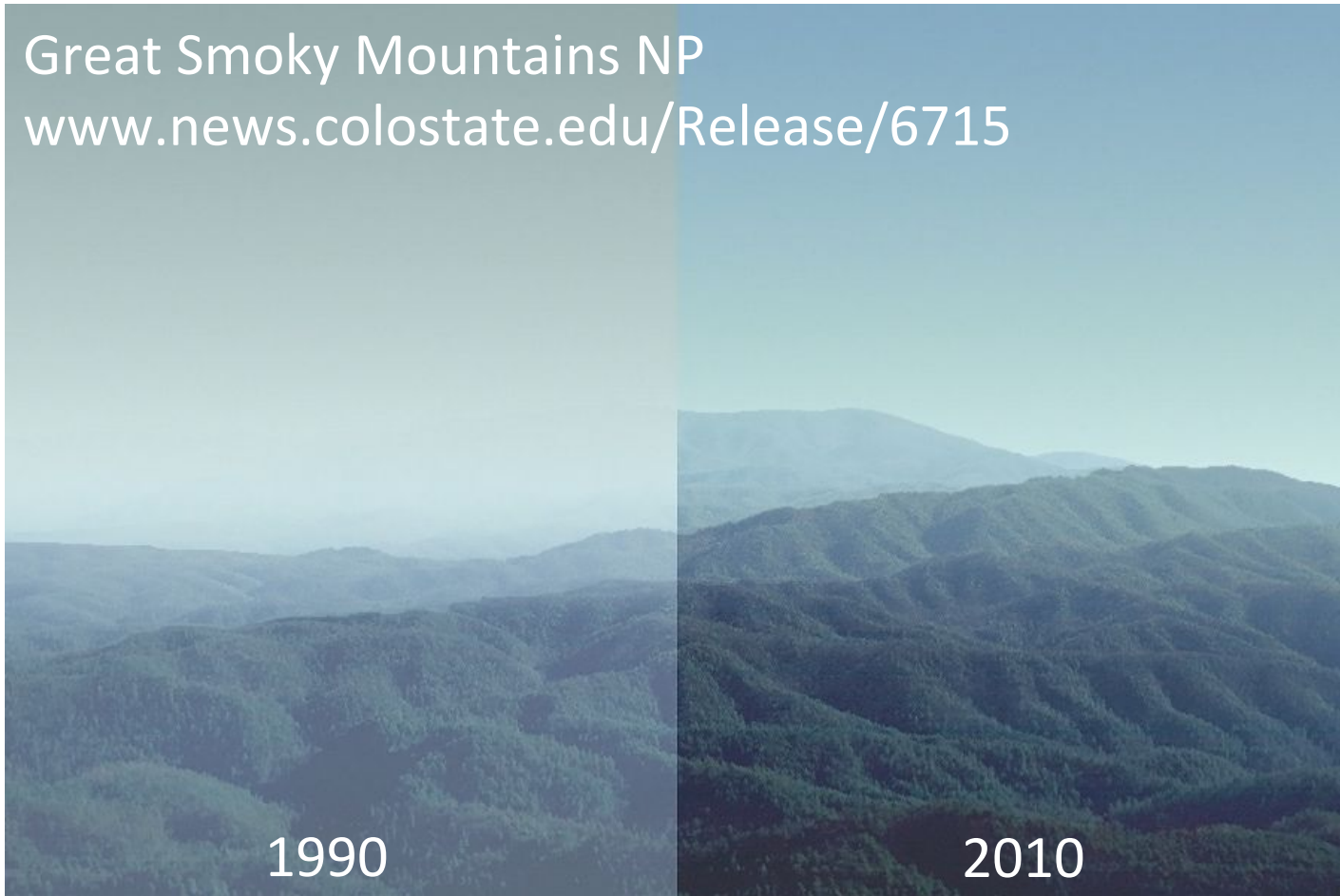


Southeast Nexus

Great Smoky Mountains NP

www.news.colostate.edu/Release/6715



- Can we separate the natural and man-made contribution to air pollution in the Southeast?
- What are the climate-relevant properties?

SETEX in the Larger Context

Four aircraft:

- | | | | |
|---------------|----------------|------------------|---------|
| 1. NOAA WP-3D | Smyrna, TN | June 3 – July 15 | |
| 2. NCAR C-130 | Smyrna, TN | June 1 – July 15 | |
| NAAMEX | Mercury | Jaffe | |
| SOAS | Biogenic VOCs | Guenther | NOMADSS |
| TROPHONO | HONO | Zhou, Stutz | |
| 3. Duchess | Tuscaloosa, AL | Shepson | |
| 4. Long-EZ | Tuscaloosa, AL | Mak | |

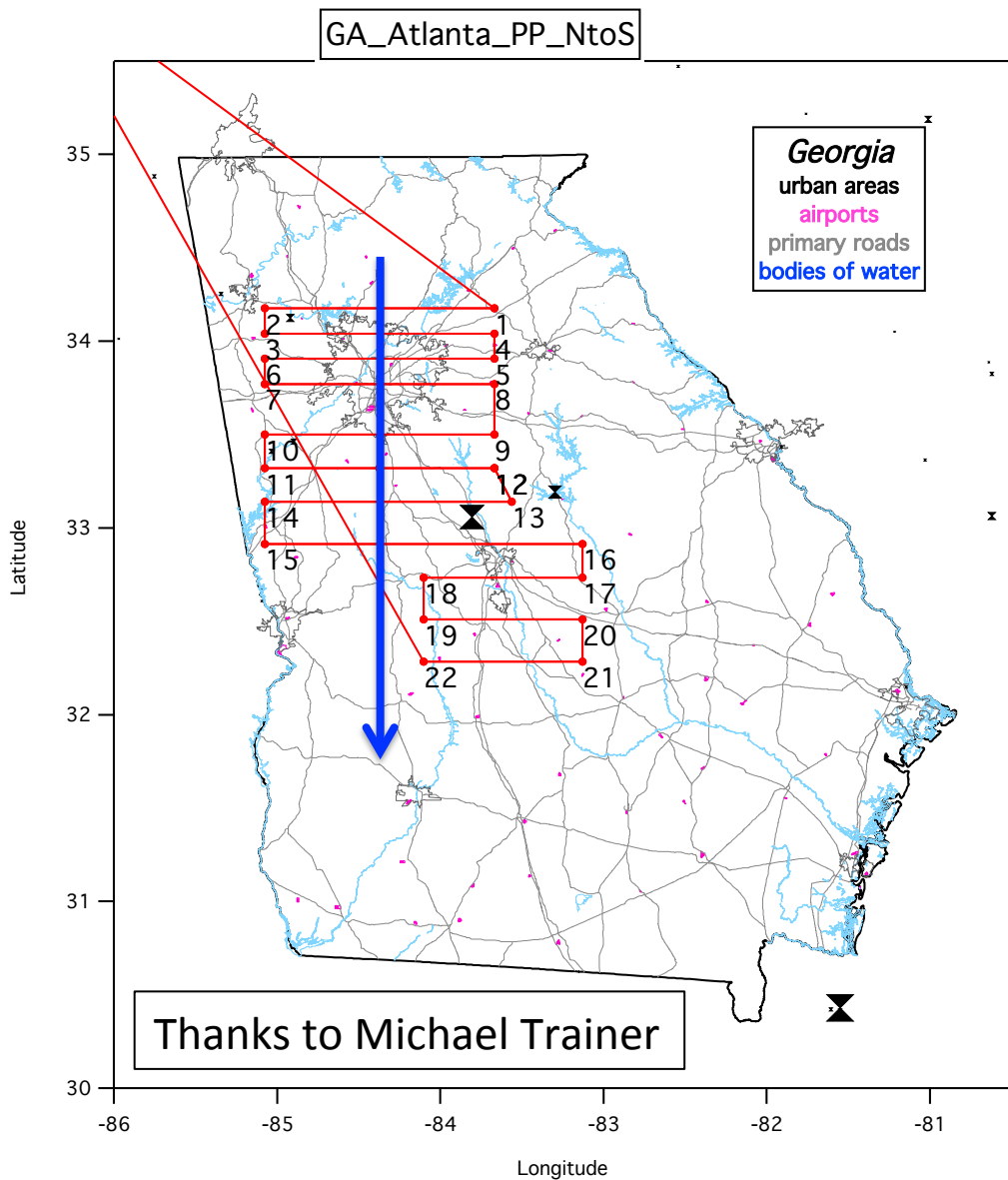
Four ground sites:

- | | |
|------------------------|-----------------------------|
| 1. CTR SEARCH site, AL | Carlton, Goldstein, Jimenez |
| 2. AABC flux site, AL | Guenther |
| 3. Look Rock, TN | Surratt |
| 4. RTP, NC | Offenberg |

Planning, Coordination and Communication

- P-3 flight planning is done by Michael Trainer
Discuss flight ideas with Michael (michael.k.trainer@noaa.gov)
- C-130 flight planning is mostly independent of ours
Looking into the possibilities of an inter-comparison
- Regular conference calls between platform PIs
Discuss forecasts, planning, status, results, ideas
- Google+ Community “Southeast Atmosphere Study 2013”
Vision: 24/7 X-chat between participants of SAS 2013
Share information, discuss results and ideas
NB: private network, invitation only, moderated, not searchable
46 members so far from SENEX, SOAS and NOMADSS
Sign in or sign up for Google+; Contact Joost de Gouw

Flight Plans: O₃-SOA Formation in Clear Air

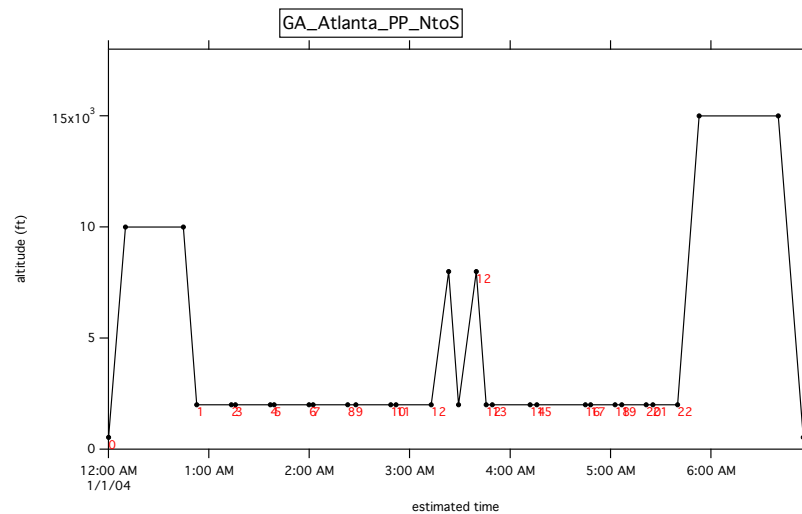


Oxidants & aerosol formation in:

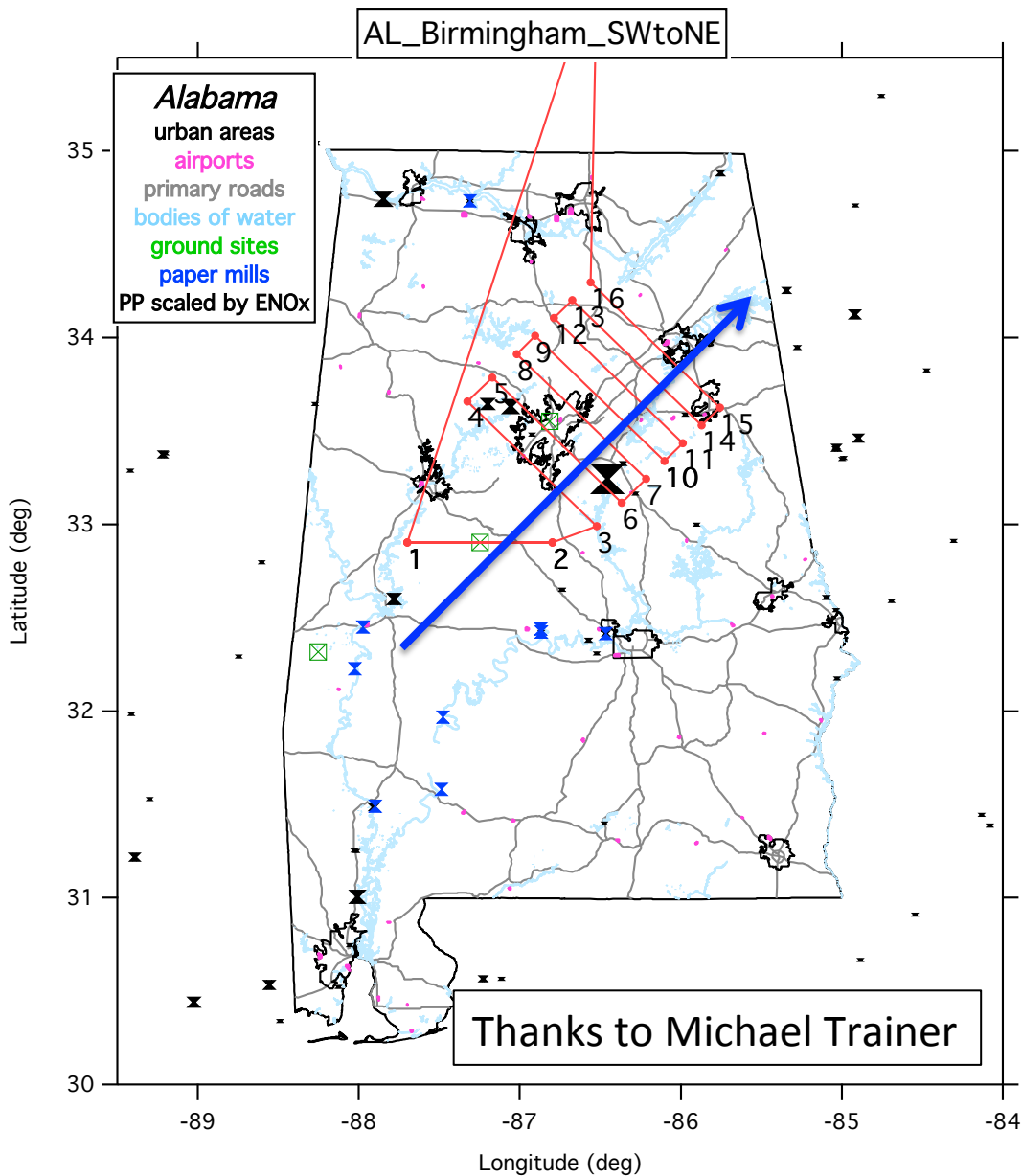
- Urban plumes: NO_x, SO₂, POA, BC and anthropogenic VOCs
- Power plant plumes: NO_x, SO₂, no POA, no anthropogenic VOCs

With high and low biogenic VOCs

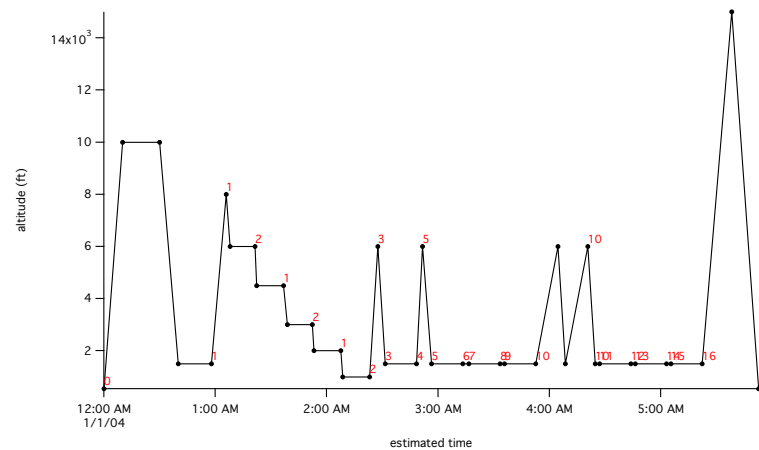
Cities: Atlanta, St. Louis, Nashville, Birmingham, Indianapolis



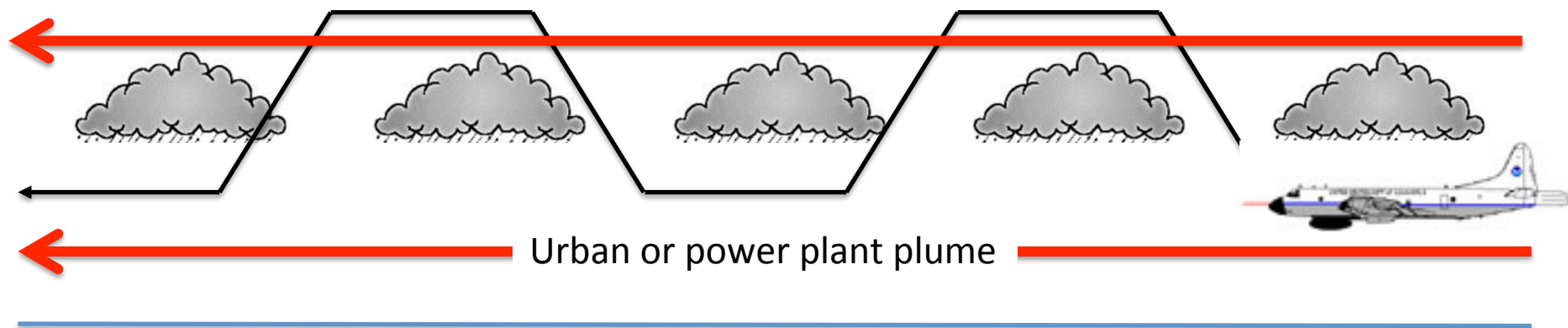
Flight Plans: O₃-SOA Formation in Clear Air



Example of a Birmingham flight including overpass of the Centreville site



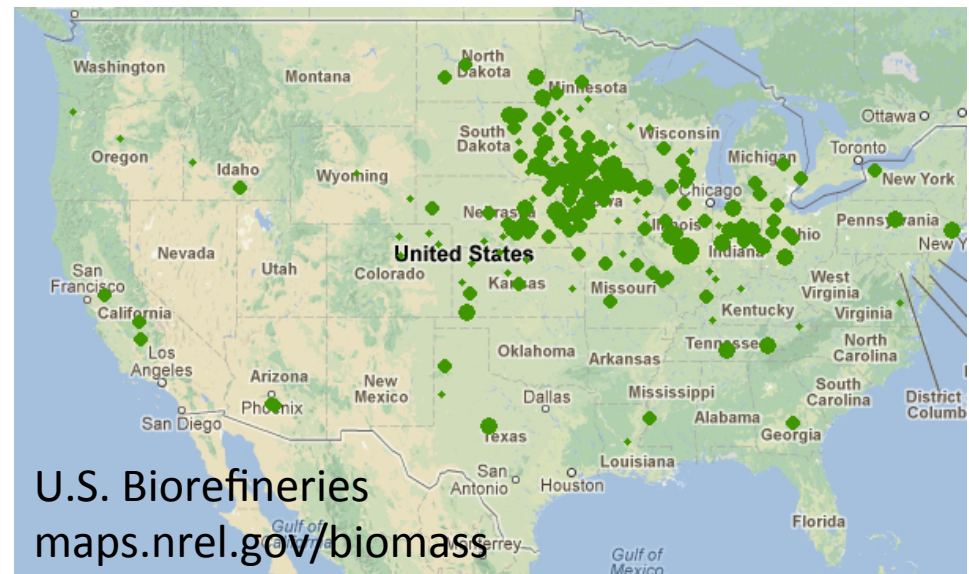
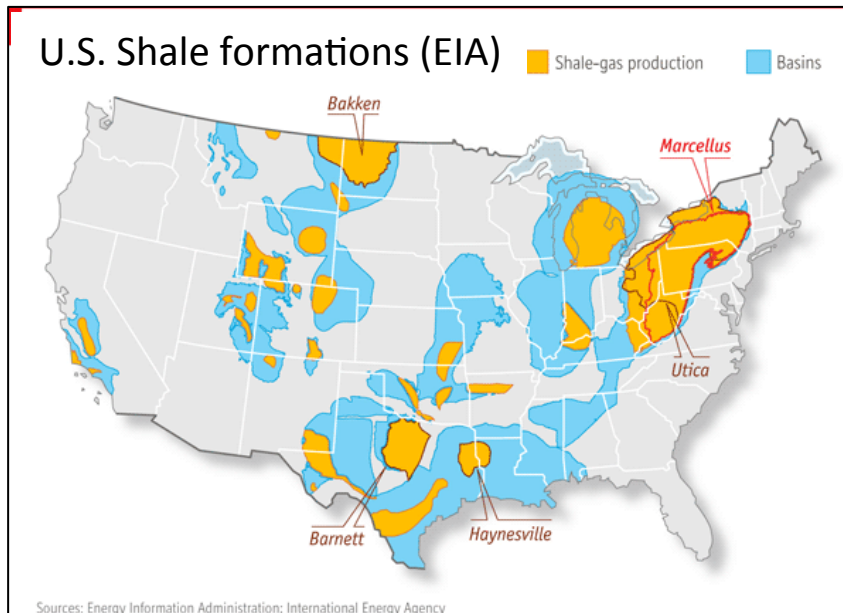
Flight Plans: SOA & Sulfate Formation in Clouds



- Compare chemical evolution of plume above and below clouds
- Identify and quantify cloud-modified formation of sulfate, organics, others above cloud
- Successfully done during 1 flight in TexAQS 2006; will be looking for opportunities during SENEX

Flight Plans: Other Goals

1. Nighttime chemistry and SOA formation
2. Regular overpasses of Centreville site
3. Potential inter-comparison flights with C-130
4. Emissions from natural gas production in Haynesville Shale
5. Emissions from biofuel refineries (Archer Daniels Midland, Decatur, IL)

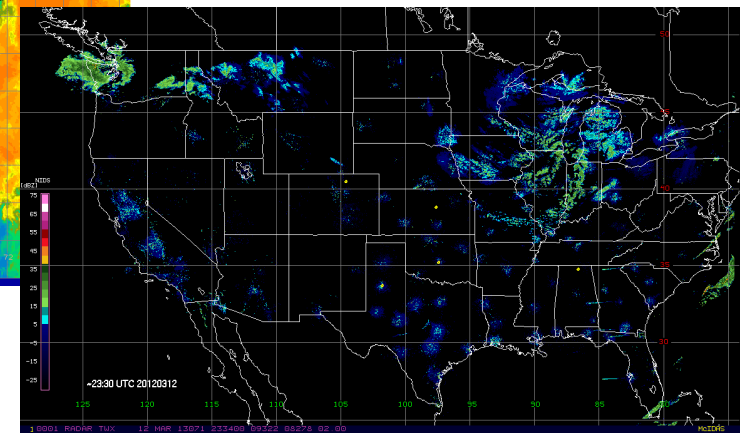
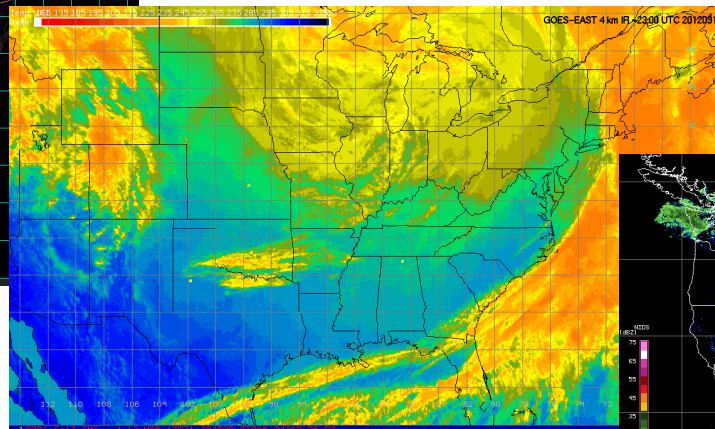
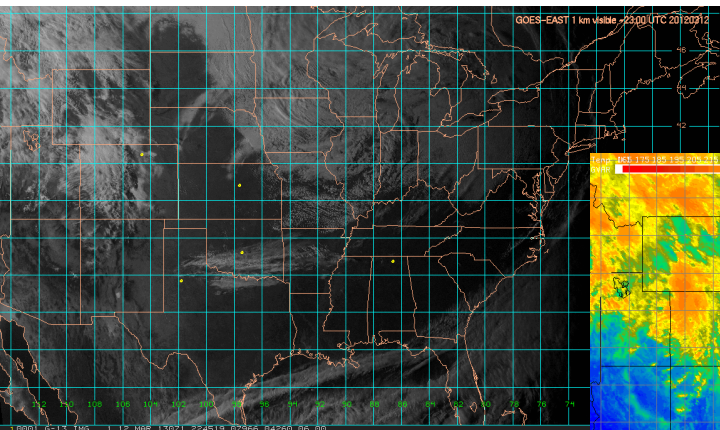


Forecast, Imagery and Modeling

1. GOES visible and IR: every 15 min, archived for the entire study period, U.S. and sub-regions
2. Composite radar - base reflectivity

Examples for DC3 (Owen Cooper):

www.esrl.noaa.gov/csd/groups/csd4/metproducts/2012dc3/

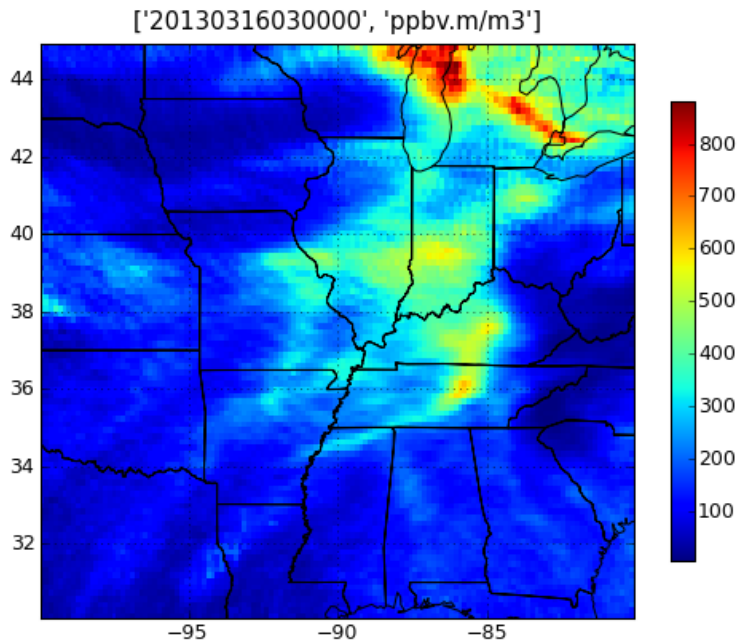


Forecast, Imagery and Modeling

3. Flexpart forecasts (biomass burning, anthropogenic, perhaps simplified biogenic)
4. Flexpart analyses: time series and footprints for WP-3D flight tracks and ground sites

Forecast site already up (Jerome Brioude):

www.esrl.noaa.gov/csd/groups/csd4/forecasts/senex/

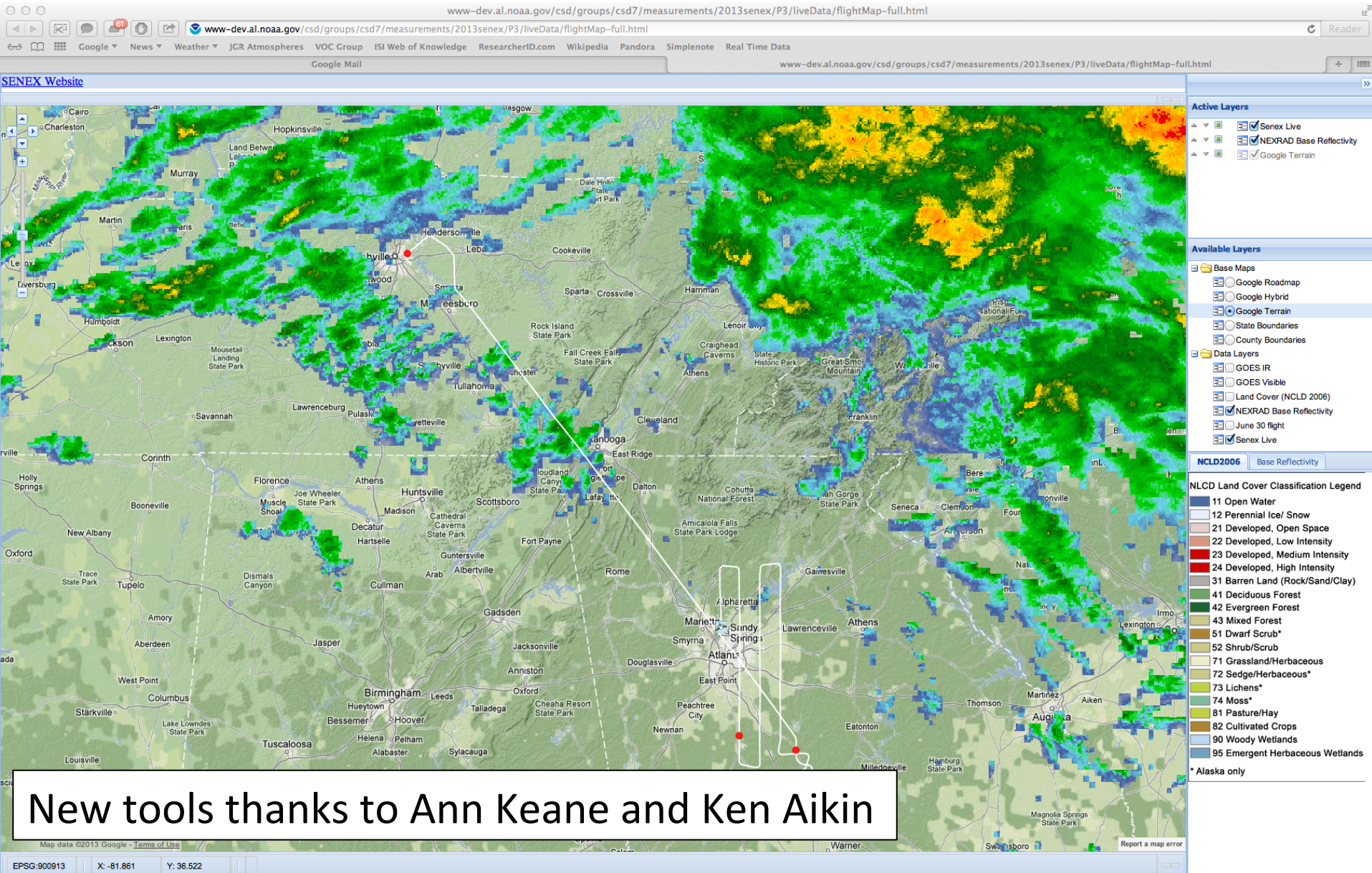


North-American CO
Forecast for March 16, 2013
Column CO
Transport time of 10 days

Forecast, Imagery and Modeling

5. WRF-Chem model output: not forecasts (Stu McKeen and Ravan Ahmadov)
6. GFDL AM3 model: output along WP-3D flight tracks and for ground sites (Larry Horowitz, Jingqiu Mao)
7. Emissions: Map viewer (Greg Frost)
8. Real time NOAA WP-3D data on top of various imagery and model forecasts

Real-Time Flight Data



New tools thanks to Ann Keane and Ken Aikin

Data

As always:

- Submit asap after flights to Ken Aikin via FTP (kenneth.c.aikin@noaa.gov)
- ICARTT format
[www.esrl.noaa.gov/csd/groups/csd7/measurements/icartt format info.html](http://www.esrl.noaa.gov/csd/groups/csd7/measurements/icartt_format_info.html)
- Report data on 1-sec AOCTimewave
- Tools to handle data provided in IGOR Pro
- Detailed instructions to follow

Nashville and Smyrna



Satellite
Traffic



Nashville International Airport

Smyrna Rutherford County Airport



Map

Traffic

Hangar 634
NOAA WP-3D

Hangar 621
NSF C-130

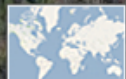
Smyrna Air Center
Smyrna/Rutherford County
Airport Authority

Smyrna
Golf Course

VI-Jon
Laboratories

Sanders
Cemetery

1000 ft
200 m



Map

Traffic



Hangar 634
NOAA WP-3D



US Naval Reserve Recruiting

100 ft
50 m

Security at Smyrna Airport

- “Monterey style”
- Can use CAC cards for access
- Non-CAC card holders: stay tuned
- Pad-lock in gates for vehicle access
- Need to complete SIDA / Driver training
- Will need to provide list of all names and dates

- Security requirements are straightforward for us to deal with
- Do comply with all the rules and be a responsible guest

Lodging

Alert! Alert! Alert!
Country Music Festival - June 6-9:
Large demand for hotel rooms and rental cars

Four options for lodging:

1. Stone Ridge Farm apartments (option for 17 people)
2. Verandas at Sam Ridley (option for 10 people)
3. Hotels at US 24 and Sam Ridley Pkwy (still availability)
4. Block of 34 rooms at SpringHill Suites near BNA (15 mile)

Gerd Hübler is working on this (gerhard.hubler@noaa.gov)

CSD people:	we're looking for more apartments
Shorter-term travelers:	we're looking for best hotel deals
External:	will pass on information we obtain

Arrange travel (flights + rental car) after installation travel set up



Smyrna airport

Stone Ridge Apartments

Verandas

Hotel Row:
Hilton Garden Inn
Hampton Inn & Suites
La Quinta Inn & Suites
Others

Finally, a Ghost from Christmas Past

- UBWOS 2013 workshop has now been scheduled for July 22-23, i.e. the day the truck returns from Tampa
- UBWOS groups need to decide who to send to Vernal and who will stay behind to unpack