AIWG – Urban Issues Subgroup

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Outline

- Review of Past Work
- Potential Data Sources for Urban Reformulation
- Future Efforts

Review of Past Urban Subgroup Work

- Revisions to AERMOD Implementation Guide (10/19/07 and 1/9/08)
- Past issues
  - 1. Urban/Rural Determination
  - 2. Population Values
  - 3. Cautions and Clarifications

Urban-Rural Determination

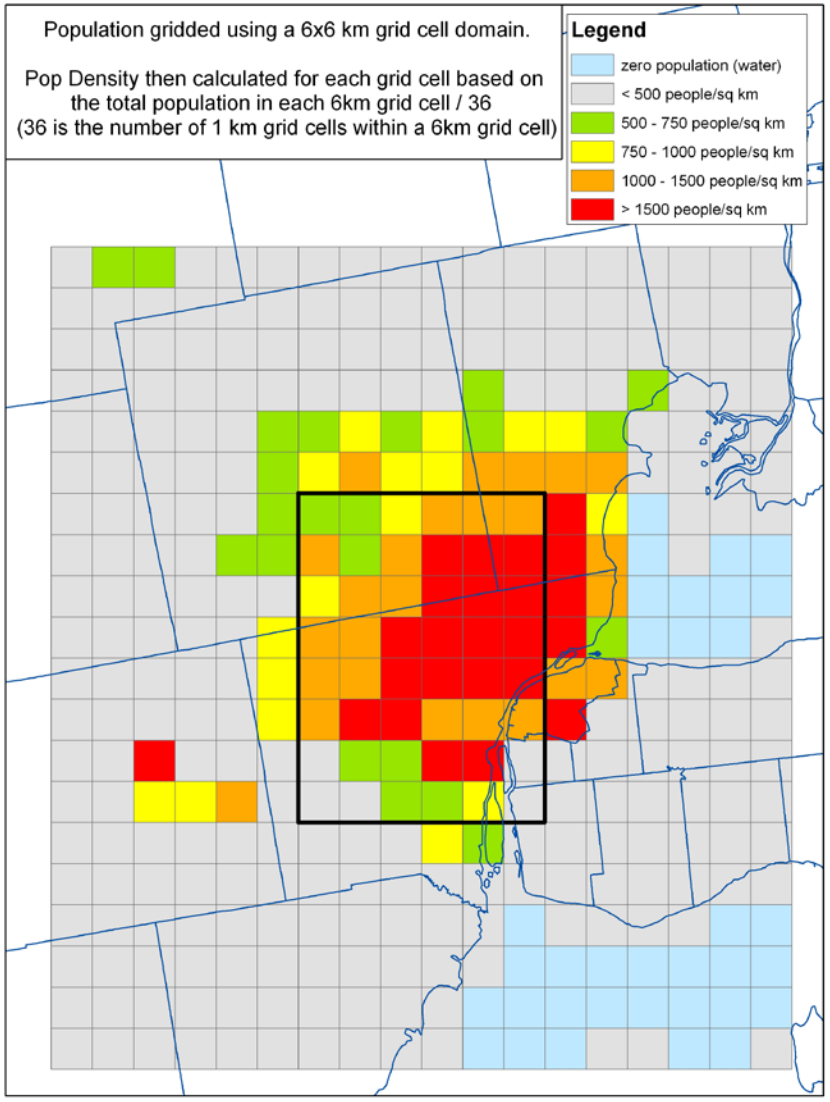
- Recommendations on urban/rural determination
  - Caution against source-by-source application of 3km land use (Auer method), e.g. a facility located in an urban area which is nearby a large water body
- Recommend modeling all sources within an urban complex using the urban option (Section 7.2.3(f) of Appendix W)

Urban Rural Determination- Cont

- Sources near “edge” urban area should generally be modeled as “urban”
  - In most cases, source plume will either be transported into urban heat island, or heat island “plume” will be transported across source

Population Values

- The census MSA values are generally good for “isolated” urban areas.
- A population density analysis may also be used to determine extent of urban area and population values for input to AERMOD.
- Values should be rounded off (1 or 2 significant figures).



Cautions and Clarifications

- Clarification of optional urban roughness length parameter on URBANOPT keyword –the next update to AERMOD will consider any value other than 1.0 as **Non-Default**

- Caution for tall stacks in small to moderate size urban areas; should be modeled as rural if plume is likely to transport “over” urban boundary layer

Cautions and Clarifications -Cont

- Clarified guidance regarding processing of site-specific meteorological data for urban applications

- Recommendations regarding selection of met data for urban applications

Potential Sources of Data for Urban Reformulation

- NASA Remote Sensing Data- surface Temperatures
- NUDAPT – Building morphology/ surface roughness

Future Work for Urban Subgroup

- AERMIC plans are closely linked to future urban issues
- Take a look at the AIG – Are urban issues clearly resolved? Are revisions necessary?
- Need to evaluate AERMOD model performance with other urban databases
- Review the option in AERMOD to specify multiple urban areas. Any need for guidance/recommendations on its use?

Future Work - Cont

- Use of AERSURFACE to determine urban/rural land use percentages needs to assessed since NLCD categories don’t directly match the Auer classes
- Multi Source Analysis