

ARPEGE MEMORANDUM

From: GCO
Date: Jul 10, 2014
Subject: New cycle CY41

A new cycle CY41 has been created. This is a common cycle with ECMWF. The different contributions for this cycle are described in the following pages.

Contributors:

BOCHENEK Bogdan	bochenek_CY40T1_phasing
BOGATCHEV Andrey	bogat_CY40T1_moops
BROUSSEAU Pierre	brousseau_CY40T1_mrpm613_IAU
CEBRON Pierrick	cebron_CY40T1_combiHR
CHAMBON Philippe	chambonp_CY40T1_saphirQC
DESROZIERS Gerald	desroz_CY40T1_wtmp_rtmp_cutoffs2
EL KHATIB Ryad	khatib_CY40T1_bator132 khatib_CY40T1_r2.02%pre41 khatib_CY40T1_r2.03%cleanfix khatib_CY40T1_r2.03%iargc khatib_CY40T1_r2.06%ecfix khatib_CY40T1_r2.09%mrg khatib_CY40T1_r2.10%modset
GCO	gco_CY40T1_bf gco_CY40T1_bogat_moops gco_CY40T1_fix_rttov_intfb gco_CY40T1_gfortran gco_CY40T1_ifort gco_CY40T1_r2 gco_CY40T1_r2.10%oops gco_CY40T1_rttov gco_CY40_r2bf
JIDANE Mohamed	jidane_CY40T1_cy41
MARGUINAUD Philippe	marguina_CY40T1_op1pm
MARY Alexandre	mary_CY40T1_report_encaps_ald
MEUNIER Louis-Francois	meunierlf_CY40T1_ad_bf1 meunierlf_CY40T1_bf_ts_sink meunierlf_CY40T1_merge_conflicts1 meunierlf_CY40T1_ssmis_solar_coszen_calc meunierlf_CY40T1_varbc_arome_top
PAYAN Christophe	payan_CY40T1_r2v03_amv-ahi
PIRIOU Jean-Marcel	piriou_CY40T1_dbg16
SEITY Yann	seity_CY40T1_bf_physaro_for41 seity_CY40T1_bf_prep
TAILLEFER Françoise	taillefer_CY40T1_ezo taillefer_CY40T1_phas
VOITUS Fabrice	voitus_CY40T1_IZONE_BIS
YESSAD Karim	yessad_CY40T1_merge001 yessad_CY40T1_merge002 yessad_CY40T1_merge003

BOCHENEK Bogdan

Doc:

ALADIN phasing on pre-cycle CY41 .

Projects: aladin

Git branch: bochenek_CY40T1_phasing

Added:

aladin/transform etransinvh_oops.F90

Modified:

aladin/control espcm.F90

aladin/fullpos fpezone.F90, sufpezo.F90

aladin/interpol elascaw.F90, elascawtl.F90

aladin/setup sueinif.F90

aladin/transform etransdir_mdl.F90, etransdir_mdlad.F90,
etransinv_jbtomodel.F90, etransinv_jbtomodelad.F90,
etransinv_mdl.F90, etransinv_mdlad.F90, euvgeovd.F90,
evduvgeo.F90

aladin/utility cchien.F90, deello.F90, espconvert.F90, euvcopy.F90

aladin/var ebalnonlin.F90, ebalomega.F90, ecosjr.F90, ecvaru2i.F90,
ecvaru2iad.F90, edog.F90, efill_isotropic.F90, ejghcor.F90,
ejghcori.F90, escaljgs.F90, evarjk.F90, evarjkad.F90,
evarjkini.F90, ewrlsgrad.F90, suejbbal.F90,
suejbbalbeta.F90, suejbcor.F90, suejbcosu.F90,
suejbcov.F90, suejbdat96.F90, suejbstd.F90, suejbstest.F90,
suejknorm.F90, suelges.F90, suelljk.F90, suemodjk.F90,
suescal.F90, suevargp.F90

aladin/wavelet ejbwav_cv2wav.F90, ejbwav_gp2wav.F90, ejbwav_h2v.F90,
ejbwav_v2h.F90, ejbwav_vcori.F90, ejbwav_wav2cv.F90,
ejbwav_wav2gp.F90, suejbwav_read_eigvec.F90,
suejbwav_read_sigmab.F90, suejbwavalloc.F90

BOGATCHEV Andrey

Doc:

Introducing of the new structures in five ALADIN modules: YEMDIM, YEMDYN, YEMGEO, YEMGSL and YEMMP. Modifications of the all related routines, introducing ASSOCIATE and END ASSOCIATE in them, Part of the structures, which have to be read from namelist are not in ASSOCIATE descriptions, but described explicitly like pointers, for instance: NBZONL=>YREDIM%NBZONL. Structure elements, which should be allocated are presented with the name of structure and it's element. Some tests were performed with binary obtained with the modset - ALADIN with full physics, and AROME - multiple tests from mitraillette. The results are identical with the tests made by Boryana Tsenova with version 05 of precycle, so one can conclude, that the modset is numerically neutral.

Projects: aladin, arpifs

Git branch: bogat_CY40T1_moops

Modified:

aladin/adiab	elarche.F90, elarche5.F90, elarchead.F90, elarchetl.F90, espchor.F90, espchorad.F90, espcsi.F90, espnhsi.F90, espnhsi_geogw.F90
aladin/c9xx	eincli1.F90, eincli10.F90, eincli2.F90, eincli3.F90, eincli4.F90, eincli6.F90, eincli8.F90, eincli9.F90, einter0.F90, einter1.F90, einter10.F90, einter2.F90, einter6.F90, einter8.F90, elislap.F90
aladin/control	espcm.F90
aladin/coupling	eseimpls.F90, eseimplsad.F90
aladin/dia	espnormb.F90, ewmovph.F90
aladin/fullpos	suefpg3.F90, sufpezo.F90
aladin/parallel	egathereigmd.F90
aladin/programs	holo.F90, unholo.F90
aladin/setup	elsac.F90, suedim.F90, suedyn.F90, suegem1b.F90, suegem2.F90, suegem_naml.F90, suehdf.F90, sueheg.F90, suelap.F90, sueldynb.F90, suemetric.F90, suemp.F90, suempvar.F90, suenhheg.F90, suetrans.F90
aladin/utility	cchien.F90, deello.F90, espereord.F90
aladin/var	ebalbeta.F90, ebalbetaad.F90, ebalnonlin.F90, ebalnonlinad.F90, ebalnonlintl.F90, ebalomega.F90, ebalomegaad.F90, ebalomegatl.F90, edog.F90, suejbbalbeta.F90, suejbcor.F90, suejbcosu.F90
arpifs/adiab	cpeuldyn.F90, cpeuldynad.F90, cpeuldyntl.F90, gpvcmus.F90, lapinea.F90, lapinea5.F90, lapineaad.F90, lapineatl.F90, lapineb.F90, lapinebad.F90, lapinebtl.F90, lasure.F90
arpifs/c9xx	eadd_pert_sst.F90, inclitc.F90, relspe.F90
arpifs/canari	canali.F90
arpifs/climate	cormass3a.F90, cormass3b.F90
arpifs/control	cnt0.F90, cnt4.F90, cnt4ad.F90, cnt4tl.F90
arpifs/dfi	dfi3.F90, dolfil.F90, smpfil.F90
arpifs/dia	wrspeca_compress_mt.F90
arpifs/fullpos	sufpd.F90, sufpg.F90, sufpg2.F90, sufpsuw.F90,

arpifs/interpol	sufpwfdbuf.F90, suprocfp_dep.F90
arpifs/io_serv	slcset.F90
arpifs/module	io_serv_suiosctmpl.F90
	diwrspec_mod.F90, elbc0b_mod.F90, spgeom_mod.F90, yemdim.F90, yemdyn.F90, yemgeo.F90, yemgsl.F90, yemmp.F90
arpifs/obs_preproc	mkglobstab.F90, obatabs.F90
arpifs/parallel	disspec0.F90
arpifs/phys_dmn	actkecoefkh.F90, bri2acconv.F90, suphmpa.F90, suphmse.F90
arpifs/setup	sudim.F90, sudyn.F90, suhdir.F90, sunhsi.F90, suoph.F90, susc2b.F90, susi.F90
arpifs/sinvect	sulcz.F90
arpifs/utility	openfa.F90

BROUSSEAU Pierre

Doc:

IAU implementation.

IAU (Incremental Analysis Update, Bloom 1989) is an initialisation method which consists in adding a part of the analysis increment at each model time step of a forecast started at the previous analysis time (the background), during the assimilation window, instead of starting the forecast from the analysis. It is used in some operational NWP centre (Met Office) in order to reduce the spin-up in the model integration.

Technical implementation :

Variables are defined for both global and LAM models in 3 modules :

- IAU tuning variables in arpifs/module/yomiau.F90, initialized in arpifs/setup/suiau.F90 using the namelist namiau.h (see yomiau for the description of these variables);*
- Variables containing the analysis increment in arpifs/module/yomspiau.F90 for spectral model variables and in arpifs/module/yomgpiou.F90 grid point model variables.*

The initialisation and the calculation of the analysis increment as the IAU calculation are only coded for LAM model for the time being :

arpifs/setup/suiauinif.F90 reads the background and the analysis files, computes the difference and the part of the analysis increment to be added at each model integration time step (constant during the model integration for the time being) and store it in corresponding arrays. It is called once in arpifs/control/cnt3.F90 before reading the LAM initial state.

The analysis increment adding (only for LAM models for the spectral part) is done in aladin/adiab/espiau.F90 for spectral model variables and arpifs/adiab/gpiou.F90 for grid point ones. The call to these two procedures is done in arpifs/control/stepo.F90 at each predictor step during the time period specified in namiau.h :

- through aladin/control/espcm.F90 and its interface using the key LDIAU, just before the spectral nudging for espiau.F90 (LDIAU is false in the arpifs/control/stepotl.F90 call to espcm.F90);*
- before the call to the sponge (GPNSPNG) for gpiou.F90.*

Projects: aladin, arpifs

Git branch: brousseau_CY40T1_mrpm613_IAU

Added:

aladin/adiab	espiau.F90
arpifs/adiab	gpiou.F90
arpifs/module	yomgpiou.F90, yomiau.F90, yomspiau.F90
arpifs/namelist	namiau.h
arpifs/setup	suiau.F90, suiauinif.F90

Modified:

aladin/control	espcm.F90
arpifs/control	cnt3.F90, stepo.F90, stepotl.F90

arpifs/setup
arpifs/utility

su0yomb.F90
openfa.F90, openfainfo.F90

CEBRON Pierrick

Doc:

- 1) *Memory optimization in combi (to use it with a few dozens of AEARP members).*
- 2) *Tolerance in the control of dates to allow the use of old AEARP files.*

Projects: utilities

Git branch: cebron_CY40T1_combiHR

Modified:

utilities/combi combi_opti.F90, combi_pert.F90, combi_stat.F90

CHAMBON Philippe

Doc:

Add a variable for SAPHIR QC .

Projects: arpifs

Git branch: chambonp_CY40T1_saphirQC

Modified:

arpifs/module	yomsc.F90
arpifs/namelist	namsc.nam.h
arpifs/obs_preproc	defrun.F90
arpifs/op_obs	mw_clearsky_screen_mfdecis.F90

DESROZIERS Gerald**Doc:**

- 1) *Phasing of routines that read/write raw files of perturbed states.*
- 2) *Adjustment of the wavelet cutoff list.*

Projects: arpifs**Git branch:** desroz_CY40T1_wtmp_rtmp_cutoffs2**Modified:**

arpifs/var

readtmp.F90, subjwavelet0.F90, subjwavtrans.F90,
writetmp.F90

EL KHATIB Ryad

Doc:

Portability fixes for Cray .

Projects: mpa, odb

Git branch: khatib_CY40T1_bator132

Modified:

mpa/micro/internals ini_rain_ice.F90
odb/pandor/module bator_decodbufr_mod.F90

Doc:

- *Bugfix for the "NFPLI issue" .*
- *Bugfix to write historical files Arpege .*
- *Bugfix for Fullpos-inline in ECMWF context.*
- *Bugfix for Fullpos-Aladin on Latlon domains.*
- *Bugfix for post-processing of humid density.*
- *Increase JPSSLWIDE for security.*
- *Partial cleaning of the former conf 927 .*

Projects: arpifs

Git branch: khatib_CY40T1_r2.02%pre41

Added:

arpifs/fullpos sufp_ctl.F90

Modified:

arpifs/control cnt0.F90
arpifs/dia wrspeca_compress_mt.F90
arpifs/fullpos sufpc.F90, sufpd.F90, sufpdistrib.F90, sumpfpos.F90,
sumpfpos_dep.F90
arpifs/module pardim.F90, yomcsgeom.F90, yomgsgeom.F90,
yommp.F90, yomphyds.F90
arpifs/namelist namphyds.nam.h
arpifs/pp_obs ppreset.F90
arpifs/setup su0yoma.F90, su_surf_flds.F90, suafn1.F90, suct0.F90
arpifs/utility dealfpos.F90

Doc:

- 1) *Fix the value of NFITH .*
- 2) *Remove a print in IOSPECA .*

Projects: arpifs

Git branch: khatib_CY40T1_r2.03%cleanfix

Modified:

arpifs/fullpos sufpc.F90
arpifs/module iospeca_mod.F90

Doc:

Fix a portability issue in F77 subroutines by replacing iargc() by the f2003 intrinsic COMMAND_ARGUMENT_COUNT(), allowing safely the addition of the Fortran 90 statement IMPLICIT NONE .

Projects: ifsaux, odb, scat

Git branch: khatib_CY40T1_r2.03%iargc

Modified:

ifsaux/eclite	getopt.F
ifsaux/module	xrd_unix_env.F90
ifsaux/support	get_opt.F
odb/tools	bufr_add_bias.F, bufr_check.F, bufr_compress.F, bufr_decode.F, bufr_filter.F, bufr_key.F, bufr_merge_tovs.F, bufr_nt1.F, bufr_ntm.F, bufr_obs_filter.F, bufr_repack.F, bufr_ship_anmh.F, bufr_split.F
scat/programs	bufr_qscat.F, comp_cmodtabs.F, dcone_qc.F, qscat_split.F, qscat25to50km.F, qscat_filter_bufr25km.F, timesort.F

Doc:

Bugfix for IFS with Intel compiler Bugfix for Fullpos + GSTATS

Projects: arpifs

Git branch: khatib_CY40T1_r2.06%ecfix

Modified:

arpifs/fullpos	prespfpos.F90, scan2m_mpos.F90, scan2m_vpos.F90, stepo_fpos.F90
arpifs/phys_ec	callpar.F90, postphy_layer.F90
arpifs/setup	sulun.F90, sumpini_prt.F90

Doc:

utilities/combi/combi_pert.F90 : portability fix
arpifs/fullpos/iofpos.F90, arpifs/fullpos/sufpc.F90 :
bugfix for biperiodicization
arpifs/control/cnt3_wait.F90, arpifs/setup/su0yomb.F90,
arpifs/oops/error_covariance_3d_mod.F90, arpifs/utility/sualspa.F90 :
workaround against an incompatibility between sualspa/sualspa1 and alloc_spec for
the spectral_field structures
arpifs/setup/suct0.F90 :
cleaning
arpifs/fullpos/suvpos.F90 :
Remove exception on the filtering of U/V on PV levels (catch-up from e-suite)
algor/module/spectral_fields_mod.F90 :
Bugfix on B-level distribution

EXPECTED IMPACT:

Impact on the res ults for wind fields over PV iso-surfaces
Impact on any extension zone computed with splines

Projects: algor, arpifs, utilities

Git branch: khatib_CY40T1_r2.09%mrgr

Modified:

algor/module	spectral_fields_mod.F90
arpifs/control	cnt3_wait.F90
arpifs/fullpos	iofpos.F90, sufpc.F90, suvpos.F90
arpifs/oops	error_covariance_3d_mod.F90
arpifs/setup	su0yomb.F90, suct0.F90
arpifs/utility	sualspa.F90
utilities/combi	combi_pert.F90

Doc:

io_serv_suiosctmpl.F90, cnt0.F90 :

bugfix for the IO server

suallt.F90 :

bugfix on double allocation.

Others :

NPSURF added as a component of the derived type SPECTRAL_FIELD in order to decide at the time a structure is created (via an optional argument of ALLOC_SPEC) whether the surface pressure should be defined on all the PEs (conf 001, mainly) or not (variational jobs).

Projects: algor, arpifs

Git branch: khatib_CY40T1_r2.10%modset

Modified:

algor/module	spectral_fields_data.F90, spectral_fields_mod.F90
arpifs/control	cnt0.F90
arpifs/io_serv	io_serv_suiosctmpl.F90
arpifs/utility	sualspa.F90
arpifs/var	suallt.F90

subroutine has a mandatory interface. To avoid any ambiguity (and norm checker issue), MIE_SPHERE is aliased to RTTOV_MIE_SPHERE in the "USE RTTOV_SCATTERING_MOD" statement.

3) satrad/module/mod_cnrm_mw_atlas.F90:

Renamed contained subroutine LAND_SSMI(S) to ATLAS_LAND_SSMI(S), to avoid any ambiguity with subroutines LAND_SSMI(S) from files "land_ssmi(s).F90".

Projects: satrad

Git branch: gco_CY40T1_fix_rttov_intfb

Modified:

satrad/module	mod_cnrm_mw_atlas.F90
satrad/mwave	mwave_get_rtcoeff.F90
satrad/programs	rttov_mie_params.F90, rttov_mie_params_aer.F90, rttov_mie_params_cld.F90, us76_to_hdf5.F90
satrad/rttov/coef_io	rttov_read_coefs.F90
satrad/rttov/emis_atlas	rttov_atlas_setup.F90, rttov_get_emis.F90
satrad/rttov/main	rttov_init_opt_param.F90
satrad/rttov/test	rttov_k_tl.F90

Doc:

Portability fixes for Intel compiler.

* arpifs/adiab/spectr.F90
arpifs/control/stepo_oops.F90
arpifs/dia/spnorm.F90
arpifs/dia/wrmlppg.F90
arpifs/parallel/read_spec_fromfa.F90
arpifs/setup/sugfl2.F90
arpifs/transform/transdirh.F90
arpifs/transform/transinvh.F90
arpifs/transform/transinvhad.F90
arpifs/utility/sualspa.F90:

Change statement:

[1] USE SPECTRAL_FIELDS_MOD, ONLY: SPECTRAL_FIELD, ASSIGNMENT(=)

to single one:

[2] USE SPECTRAL_FIELDS_MOD

In fact, we have a compilation issue with Intel compiler in the routines which call at least one of the 10 routines listed above, such as:

```
<<<
./spectr.intfb.h(5): error #7161: There are unresolved generics appearing in ONLY
clauses for this external module. [SPECTRAL_FIELDS_MOD]
USE SPECTRAL_FIELDS_MOD, ONLY : SPECTRAL_FIELD, ASSIGNMENT(=)
----^
compilation aborted for iospeca_mod.F90 (code 1)
>>>
```

This Intel-compiler-issue is known for a long time (NB: we already had it on NEC scalar

machine):

- the most easy way to get rid of this issue is to change statement [1] to [2] in the 10 listed routines ;
- the best way to get rid with tis issue fix it consists in making modifications in the interface builder, in order to ensure that useless statements such as "ASSIGNMENT(=)" do not appear in interfaces!

* arpifs/dfi/dfi2.F90:

Compilation issue with Intel compiler: change (alias) argument YQ to real variable name YGFL%YQ in calls to COPGFL/CORGFL .

* arpifs/phys_dmn/apl_arome2intflex.F90
arpifs/phys_dmn/aplpar2intflex.F90
arpifs/setup/sugfl2.F90:

Compilation issue with Intel compiler: change alias YCOMP to real variable name YGFL %YCOMP in ASSOCIATED statements, or in some pointer assignments.

Projects: arpifs

Git branch: gco_CY40T1_ifort

Modified:

arpifs/adiab	spectr.F90
arpifs/control	stepo_oops.F90
arpifs/dfi	dfi2.F90
arpifs/dia	spnorm.F90, wrmlppg.F90
arpifs/parallel	read_spec_fromfa.F90
arpifs/phys_dmn	apl_arome2intflex.F90, aplpar2intflex.F90
arpifs/setup	sugfl2.F90, suinif.F90
arpifs/transform	transdirh.F90, transinvh.F90, transinvhad.F90
arpifs/utility	sualspa.F90, sualspa1.F90

Doc:

Miscellaneous fixes.

1) Changes made upon CY40T1_r2.06 at ECMWF.

This is the pre-cycle CY41 as it came back from ECMWF as it came back on Thursday, June 19th. Following changes were done:

- further encapsulating module variables;
- encapsulation of model (OOPS);
- miscellaneous other fixes.

2) Miscellaneous portability fixes for Intel compiler & gfortran.

3) Pre-phasing of some ALADIN routines, and phasing of "mse/externals" routines (encapsulation).

4) Bugfixes from ECMWF.

5) Fix phasing bugs.

6) Remove obsolete routines.

Projects: aladin, algor, arpifs, ifsaux, mpa, mse, odb, satrad, surf, utilities

Git branch: gco_CY40T1_r2

Deleted:

aladin/sinvect	suelcz.F90
aladin/transform	etransdir_fp.F90
arpifs/adiab	gpgettend.F90, gppre.F90, gppread.F90, gppref.F90, gpprefad.F90, gppreflt.F90, gppreh.F90, gpprehad.F90, gpprehtl.F90, gppretl.F90, gpxyb.F90, gpxybad.F90, gpxybt1.F90
arpifs/dia	inifaout.F90, wrcfupp.F90, wrdistio.F90, wrgpa.F90, wrxfupp.F90
arpifs/fullpos	sufprfpbuf.F90
arpifs/io_serv	io_serv_compress_run.F90, io_serv_fixfph.F90, io_serv_hdr_init.F90, io_serv_hdr_nanify.F90, io_serv_open.F90, io_serv_read_idx.F90, io_serv_recv_cleanup.F90, io_serv_recv_decode_fullpos.F90, io_serv_recv_fullpos.F90, io_serv_recv_map.F90, io_serv_recv_run.F90, io_serv_sumpioh.F90, io_serv_terminate.F90, io_serv_write_run.F90
arpifs/module	parmcuf.F90, type_gfls.F90, yomdyndiff.F90, yomio_serv_cfield.F90, yomio_serv_cfield_fifo.F90, yomio_serv_compress.F90, yomio_serv_ffield.F90, yomio_serv_ffield_fifo.F90, yomio_serv_recv.F90, yomio_serv_write.F90, yomjbsibi_mod.F90, yommass.F90, yomsep.F90, yomsurf.F90
arpifs/oops	mtraj_mod.F90
arpifs/parallel	diwrgridalltoall.F90, diwrgridunscramble.F90, gathflnm.F90
arpifs/setup	sumpiohx.F90
arpifs/utility	deallo_geometry.F90, emptb3.F90, facile_compact.F90, faond_compact.F90, faget_compact.F90, faset_compact.F90, fillb3.F90, gflchk.F90, gmvchk.F90, prepacka1.F90, verdder.F90
arpifs/var	add_modbias_ad.F90, add_modbias_tl.F90, cvtest.F90, evjq.F90, rdrinc.F90, weak_constraint.F90, weak_constraint_ad.F90, weak_constraint_tl.F90, wrinc.F90

Renamed:

arpifs/module	chem_mix.F90 to arpifs/module/yomchem.F90
arpifs/namelist	namiau.h to arpifs/namelist/namiau.nam.h
arpifs/oops	fields_mod.F90 to arpifs/module/fields_mod.F90, geometry_mod.F90 to arpifs/module/geometry_mod.F90, model_mod.F90 to arpifs/module/model_mod.F90, variables_mod.F90 to arpifs/module/variables_mod.F90

Added:

arpifs/adiab	specrtges.F90
arpifs/module	mtraj_mod.F90, yomhslmer.F90, yomvsleta.F90, yomvsplip.F90

Modified:

aladin/adiab	elarche.F90, elarchead.F90, elarchetl.F90, elarmes5.F90, elarmesad.F90, elarmestl.F90, gpspng.F90
aladin/c9xx	eleci.F90
aladin/control	espcm.F90, espcmad.F90
aladin/dia	espnormb.F90

aladin/interpol	elaskaw.F90, eslextpol.F90
aladin/module	eshrinkstretch_mod.F90
aladin/parallel	ecommspnorm.F90
aladin/setup	esp2Insp.F90, suegem2.F90, suegem_naml.F90, suemetric.F90, sueorog.F90
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aladin/utility	espareord.F90
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arpifs/interpol laitvpcqm.F90, lascaw.F90, suhslmer.F90, suvsleta.F90, suvsplip.F90

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 arpifs/utility add3to5.F90, add5to3.F90, addbgs.F90, addfgs.F90, copy_spa2spec.F90, dealfpos.F90, deallo.F90, dealmod.F90, dealsc2.F90, dealspa.F90, dealxmo.F90, forecast_days_calc.F90, gpnorm_gfl.F90, gpnorm_gmv.F90, gstats_output_ifs.F90, iopack.F90, mod_ini.F90, model2moderr.F90, modeltojb.F90, modeltojbmad.F90, openfa.F90, openfainfo.F90, pksurfa.F90, prt_ctlvec_max.F90, prt_ctlvec_norms.F90, random_ctlvec.F90, rdmoderr.F90, rdspec.F90, read_surfgrid_traj_fromfa.F90, reset_accfie_vareps.F90, save_merr_tend.F90, save_test4dinc.F90, savmoderr.F90,

	sbs5to3.F90, sbsbgs.F90, sbsfgs.F90, setimzero.F90, spconvert.F90, spec2state.F90, specimzero.F90, state2spec.F90, state2specad.F90, sualspa.F90, sualspa1.F90, sualspa_oops.F90, sualspajb.F90, swap53.F90, swap73.F90, updtim.F90, vspltrans.F90, write_ctlvec_grib.F90, wrresf.F90
arpifs/var	add_moderr_ad.F90, add_moderr_tl.F90, adtest.F90, bgevecs.F90, bgvecs.F90, cain.F90, cainad.F90, cainin.F90, caininad.F90, chavar.F90, chkobtim.F90, cosens.F90, cosjc.F90, cosjl.F90, cosjr.F90, cossmq.F90, costra.F90, cvar3.F90, cvar3ad.F90, cvar3in.F90, cvar3inad.F90, deallt.F90, estsig.F90, evcost.F90, evjcdfi.F90, fltbgcalc.F90, fltbgvarens.F90, get_traj_phys.F90, inflation_pert.F90, jbachvar.F90, jbachvarad.F90, jbachvari.F90, jbachvariad.F90, jbtomodel.F90, jbtomodelad.F90, litest.F90, preppcm.F90, rd801.F90, rdfpinc.F90, readtmp.F90, readvec.F90, rtsetup.F90, store_traj_main.F90, sualcos.F90, suallr.F90, suallt.F90, suallt7.F90, suanebuf.F90, suecges.F90, suinfce.F90, subj.F90, subjbcovsignal.F90, subjdat.F90, subjvarens.F90, subjwavelet.F90, subjwavgen.F90, subjwavgen_hybraw.F90, sujc.F90, sujq.F90, sujqstd.F90, sujr.F90, sumoderr.F90, suprecov.F90, suprepjcdfi.F90, suqnorm.F90, sureo3.F90, suscal.F90, suscalmerr.F90, sushfce.F90, suspqlim_part1.F90, suspqlim_part2.F90, suvar.F90, suvazx.F90, suvifce.F90, suvwrk.F90, symtransin.F90, tlprop.F90, tltest.F90, upspect.F90, vec2gp.F90, writestd.F90, writetmp.F90, xformev.F90
ifsaux/lfi_alt	lfi_
ifsaux/programs	lfitestwrite.F90
ifsaux/support	stack_overwrite.F90, timef.F
mpa/turb/internals	compute_updraft_rhcj10.F90
mse/externals	aro_surf_diagh.F90, canari_sx_ics.F90, fp2sx1.F90, fp2sx1fa.F90, rdclimosfx.F90, suphmse_surface.F90, wrsf.F90
odb/cma2odb	create_averaged_values.F90
odb/pandor/module	bator_rad_postproc_mod.F90
satrad/rttov/ifs	phrtsetup.F90, rttov_ec_setopts.F90
surf/external	surfexcdriver.F90
surf/interface	surf_inq.h, surfexcdriver.h
surf/module	ccetr_mod.F90, cotwo_mod.F90, cotwoestress_mod.F90, flake_driver_mod.F90, flakeene_mod.F90, flakerad_mod.F90, nitro_decline_mod.F90, oc_mlm_mod.F90, source_e_mod.F90, srfcotwo_mod.F90, srfsn_lwexp_mod.F90, srfsn_lwimp_mod.F90, srfvegevol_mod.F90, sucotwo_mod.F90, sugridmlm_mod.F90, surftstp_ctl_mod.F90, voskin_mod.F90
utilities/combi	combi_pert.F90

Doc:

OOPS project source code for cycle CY41 .

Projects: arpifs, oops

Git branch: gco_CY40T1_r2.10%oops

Deleted:

oops/src/logger CMakeLists.txt, c_logger_mod.F90,
ftn_c_string_conversion.F90

oops/src/oops CMakeLists.txt, CostJb.h, CostJbBase.h, DGMRESR.h,
DIPCG.h, DPLanczos.h, FMatrix.h, RPCG.h, Geometry.h,
NullModelAux.h, NullObsAux.h, TwoForecasts.h

oops/src/oops/assimilation CostJb.h, CostJbBase.h, DGMRESR.h, DIPCG.h, DPLanczos.h,
FMatrix.h, RPCG.h

oops/src/oops/base Geometry.h, NullModelAux.h, NullObsAux.h

oops/src/oops/runs TwoForecasts.h

oops/src/util CMakeLists.txt, c_config_mod.F90,
ftn_c_string_conversion.F90

Renamed:

oops/ifs/model GeometryIFS.cc to oops/ifs/model/ObsBiasCovariance.cc

oops/src/logger ftn_logger.cc to oops/src/logger/logger_f.cc, ftn_logger.h to
oops/src/logger/logger_f.h

oops/src/oops/assimilation DPCG.h to oops/src/oops/assimilation/PCG.h

oops/src/oops/base NullObsTraj.h to oops/ifs/model/ModelBias.cc

oops/src/util Accumulator.h to oops/src/oops/base/Accumulator.h,
DiagonalMatrix.h to oops/src/oops/base/DiagonalMatrix.h,
DolphChebyshev.cc to
oops/src/oops/base/DolphChebyshev.cc, DolphChebyshev.h
to oops/src/oops/base/DolphChebyshev.h,
FtnTriDiagSpectrum.F90 to
oops/src/oops/assimilation/FtnTriDiagSpectrum.F90,
IdentityMatrix.h to oops/src/oops/base/IdentityMatrix.h,
PostTimer.cc to oops/src/oops/base/PostTimer.cc,
PostTimer.h to oops/src/oops/base/PostTimer.h,
WeightingFct.cc to oops/src/oops/base/WeightingFct.cc,
WeightingFct.h to oops/src/oops/base/WeightingFct.h,
ftn_config.cc to oops/src/util/config_f.cc, ftn_config.h to
oops/src/util/config_f.h

Added:

oops/ifs/model ModelBias.h, ModelBiasCovariance.h,
ModelBiasIncrement.cc, ModelBiasIncrement.h, ObsBias.cc,
ObsBias.h, ObsBiasCovariance.h, ObsBiasIncrement.cc,
ObsBiasIncrement.h

oops/src/logger logger_mod.F90

oops/src/oops/assimilation CostJb3D.h, CostJbState.h, CostJbTotal.h,
DoubleMinimizer.h, DualMinimizer.h, FGMRES.h,
FGMRESMinimizer.h, FullGMRES.h, Increment4D.h,
JqTerm.h, JqTermAD.h, JqTermTL.h, MINRES.h,
MINRESMinimizer.h, PCGMinimizer.h, PLanczos.h,
PLanczosMinimizer.h, PrimalMinimizer.h, QNewtonLMP.h,
RPLanczosMinimizer.h, SaddlePointLMPMatrix.h,
SpectralLMP.h, State4D.h, UpTriSolve.h, rotmat.h

oops/src/oops/runs EnsForecasts.h

oops/src/util config.intfb.h, config_mod.F90

Modified:

arpifs/module fields_mod.F90, model_mod.F90

arpifs/oops error_covariance_3d_mod.F90

oops/ifs/mains CMakeLists.txt

oops/ifs/model AllObs.cc, AllObs.h, AllObsCovariance.interface.F90,

	<p>CMakeLists.txt, ErrorCovariance3D.cc, ErrorCovariance3D.h, ErrorCovariance3D.interface.F90, ErrorCovariance3D.test.cc, FieldsIFS.cc, FieldsIFS.h, FieldsIFS.interface.F90, GeometryIFS.h, GeometryIFS.interface.F90, IFSFortran.h, IFSTraits.h, IncrementIFS.cc, IncrementIFS.h, LinearModelIFS.cc, LinearModelIFS.h, LocalizationMatrixIFS.cc, LocalizationMatrixIFS.h, LocalizationMatrixIFS.interface.F90, ModelIFS.cc, ModelIFS.h, ModelIFS.interface.F90, ObsVector.interface.F90, StateIFS.cc, StateIFS.h, VariablesIFS.interface.F90, ifs_init_wrapper.F90</p>
oops/src	<p>CMakeLists.txt, setLogging.cc, BMatrix.h, ControlIncrement.h, ControlVariable.h, CostFct3DVar.h, CostFct4DEnsVar.h, CostFct4DVar.h, CostFctWeak.h, CostFunction.h, CostJb4D.h, CostJbJq.h, CostJcDFI.h, CostJo.h, CostTermBase.h, DGMRESRMinimizer.h, DIPCGMinimizer.h, DPCGMinimizer.h, DPLanczosMinimizer.h, GMRESR.h, GMRESRMinimizer.h, HBHtMatrix.h, HMatrix.h, HessianMatrix.h, HtMatrix.h, HtRinvHMatrix.h, IPCG.h, IPCGMinimizer.h, IncrementalAssimilation.h, Minimizer.h, RPCGMinimizer.h, RinvMatrix.h, SaddlePointMatrix.h, SaddlePointMinimizer.h, SaddlePointPrecondMatrix.h, TriDiagSolve.h, instantiateCostFactory.h, instantiateMinFactory.h, Ensemble.h, EnsembleCovariance.h, EnsemblesCollection.h, HybridCovariance.h, ModelIncrement.h, ModelSpaceCovarianceBase.h, ModelState.h, Observer.h, ObserverAD.h, ObserverTL.h, PostBase.h, PostBaseAD.h, PostBaseTL.h, PostProcessor.h, PostProcessorAD.h, PostProcessorTL.h, TrajSaver.h, WeightedDiff.h, WeightedDiffAD.h, WeightedDiffTL.h, WeightedMean.h, ExternalDFI.h, Forecast.h, GenEnsPertB.h, HofX.h, MakeObs.h, Run.h, Variational.h, IncrementBase.h, ModelIncrement.h, ModelState.h, Config.cc, Config.h, ConfigImplBase.h, DateTime.cc, DateTime.h, Duration.cc, Duration.h, ObjectCounter.h, XmlDom.cc, XmlDom.h, abort1_cpp.h, abort1_ftn.F90, datetime.intfb.h, datetime_f.cc, datetime_f.h, datetime_mod.F90, duration.intfb.h, duration_f.cc, duration_f.h, duration_mod.F90, kinds.F90, random_vectors_gauss_mod.F90, random_vectors_mod.F90, string_f_c_mod.F90, Config.cc, DateTime.cc, Duration.cc, test_main.cc</p>
oops/src/logger	<p>setLogging.cc</p>
oops/src/oops/assimilation	<p>BMatrix.h, ControlIncrement.h, ControlVariable.h, CostFct3DVar.h, CostFct4DEnsVar.h, CostFct4DVar.h, CostFctWeak.h, CostFunction.h, CostJb4D.h, CostJbJq.h, CostJcDFI.h, CostJo.h, CostTermBase.h, DGMRESRMinimizer.h, DIPCGMinimizer.h, DPCGMinimizer.h, DPLanczosMinimizer.h, GMRESR.h, GMRESRMinimizer.h, HBHtMatrix.h, HMatrix.h, HessianMatrix.h, HtMatrix.h, HtRinvHMatrix.h, IPCG.h, IPCGMinimizer.h, IncrementalAssimilation.h, Minimizer.h, RPCGMinimizer.h, RinvMatrix.h, SaddlePointMatrix.h, SaddlePointMinimizer.h, SaddlePointPrecondMatrix.h, TriDiagSolve.h, instantiateCostFactory.h, instantiateMinFactory.h</p>
oops/src/oops/base	<p>Ensemble.h, EnsembleCovariance.h, EnsemblesCollection.h,</p>

oops/src/oops/runs	HybridCovariance.h, ModelIncrement.h, ModelSpaceCovarianceBase.h, ModelState.h, Observer.h, ObserverAD.h, ObserverTL.h, PostBase.h, PostBaseAD.h, PostBaseTL.h, PostProcessor.h, PostProcessorAD.h, PostProcessorTL.h, TrajSaver.h, WeightedDiff.h, WeightedDiffAD.h, WeightedDiffTL.h, WeightedMean.h ExternalDFI.h, Forecast.h, GenEnsPertB.h, HofX.h, MakeObs.h, Run.h, Variational.h
oops/src/test/base	IncrementBase.h, ModelIncrement.h, ModelState.h
oops/src/util	Config.cc, Config.h, ConfigImplBase.h, DateTime.cc, DateTime.h, Duration.cc, Duration.h, ObjectCounter.h, XmlDom.cc, XmlDom.h, abort1_cpp.h, abort1_ftn.F90, datetime.intfb.h, datetime_f.cc, datetime_f.h, datetime_mod.F90, duration.intfb.h, duration_f.cc, duration_f.h, duration_mod.F90, kinds.F90, random_vectors_gauss_mod.F90, random_vectors_mod.F90, string_f_c_mod.F90, Config.cc, DateTime.cc, Duration.cc, test_main.cc
oops/src/util/test	Config.cc, DateTime.cc, Duration.cc, test_main.cc

Doc:

Portability fixes upon cycle CY40R2 (for Intel compiler), and remove useless mandatory interface blocks.

Projects: arpifs, satrad

Git branch: gco_CY40_r2bf

Modified:

arpifs/adiab	lapinea.F90, lapinea5.F90, lapineaad.F90, lapineatl.F90
arpifs/chem	aer2massdia.F90, chem_tm5.F90
arpifs/control	stepo_oops.F90
arpifs/dia	wrphtrajt.F90
arpifs/module	yomgem.F90, yommp.F90
arpifs/phys_ec	culight.F90
satrad/rttov/mw_scatt_coef	permittivity.F90

JIDANE Mohamed

Doc:

ALADIN phasing on pre-cycle CY41 .

Projects: aladin, arpifs

Git branch: jidane_CY40T1_cy41

Added:

aladin/transform etransinvh_oops.F90
aladin/utility deello_geometry.F90
arpifs/module intdynsl_mod.F90

Modified:

aladin/adiab elarche.F90, elarche5.F90, elarchead.F90, elarchetl.F90,
elarmes.F90, elarmes5.F90, elarmesad.F90, elarmestl.F90,
espchor.F90, espchorad.F90, espcsi.F90, espcsiad.F90,
espectr.F90, espnhsi.F90, espnhsi_geogw.F90

aladin/c9xx ebicli.F90, echk923.F90, ecoptra.F90, eganiso.F90,
egeo923.F90, eincli1.F90, eincli10.F90, eincli2.F90,
eincli3.F90, eincli4.F90, eincli5.F90, eincli6.F90,
eincli7.F90, eincli8.F90, eincli9.F90, einter0.F90, eleci.F90

aladin/control espcm.F90, espcmad.F90

aladin/coupling ecoupl1.F90, ecoupl1ad.F90, elsrw.F90, elswa3.F90,
erlbc.F90, eseimpls.F90, eseimplsad.F90, etenc.F90

aladin/dia ewmovph.F90

aladin/fullpos ebipos.F90, fpezzone.F90, suefpg3.F90, sufpezo.F90,
sufpmove.F90

aladin/interpol elascaw.F90, elascawtl.F90

aladin/parallel ecommjbbalbeta.F90, ecommspnorm.F90,
egathereigmd.F90

aladin/programs holo.F90, unholo.F90

aladin/setup elsac.F90, esp2Insp.F90, suedim.F90, suedyn.F90,
suegem_naml.F90, suehdf.F90, suehdvnp.F90, sueheg.F90,
sueinif.F90, sueldynb.F90, suemp.F90, suenhheg.F90,
sueorog.F90, sueqlimsat.F90, suetrans0.F90, suezone.F90

aladin/sinvect echnorm.F90

aladin/transform etransdir_mdl.F90, etransdir_mdlad.F90,
etraninv_jbtomodel.F90, etraninv_jbtomodelad.F90,
etraninv_mdl.F90, etraninv_mdlad.F90, euvgeovd.F90,
evdudvgeo.F90

aladin/utility cchien.F90, deello.F90, deello_geometry.F90,
espareord.F90, espconvert.F90, euvcopy.F90

aladin/var ebalbetaad.F90, ebalnonlin.F90, ebalnonlinad.F90,
e balomega.F90, e balomegatl.F90, e balvert.F90,
e balvertad.F90, e balverti.F90, e balvertiad.F90, ecosjr.F90,
ecvaru2i.F90, ecvaru2iad.F90, edog.F90, efill_isotropic.F90,
ejghcor.F90, ejghcori.F90, escaljgs.F90, evarjk.F90,
evarjkad.F90, evarjkini.F90, ewrlsgrad.F90, suejbbal.F90,
suejbbalbeta.F90, suejbcor.F90, suejbcosu.F90,
suejbcov.F90, suejbdat96.F90, suejbstd.F90, suejbstest.F90,
suejknorm.F90, suelges.F90, suelljk.F90, suemodjk.F90,
suescal.F90, suevargp.F90

aladin/wavelet ejbwav_cv2wav.F90, ejbwav_gp2wav.F90, ejbwav_h2v.F90,

ejbwav_v2h.F90, ejbwav_vcori.F90, ejbwav_wav2cv.F90,
 ejbwav_wav2gp.F90, suejbwav_read_eigval.F90,
 suejbwav_read_eigvec.F90, suejbwav_read_sigmab.F90,
 suejbwavalloc.F90

arpifs/adiab
 call_sl.F90, call_sl_ad.F90, call_sl_tl.F90, laitre_gfl.F90,
 laitre_gmv.F90, laitre_gmv_ad.F90, laitre_gmv_tl.F90,
 lapinea.F90, lapinea5.F90, lapineaad.F90, lapineatl.F90,
 lapineb.F90, lapinebad.F90, lapinebtl.F90, larche.F90,
 larche5.F90, larchead.F90, larchetl.F90, larcina.F90,
 larcinaad.F90, larcinatl.F90, larcinb.F90, larcinb5.F90,
 larcinbad.F90, larcinbtl.F90, larcinha.F90, larcinhb.F90,
 larmes.F90, larmes5.F90, larmesad.F90, larmestl.F90

arpifs/chem
 chem_massdia.F90

arpifs/control
 gp_model.F90, jmgfixer.F90, qmfixer.F90, qmfixer2.F90,
 stepo.F90, trmfixers.F90

arpifs/dfi
 suini.F90

arpifs/fullpos
 gridfpos.F90, sufpc.F90, sufpd.F90

arpifs/interpol
 suvsleta.F90

arpifs/module
 elbc0b_mod.F90, intdyn_mod.F90, yemlap.F90,
 yomfpc.F90, yomfpct0.F90, yomphyds.F90

arpifs/namelist
 namphyds.nam.h

arpifs/op_obs
 hop.F90, hretr.F90

arpifs/phys_dmn
 mf_phys.F90

arpifs/setup
 su_surf_fds.F90, sudyn.F90, sugeometry.F90, suinif.F90,
 sumpini.F90, suoph.F90, surand1.F90, suvfe_matrix.F90

arpifs/utility
 deallo.F90, dealsc2.F90

arpifs/var
 jbachvar.F90, jbachvarad.F90, jbachvari.F90, jbachvariad.F90,
 suvar.F90

MARGUINAUD Philippe

Doc:

- 1) *Catch-up from cycle CY40_op1 .*
- 2) *Add LFPPACKING to disable packing of model state before running inline post-processing.*

Projects: arpifs, ifsaux

Git branch: marguina_CY40T1_op1pm

Added:

arpifs/io_serv	io_poll
ifsaux/lfi_alt	lfi_
ifsaux/programs	lfi_alt_remv.F90

Modified:

arpifs/dia	suppdate.F90
arpifs/fullpos	gridfpos.F90, predynfpos.F90, sufpc.F90
arpifs/module	yomfa.F90, yomfpc.F90
arpifs/namelist	namfa.nam.h, namfpc.nam.h
arpifs/setup	sufa.F90
ifsaux/lfi_alt	lfi_altm.c, lfi_altm.h, lfi_alts.c, lfi_util.c, lfi_util.h
ifsaux/programs	lfitools.F90

MARY Alexandre

Doc:

This branch contains:

- report of ECMWF's encapsulations for CY41 in Aladin;
- bugfixes on simplified physics (C. Loo / O. Spaniel);
- other bugfixes consecutive to ECMWF's and A. Bogatchev's encapsulations (K. Yessad / A. Mary).

Projects: aladin, arpifs

Git branch: mary_CY40T1_report_encaps_ald

Modified:

aladin/adiab	elarmes.F90, especsiad.F90, especrt.F90, espiau.F90, gpspng.F90
aladin/c9xx	ecoptra.F90
aladin/control	espcm.F90, especmad.F90
aladin/coupling	ecoupl1.F90, ecoupl1ad.F90, elswa3.F90, erlbc.F90, etenc.F90
aladin/parallel	ecommspnorm.F90
aladin/setup	elsac.F90, suehdvnp.F90, sueinif.F90, sueldynb.F90, sueqlimsat.F90
aladin/sinvect	echnorm.F90, esptrlcz.F90, ewrtsv.F90
aladin/transform	etransdir_jb.F90, etransdir_jbad.F90, etransdir_mdl.F90, etransdir_mdlad.F90, etransdir_nhconv.F90, etransdir_nhconvprhs.F90, etransdirh.F90, etransdirhad.F90, etransinv_jb.F90, etransinv_jbad.F90, etransinv_mdl.F90, etransinv_mdlad.F90, etransinv_nhconv.F90, etransinv_nhconvprhs.F90, etransinvh.F90, etransinvh_oops.F90, etransinvhad.F90
aladin/utility	espcconvert.F90, euvcopy.F90, sp3to7.F90, sp7to3.F90
aladin/var	ecosjr.F90, evarjk.F90, evarjkad.F90, evarjkini.F90, ewreini.F90, ewrlsgrad.F90, moevar.F90, suelljk.F90, suemodjk.F90, suescal.F90
arpifs/control	cnt4.F90, stepo.F90, stepoad.F90, stepotl.F90
arpifs/fullpos	specfita.F90
arpifs/module	traj_physics_mod.F90, trajectory_mod.F90
arpifs/setup	su0yomb.F90, sudyn.F90, suinterpolator.F90
arpifs/var	suvar.F90

MEUNIER Louis-Francois

Doc:

Several bugfixes for the AD test of the observation operator:

- *Deactivate time correlated observation errors when the AD test is run ;*
- *Fix several problems in the TL/AD when CO2 slicing is used ;*
- *With the internal interpolation, fix a problem in the TL of the radiative transfer (when O3 is used: most of the infrared radiances were affected). MF only.*

EXPECTED IMPACT:

Numerical impact during the minimisations since the adjoint is changed: Now the adjoint test of the observation operator gives satisfactory results (which is theoretically better). Impact on forecast scores is neutral.

Projects: arpifs

Git branch: meunierlf_CY40T1_ad_bf1

Modified:

arpifs/op_obs hjo.F90, hradp_ml_tl.F90, obsvtl.F90, radtr.F90,
radtr_ml_ad.F90, radtr_ml_tl.F90, radtrad.F90, radtrtl.F90

Doc:

Bugfix on array bounds (related to the Ts sink variable).

Projects: arpifs

Git branch: meunierlf_CY40T1_bf_ts_sink

Modified:

arpifs/module yomsats.F90

Doc:

Proposed solution for merge conflicts regarding:

- *microwave cloud screening ;*
- *Ts sink variable setup .*

This should ensure reproducibility of the results both at Meteo-France (compared to 40T1) and ECMWF (compared to 40R2).

Projects: arpifs

Git branch: meunierlf_CY40T1_merge_conflicts1

Modified:

arpifs/op_obs mw_clearsky_screen.F90, mw_clearsky_screen_ecdecis.F90
arpifs/var surad.F90

Doc:

For each SSMI/S report, computes the solar zenith angle and store it in the corresponding column of the ODB database (namely solar_zenith@sat).

Projects: odb

Git branch: meunierlf_CY40T1_ssmis_solar_coszen_calc

Modified:

odb/pandor/module bator_decodbufr_mod.F90, bator_rad_postproc_mod.F90

Doc:

Modification of VarBC predictors and channel selection in preparation of a lower AROME model top. (contains all the modifications made on that matter up to 40_op1.04).

Projects: arpifs, blacklist

Git branch: meunierlf_CY40T1_varbc_arome_top

Modified:

arpifs/module	varbc_pred.F90, varbc_rad.F90
blacklist	mf_blacklist.b

PAYAN Christophe

Doc:

1) *Atmospheric Motion Vectors consideration from Himawari-8/9 (Himawari Third Generation, multispectral instrument AHI, 16 frequencies).*

2) *Various soft cleaning in loops for initializing TS_GEOWIND structure in BATOR_INIT_MOD .*

Projects: blacklist, odb

Git branch: payan_CY40T1_r2v03_amv-ahi

Modified:

blacklist	mf_blacklist.b
odb/pandor/module	bator_init_mod.F90

PIRIOU Jean-Marcel

Doc:

- 1) *Debugging of PMMC09 & PCMT .*
- 2) *Bug correction in compute_updraft_rhcj10 .*

Projects: arpifs, mpa

Git branch: piriou_CY40T1_dbg16

Modified:

arpifs/adiab	cptend_new.F90
arpifs/setup	su0phy.F90
mpa/turb/internals	compute_updraft_aha.F90, compute_updraft_rhcj10.F90

SEITY Yann

Doc:

Bugfix for not initialized variable (rain_ice.F90).

Bugfix for array overhead (compute_entr_detr.F90).

Bugfix from Daan for apl_arome2intflex.F90 (not used in oper).

Bugfix for openMP reproductibility (surfex/SURFEX/modd).*

Bugfix to be able to run couplingsurf with input PGD file in FA format (mse/externals).

Projects: arpifs, mpa, mse, surfex

Git branch: seity_CY40T1_bf_physaro_for41

Modified:

arpifs/phys_dmn	apl_arome2intflex.F90
mpa/micro/internals	rain_ice.F90
mpa/turb/internals	compute_entr_detr.F90
mse/externals	aro_ground_diag.F90, fp2sx1fa.F90, rdclimosfx.F90
surfex/SURFEX	modd_diag_misc_tebn.F90, modd_diag_utci_tebn.F90

Doc:

Bugfix for prep, in case where init surfex file does not have teb whereas output file does. Without this modset, prep crashes.

Projects: surfex

Git branch: seity_CY40T1_bf_prep

Modified:

surfex/SURFEX	allocate_gr_snow.F90, prep_snow_extern.F90, prep_teb_extern.F90, read_teb_patch.F90, write_surf.F90
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TAILLEFER Francoise

Doc:

Change the default value of RCO_EZO to avoid systematic use in namelist (used in ee927 especially).

Projects: aladin

Git branch: taillefer_CY40T1_ezo

Modified:

aladin/fullpos sufpezo.F90

Doc:

1. Add in canari the search of redundant NATSCD obs type (some automatic stations, found mainly in Antarctic and Australy).

2. c931 (SST ostia/nesdis) : change SST over lakes calculation to save memory for big lam grid.

3. c932 (sea-ice concentration) : change lower temperature threshold to force ice cover.

Projects: arpifs, odb

Git branch: taillefer_CY40T1_phas

Modified:

arpifs/c9xx cseaice.F90, csstbld.F90, inclitc.F90

arpifs/canari caredo.F90

odb/ddl caredo_robhdr.sql

VOITUS Fabrice

Doc:

Objective: a more flexible extension of the relaxation zone. The width of the coupling zone can be now specified in namelist to avoid any mismatch warning in respect to the Frame of the coupling and clim files.

Projects: arpifs

Git branch: voitus_CY40T1_IZONE_BIS

Modified:

arpifs/fullpos	openfpfa.F90, sufpd.F90, sufpop.h.F90
arpifs/module	yomfpd.F90
arpifs/namelist	namfpd.nam.h

YESSAD Karim

Doc:

Branch "merge001" 31 MARS 2014

Basis: CY40T1

Pre-merge for CY40T1R2 .

Projects: aladin, arpifs

Git branch: yessad_CY40T1_merge001

Added:

aladin/setup suetrans0.F90
arpifs/setup sudim.F90, sudimf1.F90

Modified:

aladin/adiab elarmes.F90, elarmes5.F90, elarmesad.F90, elarmestl.F90
aladin/setup suegem1a.F90, suegem1b.F90, suegem2.F90,
 suegem_naml.F90, suelap.F90, suelega.F90, suemp.F90,
 suempvar.F90, suetrans.F90, suezone.F90

arpifs/adiab cpeuldyn.F90, gnh_conv_nhvar_geogw.F90,
 gnh_tndlagadiab_gw.F90, gnh_tndlagadiab_svd.F90,
 gnhgw2svd.F90, gnhgw2svdarome.F90, gnhpre.F90,
 gnhpreh.F90, gpcty.F90, gpctytl.F90, gpgeo.F90,
 gpgeotl.F90, gpgrgeo.F90, gpgrgeotl.F90, gpgrp.F90,
 gpgw.F90, gppre.F90, gppread.F90, gppref.F90,
 gpprefad.F90, gppreftl.F90, gppreh.F90, gpprehad.F90,
 gpprehtl.F90, gppretl.F90, gppwcvfe.F90, gpxx.F90,
 gpxyb.F90, gpxybad.F90, gpxybtl.F90, lapinea.F90,
 lapinea5.F90, lapineaad.F90, lapineatl.F90, lapineb.F90,
 lapinebtl.F90, lattes.F90, lattestl.F90, si_cccor.F90,
 sigam.F90, siseve.F90, sitnu.F90, sivderi.F90,
 spcimpfsolve.F90, spcimpfsolvead.F90

arpifs/climate cormassdry.F90
arpifs/dfi sudfi.F90
arpifs/dia cpdysldia.F90
arpifs/fullpos sufpc.F90, sufpd.F90
arpifs/module elbc0b_mod.F90, yomct0.F90, yomgwdiag.F90,
 yommp0.F90, yomvert.F90

arpifs/setup su0phy.F90, su0yoma.F90, su0yomb.F90, su_surf_flds.F90,
 suafn1.F90, suallo.F90, suarg.F90, suct0.F90, sudyn.F90,
 sudyna.F90, sufa.F90, sugem1a.F90, sugem_naml.F90,
 sulap.F90, sump0.F90, sumpini.F90, sunh_vertfe3dbc.F90,
 sunhbmat.F90, sunhsi.F90, susc2b.F90, suslb.F90,
 suspeca.F90, suspeca_gp.F90, suspecg1.F90, suvert.F90,
 suvertfe.F90, suvertfeb.F90, suvfe_knot.F90,
 suvfe_matrix.F90, suvv1.F90

arpifs/utility emptb3.F90, fillb3.F90, verintad.F90

Doc:

Branch "merge002" 14 AVRIL 2014

Basis: CY40T1R2V01

Target: CY40T1R2V02

- Fix some norm violations.

- Bug correction in SUVSLETA.
- Bug correction in SUVAR: move a test towards SUINI and remove useless call to SUDFI.
- Split INTDYN_MOD into INTDYN_MOD (ifs_init object) and INTDYN_SL_MOD (ifs_model object).
- Fix to solve the NFPCLI issue: since SUFPC is now called after SU_SURF_FLDS, a new variable LSURF_CLASSIC is introduced in NAMPHYDS/YOMPHYDS to be used in SU_SURF_FLDS.
- Removal of useless variables NFPINCR and FPINCR.
- Fix dirty features in SUMPINI and SUETRANS0
- Fix a bug in SUGOMETRY (mis-placed alloc/dealloc of ZVALH and ZVBH).
- Fix a bug in SUOPH (active only for C901).

Remarks:

* NAMPHYDS must contain: LSURF_CLASSIC=.TRUE. for FULL-POS runs using NFPCLI=3.

* NAMPHYDS must contain: LSURF_CLASSIC=.FALSE. for FULL-POS runs using NFPCLI=0.

NO NUMERICAL IMPACT IS EXPECTED.

Projects: aladin, arpifs

Git branch: yessad_CY40T1_merge002

Added:

arpifs/module intdynsl_mod.F90

Modified:

aladin/adiab	elarche.F90, elarche5.F90, elarchead.F90, elarchetl.F90, elarmes.F90, elarmes5.F90, elarmesad.F90, elarmestl.F90
aladin/coupling	elsrw.F90
aladin/setup	suegem_nam1.F90, suemp.F90, suetrans0.F90
arpifs/adiab	call_sl.F90, call_sl_ad.F90, call_sl_tl.F90, laitre_gfl.F90, laitre_gmv.F90, laitre_gmv_ad.F90, laitre_gmv_tl.F90, lapinea.F90, lapinea5.F90, lapineaad.F90, lapineatl.F90, lapineb.F90, lapinebad.F90, lapinebtl.F90, larche.F90, larche5.F90, larchead.F90, larchetl.F90, larcina.F90, larcinaad.F90, larcinatl.F90, larcinb.F90, larcinb5.F90, larcinbad.F90, larcinbtl.F90, larcinha.F90, larcinhb.F90, larmes.F90, larmes5.F90, larmesad.F90, larmestl.F90
arpifs/chem	chem_massdia.F90
arpifs/control	gp_model.F90, jmgfixer.F90, qmfixer.F90, qmfixer2.F90, stepo.F90, trmfixers.F90
arpifs/dfi	suini.F90
arpifs/fullpos	gridfpos.F90, sufpc.F90
arpifs/interpol	suvseta.F90
arpifs/module	intdyn_mod.F90, yomfpc.F90, yomfpct0.F90, yomphyds.F90
arpifs/namelist	namphyds.nam.h
arpifs/op_obs	hop.F90, hretr.F90
arpifs/phys_dmn	mf_phys.F90
arpifs/setup	su_surf_flds.F90, sudyn.F90, sugeometry.F90, suinif.F90, sumpini.F90, suoph.F90, surand1.F90
arpifs/utility	deallo.F90, dealsc2.F90
arpifs/var	jbchvar.F90, jbchvarad.F90, jbchvari.F90, jbchvariad.F90, suvar.F90

Doc:

- Fix bugs about units of some angles.
- Improve comments, update wrong comments.
- Add information about unit (degrees or radians), in printings of some angles.
- In SUFPD, some local variables containing angles have been renamed, with appendix `_RD` or `_DG` according to their unit (radians or degrees).
- Improve consistency checkings about unit of (EDELX,EDELY) between SUEGEM_NAML and SUFPD.
- Fix some norm violations which may cause portability issues.

Projects: aladin, arpifs

Git branch: yessad_CY40T1_merge003

Modified:

aladin/dia	ewmovph.F90
aladin/setup	suegem_naml.F90
aladin/var	suejbcosu.F90
arpifs/control	stepo_oops.F90
arpifs/fullpos	sufpd.F90
arpifs/module	factx_mod.F90, yemgeo.F90, yemgsl.F90
arpifs/phys_dmn	apl_arome.F90
arpifs/phys_ec	ec_phys_drv.F90
arpifs/var	rdfpinc.F90