ClearSky2 Development Status

Emissions approach

Dispersion Modeling

Web Interface

   Front end based on the gaming version.

   Results display via GMAP as in AP4.

EMISSIONS

- Exploring using BlueSky FRAMEWORK to convert agricultural field burning scenarios into PM2.5 tracer emissions

- Current FRAMEWORK modules not well suited, by default, to peculiarities of field burning.

- Experimentation with modifying FRAMEWORK modules…

- Seeking ability to create new modules for testing and perhaps distribution with BlueSky…

- Near Term solution is using idiosyncratic code outside the BlueSky FRAMEWORK

emissions approach

Web-interface for field burning scenario definition

Non-framework code produces emissions and plume rise in SMOKE-ready files

S.M.O.K.E. processing

CMAQ Tracer Dispersion

Dispersion

- CMAQ 4.6 built with 21 tracer species
- Tracer is a nonreactive, non-depositing gas (Mol. Wt. = 1.0) representing PM2.5
- Zero-valued Boundary and Initial Conditions (so far) for agricultural fire application.
- Testing on the 4-km AIRPACT-4 domain (285 by 258 cells)
- Test on a 1.3 km domain?
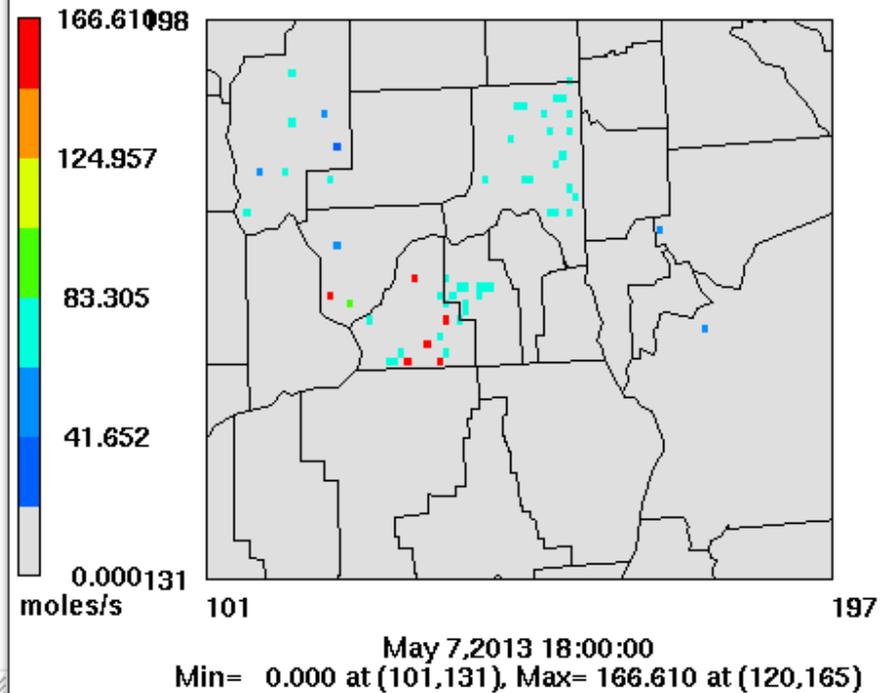
Emissions of tracer AP3_NRTracer01

Cells (1,1,1)->(285,258,1)

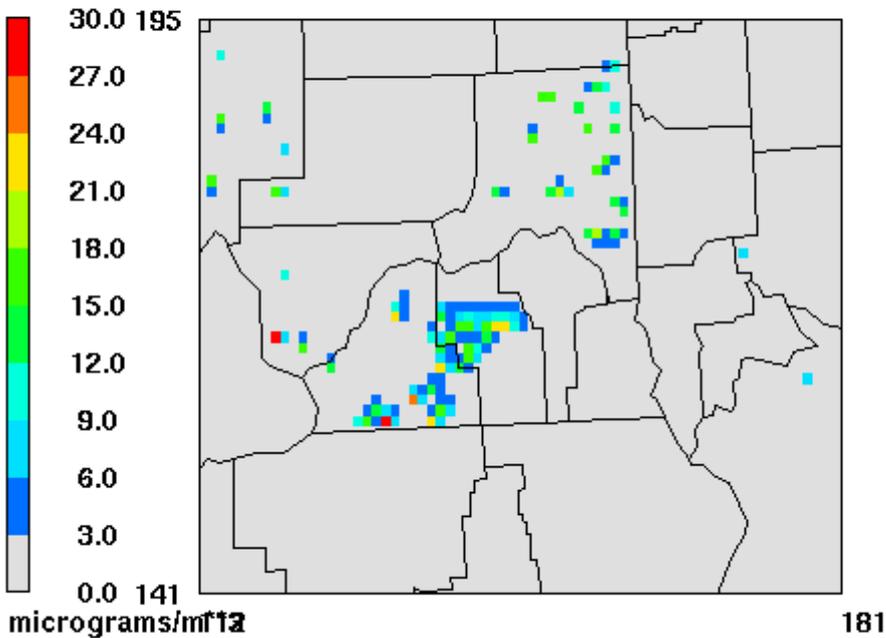AP3_NRTracer01a Average Concentrations Over Time
a=OUTFILE

Time Step (5/7/13 8:00:00 to 5/8/13 8:00:00)
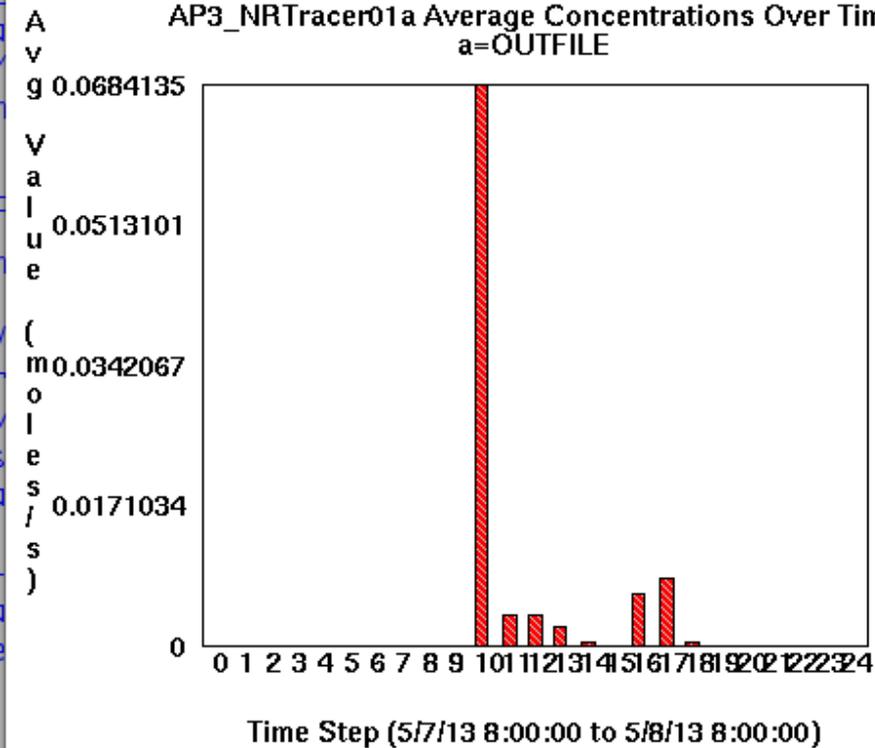
Layer 1 AP3_NRTracer01a

a=OUTFILE

May 7,2013 18:00:00
Min= 0.000 at (101,131), Max= 166.610 at (120,165)
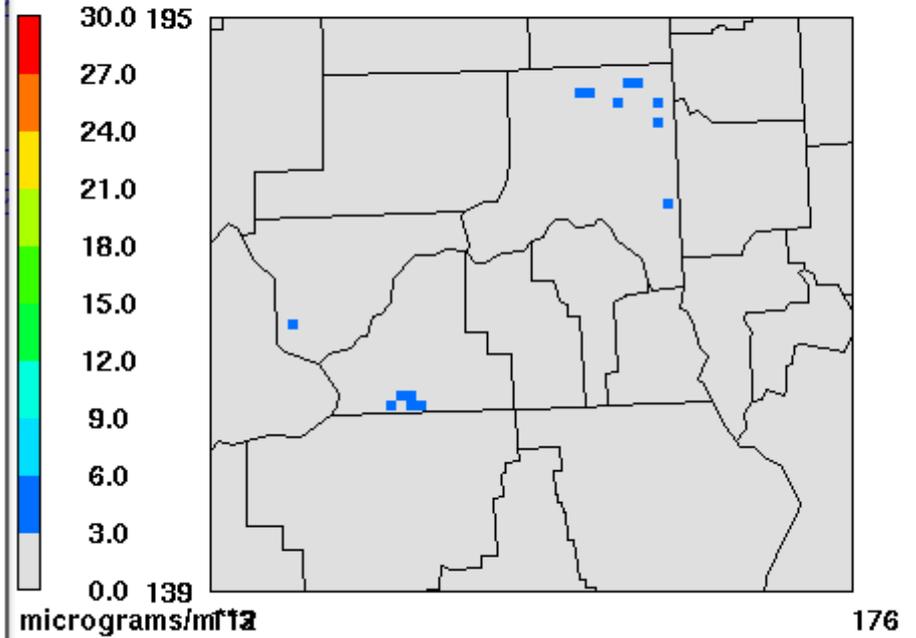
Test dispersion results

Layer 1 AP3_NRTracer01a

a=CONC_2013127.ncf

microgams/m㎥
May 7,2013 18:00:00
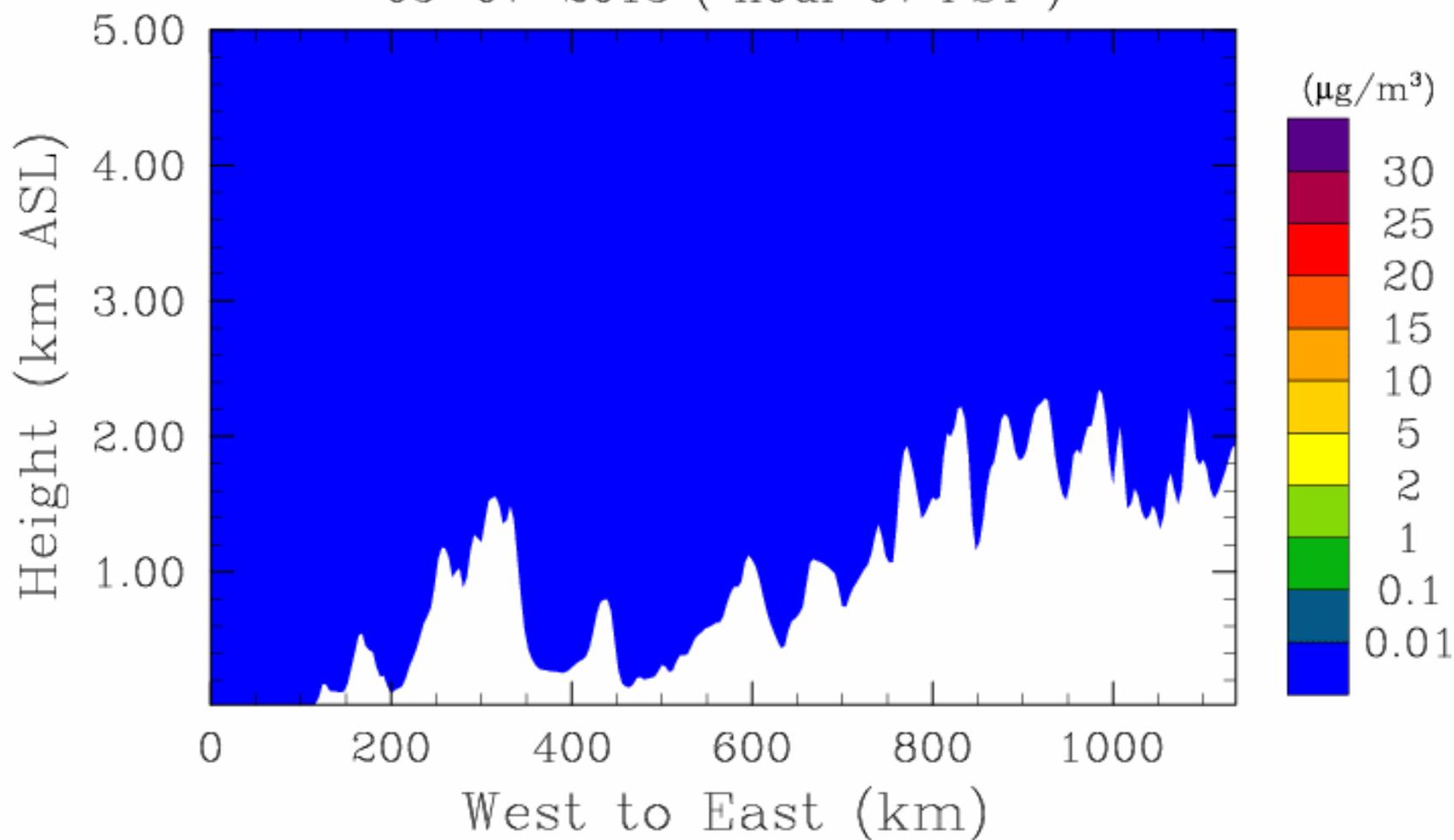Min=   0.0 at (112,141), Max=   30.1 at (120,165)

Layer 10 AP3_NRTracer01a

Layer 10 Height is 700 – 750 m.a.g.l.

microgams/m㎥
May 7,2013 18:00:00
Min=   0.0 at (112,139), Max=   5.6 at (132,157)

CLEARSKY Tracer (row 166)

05-07-2013 (hour 07 PST)

WRF 1.3-km Domain for Eastern WA.
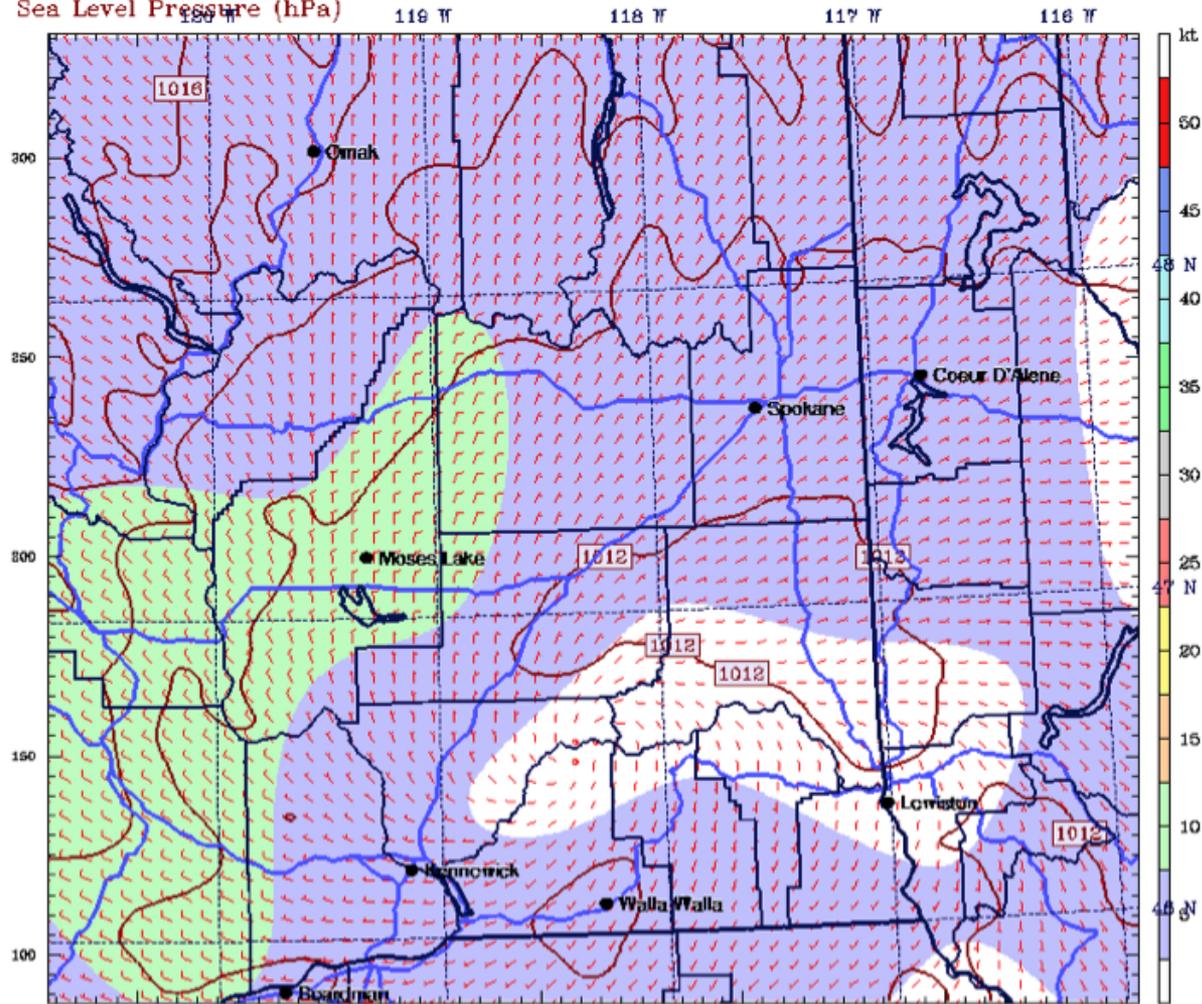
ClearSky2 Development Status

Soumita Kundu, graduate student, is leaving program…

Target is getting a beta system for:

- testing this summer…
- testing and use during the RARE study.

--- end for ClearSky status ---