

ARPEGE MEMORANDUM

From: GCO **Date:** July 21, 2009
To: GMAP, COMPAS, GMGEC, GMME, DIR/RE/CRC, Mats Hamrud
Subject: New cycle CY36

A new cycle CY36 has been created. This is a common cycle with the ECMWF. The different contributions for this cycle are described in the following pages.

ClearCase label: CY36

Modified libraries: ifs,odb,satrad,scatt,transform,algor,ifsaux,surf,obstat,aladin,transform_ald,mpa,mse,utilities

Contributors:

ALIAS Antoinette	Project:ifs	CCase branch:mrpa589_CY35T2_gco3
AUGER Ludovic	Project:ifs	CCase branch:mrpa645_CY35T2_auger
BOGATCHEV Andrey	Project:ifs	CCase branch:mrpe702_CY35T2_trans
	Project:ifs	CCase branch:mrpe702_CY35T2_var
BOUYSSSEL Francois	Project:ifs	CCase branch:mrpa649_CY35T2_fby_diag2
EL KHATIB Ryad	Project:ifs	CCase branch:mrpm602_CY35T2_blend
	Project:ifs	CCase branch:mrpm602_CY35T2_blevel
	Project:ifs	CCase branch:mrpm602_CY35T2_ecmrg
	Project:ifs	CCase branch:mrpm602_CY35T2_fix
	Project:ifs	CCase branch:mrpm602_CY35T2_mac
	Project:ifs	CCase branch:mrpm602_CY35T2_mrg
	Project:ifs	CCase branch:mrpm602_CY35T2_norms
	Project:ifs	CCase branch:mrpm602_CY35T2_param
ESSAOUINI Karam	Project:ifs	CCase branch:mrpm618_CY35T2_conf801
GCO	Project:ifs	CCase branch:marp001_CY35T2_bf
	Project:ifs	CCase branch:marp001_CY35T2_namvar
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	Project:ifs	CCase branch:marp001_CY35_r3bf
	Project:ifs	CCase branch:marp003_CY35T2_bator
	Project:ifs	CCase branch:marp003_CY35T2_bfSX9
	Project:ifs	CCase branch:marp003_CY35T2_ctpini
	Project:ifs	CCase branch:marp003_CY35T2_fix_oml
	Project:ifs	CCase branch:marp003_CY35T2_r3bf
	Project:ifs	CCase branch:marp003_CY35T2_r3final
	Project:ifs	CCase branch:marp003_CY35T2_r3sx9
	Project:ifs	CCase branch:marp003_CY35_r3bf

GUIDARD Vincent	Project:ifs	CCase branch:mrpe710_CY35T2_AIRScloodyBF
	Project:ifs	CCase branch:mrpe710_CY35T2_SETrttov
	Project:ifs	CCase branch:mrpe710_CY35T2_mergevarbc
GUILLAUME Frank	Project:ifs	CCase branch:mrpa644_CY35T2_corr_35t2bf
KOLONKO Marcin	Project:ifs	CCase branch:mrpm637_CY35T2_Marcin
PAYAN Christophe	Project:ifs	CCase branch:mrpa642_CY35T2_scatbf
PUECH Dominique	Project:ifs	CCase branch:marp003_CY35_r3bf
SAEZ Patrick	Project:ifs	CCase branch:marp001_CY35T2_bf901
SALMOND Deborah & al	Project:ifs	CCase branch:none
SEITY Yann	Project:ifs	CCase branch:mrpm637_CY35T2_arome
TAILLEFER Francoise	Project:ifs	CCase branch:mrpa647_CY35T2_ftcy36
VANA Filip	Project:ifs	CCase branch:mrpe706_CY35T2_optim
VIGNES Ole	Project:ifs	CCase branch:mrpe726_CY35T2_hirlam
YESSAD Karim	Project:ifs	CCase branch:mrpm603_CY35T2_dev(...)
	Project:ifs	CCase branch:mrpm603_CY35T2_merg36

ALIAS Antoinette

Doc:

Fix a bug in use of NPROMA/NPROC for ARPEGE-CLIMATE .

Project: mse

ClearCase branch: mrga589_CY35T2_gco3

Modified:

mse/externals aro_surf_diag.mnh

AUGER Ludovic

Doc:

Phasing

Project: ifs

ClearCase branch: mrpa645_CY35T2_auger

Modified:

arp/var evjcdfi.F90 subj.F90

BOGATCHEV Andrey

Doc:

Fix DFI and GPNORM problems in ALADIN .

Project: ifs,aladin transforms

ClearCase branch: mrpe702_CY35T2_trans

Added:

tal/external egpnorm_trans.F90

tal/interface egpnorm_trans.h

Modified:

arp/dfi dfi3.F90

arp/parallel gpnorm1.F90

arp/utility gpnorm_gfl.F90

tal/external egpnorm_trans.F90

tal/interface egpnorm_trans.h

Doc:

ALADIN phasing.

Project: aladin,ifs
ClearCase branch: mrpe702_CY35T2_var

Modified:

ald/var ejnrgg.F90 ejnrggad.F90 ejnrggi.F90
ejnrggiad.F90
arp/var cvargpad.F90 cvargptl.F90

BOUYSSSEL Francois

Doc:

Introduction of a new option (NFPCAPE=5) for computing the maximum CAPE computed either from CLS or from first lowest model levels with lateral entrainment (RENTRA). (Modification prepared by Pascal Marquet)

Project: ifs
ClearCase branch: mrpa649_CY35T2_fby_diag2

Modified:

arp/fullpos fpcica.F90 sufpc.F90
arp/phys_dmn aplpar.F90

EL KHATIB Ryad

Doc:

Fix a memory management problem, and cleanings.

Project: aladin
ClearCase branch: mrpm602_CY35T2_blend

Modified:

ald/programs blend.F90

Doc:

Bugfix for B-level distribution.

Project: aladin
ClearCase branch: mrpm602_CY35T2_blevel

Modified:

ald/inidata erlbc.F90
ald/setup suemp.F90

Doc:

Merge odb/extras/ec/ inside xrd/eclite . Directory odb/extras/ec can be removed.*

Project: odb,ifsaux
ClearCase branch: mrpm602_CY35T2_ecmrg

Deleted:

odb/extras ec

Modified:

xrd/eclite datecmd.h datediff.c dateincr.c
julian.h julian_lib.c uv2sd.F

Doc:

suejbbal.F90, initmdb.F90, surwn_mod.F90, susveg_mod.F90, facine.F, dr_hook_util.F90 : bugfix/cleaning (D. Puech, A. Bogatchev, O. Vignes, R. El Khatib)
arp/phys_ec/callpar.F90, arp/phys_ec/gems_*.F90 : fortran 95 restrictions (D. Salmond & R. El Khatib)*

Project: aladin,ifs,odb,surf,ifsaux
ClearCase branch: mrpm602_CY35T2_fix

Added:

arp/phys_ec diag_dcycle.F90

Modified:

ald/var suejbbal.F90
arp/parallel slextpol.F90
arp/phys_ec callpar.F90 callparad.F90 callpartl.F90
diag_dcycle.F90 gems_dealloc.F90 gems_dealloc_ad.F90
gems_dealloc_tl.F90 gems_init.F90 gems_init_ad.F90
gems_init_tl.F90 gems_tend.F90 gems_tend_ad.F90
gems_tend_tl.F90
odb/cma2odb initmdb.F90
sur/module surwn_mod.F90 susveg_mod.F90
xrd/fa facine.F
xrd/support dr_hook_util.F90

Doc:

Portability fix for Mac OS X.

Project: ifsaux
ClearCase branch: mrpm602_CY35T2_mac

Modified:

xrd/utilities linuxtrbk.c

Doc:

Phasing

Project: aladin,ifs
ClearCase branch: mrpm602_CY35T2_mrg

Modified:

ald/var ejnrgg.F90 ejnrggad.F90 ejnrggi.F90
ejnrggiad.F90
arp/dia inifaout.F90
arp/obs_preproc sudimo.F90
arp/phys_dmn hlvabr.F90

Doc:

Auto fixing of norms violations.

Project: aladin,ifs
ClearCase branch: mrpm602_CY35T2_norms

Modified:

ald/var	ebalnonlin.F90	suemodjk.F90	
arp/dia	pregrbenc.F90		
arp/module	aeolus_l2bp_wrapper_mod.F90	mwimager_mix.F90	varbc_allsky.F90
	varbc_eval.F90	varbc_pred.F90	varbc_rad.F90
	varbc_setup.F90	varbc_tcwv.F90	varbc_to3.F90
	yoecldp.F90	yoegwd.F90	yommwave.F90
	yomphy0.F90	yomsekf.F90	yomspst.F90
arp/mwave	mwave_postproc.F90		
arp/obs_preproc	hirs_cld.F90	pre_thinner.F90	sekf_prep_ascat.F90
arp/op_obs	aer_opt_prop.F90	aer_opt_prop_ad.F90	aer_opt_prop_tl.F90
	aer_refl_ad.F90	aer_refl_op.F90	aer_refl_tl.F90
	atmref_gems.F90	atmref_gems_ad.F90	atmref_gems_tl.F90
	bgobs.F90	csalbr_gems.F90	discom_gems.F90
	discom_gems_ad.F90	discom_gems_tl.F90	gauss_gems.F90
	gpscalc_alpharkm2.F90	gpscalc_alpharkm2ad.F90	gpscalc_alpharkm2tl.F90
	gpscalc_nr2d.F90	gpscalc_nr2dad.F90	gpscalc_nr2dtl.F90
	gpscalc_refrac2d.F90	gpscalc_refrac2dad.F90	gpscalc_refrac2dtl.F90
	gpspderivs.F90	gpspderivs_ad.F90	gpspderivstl.F90
	gpsro_2dad.F90	gpsro_2dop.F90	gpsro_2dtl.F90

	hoptl.F90	iso_gems.F90	iso_gems_ad.F90
	iso_gems_tl.F90	kernel_pbp.F90	kernel_pbp_ad.F90
	kernel_pbp_tl.F90	kernel_ppsl.F90	os_gems.F90
	os_gems_ad.F90	os_gems_tl.F90	pre_calc.F90
	radtrad.F90	radtrtl.F90	rt6s_gems.F90
	rt6s_gems_ad.F90	rt6s_gems_tl.F90	scatra_gems.F90
	scatra_gems_ad.F90	scatra_gems_tl.F90	trunca_gems.F90
	trunca_gems_ad.F90	trunca_gems_tl.F90	vertdisc.F90
	vertdisc_ad.F90	vertdisc_tl.F90	z0sea.F90
	z0seaad.F90	z0seatl.F90	
arp/phys_dmn	accvimp.F90	acmixelen.F90	hlncondev.F90
	vdhghthl.F90	vdhghtnhl.F90	vdparcelhl.F90
	vdfpdftablehl.F90	vdfstcucrithl.F90	
arp/phys_ec	aer_clcld.F90	aer_cld.F90	aer_phy3.F90
	aer_src.F90	aer_straact.F90	aer_straero.F90
	aer_strclog.F90	aer_strcomp.F90	aer_strdens.F90
	aer_strfind.F90	aer_strfree.F90	aer_strrlog.F90
	aer_strvelo.F90	aer_wind.F90	cldpp.F90
	ductdia.F90	ec_phys.F90	gwdrag_wms.F90
	qsupersatclip.F90	radcfg.F90	radlswr.F90
	rndecay.F90	su_aerop.F90	su_aerw.F90
	sucumf.F90	sucumf2.F90	sugwwms.F90
	vdfouter.F90		
arp/phys_radi	radghg.F90	suecso4.F90	
arp/pp_obs	ppuv10m.F90		
arp/prism	couplo4_definitions.F90	couplo4_exchange.F90	couplo4_grg_input.F90
	couplo4_grg_stats.F90		
arp/sekf	pertsekf_v2.F90	sekf_gain.F90	sm_ekf_main.F90
arp/setup	suadbuffer.F90	suspsdt.F90	
arp/utility	fcgeneralized_gamma.F90		
arp/var	congrad_ad.F90	cvargptl.F90	evcost.F90
	suqnorm.F90	symtransin.F90	trolev.F90

Doc:

Retuning of parameters.

In modd_surfmax.mnh, JPMODELMAX is the maximum allowed number of surface models per MPI task ; consequently JPMODELMAX has been retuned to 2000, which is big enough to support large and dense geographical area on scalar machines.

The previous value (10000) was too big and leading the executable do exceed the limits of 2Gb of static data. Reversely,

in facomp.h the maximum truncation has been raised and the maximum number of level has been lowered to 200. If the cpp macro HIGHRES is defined, the maximum truncation will be 1200. If this macro is not defined, the maximum truncation will be 599, which should be big enough for centers not setting the global model.

Project: mse,ifsaux

ClearCase branch: mrpm602_CY35T2_param

Modified:

mse/module modd_surfmax.mnh
xrd/fa facomp.h

ESSAOUINI Karam

Doc:

Fix for configuration e801 .

Project: ifs
ClearCase branch: mrpm618_CY35T2_conf801

Modified:

arp/control restart_cnt3.F90

GCO

Doc:

Bugfixes of cycle CY35T2 :

1) Fixes for BATOR :

- * Remove duplicated declarations of module BATOR_MODULE .*
- * Change "USE BATOR_UTIL_MOD" to "USE BATOR_UTIL_MOD , ONLY : ..." in bator_decodbufr_mod.F90, with the aim to fix potential compilation problems on NEC .*
- * Catch-up from AROME operational suite.*

*2) * sugem1a.F90 : fix an old bug, active with stretched mode and low truncation (< 64) (Karim Yessad).*

- * suejbbal.F90: interversion of arrays IRESOL1/2 and ISIDOR1/2 in the two successive calls of ELLIPS, with the aim to avoid a possible array overflow or non-intialized values in 3DVAR minimization (when working with a domain such as NMSMAX /= NSMAX).*

3) Catch-up from operational suite:

- * Fix a bug for fullpos (CAPE) .*
- * Fix concerning the thinning of SYNOP.*
- * Fix a bug for AROME coupling, following up the introduction of inline fullpos.*
- * Fix a bug in surfex, concerning the initialization of ice reservoir in soil.*

4) Add initialization of a variable, under CANARI key. Without this fix, it may be possible in some cases (OLIVE for example) to try to compute the integer part of an infinite value...

5) Introduce CO2-slicing for AIRS to allow computation of cloud top pressure in AIRS profiles and assimilation of cloud-affected AIRS radiances (NB: catch-up from operational suite).

6) Fix for ISP (mts_phys.F90) .

7) Fixes for AROME:

* Fix for B-Level parallelization (writing of surface fields).

* Fix a bug active during a run without aerosol.

* Fix an error message when reading the COVERs of surface file, following up the upgrade to surfex4.

* Add case HPROGRAM='AROME' to fix a problem in prep_pgd .

8) Remove the abort case "LO3ABC.AND.LO3FL" (su0phy.F90) .

9) Initialization to 0 of arrays ZCDROV & ZCHROV if option LVDIFSPNL is activated, to avoid the use

of non-initialized arrays in computation (aplparstl.F90) .

10) Bugfix (spchor.F90).

11) Fixes in aplpar.F90:

* Correction of the addition of PUNEBH+PUDAL which is done twice in Alaro.

* Fix in surface downwards thermal radiative flux computation.

12) Fix Invalid operations and optimise (gpprs0d.F90).

13) Fix a bug in computation of gusts, written in historic files (acfluso.F90) .

Project: aladin,ifs,mpa,mse,odb,utilities

ClearCase branch: marp001_CY35T2_bf

Added:

arp/op_obs co2cldairs.F90

uti/dategrib dategrib.F90

Modified:

ald/var	suejbbal.F90		
arp/adiab	gpprs0d.F90	spchor.F90	
arp/dia	aro_surf_diagh.F90		
arp/fullpos	phymfpos.F90	sufpc.F90	sufpd.F90
arp/module	yomct0.F90	yomfpc.F90	yomtvrads.F90
arp/namelist	namct0.h	namfpc.h	namsats.h
arp/obs_preproc	redrp_no_sq.F90	sugoms.F90	
arp/op_obs	co2cldairs.F90	hop.F90	hopad.F90
	hoptl.F90	hretr.F90	radtr.F90
	radtrad.F90	radtrk.F90	radtrtl.F90
arp/phys_dmn	acfluso.F90	acvppkf.F90	apl_rome.F90
	aplpar.F90	aplparstl.F90	mts_phys.F90
arp/setup	su0phy.F90	suct0.F90	sugem1a.F90
	sumpini.F90		
arp/var	getsatid.F90		
mpa/conv/internals	convect_trigger_shal.mnh	convect_updraft_shal.mnh	shallow_convection.mnh
mse/internals	fm_read.mnh	open_file.mnh	
odb/ddl	sat_atovs.sql		
odb/pandora/module	bator_decodbufr_mod.F90	bator_decodgrib_mod.F90	bator_impr_mod.F90

uti/dategrib bator_lectures_mod.F90
 dategrib.F90
uti/progrid procor2.F prodom.F

Doc:

Fix a phasing bug (replace LFCOBSTES by LFCOBSTEST ...).

Project: ifs
ClearCase branch: marp001_CY35T2_namvar

Modified:

arp/namelist namvar.h

Doc:

Use of CHIEN instead of FAITOU to compare frames.

Project: utilities
ClearCase branch: marp001_CY35T2_op1

Modified:

uti/ctpini/programs inversion_master.F90

Doc:

Miscellaneous portability and phasing fixes.

Project: ifs,odb,satrad,scatt,transform,algor,ifsaux
ClearCase branch: marp001_CY35_r3bf

Modified:

arp/adiab	call_sl.F90	call_sl_ad.F90	cpg.F90
	cpg_dia.F90	cpg_dyn.F90	cpg_dyn_ad.F90
	cpg_dyn_tl.F90	cpg_gp.F90	cptends.F90
	lapinea.F90	lapineb.F90	larmes.F90
	lattex.F90	lattex5.F90	lattexad.F90
	lattextl.F90	postphy.F90	spc2.F90
	spc2ad.F90	spchor.F90	spchorad.F90
arp/c9xx	incli6.F90		
arp/canari	caclsi.F90	casmswi.F90	
arp/climate	cormassdry.F90	updcpl.F90	
arp/control	cnt0.F90	cnt4.F90	cnt4ad.F90
	cnt4tl.F90	cva1.F90	gp_model.F90
	gp_model_ad.F90	gp_model_tl.F90	restart_cnt3.F90
	scan2m.F90	scan2mad.F90	scan2mtl.F90
	sim4d.F90	stepo.F90	testli.F90
	testlievol.F90		

arp/dfi	dfi3.F90 sudfi.F90	digfil.F90	digfilad.F90
arp/dia	cpphddh.F90	sunddh.F90	wroutspgb.F90
arp/fullpos	endpos.F90	fpachmt.F90	sufpc.F90
arp/module	varbc_eval.F90 yomdfi.F90 yomjcdfi.F90 yomop.F90	varbc_setup.F90 yomdyna.F90 yomjg.F90 yomtvrad.F90	yomct0.F90 yomemis.F90 yomobs.F90 yomvar.F90
arp/namelist	namct0.h namjg.h namvar.h	namdfi.h namobs.h	namdyna.h namsats.h
arp/obs_preproc	comtc.F90 mkglobstab.F90 pre_thinner.F90	decis.F90 new_thinn.F90	defrun.F90 new_thinner_no_sq.F90
arp/op_obs	cobs.F90 hop.F90 hretr.F90 radtr.F90 radtrtl.F90	cobslag.F90 hopad.F90 mpobseq_pack.F90 radtrad.F90 slint.F90	cobstl.F90 hoptl.F90 obshor.F90 radtrk.F90
arp/parallel	dot_product_ctlvec.F90 trmtos.F90	slcomm.F90 trstom.F90	slextpolad.F90
arp/phys_dmn	accvud.F90 achmtad.F90 apl_arome.F90 aplpar.F90 hl_aplpar.F90 mf_phys.F90 mts_phys.F90	accdifus.F90 achmttl.F90 aplmini.F90 aplparstl.F90 hhrad.F90 mf_physad.F90	achmt.F90 acpluiz.F90 aplmpphys.F90 arp_ground_param.F90 hlvcbr.F90 mf_phystl.F90
arp/phys_ec	ec_phys.F90 ec_phys_tl.F90 wvxf2gb.F90	ec_phys_ad.F90 ec_physg.F90	ec_phys_drv.F90 radintg.F90
arp/phys_radi	suecrad.F90		
arp/pp_obs	pos.F90		
arp/sekf	sm_ekf_main.F90		
arp/setup	su0phy.F90 suarg.F90 sudefo_gflattr.F90 sudyn.F90 suhdu.F90 suoph.F90	su0yomb.F90 suct0.F90 sudim1.F90 sudyna.F90 suinif.F90 supp.F90 vdiflcz.F90	su1yom.F90 suctrl_gflattr.F90 sudim2.F90 suemis_conf.F90 sumpini.F90 susc2b.F90 vdiflczad.F90
arp/sinvect	nalan1.F90 vdiflcztl.F90		
arp/utility	dealsc2.F90	vspltrans.F90	
arp/var	ecset.F90 getsatid.F90 sualctv.F90 suvar.F90	evcost.F90 rdfpinc.F90 sujb.F90	evjcdfi.F90 rtsetup.F90 suqnorm.F90
odb/ddl	sat_atovs.sql		
odb/lib	version.c		

odb/module	varindex_module.F90		
odb/tools	Rs_t_rh_bias_statistics.F90		
sat/rttov	rttov_ad.F90	rttov_direct.F90	rttov_ec.F90
	rttov_ec_ad.F90	rttov_ec_tl.F90	rttov_setpredictors_7_ad.F90
	rttov_setpredictors_7_tl.F90	rttov_tl.F90	
sct/programs	qscat25to50km.F		
tfl/module	cpledn_mod.F90	gawl_mod.F90	sugaw_mod.F90
	supol_mod.F90	trgtol_mod.F90	trltog_mod.F90
xla/external/lanczos	landr.F		
xla/module	control_vectors_base_mix.F90	control_vectors_data_mix.F90	control_vectors_oper_mod.F90
xrd/support	cargs.c	dr_hook_util.F90	

Doc:

1) *Catch-up from parallel suite (NB: last modifications for BATOR-AROME) .*

2) *Catch-up of AROME operational suite (fix).*

Project: odb

ClearCase branch: marp003_CY35T2_bator

Modified:

odb/pandor/module bator_decodbufr_mod.F90 bator_ecriptions_mod.F90 bator_lectures_mod.F90

Doc:

Workarounds for SX9 compiler.

Project: ifs,odb

ClearCase branch: marp003_CY35T2_bfSX9

Modified:

arp/adiab	larcinbad.F90		
arp/canari	cacova.F90		
arp/fullpos	fpmodprec.F90		
arp/module	iostream_mix.F90		
arp/op_obs	gpscalc_nr.F90	preint.F90	preints.F90
arp/parallel	commjbbal.F90	commjbdat.F90	gatherfreq.F90
arp/phys_dmn	aplparstl.F90		
arp/var	taskob.F90	taskobad.F90	
odb/cma2odb	copie_radsta.F90	globe_split_odb.F90	
odb/lib	codb_distribute.F90		
odb/tools	Bator.F90	Odbtools.F90	

Doc:

Introduction of CTPINI source code, and renamings.

Project: utilities

ClearCase branch: marp003_CY35T2_ctpini

Renamed:

uti/ctpini/src sugmre_ctpini.F90 to uti/ctpini/src/ctpini_sugmre.F90
susmap_ctpini.F90 to uti/ctpini/src/ctpini_susmap.F90

Modified:

uti/ctpini/programs inversion_master.F90
uti/ctpini/src ctpini_sugmre.F90 ctpini_susmap.F90

Doc:

Explicit and detailed use of module OML_MOD , to avoid compilation problems on NEC SX8R/SX9 .

Project: ifs

ClearCase branch: marp003_CY35T2_fix_oml

Modified:

ald/adiab	espchor.F90	espchorad.F90	
arp/adiab	call_sl_ad.F90	cpg.F90	cpgad.F90
	cpctl.F90	larcinaad.F90	larcinbad.F90
arp/control	gp_model.F90		
arp/dia	cpcuddh.F90	ppsydh.F90	sualtdh.F90
	zeroddh.F90		
arp/module	yomdb.F90		
arp/obs_preproc	biascor.F90	biascor_era40.F90	blackhat.F90
	decis.F90	fgwnd.F90	first.F90
	flgtst.F90	gefger.F90	pre_prsta.F90
	prech.F90	redsl.F90	redun.F90
	screen.F90	sualobs.F90	suobs.F90
	upecma.F90	verco.F90	
arp/onedvar	onedvar_raintb_hlp.F90		
arp/phys_ec	ec_phys_drv.F90		
arp/phys_radi	suecrad.F90		
arp/programs	master.F90		
arp/setup	suallo.F90	sump.F90	sumpini.F90
arp/utility	deallo.F90		
arp/var	ecset.F90	ecset_thsafe.F90	taskob.F90
	taskobad.F90	taskobtl.F90	wrevecs.F90
	xformev.F90		
odb/cma2odb	ctxinitdb.F90	ctxprint.F90	initmdb.F90
xrd/grib_mf	mxmn_mf.F		
xrd/module	oml_mod.F90		

Doc:

** Remove re-unfied routines in "algor" project.*

* Remove useless interface "hltridiag.h".

* Renaming of 2 interface blocks in "algor" project (suppression of ".intfb" in names).

* arp/dia/cpdysldia.F90:
replace nonsensical line number 132 (NB: ##neu #include "verder.intfb.h") by !#include
"verder.intfb.h"
(calls to VERDER are still commented) ;

* arp/module/yomobs.F90:
double declaration of LSCATT_NEUTRAL ;

* arp/namelist/namdyna.h:
replace LSDIA by LSLDIA (NB: this fix compilation error of sudyna.F90) .

* Fix miscellaneous phasing bugs.

* Phasing of hretr.F90 (by Vincent Guidard).

* Return to cycle CY35T2 version of espchor.F90 and espchorad.F90 : previous modifications don't
work with scalar platforms...
A modset working with all architectures will be integrated in cycle CY36T1 .

Project: aladin
ClearCase branch: marp003_CY35T2_r3bf

Renamed:

xla/interface mortho.intfb.h to xla/interface/mortho.h
tridia.intfb.h to xla/interface/tridia.h

Deleted:

xla/interface hltridiag.h tridialcz.h tridiavspl.h

Modified:

ald/adiab	espchor.F90	espchorad.F90
arp/dia	cpdysldia.F90	
arp/module	yomobs.F90	
arp/namelist	namdyna.h	
arp/phys_dmn	mts_phys.F90	
arp/sinvect	jacdav.F90	
odb/lib	version.c	
arp/namelist	namjg.h	
arp/obs_preproc	defrun.F90	
arp/op_obs	csalbr_gems.F90	hretr.F90

Doc:

1) Remove obsolete routines.

2) Replace non-standard fonction ARCOS by standard function ACOS (inversion_master.F90) .

Project: aladin,ifs,utilities
ClearCase branch: marp003_CY35T2_r3final

Deleted:

ald/setup	sueoph.F90	
arp/module	yemop.F90	yomphft.F90
arp/obs_preproc	genada.F90	thinn_radar.F90
arp/ocean	precv.F90	
arp/parallel	disgrid_c.F90	disspec.F90
arp/phys_dmn	radint15.F90	
arp/prism	couplo4_cor_test.F90	
arp/setup	sucaclia.F90	

Modified:

uti/ctpini/programs inversion_master.F90

Doc:

Workarounds for SX9 compiler.

Project: ifs
ClearCase branch: marp003_CY35T2_r3sx9

Modified:

arp/module iostream_mix.F90
arp/op_obs preints.F90

Doc:

- 1) Portability fixes.
- 2) Fix too long variable names.

Project: ,ifs,odb
ClearCase branch: marp003_CY35_r3bf

Modified:

aeo/DirectBinaryIO	directbinaryio.F90	
arp/common	yomdb_defs.h	yomdb_vars.h
arp/module	aeolus_getamd_mod.F90	aeolus_l2bp_wrapper_mod.F90
odb/cma2odb	initmdb.F90	

GUIDARD Vincent

Doc:

Bugfix in call to RTTOV_EC for AIRS cloudy radiances.

Project: ifs
ClearCase branch: mrpe710_CY35T2_AIRScldyBF

Modified:

arp/op_obs radtr.F90

Doc:

Phasing

Project: satrad
ClearCase branch: mrpe710_CY35T2_SETrttov

Modified:

sat/rttov rttov_setpredictors_7_ad.F90

Doc:

Cleaning of initializations of program MERGE_VARBC .

Project: ifs
ClearCase branch: mrpe710_CY35T2_mergevarbc

Modified:

arp/programs merge_varbc.F90

GUILLAUME Frank

Doc:

- 1) Add a value control on some real data values before doing an integer conversion.*
- 2) Add some missing output messages.*
- 3) Handle satellite id 223 (NOAA19), and the change of numbering of FOV at EUMETSAT.*

Project: odb
ClearCase branch: mrpa644_CY35T2_corr_35t2bf

Modified:

odb/pandor/module bator_decodbufr_mod.F90
odb/tools Bator.F90

KOLONKO Marcin

Doc:

Cleanings.

Project: aladin,ifs

ClearCase branch: mrpm637_CY35T2_Marcin

Modified:

ald/var suescal.F90
arp/module yemgeo.F90 yemgt3b.F90 yemlap.F90
yemspbc.F90
arp/obs_preproc dwlin.F90

PAYAN Christophe

Doc:

- 1) *LLFIN* defined from *MUPTRA* instead of *NRESUPD*
- 2) *QuikScat Jo* calculated only from the two first wind solutions instead of "4 solutions" (*Jo* calculation in the outer loop only(*LL_AMBIG_REM=.T.*))

Project: ifs

ClearCase branch: mrpa642_CY35T2_scatbf

Modified:

arp/op_obs hjo.F90

PUECH Dominique

Doc:

Replace too long variable names (NB: fix a mistake in a previous GCO's contribution).

Project: odb

ClearCase branch: marp003_CY35_r3bf

Modified:

odb/cma2odb initmdb.F90

SAEZ Patrick

Doc:

Fix a bug in conf 901, caused by:

1) the extrapolation of T799 ECMWF GRIB files in truncature T511 , used at METEO-FRANCE :
some soil points have

a SLT index (SLT = soil texture type) corresponding to a sea value ;

2) ECMWF has added a new value (7) for this SLT index (previous it was between 1 and 6).

This bug has already been fixed in operational suite.

Project: ifs

ClearCase branch: marp001_CY35T2_bf901

Modified:

arp/control cprep1.F90

arp/namelist nammars.h

SALMOND Deborah & al

Doc:

1) Changes to make the pre-CY36 from MF compile and run :

ELSE WHERE -> ELSEWHERE

- ifs/dia/ppsydh.F90

ALLOCATE ZCEN(1,1,1) etc. so passing of POINTER OK on IBM

- ifs/phys_ec/callpar.F90 callpartl.F90 callparad.F90

USE OML_MIX

- ifs/op_obs/hjo.F90

CHARACTER(LEN=25) :: CLOBSGRP

- ifs/var/ecset.F90

2) Bug fixes from CY35R3 found between 1st May and 1st July when we received it back :

Remove NOGW from TL/AD

- ifs/module/gfl_subs_mod.F90

Remove prints

- ifs/phys_ec/su_ghgclim.F90

Changes for EPS

- ifs/module/yomspstdt.F90

- ifs/namelist/namspstdt.h

- ifs/setup/suspsdt.F90

Change to ZHDIRVOR for T1279

- ifs/setup/suhdir.F90

Rain assimilation fixes

- ifs/mwave/mwave_setup.F90

- ifs/onedvar/onedvar_setup.F90

Fix from Yannick Tremolet

- ifs/var/suvazx.F90

Turn off Rayleigh Friction

- ifs/adiab/fspglh.F90

Diurnal cycle diagnostics

- ifs/phys_ec/callpar.F90

Radiation fix

- ifs/phys_ec/radintg.F90

- ifs/phys_radi/srtm_srtm_224gp_mcica.F90

Huber norm fix

- ifs/obs_preproc/defrun.F90

- ifs/op_obs/hjo.F90

Fix for IBM compiler

- ifs/phys_ec/cloudst.F90 cloudsttl.F90 cloudstad.F90

Remove output

- ifs/phys_radi/radghg.F90

Update NCYCLE

- ifs/module/yomct0.F90

Bounds check problem

- odb/bufr2odb/bufr2odb_iasi.F90

Fix for matchup

- odb/include/odb.h

- odb/ddl/matchup_atovs_pred.sql

- odb/ddl/matchup_body.sql

- odb/ddl/matchup_hdr.sql

- odb/ddl/matchup_update_1.sql

- odb/ddl/matchup_update_2.sql

- odb/ddl/matchup_update_3.sql

- odb/ddl/matchupsink.sql

Fix for merge bug from Mats Hamrud/Yannick Tremolet

- ifs/module/traj_surface_mod.F90

Fix for mystery Dr.Hook problem

- odb/include/fodb.h

Obstat changes

- obstat/module/mod_rad_bias_1c.F90

- obstat/module/mod_sat_create_netcdf.F90

- obstat/module/mod_sat_monitor.F90

- obstat/satmon/get_mwimg_odb.F90

- obstat/satmon/get_scatt_odb.F90

- obstat/satmon/get_slmoist_odb.F90

- obstat/satmon/sat_add_geo.F90

- obstat/satmon/sat_geo_plot.F90

- obstat/satmon/sat_hist_plot.F90

- obstat/satmon/sat_hov_plot.F90

- obstat/satmon/sat_monitor.F90
- obstat/satmon/sat_overview_hist_plot.F90
- obstat/src/iniitemloc.F90
- odb/ddl.CCMA/obstat_reo3.sql
- odb/ddl.CCMA/scatt.sql
- odb/ddl.CCMA/scatt_flag.sql
- odb/ddl.CCMA/smon_slmoist.sql
- odb/ddl.ECMA/scatt.sql
- odb/ddl.ECMA/scatt_flag.sql
- odb/ddl.ECMA/smon_slmoist.sql
- odb/ddl/obstat_reo3.sql
- odb/ddl/scatt.sql
- odb/ddl/scatt_flag.sql
- odb/ddl/smon_mwimg_allsky.sql
- odb/ddl/smon_slmoist.sql

4D-Var bit-reproducibility + Bounds checking

- ifs/module/varbc_setup.F90
- ifs/module/varbc_eval.F90
- ifs/parallel/dot_product_ctlvec.F90
- trans/module/ftinv_ctlad_mod.F90

Fix for TMI

- ifs/module/varbc_allsky.F90
- ifs/op_obs/hretr.F90
- ifs/mwave/hretr.F90

LECO2VAR

- ifs/phys_radi/suecrad.F90

Clean output

- ifs/control/stepo.F90 stepoad.F90 stepotl.F90
- ifs/control/cnt4tl.F90
- ifs/control/cnt4ad.F90
- ifs/phys_ec/raddrv.F90
- ifs/module/traj_physics_mod.F90
- ifs/module/traj_semilag_mod.F90
- ifs/module/traj_surface_mod.F90
- ifs/setup/sudim1.F90
- ifs/setup/sump.F90

Fixes for TO3 in JO table

- ifs/parallel/gathercosto.F90
- ifs/utility/prtjo.F90

Fixes to be able to run on non-full nodes

- ifs/module/iostream_mix.F90
- ifsaux/module/mpl_data_module.F90
- ifsaux/module/mpl_init_mod.F90

Filter to stop blow-ups in 4D-Var

- ifs/parallel/write_spec.F90

Optimisation to remove AK zeroing unless it's needed

- ifs/op_obs/hop.F90

- ifs/op_obs/hopad.F90
- ifs/op_obs/hoptl.F90

Fix from Carla

- ifs/control/cfcsens2obs.F90
- ifs/var/congrad.F90

OMP SCHEDULE(STATIC,1) -> (STATIC)

- ifs/op_obs/laidliobsad.F90
- ifs/parallel/slextpolad.F90

Optimisation

- satrad/rttov/rttov_opdep.F90
- satrad/rttov/rttov_opdep_tl.F90
- satrad/rttov/rttov_opdep_ad.F90

Fix for parameter 212

- ifs/phys_ec/callpar.F90

Small OpenMP fixes/optimisations from George

- ifs/control/gp_model.F90
- ifs/control/gp_model_ad.F90
- ifs/control/gp_model_tl.F90
- ifs/control/scan2mad.F90
- ifs/control/scan2mtl.F90
- ifs/module/iostream_mix.F90
- ifs/module/traj_main_mod.F90
- ifs/parallel/read_spec.F90
- ifs/parallel/write_spec.F90
- ifs/phys_ec/ec_phys_drv.F90
- ifs/setup/sugridg.F90
- ifs/setup/sump.F90
- ifs/transform/transdir_wavelet.F90
- ifs/transform/transdir_waveletad.F90
- ifs/transform/transinv_wavelet.F90
- ifs/transform/transinv_waveletad.F90
- ifs/utility/grid_biconserv.F90
- ifs/utility/grid_bicubic.F90
- ifs/utility/grid_bilinear.F90
- ifs/utility/gstats_label_ifs.F90
- ifs/utility/interp_gp.F90
- ifs/var/bgvecs.F90
- ifs/var/congrad.F90
- ifs/var/cvar2in.F90
- ifs/var/cvar2inad.F90
- ifs/var/cvarbcin.F90
- ifs/var/cvarbcinad.F90
- ifs/var/cvargpad.F90
- ifs/var/cvargptl.F90
- ifs/var/jbtomodel.F90
- ifs/var/jbtomodelad.F90
- ifs/var/jbvcor_waveletin.F90
- ifs/var/jbvcor_waveletinad.F90
- ifs/var/sujbwavgen.F90
- ifs/var/taskob.F90

- ifs/var/taskobad.F90
- ifs/var/taskobtl.F90
- ifs/var/wavxform.F90
- ifs/var/wrevecs.F90
- ifs/var/xformev.F90

Fix from Elias to regularize TL/AD advection at top of model

- ifs/adiab/laidditl.F90
- ifs/adiab/laidditlad.F90
- ifs/adiab/laitlitl.F90
- ifs/adiab/laitlitlad.F90
- ifs/adiab/laitritl.F90
- ifs/adiab/laitritlad.F90

Fix from Rossana

- ifs/module/varbc_to3.F90

Zero top increments in 4D-Var (attempts to fix problem with 4D-Var blowing up because of instability in TL model)

- ifs/module/yomjg.F90
- ifs/utility/deallo.F90
- ifs/var/rdfpinc.F90
- ifs/var/sujb.F90
- ifs/namelist/namjg.h

3) Fixes received from MF after 1st July :

- bugfix1
- Karim's fixes for SUGAW
- Patrick Moll fixes for hretr.F90 and rtsetup.F90
- Fix for mpl_recv_mod.F90
- Fix for initmdb.F90
- Fix for dicomout.F90

4) Fixes on top of 1.,2.,3. above :

Fixes for Bounds-checking

- ifs/adiab/call_sl.F90
- ifs/adiab/cpgtl.F90
- ifs/adiab/larcina.F90
- ifs/adiab/larcinatl.F90
- ifs/adiab/larcinaad.F90
- ifs/adiab/lascaw.F90
- ifs/adiab/cvargpad.F90

Tidy

- ifs/parallel/slsextpol.F90

Fix to turn on setup for DFI - turned off by MF

- ifs/setup/su0yomb.F90

Compilation fixes for bugfix1

- ifs/op_obs/co2cldairs.F90
- satrad/interface/getcoef_field.h

Moves in Karim Appendix H1

- ifs/op_obs/expbesu.F90 to ifs/pp_obs/expbesu.F90
- ifs/op_obs/expbesutl.F90 to ifs/pp_obs/expbesutl.F90
- ifs/op_obs/expbesuad.F90 to ifs/pp_obs/expbesuad.F90
- ifs/dia/ini1wrfp.F90 to ifs/fullpos/ini1wrfp.F90
- ifs/dia/ini2wrfp.F90 to ifs/fullpos/ini2wrfp.F90
- ifs/dia/ini3wrfp.F90 to ifs/fullpos/ini3wrfp.F90
- ifsaux/include/mxmaop.h to algor/interface/mxmaop.h
- algor/module/yomlcz.h to ifs/module/yomlcz.h
- ifsaux/eclite/syminv.F to algor/extrnal/syminv.F

Anne Fouilloux's fixes so ECMWF and MF matchup are independent

- ifs/var/ecset.F90
- odb/cma2odb/ctxinitdb.F90
- odb/cma2odb/initmdb.F90
- odb/ddl.CCMA/ecmwf_matchup_atovs_pred.sql
- odb/ddl.CCMA/ecmwf_matchup_body.sql
- odb/ddl.CCMA/ecmwf_matchup_hdr.sql
- odb/ddl.CCMA/ecmwf_matchup_update_1.sql
- odb/ddl.CCMA/ecmwf_matchup_update_2.sql
- odb/ddl.CCMA/ecmwf_matchup_update_3.sql
- odb/ddl.CCMA/ecmwf_matchupsink.sql
- odb/ddl.ECMA/ecmwf_matchup_atovs_pred.sql
- odb/ddl.ECMA/ecmwf_matchup_body.sql
- odb/ddl.ECMA/ecmwf_matchup_hdr.sql
- odb/ddl.ECMA/ecmwf_matchup_update_1.sql
- odb/ddl.ECMA/ecmwf_matchup_update_2.sql
- odb/ddl.ECMA/ecmwf_matchup_update_3.sql
- odb/ddl.ECMA/ecmwf_matchupsink.sql
- odb/ddl/ecmwf_matchup_atovs_pred.sql
- odb/ddl/ecmwf_matchup_body.sql
- odb/ddl/ecmwf_matchup_hdr.sql
- odb/ddl/ecmwf_matchup_update_1.sql
- odb/ddl/ecmwf_matchup_update_2.sql
- odb/ddl/ecmwf_matchup_update_3.sql
- odb/ddl/ecmwf_matchupsink.sql

Another odb fix from Anne Fouilloux

- odb/tools/Adjust_seqnos.F90
- odb/tools/Revert_seqnos.F90

Project: ifs,,odb,satrad,transform,algor,ifsaux

ClearCase branch: none

Added:

arp/module	yomlcz.F90		
arp/phys_ec	aer_bdgtmss_ad.F90	aer_bdgtmss_tl.F90	aer_drydep_ad.F90
	aer_drydep_tl.F90	aer_scavbc_ad.F90	aer_scavbc_tl.F90
	aer_scavin_ad.F90	aer_scavin_tl.F90	aer_sdust_ad.F90
	aer_sdust_tl.F90	aer_sedim.F90	aer_sedimnt_ad.F90
	aer_sedimnt_tl.F90	aer_ssalt_ad.F90	aer_ssalt_tl.F90
arp/sinvect	morthodm.F90		

obt/satmon	get_scatt_odb.F90	get_slmoist_odb.F90	
odb/ddl.CCMA	ecmwf_matchup_atovs_pred.sql	ecmwf_matchup_body.sql	ecmwf_matchup_hdr.sql
	ecmwf_matchup_update_1.sql	ecmwf_matchup_update_2.sql	ecmwf_matchup_update_3.sql
	ecmwf_matchupsink.sql	obstat_reo3.sql	scatt.sql
	scatt_flag.sql	smon_slmoist.sql	
odb/ddl.ECMA	ecmwf_matchup_atovs_pred.sql	ecmwf_matchup_body.sql	ecmwf_matchup_hdr.sql
	ecmwf_matchup_update_1.sql	ecmwf_matchup_update_2.sql	ecmwf_matchup_update_3.sql
	ecmwf_matchupsink.sql	scatt.sql	scatt_flag.sql
	smon_slmoist.sql		
odb/ddl	ecmwf_matchup_atovs_pred.sql	ecmwf_matchup_body.sql	ecmwf_matchup_hdr.sql
	ecmwf_matchup_update_1.sql	ecmwf_matchup_update_2.sql	ecmwf_matchup_update_3.sql
	ecmwf_matchupsink.sql	scatt.sql	scatt_flag.sql
	smon_slmoist.sql		
sat/interface	getcoef_field.h		
sat/rttov	getcoef_field.F90		
xla/external/linalg	syminv.F		
xla/interface	mxmaop.h		

Renamed:

arp/dia	ini1wrfp.F90 to arp/fullpos/ini1wrfp.F90
	ini2wrfp.F90 to arp/fullpos/ini2wrfp.F90
	ini3wrfp.F90 to arp/fullpos/ini3wrfp.F90
arp/op_obs	expbesu.F90 to arp/pp_obs/expbesu.F90
	expbesuad.F90 to arp/pp_obs/expbesuad.F90
	expbesutl.F90 to arp/pp_obs/expbesutl.F90

Deleted:

xla/module	yomlcz.F90
xrd/eclite	syminv.F
xrd/include	mxmaop.h

Modified:

arp/adiab	call_sl.F90	cpgtl.F90	fspglh.F90
	laidditl.F90	laidditlad.F90	laitlitl.F90
	laitlitlad.F90	laitritl.F90	laitritlad.F90
	larcina.F90	larcinaad.F90	larcinatl.F90
	lascaw.F90		
arp/control	cfcsens2obs.F90	cnt4ad.F90	cnt4tl.F90
	gp_model.F90	gp_model_ad.F90	gp_model_tl.F90
	scan2mad.F90	scan2mtl.F90	stepo.F90
	stepoad.F90	stepotl.F90	
arp/dia	ppsydh.F90		
arp/fullpos	sufpg1.F90		
arp/module	gfl_subs_mod.F90	iostream_mix.F90	traj_main_mod.F90
	traj_physics_mod.F90	traj_semilag_mod.F90	traj_surface_mod.F90
	varbc_allsky.F90	varbc_eval.F90	varbc_setup.F90

	varbc_to3.F90	yomct0.F90	yomjg.F90
	yomspst.F90	yomvar.F90	
arp/mwave	mwave_nearest.F90	mwave_setup.F90	
arp/namelist	namjg.h	namspst.h	namvar.h
arp/obs_preproc	defrun.F90		
arp/onedvar	onedvar_setup.F90		
arp/op_obs	co2cldairs.F90	hjo.F90	hop.F90
	hopad.F90	hoptl.F90	hretr.F90
	laidliobsad.F90		
arp/parallel	dicomout.F90	dladdh.F90	dmaddh.F90
	dot_product_ctlvec.F90	gathercosto.F90	read_spec.F90
	slcset.F90	slextpol.F90	slextpolad.F90
	write_spec.F90		
arp/phys_ec	callpar.F90	callparad.F90	callpartl.F90
	cloudst.F90	cloudstad.F90	cloudsttl.F90
	ec_phys_drv.F90	raddrv.F90	radintg.F90
	su_ghgclim.F90		
arp/phys_radi	radghg.F90	srtm_srtm_224gp_mcica.F90	suecrad.F90
arp/setup	su0yomb.F90	sudim1.F90	sugem1a.F90
	sugridg.F90	suhdir.F90	sump.F90
	suspsdt.F90		
arp/transform	transdir_wavelet.F90	transdir_waveletad.F90	transinv_wavelet.F90
	transinv_waveletad.F90		
arp/utility	deallo.F90	grid_biconserv.F90	grid_bicubic.F90
	grid_bilinear.F90	grid_from_grib.F90	gstats_label_ifs.F90
	interp_gp.F90	prtjo.F90	
arp/var	bgvecs.F90	congrad.F90	cosjr.F90
	cvar2in.F90	cvar2inad.F90	cvar3inad.F90
	cvarbcin.F90	cvarbcinad.F90	cvargpad.F90
	cvargptl.F90	ecset.F90	jbtomodel.F90
	jbtomodelad.F90	jbvcor_waveletin.F90	jbvcor_waveletinad.F90
	rdfpinc.F90	rtsetup.F90	sujb.F90
	suvar.F90	suvazx.F90	taskob.F90
	taskobad.F90	taskobtl.F90	wavxform.F90
	wrevecs.F90	xformev.F90	
obt/module	mod_rad_bias_1c.F90	mod_sat_create_netcdf.F90	mod_sat_monitor.F90
obt/satmon	sat_add_geo.F90	sat_geo_plot.F90	sat_hist_plot.F90
	sat_hov_plot.F90	sat_monitor.F90	sat_overview_hist_plot.F90
obt/src	iniitemloc.F90		
odb/bufr2odb	bufr2odb_iasi.F90		
odb/cma2odb	ctxinitdb.F90	initmdb.F90	
odb/ddl	cma.h	matchup_atovs_pred.sql	matchup_body.sql
	matchup_hdr.sql	matchup_update_1.sql	matchup_update_2.sql
	matchup_update_3.sql	matchupsink.sql	obstat_reo3.sql
odb/include	fodb.h	odb.h	
odb/scripts	make_tarball	make_tarball_drhook	
odb/tools	Adjust_seqnos.F90	Revert_seqnos.F90	
sat/interface	getcparam.h	rttov_ec.h	
sat/programs	gensatim.F90		

sat/rttov	getcparam.F90	rttov_ec.F90	rttov_opdep.F90
	rttov_opdep_ad.F90	rttov_opdep_tl.F90	
tfl/module	ftinv_ctlad_mod.F90		
xla/module	control_vectors_oper_mod.F90		
xrd/module	mpl_data_module.F90	mpl_init_mod.F90	mpl_recv_mod.F90

SEITY Yann

Doc:

New EDKF scheme from MesoNH MASDEV48, EDMF scheme interfaced by Hirlam people, and bfs for B-Level parallelisation from Ole Vignes and I.

Project: aladin,ifs,mpa
ClearCase branch: mrpm637_CY35T2_arome

Added:

arp/module	ydualm_tke.F90		
arp/phys_dmn	vdfhghthl.F90	vdfhghtnhl.F90	vdfparcelhl.F90
	vdfpdftablehl.F90	vdfstcucrithl.F90	

Modified:

ald/setup	suemp.F90		
arp/module	ydualm_tke.F90		
arp/parallel	slcset.F90		
arp/phys_dmn	apl_arome.F90	vdfhghthl.F90	vdfhghtnhl.F90
	vdfparcelhl.F90	vdfpdftablehl.F90	vdfstcucrithl.F90
arp/utility	verdder.F90	verder.F90	verint.F90
	verintad.F90		
mpa/turb/externals	aro_shallow_mf.mnh		
mpa/turb/interface	aro_shallow_mf.h		
mpa/turb/internals	compute_entr_detr.mnh	compute_mf_cloud.mnh	compute_updraft.mnh
	ini_cmfshall.mnh	mf_turb.mnh	shallow_mf.mnh
	tridiag_massflux.mnh	updraft_sope.mnh	
mpa/turb/module	modd_cmfshall.mnh	modi_compute_entr_detr.mnh	modi_compute_updraft.mnh
	modi_mf_turb.mnh	modi_shallow_mf.mnh	modi_updraft_sope.mnh

TAILLEFER Francoise

Doc:

1/ in cooperation with Mats Dahlbom : cleaning and validation of a previous Hirlam modification, which consists in a new linear smoothing filter in the spectral orography computation;

2/ bug correction in the fields interpolation from a local database when the longitude of the output domain is between 180 and 360 degrees;

3/introduction of a new key LZOTHER which allows to remove the orographic part in the thermic roughness length calculation.

3/ Deactivation of a new part of code which does not concern CANARI .

Project: ifs

ClearCase branch: mrpa647_CY35T2_ftcy36

Modified:

arp/op_obs hop.F90
ald/c9xx eincli4.F90 eincli5.F90 einter1.F90
arp/c9xx incli0.F90 incli4.F90 incli5.F90
incl7.F90
arp/module yomcla.F90 yomcli.F90
arp/namelist namcli.h

VANA Filip

Doc:

- The new development related to the tilted rotated mercator projection by P. Benard and J.-D. Gril extended to TL/AD code
- Small bugfix for lambert and polar stereographic projections preventing the division by 0 when SL origin point has same coordinate with the geographic pole. (direct/TL/AD code).
- Bugfix in tal package removing MPI communications from the dynamic extent of the OpenMP (i.e. no MPI comms in the OpenMP parallel code).
- More OpenMP regions, especially in the I/O and file handling code.
- Extra NEC directives and code optimization (storing repetitive computation in local arrays or reordering loops to sufficiently feed vector registers) for better code performance on vector platforms (and probably the others as well). Those are mostly focused to Alaro physics and LAM geometry. (The changes were not promoted to the similar code used by other model settings.)
- The original pTKE solver stabilization (to avoid negative TKE(t+dt) values) technique replaced by the new one affecting only TKE diffusion and not the dissipation.

Implications to the results:

The optimization makes the code faster by around 1% of the whole model. OpenMP features indeed allows better code performance with this kind of parallelism. Additionally the mixed MPI-OpenMP parallelization is possible to be used also for the LAM code.

The reordering loops in spectral computation leads to slightly modified norms coming from the different optimization (the code compiled with no optimization should deliver the same norms).

The different treatment of the pTKE solver (LPTKE=.T.) leads to slightly different norms from physics (even without optimization). The results are however neutral in terms of scores with respect to the previous technique for the pseudo-prognostic TKE scheme. With the full TKE code (not yet available in the common source code) it has however significant impact to the results. The old technique was found purely detrimental there.

Validation:

The changes concerning direct code are part of the ALADIN/CE operational suite in Prague. Operations runs with the OpenMP parallelization only. Some users are running MPI-OpenMP experiments with the same code. So far no problems related to the optimized code has been detected

The specific TL/AD code changes were successfully validated with e401 and e501 configurations (including also the LMRT=.T. cases).

Other modifications

- 1) Fix compilation and link problems when OpenMP is not used.
- 2) Fix previously introduced norm violations (espchor*.F90).
- 3) Change default value of LSLHD_OLD, now equal to TRUE. It seems that the older version of SLHD is more confident than new version.

NB: modifications of espchor.F90 & espchorad.F90 have finally not been integrated.

Project: aladin,ifs
ClearCase branch: mrpe706_CY35T2_optim

Modified:

ald/adiab	elarche.F90 elarchetl.F90 espcsi.F90	elarche5.F90 espchor.F90	elarchead.F90 espchorad.F90
ald/coupling	ecoupl1.F90		
ald/setup	suegeo1.F90	suehdf.F90	
ald/utility	espareord.F90		
arp/adiab	call_sl.F90 sitnu.F90	cptend_new.F90	sigam.F90
arp/dia	inifaout.F90		
arp/module	yemgsl.F90		
arp/parallel	trmtos.F90	trstom.F90	
arp/phys_dmn	ac_cloud_model.F90 accvud.F90 acnebn.F90 aplpar.F90	acclph.F90 acdifv1.F90 acptke.F90	accoefk.F90 acmodo.F90 acraneb.F90
tal/module	efsc_mod.F90 eprfi1b_mod.F90	eltdir_ctl_mod.F90 eupdspb_mod.F90	eltdir_mod.F90 euvtvd_mod.F90
tfl/module	trgtol_mod.F90	trltog_mod.F90	

xla/internal/linalg	sgemmx.F		
xrd/fa	facsim.F	farcis.F	faxion.F
xrd/grib_mf	mxmn_mf.F	packgb.F	unpagb.F
ald/adiab	espchor.F90	espchorad.F90	
arp/setup	sudyna.F90		
xrd/fa	faxion.F		
xrd/grib_mf	mxmn_mf.F		
xrd/module	oml_mod.F90		

VIGNES Ole

Doc:

[missing]

Project: ifs,algor

ClearCase branch: mrpe726_CY35T2_hirlam

Modified:

arp/obs_preproc obatabs.F90

xla/module spectral_fields_mod.F90

YESSAD Karim

Doc:

Modification code:

BUGFIX : bug corrections.

- bug correction and fix false comments for option LRWSDLG=T.

- bug corrections in CPG, CPG_PT

MGGDISSPEC : merge DISSPEC+DISSPEC0 -> DISSPEC0.

MGGDISGRID : merge DISGRID+DISGRID_C -> DISGRID.

MODLASCAW : modularisation of (E)LASCAW + TL + AD (including correction of some bugs).

NET : miscellaneous cleanings.

OPTLAI TRI : optimisation of LAITRI

Modified elements:

ald/adiab/elascaw.F90 : MODLASCAW

ald/adiab/elascawtl.F90 : MODLASCAW

ald/adiab/elascawad.F90 : MODLASCAW

ald/fullpos/ebipos.F90 : MGDISGRID
 ald/inidata/esc2rad.F90 : NET
 ald/var/ebalbetaad.F90 : NET
 arp/adiab/cpg.F90 : BUGFIX
 arp/adiab/cpg_gp.F90 : BUGFIX
 arp/adiab/cpg_pt.F90 : BUGFIX (entered cy35t2_bf.04)
 arp/adiab/gnh_conv_prhs.F90 : BUGFIX
 arp/adiab/gnhdlrb.F90 : BUGFIX
 arp/adiab/gnhdlr.F90 : BUGFIX
 arp/adiab/gnhx.F90 : BUGFIX
 arp/adiab/gpgrp.F90 : BUGFIX
 arp/adiab/gpxx.F90 : BUGFIX
 arp/adiab/laitri.F90 : OPTLAITRI
 arp/adiab/lascaw.F90 : MODLASCOW
 arp/adiab/lascawtl.F90 : MODLASCOW
 arp/adiab/lascawad.F90 : MODLASCOW
 arp/canari/caissedm.F90 : MGDISGRID
 arp/canari/casmswi.F90 : MGDISGRID
 arp/climate/cormass2.F90 : MGDISGRID
 arp/climate/cormass3b.F90 : MGDISGRID
 arp/climate/updcpl.F90 : MGDISGRID
 arp/climate/updnud.F90 : MGDISSPEC
 arp/dia/cpdyddh.F90 : BUGFIX
 arp/obs_preproc/flgdmx.F90 : NET
 arp/parallel/disgrid.F90 : MGDISGRID
 arp/parallel/rdpxfa.F90 : MGDISGRID
 arp/parallel/disspec0.F90 : MGDISSPEC
 arp/phys_dmn/mf_phys_prep.F90 : BUGFIX
 arp/phys_dmn/suphmse.F90 : NET
 arp/phys_ec/ec_phys.F90 : BUGFIX
 arp/setup/sugrclia.F90 : MGDISGRID
 arp/setup/suctrl_gflattr.F90 : BUGFIX + add aborts
 arp/setup/susta_conv_prhs.F90 : BUGFIX
 arp/setup/sustadlr.F90 : BUGFIX
 arp/utility/pkgrida.F90 : MGDISGRID
 arp/utility/pksurfa.F90 : MGDISGRID
 arp/var/rtsetup.F90 : NET

Added elements:

arp/adiab/lascaw_cla.F90 : MODLASCOW

arp/adiab/lascaw_cla_tl.F90 : MODLASC
arp/adiab/lascaw_cla_ad.F90 : MODLASC
arp/adiab/lascaw_clo.F90 : MODLASC
arp/adiab/lascaw_clo_tl.F90 : MODLASC
arp/adiab/lascaw_clo_ad.F90 : MODLASC
arp/adiab/lascaw_vintw.F90 : MODLASC
arp/adiab/lascaw_vintw_tl.F90 : MODLASC
arp/adiab/lascaw_vintw_ad.F90 : MODLASC

Removed elements:

arp/ocean/precv.F90

arp/obs_preproc/genada.F90
arp/obs_preproc/thinn_radar.F90

arp/parallel/disgrid_c.F90 : MGDISGRID
arp/parallel/disspec.F90 : MGDISSPEC

arp/phys_dmn/radint15.F90

arp/prism/couplo4_cor_test.F90

xrd/not_used/minv.vpp.F
xrd/not_used/sgemmx.vpp.F

Modifications in namelists:

none

Influence on the results:

- significant differences for NH with LRWSDLG=T (bug correction).
- no other significant differences, only numerical differences may occur.

Remarks:

The following bugfixes have already entered cy35t2_bf.04:

arp/adiab/cpg_pt.F90
arp/adiab/spchor.F90
arp/setup/sugem1a.F90

Project: aladin,ifs,ifsaux

ClearCase branch: mrpm603_CY35T2_dev35t2pourpre36

Added:

arp/adiab lascaw_cla.F90 lascaw_cla_ad.F90 lascaw_cla_tl.F90
lascaw_clo.F90 lascaw_clo_ad.F90 lascaw_clo_tl.F90
lascaw_vintw.F90 lascaw_vintw_ad.F90 lascaw_vintw_tl.F90

Modified:

ald/adiab	elasaw.F90	elasawad.F90	elasawtl.F90
ald/fullpos	ebipos.F90		
ald/inidata	esc2rad.F90		
ald/var	ebalbetaad.F90		
arp/adiab	cpg.F90	cpg_gp.F90	cpg_pt.F90
	gnh_conv_prhs.F90	gnhdlr.F90	gnhdlrb.F90
	gnhx.F90	gpgrp.F90	gpxx.F90
	laitri.F90	lasaw.F90	lasaw_cla.F90
	lasaw_cla_ad.F90	lasaw_cla_tl.F90	lasaw_clo.F90
	lasaw_clo_ad.F90	lasaw_clo_tl.F90	lasaw_vintw.F90
	lasaw_vintw_ad.F90	lasaw_vintw_tl.F90	lasawad.F90
	lasawtl.F90		
arp/canari	caissedm.F90	casmswi.F90	
arp/climate	cormass2.F90	cormass3b.F90	updcpl.F90
	updnud.F90		
arp/dia	cpdyddh.F90		
arp/obs_preproc	flgdmx.F90	genada.F90	thinn_radar.F90
arp/ocean	precv.F90		
arp/parallel	disgrid.F90	disgrid_c.F90	disspec.F90
	disspec0.F90	rdpxfa.F90	
arp/phys_dmn	mf_phys_prep.F90	radint15.F90	suphmse.F90
arp/phys_ec	ec_phys.F90		
arp/prism	couplo4_cor_test.F90		
arp/setup	suctrl_gflattr.F90	sugrclia.F90	susta_conv_prhs.F90
	sustadlr.F90		
arp/utility	pkgrida.F90	pksurfa.F90	
arp/var	rtsetup.F90		
xrd/not_used	minv.vpp.F	sgemmx.vpp.F	

Doc:

* *gprcpad.F90*: fix allowing to run conf 401 EUL with physics.

* *sim4d.F90*: removal of an ABOR1 put at ECMWF which should not be there, necessary to run conf 801 .

* *elasaw.F90, larcinha.F90, larcinhb.F90, lasaw.F90*: fix dimension bugs.

* *suafn3.F90*: bugfix.

* *Fix an insufficient length of character variable.*

* *Miscellaneous bugs and phasing fixes.*

Project: ifs

ClearCase branch: mrpm603_CY35T2_merg36

Added:

arp/setup cpledna35.F90 gawla35.F90 sugawa35.F90

Modified:

ald/adiab	espectr.F90		
ald/c9xx	eincli2.F90	eincli5.F90	eincli6.F90
	eincli7.F90		
ald/coupling	ecoupl1.F90		
ald/programs	check_limits.F90		
ald/transform	etransinv_nhconv.F90	etransinv_nhconvprhs.F90	
arp/adiab	call_sl.F90	cpg.F90	lapinea.F90
	lapineb.F90	larmes.F90	lattex.F90
	lattex5.F90	lattexad.F90	lattextl.F90
	spchor.F90		
arp/control	cnt3.F90	gp_model.F90	
arp/dfi	digfil.F90	digfilad.F90	sudfi.F90
	sufw.F90		
arp/dia	cpdysldia.F90		
arp/fullpos	sufpg1.F90		
arp/op_obs	fcintgt.F90		
arp/parallel	slcomm.F90	slextpol.F90	
arp/phys_dmn	accvud.F90	acfluso.F90	acturb.F90
	apl_arome.F90	aplpar.F90	hlaconds.F90
arp/pp_obs	pos.F90		
arp/setup	cpledna.F90	cpledna35.F90	gawla.F90
	gawla35.F90	suafn3.F90	suctrl_gflattr.F90
	sudyna.F90	sugawa.F90	sugawa35.F90
	sugem1a.F90	sugfl.F90	
arp/sinvect	vdiflcz.F90	vdiflczad.F90	vdiflcztl.F90
arp/utility	grid_from_grib.F90	verdder.F90	verder.F90
	verint.F90	verintad.F90	vspltrans.F90
arp/var	bgevecs.F90		
tfl/module	cpledn_mod.F90	gawl_mod.F90	sugaw_mod.F90
	supol_mod.F90		
xla/external/lanczos	landr.F		
xla/interface	tridialcz.h	tridiavspl.h	
ald/adiab	elascaw.F90		
arp/adiab	gprcpad.F90	larcinha.F90	larcinhb.F90
	lascaw.F90		
arp/control	sim4d.F90		
arp/setup	suafn1.F90	suafn3.F90	