ARPEGE MEMORANDUM

From: GCO Date: December 08, 2008

To: GMAP, COMPAS, GMGEC, GMME, DIR/RE/CRC, Mats Hamrud

Subject: New cycle CY35T1

A new cycle CY35T1 has been created. This is not a common cycle with the ECMWF. The different contributions for this cycle are described in the following pages.

ClearCase label: CY35T1

Modified libraries: arpege, aladin, Meso-NH surface, Meso-NH physique altitude , ifsaux, odb, xla, utilities, blacklist

Contributors:

BOUTELOUP Yves	Project:arpege	CCase branch:mrpa648_CY35_b315
	Project:arpege	CCase branch:mrpa648_CY35_b319
BROZKOVA Radmila	Project:arpege	CCase branch:mrpe684_CY35_ompfix
CHAPNIK Bernard	Project:arpege	CCase branch:mrpa658_CY35_4dv
DECKMYN Alex	Project:arpege	CCase branch:mrpe716_CY35_lamwavjb
EL KHATIB Ryad	Project:arpege	CCase branch:mrpm602_CY35_fixfpos
	Project:arpege	CCase branch:mrpm602_CY35_optim
FAURE Ghislain	Project:arpege	CCase branch:mcrc001_CY35_RelaxNLOfinal

GCO	Project:arpege	CCase branch:marp001_CY35_ctpini
	Project:arpege	CCase branch:marp001_CY35_karim
	Project:arpege	CCase branch:marp001_CY35_remove
	Project:arpege	CCase branch:marp001_CY35_rename
GRIL Jean-Daniel	Project:arpege	CCase branch:marp001_CY35_pinuts
MASEK Jan	Project:arpege	CCase branch:mrpm615_CY35_cy35t1
MOLL Patrick	Project:arpege	CCase branch:mrpa646_CY35_modis
	Project:arpege	CCase branch:mrpa646_CY35_obs
POLI Paul	Project:arpege	CCase branch:mrpa679_CY35_gras
RIVIERE Olivier	Project:arpege	CCase branch:mrpe601_CY35_ddh_arome_newdataflow
	Project:arpege	CCase branch:mrpe601_CY35_ddh_arome_newdataflow_bf
SEITY Yann	Project:arpege	CCase branch:mrpm637_CY35_AROMEbfs
	Project:arpege	CCase branch:mrpm637_CY35_arome
	Project:arpege	CCase branch:mrpm637_CY35_bfs_arome_c
	Project:arpege	CCase branch:mrpm637_CY35_surfex4bf5
Sami Niemla & Ulf Andrae	Project:arpege	CCase branch:mrpm636_CY35_hirald
TAILLEFER Francoise	Project:arpege	CCase branch:marp001_CY35_dble
Toon Moene & Ulf Andrae	Project:arpege	CCase branch:mrpm636_CY35_hirlam
YESSAD Karim	Project:arpege	CCase branch:mrpm603_CY35_bf35
	Project:arpege	CCase branch:mrpm603_CY35_dev35pour35t1c

BOUTELOUP Yves

Doc:

1) Modifications in the TKE/CBR turbulence scheme.
2) Modifications in the KFB shallow convection scheme.
3) Modifications in the Bougeault deep convection scheme.
4) Modifications needed to use ECUME scheme (vectorized version of acfluso).
5) Modifications needed to use Fortuin and Langematz zonal climatological ozone concentration.
6) Modification needed to deallocate TKE array before minimisation in configuration 131 .

Project: arpege
ClearCase branch: mrpa648_CY35_b315

Added:

arp/phys_dmn	acfluso.F90

Modified:

arp/module	gfl_subs_mod.F90	yomphy.F90	yomphy0.F90
arp/namelist	namphy.h	namphy0.h	
arp/phys_dmn	acbl89.F90	accvimp.F90	acdifus.F90
	acfluso.F90	acnebn.F90	acpluiz.F90
	actke.F90	acturb.F90	acvppkf.F90
	aplpar.F90	arp_ground_param.F90	hl_aplpar.F90
	suphmpa.F90	suphy0.F90	
arp/phys_radi	rrtm_rtrn1a_140gp.F90	suecrad.F90	
arp/setup	su0phy.F90		

Doc:
1) Bug correction (reproductability) .
2) New calculation of Turbulent Kinetic Energy in the CLS. Used of the same PBL height for the computation of TKE in the CLS and for diagnostic.

Project: arpege
ClearCase branch: mrpa648_CY35_b319

Modified:

arp/phys_dmn acbl89.F90 actke.F90 acturb.F90
aplpar.F90

BROZKOVA Radmila

Doc:

Arrays of pressure and derived quantities to be used in physics (MF_PHYS) and also vertical velocities (NH case) are now declared in the shape: (horizontal dimension, vertical dimension, number of threads=KBLKS).
One other array was forgotten to be declared PRIVATE in case of OpenMP parallelization.

Project: arpege
ClearCase branch: mrpe684_CY35_ompfix

Modified:

arp/adiab cpg.F90

CHAPNIK Bernard

Doc:

Modset for ALADIN 4D-VAR .

Project: aladin,arpege
ClearCase branch: mrpa658_CY35_4dv

Modified:

ald/inidata	elsac.F90		
ald/setup	sueoph.F90		
ald/var	edog.F90	suejbbal.F90	suejbdat96.F90
arp/control	cnt3.F90		
arp/module	yomjcdfi.F90	yomjg.F90	
arp/obs_preproc	mkglobstab.F90		
arp/var	cosjc.F90	evcost.F90	evjcdfi.F90
	multqnorm.F90	rdfpinc.F90	suqnorm.F90

DECKMYN Alex

Doc:

These modifications introduce a wavelet formulation for the Jb term in ALADIN 3d-Var. It is still in an experimental stage. The formulation depends on the switch LJBWAVELET in NAMJG (like the global wavelet formulation) but does not use any other parameters from the global wavelets.

The univariate part of the Jb (horizontal and vertical covariances) is calculated in a complex wavelet frame. After this, the balancing is performed in fourier space as before.

When LJBWAVELET=.FALSE. (default), there is no impact on the 3d-Var run. As the switch is also used for the global wavelets, an additional check of LELAM is introduced at various instances during setup.

All of the new routines have been placed in the new subdirectory ald/wavelet. This includes 2 modules (YEMWAVELET for the data structures and variablesZ, YEMWAV_LIFTING for the transforms). Then there are various setup routines for the data structures and reading the B matrix. The actual multiplication with B^(1/2) is done in the routines EJBWAV_HCORI and EJBWAV_VCORI (both are self-adjoint, so no adjoint routine was coded).

One new namelist is introduced, NEMWAVELET, which is read by SUEJBWAVELET.

The modifications to existing routines are minor, and always under a switch like (LJBWAVELET .AND. LELAM)
SU0YOMB calls the wavelet setup routines
CONTROL_VECTORS now allows the LAM wavelet structure (only minor changes necessary). The wavelet components are complex, but are stored as reals in the control vector.
SUALCTV now also calls setup for the LAM wavelet case.
During the 3d-Var run, the only changes are in JGCORI and JGCORIAD

The LAM wavelet 3d-Var needs 3 new files that describe the B matrix: ejbwav_eigval.cv ejbwav_sigmab.cv and ejbwav_eigvec.cv . These are produced offline by a modified version of FESTAT.

Project: aladin,arpege,xla
ClearCase branch: mrpe716_CY35_lamwavjb

Added:

ald/wavelet	ejbwav_cv2wav.F90	ejbwav_gp2wav.F90	ejbwav_h2v.F90
	ejbwav_hcori.F90	ejbwav_v2h.F90	ejbwav_vcori.F90
	ejbwav_wav2cv.F90	ejbwav_wav2gp.F90	suejbwav_read_eigval.F90
	suejbwav_read_eigvec.F90	suejbwav_read_sigmab.F90	suejbwavalloc.F90
	suejbwavelet.F90	suejbwavelet_bmatrix.F90	yemwav_lifting.F90
	yemwavelet.F90		
arp/ald_inc/namelist	nemwavelet.h		

Modified:

ald/utility	deello.F90		
ald/var	suescal.F90		
ald/wavelet	ejbwav_cv2wav.F90	ejbwav_gp2wav.F90	ejbwav_h2v.F90
	ejbwav_hcori.F90	ejbwav_v2h.F90	ejbwav_vcori.F90
	ejbwav_wav2cv.F90	ejbwav_wav2gp.F90	suejbwav_read_eigval.F90
	suejbwav_read_eigvec.F90	suejbwav_read_sigmab.F90	suejbwavalloc.F90
	suejbwavelet.F90	suejbwavelet_bmatrix.F90	yemwav_lifting.F90
	yemwavelet.F90		

arp/ald_inc/namelist	nemwavelet.h		
arp/parallel	dot_product_ctlvec.F90		
arp/setup	su0yomb.F90		
arp/var	jgcori.F90	jgcoriad.F90	sualctv.F90
xla/module	control_vectors_base_mix.F90	control_vectors_data_mix.F90	control_vectors_oper_mod.F90

EL KHATIB Ryad

Doc:

1) gppvo.F90, endpos.F90, prespfpos.F90, spaconvert.F90, sufprfpds.F90, su0phy.F90 : miscellaneous bugfixes for Fullpos. This modset enables to run the post-processing in in-line mode with the model, with the namelists used in operations at Meteo-France, and to ensure the in-line/off-line reproductibility as far as the compacting of fields in the output historical files is switched off.

2) suinif.F90 : bugfix to run NH Arpege with LSPRT=.TRUE. : as the NH fields conversion routine expects T, the transformation of T to RT should be performed after the NH fields conversion in the setup.

3) aro_surf_diag.mnh : portability severe bugfix.

Project: arpege,Meso-NH surface
ClearCase branch: mrpm602_CY35_fixfpos

Modified:

arp/adiab	gppvo.F90		
arp/fullpos	endpos.F90	prespfpos.F90	spaconvert.F90
	sufprfpds.F90		
arp/setup	su0phy.F90	suinif.F90	
mse/externals	aro_surf_diag.mnh		

Doc:

- inifaout.F90, wrmlppa.F90, wrspeca.F90 : I/O savings
- n_precision.c : portability fix (return to the version of cycle 33, not the version from ECLIB)
- scan2m.F90, cpclimi.F90, fpmodprec.F90 : bugfix for fullpos aladin with equal distribution of C+I+E (RDISTR_E=1.)
- suezone.F90 : remove a useless abort, penalising the model scalability on vector platforms.

Project: aladin,arpege,auxiliaire
ClearCase branch: mrpm602_CY35_optim

Modified:

ald/setup	suezone.F90		
arp/control	scan2m.F90		
arp/dia	inifaout.F90	wrmlppa.F90	wrspeca.F90
arp/fullpos	cpclimi.F90	fpmodprec.F90	
xrd/utilities	n_precision.c		

FAURE Ghislain

Doc:

Fix a problem concerning a possible crash of minimisation for ALADIN REUNION, because of non-linear balances.

Project: aladin,arpege
ClearCase branch: mcrc001_CY35_RelaxNLOfinal

Modified:

ald/var	ebalnonlin.F90	ebalnonlinad.F90	ebalnonlintl.F90
	ebalomega.F90	ebalomegaad.F90	ebalomegatl.F90
arp/module	yomjg.F90		
arp/namelist	namjg.h		

arp/var sujb.F90

GCO

Doc:

Introduction of sources for CTPINI: inversion of a potential vorticity field, with given bound conditions.

Project: utilitaires
ClearCase branch: marp001_CY35_ctpini

Added:

uti/ctpini	module		
uti/ctpini/module	constantes.F90	fonctions_donnees.F90	fonctions_inversion.F90
	fonctions_tfl.F90		
uti/ctpini	programs		
uti/ctpini/programs	inversion_master.F90		
uti/ctpini	src		
uti/ctpini/src	sugmre_ctpini.F90	susmap_ctpini.F90	

Modified:

uti/ctpini/module	constantes.F90	fonctions_donnees.F90	fonctions_inversion.F90
	fonctions_tfl.F90		
uti/ctpini/programs	inversion_master.F90		
uti/ctpini/src	sugmre_ctpini.F90	susmap_ctpini.F90	

Doc:

Bugfixes .

Project: arpege,utilitaires
ClearCase branch: marp001_CY35_karim

Modified:

arp/dia	cpdyddh.F90	
uti/ctpini/src	sugmre_ctpini.F90	susmap_ctpini.F90

Doc:

Remove obsolete routines.

Project: aladin,arpege,xla
ClearCase branch: marp001_CY35_remove

Deleted:

ald/adiab	elaidditlad.F90	elaitritlad.F90	espawrad.F90
	espayad.F90	gnhsimad.F90	gnhsimtl.F90
arp/adiab	gavge.F90	gp_kappa.F90	ladiff.F90
	laitli_hd.F90	laitre_gmv_ad.F90	laitre_gmv_tl.F90
	laitsld.F90	laitsldqm.F90	laitsldqmh.F90
	q_fix.F90		
arp/control	cpeqms.F90	cprep2.F90	
arp/module	phyflag.F90	phyflge.F90	phyflgm.F90
	yomdif.F90	yomvx.F90	
arp/namelist	namancs.h	namdif.h	
arp/phys_dmn	athmt.F90	atradin.F90	atsol.F90
arp/setup	sudif.F90	suleg.F90	suphyfl.F90
arp/sinvect	morthodm.F90		
xla/external/lanczos	mortho.F	mortho.F90	

Doc:

1) Move module yemwavelet.F90 from ald/wavelet to arp/module .
2) Rename and move yemwav_lifting.F90 from ald/wavelet to arp/module/wav_lifting_mod.F90 . Routines which use this renamed module have been also modified.

Project: aladin,arpege
ClearCase branch: marp001_CY35_rename

Added:

arp/module wav_lifting_mod.F90 yemwavelet.F90

Deleted:

ald/wavelet yemwav_lifting.F90 yemwavelet.F90

Modified:

ald/wavelet ejbwav_gp2wav.F90 ejbwav_wav2gp.F90 suejbwavelet.F90
arp/module wav_lifting_mod.F90 yemwavelet.F90

GRIL Jean-Daniel

Doc:

Modifications in xrd/module :

WARNING: Those modifications are mandatory for domains Polynesie & NC . Tests have been done upon 90 domains with latitudes between -90 and +90 , using an automatic script which calls "domolalo", and ploting with GEOVIEW . No errors have been found!

** Usage of DIST_2REF in LATLON_TO_XY_(S & V) and STPL_LATLON_TO_RTETA_(S & V) to fix a bug during creation of big domains (located near 0° or 180° LON).*

** Replace RESHAPEs by loops for optimization on super-computer.*

** Modifications in eggangles.F90:*

- new routines :
DIST_2REF_(L or S or V) :
FUNCTION DIST_2REF_L(COORD_LON,REF_LON,PI) RESULT(DIST)
! COORD_LON, REF_LON in -+Radians (type REAL)
! DIST in -+Radians
!
! Computes oriented distance DIST (as an absciss in [-pi,pi[with origin at REF_LON meridian)
! from COORD_LON to REF_LON (coordinates in rad [-pi,pi[with origin at GreenWiTch meridian)
! Negatives values are on West of origins.
FUNCTION DIST_2REF_S(PT_COORD,REF_COORD,PI) RESULT(DIST)
! PT_COORD, REF_COORD in -+Radians (type LOLA)
! DIST in -+Radians
!
! Computes oriented distance DIST (as an absciss in [-pi,pi[with origin at REF_COORD%LON meridian)
! from PT_COORD%LON to REF_COORD%LON (coordinates in rad [-pi,pi[with origin at GreenWiTch meridian)
! Negatives values are on West of origins.
FUNCTION DIST_2REF_V(PT_COORD,REF_COORD,PI) RESULT(DIST)
! PT_COORD, REF_COORD in -+Radians (type 1D array of LOLA)
! DIST in -+Radians
SIZE_W2E_(L ou S) : calcul de la taille d'W en E entre deux longitudes :
FUNCTION SIZE_W2E_L(WEST_LON,EAST_LON,PI) RESULT(TAILLE)
! WEST_LON, EAST_LON in -+Radians (type REAL)
! SIZE in 0+Radians
!
! Computes distance or length (norm in]0,2pi]) between WEST_LON and EAST_LON in
! clockwise seeing from South Pole to North Pole.
!
FUNCTION SIZE_W2E_S(WEST_COORD,EAST_COORD,PI) RESULT(TAILLE)
! WEST_COORD, EAST_COORD in -+Radians (type LOLA)
! SIZE in 0+Radians

!
! Computes distance or length (norm in]0,2pi]) between WEST_COORD%LON and EAST_COORD%LON in
! clockwise seeing from South Pole to North Pole.
!

Modifications in dans uti/pinuts/module :

subdo_prg_mod.F90:

Fix a bug at lines 317 to 323: no-end loop if answering "N" to "same grid?" .

coneo_prg_mod.F90 :

Update of "USE ... , ONLY" to respect norm.

domolalo_prg_mod.F90:

1) Update of "USE ... , ONLY" to respect norm.
2) Key LAUTO (batch case) to compute automatically number of points.
3) Use of function SIZE_W2E .
4) Output in format OUT_NAM which can be used by GEOVIEW .
5) Output contains more parameters.

makdo_prg_mod.F90:

Fix a bug in LMRT, in interactive mode.

domain_mod.F90:

Update of "USE ... , ONLY" to respect norm.

egg_tools_mod.F90 , editfield_prg_mod.F90, fa_datas_mod.F90:

Handle academic case (LMAP=.FALSE. in SUEGEO1). Modifications may have to be done in FA routines.

Project: utilitaires,auxiliaire
ClearCase branch: marp001_CY35_pinuts

Modified:

uti/pinuts/module	coneo_prg_mod.F90	domain_mod.F90	domolalo_prg_mod.F90
	editfield_prg_mod.F90	egg_tools_mod.F90	fa_cadre_mod.F90
	fa_datas_mod.F90	makdo_prg_mod.F90	namlist_mod.F90
	subdo_prg_mod.F90		
xrd/module	eggangles.F90	eggpack.F90	

MASEK Jan

Doc:

1) Correction of bug in fullpos, related to bounds of NGPTOT loops for fullpos buffers. After fixing, all previously crashed mitraillette tests containing fullpos (AH9E, AHFE, AA1T) are working.

Touched sources:

arp/control/scan2m.F90
arp/fullpos/cpclimi.F90
arp/fullpos/fpmodprec.F90

Final LAM test with RDISTR_E=1. was performed with configuration ee927 on 32 processors, so that with NDGLG=300 (resp. 192 in LFPART2) and 11-point wide E-zone at least 1 processor was working purely in E-zone. Test was successful, giving identical gridpoint norms as reference.

2) Fixed bug preventing to run with NUNDEFLD=1 (bound checking) in configuration e927/ee927.

Touched sources:

arp/setup/susc2b.F90

3) Activated safety checks for namelist variables SLHDKMIN, SLHDKMAX (setup of new SLHD interpolators).

Touched sources:

arp/setup/sudyn.F90
arp/setup/sudyna.F90

4) ALARO-0 fixes provided by Radmila Brozkova.

Touched sources:

arp/phys_dmn/accvud.F90 - additional output and correction of sleeping bug

arp/phys_dmn/acevmel.F90 - evaporation calculations done only for 'Lopez' option
arp/phys_dmn/aplmini.F90 - extra argument in call to ACEVMEL
arp/phys_dmn/aplmphys.F90 - extra argument in call to ACEVMEL, correction of ZCFLIM

arp/phys_dmn/mf_phys.F90 - protection of arrays PUNEBH, PENTCH for specific CDCONF values

WARNING: In APLMPHYS, hardcoded value ZCFLIM=0.004 was changed to ZCFLIM=0.04 after validations. This has impact on norms, so for ALARO-0 configurations (LSTRAPRO or L3MT) they cannot be reproduced. In mitraillette, test AA1T (LSTRAPRO case) is concerned.

5) ALARO-0 preparations for the new gaseous transmission functions. Hardcoded values for NER statistical model were evacuated from APLPAR to NAMPHY3 (introduced as new namelist variables FSM_CC, FSM_DD, FSM_EE, FSM_FF, FSM_GG, FSM_HH, FSM_II). New namelist parameters for accouting gas overlaps were introduced in NAMPHY3 (arrays GOLCA, GOLCB, GOLCC). New computation is currently deactivated by default setup values, which reproduce old computation.

Touched sources:

arp/module/yomphy3.F90
arp/namelist/namphy3.h
arp/phys_dmn/acraneb.F90
arp/phys_dmn/aplpar.F90
arp/phys_dmn/suphy3.F90

No impact on norms was seen in Mitraillette test AA1T.

Remaining items:

In APLPAR fix for NRADFR is still missing (it can occur in modulo having zero value).

Project: arpege
ClearCase branch: mrpm615_CY35_cy35t1

Modified:

arp/control	scan2m.F90		
arp/fullpos	cpclimi.F90	fpmodprec.F90	
arp/module	yomphy3.F90		
arp/namelist	namphy3.h		
arp/phys_dmn	accvud.F90	acevmel.F90	acraneb.F90
	aplmini.F90	aplmphys.F90	aplpar.F90
	mf_phys.F90	suphy3.F90	
arp/setup	sudyn.F90	sudyna.F90	susc2b.F90

MOLL Patrick

Doc:
Use of MODIS EARS winds.
Project: arpege,odb
ClearCase branch: mrpa646_CY35_modis

Modified:

arp/obs_preproc	new_thinner_no_sq.F90
odb/pandor/module	bator_decodbufr_mod.F90

Doc:
Validation of cycles CY34/CY35 .
Project: arpege,Meso-NH surface,odb,satrad
ClearCase branch: mrpa646_CY35_obs

Modified:

arp/obs_preproc	comtc.F90	mkglobstab.F90	
arp/op_obs	laiddiobsad.F90	mpobseq_pack.F90	
mse/externals	aro_surf_diag.mnh		
odb/include	fodbmp2.h		
sat/rttov	rttov_ad.F90	rttov_alloc_prof.F90	rttov_direct.F90
	rttov_ec.F90	rttov_ec_ad.F90	rttov_ec_tl.F90
	rttov_setpredictors_7_ad.F90	rttov_setpredictors_7_tl.F90	rttov_tl.F90

POLI Paul

Doc:

The list of modified files (2) is:
bla/mf_blacklist.b
odb/pandor/module/bator_decodbufr_mod.F90

The blacklist addition sets the flag "fail experimental" to true for all GPSRO data from GRAS METOP, GRACE-B, TERRASAR-X, and SAC-C.

The changes inside bator_decodbufr_mod are as follows:

(1) support has been added to decode GRAS-SAF data which report bending angles on 3 frequencies (L1, L2, and LC; all other data such as those from COSMIC and GFZ typically report bending angles on one frequency only: LC).
(2) if the refractivity profile is missing (as encountered with GRAS-SAF data), the QC bits 17 and 18 (corresponding to suspicious dN/dz and d2N/dz2) are set to true.
(3) the GRAS data with QC bits 9--12 marked as bad are not rejected (to enable monitoring).

Project: black_list,odb
ClearCase branch: mrpa679_CY35_gras

Modified:

bla	mf_blacklist.b
odb/pandor/module	bator_decodbufr_mod.F90

RIVIERE Olivier

Doc:

New subroutines:

**xrd/module/ddh_mix.F90*
Core subroutines and module necessary for new DDH flexible data flow

**mpa/micro/externals/aro_suintbudget.mnh*
Setup repeated at the beginning of each time step
for storing quantities necessary to conversions from
MNH variables to DDH variables in Arome

**mpa/micro/externals/invert_vlev.mnh*
Allows to go from MNH fields to Aladin ones
and respectively (MNH has 2 additional levels
and in reversed order)

Modified subroutines:

**arp/dia/cpcuddh.F90*
one additional argument added

**arp/module/yomlddh.F90*
one additional logical LFLEXDIA which allow
to activate new DDH data flow

**arp/dia/cpdyddh.F90*
possibility of retrieving fields through new DDH data flow

**arp/dia/cpcuddh.F90*
**arp/dia/zeroddh.F90*
**arp/dia/ppsyddh.F90*
**arp/dia/ppfidh.F90*
for all these subroutines, new data flow
operations added under flag LFLEXDIA

**arp/dia/wrifdh.F90*
additional condition in IF statement

**arp/adiab/postphy.F90*
call to cpcuddh with one additional argument

**arp/adiab/cpg_dia.F90*
call to cpcuddh with one additional argument
removal of now obsolete DDH features of Arome

**arp/phys_dmn/apl_arome.F90*
call to aro_suintbudget added
call to add_field_3D added

**mpa/micro/externals/aro_startbu.mnh*
Removal of unecessary part for new diagnostic data flow

**mpa/micro/internals/rain_ice.mnh*
-Correction of a bug provided by MNH team in call to budget
-Reordering of call to budget in case LMICRO=0 in agreement with MNH team

**mpa/micro/module/moddb_intbudget.mnh*
Passing some arrays from apl_arome.f90 to mpa subroutines

**arp/module/yomlddh.F90*
add additional flag LFLEXDIA for activating new data flow

**mpa/micro/externals/aro_adjust.mnh*
Removal of call to budget

**arp/dia/sunddh.F90*
Removal of setup for old Arome DDH
Allocation of flag LFLEXDIA for flexible dataflow

**mpa/micro/internals/budget.mnh*
Replaces the budget subroutines coming from MNH
(MNH keeps its own budget subroutine)

Routines to be deleted (obsolete):

arp/module/yomphft.F90
arp/phys_dmn/addft.F90
arp/phys_dmn/aro_iniapft.F90
arp/dia/iniapft_bp002.F90
arp/dia/aro_cpphddh.F90
mpa/micro/interface/testapft.h
mpa/micro/externals/testapft.mnh
mpa/micro/externals/aroend_budget.mnh

Project: arpege,Meso-NH physique altitude,auxiliaire

ClearCase branch: mrpe601_CY35_ddh_arome_newdataflow

Added:

mpa/micro/externals	aro_suintbudget.mnh	invert_vlev.mnh
mpa/micro/module	moddb_intbudget.mnh	
xrd/module	ddh_mix.F90	

Modified:

arp/adiab	cpg_dia.F90	postphy.F90	
arp/dia	cpcuddh.F90	cpdyddh.F90	ppfidh.F90
	ppsydh.F90	sualtdh.F90	sunddh.F90
	wrifdh.F90	zeroddh.F90	
arp/module	yomlddh.F90		
arp/phys_dmn	apl_arome.F90	suphmpa.F90	
mpa/micro/externals	aro_adjust.mnh	aro_startbu.mnh	aro_suintbudget.mnh
	invert_vlev.mnh		
mpa/micro/internals	budget.mnh	rain_ice.mnh	
mpa/micro/module	moddb_intbudget.mnh		
xrd/module	ddh_mix.F90		

Doc:

1) Fix some abort cases in AROME when DDH are activated.
2) Bugfix for DDH AROME .

Project: arpege
ClearCase branch: mrpe601_CY35_ddh_arome_newdataflow_bf

Modified:

arp/adiab	cpg_dia.F90

arp/phys_dmn apl_arome.F90 suphmpa.F90

SEITY Yann

Doc:

1) Fix writing of historical surface files:
- in case of inline Fullpos;
- in case of N/S parallelization and big number of processors.
2) Fixes for chemicals.
3) Fixes for prep_pgd .

Project: arpege,Meso-NH physique altitude,Meso-NH surface
ClearCase branch: mrpm637_CY35_AROMEbfs

Added:

mse/dummy read_netcdf.mnh

Modified:

arp/control	cnt4.F90		
arp/dia	aro_surf_diagh.F90		
arp/parallel	arowrgp_surf.F90	diwrgrid_surf_ext.F90	
arp/phys_dmn	apl_arome.F90		
mpa/chem/externals	aro_mnhc.mnh	aro_mnhdust.mnh	aroini_mnhc.mnh
mpa/chem/interface	aro_mnhc.h	aro_mnhdust.h	
mpa/chem/module	mode_dustopt.mnh	modi_init_dust.mnh	
mse/dummy	read_netcdf.mnh		
mse/internals	close_file.mnh	open_file.mnh	

Doc:

1) Fixes for particular cases of splitting on processors, when a processor has his first points in E zone (routines ald/parallel).

2) Fix in radiation concerning option NOVLP>4, which is not coded in rrtm (arp/phys_radi/rrtm_ecrt_140gp.F90).

3) Chemical/Aeroeols/Dust: routines under mpa, mse/externals mse/interface and arp .

4) Possibility to build a PGD file with creation of a binary via mse/programs/pgd.mnh (mse/internals/aroopen_namelist.mnh,open_file.mnh,write_gridtype_cartesian.mnh,write_surfx1_aro.mnh + mse/dummy/default_grid_mnh.mnh,default_schemes_mnh.mnh,pgd_grid_io_init_mnh.mnh).

5) New bugfixes for SURFEX: Surfex4bf3 .

Project: aladin,arpege,Meso-NH physique altitude,Meso-NH surface
ClearCase branch: mrpm637_CY35_arome

Added:

mpa/chem/externals	aro_rainaero.mnh		
mpa/chem/interface	aro_rainaero.h		
mpa/chem/internals	aer_effic.mnh	aer_velgrav.mnh	aer_wet_dep_kmt_warm.mnh
mpa/chem/module	modi_aer_effic.mnh	modi_aer_velgrav.mnh	modi_aer_wet_dep_kmt_warm.mnh
mse/dummy	default_grid_mnh.mnh	default_schemes_mnh.mnh	pgd_grid_io_init_mnh.mnh
mse/internals	abor1_sfx.mnh	adapt_horibl_surf.mnh	av_pgd_spec.mnh
	av_pgd_spec_1d.mnh	average1_cover2.mnh	average2_cover2.mnh
	average2_cover3.mnh	close_aux_io_surf_lfi.mnh	close_file_lfi.mnh
	close_file_mnh.mnh	close_namelist_lfi.mnh	close_write_cover_tex_lfi.mnh
	compare_orography.mnh	cover301_573.mnh	deepsoil_update.mnh
	default_deepsoil.mnh	default_trip.mnh	diag_inline_ocean_n.mnh
	diag_misc_flake_n.mnh	ecoclimap2_lai.mnh	end_io_surf_lfi_n.mnh
	flood_intercept.mnh	get_conf_trip_n.mnh	get_coord_n.mnh
	get_dim_full_n.mnh	get_grid_conf_trip_n.mnh	get_isba_conf_n.mnh
	get_lonlat_n.mnh	get_trip_size_n.mnh	goto_trip.mnh

	goto_wrapper_ocean.mnh	goto_wrapper_trip.mnh	hor_interpol_latlon.mnh
	hor_interpol_rotlatlon.mnh	ini_ocean_csts.mnh	init_io_surf_bin_n.mnh
	init_io_surf_lfi_n.mnh	init_trip_par.mnh	is_min.F
	isba_flood_properties.mnh	isba_flood_update_n.mnh	lfiget_luout.mnh
	mixtl_n.mnh	ocean_mercatorvergrid.mnh	open_aux_io_surf_lfi.mnh
	open_file2.mnh	open_file_asc2.mnh	open_file_lfi.mnh
	open_file_mnh.mnh	open_namelist_lfi.mnh	open_write_cover_tex_lfi.mnh
	pgd_bathyfield.mnh	pgd_ecoclimap2_data.mnh	prep_hor_ocean_field.mnh
	prep_hor_ocean_fields.mnh	prep_ocean_netcdf.mnh	prep_ocean_unif.mnh
	prep_seaflux_netcdf.mnh	pt_by_pt_treatment2.mnh	read_direct1.mnh
	read_direct2.mnh	read_eco2_irrig.mnh	read_lclim_lai.mnh
	read_nam_grid_trip.mnh	read_nam_pgd_seabathy.mnh	read_ocean_n.mnh
	read_surf_asc.mnh	read_surfc0_lfi.mnh	read_surfl0_lfi.mnh
	read_surfl1_lfi.mnh	read_surfn0_lfi.mnh	read_surfn1_lfi.mnh
	read_surft0_lfi.mnh	read_surfx0_lfi.mnh	read_surfx1_lfi.mnh
	read_surfx2_lfi.mnh	read_topo_sgh.mnh	read_trip_conf_n.mnh
	refresh_pgdwork.mnh	regrot.mnh	sscopy.F
	test_record_len.mnh	tql2_2.F	treat_bathyfield.mnh
	trip.mnh	trip_floodplain.mnh	trip_ground_water.mnh
	trip_interface.mnh	trip_surface_water.mnh	update_data_cover.mnh
	write_data.mnh	write_diag_misc_flake_n.mnh	write_diag_seb_ocean_n.mnh
	write_ecoclimap2_data.mnh	write_surf_asc.mnh	write_surfc0_bin.mnh
	write_surfc0_lfi.mnh	write_surfl0_bin.mnh	write_surfl0_lfi.mnh
	write_surfl1_bin.mnh	write_surfl1_lfi.mnh	write_surfn0_bin.mnh
	write_surfn0_lfi.mnh	write_surfn1_bin.mnh	write_surfn1_lfi.mnh
	write_surft0_bin.mnh	write_surft0_lfi.mnh	write_surft2_bin.mnh
	write_surfx0_bin.mnh	write_surfx0_lfi.mnh	write_surfx1_bin.mnh
	write_surfx1_lfi.mnh	write_surfx2_bin.mnh	write_surfx2_lfi.mnh
	writesurf_ocean_n.mnh	zoom_pgd_seaflux.mnh	
mse/module	mod1d_n.mnh	modd_deepsoil.mnh	modd_diag_misc_flake_n.mnh
	modd_diag_ocean_n.mnh	modd_diag_trip_n.mnh	modd_grid_latlonregul.mnh
	modd_grid_rotlatlon.mnh	modd_ocean_csts.mnh	modd_ocean_grid_n.mnh

modd_ocean_n.mnh	modd_surf_conf.mnh	modd_trip_grid_n.mnh
modd_trip_n.mnh	modd_trip_par.mnh	modd_tripmax.mnh
mode_convert.mnh	mode_cover_301_573.mnh	mode_grid_trip.mnh
mode_modeln_trip_handler.mnh	mode_read_netcdf_mercator.mnh	mode_surf_flood_frac.mnh
mode_trip_function.mnh	mode_trip_init.mnh	modi_adapt_horibl_surf.mnh
modi_average2_cover.mnh	modi_compare_orography.mnh	modi_deepsoil_update.mnh
modi_default_deepsoil.mnh	modi_default_trip.mnh	modi_diag_inline_ocean_n.mnh
modi_diag_misc_flake_n.mnh	modi_diag_trip_n.mnh	modi_flood_intercept.mnh
modi_get_conf_trip_n.mnh	modi_get_coord_n.mnh	modi_get_grid_conf_trip_n.mnh
modi_get_lonlat_n.mnh	modi_get_trip_size_n.mnh	modi_hor_interpol_latlon.mnh
modi_hor_interpol_rotlatlon.mnh	modi_init_diag_trip_n.mnh	modi_init_param_trip_n.mnh
modi_init_restart_trip_n.mnh	modi_init_trip_par.mnh	modi_isba_flood_properties.mnh
modi_isba_flood_update_n.mnh	modi_mixtl_n.mnh	modi_mod1d_n.mnh
modi_ocean_mercatorvergrid.mnh	modi_pgd_bathyfield.mnh	modi_prep_hor_ocean_field.mnh
modi_prep_hor_ocean_fields.mnh	modi_prep_ocean_netcdf.mnh	modi_prep_ocean_unif.mnh
modi_prep_seaflux_netcdf.mnh	modi_prep_trip.mnh	modi_read_nam_grid_trip.mnh
modi_read_nam_pgd_seabathy.mnh	modi_read_netcdf.mnh	modi_read_ocean_n.mnh
modi_read_trip_conf_n.mnh	modi_restart_trip_n.mnh	modi_treat_bathyfield.mnh
modi_trip.mnh	modi_trip_floodplain.mnh	modi_trip_ground_water.mnh
modi_trip_surface_water.mnh	modi_update_data_cover.mnh	modi_write_diag_misc_flake_n.mnh
modi_write_diag_seb_ocean_n.mnh	modi_writesurf_ocean_n.mnh	modi_zoom_pgd_seaflux.mnh
modn_deepsoil.mnh	modn_trip_n.mnh	

Modified:

ald/parallel	eslextpol.F90	eslextpol1.F90	eslextpol1a.F90
	eslextpol2.F90		
arp/module	yomarphy.F90	yomnsv.F90	
arp/namelist	namarphy.h		
arp/phys_dmn	apl_arome.F90	suphmse.F90	
arp/phys_radi	rrtm_ecrt_140gp.F90		
arp/setup	su0phy.F90	sudefo_gflattr.F90	

mpa/chem/externals	aro_mnhc.mnh	aro_mnhdust.mnh	aro_rainaero.mnh
	aroini_mnhc.mnh	aroini_nsv.mnh	aroini_nsv0.mnh
	ch_aer_init.mnh		
mpa/chem/interface	aro_mnhc.h	aro_mnhdust.h	aro_rainaero.h
	aroini_mnhc.h	aroini_nsv.h	aroini_nsv0.h
mpa/chem/internals	aer_effic.mnh	aer_velgrav.mnh	aer_wet_dep_kmt_warm.mnh
	ch_aer_driver.mnh	ch_aer_mpmpo.mnh	ch_aer_organic.mnh
	ch_aer_solv.mnh	ch_exqssa.mnh	ch_ini_orilam.mnh
	ch_orilam.mnh	ch_prodloss.mnh	ch_write_chem.mnh
	dust_filter.mnh	init_dust.mnh	sedim_dust.mnh
	sedim_salt.mnh		
mpa/chem/module	modd_ch_aero_n.mnh	modd_ch_aerosol.mnh	modd_ch_solver_n.mnh
	modd_dust.mnh	modd_salt.mnh	mode_aero_psd.mnh
	mode_dust_psd.mnh	mode_dustopt.mnh	mode_oamain.mnh
	mode_salt_psd.mnh	modi_aer_effic.mnh	modi_aer_velgrav.mnh
	modi_aer_wet_dep_kmt_warm.mnh	modi_ch_aer_driver.mnh	modi_ch_aer_mpmpo.mnh
	modi_ch_aer_organic.mnh	modi_ch_aer_solv.mnh	modi_ch_orilam.mnh
	modi_sedim_salt.mnh	modn_ch_orilam.mnh	modn_dust.mnh
mpa/micro/externals	aro_rain_ice.mnh		
mpa/micro/interface	aro_rain_ice.h		
mpa/micro/module	modd_nsv.mnh		
mse/dummy	default_grid_mnh.mnh	default_schemes_mnh.mnh	pgd_grid_io_init_mnh.mnh
mse/externals	aro_ground_param.mnh	aro_surf_diag.mnh	aroini_surf.mnh
mse/internals	abor1_sfx.mnh	adapt_horibl_surf.mnh	add_forecast_to_date_surf.mnh
	aroopen_namelist.mnh	av_patch_pgd.mnh	av_patch_pgd_1d.mnh
	av_pgd.mnh	av_pgd_1d.mnh	average1_cover2.mnh
	average_diag_evap_isba_n.mnh	average_diag_misc_isba_n.mnh	averaged_albedo_emis_isba.mnh
	averaged_tsrad_teb.mnh	build_emisstab_n.mnh	build_pronoslist_n.mnh
	ch_aer_dep.mnh	ch_aer_emission.mnh	ch_dep_town.mnh
	ch_dep_water.mnh	ch_emission_flux_n.mnh	ch_init_emission_n.mnh
	ch_open_inputb.mnh	close_aux_io_surf.mnh	close_aux_io_surf_lfi.mnh
	close_file.mnh	close_file_lfi.mnh	close_file_mnh.mnh

close_namelist.mnh
close_namelist_lfi.mnh
close_write_cover_tex_lfi.mnh
co2_init_n.mnh
compare_orography.mnh
convert_cover_frac.mnh
convert_cover_teb.mnh
coupling_dst_n.mnh
coupling_flake_n.mnh
coupling_flake_orography_n.mnh
coupling_ideal_flux.mnh
coupling_isba_n.mnh
coupling_isba_orography_n.mnh
coupling_isba_svat_n.mnh
coupling_seaflux_n.mnh
coupling_seaflux_orography_n.mnh
coupling_slt_n.mnh
coupling_surf_atm_n.mnh
coupling_teb_n.mnh
coupling_teb_orography_n.mnh
coupling_watflux_n.mnh
coupling_watflux_orography_n.mnh
cover301_573.mnh
dealloc_isba_n.mnh
dealloc_seaflux_n.mnh
deepsoil_update.mnh
default_deepsoil.mnh
default_diag_flake.mnh
default_diag_isba.mnh
default_diag_surf_atm.mnh
default_dst_n.mnh
default_flake.mnh
default_isba.mnh
default_prep_seaflux.mnh
default_seaflux.mnh
default_surf_atm.mnh
default_trip.mnh
default_write_surf_atm.mnh
detect_field.mnh
dgam.F
diag_evap_isba_n.mnh
diag_inline_flake_n.mnh
diag_inline_isba_n.mnh
diag_inline_ocean_n.mnh
diag_inline_seaflux_n.mnh
diag_inline_watflux_n.mnh
diag_isba_init_n.mnh
diag_misc_flake_n.mnh
diag_misc_isba_n.mnh
diag_seaflux_init_n.mnh
diag_surf_atm_n.mnh
diag_surf_budget_isba.mnh
diag_surf_budget_sea.mnh
diag_surf_budget_teb.mnh
diag_surf_budget_water.mnh
dlga.F
drag.mnh
dst_dep.mnh
dst_init_modes.mnh
dst_init_names.mnh
e_budget.mnh
ecoclimap2_lai.mnh
eisrs1.F
end_io_surf_lfi_n.mnh
end_io_surf_n.mnh
error_read_surf_asc.mnh
exp_decay_soil_dif.mnh
exp_decay_soil_fr.mnh
flake_interface.mnh
flood_intercept.mnh
get_adj_mes_gauss.mnh
get_aos_n.mnh
get_conf_trip_n.mnh
get_coord_n.mnh
get_cover_n.mnh
get_dim_full_n.mnh
get_frac_n.mnh
get_grid_conf_trip_n.mnh
get_grid_coord.mnh
get_isba_conf_n.mnh
get_lcover_n.mnh
get_lonlat_n.mnh
get_luout.mnh
get_mesh_index.mnh
get_size_full_n.mnh
get_sso_n.mnh
get_surf_mask_n.mnh
get_surf_size_n.mnh
get_surf_var_n.mnh
get_trip_size_n.mnh
get_type_dim_n.mnh
get_var_water_n.mnh
get_vegtype_2_patch_mask.mnh
get_zs_n.mnh
goto_trip.mnh
goto_wrapper_flake.mnh

goto_wrapper_ocean.mnh
hor_interpol.mnh
horibl_surf.mnh
hydro_veg.mnh
ini_data_param.mnh
init_dst_n.mnh
init_ideal_flux.mnh
init_io_surf_n.mnh
init_slt_n.mnh
init_teb_n.mnh
init_watflux_n.mnh
is_min.F
isba_flood_update_n.mnh
isba_snow_agr.mnh
lfiget_luout.mnh
open_aux_io_surf.mnh
open_file2.mnh
open_file_lfi.mnh
open_namelist_lfi.mnh
pack_grid.mnh
pack_pgd_seaflux.mnh
pgd_chemistry.mnh
pgd_field.mnh
pgd_isba.mnh
pgd_seaflux.mnh
pgd_teb_par.mnh
prep_ctrl_seaflux.mnh
prep_grib_grid.mnh
prep_hor_isba_field.mnh
prep_hor_seaflux_field.mnh
prep_hor_watflux_field.mnh
prep_ocean_netcdf.mnh
goto_wrapper_seaflux.mnh
hor_interpol_latlon.mnh
hydro.mnh
ini_csts.mnh
ini_data_soil.mnh
init_flake_n.mnh
init_io_surf_bin_n.mnh
init_isba_n.mnh
init_snow_lw.mnh
init_top.mnh
interpol_field2d.mnh
isba.mnh
isba_fluxes.mnh
latlon_grid.mnh
mixtl_n.mnh
open_aux_io_surf_lfi.mnh
open_file_asc.mnh
open_file_mnh.mnh
open_write_cover_tex_lfi.mnh
pack_grid_gauss.mnh
pack_pgd_soil.mnh
pgd_cover.mnh
pgd_frac.mnh
pgd_isba_par.mnh
pgd_seaflux_par.mnh
prep_buffer_grid.mnh
prep_flake.mnh
prep_grid_extern.mnh
prep_hor_ocean_field.mnh
prep_hor_snow_field.mnh
prep_isba.mnh
prep_ocean_unif.mnh
goto_wrapper_trip.mnh
hor_interpol_rotlatlon.mnh
hydro_sgh.mnh
ini_data_cover.mnh
ini_ocean_csts.mnh
init_from_data_isba_n.mnh
init_io_surf_lfi_n.mnh
init_seaflux_n.mnh
init_surf_atm_n.mnh
init_trip_par.mnh
interpol_splines.mnh
isba_flood_properties.mnh
isba_sgh_update.mnh
latlon_gridtype_gauss.mnh
ocean_mercatorvergrid.mnh
open_file.mnh
open_file_asc2.mnh
open_namelist.mnh
pack_diag_patch_n.mnh
pack_isba_patch_n.mnh
pgd_bathyfield.mnh
pgd_ecoclimap2_data.mnh
pgd_grid.mnh
pgd_orography.mnh
pgd_surf_atm.mnh
prep_ctrl_flake.mnh
prep_flake_extern.mnh
prep_hor_flake_field.mnh
prep_hor_ocean_fields.mnh
prep_hor_teb_field.mnh
prep_isba_grib.mnh
prep_seaflux.mnh

prep_seaflux_netcdf.mnh
put_zs_inland_water_n.mnh
put_zs_surf_atm_n.mnh
read_default_flake_n.mnh
read_direct1.mnh
read_flake_conf_n.mnh
read_gr_snow.mnh
read_gridtype_conf_proj.mnh
read_gridtype_lonlat_reg.mnh
read_isba_n.mnh
read_nam_grid_trip.mnh
read_nam_pgd_isba.mnh
read_pgd_flake_n.mnh
read_pgd_seaflux_n.mnh
read_pre_seaf_dat_conf.mnh
read_prep_flake_conf.mnh
read_prep_seaflux_conf.mnh
read_prep_watflux_conf.mnh
read_seaflux_n.mnh
read_surfc0_lfi.mnh
read_surfl1.mnh
read_surfn0_asc.mnh
read_surfn1_asc.mnh
read_surft0_asc.mnh
read_surft1_asc.mnh
read_surfx0.mnh
read_surfx1.mnh
read_surfx2.mnh
read_teb_date.mnh
read_watflux_date.mnh
regrot.mnh
slt_init_modes.mnh
prep_teb_unif.mnh
put_zs_n.mnh
put_zs_town_n.mnh
read_default_seaflux_n.mnh
read_dst_conf_n.mnh
read_flake_date.mnh
read_grib.mnh
read_gridtype_gauss.mnh
read_isba_conf_n.mnh
read_latlon.mnh
read_nam_gridtype.mnh
read_nam_pgd_seabathy.mnh
read_pgd_isba_n.mnh
read_pgd_teb_par_n.mnh
read_pre_surfa_dat_conf.mnh
read_prep_isba_conf.mnh
read_prep_teb_conf.mnh
read_seaflux_conf_n.mnh
read_surf_atm_date.mnh
read_surfl0.mnh
read_surfl1_lfi.mnh
read_surfn0_lfi.mnh
read_surfn1_lfi.mnh
read_surft0_lfi.mnh
read_surft2.mnh
read_surfx0_asc.mnh
read_surfx1_asc.mnh
read_surfx2_asc.mnh
read_topo_sgh.mnh
readwrite_emis_field_n.mnh
regular_grid_spawn.mnh
slt_init_names.mnh
prep_ver_isba.mnh
put_zs_nature_n.mnh
read_cover_n.mnh
read_direct.mnh
read_eco2_irrig.mnh
read_flake_n.mnh
read_gridtype_cartesian.mnh
read_gridtype_ign.mnh
read_isba_date.mnh
read_lclim_lai.mnh
read_nam_gridtype_gauss.mnh
read_ocean_n.mnh
read_pgd_isba_par_n.mnh
read_pre_flake_dat_conf.mnh
read_pre_watf_dat_conf.mnh
read_prep_isba_date_conf.mnh
read_prep_teb_date_conf.mnh
read_seaflux_date.mnh
read_surfc0.mnh
read_surfl0_lfi.mnh
read_surfn0.mnh
read_surfn1.mnh
read_surft0.mnh
read_surft1.mnh
read_surft2_asc.mnh
read_surfx0_lfi.mnh
read_surfx1_lfi.mnh
read_surfx2_lfi.mnh
read_trip_conf_n.mnh
refresh_pgdwork.mnh
slt_dep.mnh
soil.mnh

soildif.mnh
splie.F
sscopy.F
test_nam_varc0_surf.mnh
test_record_len.mnh
treat_field.mnh
trip_ground_water.mnh
unitfp_flux.mnh
unpack_isba_patch_n.mnh
unpack_same_rank_from1dl.mnh
unpack_same_rank_from4d.mnh
vegtype_grid_to_patch_grid.mnh
write_cover_tex_cover.mnh
write_cover_tex_isba_par.mnh
write_data.mnh
write_diag_misc_isba_n.mnh
write_diag_seaflux_n.mnh
write_diag_seb_ocean_n.mnh
write_ecoclimap2_data.mnh
write_surf_atm_n.mnh
write_surfc0_lfi.mnh
write_surfl0_lfi.mnh
write_surfl1_lfi.mnh
write_surfn0_bin.mnh
write_surfn1_asc.mnh
write_surft0.mnh
write_surft0_lfi.mnh
write_surft2.mnh
write_surfx0.mnh
write_surfx0_lfi.mnh
write_surfx1_asc.mnh
write_surfx2.mnh
spl0u.F
splr.F
surf_version.mnh
test_nam_varl0_surf.mnh
tql2_2.F
trip.mnh
trip_interface.mnh
unitfp_seaflux.mnh
unpack_same_rank_from1d.mnh
unpack_same_rank_from2d.mnh
update_data_cover.mnh
vegtype_to_patch.mnh
write_cover_tex_end.mnh
write_cover_tex_start.mnh
write_diag_flake_n.mnh
write_diag_misc_teb_n.mnh
write_diag_seb_flake_n.mnh
write_diag_seb_teb_n.mnh
write_gridtype_cartesian.mnh
write_surfc0.mnh
write_surfl0.mnh
write_surfl1.mnh
write_surfn0.mnh
write_surfn0_lfi.mnh
write_surfn1_bin.mnh
write_surft0_asc.mnh
write_surft1.mnh
write_surft2_asc.mnh
write_surfx0_asc.mnh
write_surfx1.mnh
write_surfx1_bin.mnh
write_surfx2_asc.mnh
splb2c.F
splu.F
temporal_dists.mnh
test_nam_varn0_surf.mnh
treat_bathyfield.mnh
trip_floodplain.mnh
trip_surface_water.mnh
unpack_diag_patch_n.mnh
unpack_same_rank_from1di.mnh
unpack_same_rank_from3d.mnh
vegetation_update.mnh
wet_leaves_frac.mnh
write_cover_tex_isba.mnh
write_cover_tex_teb.mnh
write_diag_misc_flake_n.mnh
write_diag_pgd_isba_n.mnh
write_diag_seb_isba_n.mnh
write_diag_surf_atm_n.mnh
write_gridtype_gauss.mnh
write_surfc0_bin.mnh
write_surfl0_bin.mnh
write_surfl1_bin.mnh
write_surfn0_asc.mnh
write_surfn1.mnh
write_surfn1_lfi.mnh
write_surft0_bin.mnh
write_surft1_asc.mnh
write_surft2_bin.mnh
write_surfx0_bin.mnh
write_surfx1_aro.mnh
write_surfx1_lfi.mnh
write_surfx2_bin.mnh

	write_surfx2_lfi.mnh	writesurf_ch_emis_n.mnh	writesurf_flake_conf_n.mnh
	writesurf_flake_n.mnh	writesurf_gr_snow.mnh	writesurf_isba_n.mnh
	writesurf_ocean_n.mnh	writesurf_pgd_flake_n.mnh	writesurf_pgd_isba_n.mnh
	writesurf_pgd_isba_par_n.mnh	writesurf_pgd_seaflux_n.mnh	writesurf_pgd_teb_par_n.mnh
	writesurf_seaflux_n.mnh	z0eff.mnh	z0v_from_lai_0d.mnh
	z0v_from_lai_1d.mnh	z0v_from_lai_2d.mnh	zoom_pgd_cover.mnh
	zoom_pgd_isba.mnh	zoom_pgd_isba_full.mnh	zoom_pgd_sea.mnh
	zoom_pgd_seaflux.mnh	zoom_pgd_surf_atm.mnh	zoom_pgd_teb.mnh
mse/module	mod1d_n.mnh	modd_chs_aerosol.mnh	modd_data_cover.mnh
	modd_data_cover_par.mnh	modd_deepsoil.mnh	modd_diag_evap_isba_n.mnh
	modd_diag_isba_n.mnh	modd_diag_misc_flake_n.mnh	modd_diag_misc_isba_n.mnh
	modd_diag_ocean_n.mnh	modd_diag_surf_atm_n.mnh	modd_diag_trip_n.mnh
	modd_dst_n.mnh	modd_dst_surf.mnh	modd_flake_n.mnh
	modd_grid_latlonregul.mnh	modd_grid_rotlatlon.mnh	modd_io_buff_n.mnh
	modd_isba_n.mnh	modd_ocean_csts.mnh	modd_ocean_grid_n.mnh
	modd_ocean_n.mnh	modd_pack_diag_isba.mnh	modd_pack_isba.mnh
	modd_seaflux_n.mnh	modd_slt_surf.mnh	modd_surf_atm.mnh
	modd_surf_conf.mnh	modd_surf_par.mnh	modd_trip_grid_n.mnh
	modd_trip_n.mnh	modd_trip_par.mnh	modd_tripmax.mnh
	modd_write_cover_tex.mnh	modd_write_surf_atm.mnh	mode_aer_surf.mnh
	mode_char2real.mnh	mode_convert.mnh	mode_cover.mnh
	mode_cover_301_573.mnh	mode_dst_surf.mnh	mode_dstmbl.mnh
	mode_dstmblutl.mnh	mode_grid_trip.mnh	mode_gridtype_gauss.mnh
	mode_gridtype_ign.mnh	mode_modeln_surfex_handler.mnh	mode_modeln_trip_handler.mnh
	mode_pos_surf.mnh	mode_read_buffer.mnh	mode_read_grib.mnh
	mode_slt_surf.mnh	mode_surf_flood_frac.mnh	mode_surf_snow_frac.mnh
	mode_thermos.mnh	mode_trip_function.mnh	mode_trip_init.mnh
	modi_adapt_horibl_surf.mnh	modi_build_emisstab_n.mnh	modi_ch_dep_town.mnh
	modi_ch_dep_water.mnh	modi_compare_orography.mnh	modi_deepsoil_update.mnh
	modi_default_deepsoil.mnh	modi_default_diag_flake.mnh	modi_default_diag_isba.mnh
	modi_default_diag_surf_atm.mnh	modi_default_flake.mnh	modi_default_isba.mnh
	modi_default_seaflux.mnh	modi_default_surf_atm.mnh	modi_default_trip.mnh

	modi_default_write_surf_atm.mnh	modi_dgam.F	modi_diag_inline_ocean_n.mnh
	modi_diag_misc_flake_n.mnh	modi_diag_misc_isba_n.mnh	modi_diag_trip_n.mnh
	modi_drag.mnh	modi_dst_init_modes.mnh	modi_dst_init_names.mnh
	modi_e_budget.mnh	modi_exp_decay_soil.mnh	modi_flood_intercept.mnh
	modi_get_conf_trip_n.mnh	modi_get_coord_n.mnh	modi_get_grid_conf_trip_n.mnh
	modi_get_lonlat_n.mnh	modi_get_trip_size_n.mnh	modi_get_var_water_n.mnh
	modi_hor_interpol_latlon.mnh	modi_hor_interpol_rotlatlon.mnh	modi_hydro.mnh
	modi_hydro_sgh.mnh	modi_hydro_veg.mnh	modi_init_diag_trip_n.mnh
	modi_init_param_trip_n.mnh	modi_init_restart_trip_n.mnh	modi_init_top.mnh
	modi_init_trip_par.mnh	modi_isba.mnh	modi_isba_flood_properties.mnh
	modi_isba_flood_update_n.mnh	modi_isba_fluxes.mnh	modi_isba_sgh_update.mnh
	modi_isba_snow_agr.mnh	modi_mixtl_n.mnh	modi_mod1d_n.mnh
	modi_ocean_mercatorvergrid.mnh	modi_ol_read_atm_conf.mnh	modi_open_file.mnh
	modi_open_file_asc.mnh	modi_pack_pgd_seaflux.mnh	modi_pack_pgd_soil.mnh
	modi_pgd_bathyfield.mnh	modi_prep_ctrl_flake.mnh	modi_prep_ctrl_seaflux.mnh
	modi_prep_hor_ocean_field.mnh	modi_prep_hor_ocean_fields.mnh	modi_prep_ocean_netcdf.mnh
	modi_prep_ocean_unif.mnh	modi_prep_seaflux_netcdf.mnh	modi_prep_trip.mnh
	modi_read_direct.mnh	modi_read_nam_grid_trip.mnh	modi_read_nam_pgd_isba.mnh
	modi_read_nam_pgd_seabathy.mnh	modi_read_netcdf.mnh	modi_read_ocean_n.mnh
	modi_read_trip_conf_n.mnh	modi_restart_trip_n.mnh	modi_slt_init_modes.mnh
	modi_slt_init_names.mnh	modi_soil.mnh	modi_soildif.mnh
	modi_treat_bathyfield.mnh	modi_trip.mnh	modi_trip_floodplain.mnh
	modi_trip_ground_water.mnh	modi_trip_surface_water.mnh	modi_unpack_diag_patch_n.mnh
	modi_unpack_same_rank.mnh	modi_update_data_cover.mnh	modi_write_diag_misc_flake_n.mnh
	modi_write_diag_seb_ocean_n.mnh	modi_writesurf_ocean_n.mnh	modi_z0eff.mnh
	modi_zoom_pgd_seaflux.mnh	modn_deepsoil.mnh	modn_dst.mnh
	modn_flake_n.mnh	modn_isba_n.mnh	modn_pgd_schemes.mnh
	modn_prep_seaflux.mnh	modn_seaflux_n.mnh	modn_surf_atm.mnh
	modn_surf_atm_n.mnh	modn_trip_n.mnh	modn_write_surf_atm.mnh
mse/programs	pgd.mnh		

Doc:

Fixes concerning chemical emission on surface.

Project: Meso-NH physique altitude,Meso-NH surface
ClearCase branch: mrpm637_CY35_bfs_arome_c

Modified:

mpa/chem/externals	aro_mnhc.mnh	ch_aer_init.mnh
mse/internals	ch_emission_flux_n.mnh	coupling_surf_atm_n.mnh
mse/module	modd_ch_emis_field_n.mnh	modi_ch_emission_flux_n.mnh

Doc:

Bugfix n5 of surfex4 .

Project: Meso-NH surface
ClearCase branch: mrpm637_CY35_surfex4bf5

Added:

mse/internals	read_lcover.mnh
mse/module	modi_read_lcover.mnh

Modified:

mse/internals	coupling_dst_n.mnh	coupling_isba_n.mnh	dealloc_isba_n.mnh
	diag_isba_init_n.mnh	init_dst_n.mnh	init_isba_n.mnh
	open_file.mnh	pgd_isba_par.mnh	read_cover_n.mnh
	read_lcover.mnh	read_pgd_flake_n.mnh	read_pgd_isba_n.mnh
	read_pgd_seaflux_n.mnh	read_pgd_teb_n.mnh	read_pgd_watflux_n.mnh
	surf_version.mnh	write_diag_misc_isba_n.mnh	write_diag_seb_isba_n.mnh
	zoom_pgd_seaflux.mnh		

mse/module	modd_diag_misc_isba_n.mnh	modd_dst_surf.mnh	modd_isba_n.mnh
	modd_surf_par.mnh	mode_dstmblutl.mnh	mode_read_grib.mnh
	modi_read_lcover.mnh		

Sami Niemla & Ulf Andrae

Doc:

[missing]

Project: arpege,xla
ClearCase branch: mrpm636_CY35_hirald

Added:

arp/function	hlesatsfun.h	hlesatstab.h	
arp/phys_dmn	hlaconds.F90	hlavcbr.F90	hltabdef.F90
	hltridiag.F90		

Deleted:

xla/external/linalg	hltridiag.F90

Modified:

arp/function	hlesat.h	hlesatsfun.h	hlesatstab.h
arp/module	yhlconst.F90	yhloption.F90	yhlrad.F90
arp/phys_dmn	hl_aplpar.F90	hlaconds.F90	hlavcbr.F90
	hlcldia.F90	hlcldiag.F90	hlcloudcv.F90
	hlcondcv.F90	hlcondfc.F90	hlconds.F90
	hlcondst.F90	hlnocondcv.F90	hlprevap.F90
	hlqcampli.F90	hlrad.F90	hlradia.F90

	hlstraco.F90	hltabdef.F90	hltend2flx.F90
	hltridiag.F90	hlvcbr.F90	
arp/setup	suhlcond.F90	suhlconst.F90	suhlrad.F90
	suhlturb.F90		

TAILLEFER Francoise

Doc:

Modification allowing to run CANARI without crash, when no clim file is present for ALADIN .

Project: arpege
ClearCase branch: marp001_CY35_dble

Modified:

arp/canari can1.F90

Toon Moene & Ulf Andrae

Doc:

1) Move declarations to before first use.
2) Prevent gratuitous division by zero.
3) Use memcopy instead of transfer.
4) Correct typos.

Project: arpege,,Meso-NH surface,odb
ClearCase branch: mrpm636_CY35_hirlam

Modified:

arp/dia	ppfidh.F90	ppsydh.F90
arp/parallel	gathflnm.F90	
arp/phys_dmn	apl_arome.F90	
arp/phys_ec	wvxf2gb.F90	
arp/setup	sumpini.F90	
bip/external	etibihie.F90	fpbipere.F90
bip/interface	etibihie.h	
mse/internals	splie.F	
odb/tools	Rs_t_rh_bias_statistics.F90	

YESSAD Karim

Doc:

Miscellaneous bugfixes.

Project: aladin,arpege
ClearCase branch: mrpm603_CY35_bf35

Modified:

ald/adiab	espnhsiad.F90		
ald/coupling	eseimpls.F90	eseimplsad.F90	
arp/adiab	cpg.F90	gnh_conv_nhvar.F90	spnh_conv_prhs.F90
arp/phys_dmn	mf_phys.F90		
arp/setup	sudim2.F90		

Doc:

BUG : bug correction.

SIMPXIDT : simplify the treatment of XIDT in PC scheme.

Make routines like LATTEX_DNT, LATTES easier to read.
Fix bugs for VESL and XIDT at the first timestep.
For more details about this topic:
- The old treatement of XIDT with LPC_FULL, which was
difficult to understand, useless, and not documented
at all, has been removed, and replaced by a simple
treatment of XIDT (which is the one applied when LPC_FULL=F).
That makes routines like LATTEX_DNT, LATTES, LATTE_BBC
easier to read.
- The key LPC_XIDT becomes obsolete and has been removed.
- GMV attributes MCDBBC and MCDPHI become useless and have
been removed.

DFSL1 : rationalisation of dataflow (dummy arguments) in the semi-Lag scheme: routines under LACDYN, LACDYNTL and LACDYNAD.
For more details about this topic:
- LACDYN and routines called under LACDYN:
** Rationalisation of dummy argument interfaces:*
variables are passed via modules rather than dummy
arguments when possible; some useless dummy arguments
have been removed;
PGMV,PGMVS,PGFL,PB1,PB2 are passed in one time (and no
longer variable by variable). That makes routine LACDYN
significantly shorter and easier to read.
** Calculation of KAPPA in LATTE_KAPPA has been isolated*
in a new routine GP_KAPPA. LATTE_KAPPA calls GP_KAPPA
then fills PB2.
** Some SL routines called under LACDYN have been rewritten*
in order to have:
- array syntax only for memory transfers and simple
affectations.
- use of DO JROF, DO JLEV for the other loops.
- no test inside the JROF loops.
- the same name everywhere for KST (KST everywhere and not
a mix of KST, KSTART, KD).

- removal of useless duplication of code.

** Additionally to the XIDT rewriting mentioned above, LATTEX_DNT and LATTES have been rewritten in a more LPC_FULL oriented way, in particuliar about the following points:*

- the new presentation better shows what calculations are needed for both predictor and corrector steps, and what calculations are needed for predictor only.

- the new presentation well shows the identity of code between NSTEP<=0 and LPC_NESC=T (which was not always visible with the old code).

- some first-step VESL>0 and XIDT>0 bugs, very difficult to see in the old code, have been identified and fixed.

** Some false or ill-updated comments have been corrected.*

** The N(X)LAG=2 has been kept, but with small differences in LATTES so that the code may be not reproducible; in LATTES one now uses the NVLAG=3 code to mimick NVLAG=2 (the list of buffers is the same one but this is the repartition of quantities among the buffers which is slightly different: a pure 2D quantity may be sometimes considered as a vertically constant 3D quantity for conveniency).*

- LACDYNTL+AD and routines called under LACDYNTL+AD: The same kind of modifications have been taken into account when possible (in particuliar the rationalisation of dummy arguments interfaces); but LPC_FULL is not implemented in the TL and AD code, and the LPC_FULL-oriented adaptation of the code has not been done in the TL and AD code. More generally, the TL code, especially for routines like LATTEX, LATTES and LAVENT, has a structure which still derivates from old versions of the direct code, and some work remains to do (after CY36) to ensure a better consistency of the TL (and AD) code with its direct code counterpart.

SLNEW : new data flow for semi-lag interpolations, and

modifications in the SLHD diffusion (contributors:
Filip Vana and Jan Masek). The main features of the rewriting
are:
- cubic horizontal weights are now computed in (E)LASCAW,
not in the cubic interpolation routines via functions
FHLO1 to FHLO4. This is cheaper when the number of calls to
12 points or 32 points interpolations routines becomes
important.
- some unification has been done between the SLHD
interpolation routines and the non-SLHD interpolation
routines: that leads to a reduction of the interpolation
routines. For example LAITRI can now be called with weights
not taking account of SLHD or weights taking account of SLHD.
- additionally to that, the Lagrangian cubic interpolation
is replaced (including the TL/AD code) by the general
two-parametric interpolation (restricted to the second
accuracy interpolation and thus controlled by the one
namelist parameter only).
- some preliminary coding has been done for SLHD in the TL
and AD code (but work is still uncomplete).
- in the AD code, some ALADIN versions of interpolation
routines have been merged with their ARPEGE/IFS counterparts.
- expression of quantity KAPPA (used in the SLHD) has been
modified.

LVFE_REGETA: separate "eta" used to define VFE operators from "eta" used
for other purposes (semi-lag vertical interpolator and vertical
displacement); in particuliar enable the possibility to
have LVFE_REGETA=T (regular spacing of eta_VFE) and LREGETA=F
(definition of "eta" based on hydrostatic pressure).
For this set of modifications, variable VRDETAH has been
renamed into VFE_RDETAH.

PRUNE951 : prune obsolete configuration 951.

PRUNEFREIN : prune enhanced horizontal diffusion (LFREIN=T).

PRUNEFYF : prune obsolete option LSL_UNLPHY_F=T.

PRUNEADTLNH: prune scories of (d0,P0) TL and AD LPC_OLD code;
keep LPC_OLD only in the direct code.

NET : cleanings, mostly in "arp/adiab" and "ald/adiab":
cosmetic cleanings to have a better presentation of variable declarations, correct false comments, remove #ifdef DOC statements, put the CALL DR_HOOK statements at the right place when ill-placed.

NETPOS : rewrite some parts of POS (parts 2 and 3) in a more consise way (+ some variables renaming).

OBSOLETE : removal of obsolete routines.

OPT : miscellaneous optimisations.

MSULEG : use only the TFL version of SULEG. The old content of arp/setup/suleg.F90 has been in-lined in arp/setup/sugem.F90.

MSUGAW : do not re-call SUGAW under SUDIL (use Gaussian weights and latitudes calculations already done in SUGEM1A).

LANTYPE : do not use NLANTYPE in xla/lanczos routines, pass a logical dummy argument instead. With this modification it would be possible to move YOMLCZ from XLA to ARP/IFS.

MMORTHO : merge the different (ARP/IFS and XLA) versions of MORTHO(DM) in xla/../mortho.F90.

Ccase branch name:

mrpm603_CY35_dev35pour35t1c

Modified elements:

ald/adiab/elarmes5.F90 : SLNEW
ald/adiab/elarmesad.F90 : SLNEW
ald/adiab/elarmes.F90 : SLNEW
ald/adiab/elarmestl.F90 : SLNEW, NET
ald/adiab/elascawad.F90 : SLNEW
ald/adiab/elascaw.F90 : SLNEW
ald/adiab/elascawtl.F90 : SLNEW
ald/adiab/espawr.F90 : NET
ald/adiab/espchorad.F90 : PRUNEFREIN
ald/adiab/espchor.F90 : PRUNEFREIN

arp/adiab/call_sl_ad.F90 : SLNEW
arp/adiab/call_sl.F90 : SLNEW
arp/adiab/call_sl_tl.F90 : SLNEW
arp/adiab/cpedia.F90 : NET
arp/adiab/cpeuldyn.F90 : PRUNEFREIN, LVFE_REGETA
arp/adiab/cpfhpfs.F90 : NET
arp/adiab/cpg25.F90 : NET
arp/adiab/cpg2ad.F90 : NET
arp/adiab/cpg2.F90 : NET
arp/adiab/cpg2lagad.F90 : NET
arp/adiab/cpg2lag.F90 : SLNEW, NET
arp/adiab/cpg2lagtl.F90 : NET
arp/adiab/cpg2tl.F90 : NET
arp/adiab/cpg5.F90 : NET
arp/adiab/cpg_dyn_ad.F90 : DFSL1, PRUNEADTLNH, NET
arp/adiab/cpg_dyn.F90 : SLNEW, DFSL1, NET
arp/adiab/cpg_dyn_tl.F90 : DFSL1, PRUNEADTLNH, NET
arp/adiab/cpg.F90 : PRUNEFREIN
arp/adiab/cpgad.F90 : NET

arp/adiab/cpgtl.F90 : NET
arp/adiab/cpg.F90 : PRUNEFREIN
arp/adiab/cpg_end.F90 : SIMPXIDT
arp/adiab/cpg_gpb_nhgeogw.F90 : PRUNEFREIN
arp/adiab/cpg_gp.F90 : PRUNEFREIN, SIMPXIDT
arp/adiab/cpg_gp_ad.F90 : SIMPXIDT
arp/adiab/cpg_gp_tl.F90 : SIMPXIDT
arp/adiab/cpglagad.F90 : NET
arp/adiab/cpglagtl.F90 : NET
arp/adiab/cppfttcinv.F90 : NET
arp/adiab/cpphinpad.F90 : NET
arp/adiab/cpphinp.F90 : NET
arp/adiab/cpphinptl.F90 : NET
arp/adiab/cppsolan.F90 : NET
arp/adiab/cpqsol.F90 : NET
arp/adiab/cptend_new.F90 : NET
arp/adiab/cptends.F90 : NET
arp/adiab/cptendsmad.F90 : NET
arp/adiab/cptendsmat.F90 : NET
arp/adiab/cptendsm.F90 : NET
arp/adiab/cptendsmtl.F90 : NET
arp/adiab/cputqysad.F90 : NET
arp/adiab/cputqys.F90 : NET
arp/adiab/cputqystl.F90 : NET
arp/adiab/ctvtot5.F90 : NET
arp/adiab/ctvtotad.F90 : NET
arp/adiab/ctvtottl.F90 : NET
arp/adiab/gnh_conv_nhvar_geogw.F90 : LVFE_REGETA
arp/adiab/gnhdlr.F90 : LVFE_REGETA
arp/adiab/gnhgrdlr.F90 : LVFE_REGETA
arp/adiab/gnhgrgw.F90 : LVFE_REGETA
arp/adiab/gnhgrpre.F90 : LVFE_REGETA
arp/adiab/gnhgw2svdarome.F90 : LVFE_REGETA
arp/adiab/gnhgw2svd.F90 : LVFE_REGETA
arp/adiab/gnhpre.F90 : LVFE_REGETA

arp/adiab/gnhpreh.F90 : LVFE_REGETA
arp/adiab/gnh_tndlagadiab_svd.F90 : LVFE_REGETA
arp/adiab/gnhy.F90 : NET
arp/adiab/gpctyad.F90 : LVFE_REGETA, NET
arp/adiab/gpcty.F90 : LVFE_REGETA
arp/adiab/gpctytl.F90 : LVFE_REGETA, NET
arp/adiab/gpendtr.F90 : NET
arp/adiab/gpept.F90 : NET
arp/adiab/gpgeoad.F90 : LVFE_REGETA, NET
arp/adiab/gpgeo.F90 : LVFE_REGETA, NET
arp/adiab/gpgeotl.F90 : LVFE_REGETA, NET
arp/adiab/gpgettend.F90 : NET
arp/adiab/gpgrgeoad.F90 : LVFE_REGETA
arp/adiab/gpgrgeo.F90 : LVFE_REGETA
arp/adiab/gpgrgeotl.F90 : LVFE_REGETA
arp/adiab/gpgrp.F90 : LVFE_REGETA
arp/adiab/gpgrvcmus.F90 : NET
arp/adiab/gpgrvcrs.F90 : NET
arp/adiab/gpgw.F90 : LVFE_REGETA
arp/adiab/gpiet.F90 : NET
arp/adiab/gpinislb2vc.F90 : NET
arp/adiab/gpino3ch.F90 : NET
arp/adiab/gpinozst.F90 : NET
arp/adiab/gpmktendad.F90 : NET
arp/adiab/gpmktend.F90 : NET
arp/adiab/gpmpfc_gmvs.F90 : NET
arp/adiab/gpnoxad.F90 : NET
arp/adiab/gpnox.F90 : NET
arp/adiab/gpnoxtl.F90 : NET
arp/adiab/gppread.F90 : NET
arp/adiab/gppre.F90 : NET
arp/adiab/gpprehad.F90 : NET
arp/adiab/gppreh.F90 : NET
arp/adiab/gpprehtl.F90 : NET
arp/adiab/gppretl.F90 : NET

arp/adiab/gpprs0d.F90 : NET
arp/adiab/gppwcad.F90 : NET
arp/adiab/gppwc.F90 : NET
arp/adiab/gppwctl.F90 : NET
arp/adiab/gprh_2d.F90 : NET
arp/adiab/gprhad.F90 : NET
arp/adiab/gprh.F90 : NET
arp/adiab/gprhtl.F90 : NET
arp/adiab/gprtad.F90 : NET
arp/adiab/gprt.F90 : NET
arp/adiab/gprttl.F90 : NET
arp/adiab/gp_spvad.F90 : NET
arp/adiab/gp_spv.F90 : NET
arp/adiab/gp_spvtl.F90 : NET
arp/adiab/gptco3.F90 : NET
arp/adiab/gptenc.F90 : NET
arp/adiab/gptet.F90 : NET
arp/adiab/gpvcmus.F90 : NET
arp/adiab/gpvcrs.F90 : NET
arp/adiab/gpvcts.F90 : NET
arp/adiab/gpvcw.F90 : NET
arp/adiab/gpxx.F90 : LVFE_REGETA
arp/adiab/lacdynad.F90 : DFSL1
arp/adiab/lacdyn.F90 : SLNEW, DFSL1
arp/adiab/lacdyntl.F90 : DFSL1
arp/adiab/laconead.F90 : NET
arp/adiab/laconetl.F90 : NET
arp/adiab/ladad.F90 : NET
arp/adiab/ladinead.F90 : SLNEW
arp/adiab/ladine.F90 : SLNEW
arp/adiab/laiddiad.F90 : NET
arp/adiab/laiddi.F90 : SLNEW
arp/adiab/laiddi_init.F90 : NET
arp/adiab/laidditlad.F90 : SLNEW
arp/adiab/laidditl.F90 : SLNEW

arp/adiab/laidliad.F90 : NET
arp/adiab/laidlicad.F90 : NET
arp/adiab/laidlic.F90 : NET
arp/adiab/laidli.F90 : NET
arp/adiab/laidli_init.F90 : NET
arp/adiab/laidlitlad.F90 : NET
arp/adiab/laidlitl.F90 : NET
arp/adiab/laidqm.F90 : SLNEW
arp/adiab/laihvt.F90 : SLNEW, NET
arp/adiab/laihvtqm.F90 : SLNEW, NET
arp/adiab/laihvtqmh.F90 : SLNEW, NET
arp/adiab/lainor2ad.F90 : NET
arp/adiab/lainor2.F90 : SLNEW, NET
arp/adiab/lainor2tl.F90 : NET
arp/adiab/laismoa.F90 : NET
arp/adiab/laismoo.F90 : NET
arp/adiab/laitli.F90 : SLNEW
arp/adiab/laitli_init.F90 : NET
arp/adiab/laitlitlad.F90 : SLNEW
arp/adiab/laitlitl.F90 : SLNEW
arp/adiab/laitqm.F90 : SLNEW
arp/adiab/laitqmh.F90 : SLNEW
arp/adiab/laitre_gfl.F90 : SLNEW
arp/adiab/laitre_gmv.F90 : SLNEW
arp/adiab/laitri.F90 : SLNEW
arp/adiab/laitri_init.F90 : NET
arp/adiab/laitritlad.F90 : SLNEW
arp/adiab/laitritl.F90 : SLNEW
arp/adiab/laitvspcqm.F90 : SLNEW, NET
arp/adiab/lanhsi.F90 : DFSL1
arp/adiab/lanhsi_geogw.F90 : DFSL1
arp/adiab/lapinea5.F90 : SLNEW
arp/adiab/lapineaad.F90 : SLNEW
arp/adiab/lapinea.F90 : SLNEW
arp/adiab/lapineatl.F90 : SLNEW

arp/adiab/lapinebad.F90 : SLNEW, LVFE_REGETA
arp/adiab/lapineb.F90 : SLNEW, LVFE_REGETA, NET
arp/adiab/lapinebtl.F90 : SLNEW, LVFE_REGETA
arp/adiab/larche5.F90 : NET
arp/adiab/larchead.F90 : NET
arp/adiab/larche.F90 : NET
arp/adiab/larche_hlp.F90 : NET
arp/adiab/larchetl.F90 : NET
arp/adiab/larcin2ad.F90 : NET
arp/adiab/larcin2.F90 : SLNEW
arp/adiab/larcin2tl.F90 : SLNEW, NET
arp/adiab/larcinaad.F90 : SLNEW, NET
arp/adiab/larcina.F90 : SLNEW
arp/adiab/larcinatl.F90 : SLNEW
arp/adiab/larcinb5.F90 : SLNEW
arp/adiab/larcinbad.F90 : SLNEW, NET
arp/adiab/larcinb.F90 : SLNEW
arp/adiab/larcinbtl.F90 : SLNEW
arp/adiab/larcinha.F90 : SLNEW, NET
arp/adiab/larcinhb.F90 : SLNEW, NET
arp/adiab/larmes25.F90 : SLNEW, NET
arp/adiab/larmes2ad.F90 : NET
arp/adiab/larmes2.F90 : SLNEW
arp/adiab/larmes2tl.F90 : NET
arp/adiab/larmes5.F90 : SLNEW
arp/adiab/larmesad.F90 : SLNEW
arp/adiab/larmes.F90 : SLNEW
arp/adiab/larmestl.F90 : SLNEW
arp/adiab/lascawad.F90 : SLNEW, NET
arp/adiab/lascaw.F90 : SLNEW
arp/adiab/lascawtl.F90 : SLNEW
arp/adiab/lassiead.F90 : DFSL1
arp/adiab/lassie.F90 : DFSL1
arp/adiab/lassietl.F90 : DFSL1
arp/adiab/lasure.F90 : DFSL1

arp/adiab/latte_bbc.F90 : SIMPXIDT, DFSL1
arp/adiab/latte_kappa.F90 : DFSL1, SLNEW
arp/adiab/lattesad.F90 : DFSL1
arp/adiab/lattes.F90 : SIMPXIDT
arp/adiab/lattestl.F90 : DFSL1
arp/adiab/lattexad.F90 : DFSL1
arp/adiab/lattex_dnt_ad.F90 : DFSL1
arp/adiab/lattex_dnt.F90 : SIMPXIDT
arp/adiab/lattex.F90 : SIMPXIDT
arp/adiab/lattextl.F90 : DFSL1
arp/adiab/lattex_tnt.F90 : DFSL1
arp/adiab/lattey.F90 : NET
arp/adiab/lavabo.F90 : DFSL1
arp/adiab/lavabotl.F90 : DFSL1
arp/adiab/laventad.F90 : DFSL1
arp/adiab/lavent.F90 : DFSL1
arp/adiab/laventtl.F90 : DFSL1
arp/adiab/pre_sladrep.F90 : NET
arp/adiab/rdscaw.F90 : SLNEW, NET
arp/adiab/siddad.F90 : NET
arp/adiab/sidd.F90 : NET
arp/adiab/sigamad.F90 : NET
arp/adiab/sigam.F90 : NET
arp/adiab/siptpad.F90 : NET
arp/adiab/siptp.F90 : NET
arp/adiab/sisevead.F90 : NET
arp/adiab/siseve.F90 : NET
arp/adiab/sitnuad.F90 : NET
arp/adiab/sitnu.F90 : NET
arp/adiab/sivderi.F90 : NET
arp/adiab/spc2ad.F90 : NET
arp/adiab/spc2.F90 : NET
arp/adiab/spchorad.F90 : PRUNEFREIN
arp/adiab/spchor.F90 : PRUNEFREIN
arp/adiab/spcmascor.F90 : NET

arp/adiab/tricsi.F90 : NET

arp/climate/cormassdry.F90 : LVFE_REGETA, NET

arp/control/cgr1.F90 : PRUNEFREIN
arp/control/cnt0.F90 : PRUNE951, NET
arp/control/cva1.F90 : PRUNEFREIN, NET
arp/control/scan2had.F90 : PRUNEFREIN, NET
arp/control/scan2h.F90 : PRUNEFREIN, NET
arp/control/scan2htl.F90 : PRUNEFREIN, NET
arp/control/stepoad.F90 : PRUNEADTLNH, NET
arp/control/stepotl.F90 : PRUNEADTLNH, NET

arp/fullpos/endpos.F90 : OPT

arp/module/gmv_subs_mod.F90 : SIMPXIDT
arp/module/type_gmvs.F90 : SIMPXIDT

arp/module/yomct0.F90 : addvar: LVFE_REGETA
arp/module/yomdyna.F90 : addvar: LSLHD_OLD,LSLHD_STATIC,LSLHDQUAD
addvar: SLHDKMIN,SLHDKMAX,SLHDEPSH,SLHDEPSV
arp/module/yomdyn.F90 : delvar: LFREIN,RFREIN,LSL_UNLPHY_F
delvar: LFREINF,LCHDIF,FLCCRI
delvar: SLHDKMAX,ALPHINT,GAMMAX0,GAMMAX
delvar: LPC_XIDT
addvar: SLHDDIV,SLHDRATDDIV,SLHDHOR
arp/module/yomgem.F90 : addvar: VFE_ETAH,VFE_ETAF
addvar: VSLD,VSLDH,VSLDW,VSLDWH
addvar: VFE_RDETAH (new name of VRDETAH)
delvar: VRDETAH
arp/module/yomleg.F90 : addvar: RSLD1,RSLD2,RSLD3,RSLDW

arp/namelist/namct0.h : addvar: LVFE_REGETA
arp/namelist/namdyna.h : addvar: LSLHD_OLD,LSLHD_STATIC,SLHDKMIN,SLHDKMAX
addvar: SLHDEPSH,SLHDEPSV

arp/namelist/namdyn.h : delvar: LFREIN,RFREIN,LSL_UNLPHY_F
delvar: SLHDKMAX,ALPHINT,GAMMAX0
addvar: SLHDDIV,SLHDRATDDIV,SLHDHOR

arp/obs_preproc/obscor_lanczos.F90 : LANTYPE, NET

arp/op_obs/cobslag.F90 : SLNEW
arp/op_obs/laiddiobsad.F90 : SLNEW, NET
arp/op_obs/laiddiobs.F90 : SLNEW, NET
arp/op_obs/laidliobsad.F90 : NET
arp/op_obs/laidliobs.F90 : NET
arp/op_obs/obshor.F90 : SLNEW
arp/op_obs/slintad.F90 : SLNEW, NET
arp/op_obs/slint.F90 : SLNEW, NET

arp/phys_dmn/mf_physad.F90 : PRUNEFYF, NET
arp/phys_dmn/mf_phys.F90 : PRUNEFYF, NET
arp/phys_dmn/mf_phystl.F90 : PRUNEFYF

arp/phys_ec/radintg.F90 : SLNEW

arp/pp_obs/pos.F90 : NETPOS

arp/setup/su0yomb.F90 : PRUNE951, MSUGAW
arp/setup/suallo.F90 : SLNEW, LVFE_REGETA
arp/setup/suarg.F90 : NET
arp/setup/sucslint.F90 : SLNEW
arp/setup/suct0.F90 : PRUNE951, LVFE_REGETA
arp/setup/suctrl_gflattr.F90 : SLNEW
arp/setup/sudil.F90 : MSUGAW
arp/setup/sudim1.F90 : SLNEW, PRUNE951
arp/setup/sudim2.F90 : PRUNE951
arp/setup/sudyna.F90 : SLNEW
arp/setup/sudyn.F90 : SLNEW, PRUNEFREIN, PRUNEFYF, SIMPXIDT
arp/setup/sugem1a.F90 : MSUGAW, PRUNE951, NET

arp/setup/sugem.F90 : MSULEG
arp/setup/suhdir.F90 : SLNEW
arp/setup/sumpini.F90 : LVFE_REGETA
arp/setup/sunh_vertfe1dd.F90 : LVFE_REGETA
arp/setup/sunh_vertfe1d.F90 : LVFE_REGETA
arp/setup/sunh_vertfe3dbc.F90 : LVFE_REGETA
arp/setup/sunh_vertfe3dd.F90 : LVFE_REGETA
arp/setup/sunh_vertfe3d.F90 : LVFE_REGETA
arp/setup/suptrgppc.F90 : SIMPXIDT
arp/setup/susc2b.F90 : SLNEW, PRUNEFREIN, SIMPXIDT
arp/setup/suslb2.F90 : NET
arp/setup/suvert.F90 : SLNEW, LVFE_REGETA
arp/setup/suvertfe1.F90 : LVFE_REGETA
arp/setup/suvertfe3d.F90 : LVFE_REGETA
arp/setup/suvertfe3.F90 : LVFE_REGETA

arp/sinvect/cun1.F90 : PRUNEFREIN, NET
arp/sinvect/jacdav.F90 : MMORTHO
arp/sinvect/nalan1.F90 : LANTYPE, NET

arp/utility/deallo.F90 : SLNEW, LVFE_REGETA
arp/utility/dealmod.F90 : PRUNEFREIN, NET
arp/utility/dealsc2.F90 : PRUNEFREIN, NET

xla/external/lanczos/landr.F : LANTYPE

xla/internal/lanczos/lanso.F : LANTYPE
xla/internal/lanczos/purge.F : LANTYPE
xla/internal/lanczos/startv.F : LANTYPE
xla/internal/lanczos/stpone.F : LANTYPE

Added elements:

arp/adiab/gp_kappa.F90 : SLNEW, DFSL1

arp/adiab/laitre_gmv_ad.F90 : SLNEW
arp/adiab/laitre_gmv_tl.F90 : SLNEW

xla/interface/mortho.intfb.h : MMORTHO

xla/external/lanczos/mortho.F90 : MMORTHO

Removed elements:

ald/adiab/elaidditlad.F90 : SLNEW
ald/adiab/elaitritlad.F90 : SLNEW
ald/adiab/espawrad.F90 : PRUNEADTLNH
ald/adiab/espayad.F90 : PRUNEADTLNH
ald/adiab/gnhsimad.F90 : PRUNEADTLNH
ald/adiab/gnhsimtl.F90 : PRUNEADTLNH

arp/adiab/gavge.F90 : OBSOLETE
arp/adiab/ladiff.F90 : SLNEW
arp/adiab/laitli_hd.F90 : SLNEW
arp/adiab/laitsld.F90 : SLNEW
arp/adiab/laitsldqm.F90 : SLNEW
arp/adiab/laitsldqmh.F90 : SLNEW
arp/adiab/q_fix.F90 : OBSOLETE

arp/control/cpeqms.F90 : PRUNE951
arp/control/cprep2.F90 : PRUNE951

arp/module/yomdif.F90 : PRUNE951
arp/module/yomvx.F90 : PRUNEFREIN

arp/namelist/namdif.h : PRUNE951

arp/setup/sudif.F90 : PRUNE951
arp/setup/suleg.F90 : MSULEG

arp/sinvect/morthodm.F90 : MMORTHO

xla/external/lanczos/mortho.F : MMORTHO

Modifications in namelists:

- NAMCT0:
addvar: LVFE_REGETA
- NAMDIF disappears.
- NAMDYNA:
addvar: LSLHD_OLD,LSLHD_STATIC,SLHDKMIN,SLHDKMAX,SLHDEPSH,SLHDEPSV
- NAMDYN:
delvar: LFREIN,RFREIN,LSL_UNLPHY_F
delvar: SLHDKMAX,ALPHINT,GAMMAX0
addvar: SLHDDIV,SLHDRATDDIV,SLHDHOR
Remark: variable SLHDKMAX has moved from NAMDYN to NAMDYNA.

Scientific description of your modification(s):

See paragraph 'Code modif.'

Influence on the results:

- Non SLHD runs with XIDT=0 and VESL=0: numerical differences or no difference.
- SLHD runs with XIDT=0 and VESL=0: results may be different.
- Runs with XIDT>0 or VESL>0: results may be different because a bug has been fixed at the first timestep.

Project: aladin,arpege,xla
ClearCase branch: mrpm603_CY35_dev35pour35t1c

Added:

arp/adiab	gp_kappa.F90	laitre_gmv_ad.F90	laitre_gmv_tl.F90
xla/external/lanczos	mortho.F90		
xla/interface	mortho.intfb.h		

Modified:

ald/adiab	elaidditlad.F90	elaitritlad.F90	elarmes.F90
	elarmes5.F90	elarmesad.F90	elarmestl.F90
	elascaw.F90	elascawad.F90	elascawtl.F90
	espawr.F90	espawrad.F90	espayad.F90
	espchor.F90	espchorad.F90	gnhsimad.F90
	gnhsimtl.F90		
arp/adiab	call_sl.F90	call_sl_ad.F90	call_sl_tl.F90
	cpedia.F90	cpeuldyn.F90	cpfhpfs.F90
	cpg.F90	cpg2.F90	cpg25.F90
	cpg2ad.F90	cpg2lag.F90	cpg2lagad.F90
	cpg2lagtl.F90	cpg2tl.F90	cpg5.F90
	cpg_dyn.F90	cpg_dyn_ad.F90	cpg_dyn_tl.F90
	cpg_end.F90	cpg_gp.F90	cpg_gp_ad.F90
	cpg_gp_tl.F90	cpg_gpb_nhgeogw.F90	cpgad.F90
	cpglagad.F90	cpglagtl.F90	cpgtl.F90
	cppfttcinv.F90	cpphinp.F90	cpphinpad.F90
	cpphinptl.F90	cppsolan.F90	cpqsol.F90
	cptend_new.F90	cptends.F90	cptendsm.F90
	cptendsmad.F90	cptendsmat.F90	cptendsmtl.F90
	cputqys.F90	cputqysad.F90	cputqystl.F90
	ctvtot5.F90	ctvtotad.F90	ctvtottl.F90
	gavge.F90	gnh_conv_nhvar_geogw.F90	gnh_tndlagadiab_svd.F90
	gnhdlr.F90	gnhgrdlr.F90	gnhgrgw.F90
	gnhgrpre.F90	gnhgw2svd.F90	gnhgw2svdarome.F90
	gnhpre.F90	gnhpreh.F90	gnhy.F90
	gp_kappa.F90	gp_spv.F90	gp_spvad.F90

gp_spvtl.F90
gpcty.F90
gpctyad.F90
gpctytl.F90
gpendtr.F90
gpept.F90
gpgeo.F90
gpgeoad.F90
gpgeotl.F90
gpgettend.F90
gpgrgeo.F90
gpgrgeoad.F90
gpgrgeotl.F90
gpgrp.F90
gpgrvcmus.F90
gpgrvcrs.F90
gpgw.F90
gpiet.F90
gpinislb2vc.F90
gpino3ch.F90
gpinozst.F90
gpmktend.F90
gpmktendad.F90
gpmpfc_gmvs.F90
gpnox.F90
gpnoxad.F90
gpnoxtl.F90
gppre.F90
gppread.F90
gppreh.F90
gpprehad.F90
gpprehtl.F90
gppretl.F90
gpprs0d.F90
gppwc.F90
gppwcad.F90
gppwctl.F90
gprh.F90
gprh_2d.F90
gprhad.F90
gprhtl.F90
gprt.F90
gprtad.F90
gprttl.F90
gptco3.F90
gptenc.F90
gptet.F90
gpvcmus.F90
gpvcrs.F90
gpvcts.F90
gpvcw.F90
gpxx.F90
lacdyn.F90
lacdynad.F90
lacdyntl.F90
laconead.F90
laconetl.F90
ladad.F90
ladiff.F90
ladine.F90
ladinead.F90
laiddi.F90
laiddi_init.F90
laiddiad.F90
laidditl.F90
laidditlad.F90
laidli.F90
laidli_init.F90
laidliad.F90
laidlic.F90
laidlicad.F90
laidlitl.F90
laidlitlad.F90
laidqm.F90
laihvt.F90
laihvtqm.F90
laihvtqmh.F90
lainor2.F90
lainor2ad.F90
lainor2tl.F90
laismoa.F90
laismoo.F90
laitli.F90
laitli_hd.F90
laitli_init.F90
laitlitl.F90
laitlitlad.F90
laitqm.F90
laitqmh.F90
laitre_gfl.F90
laitre_gmv.F90
laitre_gmv_ad.F90
laitre_gmv_tl.F90
laitri.F90
laitri_init.F90
laitritl.F90

	laitritlad.F90	laitsld.F90	laitsldqm.F90
	laitsldqmh.F90	laitvspcqm.F90	lanhsi.F90
	lanhsi_geogw.F90	lapinea.F90	lapinea5.F90
	lapineaad.F90	lapineatl.F90	lapineb.F90
	lapinebad.F90	lapinebtl.F90	larche.F90
	larche5.F90	larche_hlp.F90	larchead.F90
	larchetl.F90	larcin2.F90	larcin2ad.F90
	larcin2tl.F90	larcina.F90	larcinaad.F90
	larcinatl.F90	larcinb.F90	larcinb5.F90
	larcinbad.F90	larcinbtl.F90	larcinha.F90
	larcinhb.F90	larmes.F90	larmes2.F90
	larmes25.F90	larmes2ad.F90	larmes2tl.F90
	larmes5.F90	larmesad.F90	larmestl.F90
	lascaw.F90	lascawad.F90	lascawtl.F90
	lassie.F90	lassiead.F90	lassietl.F90
	lasure.F90	latte_bbc.F90	latte_kappa.F90
	lattes.F90	lattesad.F90	lattestl.F90
	lattex.F90	lattex_dnt.F90	lattex_dnt_ad.F90
	lattex_tnt.F90	lattexad.F90	lattextl.F90
	lattey.F90	lavabo.F90	lavabotl.F90
	lavent.F90	laventad.F90	laventtl.F90
	pre_sladrep.F90	q_fix.F90	rdscaw.F90
	sidd.F90	siddad.F90	sigam.F90
	sigamad.F90	siptp.F90	siptpad.F90
	siseve.F90	sisevead.F90	sitnu.F90
	sitnuad.F90	sivderi.F90	spc2.F90
	spc2ad.F90	spchor.F90	spchorad.F90
	spcmascor.F90	tricsi.F90	
arp/climate	cormassdry.F90		
arp/control	cgr1.F90	cnt0.F90	cpeqms.F90
	cprep2.F90	cva1.F90	scan2h.F90
	scan2had.F90	scan2htl.F90	stepoad.F90

	stepotl.F90		
arp/fullpos	endpos.F90		
arp/module	gmv_subs_mod.F90	type_gmvs.F90	yomct0.F90
	yomdif.F90	yomdyn.F90	yomdyna.F90
	yomgem.F90	yomleg.F90	yomvx.F90
arp/namelist	namct0.h	namdif.h	namdyn.h
	namdyna.h		
arp/obs_preproc	obscor_lanczos.F90		
arp/op_obs	cobslag.F90	laiddiobs.F90	laiddiobsad.F90
	laidliobs.F90	laidliobsad.F90	obshor.F90
	slint.F90	slintad.F90	
arp/phys_dmn	mf_phys.F90	mf_physad.F90	mf_phystl.F90
arp/phys_ec	radintg.F90		
arp/pp_obs	pos.F90		
arp/setup	su0yomb.F90	suallo.F90	suarg.F90
	sucslint.F90	suct0.F90	suctrl_gflattr.F90
	sudif.F90	sudil.F90	sudim1.F90
	sudim2.F90	sudyn.F90	sudyna.F90
	sugem.F90	sugem1a.F90	suhdir.F90
	suleg.F90	sumpini.F90	sunh_vertfe1d.F90
	sunh_vertfe1dd.F90	sunh_vertfe3d.F90	sunh_vertfe3dbc.F90
	sunh_vertfe3dd.F90	suptrgppc.F90	susc2b.F90
	suslb2.F90	suvert.F90	suvertfe1.F90
	suvertfe3.F90	suvertfe3d.F90	
arp/sinvect	cun1.F90	jacdav.F90	morthodm.F90
	nalan1.F90		
arp/utility	deallo.F90	dealmod.F90	dealsc2.F90
xla/external/lanczos	landr.F	mortho.F	mortho.F90
xla/interface	mortho.intfb.h		
xla/internal/lanczos	lanso.F	purge.F	startv.F
	stpone.F		