

```
* . * . * . * . * . * . * . * . * . * . * . * . * . * . * . * . * . * . * .  
* . * .  
PROGRAM GSI_ANL HAS BEGUN. COMPILED 1999232.55 ORG: NP23  
STARTING DATE-TIME AUG 02,2021 20:55:14.244 214 MON 2459429
```

```
gsi_metguess_mod*init_: 2D-MET STATE VARIABLES:  
ps  
z  
pd  
gsi_metguess_mod*init_: 3D-MET STATE VARIABLES:  
u  
v  
tv  
q  
oz  
pint  
gsi_metguess_mod*init_: ALL MET STATE VARIABLES:  
u  
v  
tv  
q  
oz  
pint  
ps  
z  
pd  
state_vectors*init_anasv: 2D-STATE VARIABLES ps  
sst  
state_vectors*init_anasv: 3D-STATE VARIABLES u  
v  
tv  
tsen  
q  
oz  
prse  
state_vectors*init_anasv: ALL STATE VARIABLES u  
v  
tv  
tsen  
q  
oz  
prse  
ps  
sst  
control_vectors*init_anacv: 2D-CONTROL VARIABLES ARE  
ps  
sst  
control_vectors*init_anacv: 3D-CONTROL VARIABLES ARE  
sf  
vp  
t  
q  
oz  
control_vectors*init_anacv: MOTLEY CONTROL VARIABLES  
stl  
sti  
control_vectors*init_anacv: ALL CONTROL VARIABLES  
sf  
vp  
ps  
t  
q  
oz  
sst  
stl  
sti
```

```

radiance_mode_init: icloud_fwd= F  iallsky= F  cw_cv= F  iaerosol_fwd= F
  iaerosol= F
radiance_mode_init: n_actual_clouds=          0
radiance_mode_init: n_clouds_fwd=            0
radiance_mode_init: n_clouds_jac=            0
radiance_mode_init: n_actual_aerosols=        0
radiance_mode_init: n_aerosols_fwd=           0
radiance_mode_init: n_aerosols_jac=           0
INIT_IO:  reserve units lendian_in=         15  and lendian_out=
66
  for little endian i/o
NST_INIT_NML: Initializing default NST namelist variables
  at 0 in gsimod, use_gfs_stratosphere,nems_nmmbr Regional =  F F
Warning - value for c_varqc does not allow
variational qc to turn on completely in first outer iteration
c_varqc adjusted c_varqc - old =  3.33300000000000E-002 c_varqc - new
=
  3.33333333333333E-002
GSI_4DVAR:  nobs_bins =                  1
SETUP_4DVAR: nobs_bins =      1, ntlevs_ens =      1
SETUP_4DVAR: allocate array containing time levels for ensemble
SETUP_4DVAR: timelevel =      1 , ens_fhrlevs =      6
SETUP_4DVAR: l4dvar= F
SETUP_4DVAR: l4densvar= F
SETUP_4DVAR: winlen=   6.000000000000000
SETUP_4DVAR: winoff=   3.000000000000000
SETUP_4DVAR: hr_obsbin=  6.000000000000000
SETUP_4DVAR: nobs_bins=      1
SETUP_4DVAR: ntlevs_ens=      1
SETUP_4DVAR: nsubwin,nhr_subwin=          1          6
SETUP_4DVAR: lsqrtsb= F
SETUP_4DVAR: lbicg= F
SETUP_4DVAR: lcongrad= F
SETUP_4DVAR: lbfgsmin= F
SETUP_4DVAR: ltlint= F
SETUP_4DVAR: ladtest,ladtest_obs,lgrtest= F F F
SETUP_4DVAR: iwrtinc=      -1
SETUP_4DVAR: lanczosave= F
SETUP_4DVAR: ltcost= F
SETUP_4DVAR: jsiga=      -1
SETUP_4DVAR: nwrvecs=      -1
SETUP_4DVAR: iorthomax=      0
SETUP_4DVAR: liauon= F
SETUP_4DVAR: ljc4tlevs= F
SETUP_4DVAR: ibin_anl=      1
in gsimod: use_gfs_stratosphere,nems_nmmbr Regional= T
F T
GSIMOD:  ***WARNING*** set l_cloud_analysis=false
INIT_OBSMOD_VARS: ndat_times,ndat_types,ndat=          1          91
  91
INIT_OBSMOD_VARS: nhr_assimilation=          6
GSIMOD:  ***WARNING*** reset oberrflg= T
GSIMOD:  reset nstrong=          0  because TLNMC option is set to off=
  0

```

calling gsisub with following input parameters:

```
&SETUP
GENCODE = 78.00000000000000 ,
FACTQMIN = 0.00000000000000E+000,
FACTQMAX = 0.00000000000000E+000,
CLIP_SUPERSATURATION = F,
FACTV = 0.00000000000000E+000,
FACTL = 0.00000000000000E+000,
FACTP = 0.00000000000000E+000,
FACTG = 0.00000000000000E+000,
FACTW10M = 0.00000000000000E+000,
FACTHOWV = 0.00000000000000E+000,
FACTCLDCH = 0.00000000000000E+000,
R_OPTION = F,
DELTIM = 1200.000000000000 ,
DTPHYS = 3600.000000000000 ,
BIASCOR = 0.9800000000000000 , 0.1000000000000000 ,
BCOPTION = 0,
DIURNALBC = 0.00000000000000E+000,
NITER = 0, 2*50, 48*0,
NITER_NO_QC = 1000000, 20, 0, 48*1000000,
MITER = 2,
QOPTION = 2,
CWOPTION = 0,
NHR_ASSIMILATION = 6,
MIN_OFFSET = 180,
PSEUDO_Q2 = F,
IOUT_ITER = 220,
NPREDP = 6,
RETRIEVAL = F,
TZR_QC = 1,
TZR_BUFRSAVE = F,
DIAG_RAD = T,
DIAG_PCP = T,
DIAG_CONV = T,
DIAG_OZONE = T,
DIAG_AERO = T,
DIAG_CO = F,
IGUESS = -1,
WRITE_DIAG = F, T, F, T, 47*F,
REDUCE_DIAG = F,
ONEOBTEST = F,
SFCMODEL = F,
DTBDUV_ON = T,
IFACT10 = 0,
L_FOTO = F,
OFFTIME_DATA = F,
USE_PBL = T,
USE_COMPRESS = F,
NSIG_EXT = 12,
GPSTOP = 50.000000000000 ,
PERTURB_OBS = F,
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PERTURB_FACT      = 1.0000000000000000
OBERROR_TUNE      = F,
PRESERVE_RESTART_DATE = F,
CRTM_COEFFS_PATH   = ./

BERROR_STATS      = berror_stats

NEWPC4PRED        = T,
ADP_ANGLEBC       = T,
ANGORD            = 4,
PASSIVE_BC        = F,
USE_EDGES         = F,
EMISS_BC          = T,
UPD_PRED          = 12*0.000000000000000E+000
8*1.000000000000000
SSMIS_METHOD       = 1,
SSMIS_PRECOND     = 1.000000000000000E-002,
GMI_METHOD        = 0,
AMSR2_METHOD       = 0,
LOBSDIAGSAVE      = F,
L4DVAR             = F,
LBICG              = F,
LSQRTB             = F,
LCONGRAD           = F,
LBFGSMIN          = F,
LTLLINT            = F,
NHR_OBSBIN         = -1,
NHR_SUBWIN         = 6,
MPES_OBSERVER     = 0,
ALWAYSLOCAL        = F,
NWRVECS            = -1,
IORTHOMAX          = 0,
LADTEST             = F,
LADTEST_OBS        = F,
LGRTEST             = F,
LOBSKEEP            = F,
LSENSRECOMPUTE    = F,
JSIGA               = -1,
LTCOST              = F,
LOBSENSFC           = F,
LOBSENSJB           = F,
LOBSENSINCR         = F,
LOBSENSADJ          = F,
LOBSENSMIN          = F,
IOBSConv            = 0,
IDMODEL             = T,
IWRTINC             = -1,
LWRITE4DANL         = F,
JITERSTART          = 1,
JITEREND            = 1,
LOBSERVER           = F,
LANCZOSAVE          = F,

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LLANCDONE      = F,
LFERRSCALE     = F,
PRINT_DIAG_PCG = T,
TSENSIBLE      = F,
LGSCHMIDT      = F,
LREAD_OBS_SAVE = F,
LREAD_OBS_SKIP = F,
USE_GFS_OZONE   = T,
CHECK_GFS_OZONE_DATE = F,
REGIONAL_OZONE = F,
LWRITE_PREDTERMS = F,
LWRITE_PEAKWT   = F,
USE_GFS_NEMSIO  = T,
SFCNST_COMB    = F,
LIAUON = F,
USE_PREPB_SATWND = F,
L4DENSVAR      = F,
ENS_NSTARTHR   = 6,
USE_GFS_STRATOSPHERE = T,
PBLEND0 = 152.0000000000000 ,
PBLEND1 = 79.0000000000000 ,
STEP_START      = 1.000000000000000E-003,
DIAG_PRECON    = T,
LRUN_SUBDIRS   = F,
USE_SP_EQSPACE = F,
LNESTED_LOOPS  = F,
LSINGLERADOB   = F,
THIN4D = F,
USE_READIN_ANL_SFCMASK = F,
LUSE_OBSDIAG   = F,
ID_DRIFTER     = F,
VERBOSE = F,
LSINGLERADAR  = F,
SINGLERADAR   = KOUN,
LNOBALANCE     = F,
IMP_PHYSICS    = 99,
LUPP = F
/
&GRIDOPTS
JCAP = 62,
JCAP_B = 62,
NSIG = 74,
NLAT = 629,
NLON = 315,
NLAT_REGIONAL = 0,
NLON_REGIONAL = 0,
DIAGNOSTIC_REG = T,
UPDATE_REGSFC = F,
NETCDF = T,
REGIONAL = T,
WRF_NMM_REGIONAL = T,
NEMS_NMMB_REGIONAL = F,
WRF_MASS_REGIONAL = F,
TWODVAR_REGIONAL = F,

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FILLED_GRID      = F,
HALF_GRID        = T,
NVEGE_TYPE       =           20,
NLAYERS = 200*1,
CMAQ_REGIONAL   = F,
NMMB_REFERENCE_GRID = H,
GRID_RATIO_NMMB = 1.41421356237310 ,
GRID_RATIO_WRFMASS = 1.000000000000000 ,
JCAP_GFS         = 1534,
JCAP_CUT         = 600,
WRF_MASS_HYBRIDCORD = F
/
&BKGERR
VS      = 1.000000000000000 ,
NHSCRF = 3,
HZSCL  = 0.2500000000000000 , 0.5000000000000000 ,
1.000000000000000 ,
HSWGT  = 3*0.3333333333333333 ,
NORH   = 2,
NDEG   = 4,
NOQ    = 3,
BW     = 0.00000000000000E+000,
NORSP  = 0,
FSTAT  = F,
PERT_BERR      = F,
PERT_BERR_FCT  = 0.00000000000000E+000,
BKGV_FLOWDEP   = F,
BKGV_REWGTFC   = 0.00000000000000E+000,
BKGV_WRITE     = F,
FPSPROJ = T,
ADJUSTOZVAR   = F,
FUT2PS  = F,
CWCOVEQQCOV   = T
/
&ANBKGERR
ANISOTROPIC    = F,
ANCOVMDL       = 0,
TRIAD4 = T,
IFILT_ORD      = 2,
NPASS   = 3,
NORMAL  = -200,
BINOM   = T,
NGAUSS  = 1,
RGAUSS  = 0.5000000000000000 , 1.0000000000000000 ,
2.0000000000000000 , 17*0.00000000000000E+000 ,
ANHSWGT = 20*1.0000000000000000 ,
AN_VS   = 1.0000000000000000 ,
GRID_RATIO      = 4.0000000000000000 ,
GRID_RATIO_P    = 0.00000000000000E+000,
NORD_F2A       = 4,
AN_FLEN_U      = -5.0000000000000000 ,
AN_FLEN_T      = 3.0000000000000000 ,
AN_FLEN_Z      = -200.0000000000000000 ,
RTMA_SUBDOMAIN_OPTION = F,

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RTMA_BKERR_SUB2SLAB      = F,
LREADNORM      = F,
NSMOOTH =          0,
NSMOOTH_SHAPIRO =          0,
AFACT0 = 9*0.00000000000000E+000 ,
COVMAP = F
/
&JCOPTS
LJCDFI = F,
ALPHAJC = 10.00000000000000 ,
SWITCH_ON_DERIVATIVES = F,
TENDSFLAG = F,
LJCPDRY = F,
BAMP_JCPDRY = 0.00000000000000E+000,
EPS_EER = -1.00000000000000 ,
LJC4TLEVS = F
/
&STRONGOPTS
REG_TLNMC_TYPE = 1,
TLNMC_OPTION = 0,
NSTRONG = 0,
PERIOD_MAX = 6.00000000000000 ,
PERIOD_WIDTH = 1.50000000000000 ,
NVMODES_KEEP = 8,
BALDIAG_FULL = F,
BALDIAG_INC = F
/
&OBSQC
DFACT = 0.7500000000000000 ,
DFACT1 = 3.00000000000000 ,
ERRADAR_INFLATE = 1.00000000000000 ,
TDRERR_INFLATE = T,
OBERRFLG = T,
VADFILE = prepbufr ,
NOIQC = T,
C_VARQC = 3.33333333333333E-002,
BLACKLST = F,
USE_POQ7 = F,
HILBERT_CURVE = F,
TCP_REFPS = 1000.000000000000 ,
TCP_WIDTH = 50.00000000000000 ,
TCP_ERMIN = 0.7500000000000000 ,
TCP_ERMAX = 5.0000000000000000 ,
QC_NOIRJAC03 = F,
QC_NOIRJAC03_POLE = F,
QC_SATWNDs = T,
NJQC = F,
VQC = T,
AIRCRAFT_T_BC_POF = F,
AIRCRAFT_T_BC = F,
AIRCRAFT_T_BC_EXT = F,
BIASPREDT = 1.00000000000000 ,
UPD_AIRCRAFT = T,
CLEANUP_TAIL = F,

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HDIST_AIRCRAFT = 60000.000000000000 ,  

BUDDYCHECK_T = F,  

BUDDYDIAG_SAVE = F,  

CLOSEST_OBS = F,  

VADWND_L2RW_QC = T  

/  

EXT SONDE on type 120 = F  

ngrp = 5 dmesh = 90.00000000000000  

45.00000000000000 45.00000000000000 45.00000000000000  

90.00000000000000  

prepbufr ps  

0.00 0 0 3.00  

prepbufr t  

0.00 0 0 3.00  

prepbufr_profl t  

0.00 0 0 3.00  

prepbufr q  

0.00 0 0 3.00  

prepbufr_profl q  

0.00 0 0 3.00  

prepbufr pw  

0.00 0 0 3.00  

prepbufr uv  

0.00 0 0 3.00  

prepbufr_profl uv  

0.00 0 0 3.00  

satwndbufr uv  

0.00 0 0 3.00  

prepbufr spd  

0.00 0 0 3.00  

prepbufr dw  

0.00 0 0 3.00  

radarbufr rw  

0.00 0 0 3.00  

prepbufr sst  

0.00 0 0 3.00  

tcvttl tcp  

0.00 0 0 3.00  

tldplrbufr rw  

0.00 0 0 3.00  

hdobbufr uv  

0.00 0 0 3.00  

hdobbufr t  

0.00 0 0 3.00  

hdobbufr q  

0.00 0 0 3.00  

hdobbufr spd  

0.00 0 0 3.00  

gpsrobufr gps_bnd  

0.00 0 0 3.00  

ssmirrbufr pcp_ssmi dmfp pcp_ssmi  

0.00 0 0 3.00  

tmirrbufr pcp_tmi trmm pcp_tmi  

0.00 0 0 3.00

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sbuvbufr		sbuv2	n16	sbuv8_n16
0.00 0 0	3.00	sbuv2	n17	sbuv8_n17
sbuvbufr		sbuv2	n18	sbuv8_n18
0.00 0 0	3.00	sbuv2	n17	hirs3_n17
hirs3bufr		hirs3	n17	hirs3_n17
0.00 1 0	3.00	hirs4	metop-a	hirs4_metop-a
hirs4bufr		hirs4	metop-a	hirs4_metop-a
0.00 1 1	3.00	goes_img	g11	imgr_g11
gimgrbufr		goes_img	g11	imgr_g11
0.00 1 0	3.00	goes_img	g12	imgr_g12
gimgrbufr		goes_img	g12	imgr_g12
0.00 1 0	3.00	airs	aqua	airs_aqua
airsbufr		airs	aqua	airs_aqua
0.00 1 1	3.00	amsua	n15	amsua_n15
amsuabufr		amsua	n15	amsua_n15
0.00 2 1	3.00	amsua	n18	amsua_n18
amsuabufr		amsua	n18	amsua_n18
0.00 2 1	3.00	amsua	metop-a	amsua_metop-a
amsuabufr		amsua	metop-a	amsua_metop-a
0.00 2 1	3.00	amsua	aqua	amsua_aqua
airsbufr		amsua	aqua	amsua_aqua
0.00 2 1	3.00	amsua	n17	amsub_n17
amsubbufr		amsua	n17	amsub_n17
0.00 3 1	3.00	mhs	n18	mhs_n18
mhsbufr		mhs	n18	mhs_n18
0.00 3 1	3.00	mhs	metop-a	mhs_metop-a
mhsbufr		mhs	metop-a	mhs_metop-a
0.00 3 1	3.00	ssmi	f15	ssmi_f15
ssmitbufr		ssmi	f15	ssmi_f15
0.00 1 0	3.00	amsre_low	aqua	amsre_aqua
amsrebufr		amsre_low	aqua	amsre_aqua
0.00 4 0	3.00	amsre_mid	aqua	amsre_aqua
amsrebufr		amsre_mid	aqua	amsre_aqua
0.00 4 0	3.00	amsre_high	aqua	amsre_aqua
amsrebufr		amsre_high	aqua	amsre_aqua
0.00 4 0	3.00	ssmis	f16	ssmis_f16
ssmisbufr		ssmis	f16	ssmis_f16
0.00 4 0	3.00	ssmis	f17	ssmis_f17
ssmisbufr		ssmis	f17	ssmis_f17
0.00 4 0	3.00	ssmis	f18	ssmis_f18
ssmisbufr		ssmis	f18	ssmis_f18
0.00 4 0	3.00	ssmis	f19	ssmis_f19
ssmisbufr		ssmis	f19	ssmis_f19
0.00 4 0	3.00	sndrd1	g12	sndrd1_g12
gsndlbufr		sndrd1	g12	sndrd1_g12
0.00 5 0	3.00	sndrd2	g12	sndrd2_g12
gsndlbufr		sndrd2	g12	sndrd2_g12
0.00 5 0	3.00	sndrd3	g12	sndrd3_g12
gsndlbufr		sndrd3	g12	sndrd3_g12
0.00 5 0	3.00	sndrd4	g12	sndrd4_g12
gsndlbufr		sndrd4	g12	sndrd4_g12
0.00 5 0	3.00			

gsnd1bufr		sndrd1	g11	sndrD1_g11
0.00	5	0	3.00	
gsnd1bufr		sndrd2	g11	sndrD2_g11
0.00	5	0	3.00	
gsnd1bufr		sndrd3	g11	sndrD3_g11
0.00	5	0	3.00	
gsnd1bufr		sndrd4	g11	sndrD4_g11
0.00	5	0	3.00	
gsnd1bufr		sndrd1	g13	sndrD1_g13
0.00	5	0	3.00	
gsnd1bufr		sndrd2	g13	sndrD2_g13
0.00	5	0	3.00	
gsnd1bufr		sndrd3	g13	sndrD3_g13
0.00	5	0	3.00	
gsnd1bufr		sndrd4	g13	sndrD4_g13
0.00	5	0	3.00	
iasibufr		iasi	metop-a	iasi_metop-a
0.00	1	1	3.00	
gomebufr		gome	metop-a	gome_metop-a
0.00	2	0	3.00	
omibufr		omi	aura	omi_aura
0.00	2	0	3.00	
sbuvbufr		sbuv2	n19	sbuv8_n19
0.00	0	0	3.00	
hirs4bufr		hirs4	n19	hirs4_n19
0.00	1	1	3.00	
amsuabufr		amsua	n19	amsua_n19
0.00	2	1	3.00	
mhsbufr		mhs	n19	mhs_n19
0.00	3	1	3.00	
seviribufr		seviri	m08	seviri_m08
0.00	1	0	3.00	
seviribufr		seviri	m09	seviri_m09
0.00	1	0	3.00	
seviribufr		seviri	m10	seviri_m10
0.00	1	0	3.00	
hirs4bufr		hirs4	metop-b	hirs4_metop-b
0.00	1	0	3.00	
amsuabufr		amsua	metop-b	amsua_metop-b
0.00	2	0	3.00	
mhsbufr		mhs	metop-b	mhs_metop-b
0.00	3	0	3.00	
iasibufr		iasi	metop-b	iasi_metop-b
0.00	1	0	3.00	
gomebufr		gome	metop-b	gome_metop-b
0.00	2	0	3.00	
atmsbufr		atms	npp	atms_npp
0.00	2	0	3.00	
crisbufr		cris	npp	cris_npp
0.00	1	0	3.00	
crisfsbufr		cris-fsr	npp	cris-fsr_npp
0.00	1	0	3.00	
crisfsbufr		cris-fsr	n20	cris-fsr_n20
0.00	1	0	3.00	


```
ANISO_A_EN      = F,
GENERATE_ENS    = F,
N_ENS          = 80,
NLON_ENS       = 315,
NLAT_ENS       = 629,
JCAP_ENS       = 0,
PSEUDO_HYBENS  = F,
MERGE_TWO_GRID_ENSPERTS = F,
REGIONAL_ENSEMBLE_OPTION      = 1,
FULL_ENSEMBLE   = F,
PWGTFGLG = F,
JCAP_ENS_TEST   = 0,
BETA_S0 = 0.2000000000000000 ,
S_ENS_H = 300.000000000000 ,
S_ENS_V = -0.50000000000000 ,
READIN_LOCALIZATION = F,
EQSPACE_ENSGRID = F,
READIN_BETA     = F,
GRID_RATIO_ENS = 1.000000000000000 ,
OZ_UNIV_STATIC = F,
WRITE_ENS_SPRD  = F,
USE_LOCALIZATION_GRID = F,
USE_GFS_ENS     = T,
I_EN_PERTS_IO   = 0,
L_ENS_IN_DIFF_TIME = F,
ENSEMBLE_PATH   = ./
```

```

CLD_BLD_HGT      = 1200.000000000000 ,
BUILD_CLOUD_FRAC_P = 0.9500000000000000 ,
CLEAR_CLOUD_FRAC_P = 0.1000000000000000 ,
NESDIS_NPTS_RAD = 1,
ICLEAN_HYDRO_WITHREF = 1,
ICLEAN_HYDRO_WITHREF_ALLCOL = 0,
I_USE_2MQ4B = 0,
I_USE_2MT4B = 0,
I_GSDCLDANAL_TYPE = 0,
I_GSDSFC_USELIST = 0,
I_LIGHTPCP = 0,
I_SFCT_GROSS = 0,
L_USE_HYDRORETRIEVAL_ALL = F,
L_NUMCONC = F,
L_CLOSEOBS = F,
I_COASTLINE = 0,
I_GSDQC = 0
/
&CHEM
BERROR_CHEM = F,
ONEOBTEST_CHEM = F,
MAGINNOV_CHEM = 30.00000000000000 ,
MAGOBERR_CHEM = 2.000000000000000 ,
ONEOB_TYPE_CHEM = pm2_5
OBLAT_CHEM = 45.00000000000000 ,
OBLON_CHEM = 270.0000000000000 ,
OBPRES_CHEM = 1000.000000000000 ,
DIAG_INCR = F,
ELEV_TOLERANCE = 500.000000000000 ,
TUNABLE_ERROR = 0.500000000000000 ,
IN_FNAME = cmaq_input.bin

OUT_FNAME = cmaq_output.bin

INCR_FNAME = chem_increment.bin

LAEROANA_GOCART = F,
L_AODERR_TABLE = F,
AOD_QA_LIMIT = 3,
LUSE_DEEPBLUE = F,
AERO_RATIOS = F,
WRF_PM2_5 = F
/
&NST
NST_GSI = 0,
NSTINFO = 0,
ZSEA1 = 0,
ZSEA2 = 0,
FAC_DTL = 1,
FAC_TSL = 1
/

```


k,pthis,blend_gm,blend_rm=	26	778.1474207	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	27	757.1211228	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	28	734.9093168	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	29	711.5782457	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	30	687.2429448	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	31	662.0837256	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	32	636.3154460	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	33	610.1525058	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	34	583.7914466	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	35	557.4467447	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	36	531.3494625	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	37	505.6967777	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	38	480.6368215	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	39	456.3010118	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	40	432.8049434	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	41	410.1985022	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	42	388.4806706	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	43	367.6519574	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	44	347.7128713	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	45	328.6298075	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	46	310.3533889	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	47	292.8504939	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	48	276.0885351	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	49	260.0186187	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	50	244.5908463	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	51	229.7721216	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	52	215.5298446	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	53	201.8472192	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	54	188.7079549	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	55	176.0789459	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	56	163.8036042	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	57	151.8529482	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	58	140.3474452	0.0074077	0.9925923
k,pthis,blend_gm,blend_rm=	59	129.4045522	0.1109054	0.8890946
k,pthis,blend_gm,blend_rm=	60	118.7979322	0.3900232	0.6099768
k,pthis,blend_gm,blend_rm=	61	107.6470098	0.7490623	0.2509377
k,pthis,blend_gm,blend_rm=	62	95.6300573	0.9663716	0.0336284
k,pthis,blend_gm,blend_rm=	63	83.7849469	0.9998782	0.0001218
k,pthis,blend_gm,blend_rm=	64	73.0786195	1.0000000	0.0000000
k,pthis,blend_gm,blend_rm=	65	63.7096183	1.0000000	0.0000000
k,pthis,blend_gm,blend_rm=	66	55.5209783	1.0000000	0.0000000
k,pthis,blend_gm,blend_rm=	67	48.2631948	1.0000000	0.0000000
k,pthis,blend_gm,blend_rm=	68	41.8427253	1.0000000	0.0000000
k,pthis,blend_gm,blend_rm=	69	36.1725600	1.0000000	0.0000000
k,pthis,blend_gm,blend_rm=	70	31.1724907	1.0000000	0.0000000
k,pthis,blend_gm,blend_rm=	71	26.7691305	1.0000000	0.0000000
k,pthis,blend_gm,blend_rm=	72	22.8957698	1.0000000	0.0000000
k,pthis,blend_gm,blend_rm=	73	19.4920846	1.0000000	0.0000000
k,pthis,blend_gm,blend_rm=	74	16.5038102	1.0000000	0.0000000
k,pthis,blend_gm,blend_rm=	75	13.8823150	1.0000000	0.0000000
k,pthis,blend_gm,blend_rm=	76	11.5841596	1.0000000	0.0000000
k,pthis,blend_gm,blend_rm=	77	9.5706897	1.0000000	0.0000000
k,pthis,blend_gm,blend_rm=	78	7.8075748	1.0000000	0.0000000
k,pthis,blend_gm,blend_rm=	79	6.2644047	1.0000000	0.0000000

k,pthis,blend_gm,blend_rm=	15	930.2018022	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	16	921.4958650	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	17	911.9901258	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	18	901.6051639	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	19	890.2619151	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	20	877.8779059	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	21	864.4027673	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	22	849.7524997	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	23	833.8158837	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	24	816.5441783	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	25	797.9634838	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	26	778.1474207	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	27	757.1211228	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	28	734.9093168	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	29	711.5782457	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	30	687.2429448	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	31	662.0837256	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	32	636.3154460	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	33	610.1525058	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	34	583.7914466	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	35	557.4467447	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	36	531.3494625	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	37	505.6967777	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	38	480.6368215	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	39	456.3010118	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	40	432.8049434	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	41	410.1985022	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	42	388.4806706	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	43	367.6519574	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	44	347.7128713	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	45	328.6298075	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	46	310.3533889	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	47	292.8504939	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	48	276.0885351	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	49	260.0186187	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	50	244.5908463	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	51	229.7721216	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	52	215.5298446	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	53	201.8472192	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	54	188.7079549	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	55	176.0789459	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	56	163.8036042	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	57	151.8529482	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	58	140.3474452	0.0074077	0.9925923
k,pthis,blend_gm,blend_rm=	59	129.4045522	0.1109054	0.8890946
k,pthis,blend_gm,blend_rm=	60	118.7979322	0.3900232	0.6099768
k,pthis,blend_gm,blend_rm=	61	107.6470098	0.7490623	0.2509377
k,pthis,blend_gm,blend_rm=	62	95.6300573	0.9663716	0.0336284
k,pthis,blend_gm,blend_rm=	63	83.7849469	0.9998782	0.0001218
k,pthis,blend_gm,blend_rm=	64	73.0786195	1.0000000	0.0000000
k,pthis,blend_gm,blend_rm=	65	63.7096183	1.0000000	0.0000000
k,pthis,blend_gm,blend_rm=	66	55.5209783	1.0000000	0.0000000
k,pthis,blend_gm,blend_rm=	67	48.2631948	1.0000000	0.0000000
k,pthis,blend_gm,blend_rm=	68	41.8427253	1.0000000	0.0000000

k,pthis,blend_gm,blend_rm=	4	990.7511946	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	5	987.3922294	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	6	983.6455739	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	7	979.5066491	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	8	974.9612599	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	9	969.9885974	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	10	964.5703962	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	11	958.6982616	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	12	952.3666987	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	13	945.5500650	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	14	938.1901052	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	15	930.2018022	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	16	921.4958650	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	17	911.9901258	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	18	901.6051639	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	19	890.2619151	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	20	877.8779059	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	21	864.4027673	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	22	849.7524997	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	23	833.8158837	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	24	816.5441783	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	25	797.9634838	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	26	778.1474207	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	27	757.1211228	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	28	734.9093168	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	29	711.5782457	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	30	687.2429448	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	31	662.0837256	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	32	636.3154460	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	33	610.1525058	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	34	583.7914466	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	35	557.4467447	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	36	531.3494625	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	37	505.6967777	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	38	480.6368215	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	39	456.3010118	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	40	432.8049434	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	41	410.1985022	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	42	388.4806706	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	43	367.6519574	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	44	347.7128713	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	45	328.6298075	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	46	310.3533889	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	47	292.8504939	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	48	276.0885351	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	49	260.0186187	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	50	244.5908463	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	51	229.7721216	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	52	215.5298446	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	53	201.8472192	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	54	188.7079549	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	55	176.0789459	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	56	163.8036042	0.0000000	1.0000000
k,pthis,blend_gm,blend_rm=	57	151.8529482	0.0000000	1.0000000

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k,pthis,blend_gm,blend_rm= 58      140.3474452    0.0074077    0.9925923
k,pthis,blend_gm,blend_rm= 59      129.4045522    0.1109054    0.8890946
k,pthis,blend_gm,blend_rm= 60      118.7979322    0.3900232    0.6099768
k,pthis,blend_gm,blend_rm= 61      107.6470098    0.7490623    0.2509377
k,pthis,blend_gm,blend_rm= 62      95.6300573     0.9663716    0.0336284
k,pthis,blend_gm,blend_rm= 63      83.7849469     0.9998782    0.0001218
k,pthis,blend_gm,blend_rm= 64      73.0786195     1.0000000    0.0000000
k,pthis,blend_gm,blend_rm= 65      63.7096183     1.0000000    0.0000000
k,pthis,blend_gm,blend_rm= 66      55.5209783     1.0000000    0.0000000
k,pthis,blend_gm,blend_rm= 67      48.2631948     1.0000000    0.0000000
k,pthis,blend_gm,blend_rm= 68      41.8427253     1.0000000    0.0000000
k,pthis,blend_gm,blend_rm= 69      36.1725600     1.0000000    0.0000000
k,pthis,blend_gm,blend_rm= 70      31.1724907     1.0000000    0.0000000
k,pthis,blend_gm,blend_rm= 71      26.7691305     1.0000000    0.0000000
k,pthis,blend_gm,blend_rm= 72      22.8957698     1.0000000    0.0000000
k,pthis,blend_gm,blend_rm= 73      19.4920846     1.0000000    0.0000000
k,pthis,blend_gm,blend_rm= 74      16.5038102     1.0000000    0.0000000
k,pthis,blend_gm,blend_rm= 75      13.8823150     1.0000000    0.0000000
k,pthis,blend_gm,blend_rm= 76      11.5841596     1.0000000    0.0000000
k,pthis,blend_gm,blend_rm= 77      9.5706897      1.0000000    0.0000000
k,pthis,blend_gm,blend_rm= 78      7.8075748      1.0000000    0.0000000
k,pthis,blend_gm,blend_rm= 79      6.2644047      1.0000000    0.0000000
k,pthis,blend_gm,blend_rm= 80      4.9142900     1.0000000    0.0000000
k,pthis,blend_gm,blend_rm= 81      3.7334997     1.0000000    0.0000000
k,pthis,blend_gm,blend_rm= 82      2.7011199     1.0000000    0.0000000
k,pthis,blend_gm,blend_rm= 83      1.7987402     1.0000000    0.0000000
k,pthis,blend_gm,blend_rm= 84      1.0101845     1.0000000    0.0000000
k,pthis,blend_gm,blend_rm= 85      0.3212347     1.0000000    0.0000000
in convert_netcdf_nmm, compute new vertical coordinate which is merged
with gf
s
  previous nsigRegional=          74
  new nsigRegional=              85
  nsigRead=                      74
in initRegGlob_ll, initializing for wrf nmm regional run
in initRegGlob_ll, lendianIn=      15
in initRegGlob_ll, filename= sigf06
GRIDMOD: inunit: FLNAME: regional_time          15 sigf06          2017
         9          5          12          0          0
in initRegGlob_ll, yr,mn,dy,h,m,s= 2017          9          5          12          0          0
in initRegGlob_ll, nlonRegional= 315
in initRegGlob_ll, nlatRegional= 629
in initRegGlob_ll, nsig= 85
in initRegGlob_ll, pdtop,pt= 13640.89          1000.000
in initRegGlob_ll, aeta1 aeta2 follow:
k,aeta1,aeta2= 1 1.0000 0.9986
k,aeta1,aeta2= 2 1.0000 0.9958
k,aeta1,aeta2= 3 1.0000 0.9927
k,aeta1,aeta2= 4 1.0000 0.9892
k,aeta1,aeta2= 5 1.0000 0.9852
k,aeta1,aeta2= 6 1.0000 0.9808
k,aeta1,aeta2= 7 1.0000 0.9760
k,aeta1,aeta2= 8 1.0000 0.9707
k,aeta1,aeta2= 9 1.0000 0.9648

```

k,aetal,aeta2= 10	1.0000	0.9585
k,aetal,aeta2= 11	1.0000	0.9516
k,aetal,aeta2= 12	1.0000	0.9442
k,aetal,aeta2= 13	1.0000	0.9362
k,aetal,aeta2= 14	1.0000	0.9276
k,aetal,aeta2= 15	1.0000	0.9182
k,aetal,aeta2= 16	1.0000	0.9080
k,aetal,aeta2= 17	1.0000	0.8969
k,aetal,aeta2= 18	1.0000	0.8847
k,aetal,aeta2= 19	1.0000	0.8714
k,aetal,aeta2= 20	1.0000	0.8569
k,aetal,aeta2= 21	1.0000	0.8411
k,aetal,aeta2= 22	1.0000	0.8240
k,aetal,aeta2= 23	1.0000	0.8053
k,aetal,aeta2= 24	1.0000	0.7851
k,aetal,aeta2= 25	1.0000	0.7633
k,aetal,aeta2= 26	1.0000	0.7401
k,aetal,aeta2= 27	1.0000	0.7155
k,aetal,aeta2= 28	1.0000	0.6894
k,aetal,aeta2= 29	1.0000	0.6621
k,aetal,aeta2= 30	1.0000	0.6336
k,aetal,aeta2= 31	1.0000	0.6041
k,aetal,aeta2= 32	1.0000	0.5739
k,aetal,aeta2= 33	1.0000	0.5433
k,aetal,aeta2= 34	1.0000	0.5124
k,aetal,aeta2= 35	1.0000	0.4815
k,aetal,aeta2= 36	1.0000	0.4510
k,aetal,aeta2= 37	1.0000	0.4209
k,aetal,aeta2= 38	1.0000	0.3916
k,aetal,aeta2= 39	1.0000	0.3630
k,aetal,aeta2= 40	1.0000	0.3355
k,aetal,aeta2= 41	1.0000	0.3090
k,aetal,aeta2= 42	1.0000	0.2836
k,aetal,aeta2= 43	1.0000	0.2592
k,aetal,aeta2= 44	1.0000	0.2358
k,aetal,aeta2= 45	1.0000	0.2135
k,aetal,aeta2= 46	1.0000	0.1921
k,aetal,aeta2= 47	1.0000	0.1716
k,aetal,aeta2= 48	1.0000	0.1519
k,aetal,aeta2= 49	1.0000	0.1331
k,aetal,aeta2= 50	1.0000	0.1150
k,aetal,aeta2= 51	1.0000	0.0977
k,aetal,aeta2= 52	1.0000	0.0810
k,aetal,aeta2= 53	1.0000	0.0649
k,aetal,aeta2= 54	1.0000	0.0496
k,aetal,aeta2= 55	1.0000	0.0348
k,aetal,aeta2= 56	1.0000	0.0204
k,aetal,aeta2= 57	0.9984	0.0066
k,aetal,aeta2= 58	0.9543	0.0002
k,aetal,aeta2= 59	0.8693	0.0010
k,aetal,aeta2= 60	0.7858	0.0019
k,aetal,aeta2= 61	0.7040	0.0019
k,aetal,aeta2= 62	0.6213	0.0010
k,aetal,aeta2= 63	0.5392	0.0003

k,aetal,aeta2= 64	0.4623	0.0000
k,aetal,aeta2= 65	0.3937	0.0000
k,aetal,aeta2= 66	0.3337	0.0000
k,aetal,aeta2= 67	0.2805	0.0000
k,aetal,aeta2= 68	0.2334	0.0000
k,aetal,aeta2= 69	0.1919	0.0000
k,aetal,aeta2= 70	0.1552	0.0000
k,aetal,aeta2= 71	0.1229	0.0000
k,aetal,aeta2= 72	0.0945	0.0000
k,aetal,aeta2= 73	0.0696	0.0000
k,aetal,aeta2= 74	0.0477	0.0000
k,aetal,aeta2= 75	0.0285	0.0000
k,aetal,aeta2= 76	0.0116	0.0000
k,aetal,aeta2= 77	-0.0031	0.0000
k,aetal,aeta2= 78	-0.0161	0.0000
k,aetal,aeta2= 79	-0.0274	0.0000
k,aetal,aeta2= 80	-0.0373	0.0000
k,aetal,aeta2= 81	-0.0459	0.0000
k,aetal,aeta2= 82	-0.0535	0.0000
k,aetal,aeta2= 83	-0.0601	0.0000
k,aetal,aeta2= 84	-0.0659	0.0000
k,aetal,aeta2= 85	-0.0710	0.0000
in init_reg_glob_lll, deta1 deta2 follow:		
k,deta1,deta2= 1	0.0000	0.0028
k,deta1,deta2= 2	0.0000	0.0029
k,deta1,deta2= 3	0.0000	0.0033
k,deta1,deta2= 4	0.0000	0.0037
k,deta1,deta2= 5	0.0000	0.0042
k,deta1,deta2= 6	0.0000	0.0046
k,deta1,deta2= 7	0.0000	0.0051
k,deta1,deta2= 8	0.0000	0.0056
k,deta1,deta2= 9	0.0000	0.0061
k,deta1,deta2= 10	0.0000	0.0066
k,deta1,deta2= 11	0.0000	0.0071
k,deta1,deta2= 12	0.0000	0.0077
k,deta1,deta2= 13	0.0000	0.0083
k,deta1,deta2= 14	0.0000	0.0090
k,deta1,deta2= 15	0.0000	0.0098
k,deta1,deta2= 16	0.0000	0.0106
k,deta1,deta2= 17	0.0000	0.0116
k,deta1,deta2= 18	0.0000	0.0127
k,deta1,deta2= 19	0.0000	0.0139
k,deta1,deta2= 20	0.0000	0.0151
k,deta1,deta2= 21	0.0000	0.0164
k,deta1,deta2= 22	0.0000	0.0179
k,deta1,deta2= 23	0.0000	0.0194
k,deta1,deta2= 24	0.0000	0.0210
k,deta1,deta2= 25	0.0000	0.0225
k,deta1,deta2= 26	0.0000	0.0239
k,deta1,deta2= 27	0.0000	0.0253
k,deta1,deta2= 28	0.0000	0.0267
k,deta1,deta2= 29	0.0000	0.0280
k,deta1,deta2= 30	0.0000	0.0290
k,deta1,deta2= 31	0.0000	0.0299

k,deta1,deta2= 32	0.0000	0.0305
k,deta1,deta2= 33	0.0000	0.0308
k,deta1,deta2= 34	0.0000	0.0309
k,deta1,deta2= 35	0.0000	0.0308
k,deta1,deta2= 36	0.0000	0.0304
k,deta1,deta2= 37	0.0000	0.0297
k,deta1,deta2= 38	0.0000	0.0290
k,deta1,deta2= 39	0.0000	0.0280
k,deta1,deta2= 40	0.0000	0.0270
k,deta1,deta2= 41	0.0000	0.0260
k,deta1,deta2= 42	0.0000	0.0249
k,deta1,deta2= 43	0.0000	0.0239
k,deta1,deta2= 44	0.0000	0.0228
k,deta1,deta2= 45	0.0000	0.0219
k,deta1,deta2= 46	0.0000	0.0209
k,deta1,deta2= 47	0.0000	0.0201
k,deta1,deta2= 48	0.0000	0.0192
k,deta1,deta2= 49	0.0000	0.0184
k,deta1,deta2= 50	0.0000	0.0177
k,deta1,deta2= 51	0.0000	0.0170
k,deta1,deta2= 52	0.0000	0.0164
k,deta1,deta2= 53	0.0000	0.0157
k,deta1,deta2= 54	0.0000	0.0151
k,deta1,deta2= 55	0.0000	0.0145
k,deta1,deta2= 56	0.0000	0.0143
k,deta1,deta2= 57	0.0031	0.0132
k,deta1,deta2= 58	0.0851	-0.0004
k,deta1,deta2= 59	0.0849	-0.0011
k,deta1,deta2= 60	0.0819	-0.0007
k,deta1,deta2= 61	0.0818	0.0006
k,deta1,deta2= 62	0.0837	0.0011
k,deta1,deta2= 63	0.0804	0.0005
k,deta1,deta2= 64	0.0734	0.0000
k,deta1,deta2= 65	0.0636	0.0000
k,deta1,deta2= 66	0.0564	0.0000
k,deta1,deta2= 67	0.0500	0.0000
k,deta1,deta2= 68	0.0442	0.0000
k,deta1,deta2= 69	0.0390	0.0000
k,deta1,deta2= 70	0.0343	0.0000
k,deta1,deta2= 71	0.0302	0.0000
k,deta1,deta2= 72	0.0266	0.0000
k,deta1,deta2= 73	0.0233	0.0000
k,deta1,deta2= 74	0.0205	0.0000
k,deta1,deta2= 75	0.0180	0.0000
k,deta1,deta2= 76	0.0157	0.0000
k,deta1,deta2= 77	0.0138	0.0000
k,deta1,deta2= 78	0.0121	0.0000
k,deta1,deta2= 79	0.0106	0.0000
k,deta1,deta2= 80	0.0092	0.0000
k,deta1,deta2= 81	0.0081	0.0000
k,deta1,deta2= 82	0.0071	0.0000
k,deta1,deta2= 83	0.0062	0.0000
k,deta1,deta2= 84	0.0054	0.0000
k,deta1,deta2= 85	0.0047	0.0000

```
in init_reg_glob_ll, eta1 eta2 follow:  
k,eta1,eta2= 1 1.0000 1.0000  
k,eta1,eta2= 2 1.0000 0.9972  
k,eta1,eta2= 3 1.0000 0.9943  
k,eta1,eta2= 4 1.0000 0.9910  
k,eta1,eta2= 5 1.0000 0.9873  
k,eta1,eta2= 6 1.0000 0.9831  
k,eta1,eta2= 7 1.0000 0.9785  
k,eta1,eta2= 8 1.0000 0.9735  
k,eta1,eta2= 9 1.0000 0.9679  
k,eta1,eta2= 10 1.0000 0.9618  
k,eta1,eta2= 11 1.0000 0.9552  
k,eta1,eta2= 12 1.0000 0.9480  
k,eta1,eta2= 13 1.0000 0.9404  
k,eta1,eta2= 14 1.0000 0.9321  
k,eta1,eta2= 15 1.0000 0.9231  
k,eta1,eta2= 16 1.0000 0.9134  
k,eta1,eta2= 17 1.0000 0.9027  
k,eta1,eta2= 18 1.0000 0.8911  
k,eta1,eta2= 19 1.0000 0.8784  
k,eta1,eta2= 20 1.0000 0.8645  
k,eta1,eta2= 21 1.0000 0.8494  
k,eta1,eta2= 22 1.0000 0.8329  
k,eta1,eta2= 23 1.0000 0.8150  
k,eta1,eta2= 24 1.0000 0.7956  
k,eta1,eta2= 25 1.0000 0.7746  
k,eta1,eta2= 26 1.0000 0.7521  
k,eta1,eta2= 27 1.0000 0.7281  
k,eta1,eta2= 28 1.0000 0.7028  
k,eta1,eta2= 29 1.0000 0.6761  
k,eta1,eta2= 30 1.0000 0.6481  
k,eta1,eta2= 31 1.0000 0.6191  
k,eta1,eta2= 32 1.0000 0.5892  
k,eta1,eta2= 33 1.0000 0.5587  
k,eta1,eta2= 34 1.0000 0.5279  
k,eta1,eta2= 35 1.0000 0.4969  
k,eta1,eta2= 36 1.0000 0.4661  
k,eta1,eta2= 37 1.0000 0.4358  
k,eta1,eta2= 38 1.0000 0.4060  
k,eta1,eta2= 39 1.0000 0.3771  
k,eta1,eta2= 40 1.0000 0.3490  
k,eta1,eta2= 41 1.0000 0.3220  
k,eta1,eta2= 42 1.0000 0.2961  
k,eta1,eta2= 43 1.0000 0.2711  
k,eta1,eta2= 44 1.0000 0.2473  
k,eta1,eta2= 45 1.0000 0.2244  
k,eta1,eta2= 46 1.0000 0.2025  
k,eta1,eta2= 47 1.0000 0.1816  
k,eta1,eta2= 48 1.0000 0.1615  
k,eta1,eta2= 49 1.0000 0.1423  
k,eta1,eta2= 50 1.0000 0.1239  
k,eta1,eta2= 51 1.0000 0.1062  
k,eta1,eta2= 52 1.0000 0.0892  
k,eta1,eta2= 53 1.0000 0.0728
```

```

k,eta1,eta2= 54      1.0000      0.0571
k,eta1,eta2= 55      1.0000      0.0420
k,eta1,eta2= 56      1.0000      0.0275
k,eta1,eta2= 57      1.0000      0.0133
k,eta1,eta2= 58      0.9969      0.0000
k,eta1,eta2= 59      0.9117      0.0004
k,eta1,eta2= 60      0.8268      0.0015
k,eta1,eta2= 61      0.7449      0.0022
k,eta1,eta2= 62      0.6631      0.0016
k,eta1,eta2= 63      0.5794      0.0005
k,eta1,eta2= 64      0.4990      0.0000
k,eta1,eta2= 65      0.4255      0.0000
k,eta1,eta2= 66      0.3619      0.0000
k,eta1,eta2= 67      0.3055      0.0000
k,eta1,eta2= 68      0.2555      0.0000
k,eta1,eta2= 69      0.2114      0.0000
k,eta1,eta2= 70      0.1724      0.0000
k,eta1,eta2= 71      0.1380      0.0000
k,eta1,eta2= 72      0.1078      0.0000
k,eta1,eta2= 73      0.0813      0.0000
k,eta1,eta2= 74      0.0579      0.0000
k,eta1,eta2= 75      0.0374      0.0000
k,eta1,eta2= 76      0.0195      0.0000
k,eta1,eta2= 77      0.0037      0.0000
k,eta1,eta2= 78      -0.0100      0.0000
k,eta1,eta2= 79      -0.0221      0.0000
k,eta1,eta2= 80      -0.0327      0.0000
k,eta1,eta2= 81      -0.0419      0.0000
k,eta1,eta2= 82      -0.0500      0.0000
k,eta1,eta2= 83      -0.0570      0.0000
k,eta1,eta2= 84      -0.0632      0.0000
k,eta1,eta2= 85      -0.0686      0.0000
k,eta1,eta2= 86      -0.0733      0.0000
in init_reg_glob_ll, pdtop_ll, pt_ll=    136.408896484375
10.00000000000000
in init_reg_glob_ll, rlat_min_dd=   2.500000000000000
in init_reg_glob_ll, rlat_max_dd=  313.5000000000000
in init_reg_glob_ll, rlon_min_dd=   4.000000000000000
in init_reg_glob_ll, rlon_max_dd=  312.0000000000000
in init_reg_glob_ll, rlat_min_ll=  1.000000000000000
in init_reg_glob_ll, rlat_max_ll= 315.0000000000000
in init_reg_glob_ll, rlon_min_ll= 1.000000000000000
in init_reg_glob_ll, rlon_max_ll= 315.0000000000000
in init_reg_glob_ll, filled_grid, half_grid= F T
in init_reg_glob_ll, nlon, nlat=     315                 315
INIT_RAD_VARS: ***WARNING*** mxlvs from the anavinfo file           86
is different from that of the guess          85
. Resetting maxlvs to match NSIG from guess.
READ_wrf_nmm_FILES: analysis date,minutes          2017           9
5
12      20869200
READ_wrf_nmm_FILES: sigma guess file, nming2 0.00000000000000E+000
2017      9      5      9      0      20869020
READ_wrf_nmm_FILES: sigma guess file, nming2 0.00000000000000E+000

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