

ARPEGE MEMORANDUM

From: GCO
Date: Jun 30, 2016
Subject: New cycle CY43T1

A new cycle CY43T1 has been created. This is not a common cycle with ECMWF. The different contributions for this cycle are described in the following pages.

Contributors:

BAZILE Eric	bazile_CY43_MUSC
BERRE Loik	berre_CY43_filtrage_lct_WavRenorm berre_CY43_gdpbuffer_renorm
BROUSSEAU Pierre	broussea_CY43_IAUbugfix
BROZKOVA Radmila	brozkova_CY43_scve
CHAMBON Philippe	chambonp_CY43_FY3C_F19_GPM
EL KHATIB Ryad	khatib_CY43_misc khatib_CY43_pruneisp khatib_CY43_t1.02%fixaro khatib_CY43_t1.02%misc khatib_CY43_t1.02%noduplicate khatib_CY43_t1.02%portCray khatib_CY43_t1.02%portfix khatib_CY43_t1.03%fixopt khatib_CY43_t1.04%port
GCO	gco_CY43_t1 gco_CY43_t1.04%fixes
GERARD Luc	gerardl_CY43_csd gerardl_CY43_t1fix
GUILLAUME Frank	guillaume_CY43_phasing_from42_ficdate_refdata guillaume_CY43_phasing_from_pmer_for_fcqodb guillaume_CY43_fix_for_temp

KHALFAOUI Wafa	khalfaouiw_CY43_sfxfix
LOO Cecile	loo_CY43_acdraglad
MARGUINAUD Philippe	marguina_CY43_cpphinp marguina_CY43_ecoupl1 marguina_CY43_eslextpol marguina_CY43_faconvgrib marguina_CY43_fareor marguina_CY43_iosgnu marguina_CY43_restart
MARGUINAUD Philippe & EL KHATIB Ryad	marguina_CY43_rkpm
MARY Alexandre	gco_CY43_t1.01%mary_py_int_deriv_unit0_reord+ororad mary_CY43_transbc
MASEK Jan	masekj_CY43_rad masekj_CY43_t1 masekj_CY43_t2m
MICHEL Yann	michel_CY43_aearo michel_CY43_gribaro
MOENE Toon	moene_CY43_canarifix13031 moene_CY43_lunbc
PIRIOU Jean-Marcel	piriou_CY43_ddhflex piriou_CY43_ddhflexphas piriou_CY43_optim piriou_CY43_pcmtdd piriou_CY43_pddal
RAYNAUD Laure	raynaudl_CY43_PEARO
SAEZ Patrick	saez_CY43_C901
SEITY Yann	seity_CY43_surfexV8_rev3681
SOKKA Niko	gco_CY43_t1.01%sokka_hirlam_contrib sokka_CY43_hirlam_bugfix_cubic sokka_CY43_hirlam_contrib_part1
SPANIEL Oldrich	spaniel_CY43_alaro

TAILLEFER Francoise
YESSAD Karim

tailefer_CY43_phas42
gco_CY43_t1.01%yessad_namelists_mitraille
yessad_CY43_t1V02cor
yessad_CY43_t1V05cor

BAZILE Eric

Doc:

Modification for the 1D model MUSC (new forcings and bug corrections)

NO NUMERICAL IMPACT IS EXPECTED.

Projects: arpifs

Git branch: bazile_CY43_MUSC

Modified:

arpifs/adiab	cp_forcing.F90
arpifs/module	yom_ygfl.F90, yomlsforc.F90
arpifs/namelist	namlsforc.nam.h
arpifs/phys_dmn	apl_arome.F90, aplpar.F90, mf_phys.F90, surf_ideal_flux.F90, writemusc.F90
arpifs/setup	sudefo_gflattr.F90, sulsforc.F90

arpifs/setup

su0yomb.F90

arpifs/var

jgcori.F90, jgnri.F90, sualges.F90, suinfce.F90, subj.F90, subjvarens.F90, subjwavelet.F90,
subjwavgen_hybraw.F90, suvar.F90, writestd.F90

Doc:

Phasing of gridpoint buffer removal for WavNorm option. Modifications applied by P. Marguinaud for the FCEBUF array have been translated to the FCERENBUF array.

NO NUMERICAL IMPACT IS EXPECTED.

Projects: arpifs

Git branch: berre_CY43_gdpbuffer_renorm

Modified:

arpifs/module

yomjg.F90

arpifs/var

suinrenormfce.F90, suseprenormfce.F90

BROZKOVA Radmila

Doc:

GIT branch brozkova_CY43_scve:

ALARO-1 input

- TOUCANS:

- mass-flux type of non-precipitating convection;

- bugfix in ACDIFV3 (for TOMs);

- tuning of the critical saturation deficit for radiative cloudiness;

- Ventilation index as a new output parameter.

List of modified routines

arpifs/adiab

- cpg.F90, cpg_dia.F90:

ventilation index;

arpifs/canari

- caclsi.F90:

update of actkehmt.F90 call;

arpifs/dia

- cpxfu.F90:

ventilation index;

arpifs/fullpos

- fpachmt.F90:

update of actkehmt.F90 call;

- fpcorphy.F90, hpos.F90, sufpxfu.F90:

ventilation index;

arpifs/module

- *parfpos.F90, ptrxfu.F90, yomafn.F90*:
ventilation index;

- *yomphy0.F90*:
tuning parameter for the critical saturation deficit (radiative cloudiness);

arpifs/namelist
- *namafn.nam.h*:
ventilation index;

- *namphy0.nam.h*:
tuning parameter for the critical saturation deficit (radiative cloudiness);

arpifs/phys_dmn
- *acclph.F90*:
ventilation index;

- *acdifv3.F90*:
bug correction in loop bounds (TOMs only);

- *acmrip.F90*:
mass-flux type of non precipitating convection;

- *acnebn.F90*:
use of a new tuning for the critical saturation deficit (radiative cloudiness);

- *actkehmt.F90*:
update of actkehmt.F90 call;

- *aplpar.F90*:
mass-flux type of non precipitating convection - passing arguments;
ventilation index - passing arguments;
update of actkehmt.F90 call;

- *initaplpar.F90*:

ventilation index;

- *mf_phys.F90:*
ventilation index;

- *suphy0.F90:*
tuning parameter for the critical saturation deficit (radiative cloudiness);

arpifs/pp_obs
- *ppobsac.F90:*
update of actkehmt.F90 call;

arpifs/setup
- *su0phy.F90:*
abort in case of TOUCANS options misuse;

- *suafn1.F90, suafn2.F90, suafn3.F90, suxfu.F90:*
ventilation index;

List of new routines

arpifs/phys_dmn:
- *acsctr.F90*
mass-flux type of non precipitating convection.

Projects: arpifs

Git branch: brozkova_CY43_scve

Added:

arpifs/phys_dmn acsctr.F90

Modified:

arpifs/adiab cpg.F90, cpg_dia.F90

arpifs/canari caclsi.F90

arpifs/dia cpxfu.F90

arpifs/fullpos	fpachmt.F90, fpcorphy.F90, hpos.F90, sufpxfu.F90
arpifs/module	parfpos.F90, ptrxfu.F90, yomafn.F90, yomphy0.F90
arpifs/namelist	namafn.nam.h, namphy0.nam.h
arpifs/phys_dmn	acclph.F90, acdifv3.F90, acmrip.F90, acnebn.F90, actkehmt.F90, aplpar.F90, initaplpar.F90, mf_phys.F90, suphy0.F90
arpifs/pp_obs	ppobsac.F90
arpifs/setup	su0phy.F90, suafn1.F90, suafn2.F90, suafn3.F90, suxfu.F90

CHAMBON Philippe

Doc:

Add monitoring capability for MWHS2/FY3C, SSMIS/DMSP-F19 and GMI/GPM (bug fix for GMI).

EXPECTED IMPACT:

These modifications have a numerical impact as observations are passively monitored but have an impact within VarBC.

Projects: arpifs, blacklist, satrad

Git branch: chambonp_CY43_FY3C_F19_GPM

Modified:

arpifs/module	varbc_rad.F90, yomemis.F90
arpifs/namelist	namemis_conf.nam.h
arpifs/obs_preproc	black.F90, defrun.F90, new_thinn.F90, new_thinner_no_sq.F90, pre_thinner.F90
arpifs/op_obs	departure_jo.F90, emis_atlas.F90, emis_mw_n.F90, hsatang.F90, mw_clearsky_screen_mfdecis.F90, rad1cemis.F90
arpifs/setup	suemis_conf.F90
arpifs/var	getsatid.F90
blacklist	mf_blacklist.b
satrad/emiss	atlas_iniall.F90

EL KHATIB Ryad

Doc:

*Workaround against a gfortran compiler regression for ODB.
Fix a bounds violation issue in the conf 923 (biperiodicization part)
Remove sfxconv no more supported in sfxtools.*

Projects: aladin, mse, odb

Git branch: khatib_CY43_misc

Modified:

aladin/c9xx	ebicli.F90
mse/programs	sfxtools.F90
odb/module	odbprint.F90

Doc:

Pruning of ISP (aka "movies").

NO NUMERICAL IMPACT IS EXPECTED.

Projects: aladin, arpifs

Git branch: khatib_CY43_pruneisp

Modified:

aladin/dia	ewmovph.F90
arpifs/adiab	cpg_dia.F90
arpifs/control	cnt4.F90, cnt4ad.F90, cnt4tl.F90, monio.F90, resesf.F90
arpifs/dia	wmovph.F90
arpifs/module	model_mod.F90, yomct0.F90, yomct1.F90, yomios.F90, yomppc.F90, yomres.F90, yomwm.F90
arpifs/namelist	namct0.nam.h, namct1.nam.h, namios.nam.h, namppc.nam.h, namres.nam.h

arpifs/setup
arpifs/utility

suct0.F90, suct1.F90, suos.F90, supp.F90, sures.F90, susc2b.F90
wrresf.F90

Doc:

apl_arome.F90 : fix a severe bounds violation;
turb_ver_thermo_corr.F90 : workaround against a gfortran compiler bug;
mode_gridtype_conf_proj.F90 : protection against a FPE.

NO NUMERICAL IMPACT IS EXPECTED.

Projects: arpifs, mpa, surfex

Git branch: khatib_CY43_t1.02%fixaro

Modified:

arpifs/phys_dmn
mpa/turb/internals
surfex/SURFEX

apl_arome.F90
turb_ver_thermo_corr.F90
mode_gridtype_conf_proj.F90

Doc:

cpphddh.F90 : optimizations
gpprs0d.F90 : fix a bitwise reproductibility issue with Intel, and optimize
gnhgw2svd.F90 : workaround against a compiler issue in gfortran

EXPECTED IMPACT:

small numerical impact on simulated reflectivity computed with the Intel compiler because of the bitwise reproductibility fix.

Projects: arpifs

Git branch: khatib_CY43_t1.02%misc

Modified:

arpifs/adiab
arpifs/dia

gnhgw2svd.F90, gpprs0d.F90
cpphddh.F90

Doc:

Delete conflicting duplicate subroutines in Surfex.

These modifications have no numerical impact unless the wrong subroutines have taken over the right ones.

NO NUMERICAL IMPACT IS EXPECTED.

Projects: surfex

Git branch: khatib_CY43_t1.02%noduplicate

Deleted:

surfex/SURFEX flxsurf3bx.F, init_surfconsphy.F, vslog.F

Doc:

rttov_integrate.F90 : portability for Intel compiler

others : portability for Cray compiler

NO NUMERICAL IMPACT IS EXPECTED.

Projects: arpifs, ifsaux, mpa, odb, satrad, surfex, utilities

Git branch: khatib_CY43_t1.02%portCray

Modified:

arpifs/var	sualges.F90
ifsaux/programs	faconvgrib.F90
mpa/micro/internals	rain_ice.F90
odb/pandor/module	bator_datetime_mod.F90, bator_decodbufr_mod.F90
odb/tools	Bator.F90
satrad/rttov/main	rttov_integrate.F90
surfex/ASSIM	varassim.F90
surfex/OFFLIN	mode_read_surf_nc.F90, sum_on_all_procs_ol.F90
surfex/SURFEX	ch_emission_snapn.F90, coupling_watflux_orogn.F90, interpol_field2d.F90, mode_read_surf_asc.F90, mode_read_surf_fa.F90
surfex/TPD	pgd_topd.F90

utilities/pearome

clust.F90, pertsurf.F90

Doc:

yomxfu.F90, sufpxfu.F90, suxfu.F90, namxfu.nam.h : bugfix (new namelist key LXVEIN)
sfxflddesc_mod.F90, mode_read_surf_ol.F90 : bugfix
einflcalc.F90, addpearp.F90, clust.F90 : portability fix

NO NUMERICAL IMPACT IS EXPECTED.

Projects: aladin, arpifs, mse, surfex, utilities

Git branch: khatib_CY43_t1.02%portfix

Modified:

aladin/var	einflcalc.F90
arpifs/fullpos	sufpxfu.F90
arpifs/module	yomxfu.F90
arpifs/namelist	namxfu.nam.h
arpifs/setup	suxfu.F90
mse/module	sfxflddesc_mod.F90
surfex/OFFLIN	mode_read_surf_ol.F90
utilities/pearome	addpearp.F90, clust.F90

Doc:

apl_arome.F90 : fix uninitialized variables
extfpselect_mod.F90 : fix a phasing bug affecting the IO server for post-processing
rtrm_rtrn1a_140gp.F90, acadvec.F90 : minor optimizations

NO NUMERICAL IMPACT IS EXPECTED.

Projects: arpifs

Git branch: khatib_CY43_t1.03%fixopt

Modified:

arpifs/module
arpifs/phys_dmn
arpifs/phys_radi

extfpselect_mod.F90
acadvec.F90, apl_arome.F90
rrtm_rtrn1a_140gp.F90

Doc:

Portability fixes.

NO NUMERICAL IMPACT IS EXPECTED.

Projects: arpifs, mse, surfex

Git branch: khatib_CY43_t1.04%port

Modified:

arpifs/control
mse/module
surfex/ASSIM
surfex/GELATO

gp_model.F90, gp_model_ad.F90, gp_model_tl.F90, scan2m.F90
sfxflddesc_mod.F90
assim_nature_isba_ekf.F90
mode_glt_init.F90

GCO

Doc:

1) *Miscellaneous phasing fixes.*

* *arpifs/setup/suoph0.F90:*

Fix a phasing bug: replace CNMEXP by CDEXP .

* *arpifs/utility/sc2rdg.F90*

arpifs/utility/sc2wrg.F90:

Remove obsolete routines.

* *arpifs/module/yomjg.F90*

arpifs/var/sualges.F90

arpifs/var/suinrenormfce.F90

arpifs/var/suseprenormfce.F90:

2) *Re-introduction of "FCERENBUF" modifications from Loïc Berre, which disappeared during manual merges with branch marguina_CY43_rkpm . Those fixes will*

have to be checked (and probably fixed again...) bey Loïc.

3) *Comment calls to SC2RDG/ SC2WRG/FSSO/HORIZON_OROG, which are now obsolete.*

Projects: arpifs, surfex

Git branch: gco_CY43_t1

Deleted:

arpifs/utility sc2rdg.F90, sc2wrg.F90

Modified:

arpifs/module	yomjg.F90
arpifs/setup	suoph0.F90
arpifs/var	sualges.F90, suinrenormfce.F90, suseprenormfce.F90
surfex/SURFEX	pgd_orography.F90

Doc:

Miscellaneous fixes upon CY43_t1.04 .

1) Move "trans/programs/trinfo.F90" to "etrans/programs/trinfo.F90".

2) arpifs/phys_dmn/apl_arome.F90:

There was a USE MODD_CTURB for accessing XTKEMIN here, but that created a forbidden dependence of APL_AROME (in "arpifs") to the Meso-NH/Arome interfaces (in "mpa"). There should be no USE MODD_ in APL_*. We decided to change the variable here to a local one, with the classical initial value for TKE.*

3) arpifs/phys_dmn/vdfexcuhl.F90:

Remove useless statement: USE MODD_CTURB , ONLY : XCMFS, XCSHF .

Projects: arpifs, trans

Git branch: gco_CY43_t1.04%fixes

Renamed:

trans/programs	trinfo.F90 etrans/programs/trinfo.F90
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Modified:

arpifs/phys_dmn	apl_arome.F90, vdfexcuhl.F90
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GERARD Luc

Doc:

- *Non-saturated downdraught:*

*New routine ACNSDO called in place of
the saturated downdraught ACMODO under key LNSDO=T.*

- *Complementary subgrid updraft (key LCVCSO=T): new routine ACCSU,
deep convective updraft parameterization following Gerard (MWR 2015),
ensuring a gradual fading out of the subgrid contribution when the
grid-box length is reduced and the clouds become gradually resolved by
the model grid.*

*The scheme includes a triggering (new routines ACTRGRC and ACTRGKF).
The use of cellular automata improves the multi-resolution behaviour
(includes some new parameters).*

- *Fixes and optimisation in ACNEBCOND and ACUPU.*

List of modified routines

arpifs/adiab:

- *cpg_drv.F90*

pass argument PSD_VK to CPG

- *cpg.F90*

pass argument PSD_VK to MF_PHYS

arpifs/control:

- *gp_model.F90*

pass SD_VK to CPG_DRV

arpifs/module:

- *surface_field_mix.F90*

*Define and allocate and initialize new group VCLICK
(SD_VK, YSD_VK, YSD_VKD) for prognostic convection fields.
Currently contains: YUDGRO (updraught top fractional position)
should also be used for more fields in the future.*

- *yoe_cuconvca.F90*

*new parameter RCADELX: reference horizontal size (in meters) of the
cells of the automaton (ignored if ≤ 0 , typical value: 1250.).*

- *yomphy.F90*

*New keys LCOMOD and LCAMOD replacing the suppressed parameter GCOMOD
of yomphy0.*

*Keys for non-saturated downdraught:
LNSDO, LCDDCSD*

*Keys and selectors for complementary subgrid updraught:
LCVCSD, LCVSHCU, LCVGQ, LPEC, LUDEVOL, LUSL, NFSIG, NCLOMIX*

Selector for the triggering method: CGTRG

- *yomphy0.F90*

Removed parameter: GCOMOD, replaced by LCOMOD/LCAMOD in yomphy.

Parameters for non-saturated downdraught:

GDDALBU, GDDENDYMX, GDDFRAC, GDDINHOM, GDDFP(1:3), GDDFREVS, GDDTAUSIG

Parameters for complementary subgrid updraught:

GCVALBU, GCVENDY1, GCVENDY2, GCVENDYMX, GCVIDPBAS, GCVKSKV, GCVTAUSIG

Parameters for Triggering routines:

*GTRGDPMIX, GTRGDPHIMN, GTRGPUSLMN, GTRGKCK9, GTRBRC,
GTRGAIN, GTRTHRS, GTRTHCK,
GTRKGAIN, GTRKTHRS, GTRKTHCK*

Parameters for cellular automaton in ACCSU:

GVCATAU, GCATHRCAP, GCATHRMOC, GCATHRCND, GCAOMCND

New parameter in ACNEBCOND: QXRCDIL

arpifs/namelist:

- namca.nam.h

new parameter RCADELX (see yoe_cuconvca)

- namphy.nam.h

add keys CGTRG, LCAMOD, LCOMOD,

LCDDDCSD, LCVCSO, LCVGQ, LCVSHCU, LNSDO, LPEC, LUDEVOL, LUSL,

NCLOMIX, NFSIG

- namphy0.nam.h

remove key GCOMOD

add forgotten key GDDFXM for acmodo

add keys

GCATHRCAP, GCATHRMOC, GCATHRCND, GCAOMCND, GVCATAU,

GCVALBU, GCVENDY1, GCVENDY2, GCVENDYMX, GCVIDPBAS, GCVKSKV, GCVTAUSIG,

GDDALBU, GDDENDYMX, GDDFP, GDDFRAC, GDDFREVS, GDDINHOM, GDDTAUSIG ,

GTRGDPMIX, GTRGDPHIMN, GTRGPUSLMN , GTRGKCK9,

GTRBRC, GTRGAIN, GTRTHRS, GTRTHCK,

GTRKGAIN, GTRKTHRS, GTRKTHCK,

QXRCDIL

arpifs/phys_dmn:

- acnebcond.F90

(XR) suppress phase separation for estimating PQCS

*(no difference observed in norms; a local small difference could
exceptionnally appear because the separated phases were clipped
individually against negative values, while now only their sum
is clipped).*

New argument LDREDPR=T for protection against re-evaporation but allowing

*condensation on convective area; new parameter QXRCDIL,
PNCV becomes INOUT.
(SMG) Fix uninitialized ZLV, ZLS*

*- acupd.F90
handling LNSDO=T case*

*- acupm.F90
handling LNSDO=T case + cleaning*

*- acupu.F90
Cleaning/reorganization: splitting several horizontal loops inside the
vertical loop for better handling of logical keys.
LCVCSD: new formulation of equivalent cloud fraction
LLFIX (=LCVCSD currently): more physical separation of mutually exclusive
convective and stratiform cloud fraction.*

*- aplpar.F90
New argument PUDGRO initialized at step 0 and passed to ACCSU.
Replacement of GCOMOD by LCOMOD/LCAMOD.
Handling LCVCSD in the 3MT cascade.
New argument LLREDPR passed to ACNEBCOND (currently set =LCVCSD)
Calls to ACCSU and ACNSDO.*

*- mf_phys.F90
handle YSD_VK/PSD_VK(... YUDGRO) and pass it to APLPAR.*

*- su0phy.F90
initialize and print out new parameters of YOMPHY0
remove GCOMOD and its test (see su0phy).*

*arpifs/setup:
- su0phy.F90
initialize and print out new parameters of YOMPHY
consistency check L3MT requires LCOMOD=F*

- *su_surf_flds.F90*
initialize group VK (VCLIK), set up YUDGRO if (LCVCSD.AND.LUDEVOL)

List of new routines

arpifs/phys_dmn:

- *accsu.F90*

Complementary subgrid updraught parameterization (to replace accvud if LCVCSD=T)

- *acnsdo.F90*

Non-saturated downdraught parameterization (to replace acmodo if LNSDO=T)

- *actrgkf.F90*

Kain-Fritsch derived triggering method for ACCSU (used if LUSL=T, GTRG='KF')

- *actrgrc.F90*

Resolved condensation based triggering for ACCSU (used if LUSL=T, CGTRG='RC')

Projects: arpifs

Git branch: gerardl_CY43_csd

Added:

arpifs/phys_dmn accsu.F90, acnsdo.F90, actrgkf.F90, actrgrc.F90

Modified:

arpifs/adiab cpg.F90, cpg_drv.F90

arpifs/control gp_model.F90

arpifs/module surface_fields_mix.F90, yoe_cuconvca.F90, yomphy.F90, yomphy0.F90

arpifs/namelist namca.nam.h, namphy.nam.h, namphy0.nam.h

arpifs/phys_dmn accsu.F90, acnebcond.F90, acupd.F90, acupm.F90, acupu.F90, aplpar.F90, mf_phys.F90, suphy0.F90

arpifs/setup

su0phy.F90, su_surf_flds.F90

Doc:

- *accsu.F90*

One more argument PDECRD to pass further to aplmini (instead of compilation-fix ZDECRD).

- *aplpar.F90:*

pass ZDECRD_MF to accsu (as well as to accvud instead of ZDECRD).

accsu.F90: fix prognostic closure formula for the case LCUCONV_CA=T.

- *acnebn.F90: handle case L3MT=T with QXRAL<=0. (and normally LNEB_FP=T), deriving the radiative cloud fraction and condensates directly from the prognostic microphysical value.*

Projects: arpifs

Git branch: gerardl_CY43_t1fix

Modified:

arpifs/phys_dmn

accsu.F90, acnebn.F90, aplpar.F90

GUILLAUME Frank

Doc:

1/ ACAR, SYNOP, BATHY, TESAC et EUROPROFIL : traitement des identifiants alphanumériques possédant un ou plusieurs \0 (ou autre malformation) pour monitoring.

2/ CSR d'Himawari-8 : non rejet d'observation si (n-1) canaux sont absents et correction de la numérotation des canaux.

3/ Ajout du décodage des données de FY-3C (MWHSX).

5/ Refonte de l'acquisition des variables d'environnement.

4/ Refonte et uniformisation de l'utilisation des dates & heures :

- Suppression du fichier 'ficdate', maintenant généré en mémoire à l'aide des variables d'environnement BATOR_WINDOW_LEN, BATOR_WINDOW_SHIFT, BATOR_SLOT_LEN, BATOR_CENTER_LEN et BATOR_NBSLOT.

- Regroupement et réaménagement des fonctions et routines sur les dates dans bator_datetime_mod.F90,

5/ Par défaut, Bator ignorera toutes les observations satellites utilisant les structures du type TS_sensor si les différents paramètres ne sont pas définis explicitement en NAMELIST (sensor= AMSUA, AMSUB, ATMS, AIRS, CRIS, GMI, HIRS, IASI, SEVIRI, SSMI, SSMIS, GEOWIND).

5/ Réaménagement partiel des impressions.

6/ Le fichier refdata est devenu inutile. Bator lit à la place le fichier 'batormap' pour traiter les fichiers à destination d'une base ODB.

7/ ajout du template pour le satellite F3-3C (mwhsx) et modifications sur ceux des données GMI.

EXPECTED IMPACT:

En conséquence du changement de gestion des dates et heures, le nombre d'observations passives des données GPSSOL est plus important qu'auparavant dans certains cas. De même, le nombre d'observations pour un type donné peut-être légèrement différent de celui constaté auparavant.

Projects: odb

Git branch: guillaum_CY43_phasing_from42_ficdate_refdata

Modified:

odb/pandor/module	bator_datetime_mod.F90, bator_decodbufr_mod.F90, bator_decodgrib_mod.F90, bator_decodnetcdf_mod.F90, bator_echirures_mod.F90, bator_init_mod.F90, bator_lectures_mod.F90, bator_module.F90, bator_rad_postproc_mod.F90, bator_util_mod.F90
odb/pandor/namelist	bator_namelist.nam.h
odb/tools	Bator.F90

Doc:

1/ L'élaboration de certains scores nécessitent de connaître, quand elle existe, la pression réduite au niveau de la mer pour les SYNOP terrestres (au niveau de la tâche FCQODB). Pour la récupérer dans les bases ODB, un aménagement de Oulan (pour les RADOMEH) et de Bator (SOLOMM) a été nécessaire.

De même FCQODB a été amendé pour traiter ce paramètre.

PS: En accord avec Peter Lean, le composant VARNO%PMSL=108 dans varno_module.F90 est utilisé pour l'identifier et a été rajouté.

2/ Pour les données SOL terrestres, Ce ne sera plus la pression réduite au niveau de la mer qui sera stockée en priorité dans ODB (avec un varno=1) mais la pression station.

NO NUMERICAL IMPACT IS EXPECTED.

Projects: arpifs, odb

Git branch: guillaum_CY43_phasing_from_pmer_for_fcqodb

Modified:

arpifs/module	varno_module.F90
odb/pandor/fcq	fcqodb_solverif.F90
odb/pandor/module	bator_decodbufr_mod.F90, bator_ecriptions_mod.F90, bator_init_mod.F90

Doc:

Fix for bad coded TEMP MOBIL messages.

NO NUMERICAL IMPACT IS EXPECTED.

Projects: odb

Git branch: guillaum_CY43_fix_for_temp

Modified:

odb/pandor/module	bator_decodbufr_mod.F90
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KHALFAOUI Wafa

Doc:

Bugfixes for SURFEX.

Projects: mse, surfex

Git branch: khalfaouiw_CY43_sfxfix

Modified:

mse/module

sfxflddesc_mod.F90

surfex/SURFEX

prep_teb_buffer.F90, write_diag_seb_surf_atmn.F90

LOO Cecile

Doc:

Debug acdraglad in numerical security activation whatever LGWDSPNL

EXPECTED IMPACT:

Numerical security applied whatever LGWDSPNL (in CY43_t1.01) improves tangent-linear approximation when LGWDSPNL=T.

This correction enables to have a good test of the adjoint.

Projects: arpifs

Git branch: loo_CY43_acdraglad

Modified:

arpifs/phys_dmn

acdraglad.F90

MARGUINAUD Philippe

Doc:

Make AROME reproducible with Intel Compiler 16.

NO NUMERICAL IMPACT IS EXPECTED.

Projects: arpifs

Git branch: marguina_CY43_cpphinp

Modified:

arpifs/adiab

cpphinp.F90

Doc:

Fix missing private in OpenMP loop.

EXPECTED IMPACT:

Make the code reproducible.

Projects: aladin

Git branch: marguina_CY43_ecoupl1

Modified:

aladin/coupling

ecoupl1.F90

Doc:

Fix missing private in OpenMP loop.

EXPECTED IMPACT:

Make the code bit-wise reproducible.

Projects: aladin

Git branch: marguina_CY43_eslextpol

Modified:

aladin/interpol

eslextpol.F90

Doc:

Remove dependency of ifsaux to mse.

NO NUMERICAL IMPACT IS EXPECTED.

Projects: ifsaux

Git branch: marguina_CY43_faconvgrib

Modified:

ifsaux/misc

fadiff.F90, falist.F90

ifsaux/programs

faconvgrib.F90

Doc:

Fix argument type

NO NUMERICAL IMPACT IS EXPECTED.

Projects: ifsaux

Git branch: marguina_CY43_fareor

Modified:

ifsaux/fa

fareor.F90

Doc:

Initialize structure member in yomio_serv_hdr.F90 .

NO NUMERICAL IMPACT IS EXPECTED.

Projects: arpifs

Git branch: marguina_CY43_iosgnu

Modified:

arpifs/module yomio_serv_hdr.F90

Doc:

Fix bug in reading and writing restart files.

NO NUMERICAL IMPACT IS EXPECTED.

Projects: arpifs, ifsaux

Git branch: marguina_CY43_restart

Modified:

arpifs/control reresf.F90
arpifs/utility wrresf.F90
ifsaux/module fadup_mod.F90

MARGUINAUD Philippe & EL KHATIB Ryad

Doc:

Merge Ryad El Khatib and Philippe Marguinaud contributions for cy43t1.

** GRIB2 in FA*

** Fullpos server coupled to the model*

** Remove gridpoint_buffer type*

** Optimizations:*

Optimize the computation of reduce grid for memory

Optimize the computation of post-processing filters for cpu and memory

Protection against multiple write of the file 'dirlst' on disk

Abort (rather than transform) if input surface pressure is P_s instead of $\ln(P_s)$

** support for interoperability in fullpos (conf 903) :*

EC GRIB2 to FA global or LAM

** computation of Fullpos norms out of I/Os*

re-enabling Fullpos norms for EC-fullpos

** Option NFPWRITE=0/1 in NAMFPIOS to disable or not the I/Os of Fullpos*

preserving the computation of the norms

** Support for real time post-processing via a synchronization script (aka "atcp" mechanism)*

** Re-vectorize horizontal interpolations*

** Optimize FPTRD TOA with automatic arrays and limit re-computations of addresses*

** LBCINC=.FALSE. can be used to compute increment of output filenames exactly as input boundary files*

** Support for climatological files update on the fly with new variables in NAMOPH :*

CFNCLIMIN : filename of input climatology file (default is "Const.Clim")

CFNCLIMOUT : prefix of filenames of output climatology files (default is "const.clim.")

The filenames are completed with the name of the output domain

CCLIMINC : prefix for the month increment (default is empty string).

Example :CFNCLIMIN='/chaîne2/mxpt001/arpege/france/oper/const/clim/mens/clim_t1198_isba',

CFNCLIMOUT='/chaîne2/mxpt001/arpege/france/oper/const/clim/domaine/const.clim.',

CCLIMINC='_m',

LFP MOIS=.FALSE./TRUE. is supported as well.

** Various Preliminar cleaning to pre! pare OOPS-oriented refactoring*

EXPECTED IMPACT:

Slight change in the results of the post-processed "derived" fields, due to the use of another algorithm to compute the Legendre polynomials

Projects: aladin, algor, arpifs, etrans, ifsaux, mse, trans, utilities

Git branch: marguina_CY43_rkpm

Added:

arpifs/control	cnt3_femars.F90, cnt3_glo.F90, cnt3_lam.F90
arpifs/dia	extfpnorm.F90, wrfld_fp.F90, wrgridall_fp.F90, wrsp2fa.F90, wrspeca_exch.F90, wrspeca_fp.F90
arpifs/fp_serv	fp_serv_cpfpfilter.F90, fp_serv_exit.F90, fp_serv_flush.F90, fp_serv_free.F90, fp_serv_init.F90, fp_serv_init_part1.F90, fp_serv_init_part2.F90, fp_serv_new.F90, fp_serv_setup.F90, fp_serv_suiosctmpl.F90, fp_serv_sync.F90, suinif_fp.F90
arpifs/fullpos	cpfpfilter_ivset.F90, cpfpfilter_shuffle.F90, fspnorms.F90, getfplun.F90, sufpclifname.F90, sufpofname.F90
arpifs/io_serv	io_serv_ccomm.F90, io_serv_cleanup_fa.F90, io_serv_close_ec.F90, io_serv_free.F90, io_serv_free_req.F90, io_serv_get_req_ready.F90, io_serv_grok_nproc.F90, io_serv_init_part1.F90,

	io_serv_init_part2.F90, io_serv_new.F90, io_serv_read_send.F90, io_serv_recv_cleanup.F90, io_serv_recv_req.F90, io_serv_recv_term.F90, io_serv_req_done.F90, io_serv_run_ec.F90, io_serv_run_mf.F90, io_serv_send_dist.F90, io_serv_send_read.F90, io_serv_setup_fa.F90, io_serv_sync_sort.F90
arpifs/module	iofill_mod.F90, iofldgptr_mod.F90, iofldptr_mod.F90, iofldsptr_mod.F90, iogrid_mod.F90, iogridgmv_mod.F90, iospec_mod.F90, iospecspa_mod.F90, yomfp_serv.F90, yomfp_serv_dinf.F90
ifsaux/fa	facgra.F90, facgrm.F90, fadgra.F90, faigra.F90, falgra.h, fasgra.F90, fatcha.F90
ifsaux/hack	bt.c, setsigaction.c
ifsaux/misc	convol.F90, extractgrib.F90, falist.F90, faop.F90, lfi_alt_size.F90
ifsaux/support	ccommc.F, guniqi4.F
trans/external	trans_pnm.F90
trans/interface	trans_pnm.h
trans/programs	trinfo.F90
Modified:	
aladin/adiab	elarmes.F90, especrt.F90
aladin/c9xx	ebicli.F90
aladin/coupling	erlbc.F90
aladin/fullpos	ebipos.F90, fpezzone.F90
aladin/module	eshrinkstretch_mod.F90
aladin/setup	elsac.F90, erlbc_post_req.F90, esp2lnsp.F90, sueorog.F90, suetrans.F90
aladin/transform	ereespe.F90, esperee.F90, espeuv.F90, etransdir_nhconv.F90, etransdir_nhconvprhs.F90, etransinv_nhconv.F90, etransinv_nhconvprhs.F90, euvgeovd.F90, evdudvgeo.F90
aladin/utility	cchien.F90
aladin/var	ejgnrgg.F90, ejgnrggad.F90, ejgnrggi.F90, ejgnrggiad.F90
algor/module	dilatation_mod.F90
arpifs/adiab	cpg_end.F90, cpg_gp.F90, gnh_conv_nhvar.F90, gnh_conv_nhvar_geogw.F90, gnh_conv_prhs.F90, gnhdlr.F90, gnhdlra.F90, gnhgrdlr.F90, gnhgrpre.F90, gnhpre.F90, gnhx.F90, gpgrgeo.F90, gpgw.F90, gphluv.F90, gphlwi.F90, gpxx.F90, lapinea.F90, lapineb.F90, larmes.F90, lattex.F90, especrt.F90, spnh_conv_nhvar.F90, spnh_conv_prhs.F90

arpifs/ald_inc/namelist	nemelbc0a.nam.h
arpifs/c9xx	intice.F90
arpifs/canari	caclsst.F90, caisse.F90, calincw.F90, casmswi.F90
arpifs/climate	cormass2.F90, cormass3b.F90, updcli.F90, updcli_mse.F90, updclie.F90, updclie_co2.F90, updclie_compo.F90, updcpl.F90, updnud.F90
arpifs/control	cnt0.F90, cnt2.F90, cnt3.F90, cnt3_wait.F90, cnt4.F90, cprep3.F90, fpwrncf.F90, reresf.F90, restart_cnt3.F90, stepo.F90, stepo_oops.F90, stepoad.F90, stepotl.F90
arpifs/dia	cpcfu.F90, cpxfu.F90, fpgpnorm.F90, grib_code_message.F90, inifaoutinfo.F90, posddh.F90, suofname.F90, supupdate.F90, wrfu.F90, wrgathflnm.F90, wrgrida.F90, wrgridall.F90, wrgridall_map.F90, wrgridua.F90, wrmlppa.F90, wrmlppa_io_serv.F90, wroutgpgb.F90, wroutspgb.F90, wrspeca.F90, wrspeca_compress_mt.F90, wrspeca_gp.F90, wrspeca_map.F90, wrxfu.F90
arpifs/fullpos	cpfpfilter.F90, cpgridf.F90, dynfpos.F90, extfpf.F90, fpmodprec.F90, fpselezo.F90, gridfpos.F90, gridfpos_savefu.F90, hpos.F90, ini1wrfp.F90, ini2wrfp.F90, ini3wrfp.F90, iofpos.F90, openfpfa.F90, pregpfpfpos.F90, rdclimo.F90, rdecclimo.F90, rdfpfilter.F90, stepo_fpos.F90, subfpos.F90, sufpc.F90, sufpcfu.F90, sufpcconf.F90, sufpc.F90, sufpios.F90, sufprfpbuf_clim.F90, sufprfpds.F90, sufptr2.F90, sufpxfu.F90, suvfposl.F90, vpos.F90, wrfpfilter.F90, wrgp2fafp.F90, wrhfp.F90, wrmlfp.F90, wrmlfp_io_serv.F90, wrplfp_io_serv.F90, wrsfp.F90
arpifs/interpol	fpint12.F90, fpint4.F90
arpifs/io_serv	io_serv_close.F90, io_serv_compress.F90, io_serv_create_fa.F90, io_serv_del_req.F90, io_serv_exit.F90, io_serv_expfpfph.F90, io_serv_get_req.F90, io_serv_hdr1_init.F90, io_serv_hdr2_init.F90, io_serv_hdr_grok_size.F90, io_serv_init.F90, io_serv_log.F90, io_serv_map_recv_part1.F90, io_serv_map_send_part1.F90, io_serv_prepacka1_compress.F90, io_serv_recv_ios.F90, io_serv_recv_setup.F90, io_serv_recv_sort.F90, io_serv_run.F90, io_serv_send_md1.F90, io_serv_send_sort.F90, io_serv_suiosctmpl.F90, io_serv_sync.F90, io_serv_wrgp2fa_compress.F90, io_serv_write.F90
arpifs/module	disgrid_mod.F90, elbc0a_mod.F90, extfpselect_mod.F90, factx_mod.F90, fpgpnorm_mod.F90, gridpoint_buffers_mix.F90, ioflddesc_mod.F90, ioфу_mod.F90, iogrcia_mod.F90, iogrida_mod.F90, iogride_mod.F90, iogridoe_mod.F90, iogridua_mod.F90, iogridue_mod.F90, iospeca_mod.F90, iostream_mix.F90, ioxfu_mod.F90, mfioopts_mod.F90, model_mod.F90, spectral_fields_mod.F90, supupdate_mod.F90, yom_ygfl.F90, yomafn.F90, yomaneb.F90, yomarg.F90, yomfa.F90, yomfp41.F90, yomfpios.F90, yomgfub.F90, yomgppb.F90, yomgppcb.F90, yomgpsk.F90, yomio_serv.F90, yomio_serv_hdr.F90, yomio_serv_req.F90, yomjg.F90, yommp0.F90, yommpextra.F90, yommse.F90, yomoph0.F90, yomtag.F90, yomxfub.F90

arpifs/namelist	namarg.nam.h, namfa.nam.h, namfpios.nam.h, namoph.nam.h
arpifs/oops	ifs_init.F90
arpifs/parallel	fptrdtoa.F90, rdpxfa.F90
arpifs/phys_dmn	mf_phys.F90, suparar.F90, suphmf.F90
arpifs/programs	io_serv.F90, master.F90
arpifs/setup	print_gfp.F90, rdfa2sp.F90, sp2lnsp.F90, su0yoma.F90, su0yomb.F90, suafn1.F90, suafn2.F90, suafn3.F90, suarg.F90, sucfu.F90, suct0.F90, suctrl_gflattr.F90, sufa.F90, suffinif.F90, sugrcfu.F90, sugrclia.F90, sugrib.F90, sugrida.F90, sugrida_fixup.F90, sugridf.F90, sugridu.F90, sugridua.F90, sugridua_fixup.F90, sugridua_map_part1.F90, sugridua_map_part2.F90, sugrxfu.F90, sumpextra.F90, suoph.F90, suoph0.F90, suorog.F90, supp.F90, susc2b.F90, suspec.F90, suspeca.F90, suspeca_fixup.F90, suspeca_gp.F90, suspeca_map_part1.F90, suspeca_map_part2.F90, suspecb.F90, suspssp.F90, suxfu.F90
arpifs/transform	reespe.F90, speree.F90, speuv.F90, transdir_nhconv.F90, transdir_nhconvprhs.F90, transinv_nhconv.F90, transinv_nhconvprhs.F90
arpifs/utility	deallo.F90, dealsc2.F90, filedate.F90, incgpf.F90, opdis.F90, openfa.F90, openfainfo.F90, pkgrida.F90, pkspeca.F90, pksurfa.F90, posname.F90, prepacka.F90, prepacka1_mt.F90, rdfa2gp.F90, sc2rdg.F90, sc2wrg.F90, sigpost.F90, wrgp2fa.F90, wrgp2fa_compress_mt.F90, wrgp2fa_remove_undef.F90, wrresf.F90
arpifs/var	bgevecs.F90, bgvecs.F90, estsig.F90, estsiga.F90, fltbgerr.F90, fltlcterr.F90, jbvcoord_interpolate.F90, jbvcoord_interpolate_ad.F90, jgnr.F90, jgnrad.F90, jgnri.F90, jgnriad.F90, scaleae.F90, scalederae.F90, scalefe.F90, sqrtfe.F90, sualges.F90, suanebuf.F90, suinfce.F90, subjvcoord.F90, subjwavgen.F90, subjwavgen_hybraw.F90, sumdfce.F90, suprffce.F90, susepfce.F90, sushfce.F90, vec2dergp.F90, vec2gp.F90, vec2gpfe.F90, writelct.F90, writesd.F90, xformeuv.F90
etrans/external	etrans_end.F90
etrans/module	suemp_trans_mod.F90, suemplat_mod.F90
ifsaux/fa	faauto.F90, facadi.F90, faccpl.F90, facdec.F90, facil1.F90, facilo.F90, facilo.h, facilo64.h, facilo_mt.h, facilo_mt64.h, facine.F90, facodx.F90, facon1.F90, facond.F90, facono.F90, facono.h, facono64.h, facono_mt.h, facono_mt64.h, facsim.F90, factec.F90, fadcp1.F90, fadec1.F90, fadoco.F90, fadoco.h, fadoco64.h, fadoco_mt.h, fadoco_mt64.h, fagiot.F90, fagote.F90, faicor.F90, faien1.F90, faieno.F90, faieno.h, faieno64.h, faieno_mt.h, faieno_mt64.h, faipag.F90, faipar.F90, faisn.F90, faiscl.F90, faiscl2.F90, faitou.F90, falais.F90, fanion.F90, fanouv.F90, faprst.F90, fapula.F90, faquin.F90, faregi.F90, faregu.F90, fareor.F90, faxion.F90
ifsaux/fi_libc	fi_libc.c, fi_libc.h
ifsaux/grib_mf	mxmn_mf.F

ifsaux/lfi	lfiuto.F90
ifsaux/lfi_alt	lfi_alts.c, lfi_args.h, lfi_intf.c, lfi_mess.F90, lfi_verb.c
ifsaux/linux	linux_bind.c
ifsaux/misc	fadiff.F90, faempty.F90, lfidiff.F90, lfixxx.F90, testfa.F90
ifsaux/module	fa_mod.F90, fadup_mod.F90, grib_api_interface.F90, xrd_getoptions.F90
ifsaux/programs	faconvcpl.F90, faconvgrib.F90, lfitools.F90
mse/externals	aro_ground_param.F90, aro_surf_diagh.F90, aroini_surfc.F90, fp2sx1.F90, fp2sx2.F90, gridfpossfx_init.F90, prep1_dumm.F90, prep1_real.F90, prep2_dumm.F90, prep2_real.F90, prep_step0.F90, prep_step1.F90, prep_step2.F90, rdclimosfx.F90, sufpcsf.F90, sugridsf.F90, suphmse_surface.F90, wrsf.F90
mse/interface	fp2sx1.h, fp2sx2.h, gridfpossfx_init.h, prep1_dumm.h, prep1_real.h, prep2_dumm.h, prep2_real.h, prep_step0.h, prep_step1.h, prep_step2.h, prep_stepx.h, rdclimosfx.h, sufpcsf.h, sugridsf.h, wrsf.h
mse/module	modd_io_surf_aro.F90
mse/new	sfxfa2lfi.F90, sfxfilter.F90, sfxlfi2fa.F90, sfxlist.F90
mse/programs	sfxtools.F90
trans/external	setup_trans.F90
trans/module	eq_regions_mod.F90, suleg_mod.F90, sump_trans_mod.F90, sumplat_mod.F90, tpm_pol.F90
trans/programs	rgrid.F90
utilities/progrid	procor2.F, prodom.F, proecr.F, profac.F, progrid.F, prolec.F

MARY Alexandre

Doc:

1) *Ororad phased upon SurfexV8.*

+ *Bugfix in sfxtools*

+ *new SurfexV8 fields in sfxflddesc_mod.F90*

(Warning: must be merged on top of Y.Seity's branch for SurfexV8.)

2) *Update ifsaux/py_interface w/r to epygram 0.6.7:*

- *get derivatives in spectral transforms*

- *unit = 0 in faitou/lfiouv input*

- *spectral reordering (use facilo/faieno)*

- *big/little endian in lfatest.*

NO NUMERICAL IMPACT IS EXPECTED.

Projects: ifsaux, mse, surfex

Git branch: gco_CY43_t1.01%mary_py_int_deriv_unit0_reord+ororad

Added:

ifsaux/py_interface LFA4py.F90

Modified:

ifsaux/fa faauto.F90

ifsaux/lfi lfiuto.F90

ifsaux/lfi_alt lfi_args.h, lfi_intf.c

ifsaux/py_interface FA4py.F90, LFI4py.F90, transforms4py.F90

mse/externals aro_ground_param.F90

mse/module sfxflddesc_mod.F90

mse/programs offline.F90, sfxtools.F90

surfex/OFFLIN offline.F90

surfex/SURFEX

coupling_surf_atmn.F90, default_sso.F90, ini_ssowork.F90, init_surf_atmn.F90, modd_pgdwork.F90, modd_surf_atm_sson.F90, modn_sson.F90, pgd_orography.F90, read_nam_pgd_orography.F90, read_namelists_surfn.F90, read_sson.F90, writesurf_sson.F90

Doc:

Bugfix in interface to spectral transforms.

NO NUMERICAL IMPACT IS EXPECTED.

Projects: ifsaux

Git branch: mary_CY43_transbc

Modified:

ifsaux/py_interface

transforms4py.F90

MASEK Jan

Doc:

Contributors: J. Masek, L. Bengtsson, E. Gleeson

1) Introduction of exponential-random cloud overlap in ALARO microphysics, radiation and diagnostics. Unified cloud cover diagnostics in ALARO and AROME.

2) Introduction of unscaled direct solar flux in ACRANEB2 and of sunshine duration based on it.

Contribution contains developments related to radiation scheme ACRANEB2. It unifies treatments of diagnostic cloud cover in APLAR and APL_AROME and introduces sunshine duration for ACRANEB2, enabling this field also on APL_AROME side. On APLPAR side, new cloud overlap treatment is made consistent between microphysics, ACRANEB2 radiation and diagnostics. Future intention is to replace LACPANMX/WMXOV nearly-maximum cloud overlap with the exponential-random one, since the former cannot be used consistently in radiation.

Exponential-random cloud overlap is introduced under key LRNUEXP (default .F.). Decorrelation depth is function of latitude and solar declination, tunable via NAMPHY0 parameters RDECRD1-4. Original parameter RDECRD (corresponding to fixed value of decorrelation depth) is used in APLMPHYS, unless set to value ≤ 0 . Using default value of RDECRD ensures backward compatibility.

Subroutine ACRANEB2 returns new array - unscaled direct solar flux used to compute sunshine duration. Existing diffuse and direct solar fluxes are delta-scaled by default, but by setting LRTRUEDIR=.T. they can be switched to unscaled values (their sum alias global radiation is preserved). Switch LRTRUEBBC=.T. activates use of unscaled direct solar flux in bottom boundary condition.

Modset contains also fix for ACRANEB2 in APL_AROME, where by mistake downward longwave radiation at surface was not passed to SURFEX. However, in cy43_main there is some problem with ACRANEB2 in AROME and the above fix does not remove it. I was able to run ACRANEB2 in AROME in cy42.

Replacement of COMPUTE_NEB by ACNPART in APL_AROME was prepared also by HIRLAM, but they solved protection against 0/0 differently. After agreement with L.Bengtsson protection is done consistently with APLPAR. Moreover, ACNPART in present modset is modularized, extended by LRNUEXP option and the small inconsistency for LWMO CLOUD was removed. It thus should be taken from here and not from HIRLAM contribution.

arpifs/module/yomphy0.F90

New parameters for geographical/seasonal dependency of decorrelation depth.

arpifs/module/yomphy3.F90

Namelist tunable parameters for bracketing.

arpifs/module/yomphy.F90

New logical switches for exponential-random cloud overlap and unscaled direct solar radiation.

arpifs/namelist/namphy0.nam.h

New namelist variables.

arpifs/namelist/namphy3.nam.h

New namelist variables.

arpifs/namelist/namphy.nam.h

New namelist variables.

arpifs/phys_dmn/accdev.F90

Modified interface, passing of decorrelation depth to APLMPHYS.

arpifs/phys_dmn/ac_cloud_model2.F90

Modified interface, unscaled extinction coefficients for direct solar flux.

arpifs/phys_dmn/accvud.F90

Modified interface, passing of decorrelation depth to APLMINI.

arpifs/phys_dmn/acnpart.F90

Modularized version, replaces COMPUTE_NEB in APL_AROME, shared with APLPAR. Fixed small bug for LWMOCLOUD. Introduction of exponential-random cloud overlap.

Convective cloud fractions / cloud cover made optional, so that they can be omitted in APL_AROME.

arpifs/phys_dmn/apl_arome.F90

Modified interface, filled sunshine duration. Introduction of exponential-random cloud overlap, call to COMPUTE_NEB replaced by call to ACNPART.

Cloud

fractions entering ACNPART protected from 0 and 1. Corrected filling of downward longwave flux at surface when ACRANE2 radiation is on.

arpifs/phys_dmn/aplmini.F90

Modified interface, geographically/seasonally dependent decorrelation depth.

arpifs/phys_dmn/aplmpphys.F90

Modified interface, geographically/seasonally dependent decorrelation depth.

arpifs/phys_dmn/aplpar.F90

Modified interface, introduction of exponential-random cloud overlap. Filling of ACRANE2 sunshine duration based on unscaled direct solar flux.

arpifs/phys_dmn/compute_neb.F90

Subroutine is removed, since it only duplicated parts of ACNPART.

arpifs/phys_dmn/mf_phys.F90

Passing sunshine duration also to APL_AROME.

arpifs/phys_dmn/suphy0.F90

Initialization of parameters for geographical/seasonal dependency of decorrelation depth.

arpifs/phys_dmn/suphy3.F90

Initialization of tunable parameters for bracketting.

arpifs/phys_radi/acraneb2.F90

Modified interface, introduction of exponential-random cloud overlap and of unscaled direct solar flux. Modified calls to AC_CLOUD_MODEL2, ACRANE2_COEFS and ACRANE2_SOLVS. Bracketting parameters taken from namelist.

arpifs/phys_radi/acraneb_coefs.F90

Modified interface, computation of transmissions for unscaled direct solar flux.

arpifs/phys_radi/acraneb.F90

Bracketting parameters taken from namelist.

arpifs/phys_radi/acraneb_solvs.F90

Modified interface, solver extended by unscaled direct solar flux, which can eventually be used in bottom boundary condition.

arpifs/setup/su0phy.F90

Initialization of new logical switches for cloud overlaps and unscaled direct solar flux.

arpifs/setup/su_surf_flds.F90

Setup of sunshine duration also for AROME.

Performed tests:

Modifications in shortwave ACRANE2 radiation are not neutral, they change the results slightly due to reorganized computations, but without meteorological

impact. They were tested in ALARO on CHMI domain (12h integration). Before sunrise the spectral norms were bit identical to cy43_main reference, 2h after sunrise they were matching for 3 digits. Differences on the maps of 12h cumulated precipitation are hardly visible.

AROME configuration was tested in mitraille case ARIT (4h integration). Spectral norms are bit identical to cy43_main reference.

Projects: arpifs

Git branch: masekj_CY43_rad

Deleted:

arpifs/phys_dmn

compute_neb.F90

Modified:

arpifs/module

yomphy.F90, yomphy0.F90, yomphy3.F90

arpifs/namelist

namphy.nam.h, namphy0.nam.h, namphy3.nam.h

arpifs/phys_dmn

ac_cloud_model2.F90, accdev.F90, accvud.F90, acnpart.F90, apl_rome.F90, aplmini.F90, aplmphys.F90, aplpar.F90, mf_phys.F90, suphy0.F90, suphy3.F90

arpifs/phys_radi

acraneb.F90, acraneb2.F90, acraneb_coefs.F90, acraneb_solvs.F90

arpifs/setup

su0phy.F90, su_surf_flds.F90

Doc:

Corrected call to ACCVUD from APLPAR - argument ZDECRD should be ZDECRD_MF, as in my original modset masekj_CY43_rad.

Projects: arpifs

Git branch: masekj_CY43_t1

Modified:

arpifs/phys_dmn

aplpar.F90

Doc:

New 2m interpolation in stable conditions. Affects only TOUCANS turbulence.

- *Contributors: M. Dian, J. Masek*

- *GIT branch: masekj_CY43_t2m*

- *Base cycle: cy43_t1.01*

- *Target cycle: cy43_t1.02*

- *List of modified files (4):*

arpifs/module/yomphy1.F90

arpifs/namelist/namphy1.nam.h

arpifs/phys_dmn/actkecls.F90

arpifs/phys_dmn/suphy1.F90

- *Description of modifications:*

arpifs/module/yomphy1.F90

Added variables LCLS_HS, ACLS_HS.

arpifs/namelist/namphy1.nam.h

Added variables LCLS_HS, ACLS_HS.

arpifs/phys_dmn/actkecls.F90

New 2m interpolation of temperature and humidity for stable case,

kept under key LCLS_HS. Subroutine is specific for TOUCANS turbulence.

arpifs/phys_dmn/suphy1.F90

Setting default values of LCLS_HS, ACLS_HS and reading their actual values from the namelist &NAMPHY1.

- Tests:

Modification compiles, but was not tested in cy43_t1.01 yet, since the ALARO configuration does not work there for the time being.

Update subroutine ACTKECLS: contains phasing contribution to cy43_t1.02. Missing protection in the new 2m diagnostics was added. (problem was discovered by L. Gerard).

Projects: arpifs

Git branch: masekj_CY43_t2m

Modified:

arpifs/module	yomphy1.F90
arpifs/namelist	namphy1.nam.h
arpifs/phys_dmn	actkecls.F90, suphy1.F90
arpifs/phys_radi	acraneb2.F90

MICHEL Yann

Doc:

Developments for the ensemble of AROME 3D-Vars (AEARO):

- *add new inflation scheme (einflcalc/einflation_pert)*
- *ability to merge spectral covariances; split the reading of stabal/cv files from the setup of Jb (suejbbal/suejbd96)*
- *changes to the surface perturbations: SST (eadd_pert_sst) and perturb only first levels fields in surfex (pertsurf) under laearo key.*

NO NUMERICAL IMPACT IS EXPECTED.

Projects: aladin, arpifs, utilities

Git branch: michel_CY43_aearo

Added:

aladin/var	einflation_pert.F90, einflcalc.F90, readjbbal.F90, readjbd96.F90
arpifs/var	horiz_avg.F90

Modified:

aladin/var	suejbbal.F90, suejbd96.F90
arpifs/c9xx	eadd_pert_sst.F90
arpifs/canari	canali.F90, canari.F90
arpifs/control	cva1.F90, forecast_error.F90
utilities/pearome	pertsurf.F90

Doc:

Debug grib output for sigmab in AROME.

NO NUMERICAL IMPACT IS EXPECTED.

Projects: arpifs

Git branch: michel_CY43_gribaro

Renamed:

arpifs/var

ewritestd.F90 aladin/var/ewritestd.F90

PIRIOU Jean-Marcel

Doc:

Flexible DDH: developments and optimization from Fabrice Voitus based on cy43_main.01. Modifications phased on cy43_t1.01 by Jean-Marcel Piriou.

NO NUMERICAL IMPACT IS EXPECTED.

Projects: arpifs, ifsaux, mpa

Git branch: piriou_CY43_ddhflex

Added:

arpifs/dia cpcuddh_omp.F90

Modified:

arpifs/adiab cp_forcing.F90, cpg.F90, cpg_dia.F90, cpg_drv.F90, cpg_gp.F90, cpglag.F90, cptend_flex.F90, cptend_new.F90

arpifs/control gp_model.F90

arpifs/dia cpdyddh.F90, cpdyddhlag.F90, ppfidh.F90, sualtdh.F90, sumddh.F90, sunddh.F90

arpifs/module yomlddh.F90, yommddh.F90, yomtddh.F90

arpifs/namelist namddh.nam.h

arpifs/phys_dmn acmtud.F90, acpcmt.F90, actke.F90, apl_arome.F90, aplpar.F90, mf_phys.F90

ifsaux/module ddh_mix.F90

mpa/micro/externals aro_adjust.F90, aro_convbu.F90, aro_rain_ice.F90, aro_startbu.F90, aro_suintbudget.F90

mpa/micro/interface aro_adjust.h, aro_convbu.h, aro_rain_ice.h, aro_startbu.h

mpa/micro/internals budget.F90, ice_adjust.F90, rain_ice.F90

mpa/micro/module modddb_intbudget.F90, modi_budget.F90, modi_ice_adjust.F90, modi_rain_ice.F90

mpa/turb/externals aro_turb_mnh.F90

mpa/turb/interface aro_turb_mnh.h

mpa/turb/internals tke_eps_sources.F90, turb.F90

mpa/turb/module

modi_tke_eps_sources.F90, modi_turb.F90

Doc:

Fix phasing bugs.

Projects: arpifs

Git branch: piriou_CY43_ddhflexphas

Modified:

arpifs/phys_dmn

apl_arome.F90

Doc:

acmtud: debug the LCVIMPT=T case

acmtud: re-introduce Ryad El Khatib's optimizations

NO NUMERICAL IMPACT IS EXPECTED.

Projects: arpifs

Git branch: piriou_CY43_optim

Modified:

arpifs/phys_dmn

acmtud.F90

Doc:

PCMT convection scheme: development, including passive tracers transport by convection (Climate requirement)

IMUSCLFA to NMUSCLFA : DOCTOR norm correction

NO NUMERICAL IMPACT IS EXPECTED.

Projects: arpifs

Git branch: piriou_CY43_pcmtdd

Added:

arpifs/phys_dmn

checkmv.F90

Modified:

arpifs/adiab	cp_forcing.F90, cpg_drv.F90, cptend_flex.F90, cptend_new.F90
arpifs/module	yomchet.F90, yomlsforc.F90, yomphy.F90, yomphy0.F90
arpifs/namelist	namphy.nam.h, namphy0.nam.h
arpifs/phys_dmn	accvimp.F90, accvimpd.F90, accvimpgy.F90, acdayd.F90, acdifv1.F90, acflsmo.F90, acmtddd.F90, acmtud.F90, acpcmt.F90, acpluiz.F90, actke.F90, acturb.F90, acvppkf.F90, apl_arome.F90, aplpar.F90, cpchet.F90, open_output_lfa.F90, profilechet.F90, suchet.F90, suphy0.F90, surf_ideal_flux.F90, tridifv1.F90, writechet.F90, writeprofile.F90
arpifs/setup	su0phy.F90, sulsforc.F90

Doc:

PDDAL cleanings in APLPAR: the GFL array PPDAL is no longer used for evaporation "pseudo-historical" saving

NO NUMERICAL IMPACT IS EXPECTED.

Projects: arpifs

Git branch: piriou_CY43_pddal

Modified:

arpifs/phys_dmn	aplpar.F90
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RAYNAUD Laure

Doc:

Routines for perturbations in PEARO.

NO NUMERICAL IMPACT IS EXPECTED.

Projects: utilities

Git branch: raynaudl_CY43_PEARO

Modified:

utilities/pearome

addpearp.F90, clust.F90, pertsurf.F90

SAEZ Patrick

Doc:

Comeback of one line code deleted by accident at ECMW in CY42.

NO NUMERICAL IMPACT IS EXPECTED.

Projects: arpifs

Git branch: saez_CY43_C901

Modified:

arpifs/control

cprep1.F90

SEITY Yann

Doc:

SURFEX v8_rev3681.

EXPECTED IMPACT:

Numerical changes due to bugfixes in Surfex v8.

For compilation, you have to add -Din_surfex -DSFX_ARO -DSFX_ASC -DSFX_OL -DSFX_TXT -DSFX_FA -DSFX_LFI for SURFEX code.

Projects: mse, surfex, utilities

Git branch: seity_CY43_surfexV8_rev3681

Deleted:

surfex/OFFLIN	soda.F90
surfex/SURFEX	fsso.F90, horizon_orog.F90

Added:

mse/internals	set_surfex_file_name_aro.F90
mse/module	modd_surfex_aro.F90
surfex/ASSIM	add_noise.F90, assim_nature_isba_enkf.F90, assim_set_sst.F90, choldc.F90, cholsl.F90, get_iok_assim.F90, inverse_matrix.F90, mode_ekf.F90, mode_random.F90, oi_control.lst.db, outer_product.F90, soda.F90, trans_chaine.F90, varassim.F90
surfex/ECOCLIMAP	convert_ecoclimap_param.f90, ecoclimapII_eu_covers_param.dat, ecoclimapI_covers_param.dat, write_source_data_cover.F90
surfex/GELATO	gltools_temper_r.F90, lib_mpp.F90, modd_glt_const_evp.F90, modd_glt_const_thm.F90, modd_glt_param.F90, modd_glt_strlist.F90, modd_glt_vhd.F90, modd_types_glt.F90, mode_glt_dia_ar5.F90, mode_glt_dia_glt.F90, mode_glt_dia_lu.F90, mode_glt_info.F90, mode_glt_info_r.F90, mode_glt_init.F90, mode_glt_nemo_bound.F90, mode_glt_stats.F90, mode_glt_stats_r.F90, mode_gltools_enthalpy.F90, mode_gltools_interp.F90, mode_gltools_prtrarr.F90, mode_gltools_sigma.F90, mode_gltools_strlast.F90, mode_gltools_swfrzt.F90, mode_gltools_wrivais.F90, modi_glt_blowsn_r.F90, modi_glt_constrain_r.F90, modi_glt_frzvtp_r.F90, modi_glt_gelato.F90,

modi_glt_generic_list.F90, modi_glt_getatmf.F90, modi_glt_getmlrf.F90, modi_glt_icetrans_r.F90,
modi_glt_icevsp_r.F90, modi_glt_inibud.F90, modi_glt_invert.F90, modi_glt_lmltsi_r.F90,
modi_glt_mltvtp_r.F90, modi_glt_oceflx_r.F90, modi_glt_output.F90, modi_glt_precip_r.F90,
modi_glt_salflx.F90, modi_glt_salflx_r.F90, modi_glt_saltrap_r.F90, modi_glt_sndatmf.F90,
modi_glt_sndmlrf.F90, modi_glt_snowice_r.F90, modi_glt_sublim_r.F90, modi_glt_swabs_r.F90,
modi_glt_thermo.F90, modi_glt_thermo_end_r.F90, modi_glt_thermo_ice_r.F90,
modi_glt_thermo_lead_r.F90, modi_glt_thermo_r.F90, modi_glt_updasn_r.F90, modi_glt_updbud.F90,
modi_glt_updbud_r.F90, modi_glt_updhsi_r.F90, modi_glt_updhsn_r.F90, modi_glt_updice.F90,
modi_glt_updice_mix_r.F90, modi_glt_updice_r.F90, modi_glt_updsal_r.F90, modi_glt_updsnow.F90,
modi_glt_updsnow_r.F90, modi_glt_updtfl.F90, modi_glt_updtfl_r.F90, modi_glt_vhdiff_r.F90,
modi_glt_vhdslab_r.F90, modi_gltools_adjflx.F90, modi_gltools_alloc.F90, modi_gltools_avevai.F90,
modi_gltools_chkglo.F90, modi_gltools_chkglo_r.F90, modi_gltools_chkinp.F90, modi_gltools_chkout.F90,
modi_gltools_dealloc.F90, modi_gltools_genlist.F90, modi_gltools_gltterr.F90, modi_gltools_isdigit.F90,
modi_gltools_mixice.F90, modi_gltools_mixice_r.F90, modi_gltools_mskerr.F90,
modi_gltools_newice_r.F90, modi_gltools_nextline.F90, modi_gltools_nextval.F90,
modi_gltools_nwords.F90, modi_gltools_outdia.F90, modi_gltools_readnam.F90,
modi_gltools_strlower.F90, modi_gltools_strsplit.F90, modi_gltools_timers.F90,
modi_gltools_updaponds_r.F90, modi_gltools_wriios.F90

surfex/OFFLIN

close_aux_io_surf_nc.F90, init_output_ncn.F90, init_output_oln.F90, init_slope_param.F90,
local_slope_param.F90, modd_off_surfexn.F90, modd_slope_effect.F90, offline.F90,
open_aux_io_surf_nc.F90, prep.F90, sfx_oasis_def_ol.F90, sfx_oasis_rcv_ol.F90, sfx_oasis_send_ol.F90,
slope_radiative_effect.F90, surf_rad_modif.F90, surf_solar_shadows.F90, surf_solar_slopes.F90

surfex/SURFEX

albedo_rs14.F90, albedo_veg_update.F90, average_phy.F90, average_tsurf.F90, bld_occ_calendar.F90,
cls_t.F90, comput_cold_layers_thick.F90, coupling_flake_sb1n.F90, coupling_seaflux_sb1n.F90,
coupling_watflux_sb1n.F90, cpl_gcmn.F90, cumul_diag_tebn.F90, day_of_week.F90, default_seaice.F90,
default_seaice.lst.db, diag_cpl_esm_flake.F90, diag_inline_idealn.F90, diag_surf_budget_flake.F90,
diag_surf_budget_ideal.F90, diag_surf_budgetc_flake.F90, diag_surf_budgetc_ideal.F90,
disph_for_meb.F90, drag_meb.F90, e_budget_meb.F90, ecumev6_flux.F90, explicit_slope.F90,
fix_meb_veg.F90, flxsurf3bx.F90, get_adj_mes_lonlat_rot.F90, get_cpl_gcmn.F90,
get_grid_coord_lonlat_rot.F90, get_grid_dim_lonlat_rot.F90, get_mesh_corner.F90,
get_mesh_corner_conf_proj.F90, get_mesh_corner_gauss.F90, get_mesh_corner_ign.F90,
get_mesh_corner_lonlat_reg.F90, get_mesh_corner_lonlaval.F90, get_mesh_dim_lonlat_rot.F90,
get_mesh_index_lonlat_rot.F90, get_near_meshes_lonlat_rot.F90, get_sfx_lake.F90, get_sfx_land.F90,
get_sfx_sea.F90, get_vegn.F90, goto_wrapper_pack.F90, goto_wrapper_teb_patch.F90, init_cpl_gcmn.F90,

init_surfconsphy.F90, interp_grid_nat.F90, interpol_linear.F90, io_buff.F90, io_buff_clean.F90, isba_ceb.F90, isba_emis_meb.F90, isba_fluxes_meb.F90, isba_lwnet_meb.F90, isba_meb.F90, isba_swnet_meb.F90, latlon_gridtype_lonlat_rot.F90, latlonmask_lonlat_rot.F90, minzs_vert_shift.F90, modd_albedo_rs14_par.F90, modd_bem_optionn.F90, modd_ch_flaken.F90, modd_diag_cumul_tebn.F90, modd_diag_misc_teb_optionn.F90, modd_diag_seaicen.F90, modd_get_mesh_index_lonlat_rot.F90, modd_io_buff.F90, modd_meb_par.F90, modd_ocean_grid.F90, modd_reprod_oper.F90, modd_sfx_oasis.F90, modd_surf_reprod_oper.F90, modd_surfexn.F90, modd_teb_garden_optionn.F90, modd_teb_garden_pgd_evoln.F90, modd_teb_garden_pgd.F90, modd_teb_greenroof_optionn.F90, modd_teb_greenroof_pgd_evoln.F90, modd_teb_greenroof_pgd.F90, modd_teb_irrign.F90, modd_teb_optionn.F90, modd_teb_paneln.F90, modd_utci.F90, modd_wp.F90, mode_cotwo.F90, mode_gridtype_lonlat_rot.F90, mode_meb.F90, mode_read_surf_cov.F90, mode_write_surf_cov.F90, modn_sfx_oasis.F90, pack_grid_lonlat_rot.F90, pgd_teb_irrig.F90, prep_hor_isba_cc_field.F90, prep_isba_cc_extern.F90, prep_ocean_mercatorvergrid.F90, prep_seaice.F90, preps_for_meb_drag.F90, preps_for_meb_ebud_rad.F90, put_sfx_land.F90, put_sfx_sea.F90, read_gridtype_lonlat_rot.F90, read_nam_grid_lonlat_rot.F90, read_nam_pgd_isba_meb.F90, read_pgd_netcdf.F90, read_pgd_teb_irrign.F90, read_seaicen.F90, read_z1d_netcdf.F90, regrot_lonlat_rot.F90, seaflux_albedo.F90, seaice_gelato1dn.F90, seaice_gelato1dn.lst.db, sfx_oasis_check.F90, sfx_oasis_define.F90, sfx_oasis_end.F90, sfx_oasis_init.F90, sfx_oasis_prep.F90, sfx_oasis_read_nam.F90, sfx_oasis_recv.F90, sfx_oasis_send.F90, snow_leaves_frac_meb.F90, snow_load_meb.F90, solar_panel.F90, surface_air_meb.F90, surfex_alloc.F90, surfex_deallo.F90, teb_irrig.F90, tridiag_ground_rm_coefs.F90, tridiag_ground_rm_soln.F90, update_rad_flake.F90, update_rad_sea.F90, update_rad_water.F90, utcic_stress.F90, veg_height_from_lai.F90, vertical_grid_nat.F90, vslog.F90, write_diag_seb_seaicen.F90, write_gridtype_lonlat_rot.F90, writesurf_cpl_gcmn.F90, writesurf_pgd_teb_irrign.F90, writesurf_seaicen.F90

surfex/TOPD

avg_patch_wg.F90, control_water_budget_topd.F90, dg_dfto31.F90, dispatch_wg.F90, init_topd_ol.F90, init_topd_pgd.F90, topd_to_df.F90

utilities/aca

prepsurf_arome.F90

Modified:

mse/externals

aro_ground_diag.F90, aro_ground_diag_z0.F90, aro_ground_param.F90, aro_put_SST.F90, aro_put_zs.F90, aro_surf_diag.F90, aroini_surfa.F90, aroini_surfc.F90, canari_sx_ics.F90, fp2sx1.F90, ini_prep_surfex_aro.F90, prep_stepx.F90, prep_surf_aro.F90

mse/internals

aroinit_io_surf_n.F90, correct_time_flake.F90, correct_time_isba.F90, correct_time_sea.F90, correct_time_surf.F90, correct_time_teb.F90, correct_time_wat.F90

mse/programs	driver_off_omp.F90, offline.F90, oi_main.F90, pgd.F90, prep.F90
surfex/ASSIM	assim_inland_watern.F90, assim_isba_update_snow.F90, assim_isban.F90, assim_nature_isba_ekf.F90, assim_nature_isba_oi.F90, assim_naturen.F90, assim_read_sst_from_file.F90, assim_sean.F90, assim_surf_atmn.F90, assim_tebn.F90, assim_townn.F90, default_assim.F90, ini_assim.F90, modd_assim.F90, modn_assim.F90, oi_acsolw.F90, oi_bc_soil_moisture.F90, oi_cacsts.F90, oi_cavegi.F90, oi_control.F90, oi_fctveg.F90, oi_hor_extrapol_surf.F90, oi_jacobians.F90, oi_kalman_gain.F90, oi_latlon_conf_proj.F90, oi_tsl.F90, read_assim_conf.F90, read_namelists_assim.F90
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open_namelist.F90, open_namelist_asc.F90, open_namelist_fa.F90, pack_ch_isba_patchn.F90,
pack_diag_patch_get_sizen.F90, pack_diag_patchn.F90, pack_grid.F90, pack_grid_gauss.F90,
pack_isba_patch_get_sizen.F90, pack_isba_patchn.F90, pack_pgd.F90, pack_pgd_isba.F90,
pack_pgd_seaflux.F90, pack_pgd_soil.F90, pack_same_rank.F90, permafrost_depth.F90,
pgd_bathyfield.F90, pgd_bem_par.F90, pgd_chemistry.F90, pgd_chemistry_snap.F90, pgd_cover.F90,
pgd_dummy.F90, pgd_ecoclimap2_data.F90, pgd_field.F90, pgd_flake.F90, pgd_frac.F90, pgd_grid.F90,
pgd_grid_io_init.F90, pgd_grid_surf_atm.F90, pgd_inland_water.F90, pgd_isba.F90, pgd_isba_par.F90,
pgd_nature.F90, pgd_orography.F90, pgd_sea.F90, pgd_seaflux.F90, pgd_seaflux_par.F90,
pgd_surf_atm.F90, pgd_teb.F90, pgd_teb_garden_par.F90, pgd_teb_greenroof.F90,
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prep_ctrl_seaflux.F90, prep_ctrl_surf_atm.F90, prep_ctrl_teb.F90, prep_ctrl_watflux.F90, prep_flake.F90,
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prep_hor_seaflux_field.F90, prep_hor_snow_field.F90, prep_hor_snow_fields.F90, prep_hor_teb_field.F90,
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prep_ver_teb_garden.F90, prep_ver_teb_greenroof.F90, prep_ver_watflux.F90, prep_watflux.F90,
prep_watflux_extern.F90, prep_watflux_sbl.F90, pt_by_pt_treatment.F90, put_in_time.F90,
put_rad_sean.F90, put_rad_watn.F90, put_sfxcpln.F90, put_zs_inland_watn.F90, put_zs_naturen.F90,
put_zs_sean.F90, put_zs_surf_atmn.F90, put_zs_townn.F90, put_zsn.F90, radiative_transfert.F90,
read_all_namelist.F90, read_and_send_mpi.F90, read_arrange_cover.F90, read_ascllv.F90, read_binllv.F90,
read_binllvfast.F90, read_bld_descriptionn.F90, read_buffer.F90, read_cover_garden.F90, read_covern.F90,
read_covers_param.F90, read_csvdata_teb.F90, read_default_dst.F90, read_default_flaken.F90,

read_default_idealn.F90, read_default_isban.F90, read_default_seafluxn.F90, read_default_slt.F90,
read_default_surf_atm.F90, read_default_surf_atmn.F90, read_default_teb_vegn.F90, read_default_tebn.F90,
read_default_watfluxn.F90, read_direct.F90, read_direct_gauss.F90, read_dst_conf.F90, read_dummys.F90,
read_eco2_irrig.F90, read_flake_conf.F90, read_flake_date.F90, read_flake_sbln.F90, read_flaken.F90,
read_from_surfex_file.F90, read_gr_snow.F90, read_grid.F90, read_gridtype.F90,
read_gridtype_cartesian.F90, read_gridtype_conf_proj.F90, read_gridtype_gauss.F90,
read_gridtype_ign.F90, read_gridtype_lonlat_reg.F90, read_gridtype_lonlatval.F90, read_ideal_conf.F90,
read_ideal_flux_conf.F90, read_isba_canopyn.F90, read_isba_conf.F90, read_isba_conf.F90,
read_isba_date.F90, read_isban.F90, read_latlon.F90, read_lclim_lai.F90, read_lcover.F90,
read_lecoclimap.F90, read_nam_grid_cartesian.F90, read_nam_grid_conf_proj.F90,
read_nam_grid_gauss.F90, read_nam_grid_ign.F90, read_nam_grid_lonlat_reg.F90,
read_nam_grid_lonlatval.F90, read_nam_gridtype.F90, read_nam_pgd_cover.F90, read_nam_pgd_isba.F90,
read_nam_pgd_orography.F90, read_nam_pgd_teb.F90, read_nam_pgd_teb_greenroof.F90,
read_nam_prep_flaken.F90, read_nam_prep_gardenn.F90, read_nam_prep_greenroofn.F90,
read_nam_prep_isban.F90, read_nam_prep_seafluxn.F90, read_nam_prep_surfn.F90,
read_nam_prep_tebn.F90, read_nam_prep_watfluxn.F90, read_namelists_flaken.F90,
read_namelists_idealn.F90, read_namelists_isban.F90, read_namelists_seafluxn.F90,
read_namelists_surf.F90, read_namelists_surfn.F90, read_namelists_tebn.F90, read_namelists_watfluxn.F90,
read_netcdf.F90, read_oceann.F90, read_pgd_flaken.F90, read_pgd_isba_parn.F90, read_pgd_isban.F90,
read_pgd_seaflux_parn.F90, read_pgd_seafluxn.F90, read_pgd_teb_garden_parn.F90,
read_pgd_teb_gardenn.F90, read_pgd_teb_greenroof_parn.F90, read_pgd_teb_greenroofn.F90,
read_pgd_teb_parn.F90, read_pgd_tebn.F90, read_pgd_tsz0_parn.F90, read_pgd_watfluxn.F90,
read_pre_flake_dat_conf.F90, read_pre_seaf_dat_conf.F90, read_pre_surfa_dat_conf.F90,
read_pre_watf_dat_conf.F90, read_precipn.F90, read_prep_file_date.F90, read_prep_flake_conf.F90,
read_prep_garden_snow.F90, read_prep_greenroof_snow.F90, read_prep_isba_carbon.F90,
read_prep_isba_conf.F90, read_prep_isba_date_conf.F90, read_prep_isba_snow.F90,
read_prep_seaflux_conf.F90, read_prep_surf_atm_conf.F90, read_prep_teb_conf.F90,
read_prep_teb_date_conf.F90, read_prep_teb_garden_conf.F90, read_prep_teb_snow.F90,
read_prep_watflux_conf.F90, read_seaflux_conf.F90, read_seaflux_date.F90, read_seaflux_sbln.F90,
read_seafluxn.F90, read_slt_conf.F90, read_sso_canopyn.F90, read_sson.F90, read_surf.F90,
read_surf_atm_conf.F90, read_surf_atm_conf.F90, read_surf_atm_date.F90, read_surf_isba_parn.F90,
read_teb_canopyn.F90, read_teb_conf.F90, read_teb_date.F90, read_teb_gardenn.F90,
read_teb_greenroofn.F90, read_teb_patch.F90, read_teb_veg_conf.F90, read_tebn.F90,
read_watflux_conf.F90, read_watflux_date.F90, read_watflux_sbln.F90, read_watfluxn.F90, readhead.F90,
readwrite_emis_fieldn.F90, refresh_pgdwork.F90, regular_grid_spawn.F90, road_layer_e_budget.F90,

roof_impl_coef.F90, roof_layer_e_budget.F90, rw_precipn.F90, set_rough.F90, set_sso_levels.F90, set_surfex_filein.F90, snow3L_isba.F90, snow3l.F90, snow_cover_1layer.F90, snowcro.F90, snowcroupgrid.F90, soil.F90, soil_albedo.F90, soil_heatdif.F90, soil_temp_arp.F90, soildif.F90, soilemisonn.F90, soilgrid.F90, soilstress.F90, soiltemp_arp_par.F90, spinup_max.F90, split_grid.F90, sso.F90, sso_be04_frictionn.F90, sso_beljaars04.F90, sso_z0_frictionn.F90, sst_update.F90, stores_hvac_autosize.F90, subscale_aos.F90, subtract_to_date_surf.F90, sum_on_all_procs.F90, sunpos.F90, surf_version.F90, surface_aero_cond.F90, surface_cd.F90, surface_ri.F90, sw_daycycle.F90, teb.F90, teb_garden.F90, teb_morpho.F90, tebgrid.F90, temporal_dists.F90, test_nam_var_surf.F90, test_record_len.F90, thermal_layers_conf.F90, thrmcondz.F90, town_presence.F90, trad_body.F90, treat_bathyfield.F90, treat_field.F90, treat_global_lake_depth.F90, tsz0.F90, unpack_ch_isba_patchn.F90, unpack_diag_patchn.F90, unpack_isba_patchn.F90, unpack_same_rank.F90, unpack_same_rank2.F90, update_data_cover.F90, update_data_fracn.F90, update_esm_flaken.F90, update_esm_isban.F90, update_esm_seafluxn.F90, update_esm_surf_atmn.F90, update_esm_watfluxn.F90, update_rad_isban.F90, update_rad_seawat.F90, urban_drag.F90, urban_exch_coef.F90, urban_fluxes.F90, urban_hydro.F90, urban_lw_coef.F90, urban_snow_evol.F90, urban_solar_abs.F90, utci_approx.F90, utci_teb.F90, veg.F90, veg_from_lai.F90, vegetation_evol.F90, vegetation_update.F90, vegetation_update_garden.F90, vegetation_update_greenroof.F90, vegtype_grid_to_patch_grid.F90, vegtype_to_patch.F90, ver_interp_lin3d_surf.F90, ver_interp_lin_surf.F90, wall_layer_e_budget.F90, water_flux.F90, wet_leaves_frac.F90, wind_threshold.F90, window_data.F90, window_e_budget.F90, window_shading.F90, window_shading_availability.F90, write_bld_descriptionn.F90, write_cover_tex_end.F90, write_cover_tex_isba.F90, write_cover_tex_isba_par.F90, write_cover_tex_start.F90, write_cover_tex_water.F90, write_data.F90, write_diag_ch_aggr.F90, write_diag_ch_snapn.F90, write_diag_flaken.F90, write_diag_inland_watern.F90, write_diag_isban.F90, write_diag_misc_flaken.F90, write_diag_misc_isban.F90, write_diag_misc_tebn.F90, write_diag_naturen.F90, write_diag_pgd_grdnn.F90, write_diag_pgd_isban.F90, write_diag_pgd_tebn.F90, write_diag_seafluxn.F90, write_diag_sean.F90, write_diag_seb_flaken.F90, write_diag_seb_isban.F90, write_diag_seb_oceann.F90, write_diag_seb_seafluxn.F90, write_diag_seb_surf_atmn.F90, write_diag_seb_tebn.F90, write_diag_seb_watfluxn.F90, write_diag_surf_atmn.F90, write_diag_tebn.F90, write_diag_townn.F90, write_diag_watfluxn.F90, write_dst_conf.F90, write_ecoclimap2_data.F90, write_flaken.F90, write_grid.F90, write_gridtype_cartesian.F90, write_gridtype_conf_proj.F90, write_gridtype_gauss.F90, write_gridtype_ign.F90, write_gridtype_lonlat_reg.F90, write_gridtype_lonlatval.F90, write_header_fa.F90, write_inland_watern.F90, write_isban.F90, write_naturen.F90, write_pgd_flaken.F90, write_pgd_inland_watern.F90, write_pgd_isban.F90, write_pgd_naturen.F90, write_pgd_seafluxn.F90, write_pgd_sean.F90, write_pgd_surf_atmn.F90, write_pgd_tebn.F90, write_pgd_townn.F90, write_pgd_watfluxn.F90, write_seafluxn.F90, write_sean.F90, write_surf.F90, write_surf_atmn.F90,

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surfex/TOPD

budget_coupl_rout.F90, coupl_topd.F90, coupling_surf_topd.F90, diag_isba_to_rout.F90, flowdown.F90, init_budget_coupl_rout.F90, init_coupl_topd.F90, init_surf_topd.F90, init_topd.F90, isba_to_topd.F90, isba_to_topdsat.F90, make_mask_isba_to_topd.F90, make_mask_topd_to_isba.F90, modd_budget_coupl_rout.F90, modd_coupling_topd.F90, modd_topd_par.F90, pgd_topd.F90, prep_restart_coupl_topd.F90, read_connex_file.F90, read_file_isbamap.F90, read_file_masktopd.F90, read_nam_topd.F90, read_namelist_topd.F90, read_slope_file.F90, read_topd_file.F90, read_topd_header_connex.F90, read_topd_header_dtm.F90, recharge_surf_topd.F90, restart_coupl_topd.F90, rout_data_isba.F90, routing.F90, sat_area_frac.F90, topd_to_isba.F90, topd_to_isba_slope.F90, topodyn_lat.F90, write_budget_coupl_rout.F90, write_discharge_file.F90, write_file_isbamap.F90, write_file_map.F90, write_file_masktopd.F90, write_file_vecmap.F90

SOKKA Niko

Doc:

=====
Hirlam contribution to CY43 - Ensemble perturbations
=====

GENERAL DESCRIPTION:

This set of modifications constitutes the third part of HIRLAM contributions to the CY43, the ensemble perturbations related modifications only.

All modifications have been merged to the level of cy43main.01 and compiled on the ECMWF's cca platform. On cca it is only verified that the system compiles with the modifications included.

Date and name of Contributor:

*19/04/2016
Jelena Bojarova, Met.no Norway*

Model or configuration affected by the modset:

LAM: harmonie

Context and cycle:

*dev
43_t1*

Type of file/resource to be modified:

Binary, namelist

Description of the set of modifications:

Generation of ensemble perturbations with the structure of the background error covariance for LAM. LBGPERT=TRUE, NBGVECS ensemble members are generated around back-ground with the structure of the B matrix covariance through call to the inverse change of variable. Optionally (LPERTRELAX = TRUE) random perturbations are relaxed towards the host model perturbations on the lateral boundaries. Ensemble boundary perturbations zone is twice as large as one for the control in order to avoid problems due to imbalances close to lateral boundaries. The ensemble of random perturbations can eventually be used to initialise the ensemble run or as an additive noise to maintain the appropriate spread of LAM ensemble.

Details about the provided files:

clearcase branch "sokka_CY43_hirlam_contrib_ensemble_perturbations":

Modified:

*aladin/var/suevargp.F90
arpifs/namelist/namphy3.nam.h
arpifs/namelist/namvar.nam.h
arpifs/ald_inc/namelist/nemvar.nam.h
arpifs/setup/sudyna.F90
arpifs/setup/suoph0.F90
arpifs/module/spectral_fields_mod.F90
arpifs/module/yomlun.F90
arpifs/module/yomoph0.F90
arpifs/module/yomvar.F90
arpifs/module/yomdyna.F90
arpifs/module/yemvargp.F90
arpifs/utility/openfainfo.F90
arpifs/utility/random_ctlvec.F90
arpifs/utility/addbgs.F90
arpifs/var/suvar.F90
arpifs/control/cva1.F90*

Added:

aladin/setup/deall_bdpert.F90

aladin/setup/suebdpert.F90
aladin/module/yembdpert.F90
aladin/utility/create_pert.F90
aladin/utility/read_pert.F90
aladin/utility/ebndgp.F90
arpifs/var/bgpert.F90

=====
Hirlam contribution to CY43 - 4DVAR
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GENERAL DESCRIPTION:

This set of modifications constitutes the fourth part of HIRLAM contributions to the CY43, the 4DVAR related modifications only.

All modifications have been merged to the level of cy43main.01 and compiled on the ECMWF's cca platform. On cca it is only verified that the system compiles with the modifications included.

Date and name of Contributor:

*12/04/2016
Jan Barkmeijer, KNMI The Netherlands
Magnus Lindskog, SMHI Sweden
Ulf Andrae, SMHI Sweden
Ole Vignes, Met.no Norway*

Model or configuration affected by the modset:

LAM: harmonie

Context and cycle:

*dev
43_t1*

Type of file/resource to be modified:

Binary, namelist

Description of the set of modifications:

Changes required to make 4DVAR AROME work.

Details about the provided files:

clearcase branch "sokka_CY43_hirlam_contrib_4DVAR":

Modified:

*arpifs/namelist/namvar.nam.h
arpifs/module/yomvar.F90
arpifs/module/gfl_subs_mod.F90
arpifs/setup/su0phy.F90
arpifs/setup/su_surf_flds.F90
arpifs/obs_preproc/mkglobstab.F90
arpifs/var/savmini.F90
arpifs/var/getmini.F90
arpifs/var/evjcdfi.F90
arpifs/var/suvar.F90
arpifs/var/rdfpinc.F90
arpifs/control/cva1.F90
arpifs/utility/add5to3.F90
arpifs/utility/rdgpfa.F90
arpifs/utility/sbs5to3.F90*

Added:

*arpifs/var/wrchres.F90
arpifs/fullpos/suefp3.F90*

=====
Hirlam contribution to CY43 - HARATU

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GENERAL DESCRIPTION:

This set of modifications constitutes the fifth part of HIRLAM contributions to the CY43, the HARATU related modifications only.

All modifications have been merged to the level of cy43main.01 and tested on the ECMWF's cca platform. On cca it is verified that all the mitraille multi-processor configurations, except the OAGIT failing to SIGFPE already without the HIRLAM modifications, produce the same results with and without the HIRLAM modifications.

Date and name of Contributor:

14/04/2016

Wim de Rooy, KNMI The Netherlands

Model or configuration affected by the modset:

LAM: harmonie

Context and cycle:

dev

43_t1

Type of file/resource to be modified:

Binary, namelist

Description of the set of modifications:

Include switch called LHARATU (HARmonie with RAcmo TURbulence scheme) to run with a turbulence scheme originally developed for RACMO (Regional Atmospheric Climate Model). The length scale of this turbulence scheme is described by Lenderink and Holtslag (QJRM, 2004). Based on the ASTEX intercomparison case and long term verification, this turbulence scheme will increase the top entrainment of the boundary layer in comparison with the default scheme. The

impact on almost all parameters is large. Generally, running with `LHARATU=TRUE` will lead to higher cloud base, less low clouds and fog, lower near surface wind speeds and temperature during night and more smooth (coherent) fields of e.g. cloud cover and precipitation. Time step input for `VDFHGHHTL` is changed from `ZDT` (half time step) to `PDT` (full time step). This change is only relevant for the shallow convection scheme if `CMF_UPDRAFT=DUAL` and for the turbulence scheme if `LHARATU=TRUE`. In the convection scheme this time step influences the mass flux limitation according to the CFL criterion. In the `HARATU` turbulence scheme `PDT` is the correct time step. The `HARATU` scheme is controlled by `HARATU=yes/no` in `sms/config_exp.h`

Details about the provided files:

clearcase branch "sokka_CY43_hirlam_contrib_HARATU":

Modified:

`arpifs/namelist/namparar.nam.h`
`arpifs/module/yomparar.F90`
`arpifs/phys_dmn/apl_arome.F90`
`arpifs/phys_dmn/suparar.F90`
`arpifs/phys_dmn/vdfhghthl.F90`
`arpifs/phys_dmn/vdfhghtnhl.F90`
`arpifs/phys_dmn/suphmpa.F90`
`mpa/turb/externals/aro_turb_mnh.F90`
`mpa/turb/externals/aroini_turb.F90`
`mpa/turb/interface/aro_turb_mnh.h`
`mpa/turb/interface/aroini_turb.h`
`mpa/turb/internals/turb.F90`
`mpa/turb/internals/turb_ver.F90`
`mpa/turb/internals/turb_ver_dyn_flux.F90`
`mpa/turb/internals/turb_ver_sv_flux.F90`
`mpa/turb/internals/turb_ver_thermo_corr.F90`
`mpa/turb/internals/turb_ver_thermo_flux.F90`
`mpa/turb/internals/prandtl.F90`
`mpa/turb/internals/ini_cturb.F90`
`mpa/turb/module/modi_turb_ver_thermo_flux.F90`

mpa/turb/module/modi_turb_ver_thermo_corr.F90
mpa/turb/module/modi_turb_ver_sv_flux.F90
mpa/turb/module/modi_turb_ver_dyn_flux.F90
mpa/turb/module/modi_turb_ver.F90
mpa/turb/module/modi_turb.F90
mpa/turb/module/modd_cturb.F90

Added:

arpifs/phys_dmn/vdfexcuhl.F90

=====
Hirlam contribution to CY43 - OCND2
=====

GENERAL DESCRIPTION:

This set of modifications constitutes the sixth part of HIRLAM contributions to the CY43, the OCND2 related modifications only.

All modifications have been merged to the level of cy43main.01 and tested on the ECMWF's cca platform. On cca it is verified that all the mitraillette multiproc configurations, except the OAGIT failing to SIGFPE already without the HIRLAM modifications, produce the same results with and without the HIRLAM modifications.

Date and name of Contributor:

18/04/2016

Karl-Ivar Ivarsson, SMHI Sweden

Lisa Bengtsson, SMHI Sweden

Model or configuration affected by the modset:

LAM: harmonie

Context and cycle:

dev

43_t1

Type of file/resource to be modified:

Binary, namelist

Description of the set of modifications:

Supplements and updates to the OCND2 scheme, also includes the (correct) inclusion of LGRSN.

Details about the provided files:

clearcase branch "sokka_CY43_hirlam_contrib_OCND2":

Modified:

arpifs/module/yomparar.F90
arpifs/namelist/namparar.nam.h
arpifs/phys_dmn/apl_arome.F90
arpifs/phys_dmn/suparar.F90
mpa/micro/externals/aro_rain_ice.F90
mpa/micro/interface/aro_rain_ice.h
mpa/micro/internals/condensation.F90
mpa/micro/internals/rain_ice.F90
mpa/micro/module/modi_rain_ice.F90

Added:

mpa/micro/internals/icecloud.F90
mpa/micro/internals/tiwmx_tab.F90
mpa/micro/module/modd_tiwmx.F90
mpa/micro/module/modi_icecloud.F90
mpa/micro/module/modi_tiwmx.F90

=====
Hirlam contribution to CY43 - Cubic grid
=====

GENERAL DESCRIPTION:

This set of modifications constitutes the seventh part of HIRLAM contributions to the CY43, the cubic grid related modifications only.

All modifications have been merged to the level of cy43main.01 and tested on the ECMWF's cca platform. On cca it is verified that all the mitraille multi-processor configurations, except the OAGIT failing to SIGFPE already without the HIRLAM modifications, produce the same results with and without the HIRLAM modifications.

Date and name of Contributor:

02/05/2016

Mariano Hortal, AEMET Spain

Model or configuration affected by the modset:

LAM: harmonie

Context and cycle:

dev

43_t1

Type of file/resource to be modified:

Binary, namelist

Description of the set of modifications:

Cubic grid development. Limit for stability, NFOST.

Details about the provided files:

clearcase branch "sokka_CY43_hirlam_contrib_cubic":

Modified:

arpifs/adiab/lattes.F90
arpifs/adiab/lattesad.F90
arpifs/adiab/lattestl.F90
arpifs/adiab/lattex.F90
arpifs/adiab/lattex_dnt.F90
arpifs/adiab/lattex_dnt_ad.F90
arpifs/adiab/gnhd3.F90
arpifs/adiab/cpg_gp.F90
arpifs/adiab/cpg_gpb_nhgeogw.F90
arpifs/adiab/lavent.F90
arpifs/adiab/laventad.F90
arpifs/adiab/laventtl.F90
arpifs/setup/surip.F90
arpifs/setup/sudyn.F90
arpifs/module/yomrip.F90
arpifs/module/yomdyn.F90
arpifs/namelist/namdyn.nam.h
arpifs/namelist/namrip.nam.h

=====
Hirlam contribution to CY43 - Radiation
=====

GENERAL DESCRIPTION:

This set of modifications constitutes the corrected second part of HIRLAM contributions to the CY43, the radiation related modifications only.

Three modifications have been made to the first version of the contribution, mainly in suecrad.F90 where the ACRAWEB scheme is now treated correctly with LHLRADUPD F and T. Now suecrad.F90 follows closely the original logics, but also allows NSW=6 for acraneb2 when LHLRADUPD=T. Small rearrangement in apl_rome.F90 and correction in suswn.F90 retaining RSUN=RSUN2=1 in case of a single band have been made.

All modifications have been merged to the level of cy43main.01 and tested on the ECMWF's cca platform. On cca it is verified that all the mitraille multiproc configurations, except the OAGIT failing to SIGFPE already without the HIRLAM modifications, produce the same results with and without the

HIRLAM modifications.

Date and name of Contributor:

07/05/2016

Laura Rontu, FMI Finland

Emily Gleeson, Met Éireann Ireland

Kristian Pagh Nielsen, DMI Denmark

Model or configuration affected by the modset:

LAM: harmonie

Context and cycle:

dev

43_t1

Type of file/resource to be modified:

Binary, namelist

Description of the set of modifications:

This set introduces a switch LHLRADUPD around recent HIRLAM radiation updates for CY43_main01 and suggests additional minor updates.

src/arpifs/

module

yoew.F90 RSUN2 weights

yomphy.F90 LHLRADUPD switch defined

namelist

namphy.nam.h LHLRADUPD switch defined

phys_dmn

apl_arome.F90 several minor updates, LHLRADUP

aplpar.F90 PFRSDNI output returned
mf_phys.F90 PFRSDNI output returned
suparar.F90 RADS/RADGR tied to LOCND2
phys_radi
radheat.F90 minor updates, LHLRADUP usage
radlsw.F90 documentary comment returned
suecrad.F90 LHLRADUPD usage, RADS/RADGR check for SRTM
suswn.F90 RSUN2 weights initialised
setup
su0phy.F90 LHLRADUPD switch initialised

suecrad.F90:

- Sets the defaults for all IFS radiation definitions. suecrad is called by phys_ec/suphec.F90 , evidently by all users IFS pre-cy32 radiation scheme.

- The suggested modification allows to keep previous ECMWF, MF and harmonie defaults concerning liquid and ice cloud optical properties and modify them via namelist. The variables concerned are:

NLWLIQOPT=2 ! NLIQOPT before 32R1 ECMWF 2 | MF operational 0
NSWLIQOPT=2 ! NLIQOPT before 32R1 ECMWF 2 | MF operational 0
NLWICEOPT=3 ! NICEOPT before 32R1 ECMWF 3 | MF operational 1
NSWICEOPT=3 ! NICEOPT before 32R1 ECMWF 3 | MF operational 1
IF (LHLRADUPD) THEN
NLWLIQOPT=3
NSWLIQOPT=3
ENDIF
NRADIP=3 ! before 32R1 default=3 EC 2 MF
NRADLP=2 ! before 32R1 default=2 EC 2 MF
RRe2De=0.64952_JPRB ! hexagonal crystals for definition of equivalent radius/diameter

For Meteo France:

```
! To return pre-cy32 MF defaults for IFS radiation  
! reset some parameters if SW6 is used  
IF (.NOT.LSRTM) THEN  
NMcICA = 0  
LCCNL = .FALSE.  
LCCNO = .FALSE.  
LDIFFC = .FALSE.  
IF (.NOT.LHLRADUPD) THEN ! MF operational defaults  
NLWICEOPT= 1  
NSWICEOPT= 1  
NLWLIQOPT= 0  
NSWLIQOPT= 0  
NRADIP = 2  
NRADLP = 2  
RRe2De = 0.5_JPRB  
NINHOM = 1  
RLWINHF= 0.7_JPRB  
RSWINHF= 0.7_JPRB  
ENDIF  
ENDIF
```

*Note that NLWICEOPT + NSWICEOPT replace the previous NICEOPT and
NLWLIQOPT + NSWLIQOPT replace the previous NLIQOPT. This means that
formally, the new options should be additionally introduced to the
following routines instead of the old ones:*

```
./arpifs/phys_ec/radlswad.F90  
./arpifs/phys_ec/radlsw.F90  
./arpifs/phys_ec/radlswtl.F90  
./arpifs/phys_ec/radlswr.F90  
./arpifs/phys_dmn/surdi15.F90
```

*This has been done in harmonie-40h1 and the modifications could be taken
from there to cy43 or later.*

- Consistency of RADSN, RADGR used by LOCND2 checked for the case of SRTM, "WITH LRAY OR LSRTM, AVOID RADGR, RADSN > 0" because these variables convert part of precipitating snow and graupel to cloud ice for radiation which may contradict LSRTM/McICA assumptions.

- In addition, LHLRADUPD introduces the possibility to call acraneb2 from apl_arome in the way suggested by the HARMONIE radiation team (using NSW=6 at apl_arome level).

radheat.F90:

- Is called by callparad.F90 (ECMWF 4DVAR, adjoint), by apl_arome and aplpar to calculate radiative heating at each time step.

- When LHLRADUPD=.false., the routine works as already suggested in cy43main when LMSE is true, with LHLRADUPD=.true. it works this way also without SURFEX

apl_arome.F90:

- Updates suggested to apl_arome level do not affect ECMWF. Corresponding updates were not suggested to aplpar.F90, thus ALARO/ARPEGE/ALADIN should not experience any meteorological impact.

- These updates are independent of the cloud optical property defaults given in suecrad (see above).

- Direct beam albedo is redefined using empirical formula by Hannu Savijarvi. This relies on the present status of SURFEX, which does not really provide different values for albidir and albsca. As the difference depends on solar zenith angle, it indeed is not the task of surface parametrizations to make this calculation.

- Spectral average grid-square albedo is calculated using RSUN2 weights valid at the level of 2km in the atmosphere. It is to be

applied for ACRANE2 and HLRADIA (the latter to be introduced later), which use a single solar spectral band.

- For acrane2 call, the old (incorrect) broadband grid-average albedo is applied in case LHLRADUPD=.false. Also, the limitation of NSW=1 is kept for acrane2 in this case.

- In addition to the changes behind the LHLRADUPD switch, minor cleaning (renaming of index variables) is suggested. Rearrangement of code around the LMICRO switch should ensure that also LMICRO=.false. should work correctly.

Details about the provided files:

clearcase branch "sokka_CY43_hirlam_contrib_radiation2":

Modified:

arpifs/namelist/namphy.nam.h

arpifs/module/yoew.F90

arpifs/module/yomphy.F90

arpifs/phys_radi/radheat.F90

arpifs/phys_radi/radlsw.F90

arpifs/phys_radi/suecrad.F90

arpifs/phys_radi/suswn.F90

arpifs/phys_dmn/mf_phys.F90

arpifs/phys_dmn/apl_arome.F90

arpifs/phys_dmn/aplpar.F90

arpifs/phys_dmn/suparar.F90

arpifs/setup/su0phy.F90

Projects: aladin, arpifs, mpa, odb, satrad, surfex, trans, utilities

Git branch: gco_CY43_t1.01%sokka_hirlam_contrib

Added:

aladin/module

yembdpert.F90

aladin/setup

deall_bdpert.F90, suebdpert.F90

aladin/utility
arpifs/fullpos
arpifs/phys_dmn
arpifs/var
mpa/micro/internals
mpa/micro/module
odb/dcl.CCMA
odb/dcl.ECMA
odb/dcl
utilities/mten/module
utilities/mten/programs
utilities/mten/src

create_pert.F90, ebandgp.F90, read_pert.F90
suefpg3.F90
vdfexcuhl.F90
bgpert.F90, wrchres.F90
icecloud.F90, tiwmx_tab.F90
modd_tiwmx.F90, modi_icecloud.F90, modi_tiwmx.F90
obsmon_conv.sql, obsmon_conv2.sql, obsmon_sat.sql
obsmon_conv.sql, obsmon_conv2.sql, obsmon_sat.sql
obsmon_conv.sql, obsmon_conv2.sql, obsmon_sat.sql
mod_aladin.F90, mod_geopotential.F90, mod_myfrtprof.F90, mod_spectral.F90, mod_utils.F90
mten.F90
afread.F90, compute_tmen.F90, get_alacadre.F90, print_fgheader.F90, qtorh.F, read_alafields.F90,
read_alafields_ref.F90, read_alaheader.F90, sevinitenv.F90, sevtermenv.F90, tabdef.F

Modified:

aladin/programs
aladin/setup
aladin/var
arpifs/adiab

arpifs/ald_inc/namelist
arpifs/control
arpifs/dfi
arpifs/module

arpifs/namelist

arpifs/obs_preproc
arpifs/phys_dmn

blend.F90, blendsur.F90
suect0.F90
suevargp.F90
cpg_gp.F90, cpg_gpb_nhgeogw.F90, gnhd3.F90, lattes.F90, lattesad.F90, lattestl.F90, lattex.F90,
lattex_dnt.F90, lattex_dnt_ad.F90, lavent.F90, laventad.F90, laventl.F90
nemct0.nam.h, nemvar.nam.h
cnt3.F90, cva1.F90
dfi2.F90, dfi3.F90
gfl_subs_mod.F90, spectral_fields_mod.F90, yemct0.F90, yemvargp.F90, yoesw.F90, yomdyn.F90,
yomdyna.F90, yomlun.F90, yomoph0.F90, yomparar.F90, yomphy.F90, yomrip.F90, yomvar.F90
namdyn.nam.h, namfpc.nam.h, namparar.nam.h, namphy.nam.h, namphy3.nam.h, namrip.nam.h,
namvar.nam.h, namxfu.nam.h
flgtst.F90, mkglobstab.F90
acnpart.F90, apl_arome.F90, aplpar.F90, mf_phys.F90, suparar.F90, suphmpa.F90, vdfhghthl.F90,
vdfhghtnhl.F90, vdfparcelhl.F90

arpifs/phys_radi	radheat.F90, radlsw.F90, suecrad.F90, suswn.F90
arpifs/pp_obs	apache.F90
arpifs/setup	su0phy.F90, su_surf_flds.F90, sudyn.F90, sudyna.F90, suoph0.F90, surip.F90, suxfu.F90
arpifs/utility	add5to3.F90, addbgs.F90, openfainfo.F90, random_ctlvec.F90, rdgpfa.F90, sbs5to3.F90
arpifs/var	evjcdfi.F90, getmini.F90, rdfpinc.F90, savmini.F90, suvar.F90
mpa/micro/externals	aro_rain_ice.F90
mpa/micro/interface	aro_rain_ice.h
mpa/micro/internals	condensation.F90, rain_ice.F90
mpa/micro/module	modi_rain_ice.F90
mpa/turb/externals	aro_turb_mnh.F90, aroini_turb.F90
mpa/turb/interface	aro_turb_mnh.h, aroini_turb.h
mpa/turb/internals	ini_cturb.F90, prandtl.F90, turb.F90, turb_ver.F90, turb_ver_dyn_flux.F90, turb_ver_sv_flux.F90, turb_ver_thermo_corr.F90, turb_ver_thermo_flux.F90
mpa/turb/module	modd_cturb.F90, modi_turb.F90, modi_turb_ver.F90, modi_turb_ver_dyn_flux.F90, modi_turb_ver_sv_flux.F90, modi_turb_ver_thermo_corr.F90, modi_turb_ver_thermo_flux.F90
strad/emiss	emiskf_alloc_read_input.F90
surfex/ASSIM	assim_isba_update_snow.F90
trans/module	trltog_mod.F90
utilities/pearome	addpearp.F90

Doc:

Remove occurrences of NFOST in YOMDYNA and SUDYNA .

Projects: arpifs

Git branch: sokka_CY43_hirlam_bugfix_cubic

Modified:

arpifs/module	yomdyna.F90
arpifs/setup	sudyna.F90

Doc:

This set of modifications constitutes the first part of HIRLAM contributions to the CY43, more contributions will be delivered later in separate patches.

All modifications have been merged to the level of cy43main.01 and tested on the ECMWF's cca platform. On cca it is verified that all the mitraille multi-processor configurations, except the OAGIT failing to SIGFPE already without the HIRLAM modifications, produce the same results with and without the HIRLAM modifications.

=====

Date and name of Contributor:

19/10/2015

Lisa Bengtsson, SMHI Sweden

Model or configuration affected by the modset:

LAM: harmonie

Context and cycle:

dev

43_t1

Type of file/resource to be modified:

Binary, namelist

Description of the set of modifications:

Description: -With LLCRIT=TRUE the critical condensation threshold in the Sundquist parameterization for precipitation generation is described as a function of temperature at the lifting condensation level. For lower temperatures the threshold is lower as it was reasoned that precipitation production is likely to be favored by active ice-phase processes, so that when cloud-base temperature is close to freezing point, precipitation is possible with relatively shallow convective clouds (Kain and Fritsch, 1990). This type of phenomena is particularly evident in predictions of "lake-effect snow" (e.g., Niziol et al. 1995) and simulations in MetCoOp?? has benefited from the new parameterization when precipitation (snow) falls over sea and near the coast from relatively shallow convection.

Details about the provided files:

clearcase branch "sokka_CY43_hirlam_contrib_part1":

Modified:

*arpifs/module/yomparar.F90
arpifs/namelist/namparar.nam.h
arpifs/phys_dmn/vdfparcelhl.F90
arpifs/phys_dmn/suparar.F90*

=====

Date and name of Contributor:

*19/11/2014
Ulf Andrae, SMHI Sweden*

Model or configuration affected by the modset:

LAM: aladin, alaro, arome, harmonie

Context and cycle:

*dev
43_t1*

Type of file/resource to be modified:

Binary

Description of the set of modifications:

FEMARS for LAM. Enable creating forecast differences with NAMVAR/LFEMARS=T. In case of Q in gridpoint space set NEMCT0/L_GPQ_DIFF=T.

Details about the provided files:

clearcase branch "sokka_CY43_hirlam_contrib_part1":

Modified:

aladin/setup/suect0.F90

arpifs/ald_inc/namelist/nemct0.nam.h

arpifs/control/cnt3.F90

arpifs/module/yemct0.F90

=====

Date and name of Contributor:

22/03/2015

Ulf Andrae, SMHI Sweden

Model or configuration affected by the modset:

LAM: aladin, alaro, arome, harmonie

Context and cycle:

dev

43_t1

Type of file/resource to be modified:

Binary

Description of the set of modifications:

Fullpos fix for RH interpolation. Add FPRHMAX to NAMFPC to allow supersaturated RH. Final value of FPRHMAX to be settled Correct inconsistency in RH limits in apache.F90.

Details about the provided files:

clearcase branch "sokka_CY43_hirlam_contrib_part1":

Modified:

arpifs/namelist/namfpc.nam.h

arpifs/pp_obs/apache.F90

=====

Date and name of Contributor:

12/10/2015

Ulf Andrae, SMHI Sweden

Model or configuration affected by the modset:

LAM: aladin, alaro, arome, harmonie

Context and cycle:

dev

43_t1

Type of file/resource to be modified:

Binary

Description of the set of modifications:

Add missing variable LGUSTBYPOS.

Details about the provided files:

clearcase branch "sokka_CY43_hirlam_contrib_part1":

Modified:

arpifs/namelist/namxfu.nam.h

=====

Date and name of Contributor:

19/05/2015

Trygve Aspeli, met.no Norway

Model or configuration affected by the modset:

LAM: aladin, alaro, arome, harmonie

Context and cycle:

dev

43_t1

Type of file/resource to be modified:

Binary

Description of the set of modifications:

Customizing Blend.

Details about the provided files:

clearcase branch "sokka_CY43_hirlam_contrib_part1":

Modified:

aladin/programs/blend.F90

aladin/programs/blendsur.F90

=====
Date and name of Contributor:

09/02/2015

Trygve Aspelien, met.no Norway

Model or configuration affected by the modset:

LAM: harmonie

Context and cycle:

dev

43_t1

Type of file/resource to be modified:

Binary

Description of the set of modifications:

Observation monitoring as used in Harmonie.

Details about the provided files:

clearcase branch "sokka_CY43_hirlam_contrib_part1":

Added:

odb/ddl.CCMA/mandalay.sql

odb/ddl.CCMA/obsmon_conv.sql

odb/ddl.CCMA/obsmon_conv2.sql

odb/ddl.CCMA/obsmon_sat.sql

odb/ddl.ECMA/mandalay.sql

*odb/ddl/ECMA/obsmon_conv.sql
odb/ddl/ECMA/obsmon_conv2.sql
odb/ddl/ECMA/obsmon_sat.sql
odb/ddl/mandalay.sql
odb/ddl/obsmon_conv.sql
odb/ddl/obsmon_conv2.sql
odb/ddl/obsmon_sat.sql*

=====

Date and name of Contributor:

*18/06/2015
Lisa Bengtsson, SMHI Sweden*

Model or configuration affected by the modset:

LAM: aladin, alaro, arome, harmonie

Context and cycle:

*dev
43_t1*

Type of file/resource to be modified:

Binary

Description of the set of modifications:

Corrections and cleaning of maximum random overlap calculations. Avoid division of 0/0 leading to erroneous results Unify apl_aron/aplpar calculations and remove obsolete compute_neb.F90.

Details about the provided files:

clearcase branch "sokka_CY43_hirlam_contrib_part1":

Modified:

arpifs/phys_dmn/acnpart.F90

arpifs/phys_dmn/apl_arome.F90

arpifs/phys_dmn/aplpar.F90

Removed:

arpifs/phys_dmn/compute_neb.F90

=====

Date and name of Contributor:

28/05/2014

Roger Randriamampianina, Met.no Norway

Model or configuration affected by the modset:

LAM: aladin, alaro, arome, harmonie

Context and cycle:

dev

43_t1

Type of file/resource to be modified:

Binary

Description of the set of modifications:

Calculation of moist total energy norm.

Details about the provided files:

clearcase branch "sokka_CY43_hirlam_contrib_part1":

Added:

*utilities/mten/module/mod_aladin.F90
utilities/mten/module/mod_geopotential.F90
utilities/mten/module/mod_myfrtprof.F90
utilities/mten/module/mod_spectral.F90
utilities/mten/module/mod_utils.F90
utilities/mten/programs
utilities/mten/programs/mten.F90
utilities/mten/src
utilities/mten/src/afread.F90
utilities/mten/src/compute_tmen.F90
utilities/mten/src/get_alacadre.F90
utilities/mten/src/print_fgheader.F90
utilities/mten/src/qtorh.F
utilities/mten/src/read_alafields.F90
utilities/mten/src/read_alafields_ref.F90
utilities/mten/src/read_alahheader.F90
utilities/mten/src/sevinitenv.F90
utilities/mten/src/sevtermenv.F90
utilities/mten/src/tabdef.F*

=====

Date and name of Contributor:

30/11/2015

Model or configuration affected by the modset:

LAM: aladin, alaro, arome, harmonie

Context and cycle:

dev
43_t1

Type of file/resource to be modified:

Binary

Description of the set of modifications:

DFI corrections for non-hydrostatic runs. Both fdfi and idfi should work for both Arome and Alaro now.

Details about the provided files:

clearcase branch "sokka_CY43_hirlam_contrib_part1":

Modified:

arpifs/dfi/dfi2.F90

arpifs/dfi/dfi3.F90

arpifs/setup/suxfu.F90

=====

Date and name of Contributor:

25/10/2015

Mariken Homleid, Met.no Norway

Model or configuration affected by the modset:

LAM: aladin, alaro, arome, harmonie

Context and cycle:

dev

43_t1

Type of file/resource to be modified:

Binary

Description of the set of modifications:

Correct snow assimilation.

Details about the provided files:

clearcase branch "sokka_CY43_hirlam_contrib_part1":

Modified:

surfex/ASSIM/assim_isba_update_snow.F90

=====

Date and name of Contributor:

24/01/2015

Sami Saarinen, FMI Finland

Niko Sokka, FMI Finland

Model or configuration affected by the modset:

LAM: aladin, alaro, arome, harmonie

Context and cycle:

dev

43_t1

Type of file/resource to be modified:

Binary

Description of the set of modifications:

Radar assimilation fix, protected against volatile use of IPOS+1 in radar reflectivity (NVNUMB(74)).

Details about the provided files:

clearcase branch "sokka_CY43_hirlam_contrib_part1":

Modified:

arpifs/obs_preproc/flight.F90

=====

Date and name of Contributor:

10/04/2016

Niko Sokka, FMI Finland

Model or configuration affected by the modset:

LAM: aladin, alaro, arome, harmonie

Context and cycle:

dev

43_t1

Type of file/resource to be modified:

Binary

Description of the set of modifications:

Unwanted DOS style carriage returns, control-Ms, removed.

Details about the provided files:

clearcase branch "sokka_CY43_hirlam_contrib_part1":

Modified:

arpifs/namelist/namphy3.nam.h

satrad/emiss/emiskf_alloc_read_input.F90

trans/module/trltog_mod.F90

utilities/pearome/addpearp.F90

Projects: aladin, arpifs, odb, satrad, surfex, trans, utilities

Git branch: sokka_CY43_hirlam_contrib_part1

Added:

odb/ddl.CCMA	obsmon_conv.sql, obsmon_conv2.sql, obsmon_sat.sql
odb/ddl.ECMA	obsmon_conv.sql, obsmon_conv2.sql, obsmon_sat.sql
odb/ddl	obsmon_conv.sql, obsmon_conv2.sql, obsmon_sat.sql
utilities/mten/module	mod_aladin.F90, mod_geopotential.F90, mod_myfrtprof.F90, mod_spectral.F90, mod_utils.F90
utilities/mten/programs	mten.F90
utilities/mten/src	afread.F90, compute_tmen.F90, get_alacadre.F90, print_fgheader.F90, qtorh.F, read_alafields.F90, read_alafields_ref.F90, read_alaheader.F90, sevinitenv.F90, sevtermenv.F90, tabdef.F

Modified:

aladin/programs	blend.F90, blendsur.F90
aladin/setup	suct0.F90
arpifs/ald_inc/namelist	nemct0.nam.h
arpifs/control	cnt3.F90
arpifs/dfi	dfi2.F90, dfi3.F90
arpifs/module	yemct0.F90, yomparar.F90
arpifs/namelist	namfpc.nam.h, namparar.nam.h, namphy3.nam.h, namxfu.nam.h

arpifs/obs_preproc

arpifs/phys_dmn

arpifs/pp_obs

arpifs/setup

satrad/emiss

surfex/ASSIM

trans/module

utilities/pearome

flgtst.F90

acnpart.F90, apl_arome.F90, aplpar.F90, suparar.F90, vdfparcelhl.F90

apache.F90

suxfu.F90

emiskf_alloc_read_input.F90

assim_isba_update_snow.F90

trltog_mod.F90

addpearp.F90

SPANIEL Oldrich

Doc:

Fix for "frodo" (from Philippe Marguinaud).

Projects: utilities

Git branch: spaniel_CY43_alaro

Modified:

utilities/pinuts/module

fa_cadre_mod.F90

TAILLEFER Francoise

Doc:

1. *Debug to allow global surfex runs. Associated cleanings in the surface setup.*
2. *Debug for lfi/fa tools (global grid case mainly).*
3. *Debug M1QN3 minimisor (global arrays phasing).*
4. *Numerical security activation in acdragl ad/tl whatever LGWDSPNL is set to.*
5. *Canari prints cleaning.*

NO NUMERICAL IMPACT IS EXPECTED.

Projects: algor, arpifs, mse

Git branch: taillefer_CY43_phas42

Modified:

algor/external/minim	m1qn3.F
algor/internal/minim	m1qn3a.F, mlis0.F
arpifs/canari	cacsts.F90, capotx.F90, castas.F90
arpifs/control	cva2.F90
arpifs/phys_dmn	acdraglad.F90, acdragltl.F90
arpifs/setup	su_surf_flds.F90, sudimf1.F90, sugridf.F90
mse/externals	aro_ground_diag.F90, aroini_surfb.F90
mse/interface	sxfagrok.h
mse/internals	sxfagrok.F90
mse/new	sxfafa2lfi.F90, sfxlfi2fa.F90

YESSAD Karim

Doc:

Update namelists for "mitraillette" for pre-cycle CY43T1 .

Projects: mitraille

Git branch: gco_CY43_t1.01%yessad_namelists_mitraille

Modified:

mitraille/namelist

namg_4hex, namg_4hey, namg_4hlx, namg_4hly, namg_4hlz, namg_5hex, namg_5hey, namg_5hlx,
namg_5hly, namg_5hlz, namg_6hex, namg_6hex_adiab, namg_6hlx, namg_6hlx_adiab, namg_aney,
namg_anly, namg_ansy, namg_fila, namg_filb, namg_fpla, namg_fplb, namg_mney, namg_mnly,
namg_mnsy, naml_aa1t_e001_lacealoro, naml_aa1t_e001_lacealoro_mix, naml_aa1t_e001_lacealoro_old,
naml_ac1t_e001_sl2, naml_ac1u_e001_nh_sl2, naml_ag1t_e001_fr_oper, naml_agit_e001_idfi,
naml_ah4e_e401_eul, naml_ah4t_e401_sl2, naml_ah5e_e501_eul, naml_ah5t_e501_sl2,
naml_ah6e_e601_eul_physb, naml_ah6t_e601_sl2_physb, naml_ahut_e001_sl2, naml_ai1t_e001_hl,
naml_an1e_e001_nhsad_d4_eul, naml_an1s_e001_nhsad_d4_sl3, naml_an1t_e001_nhsad_d4_sl2,
naml_an2s_e001_nh2dm_d4_sl3, naml_an2t_e001_nh2dm_d4_sl2, naml_ar1t_e001_hyd,
naml_ar1t_e001_hydmad, naml_ar1t_e001_pcc, naml_ar1t_e001_pccmad, naml_ar1t_e001_pccmad_adiab,
naml_ar1t_e001_pccmadios, naml_ar1t_e001_pcf, naml_arut_e001_sl2, sel_ag1t_exseg1, sel_ahfe_exseg1,
sel_ar1t_exseg1, sel_arut_exseg1, vv_complete_physics_arome

Doc:

1) Bugfixes on top of CY43_t1.02 .

2) Update mitraillette environnement.

NO NUMERICAL IMPACT IS EXPECTED.

Projects: arpifs, mitraille

Git branch: yessad_CY43_t1V02cor

Modified:

arpifs/module	yomdyna.F90
arpifs/setup	sudyna.F90
mitraille/doc	history_difnam

Doc:

A new version of MITRAILLETTE (v072016) is now available.

Modifications since v012016:

- *Compliance with V8.0 of SURFEX*
- *Increase some values in file 'config'*
- *Make 'config' cycle-dependent in order to allow change of versions for RRTM and ECOCLIMAP files.*
- *Remove references to variable LRNHCI, and remove some obsolete or useless NH configurations.*
- *Use conf 903 for some off-line FULLPOS configurations.*
- *Run FPFA and FPFB with LSLAG=F.*
- *Use a more recent file (Dx=1300m) for AHME and ARIT.*

Projects: mitraille

Git branch: yessad_CY43_t1V05cor

Renamed:

mitraille/namelist	naml_ahfe_e001_fp_gri1 mitraille/namelist/naml_ahfe_e903_fp_gri1, naml_ahfe_e001_fp_gri2 mitraille/namelist/naml_ahfe_e903_fp_gri2, naml_ahfe_e001_fp_lal mitraille/namelist/naml_ahfe_e903_fp_lal, naml_ahfe_e001_fp_lam1 mitraille/namelist/naml_ahfe_e903_fp_lam1, naml_ahfe_e001_fp_lam2 mitraille/namelist/naml_ahfe_e903_fp_lam2, naml_ahfe_e001_fp_mod mitraille/namelist/naml_ahfe_e903_fp_mod
mitraille/protojobs	jobl_ahfe_e001_fp_gri1 mitraille/protojobs/jobl_ahfe_e903_fp_gri1, jobl_ahfe_e001_fp_gri2 mitraille/protojobs/jobl_ahfe_e903_fp_gri2, jobl_ahfe_e001_fp_lal mitraille/protojobs/jobl_ahfe_e903_fp_lal, jobl_ahfe_e001_fp_lam1 mitraille/protojobs/jobl_ahfe_e903_fp_lam1, jobl_ahfe_e001_fp_lam2 mitraille/protojobs/jobl_ahfe_e903_fp_lam2, jobl_ahfe_e001_fp_mod mitraille/protojobs/jobl_ahfe_e903_fp_mod

Added:

mitraille/protojobs/beaufix

config_CY43T1, config_CY44

Modified:

mitraille/doc

doc_mitraillette.pdf, history_difnam

mitraille/namelist

aainfo, namg_anly, namg_fpfa, namg_fpfb, namg_fpga, namg_fpsa, namg_mnly,
naml_ahme_e001_fp_lamars, naml_anlt_e001_nhsad_d4_sl2, naml_arlt_e001_hyd,
naml_arlt_e001_hydmad, naml_arlt_e001_pcc, naml_arlt_e001_pccmad, naml_arlt_e001_pccmad_adiab,
naml_arlt_e001_pccmadios, naml_arlt_e001_pcf, sel_arlt_0, sel_arlt_3, sel_arlt_exseg1,
sel_axsy_makepgd_fa_arome_frangp

mitraille/pro_file

PRO_FILE.currentcycle_aldmonoref, PRO_FILE.currentcycle_aldmultiref,
PRO_FILE.currentcycle_armonoref, PRO_FILE.currentcycle_arpmultiref

mitraille/procedure

mitraillette.x

mitraille/protojobs

aainfo, config, memtable, timetable, jobg_anly, jobg_fpla, jobg_fplb, jobg_mnly, jobl_aglt_e001_fr_oper,
jobl_ah9e_e927_fp_aru, jobl_ahme_e001_fp_lamars, jobl_anlt_e001_nhsad_d4_sl2, jobl_arlt_e001_oper,
jobl_axsy_makepgd

mitraille/protojobs/beaufix

config, memtable, timetable