

VOC Canister Sampling for Victoria

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VOC Canister Activities Fy 2010/2011

VOC Canisters at four sites from 8:00 to 9:00 a.m.

- May 9, 10 and 11, 2011

VOC Canister Sampling

- Emission inventory development and refinement is a critical component for photochemical modeling studies.
- 1-hour averaged VOC samples can be used to evaluate the VOC emissions inventory.
- The sample results can be compared to model results

VOC Canister Sampling

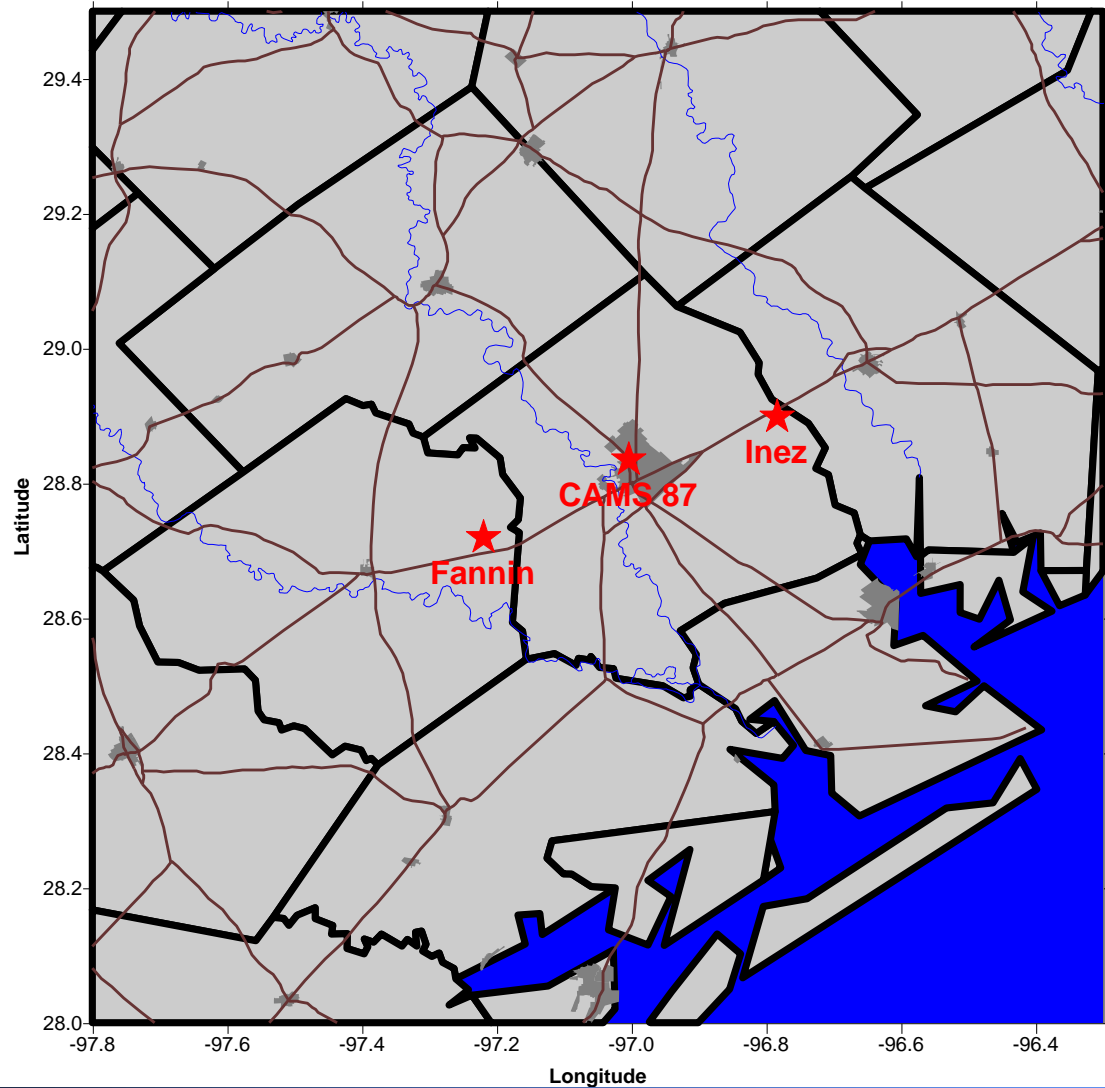
- 2005 - 40 samples collected at 3 sites on 13 days
 - CAMS87
 - Memorial Square Park
 - Invista
- 2006 - 7 samples collected at 1 site on 7 days
 - Memorial Square Park
- 2007 - 28 samples collected at 1 site on 28 days
 - Memorial Square Park
- 2008 – 14 samples collected at 1 site on 14 days
 - Memorial Square Park

VOC Canister Sampling

- 2011 - 12 samples collected at 4 sites on May 9, 10 and 11
 - CAMS87
 - Memorial Square Park
 - Inez CAMS 609
 - Coletto CAMS 624

VOC Canister Sample Collection

- 1-hour averaged samples were collected in 6-liter stainless steel canisters
- The canisters were placed on the surface for the sampling
- Sample sites and times were based on modeling results
- The time of the year for the sample collection was based on conceptual model for ozone formation in Victoria
- Samples collected in May
- Samples collected between 7:30 am and 9:00 am
- Samples collected on consecutive days as much as possible
- Samples collected by City of Victoria

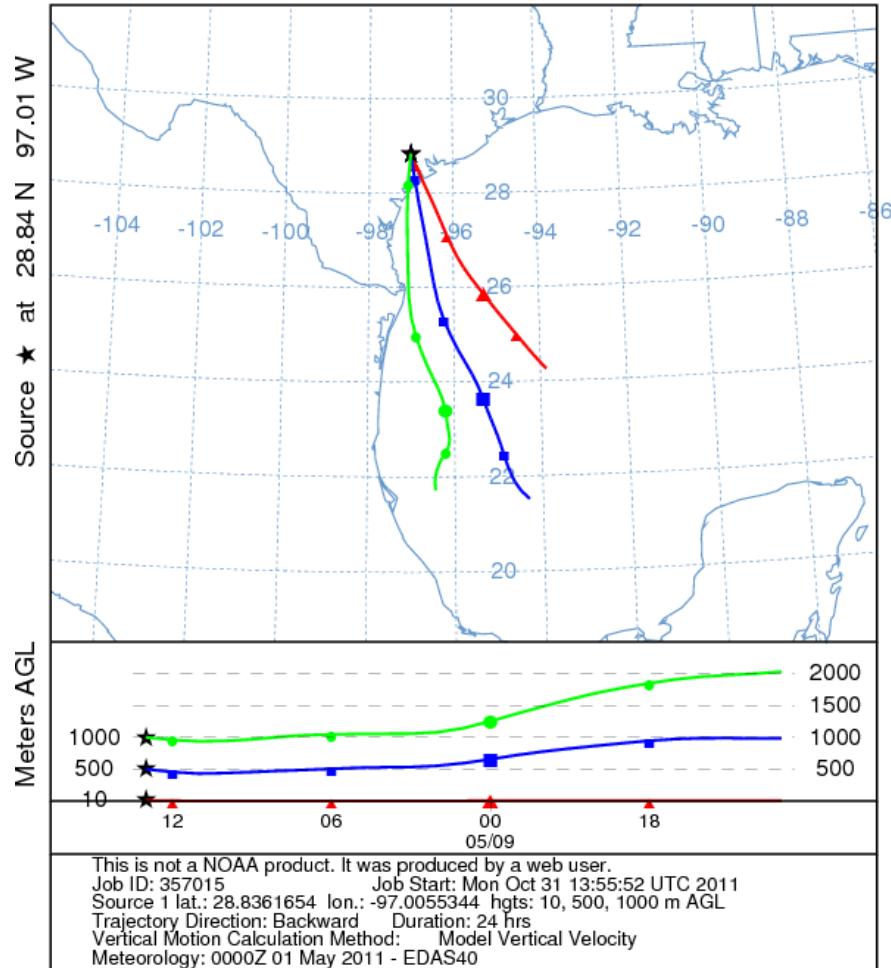


Analysis of Canisters

- Analyses with modified version of EPA method TO-14
- Analyses performed with gas chromatograph with flame ionization detector
- 75 compounds analyzed
- 15 compounds were most often measured at concentrations greater than 1.0 ppbV

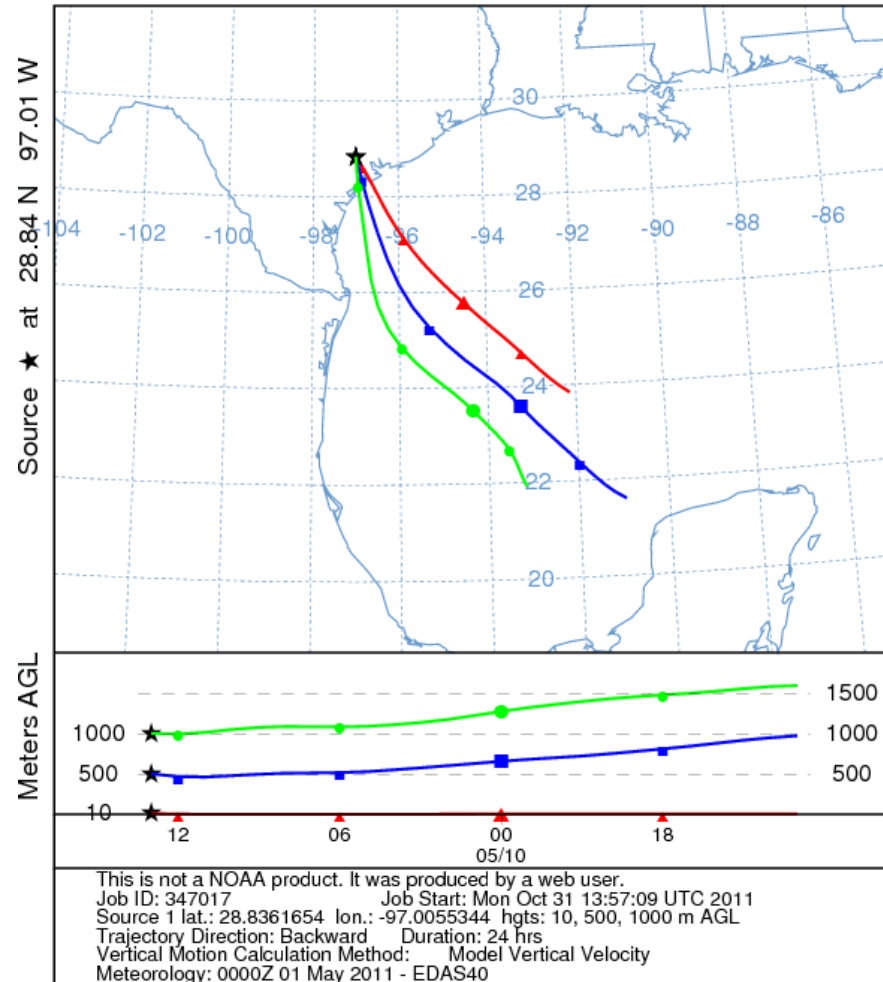
HYSPLIT Trajectory for May 9, 2011.

NOAA HYSPLIT MODEL
Backward trajectories ending at 1300 UTC 09 May 11
EDAS Meteorological Data



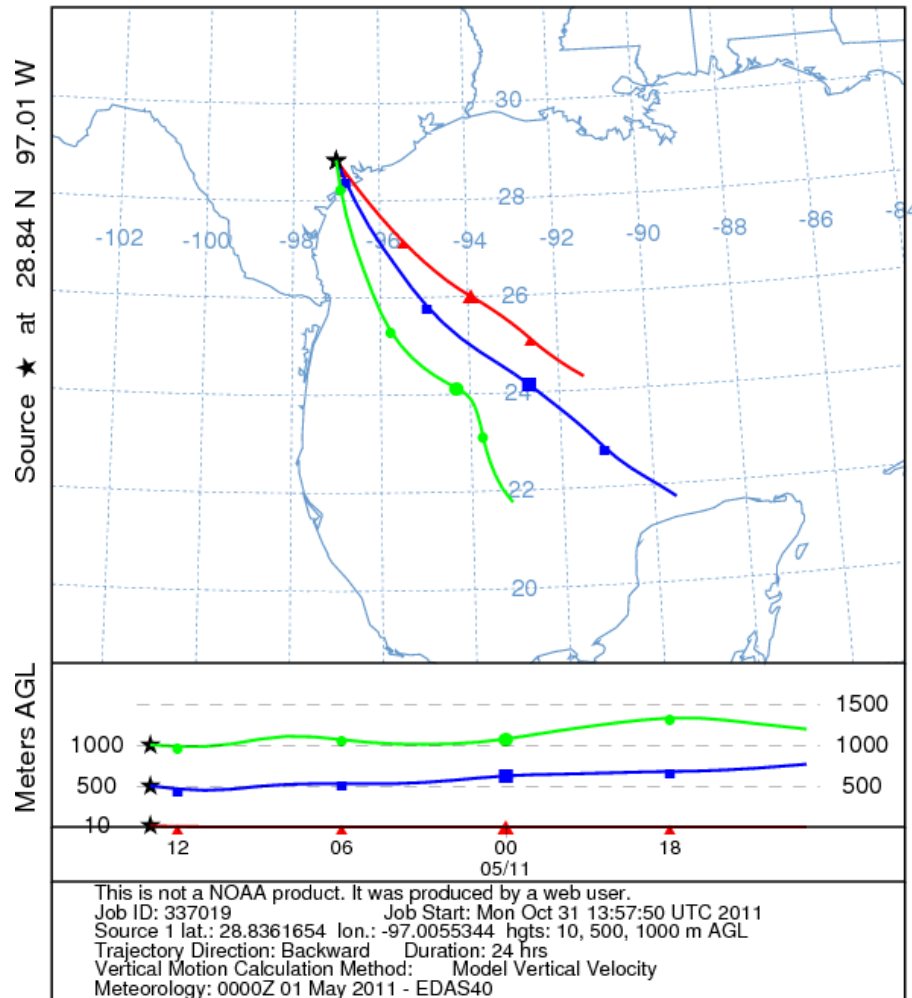
HYSPLIT Trajectory for May 10, 2011.

NOAA HYSPLIT MODEL
Backward trajectories ending at 1300 UTC 10 May 11
EDAS Meteorological Data



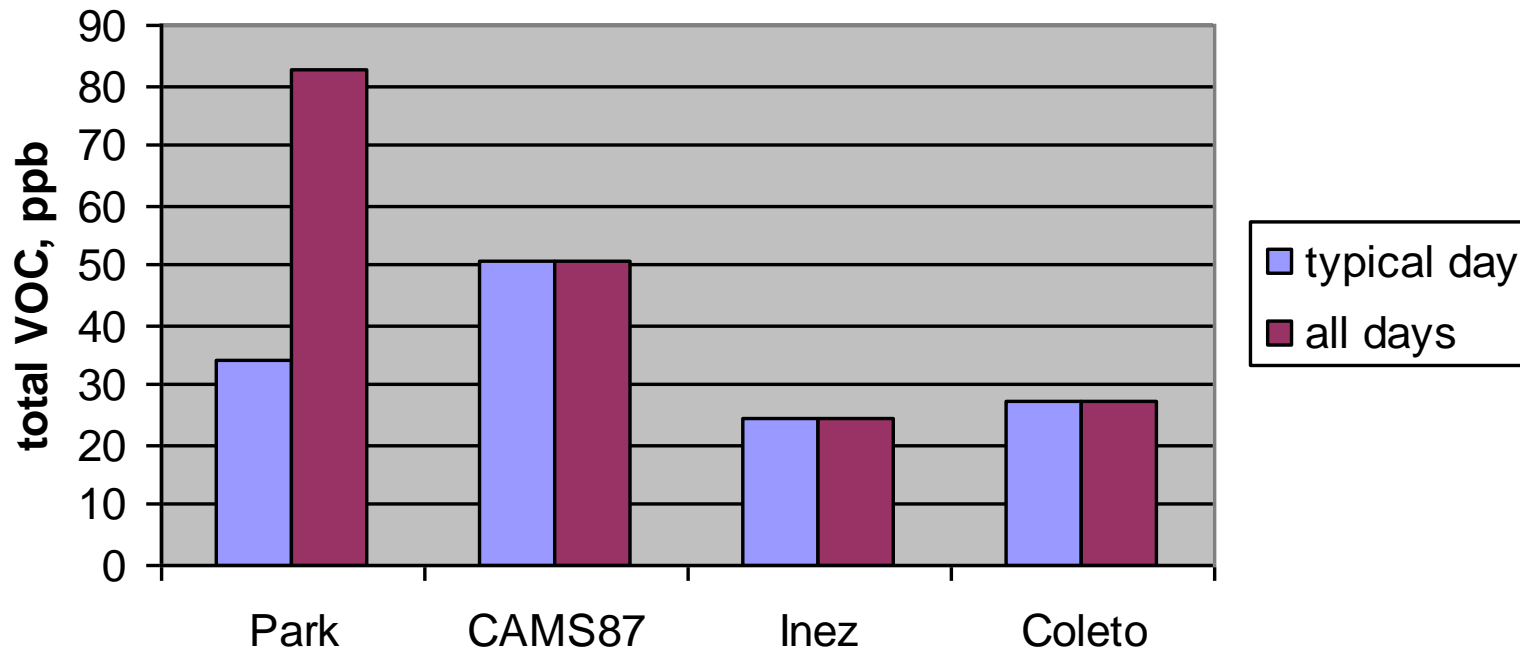
HYSPLIT Trajectory for May 11, 2011.

NOAA HYSPLIT MODEL
Backward trajectories ending at 1300 UTC 11 May 11
EDAS Meteorological Data



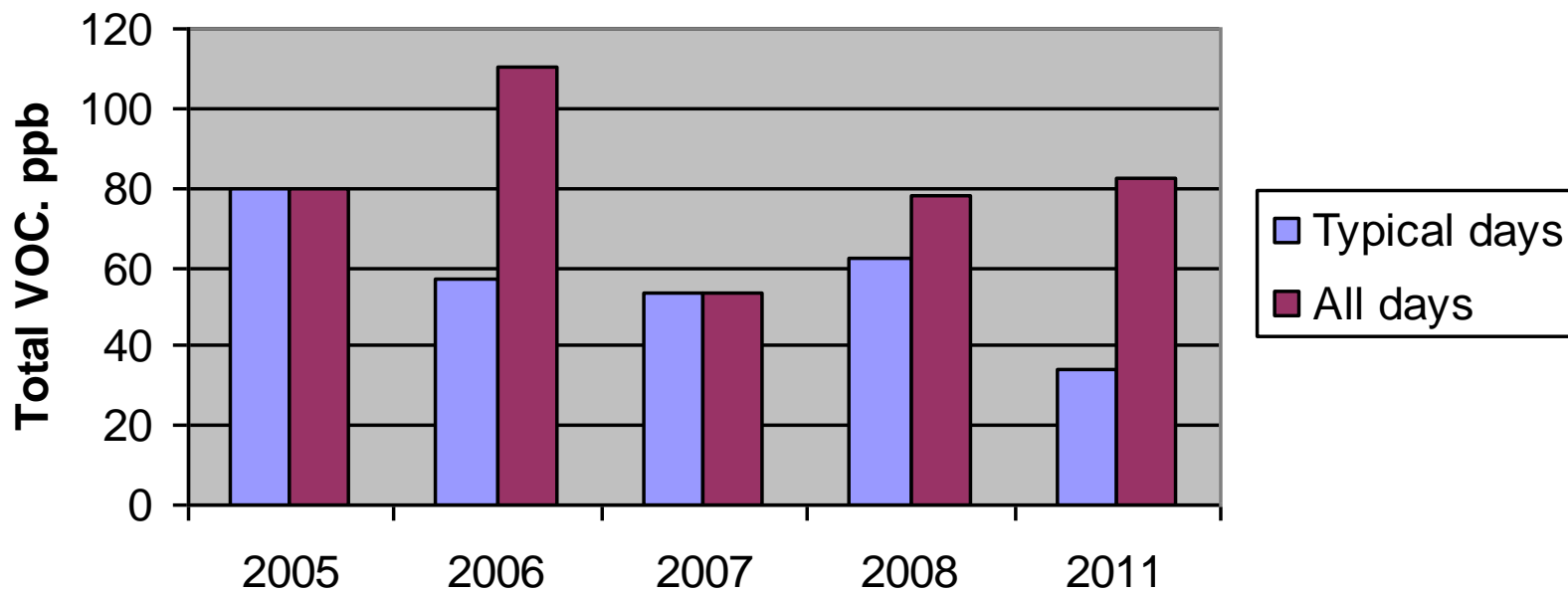
Initial Findings

VOC Canister Data Total VOC All Sites for 2011



Initial Findings

VOC Canister Data Average Total VOC Memorial Square Park



Initial Findings

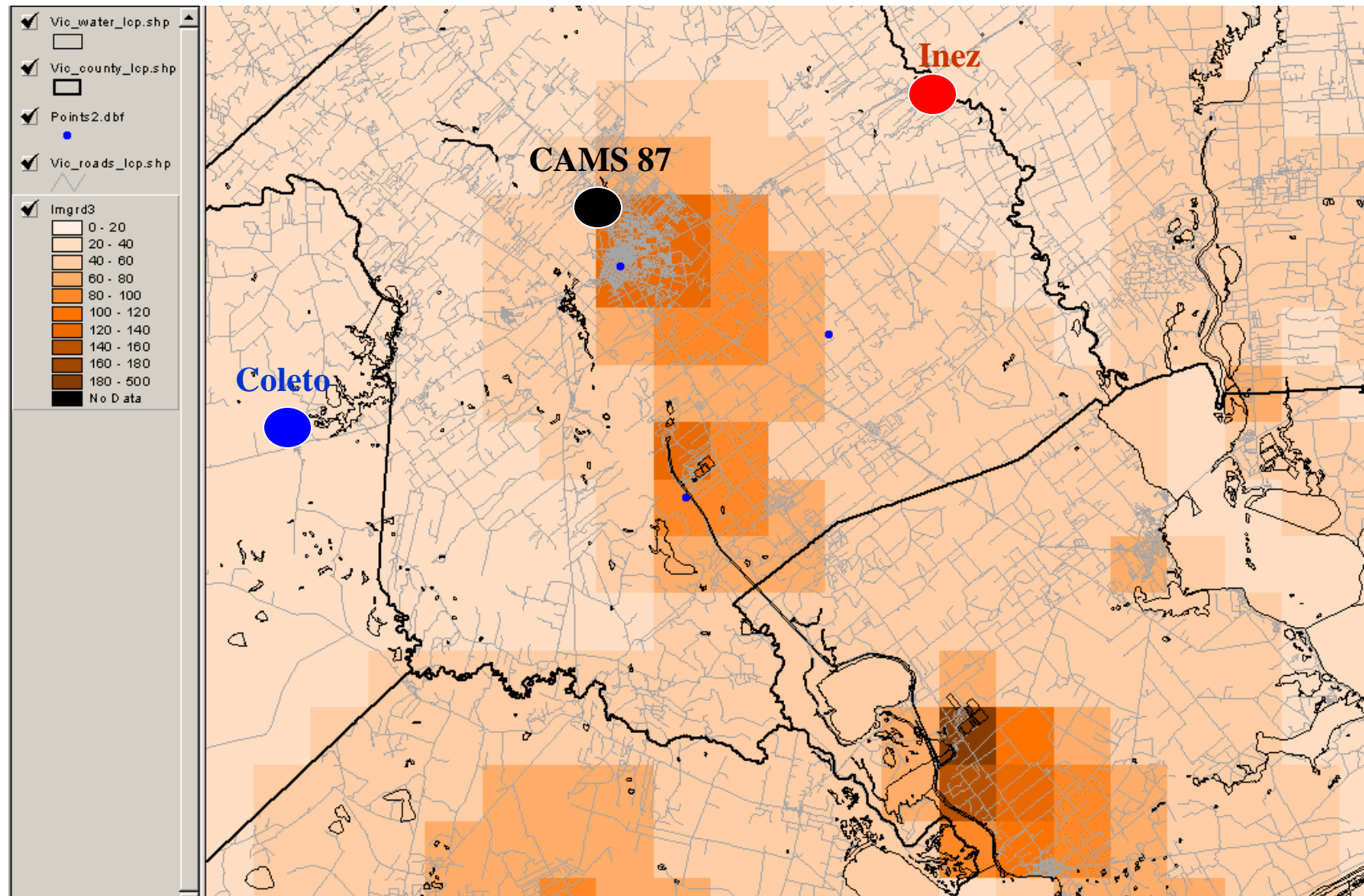
Ethylene concentrations

- May 9
Memorial Square Park concentration 133 ppb
--Second highest measured value of ethylene since 2005
- May 10
Memorial Square Park concentration 9.4 ppb
CAMS87 concentration 12.2 ppb

Isopentane concentrations

- May 11
Memorial Square Park concentration 9.6 ppb

Model Results with Emissions Projected to 2007



Questions?