Meteorological Modeling Update

TexAQS II Episodes

Southeast Texas Photochemical Modeling Technical Committee

April 24, 2007
Update Outline

• Episode Status
• Modeled vs Observed Winds (17m and 10m)
• PBL Time Series & Tile Plots
• Variable Sea Surface Temperature Run
• Future Work
Episode Status

- May 18 – June 3, 2005
  - Spinning up
- June 15 – June 30, 2005
  - Base runs complete (fdda)
  - “Sensitivity-ing”
- July 25 – August 9, 2005
  - Base runs complete (fdda)
  - SST, PBL, and other sensitivities run
  - Combo runs going
- 2006 Episodes
  - Waiting in the wings…
CAMx-ready Winds (2005ep1)

Original comparison: 17m vs observed

Interpolated comparison: 10m vs observed
CAMx-ready Winds (2005ep1)

Original comparison: 17m vs observed

Interpolated comparison: 10m vs observed
CAMx-ready Winds (2005ep2)

Original comparison: 17m vs observed

Interpolated comparison: 10m vs observed
CAMx-ready Winds (2005ep2)

Original comparison: 17m vs observed

Interpolated comparison: 10m vs observed
2005ep1: PBL Time Series

LaPorte

June 19 thru June 24 2005

PBL hgt.

0 6 12 18 0 6 12 18 0 6 12 18 0 6 12 18

June 19 thru June 24 2005

STI
Modeled

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2005ep1: PBL Time Series

LaPorte

PBL hgt.

June 25 thru June 29 2005

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2005ep2: PBL Plots

2005ep2_eta_dbemis_fdda

July 29, 2005 PBL

July 29, 2005 21:00:00
Min = 33.560 at (17,71), Max = 2817.352 at (5,34)
2005ep2: SST

TMP, 25 Jul 2005 00:00, anl
Layer 1 CFRACc

Min= 0.000 at (91,86), Max= 1.000 at (39,1)

Layer 1 CFRACd

Min= 0.000 at (98,80), Max= 1.000 at (37,1)
2005ep2: PBL Time Series

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July 28 thru Aug 02 2005

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2005ep2: PBL Time Series

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Aug 03 thru Aug 07 2005

PBL hgt.
2005ep2: CAMx-ready Winds (w/ SST)

Original 2005ep2 FDDA run

New 2005ep2 FDDA run w/ SST

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2005ep2: CAMx-ready Winds (w/ SST)

Original 2005ep2 FDDA run

HCQA at (437.9, -1122.2) km (EPA482010051, C409, 2000/02/08-now, Croquet, Houston, Harris Co., TX)

New 2005ep2 FDDA run w/ SST

HCQA at (437.9, -1122.2) km (EPA482010051, C409, 2000/02/08-now, Croquet, Houston, Harris Co., TX)

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2005ep2: CAMx-ready Winds (w/ SST)

Original 2005ep2 FDDA run

GALC at (500.2, -1158.7) km (EPA431670014, C34/A109/X152, 1997/04/16-now, Galveston, Galveston Co., TX)

New 2005ep2 FDDA run w/ SST

GALC at (500.2, -1158.7) km (EPA431670014, C34/A109/X152, 1997/04/16-now, Galveston, Galveston Co., TX)
2005ep2: CAMx-ready Winds (w/ SST)

Original 2005ep2 FDDA run

New 2005ep2 FDDA run w/ SST
Future Work

- Other Evaluation Tools
- Use of other physics schemes
- Update Land use
- Incorporate higher resolution Sea Surface Temps
- Complete the first May 2005 4km run
- Evaluate first CAMx runs