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&amp_interp_nml
  data_set = 'reynolds_oi'
  date_out_of_range = 'climo'
  interp_oi_sst = .true.
  no_anom_sst = .false.
  use_ncep_ice = .false.
  use_ncep_sst = .true.
/

&atmos_model_nml
  blocksize = 32
  ccpp_suite = 'FV3_GFS_v15p2'
  chksum_debug = .false.
  dycore_only = .false.
  fdiag = 1
/

&cires_ugwp_nml
  knob_ugwp_azdir = 2, 4, 4, 4
  knob_ugwp_doaxyz = 1
  knob_ugwp_doheat = 1
  knob_ugwp_dokdis = 1
  knob_ugwp_effac = 1, 1, 1, 1
  knob_ugwp_ndx4lh = 1
  knob_ugwp_solver = 2
  knob_ugwp_source = 1, 1, 0, 0
  knob_ugwp_stoch = 0, 0, 0, 0
  knob_ugwp_version = 0
  knob_ugwp_wvspec = 1, 25, 25, 25
  launch_level = 25
/

&diag_manager_nml
  prepend_date = .false.
/

&external_ic_nml
  checker_tr = .false.
  filtered_terrain = .true.
  gfs_dwinds = .true.
  levp = 65
  nt_checker = 0
/

&fms_io_nml
  checksum_required = .false.
  max_files_r = 100
  max_files_w = 100
/

&fms_nml
  clock_grain = 'ROUTINE'
  domains_stack_size = 1800200
  print_memory_usage = .false.
/

&fv_core_nml
  a_imp = 1.0
  adjust_dry_mass = .false.

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agrid_vel_rst = .false.  
bc_update_interval = 3  
beta = 0.0  
consv_am = .false.  
consv_te = 0.0  
d2_bg = 0.0  
d2_bg_k1 = 0.15  
d2_bg_k2 = 0.02  
d4_bg = 0.15  
d_con = 1.0  
d_ext = 0.0  
dddmp = 0.1  
delt_max = 0.008  
dnats = 1  
do_sat_adj = .true.  
do_schmidt = .true.  
do_vort_damp = .true.  
dwind_2d = .false.  
external_eta = .true.  
external_ic = .true.  
fill = .true.  
full_zs_filter = .false.  
fv_debug = .false.  
fv_sg_adj = 600  
gfs_phil = .false.  
hord_dp = -6  
hord_mt = 6  
hord_tm = 6  
hord_tr = 10  
hord_vt = 6  
hydrostatic = .false.  
io_layout = 1, 1  
k_split = 1  
ke_bg = 0.0  
kord_mt = 9  
kord_tm = -9  
kord_tr = 9  
kord_wz = 9  
layout = 16, 10  
make_nh = .true.  
mountain = .false.  
n_split = 8  
n_sponge = 30  
n_zs_filter = 0  
na_init = 1  
ncep_ic = .false.  
nggps_ic = .true.  
no_dycore = .false.  
nord = 2  
npx = 397  
npy = 233  
npz = 64  
nrows_blend = 10  
ntiles = 1  
nudge_qv = .true.  
nwat = 6  
p_fac = 0.1  
phys_hydrostatic = .false.  
print_freq = 6
```

```
range_warn = .false.  
read_increment = .false.  
regional = .true.  
res_latlon_dynamics = 'fv3_increment.nc'  
reset_eta = .false.  
rf_cutoff = 750.0  
rf_fast = .false.  
stretch_fac = 0.999  
target_lat = 38.5  
target_lon = -97.5  
tau = 5.0  
use_hydro_pressure = .false.  
vtdm4 = 0.075  
warm_start = .false.  
z_tracer = .true.
```

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&fv_grid_nml  
  grid_file = 'INPUT/grid_spec.nc'
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&gfdl_cloud_microphysics_nml
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  c_cracw = 0.8  
  c_paut = 0.5  
  c_pgacs = 0.01  
  c_psaci = 0.05  
  ccn_l = 300.0  
  ccn_o = 100.0  
  const_vg = .false.  
  const_vi = .false.  
  const_vr = .false.  
  const_vs = .false.  
  de_ice = .false.  
  do_qa = .true.  
  do_sedi_heat = .false.  
  dw_land = 0.16  
  dw_ocean = 0.1  
  fast_sat_adj = .true.  
  fix_negative = .true.  
  icloud_f = 1  
  mono_prof = .true.  
  mp_time = 90.0  
  prog_ccn = .false.  
  qi0_crt = 8e-05  
  qi_lim = 1.0  
  ql_gen = 0.001  
  ql_mlt = 0.001  
  qs0_crt = 0.001  
  rad_graupel = .true.  
  rad_rain = .true.  
  rad_snow = .true.  
  rh_inc = 0.3  
  rh_inr = 0.3  
  rh_ins = 0.3  
  rthresh = 1e-05  
  sedi_transport = .true.  
  tau_g2v = 900.0  
  tau_i2s = 1000.0  
  tau_l2v = 225.0
```

```
tau_v2l = 150.0
use_ccn = .true.
use_ppm = .false.
vg_max = 12.0
vi_max = 1.0
vr_max = 12.0
vs_max = 2.0
z_slope_ice = .true.
z_slope_liq = .true.
```

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```
&gfs_physics_nml
  cal_pre = .false.
  cdmkgwd = 3.5, 0.25
  cnvcld = .true.
  cnvgwd = .true.
  debug = .false.
  do_myjpb1 = .false.
  do_myjsfc = .false.
  do_sfcperfs = .false.
  do_shum = .true.
  do_skeb = .true.
  do_sppt = .true.
  do_tofd = .false.
  do_ugwp = .false.
  do_ysu = .false.
  dspheat = .true.
  effr_in = .true.
  fhcyc = 0.0
  fh1wr = 3600.0
  fhswr = 3600.0
  fhzero = 6.0
  h2o_phys = .true.
  hybedmf = .true.
  iaer = 111
  ialb = 1
  iau_inc_files = ''
  ico2 = 2
  iems = 1
  imfdeepcnv = 2
  imfshalcnv = 2
  imp_physics = 11
  iopt_alb = 2
  iopt_btr = 1
  iopt_crs = 1
  iopt_dveg = 2
  iopt_frz = 1
  iopt_inf = 1
  iopt_rad = 1
  iopt_run = 1
  iopt_sfc = 1
  iopt_snf = 4
  iopt_stc = 1
  iopt_tbot = 2
  isol = 2
  isot = 1
  isubc_lw = 2
  isubc_sw = 2
  ivegsr = 1
```

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ldiag3d = .false.  
ldiag_uhwp = .false.  
lgfdlmpgrad = .true.  
lheatstrg = .false.  
lsm = 1  
lwhtr = .true.  
ncld = 5  
nsradar_reset = 3600  
nst_anl = .true.  
nstf_name = 2, 1, 0, 0, 0  
oz_phys = .false.  
oz_phys_2015 = .true.  
pdfcld = .false.  
pre_rad = .false.  
prslrd0 = 0.0  
random_clds = .false.  
redrag = .true.  
satmedmf = .false.  
shal_cnv = .true.  
shinhong = .false.  
shwtr = .true.  
trans_trac = .true.  
use_ufo = .true.  
xkzm_h = 1.0  
xkzm_m = 1.0  
xkzminv = 0.3
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```
&interpolator_nml  
  interp_method = 'conserve_great_circle'
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```
&nam_sfcperfs  
  iseed_sfc = 0  
  nsfcpert = 6  
  pertalb = -999.0  
  pertlai = -999.0  
  pertshc = -999.0  
  pertvegf = -999.0  
  pertz0 = -999.0  
  pertzt = -999.0  
  sfc_lscale = 500000  
  sfc_tau = 21600  
  sppt_land = .false.
```

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```
&nam_stochy  
  iseed_shum = 2  
  iseed_skeb = 3  
  iseed_sppt = 1  
  new_lscale = .true.  
  shum = 0.006  
  shum_lscale = 150000  
  shum_tau = 21600  
  shumint = 3600  
  skeb = 0.5  
  skeb_lscale = 150000  
  skeb_tau = 21600  
  skeb_vdof = 10
```

```
skebint = 3600
skebnorm = 1
sppt = 1.0
sppt_logit = .true.
sppt_lscale = 150000
sppt_sfclimit = .false.
sppt_tau = 21600
spptint = 3600
use_zmtnbck = .false.
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&namsfc

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fabsl = 99999
faisl = 99999
faiss = 99999
fnabsc = '../fix_lam/C775.maximum_snow_albedo.tileX.nc'
fnacna = ''
fnaisc = '../fix_am/CFSR_SEAICE.1982.2012.monthly.clim.grb'
fnalbc = '../fix_lam/C775.snowfree_albedo.tileX.nc'
fnalbc2 = '../fix_lam/C775.facsf.tileX.nc'
fnglac = '../fix_am/global_glacier.2x2.grb'
fnmskh = '../fix_am/seaice_newland.grb'
fnmxic = '../fix_am/global_maxice.2x2.grb'
fnslpc = '../fix_lam/C775.slope_type.tileX.nc'
fnsmcc = '../fix_am/global_soilmgldas.t126.384.190.grb'
fnsnoa = ''
fnsnoc = '../fix_am/global_snoclim.1.875.grb'
fnsotc = '../fix_lam/C775.soil_type.tileX.nc'
fntg3c = '../fix_lam/C775.substrate_temperature.tileX.nc'
fntsfa = ''
fntsfc = '../fix_am/RTGSST.1982.2012.monthly.clim.grb'
fnveg = '../fix_lam/C775.vegetation_greenness.tileX.nc'
fnvetc = '../fix_lam/C775.vegetation_type.tileX.nc'
fnvmnc = '../fix_lam/C775.vegetation_greenness.tileX.nc'
fnvmxc = '../fix_lam/C775.vegetation_greenness.tileX.nc'
fnzor = 'igbp'
fsicl = 99999
fsics = 99999
fslpl = 99999
fsmc1 = 99999, 99999, 99999
fsnol = 99999
fsnos = 99999
fsotl = 99999
ftsfl = 99999
ftsfs = 90
fvetl = 99999
fvmn1 = 99999
fvmx1 = 99999
landice = .true.
ldebug = .false.
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&surf\_map\_nml

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