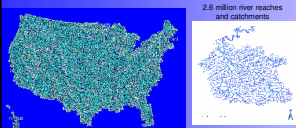




# Linking Hydrology and Atmospheric Science in Continental Water Dynamics Modeling

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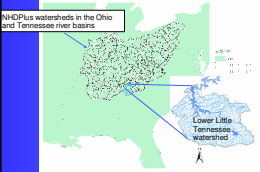
## NHDPlus – River and Catchment Network for the Nation



Integration of the National Hydrography Dataset, National Elevation Dataset and National Land Cover Dataset just completed by EPA



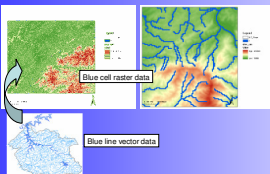
## Lower Little Tennessee Watershed



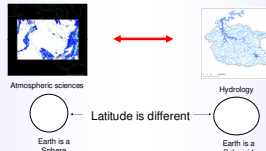
NHDPlus watersheds in the Ohio and Tennessee river basins



NHD stream lines are converted to 100m raster cells in Noah

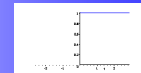


## Sphere – spheroid conversion

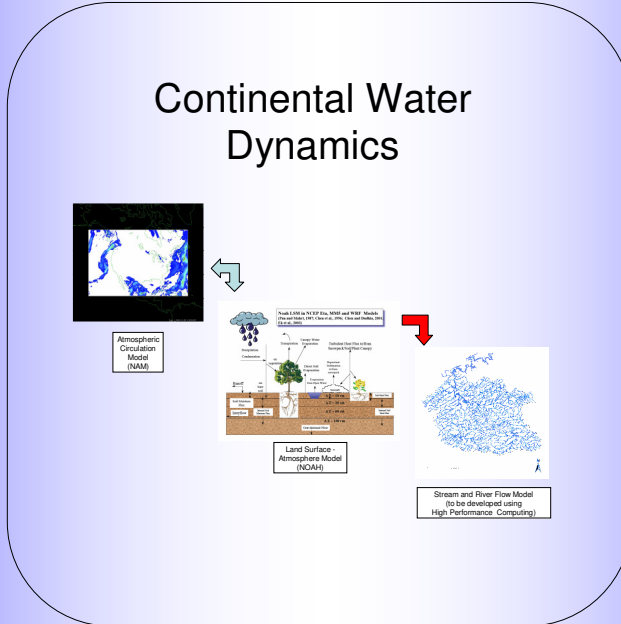


## Hypothetical weather regime as input to Noah

No rain / Rain  
 Everything else held constant (insolation, temperature, etc)



For validation purposes



## Conclusions

- The NHDPlus dataset can serve as the land base for a water dynamics model of the continental United States
- NHDPlus can be linked to the Noah land surface model to produce watershed runoff into the river system
- Subtle sphere-spheroid conversion issues affect the linkage



## Result: the volume of runoff accumulated in each stream cell

