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| **The Community WRF-Hydro Modeling System**  **Training Workshop Schedule** | |
| Monday, October 16 | |
| 8:00am – 5:00pm | Travel Day |
| Tuesday, October 17 | |
| 8:00am | Shuttle from Millennium Harvest House Boulder to NCAR Foothills Lab |
| 8:30 – 9:30am | Opening presentation, class introductions and overview of the WRF-Hydro system (Gochis) |
| 9:30 – 10:30am | Overview of the WRF-Hydro system, its intended function and structure (Gochis - LECTURE) |
| 10:30 – 10:45am | Break |
| 10:45am – 12:30pm | Hands-on activities on code compilation, namelists, and model configuration options (Dugger, HANDS-ON Docker)  Joe - explain environment  Aubrey - everything else |
| 12:30 – 1:30pm | Lunch |
| 1:30 – 3:00pm | Description of WRF-Hydro physics components (LECTURE)  1:30-2:00 (Barlage - LSM )  2:00 - 2:30 (Gochis - Terrain Routing)  2:30-3:00 (Read - Channels & Reservoirs) |
| 3:00 – 3:15pm | Break |
| 3:15 – 4:15pm | Description of the code structure (Gochis - LECTURE) |
| 4:15 – 5:30pm | Hands-on activities on prepared test cases (Dugger, HANDS-ON Docker)  September 2013 Flood simulation - [Gridded routing](https://docs.google.com/document/d/1hRX3LEEN-AL1yxeeKGJsDxgYP-DHEz5xhrtzPFgcvU0/edit) high-resolution routing grid for the simulated 6-hr flood event (2013-09-12 0Z through 2013-09-12 6Z) |
| 5:30pm | Shuttle from NCAR Foothills Lab to Millennium Harvest House Boulder |
| Wednesday, October 18 | |
| 8:00am | Shuttle from Millennium Harvest House Boulder to NCAR Foothills Lab |
| 8:30 – 9:00am  9:00 – 10:30am | Hands-on WRF Preprocessing System (WPS) namelist setup and execution (Barlage - HANDS-ON) - [Running WPS/geogrid in docker](https://docs.google.com/document/d/1R3CzAI8CynAAAb2Gfjsc1FT1qT3vWEKF_EnuopTUQR8/edit#heading=h.pq5q9hn858ni)  Overview of the WRF-Hydro GIS Pre-processing (WRF-Hydro GISPp) tool (Sampson - LECTURE) |
| 10:30 – 10:45am | Break |
| 10:45am – 12:30pm | Hands-on activities on creating and modifying WRF-Hydro input datasets (Sampson - HANDS-ON, ArcGIS) |
| 12:30 – 1:30pm | Lunch |
| 1:30 – 2:00pm | Meteorological inputs into the uncoupled WRF-Hydro system using the WRF-Hydro Meteorological Forcing Engine (WRF-Hydro MFE) (Gochis) |
| 2:00 – 3:00pm | Hands-on activities building meteorological forcing data sets and executing test runs (Karsten) - NLDAS regridding script walk through |
| 3:00 – 3:15pm | Break |
| 3:15 – 5:00pm  5:00– 5:30pm | Hands-on model experiments and output visualization - (Dugger/Read)  Lakes: Inflow & outflow  [Experiment 1](https://docs.google.com/document/d/1O-U8R1j8v6_fD-7u28DH4GoFmaruslE9lg2erGtiiWQ/edit): Full routing and bucket model with NLDAS forcings  Experiment 2: Full routing and bucket model with MPE forcings  Experiment 3: Vary some of the infiltration and drainage parameters  Experiment 4: Turn off terrain routing and the bucket model (so we are running the LSM with channel routing only)  CUAHSI Services (Liz) |
| 5:30pm  6:30pm | Shuttle from NCAR Foothills Lab to Millennium Harvest House Boulder  Group Dinner - Boulder Beer -1123 Walnut St, Boulder, CO 80302 |
| Thursday, October 19 | |
| 8:00am | Shuttle from Millennium Harvest House Boulder to NCAR Foothills Lab |
| 8:30 – 9:00am | Background on atmospheric modeling and the WRF modeling system (Gochis - LECTURE) |
| 9:00 – 10:00am  10:00 – 10:15am | Hands-on activities building fully-coupled WRF/WRF-Hydro simulations (Gochis - Demo)  Break |
| 10:15 – 12:30pm | Hands-on activities on model evaluation and visualization with Rwrfhydro (Mills)  Plot Hydrographs  Geospatial Tools Get Snotel SWE from Niwot Ridge & Compare to model output  Plot and evaluate simulated WRF-Hydro streamflow using USGS observations |
| 12:30 – 1:30pm | Lunch |
| 1:30 – 2:30pm  2:30 – 3:30pm | Discussion session – Best practices, pitfalls, debugging (Gochis)  Data Assimilation - Demo (McCreight) |
| 3:30 – 3:45pm | Break |
| 3:45 – 4:45pm  4:45 – 5:30pm | Calibration – components, structure, demo (Karsten)  Open hands-on working session (All) |
| 5:30pm | Shuttle from NCAR Foothills Lab to Millennium Harvest House Boulder |
| Friday, October 20 | |
| 8:00am | Shuttle from Millennium Harvest House Boulder to Denver International Airport |