P28 Improving input data for urban canopy and land surface models: sensitivity analysis of land cover data products.

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State-of-the-art representation of land cover in WRF typically uses the 30 meter resolution National Land Cover Database (NLCD) products. However, within urban areas, the categorical NLCD loses information of non-urban classifications whenever the impervious cover within a grid cell is >0%. To address this bias of "natural" classes within urban areas we investigate employing a 1 meter resolution land cover data product derived from the National Agricultural Imagery Program (NAIP) dataset. Scenes during 2010 for the Central Arizona Phoenix Long Term Ecological Research (CAP-LTER) study area, roughly a 120 km x 100 km area containing metropolitan Phoenix, are adapted for use within WRF to enable retention of the non-urban classes. A method is shown for converting these NAIP data into classes corresponding to International Geosphere-Biosphere Programme (IGBP) and NLCD, and consistency with current WRF implementation is evaluated. Preliminary results will be shown for comparisons of land cover products at the level of input data. The sensitivity of WRF short-term summertime pre-monsoon predictions within metropolitan Phoenix to different input data products of land cover, to method of aggregating these data to model grid scale (1 km), and to land surface (dominant and mosaic Noah), and urban parameterization, will be examined.