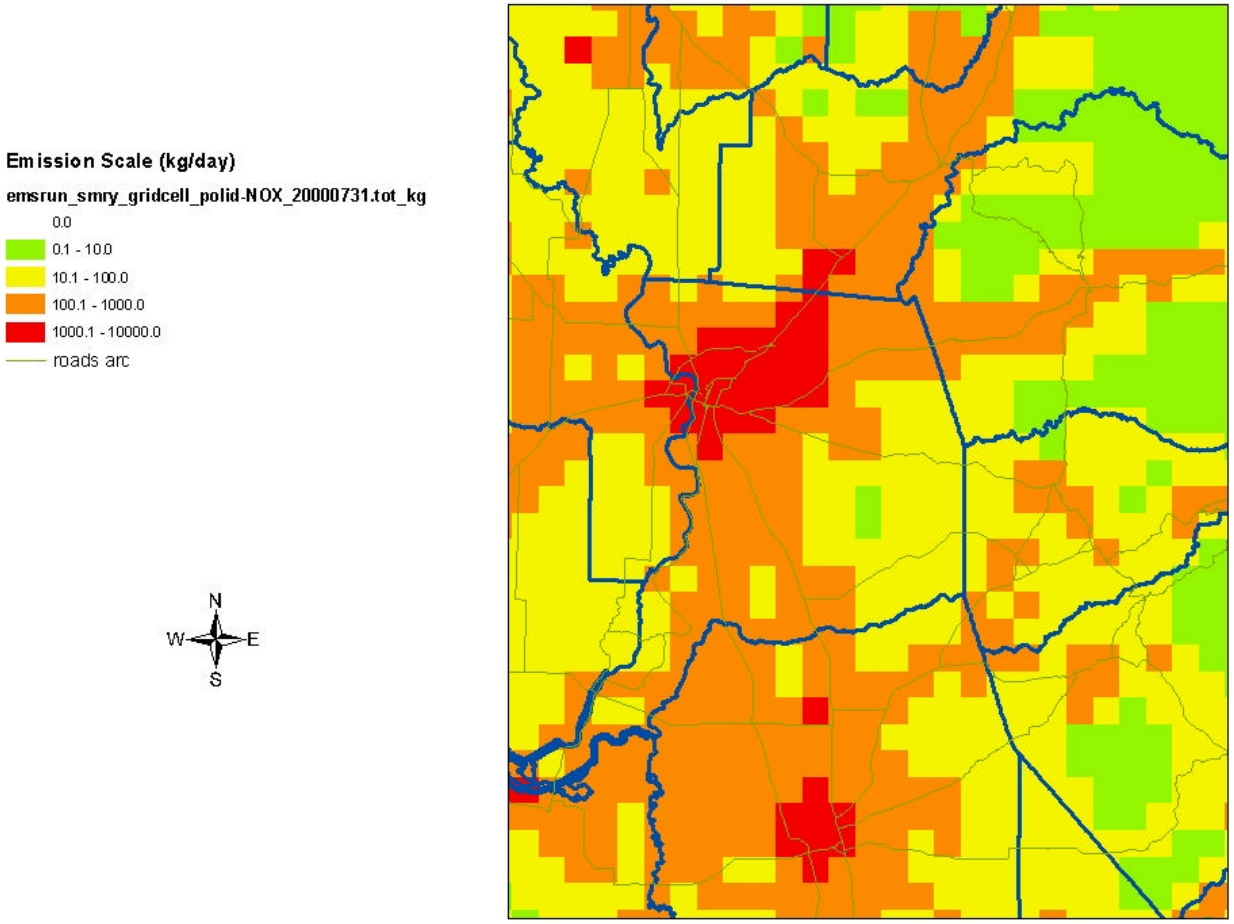
‘Gridded’ Emissions



Meteorological Modeling

- Photochemical Models Need Surface and Elevated Information
- Measurement Data Alone is Insufficient
- Meteorological Models Are Used to ‘Fill in the gaps’

Meteorological Model Inputs

- Gridded Land Use
- Gridded Terrain
- Observed Data
- Other Information

Meteorological Model Output

- 3-D Wind Speed and Direction
- Temperature
- Mixing Depths
- Solar Radiation

Model Output (cont.)

- Removal Rates
  - Calculated Hourly in Every Grid Cell
  - Uses Resistance Approach and Considers:
    - Turbulence
    - Plant Canopy
    - Plant or Ground Surface

(Rate) x (Concentration) = Amount Removed

Observed Data

- Measurements are needed to initialize the model and validate its results
  - Surface
  - Aloft