LIST OF UU WRF USERS AND WHAT THEY USE WRF FOR AND WHAT MODIFICATIONS THEY HAVE MADE TO THE MODEL:

Trevor Alcott:

**Uses**: Real mesoscale numerical simulations of lake-effect snowstorms.

**Domain/Resolution/Time Period**:Nested. Inner domain over northern Utah at ~1.33 hz resolution, ~30 vertical levels.

**Modifications done to WRF**: (1) Extricated mountains from north of the Great Salt Lake (2) Changed lake temperature and various soil/landuse types (3) Changed saturation vapor pressure over the surface of the Great Salt Lake using hardwire hacks to initialize\_real.F and module for the surface layer.

**Sensitivity Studies/Simulations. Simulations with and without upstream topography.** In AMS paper recently in online release.

Erik Crosman:

**Uses**: Real and idealized large-eddy simulations. Lake breezes, persistent cold air pools.

**Domain/Resolution/Time Period**: Idealized: 120 km wide, 5 km deep, 100 m resolution. Real: Northern Utah at 750m, Great Salt Lake Basin at 250m, Salt Lake Valley at 83.33 m. Idealized simulations run for 12 hours, Real Great Salt Lake PCAPS runs 1-5 days.

**Modifications to WRF**: (1) Time-and spatially-varying sinusoidal land surface sensible heat flux. (2) Idealized output of time series data following TS list approach used in wrf real. (3) Changes in lake temperature/soil/vegetation/topography using hardwire hacks to initialize\_real.F

**Sensitivity Studies/Simulations**: Idealized large-eddy simulations: Lake breeze sensitivity to heat flux, stability, background wind. Real LES cases: Persistent cold air pool sensitivity to lake existence (lake or no lake), lake temperature

Adam Kochanski

Matt Jeglum

Neil Lareau

**Uses** : Idealized large-eddy simulations of cold pools focusing on turbulent mix-out.

**Modifications to WRF**: Modifying tendency terms to simulate turbulent erosion of CAP. Playing around with SFS mixing parameters, diffusion parameterizations, etc. Modifying tslist code to output entire sounding for a given vertical profile slice of model.

**Sensitivity Studies/Simulations:**

John McMillen:

**Uses**: Simulating 27 Oct 2010 Great Salt Lake Effect snow-storm to test QPE sensitivity to choice of microphysics scheme. I simulated Lake Bonneville with atmospheric data from the 27 Oct 2010 data set. I have also simulated the 100-inch storm cycle, unsuccessfully - so far.

**Domain/Resolution/Time Period**: 3 domains, resolutions of 12/4/1.333 km, the 27 Oct 2010 case is a 24-hour run. I initialize with the NAM with 34 vertical levels. My control run uses the Thompson microphysics scheme and I am testing other schemes such as WDM6, Milbrandt-Yau, and SBYULIN.

**Modifications to WRF**: Microphysics schemes. I am currently writing 5 local variables from the Thompson scheme to wrfout files. I also use Trevor’s code to set the lake temp, remove the playa glacier, and set the appropriate snow cover. I modified Trevor’s mountain manipulation code to raise Lake Bonneville.

Erik Neemann

**Uses**: Real mesoscale numerical simulations of Uintah Basin cold air pools.

**Domain/Resolution/Time Period**:Nested. Inner domain over northern Utah at ~1.33 hz resolution.

**Modifications to WRF**: (1) Changing snow cover over basin and mountain slopes using hardwire hacks to initialize\_real.F.

**Sensitivity Studies/Simulations:** Multiple real case in the Uintah Basin over the last 3 winters with and without snow. Some had highest ozone on record for February.

Manuela Lehner:

Jeff Massey

Uses: Real mesoscale numerical simulations over NW Utah playa and deserts.

**Modifications to WRF**: Improving land surface model in NOAH LSM. Soil conductivity and soil parameterizations, initialization of the land use. Land use type, soils. Played around with changing parameters, lookup tables. Will present on this in the next month or so.

Thomas Reichler

**Uses**: Large-domain nested regional climate simulations over South America.

**Domain/Resolution/Time Period**: Nested x 4. Inner domain over Andes region at ~1 km resolution. Month-long simulations. In experimental phase. Forcing with CFS-Reanalysis.

Adam Varble:

**Uses**: Simulating giant MCS in Darwin AU TWP-ICE huge. Nest EC 1 km 450 x 330 91 levels. 100 m. Complications nesting down. PBL. Terrain problems. Output new input.

**Domain/Resolution/Time Period**: Nest EC 1 km 450 x 330 91 levels. 100 m.

**Modifications to WRF**: Microphysics schemes. Hugh Morrison new modifications to his scheme. Modified rain size dist to have variable shape parameter. Big differences for simulation convection. Changed mass dimension relationship for snow. Anyone doing microphysics should talk to me!

**Sensitivity Studies/Simulations:** Multiple real case in the Uintah Basin over the last 3 winters with and without snow. Some had highest ozone on record for February.