Datasets of Opportunity	Description	File Format
Initialization	• NAM – Grid 221 (~32 km) • GFS – 0.5° • RAP (when available*) – Grid 130 (~13 km) • HRRR (when available**) – 3 km	• NAM – GRIB • GFS – GRIB2 • RAP – GRIB2 • HRRR – GRIB2
Data Assimilation	• Example scripts to run GSI • Fixed files to run system (e.g., background error covariance files, observation data control files for conventional and satellite observations, and satellite bias correction files) • North American Data Assimilation System (NDAS) observation files in BUFR format • RAP observation files in BUFR format (when available*)	• Scripts to run GSI – Shell scripts • Background error covariance files, observation data control files, and satellite bias correction files – ASCII • NDAS and RAP conventional and satellite observation files – BUFR
Pre-processing	• Configuration files – namelist.wps and namelist.nps • Metgrid output for DTC baselines – met_em* and met_nmb* • Additional boundary condition and gravity wave drag information – (NMMB runs only)	• Configuration files – ASCII • Metgrid output – NetCDF • Additional boundary condition information – Binary
Model	• Configuration files – namelist.input and configure_file	• Configuration files – ASCII
Post-processing	• Configuration files – wrf_cntrl.parm and nmb_cntrl.parm • Example run script – run_unipost	• Configuration files – ASCII • Run script – Shell scripts
Graphics	• Model output graphics (number of variables for all forecast hours) • NCL scripts used to create graphics	• Graphics – PNG • Scripts – NCL
Observations	• Raw and processed point observations – NDAS in prepbufr format (unprocessed) and NetCDF (run through *pb2nc* – processed w/ +/-45 min time window for specified variable and message types) • Raw and processed (run through *pcp_combine* and *copygb* to bucket and regrid, respectively) precipitation observations – 3-hr accumulations use Stage II data – 6-hr accumulations use Stage IV data – 24-hr accumulations use CPC and Stage II data • Raw and processed (run through, cnvgrib to convert to GRIB, *copygb* to regrid) NCEP radar mosaic analyses (when available***) – 3-hr increments	• NDAS files – PrepBUFR • NDAS files processed with MET – NetCDF • Native Stage II, Stage IV, and CPC files – GRIB • Stage II, Stage IV, and CPC files processed with MET – NetCDF • Native NCEP radar mosaic files – GRIB2 • NCEP radar mosaic files processed with *copygb* – GRIB

Verification	• Example scripts to run MET for grid-to-point (*point_stat*) and grid-to-grid (*grid_stat*) verification • MET configuration files for *pb2nc*, *grid_stat*, and *point_stat* • MET output for DTC baselines – RAP physics suite with WRF-ARW (v3.7.1 onward) – Air Force physics suite with WRF-ARW (v3.6.1 and prior) – NAM physics suite with NEMS-NMMB • Verification plots for DTC baselines – Surface: Bias and BCRMSE for 2-m temp, 2-m dew point, and 10-m wind and bias by observation point for 2-m temp, 2-m dew point, and 10-m wind – Precipitation: GSS and Frequency bias for 03-, 06-, and 24-h accumulations (in 12-h increments) by threshold; FSS by forecast lead time – Composite radar reflectivity: FSS by forecast lead time – Upper air: Bias and BCRMSE for temp, dew point, and wind by lead time (12-h increments)	• Scripts to run MET – Shell scripts • MET configuration files – ASCII • MET output – ASCII and NetCDF • Verification plots – PNG

* RAP became operational in 1 May 2012

** HRRR became operational on 30 September 2014

*** NCEP radar mosaic product available since 10 October 2010