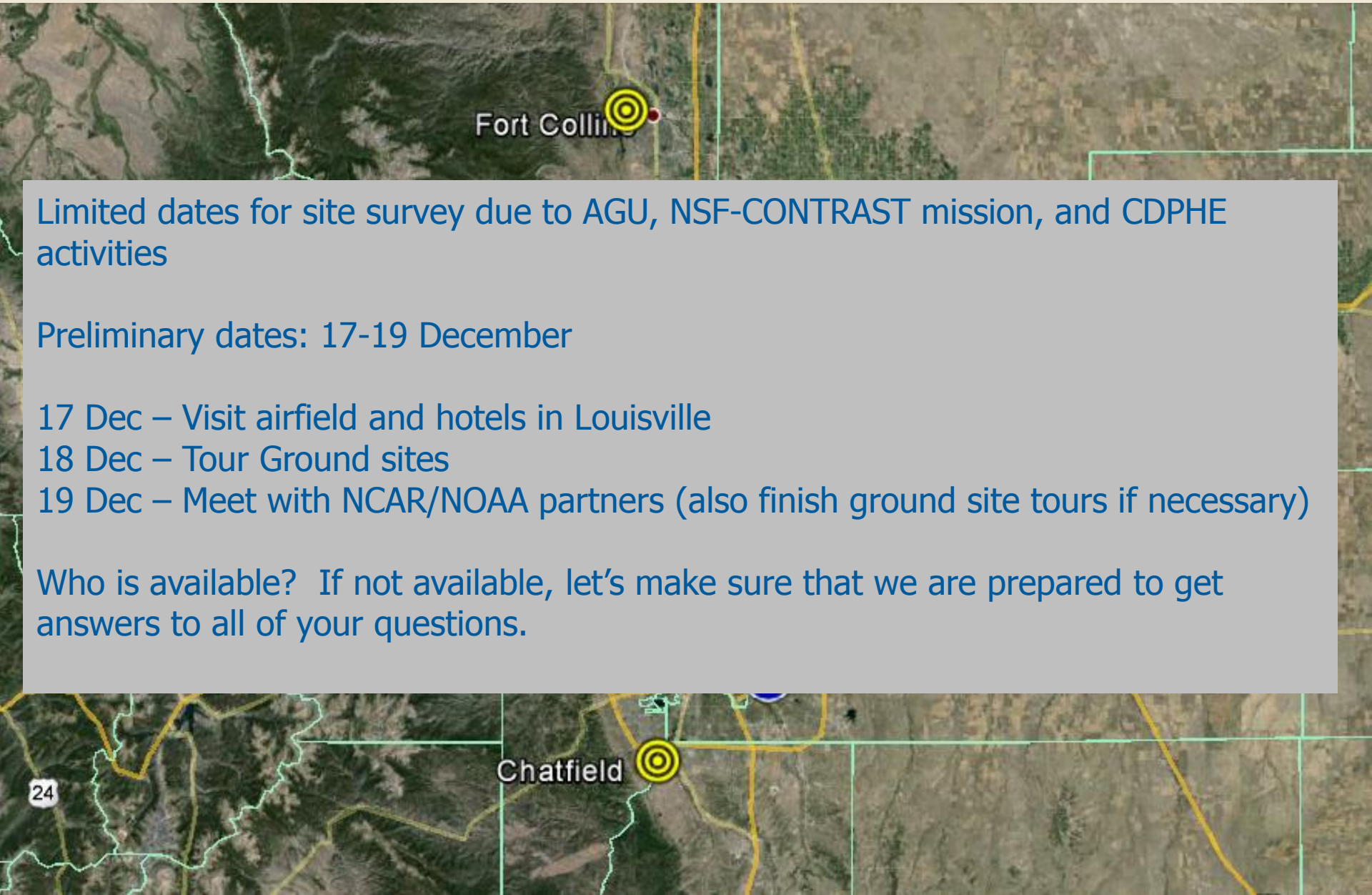
Travel instructions will be available by the next telecon.

DISCOVER-AQ

Candidate Profile Sites for Colorado



Candidate Profile Sites for Colorado



Limited dates for site survey due to AGU, NSF-CONTRAST mission, and CDPHE activities

Preliminary dates: 17-19 December

17 Dec – Visit airfield and hotels in Louisville
18 Dec – Tour Ground sites
19 Dec – Meet with NCAR/NOAA partners (also finish ground site tours if necessary)

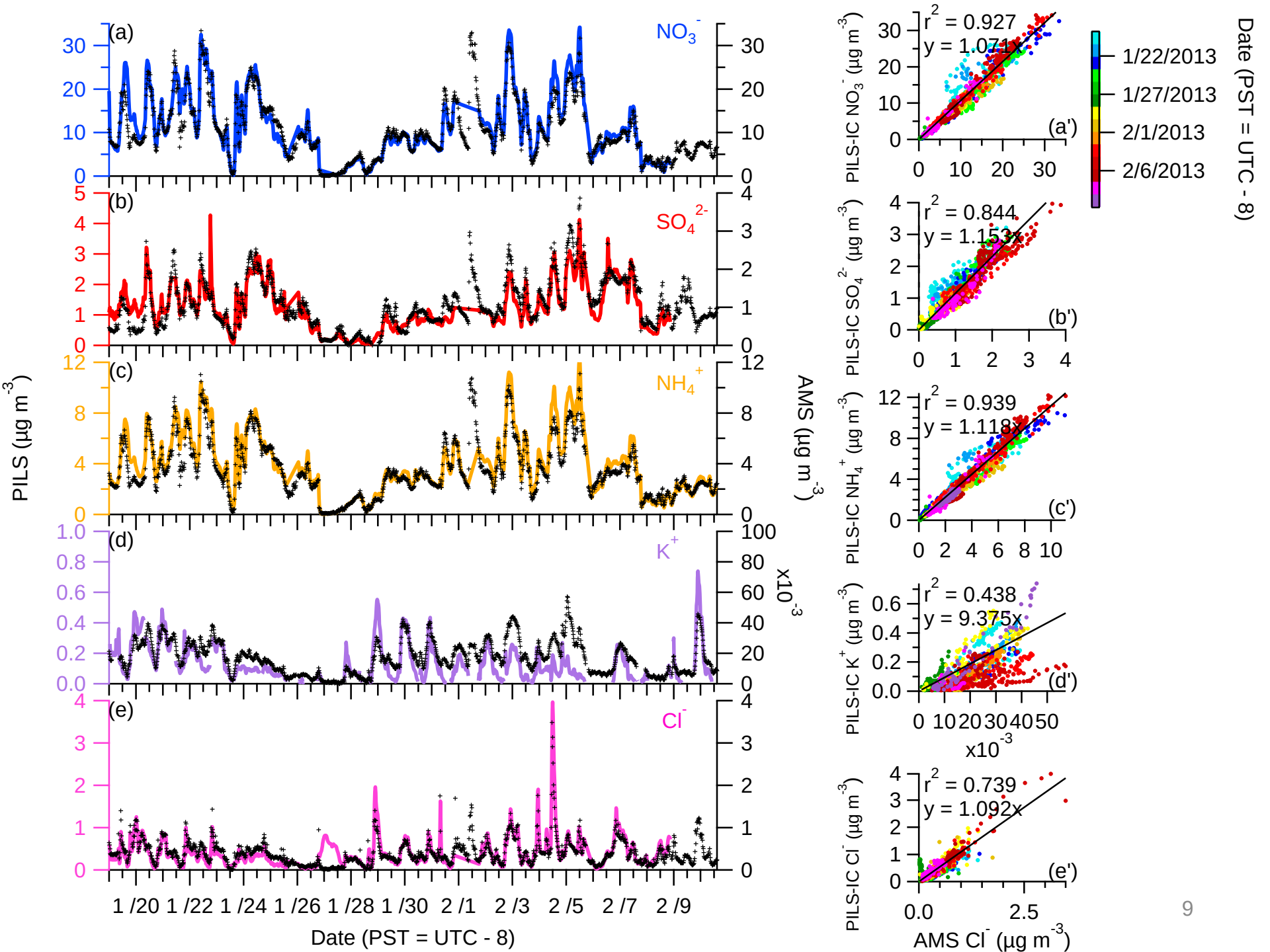
Who is available? If not available, let's make sure that we are prepared to get answers to all of your questions.

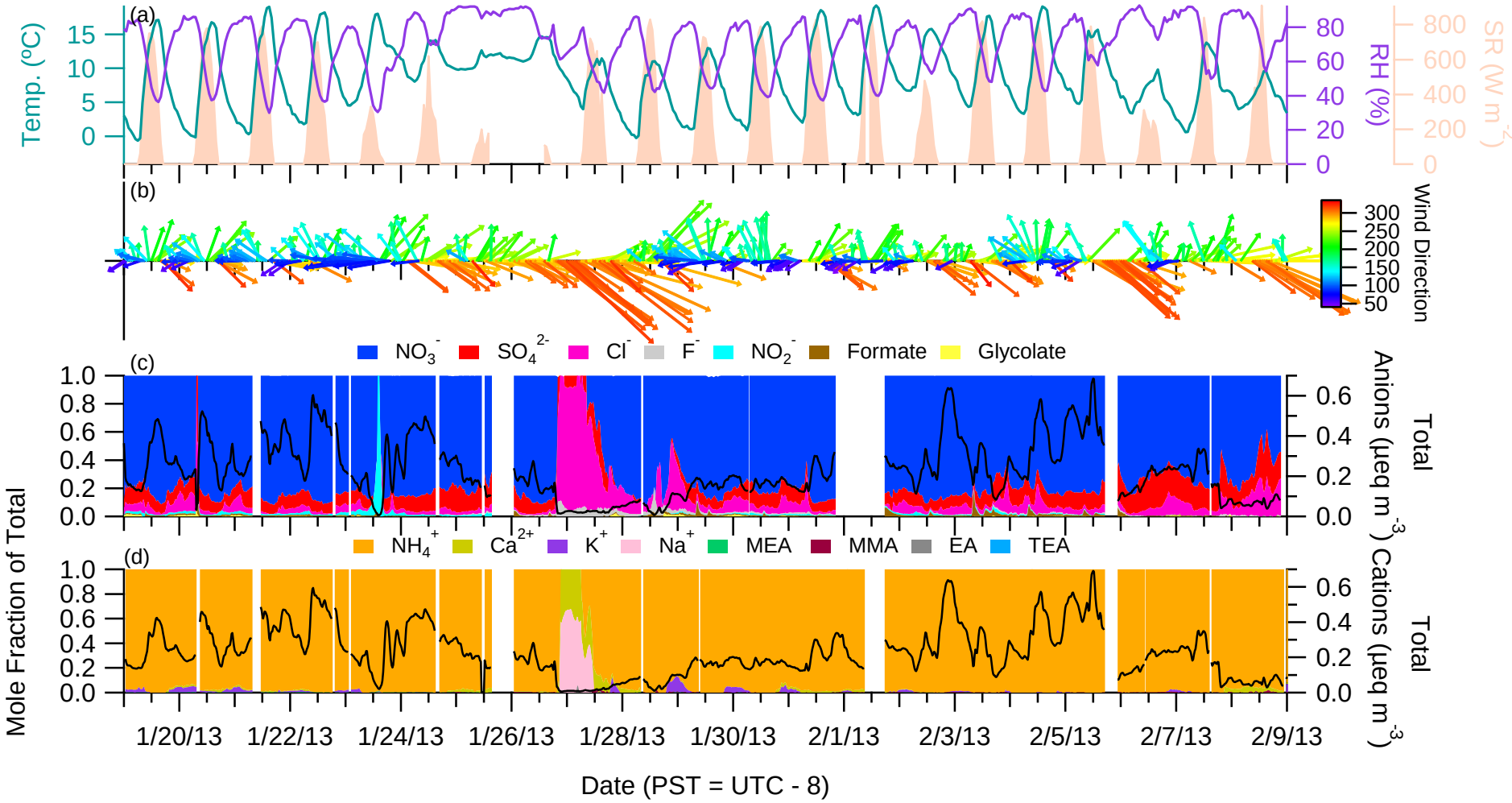
Chemical Characterization of Gas and Particle-phase Water-Soluble Species during Winter 2013 DISCOVER-AQ Campaign in Fresno, CA

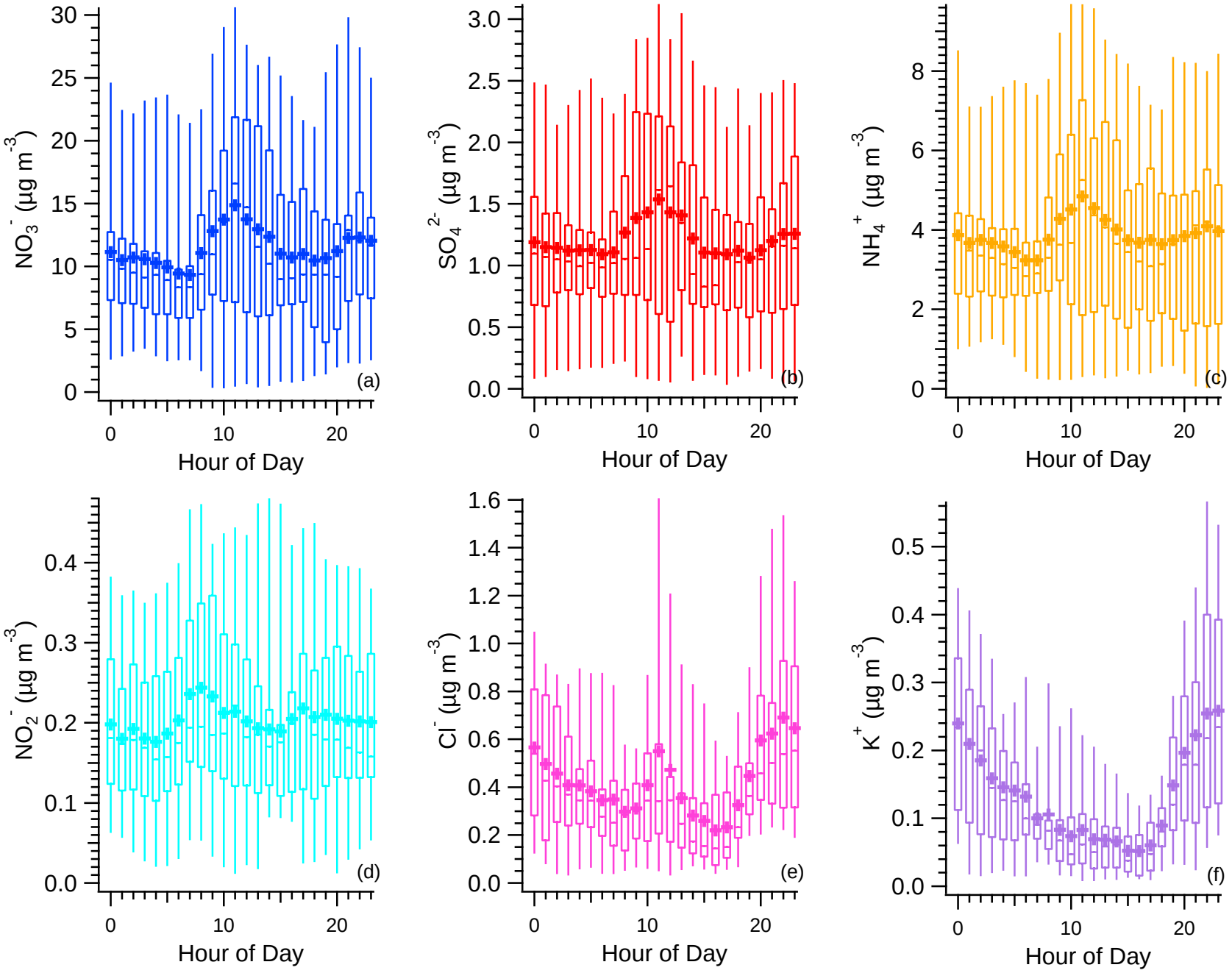
Caroline Parworth, Hwajin Kim, Qi Zhang

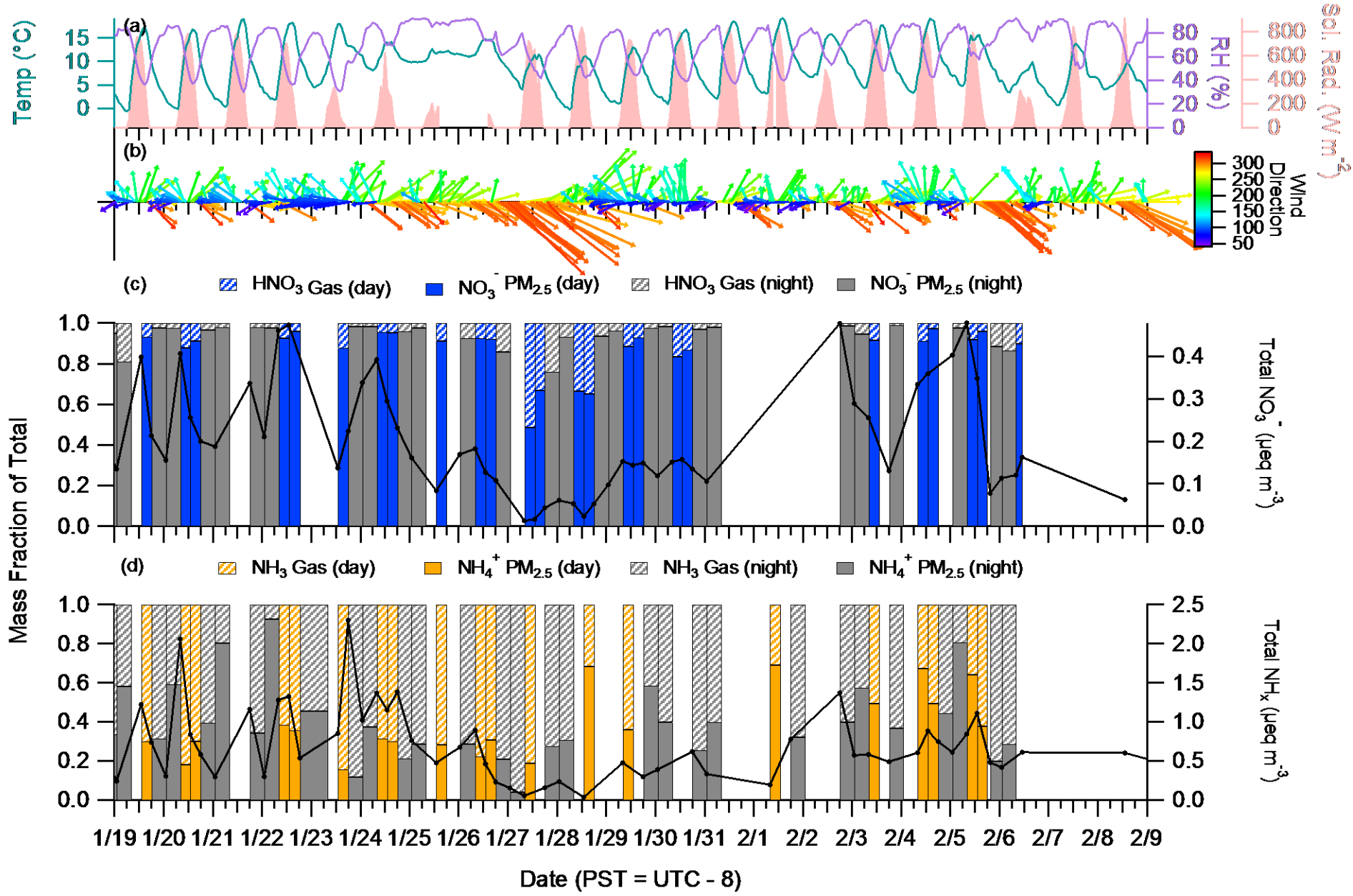
Department of Environmental Toxicology,
University of California at Davis

AGU Poster Presentation: Dec. 10, 2013 1:40 – 6:00PM, Hall A-C


(a)
NO_3^-
(b)
SO_4^{2-}
(c)
NH_4^+
(d)
K^+
(e)
Cl^-
PILS (µg m^{-3})
AMS (µg m^{-3})
x10^{-3}
1 /20 1 /22 1 /24 1 /26 1 /28 1 /30 2 /1 2 /3 2 /5 2 /7 2 /9
Date (PST = UTC - 8)
PILS-IC NO_3^- (µg m^{-3})
r^2 = 0.927
y = 1.071x
(a')
PILS-IC SO_4^{2-} (µg m^{-3})
r^2 = 0.844
y = 1.153x
(b')
PILS-IC NH_4^+ (µg m^{-3})
r^2 = 0.939
y = 1.118x
(c')
PILS-IC K^+ (µg m^{-3})
r^2 = 0.438
y = 9.375x
(d')
x10^{-3}
PILS-IC Cl^- (µg m^{-3})
r^2 = 0.739
y = 1.092x
(e')
AMS Cl^- (µg m^{-3})
1/22/2013
1/27/2013
2/1/2013
2/6/2013
Date (PST = UTC - 8)


(a)
Temp. (°C)
15
10
5
0
RH (%)
80
60
40
20
0
SR (W m-2)
800
600
400
200
0
(b)
Wind Direction
300
250
200
150
100
50
NO3-
SO4 2-
Cl-
F-
NO2-
Formate
Glycolate
(c)
Anions (μeq m-3)
Total
1.0
0.8
0.6
0.4
0.2
0.0
0.6
0.4
0.2
0.0
NH4+
Ca2+
K+
Na+
MEA
MMA
EA
TEA
(d)
Cations (μeq m-3)
Total
Mole Fraction of Total
1/20/13
1/22/13
1/24/13
1/26/13
1/28/13
1/30/13
2/1/13
2/3/13
2/5/13
2/7/13
2/9/13
Date (PST = UTC - 8)


NO_3^- (µg m^{-3})
SO_4^{2-} (µg m^{-3})
NH_4^+ (µg m^{-3})
NO_2^- (µg m^{-3})
Cl^- (µg m^{-3})
K^+ (µg m^{-3})
Hour of Day
(a)
(b)
(c)
(d)
(e)
(f)


(a)
Temp (°C)
15
10
5
0
RH (%)
80
60
40
20
0
Sol. Rad. (W m-2)
800
600
400
200
0
(b)
Wind Direction
300
250
200
150
100
50
(c)
HNO3 Gas (day)
NO3- PM2.5 (day)
HNO3 Gas (night)
NO3- PM2.5 (night)
Mass Fraction of Total
1.0
0.8
0.6
0.4
0.2
0.0
Total NO3- (µeq m-3)
0.4
0.3
0.2
0.1
0.0
(d)
NH3 Gas (day)
NH4+ PM2.5 (day)
NH3 Gas (night)
NH4+ PM2.5 (night)
1.0
0.8
0.6
0.4
0.2
0.0
Total NHx (µeq m-3)
2.5
2.0
1.5
1.0
0.5
0.0
1/19 1/20 1/21 1/22 1/23 1/24 1/25 1/26 1/27 1/28 1/29 1/30 1/31 2/1 2/2 2/3 2/4 2/5 2/6 2/7 2/8 2/9
Date (PST = UTC - 8)

UH Air Quality Forecasting: What happened last month?

Monthly meeting of DISCOVER-AQ

November 7, 2013

Yunsoo Choi and UH forecasting group members

Department of Earth and Atmospheric Sciences
University of Houston

Collaborators: Hyuncheol Kim (NOAA-ARL & UM) and DISCOVER-AQ team members

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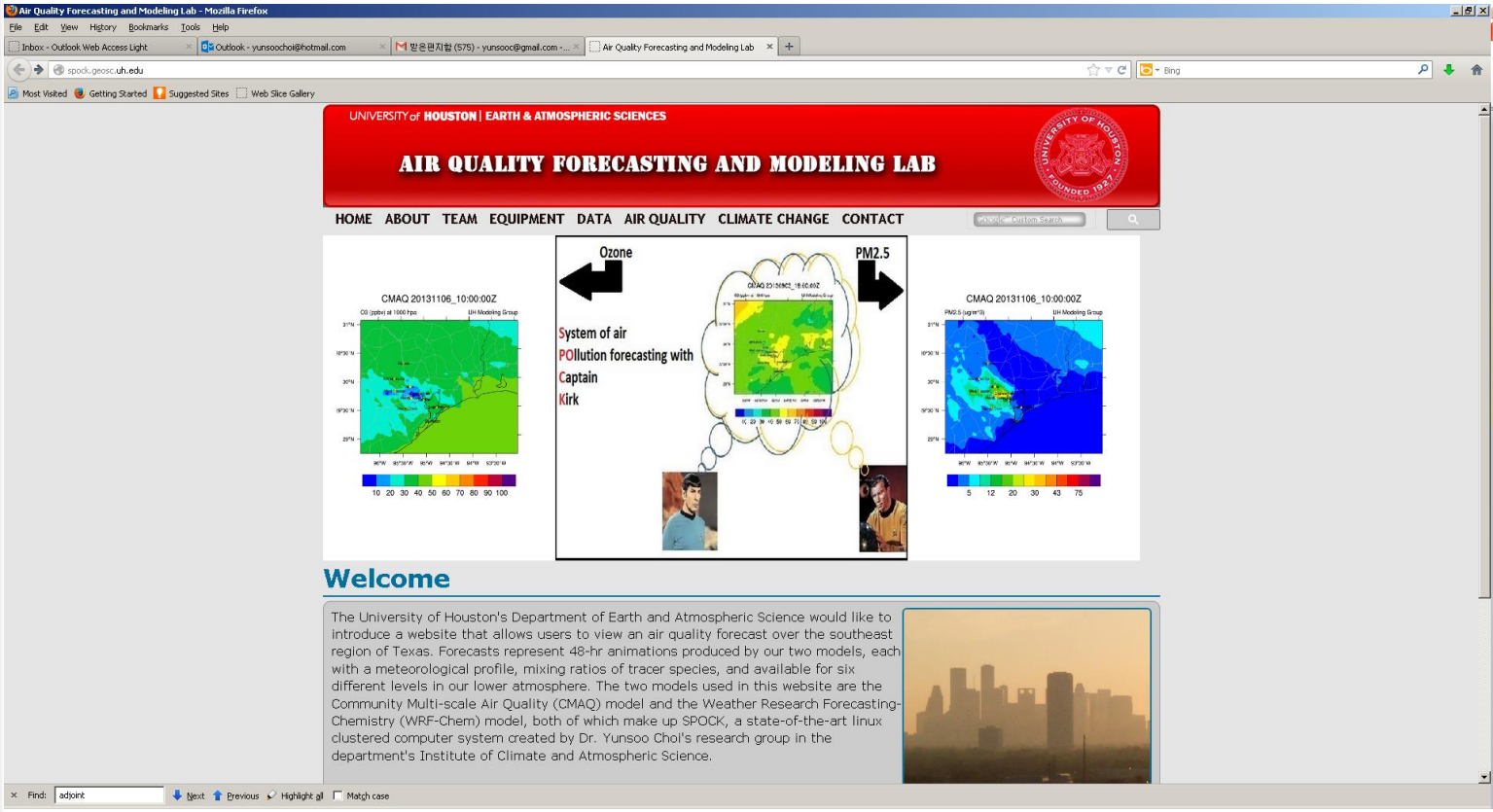
UH AQF website: spock.geosc.uh.edu



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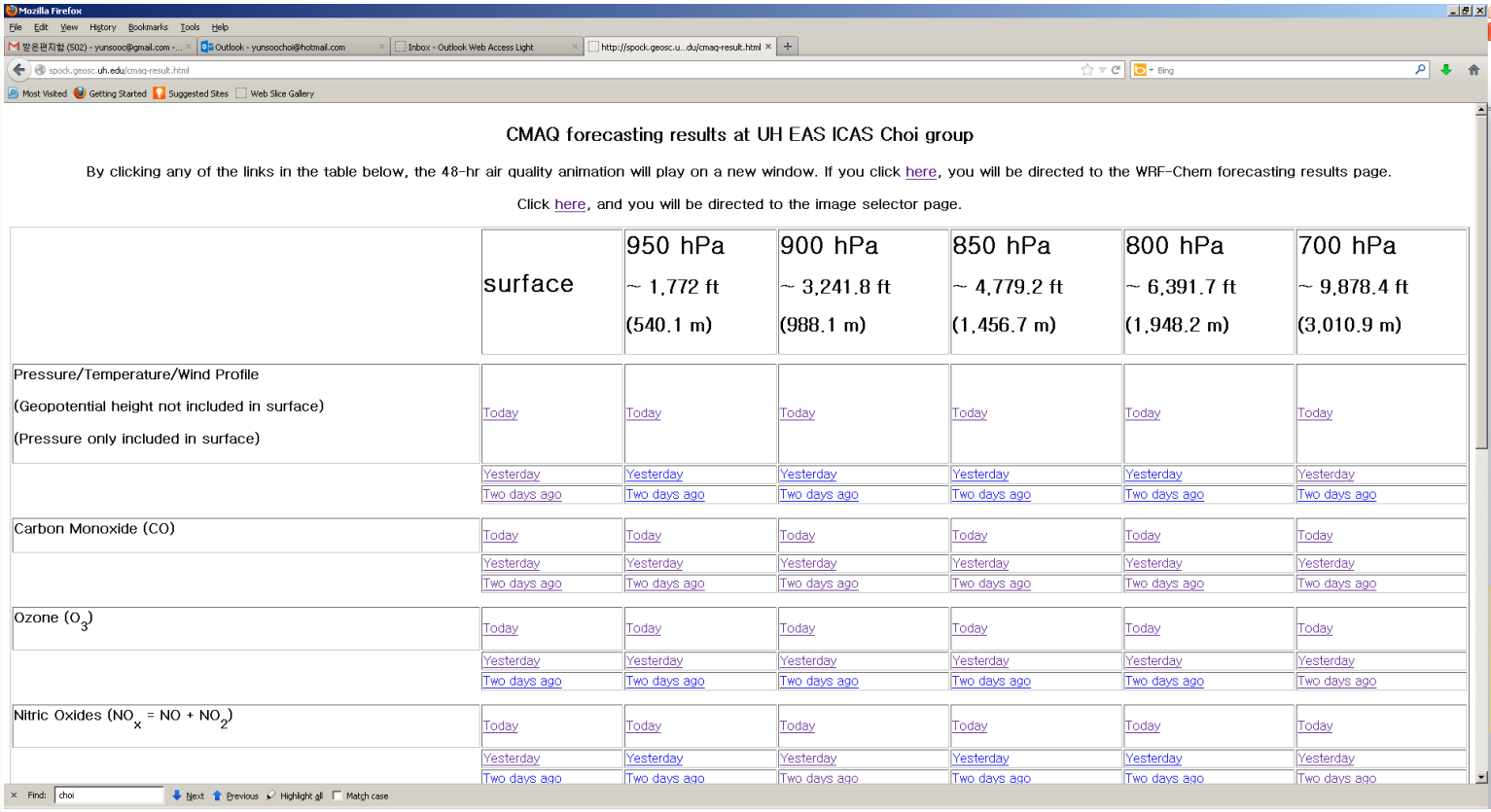
CMAQ AQF figures: spock.geosc.uh.edu/cmaq-result.html



Mozilla Firefox

File Edit View History Bookmarks Tools Help

spock.geosc.uh.edu/cmaq-result.html

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CMAQ forecasting results at UH EAS ICAS Choi group

By clicking any of the links in the table below, the 48-hr air quality animation will play on a new window. If you click here, you will be directed to the WRF-Chem forecasting results page.

Click here, and you will be directed to the image selector page.

	surface	950 hPa ~ 1,772 ft (540.1 m)	900 hPa ~ 3,241.8 ft (988.1 m)	850 hPa ~ 4,779.2 ft (1,456.7 m)	800 hPa ~ 6,391.7 ft (1,948.2 m)	700 hPa ~ 9,878.4 ft (3,010.9 m)
Pressure/Temperature/Wind Profile (Geopotential height not included in surface) (Pressure only included in surface)	Today	Today	Today	Today	Today	Today
	Yesterday	Yesterday	Yesterday	Yesterday	Yesterday	Yesterday
	Two days ago	Two days ago	Two days ago	Two days ago	Two days ago	Two days ago
Carbon Monoxide (CO)	Today	Today	Today	Today	Today	Today
	Yesterday	Yesterday	Yesterday	Yesterday	Yesterday	Yesterday
	Two days ago	Two days ago	Two days ago	Two days ago	Two days ago	Two days ago
Ozone (O_3)	Today	Today	Today	Today	Today	Today
	Yesterday	Yesterday	Yesterday	Yesterday	Yesterday	Yesterday
	Two days ago	Two days ago	Two days ago	Two days ago	Two days ago	Two days ago
Nitric Oxides (NO_x = NO + NO_2)	Today	Today	Today	Today	Today	Today
	Yesterday	Yesterday	Yesterday	Yesterday	Yesterday	Yesterday
	Two days ago	Two days ago	Two days ago	Two days ago	Two days ago	Two days ago

Find: choi Next Previous Highlight all Match case

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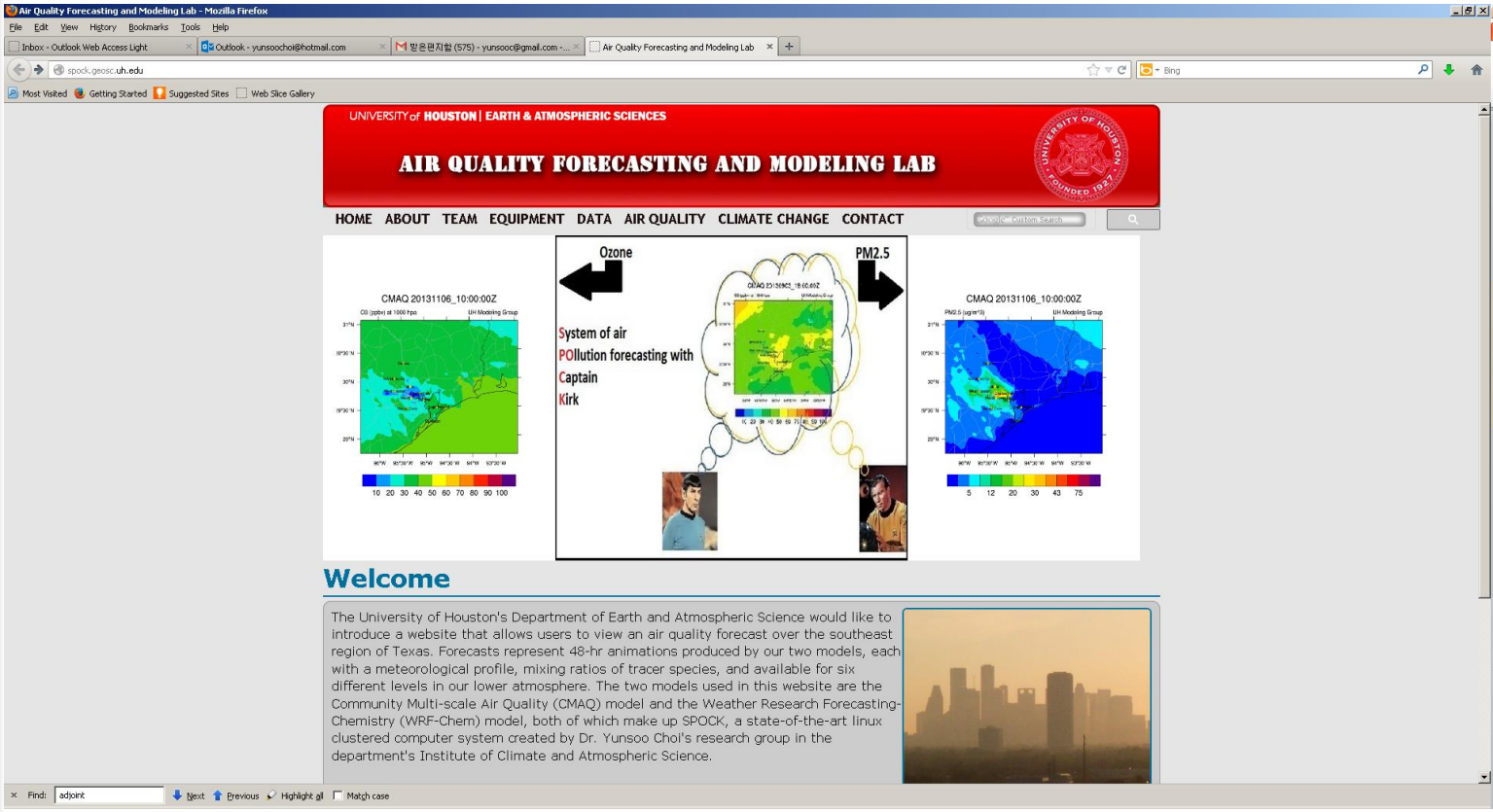
CMAQ DISCOVER-AQ data: click “DATA” from spock.geosc.uh.edu



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DISCOVER-AQ Houston: September, 2013

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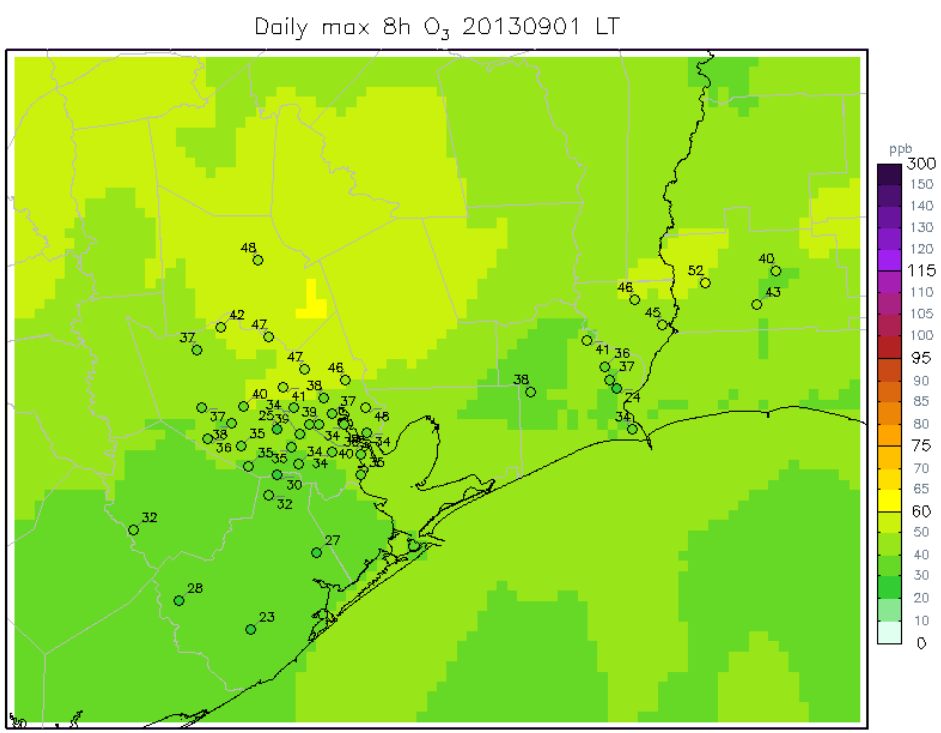
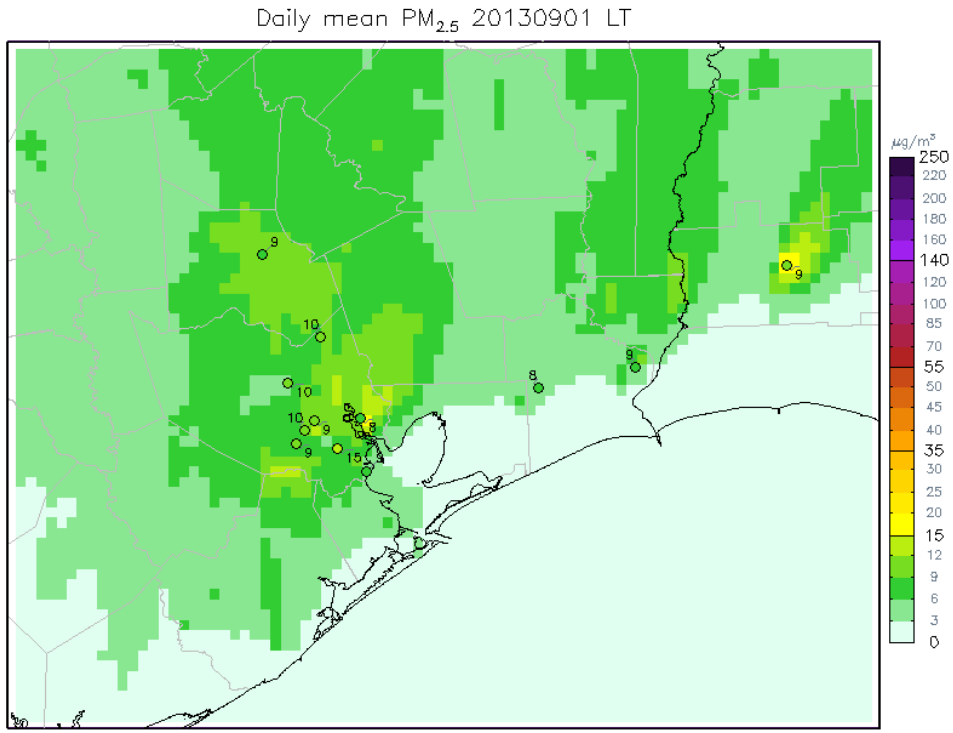
4km UH CMAQ & AIRNow Ozone and PM2.5 movie





O_3 and PM2.5 high days were shown for September 25-27.

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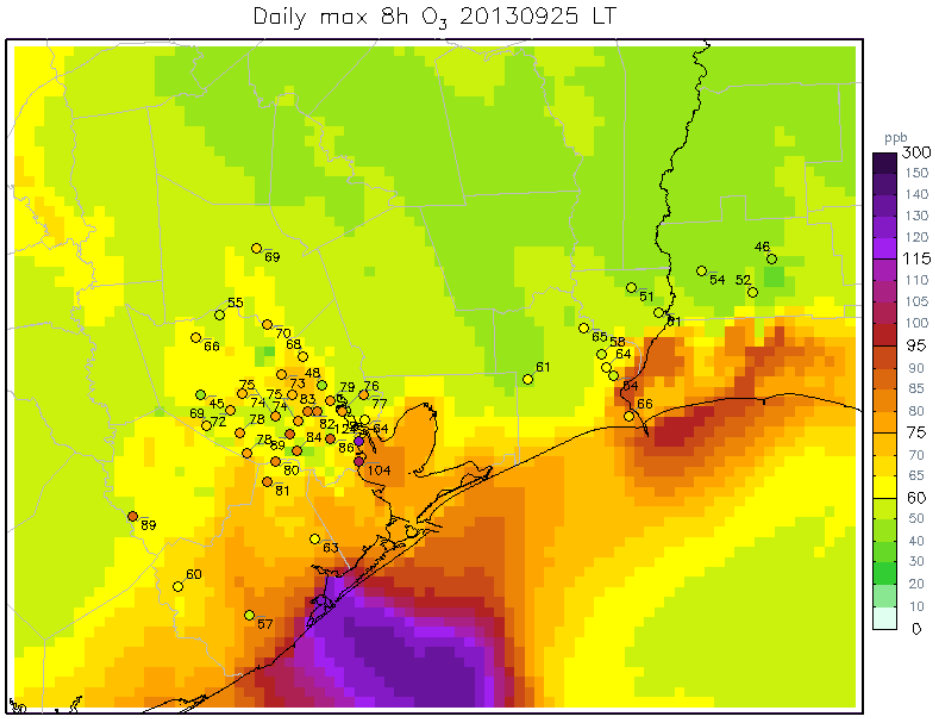
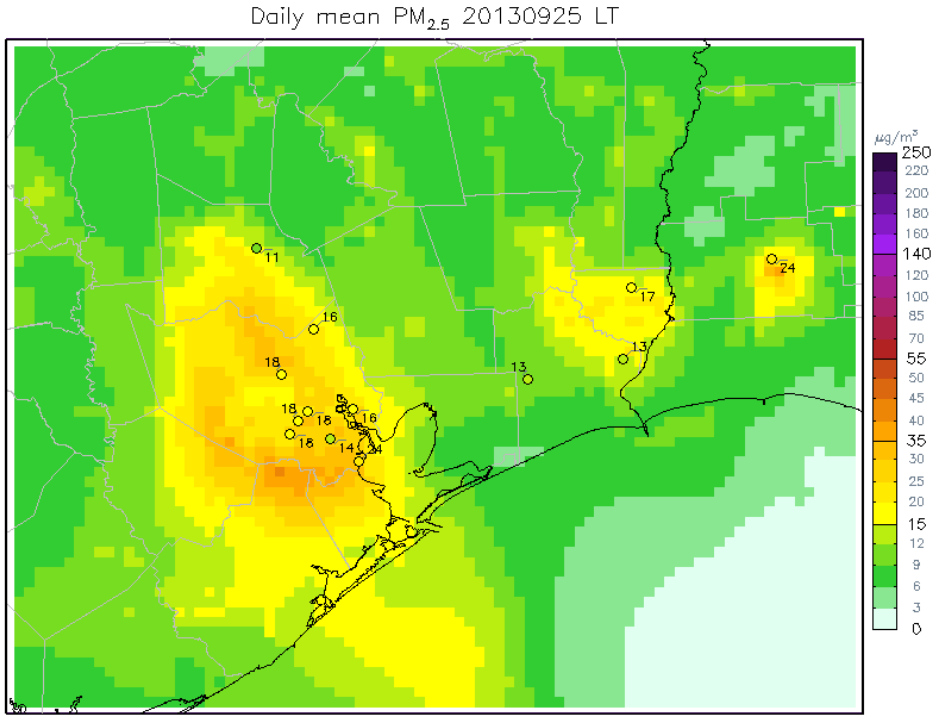
4km UH CMAQ & AIRNow Ozone and PM2.5 day





Record high O_3 was shown near the Gulf of Mexico on September 25. Is it true?

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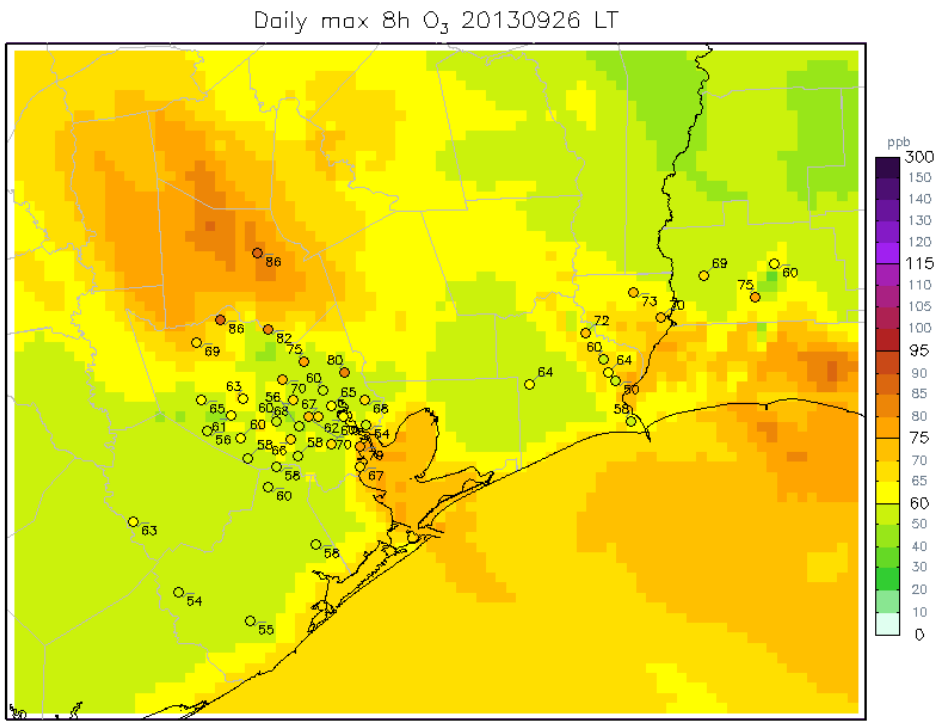
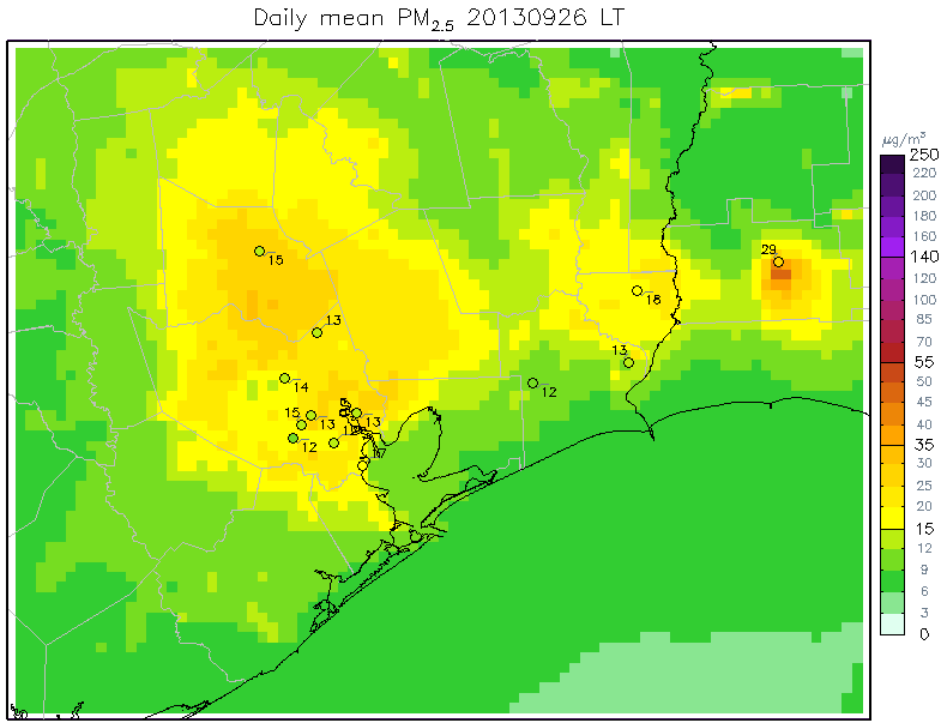
4km UH CMAQ & AIRNow Ozone and PM2.5 day





High O_3 was shown over the Northern Houston and the strong outflow pattern was shown on September 26.

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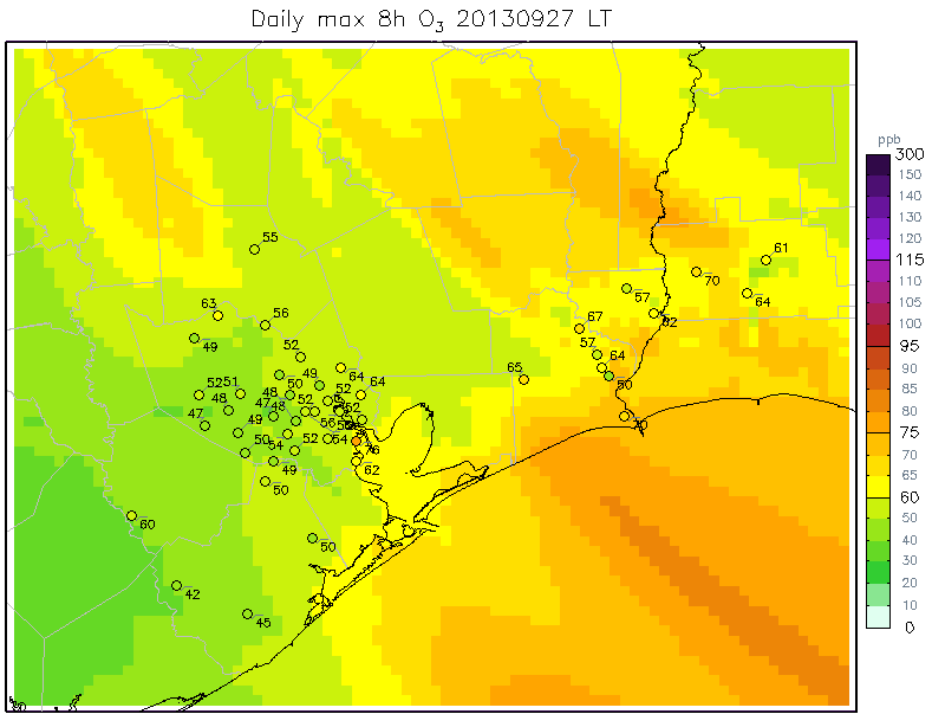
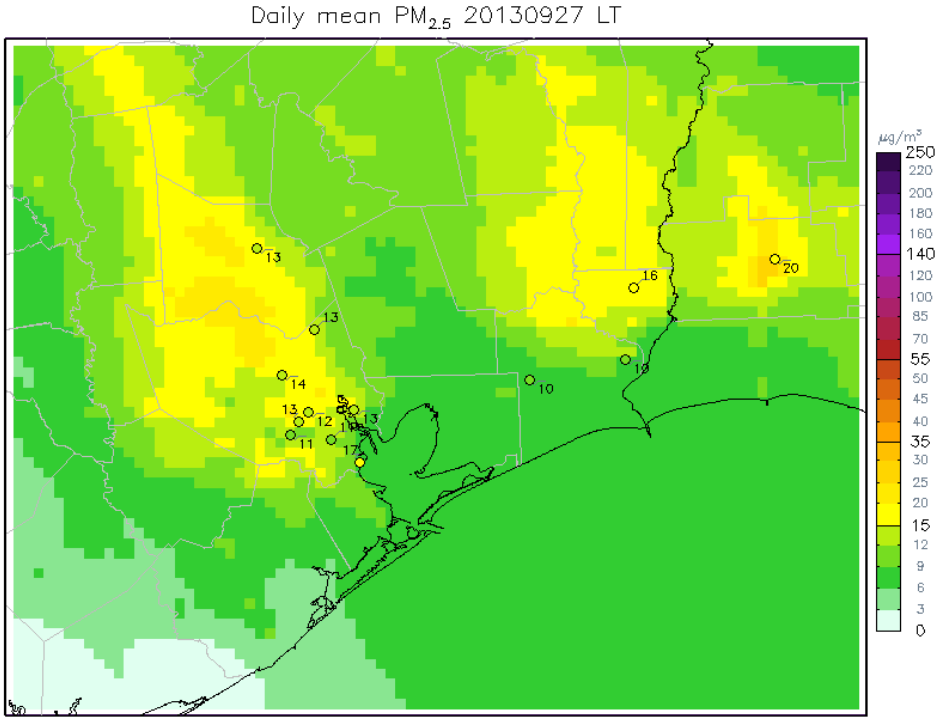
4km UH CMAQ & AIRNow Ozone and PM2.5 day





Another high O_3 was formed over the Gulf of Mexico on September 27.

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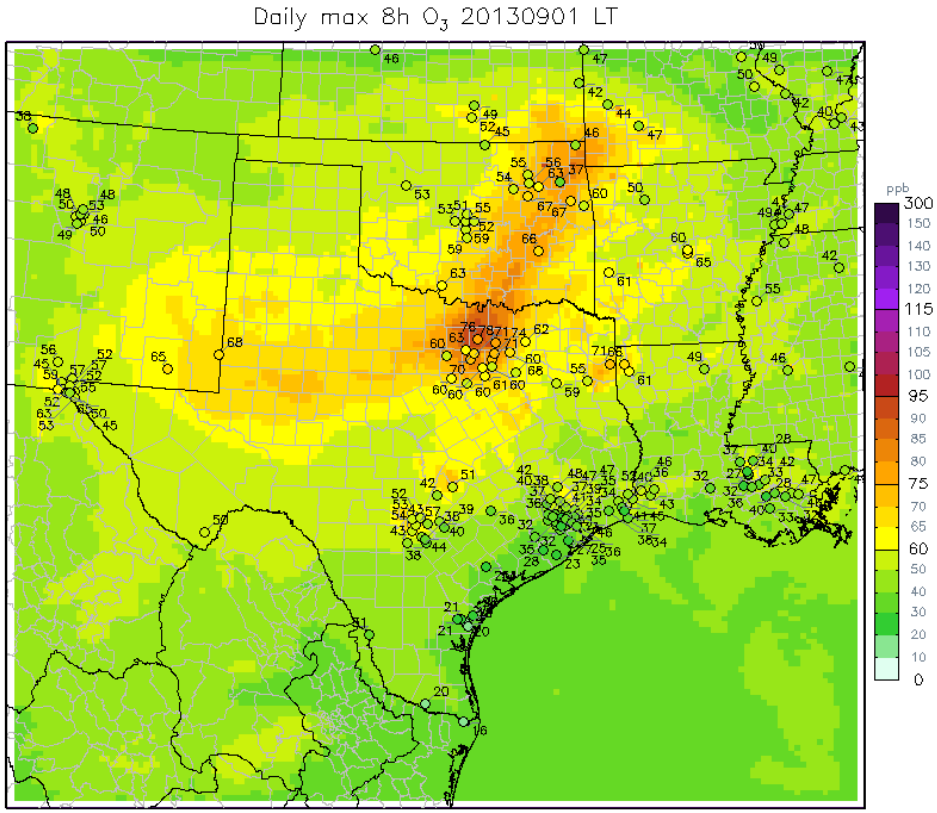
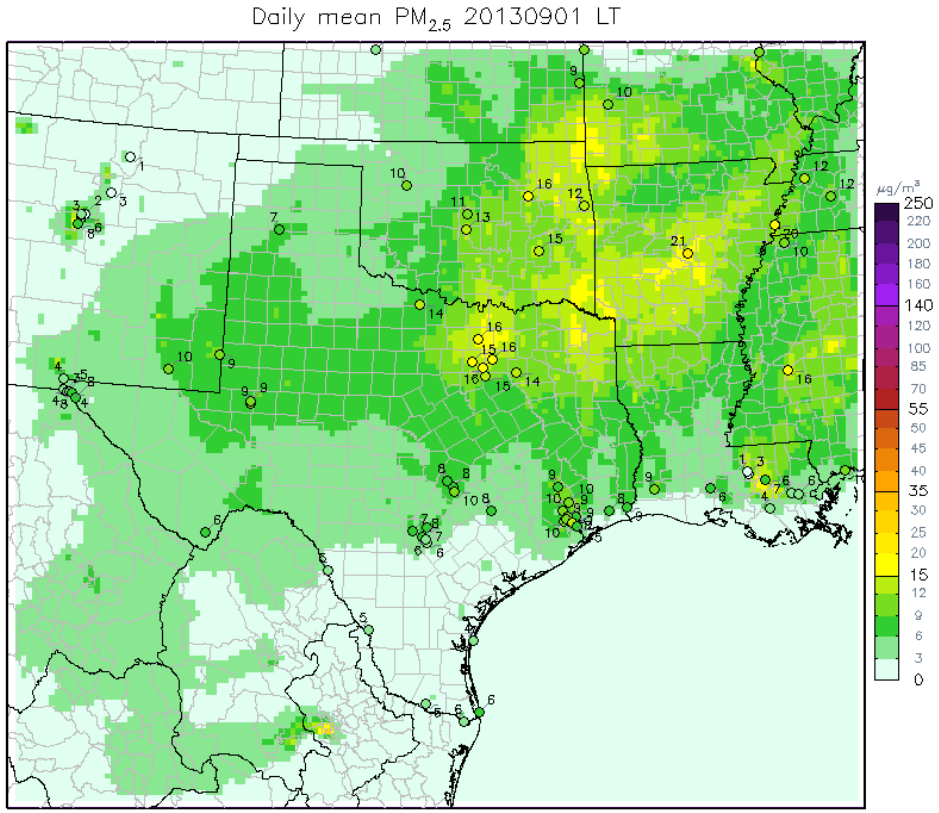
12km UH CMAQ & AIRNow Ozone and PM2.5 movie





Ozone over Dallas was generally higher than that over Houston except September 25-27.

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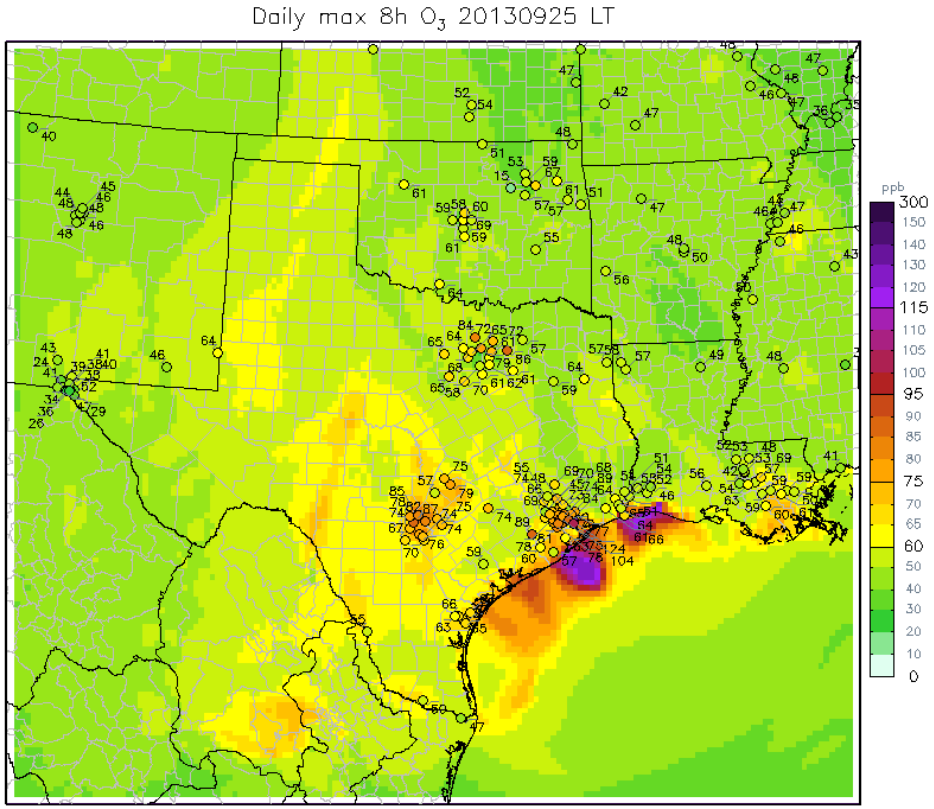
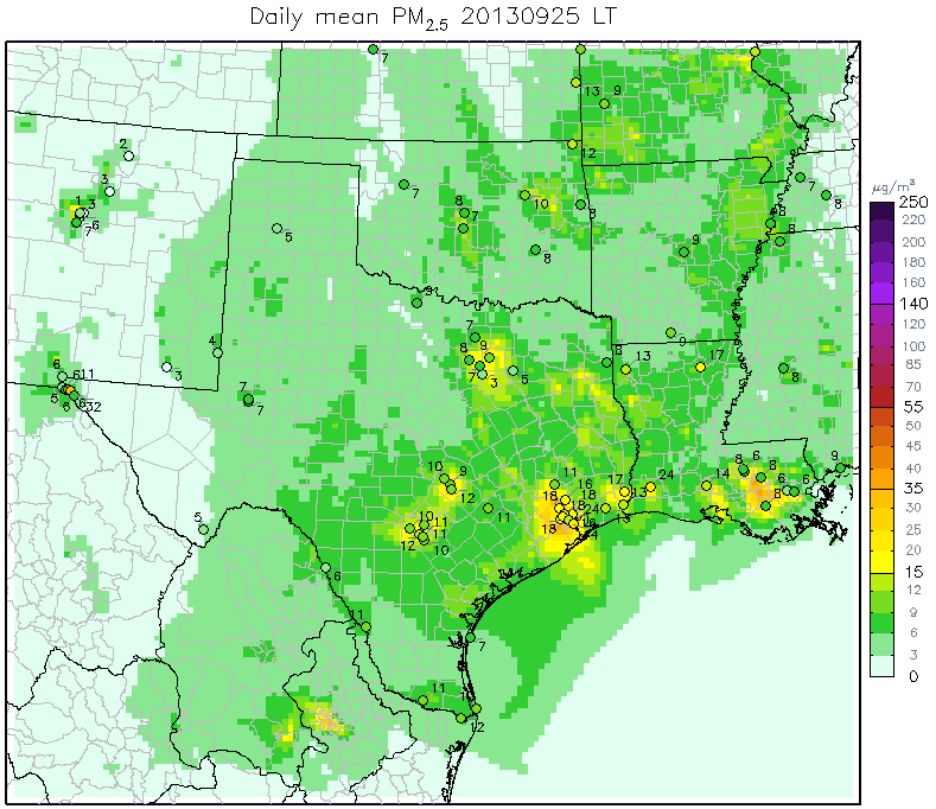
12km UH CMAQ & AIRNow Ozone and PM2.5 day





Record high O_3 was shown near the Gulf of Mexico on September 25 from 12km simulation again.

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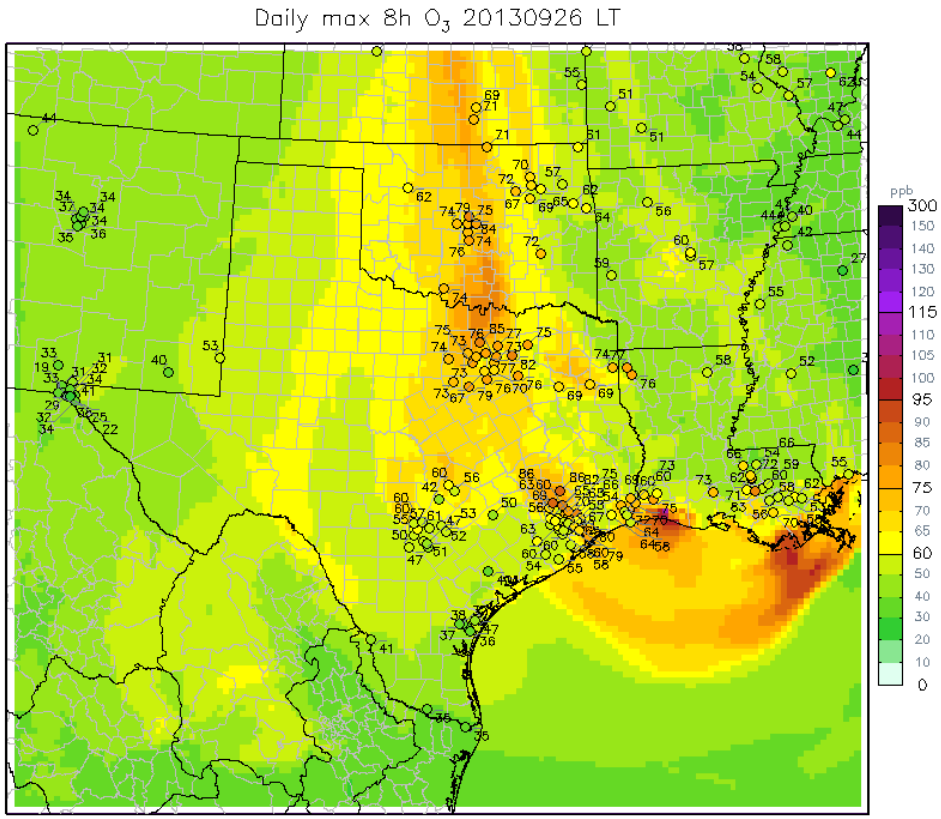
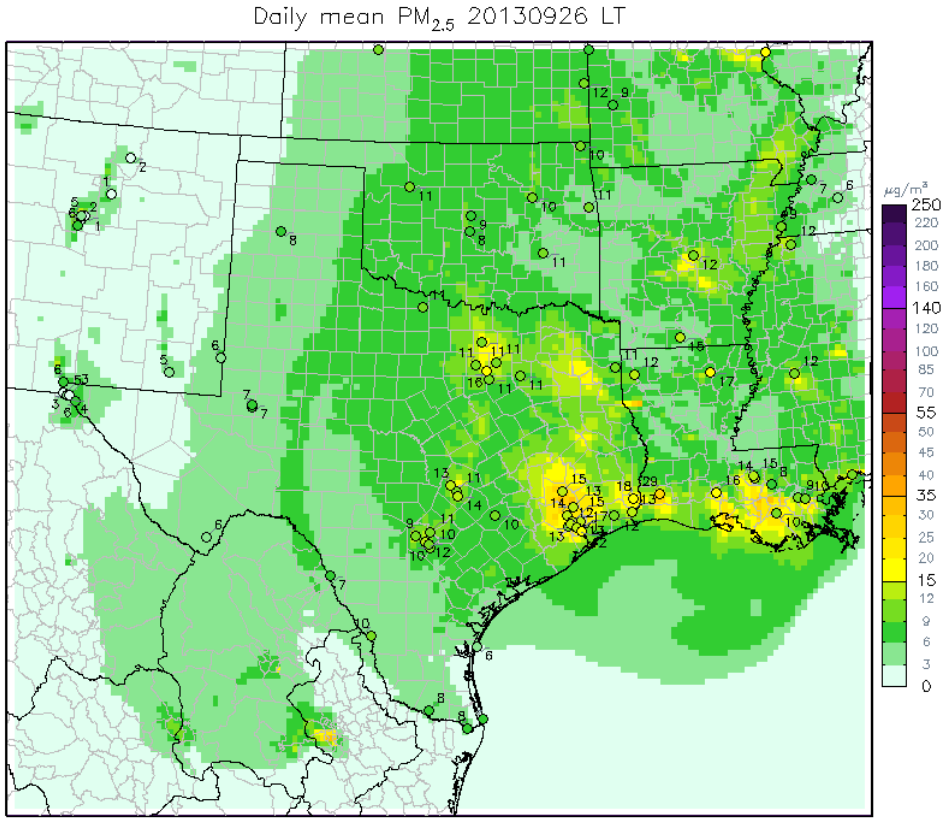
12km UH CMAQ & AIRNow Ozone and PM2.5 day





High O_3 were shown over the Northern Houston and Dallas and the strong outflow patterns were shown on September 26.

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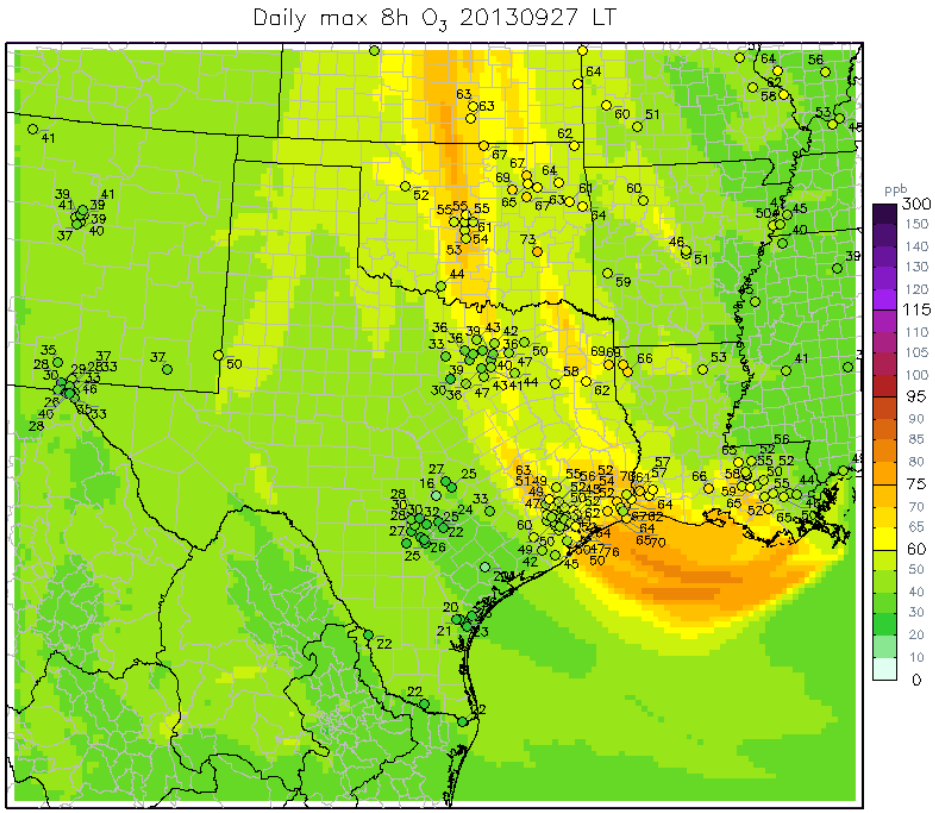
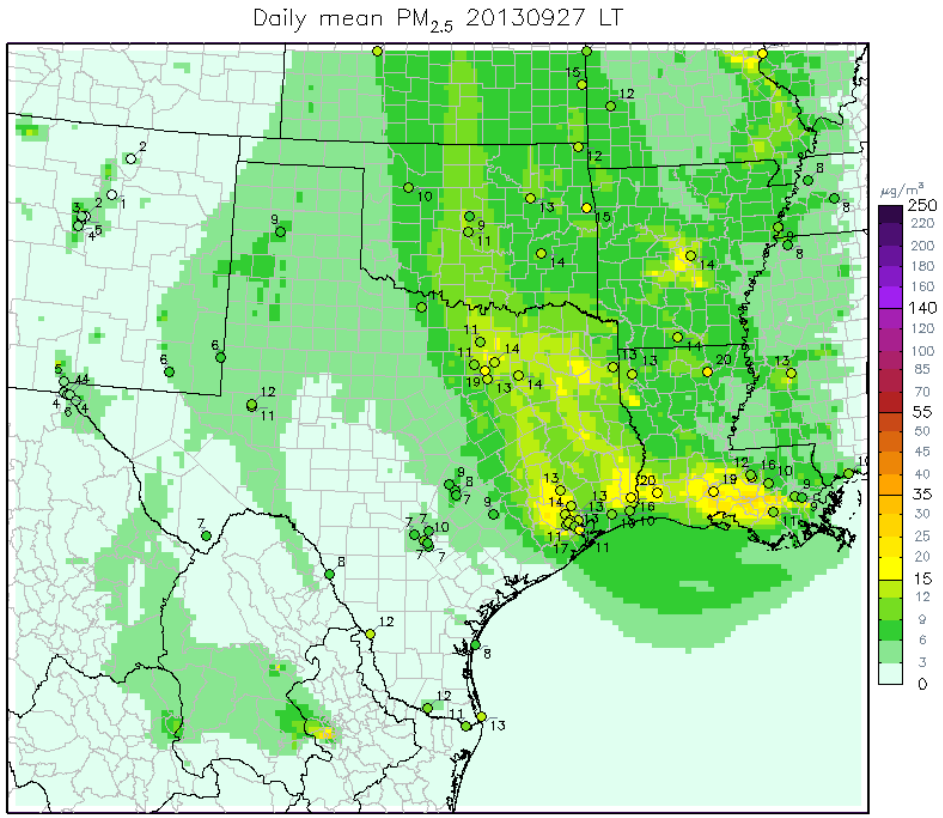
12km UH CMAQ & AIRNow Ozone and PM2.5 day





Another high O_3 was formed over the Gulf of Mexico on September 27.

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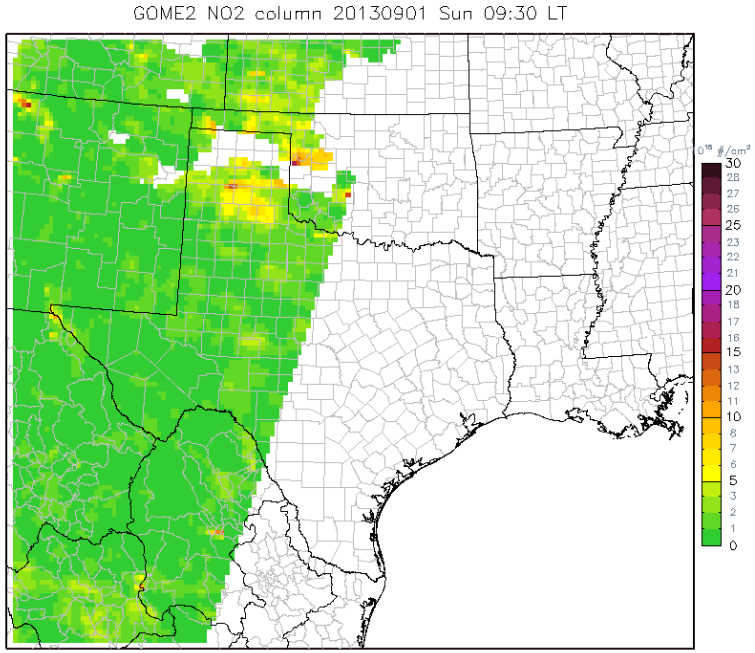
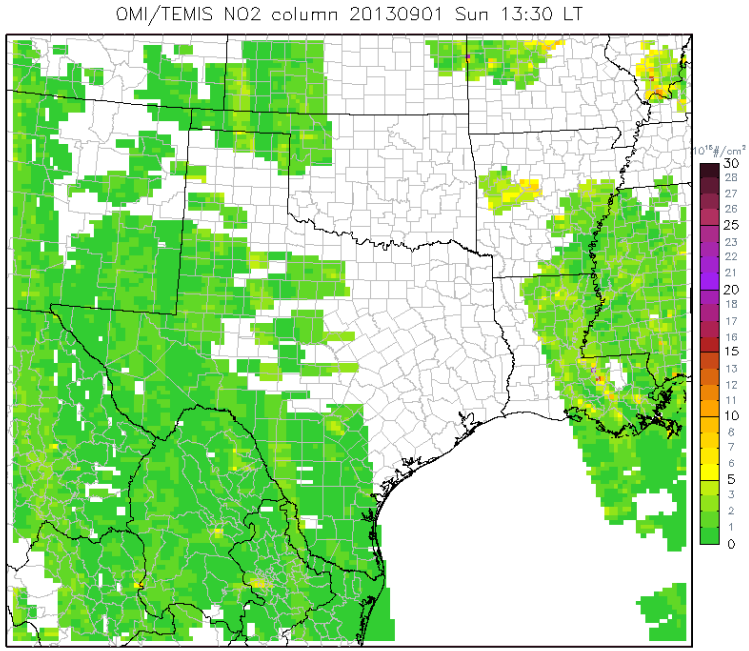
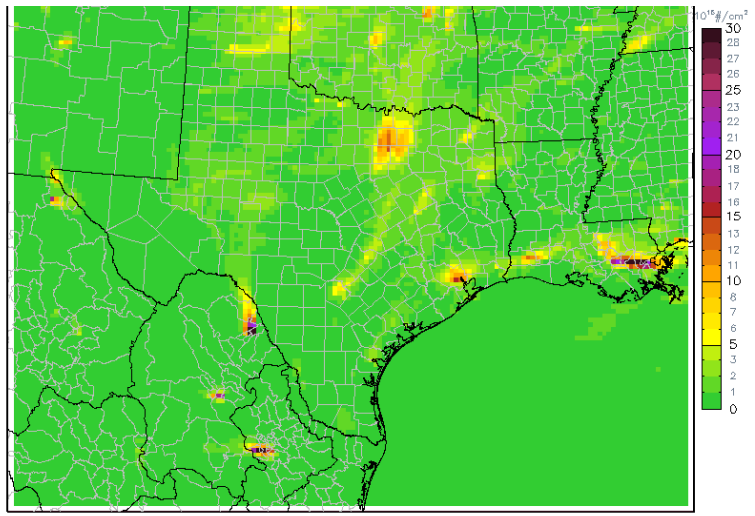
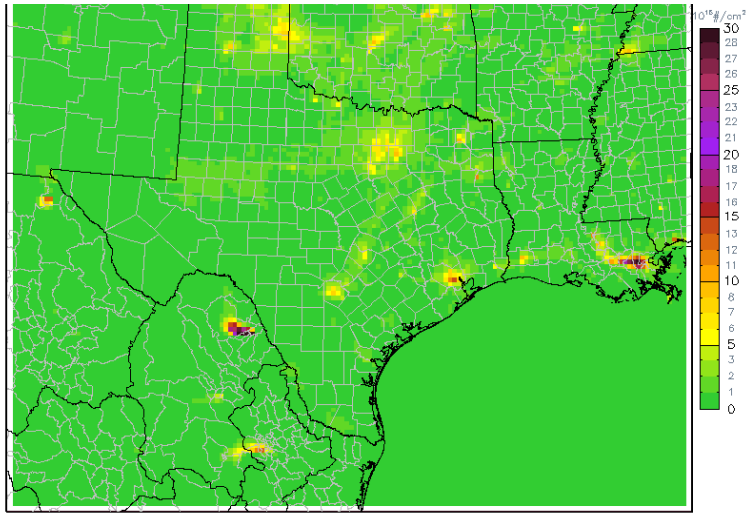
12km CMAQ & Satellite NO_2 column

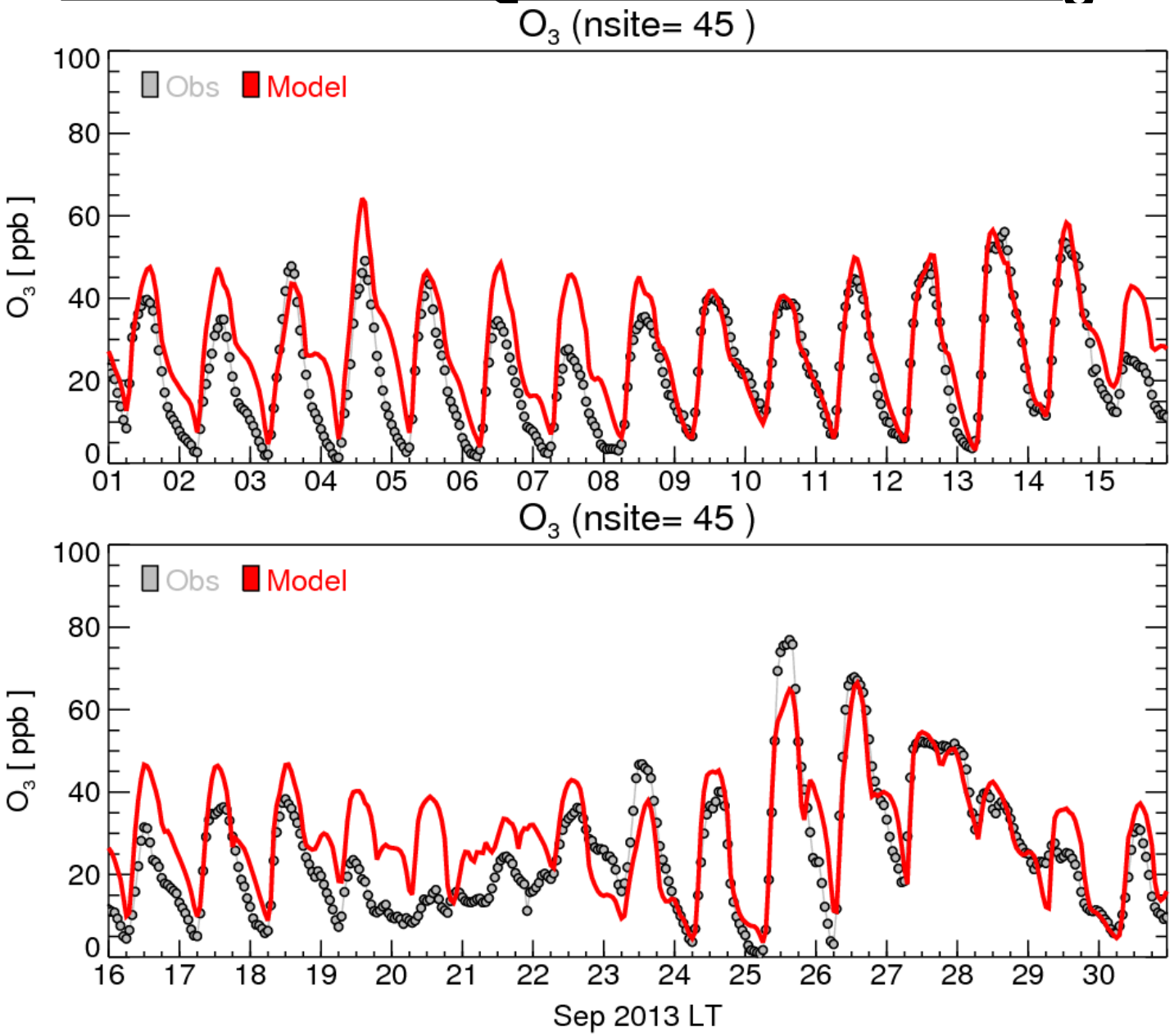








4km CMAQ & AIRNow O_3



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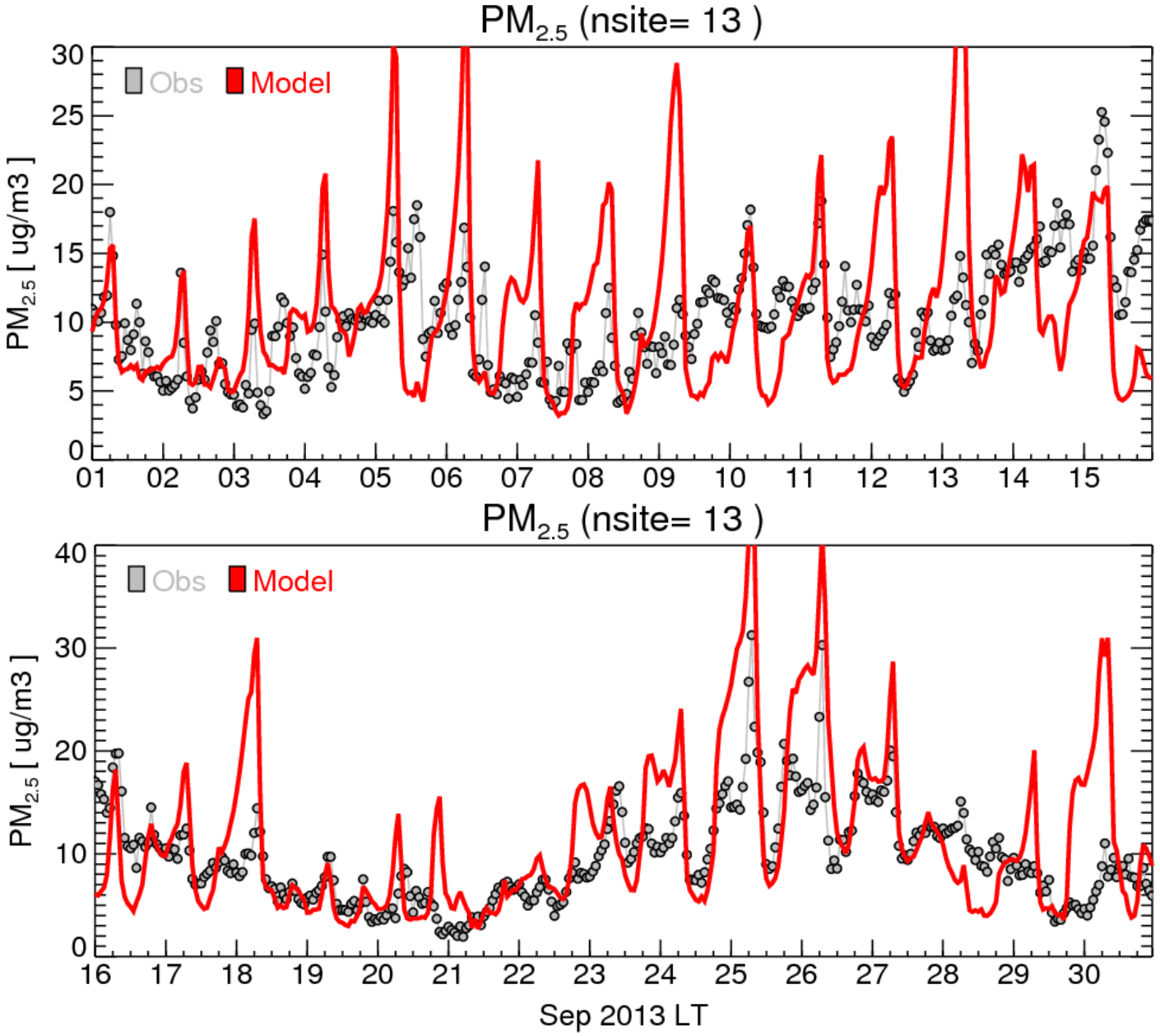
4km CMAQ & AIRNow PM2.5



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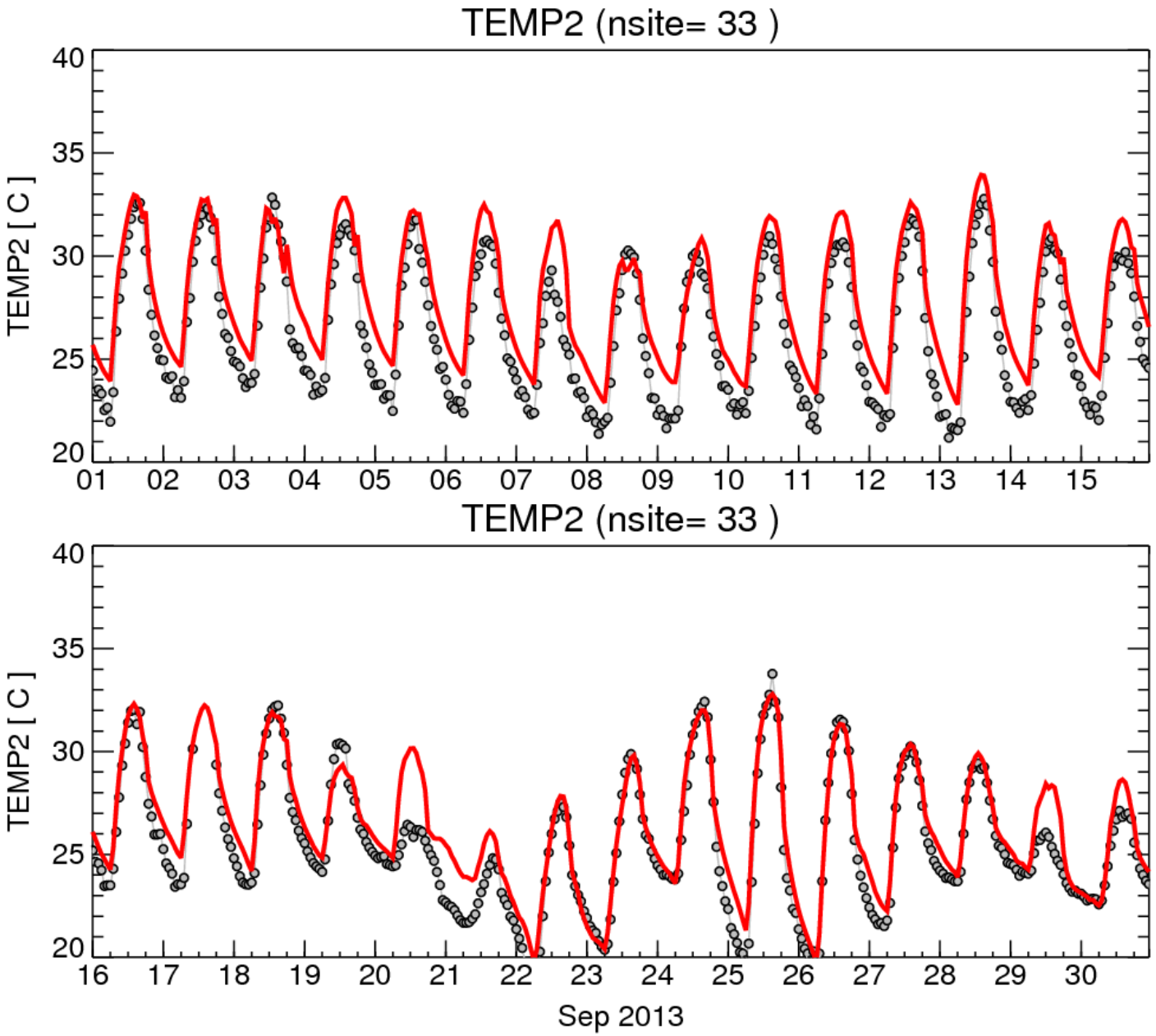
4km WRF & MADIS TEMP



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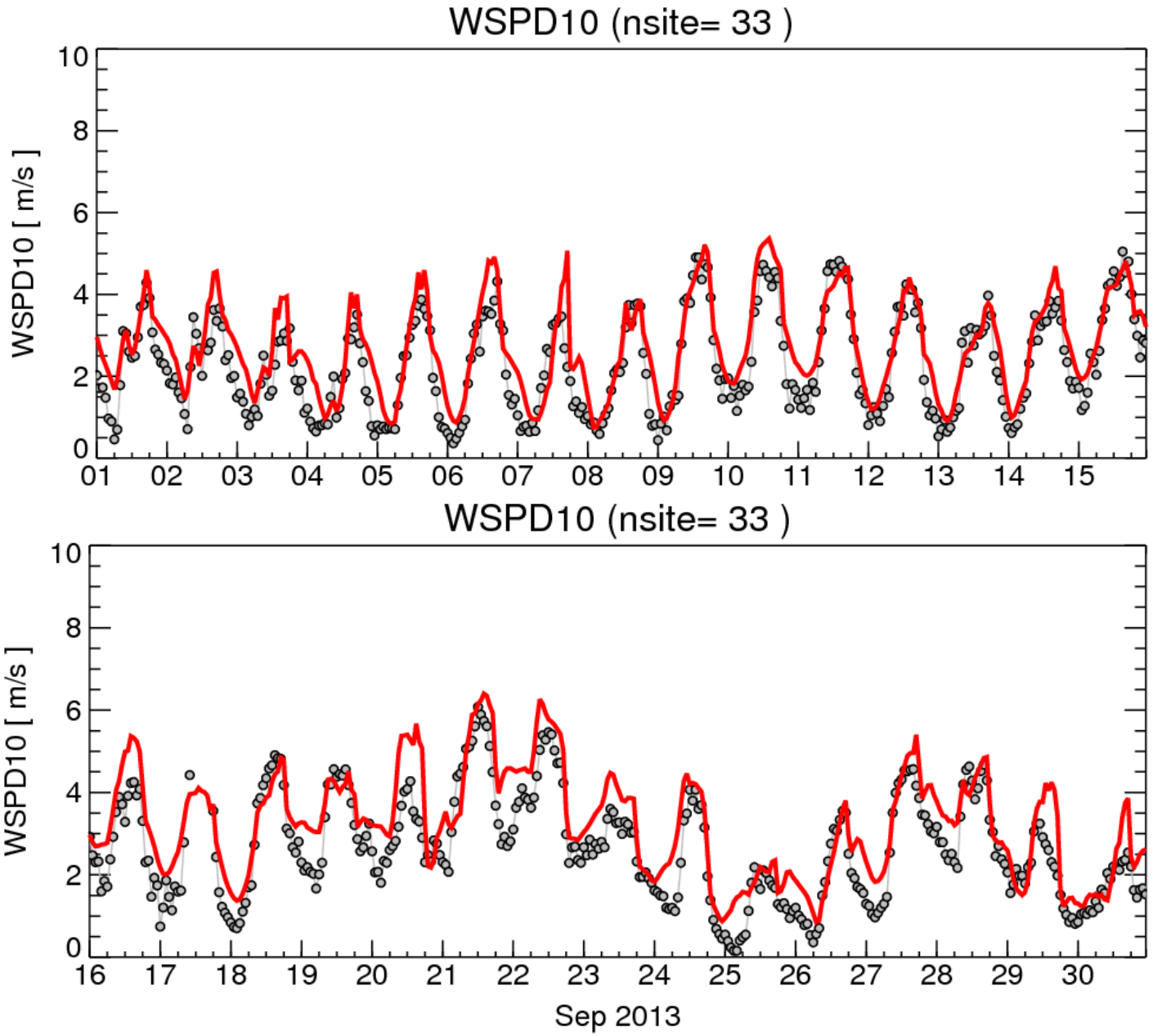
4km WRF & MADIS WSPD



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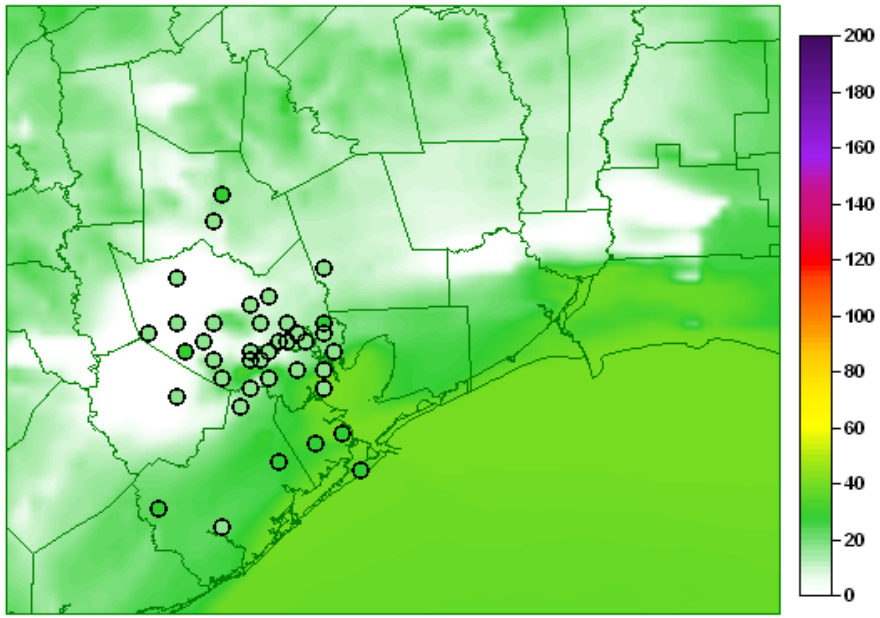
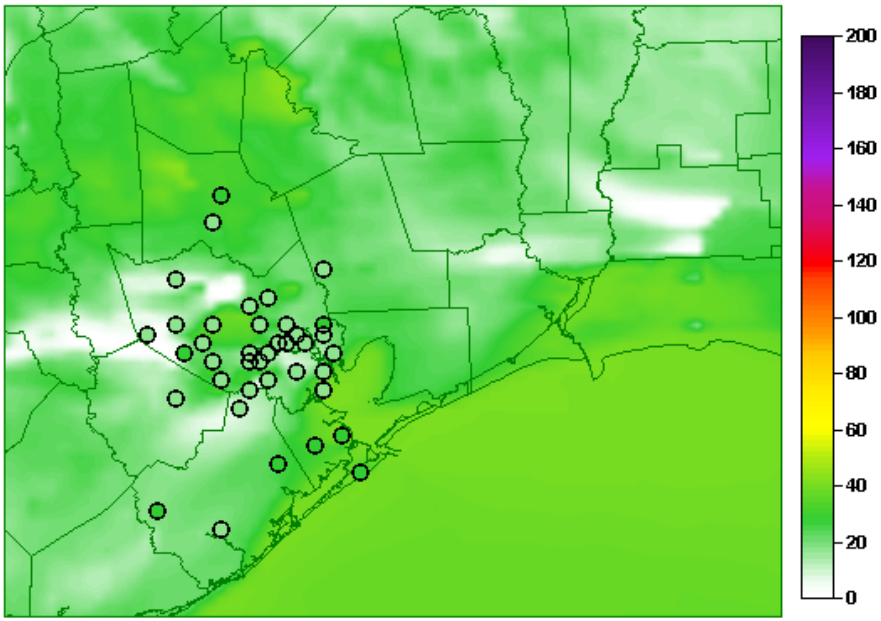
4km CMAQ O_3 with NAM and NARR (reanalysis data)

AQF

Re-simulated with NARR met data



Discovery AQ O3 (ppb) 20130924: 00 CST



Discovery AQ NARR O3 (ppb) 20130924: 00 CST

UNIVERSITY of HOUSTON