Supplement of

Evaluation of the coupling of EMACv2.55 and the land surface and vegetation model JSBACHv4

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Contents

1 Input Files

Table S1. JSBACH input file overview. *grid* corresponds to the simulation gridsize and *year* to the reference year.

Initial conditions	filename
Initial data for the Carbon Pools	cpools_vga0218_18991231_tiles.nc
Initial data for soil and land properties	ic_land_soil_*grid*_1976_tsrf_clim.nc
	jsbach_*grid*_11tiles_5layers_*year*_no-dynveg_layer_moist.nc
	jsbach_*grid*_11tiles_5layers_*year*_no-dynveg_albedo.nc
	jsbach_*grid*_11tiles_5layers_*year*_no-dynveg_cover_fract.nc
	jsbach_*grid*_11tiles_5layers_*year*_no-dynveg_cover_type.nc
	jsbach_*grid*_11tiles_5layers_*year*_no-dynveg_nn.nc
	jsbach_*grid*_11tiles_5layers_*year*_no-dynveg_soil_layer_depth.nc
	jsbach_*grid*_11tiles_5layers_*year*_no-dynveg_veg_fract.nc
	bc_land_soil_*grid*_*year*_fract_org.nc
	bc_land_soil_*grid*_*year*_nn.nc

2 Example namelist for EMAC/JSBACH: *jsbach.nml*

The following snippets of the jsbach namelist show the default simulation setup for the JSBACH submodel.

```
! -*- f90 -*-
&CTRL
l_verbose= F     ! verbose output of model (debugging)
/
&CPL
!#################################################################################
!## JSBACH switches for PROCESS in CALL ORDER FOR DEBUGGING
!## DEFAULT = .true.
!#################################################################################
        L_CARBON                                    = T,
        L_FUEL                                      = T,
        L_RADIATION                                 = T,
        L_PHENOLOGY                                 = T,
        L_HYDROLOGY                                 = T,
        L_SEB                                       = T,
        L_SSE                                       = T,
        L_ASSIMILATION                              = T,
```

```
    L_TURBULENCE                                = T,
    L_DISTURB                                   = T,
!#FUEL
    L_update_fuel                               = .true.,
!#DISTURBANCE
    L_update_natural_disturbances               = .true.,
!#RADIATION
    L_update_surface_radiation                  = .true.,
!#PHENOLOGY
    L_update_phenology_logrop                   = .true.,
    L_update_fpc                                = .true.,
!#HYDROLOGY
    L_update_snow_and_skin_fraction             = .true.,
    L_update_soil_properties                    = .true.,
!#SURFACE ENERGY BALANCE
    L_update_surface_energy_land                = .true.,
    L_update_surface_energy_lake                = .true.,
!#HYDROLOGY
    L_update_evaporation                        = .true.,
!#SURFACE ENERGY BALANCE
    L_update_surface_fluxes_land                = .true.,
    L_update_surface_fluxes_lake                = .true.,
!#RADIATION
    L_update_radiation_par                      = .true.,
!#HYDROLOGY
    L_update_surface_hydrology                  = .true.,
    L_update_snow_and_skin_fraction             = .true.,
!#SOIL and SNOW ENERGY
    L_update_soil_and_snow_properties           = .true.,
    L_update_soil_and_snow_temperature          = .true.,
!#HYDROLOG
     L_update_soil_hydrology                    = .true.,
!#SURFACE ENERGY BALANCE
    L_update_snowmelt_correction                = .true.,
!#ASSIMILATION
    L_update_assimilation_scaling_factors       = .true.,
    L_update_canopy_cond_unstressed_assimilation= .true.,
    L_update_canopy_cond_stressed_assimilation  = .true.,
```

```
            L_update_assimilation                           = .true.,
        !#HYDROLOGY
            L_update_canopy_cond_unstressed                 = .true.,
            L_update_water_stress                           = .true.,
            L_update_canopy_cond_stressed                   = .true.,
        !#CARBON
        ! warning CO2 gas tracer must be present!
            L_update_C_NPP_pot_allocation                   = .true.,
        !#TURBULENCE
            L_update_humidity_scaling                       = .true.,
            L_update_roughness                              = .true.,
        !#RADIATION
            L_update_albedo                                 = .true.,
        !#HYDROLOGY
            L_update_water_balance                          = .true.,
!################################################################################
!## JSBACH logical switches
!################################################################################
            l_freeze                                        = T,
            l_supercool                                     = T,
            l_dynsnow                                       = T,
            l_heat_cap_dyn                                  = T,
            l_heat_cond_dyn                                 = T,
            l_ice_on_lakes                                  = T,
            l_snow                                          = T,
            l_organic                                       = T,
            ltpe_closed                                     = F,
            ltpe_open                                       = F,
            l_forestRegrowth                                = T,
            l_use_alb_canopy                                = T,
            l_use_alb_veg_simple                            = T,
            l_use_alb_soil_scheme                           = F,
            l_use_alb_soil_litter                           = T,
            l_use_alb_mineralsoil_const                     = T,
            l_use_alb_soil_organic_C                        = T,  !T: 'linear', F: 'log'
            l_burn_pasture                                  = T,
            l_use_quincy                                    = F,  !QUINCY not implemented
!################################################################################
```

```
!## EMAC INPUT DATA
!###############################################################################
! The following channel objects are just input.
! JSBACH will not modify them.
input_fract_lake            =   'ECHAM5',   'alake',    ! [1]
input_land_mask             =   'ECHAM5',   'slm',      ! [1]
input_slf                   =   'ECHAM5',   'slf',      ! [1]
input_fract_glacier         =   'g3b',      'glac',     ! [1]
input_press_srf             =   'g3b',      'aps',      ! [Pa]
input_t_air                 =   'e5vdiff',  'temp2',    ! [K]
input_t_acoef               =   'e5vdiff',  'zetnl',    !
    \[1]Richtmyer-morton-coefficients, t=dry static energy, q=moisture
input_t_bcoef               =   'e5vdiff',  'zftnl',    ! [J/kg]
input_t_acoef_wtr           =   'e5vdiff',  'zetnw',    ! [1]
input_t_bcoef_wtr           =   'e5vdiff',  'zftnw',    ! [J/kg]
input_t_acoef_ice           =   'e5vdiff',  'zetni',    ! [1]
input_t_bcoef_ice           =   'e5vdiff',  'zftni',    ! [J/kg]
input_q_acoef               =   'e5vdiff',  'zeqnl',    ! [1]
input_q_bcoef               =   'e5vdiff',  'zfqnl',    ! [kg/kg]
input_q_acoef_wtr           =   'e5vdiff',  'zeqnw',    ! [1]
input_q_bcoef_wtr           =   'e5vdiff',  'zfqnw',    ! [kg/kg]
input_q_acoef_ice           =   'e5vdiff',  'zeqni',    ! [1]
input_q_bcoef_ice           =   'e5vdiff',  'zfqni',    ! [kg/kg]
input_drag_srf              =   'e5vdiff',  'cfhl',     ! (neutral)/ drag coefficients,
    \was cdnl, cdnw, cdni
input_drag_wtr              =   'e5vdiff',  'cfhw',     ! [-]
input_drag_ice              =   'e5vdiff',  'cfhi',     ! [-]
input_pch                   =   'e5vdiff',  'chl',      ! surface drag [1]
input_wind_10m              =   'e5vdiff',  'wind10',   ! [m s-1]
input_cos_zenith_angle      =   'orbit',    'cossza',   ! [-]
input_declination           =   'orbit',    'dec_off',  ! [degrees, angle sun at equator]
input_rad_sw_lwtr           =   'rad01',    'soflw',    ! [W m-2]
input_rad_sw_lice           =   'rad01',    'sofli',    ! [W m-2]
input_rad_lw_lwtr           =   'rad01',    'trflw',    ! [W m-2]
input_rad_lw_lice           =   'rad01',    'trflw',    ! [W m-2]
input_q_rel_air_climbuf     =   'e5vdiff',  'rh_2m',    ! [-]
input_oro_stddev            =   'g3b',      'orostd',   ! [m]

```

```
! The following channel objects are just input.
! Only srf level is used.
input_wind_u              =   'ECHAM5',   'um1',      ! [m/s]
input_wind_v              =   'ECHAM5',   'vm1',      ! [m/s]
input_cv_rain             =   'ECHAM5',   'rsfc_2d',  ! [kg m-2 s-1]
input_ls_rain             =   'ECHAM5',   'rsfl_2d',  ! [kg m-2 s-1]
input_cv_snow             =   'ECHAM5',   'ssfc_2d',  ! [kg m-2 s-1]
input_ls_snow             =   'ECHAM5',   'ssfl_2d',  ! [kg m-2 s-1]
input_lwflx               =   'rad01',    'flxt',     ! [W m-2]
input_swflx               =   'rad01',    'flxs',     ! shortwave flux [W m-2]
input_swnirflx            =   'rad01',    'flxnir',   ! NIR flux all sky [W m-2]
input_swvisflx            =   'rad01',    'flxsw1',   ! SW1 flux all sky (VIS) [W m-2]
input_lwflx_up            =   'rad01',    'flxut',    ! longwave flux [W m-2]
input_swflx_up            =   'rad01',    'flxus',    ! shortwave flux [W m-2]


! The following channel objects exist already in MESSy.
! SURFACE did not update those variables, but JSBACH will update them (only over land and
    \lakes)
! either via calculation or according to the jsbach input files.
input_vol_heat_cap        =   'g3b',      'rgcgn',    ! Volumetric heat capacity of the
    \soil [j/m**3/K]
input_az0                 =   'g3b',      'az0',      ! roughness length orography [m]
input_fract_forest        =   'ECHAM5',   'forest',   ! forest fraction [1]
input_fract_fpc           =   'ECHAM5',   'vgrat',    ! vegetation fraction rel to land
    \[1]
input_fract_fpc_mon       =   'ECHAM5',   'vgrat',    ! vegetation fraction rel to
    \land, monthly [1]
input_latent_hflx         =   'e5vdiff',  'ahfl',     ! latent heat flux [W m-2]
input_latent_hflx_lnd     =   'e5vdiff',  'ahfll',    ! latent heat flux over land [W
    \m-2]
input_latent_hflx_wtr     =   'e5vdiff',  'ahflw',    ! latent heat flux over water [W
    \m-2]
input_latent_hflx_ice     =   'e5vdiff',  'ahfli',    ! latent heat flux over ice [W
    \m-2]
input_sensible_hflx       =   'e5vdiff',  'ahfs',     ! sensible heat flux [W m-2]
input_sensible_hflx_lnd   =   'e5vdiff',  'ahfsl',    ! sensible heat flux over land [W
    \m-2]
```

```
input_sensible_hflx_wtr     =   'e5vdiff',  'ahfsw',    ! sensible heat flux over water
    \[W m-2]
input_sensible_hflx_ice     =   'e5vdiff',  'ahfsi',    ! sensible heat flux over ice [W
    \m-2]
input_evapo_wtr             =   'e5vdiff',  'evapw',    ! evaporation over water [kg m-2
    \s-1]
input_evapo_ice             =   'e5vdiff',  'evapi',    ! evaporation over ice [kg m-2
    \s-1]
input_evapopot              =   'e5vdiff',  'evapot_2d',! potential
    \evaporation/sublimation [kg m-2 s-1]
input_evapl                 =   'e5vdiff',  'evapl_2d', ! evaporation land
input_evap                  =   'e5vdiff',  'evap',     ! evaporation

! The following channel objects exist already in MESSy and will be updated by JSBACH
! SURFACE did update them before.
input_depth_lice            =   'g3b',      'siced',    ! seaice depth [m]
input_seaice                =   'g3b',      'seaice',   ! seaice fraction rel to ocean [1]
input_seacov                =   'ECHAM5',   'seacov',   ! sea cover (fraction of grid
    \box) [1]
input_landcov               =   'ECHAM5',   'landcov',  ! land cover (fraction of grid
    \box) [1]
input_fract_lice            =   'ECHAM5',   'icecov',   ! ice cover (fract of gb) only
    \over water [1]
input_water_content         =   'g3b',      'ws',       ! Soil water content [m]
input_w_skin                =   'g3b',      'wl',       ! Water content skin reservoir
    \(soil&canopy)[m]
input_t_unfilt              =   'g3b',      'tslm',     ! T(t)    Surface temperature,
    \unfiltered [K]
input_t_old                 =   'g3b',      'tslm1',    ! T(t-dt) Surface temperature
    \t-dt [K]
input_t_soil                =   'g3b',      'tsoil',    ! Temperature [K] in the five
    \soil layers [K]
input_tsi                   =   'g3b',      'tsi',      ! Lake surface temperature (ice)
    \[K]
input_t_lwtr                =   'g3b',      'tsw',      ! surface temperature of water [K]
input_t                     =   'ECHAM5',   'tsurf',    ! surface temperature [K]
input_snowmelt              =   'g3b',      'snmel',    ! Snow melt [kg/m**2]
```

```
input_w_snow_can           =   'g3b',      'snc',      ! Snow depth canopy [m water
    \equivalent]
input_w_snow_soil          =   'g3b',      'sn',       ! Snow depth ground [m water
    \equivalent]
input_w_snow_lice          =   'g3b',      'sni',      ! Snow depth ice [m water
    \equivalent]
input_snow_accum           =   'g3b',      'snacl',    ! Snow budget at non-glacier
    \points [kg/m**2]
input_w_glac               =   'g3b',      'gld',      ! Glacier depth (including snow)
    \[m water equivalent]
input_runoff_glac          =   'g3b',      'rogl',     ! Glacier runoff (rain+snow/ice
    \melt) [kg/m**2]
input_adrain               =   'ECHAM5',   'adrain',   ! Drainage at non-glacier points
    \[m]
input_aros                 =   'ECHAM5',   'aros',     ! atmospheric runoff  [m]
input_hcap_grnd            =   'g3b',      'grndcapc', ! Heat capacity of the uppermost
    \soil layer [J/m**2/K]
input_grnd_hflx            =   'g3b',      'grndhflx', ! Ground heat flux [J m-2 s-1]
input_evapo_skin           =   'ECHAM5',   'evwsd',    ! Evaporation from skin reservoir
    \[1]
input_hflx_cond_ice        =   'g3b',      'ahfice',   ! conductive heat flux [W m-2]
input_fract_snow_lice      =   'ECHAM5',   'cvsi',     ! snow cover over ice (fraction
    \of grid box) [1]
input_fract_snow_can       =   'ECHAM5',   'cvsc',     ! Fractional snow cover canopy [1]
input_fract_snow           =   'ECHAM5',   'cvs',      ! Fractional snow cover [1]
input_lai                  =   'ECHAM5',   'vlt',      ! leaf area index [1]
input_wsmx                 =   'g3b',      'wsmx',     ! field capacity (water holding
    \capacity) of soil [m]
input_grndflux             =   'g3b',      'grndflux', ! grndflux+grndhflx*slm*dtime
    \[W/m**2]
input_cvw                  =   'ECHAM5',   'cvw',      ! Skin reservoir fraction (=
    \pwl/pwlmx, see *vdiff*)
input_runoff_hd            =   'g3b',      'runoff',   ! Total runoff non-glacier points
    \(acc.) [kg/m**2s]
input_drainage_hd          =   'ECHAM5',   'adrain',   ! Drainage at non-glacier points
    \[m/s]
input_albedo               =   'rad',      'albedo',   ! surface albedo [1]

```

```
!###############################################################################
!##JSBACH input data /pool/data/JSBACH/...
!###############################################################################
! The following channel objects exist already in MESSy.
! JSBACH will use input data and overwrite the channel objects for the first timestep.
input_lai_init             =   'import_grid','in_lai_cl_lai_clim', !initial LAI from
    \climatology [1]
! The following channel objects don't exist in MESSy.
! JSBACH will use input data and create new channel objects.
input_fract_fpc_max        =   'import_grid','in_jsb_veg_ratio_max',   ! [1]
input_rough_m              =   'import_grid','in_alb_roughness_length',! [m]
input_vol_field_cap        =   'import_grid','in_jsb_soil_field_cap',  ! [m/m]
input_cover_type_ti        =   'import_grid','in_jsb_ct_cover_type',   ! [1]
input_cover_fract_ti       =   'import_grid','in_jsb_lc_cover_fract',  ! [1]
input_w_soil_sl            =   'import_grid','in_jsb_lm_layer_moist',  ! [m]
input_soil_depth           =   'import_grid','in_jsb_soil_depth',      ! [m]
input_vol_porosity         =   'import_grid','in_jsb_soil_porosity',   ! [m/m]
input_pore_size_index      =   'import_grid','in_jsb_pore_size_index', ! [-]
input_heat_cond            =   'import_grid','in_jsb_heat_conductivity',! [J m-1 s-1 K-1]
input_hyd_cond_sat         =   'import_grid','in_jsb_hyd_cond_sat',    ! [m/s]
input_vol_p_wilt           =   'import_grid','in_jsb_wilting_point',   ! [m/m]
input_bclapp               =   'import_grid','in_jsb_bclapp',          ! [-]
input_w_soil_column        =   'import_grid','in_jsb_init_moist',      ! [m]
input_max_moist            =   'import_grid','in_jsb_maxmoist',        ! [m]
input_root_depth           =   'import_grid','in_jsb_root_depth',      ! [m]
input_matrix_pot           =   'import_grid','in_jsb_moisture_pot',    ! [m]
input_albedo_veg_vis       =   'import_grid','in_alb_albedo_veg_vis',  ! [1]
input_albedo_veg_nir       =   'import_grid','in_alb_albedo_veg_nir',  ! [1]
input_albedo_soil_vis      =   'import_grid','in_alb_albedo_soil_vis', ! [1]
input_albedo_soil_nir      =   'import_grid','in_alb_albedo_soil_nir', ! [1]
input_tclim                =   'import_grid','in_jsb_ic_surf_temp',    ! [K]
input_tclim_sum            =   'import_grid','in_jsb_tc_tclim_sum',    ! [K]
input_tclim_max            =   'import_grid','in_jsb_tc_tclim_max',    ! [K]
input_tclim_min            =   'import_grid','in_jsb_tc_tclim_min',    ! [K]
input_tclim_idx            =   'import_grid','in_jsb_tc_tidx',         ! [-]
input_fract_org_sl         =   'import_grid','in_fosl_fract_org_sl',   ! [1]
input_NPP_pot_yDayMean     =   'import_grid','j_NPP_run_mean',         ! [mol(CO2)/m2
    \(canopy) s]
```

```
!##############################################################################
!## JSBACH Input Carbon from cpools
!##############################################################################
! Initial conditions for carbon pools, all in [mol(C)/m^2(canopy)] if not stated
    \otherwise.
input_c_green              =   'import_grid','j_Cpool_green',                  ! Green
    \carbon pool: on input last value; updated on output [mol(C)/m^2(canopy) s]:
input_c_reserve            =   'import_grid','j_Cpool_reserve',                ! C-pool
    \for carbohydrate reserve (sugars, starches) that allows plants to survive
input_c_woods              =   'import_grid','j_Cpool_woods',                  ! C-pool
    \for stems, thick roots and other (dead) structural
input_c_crop_harvest       =   'import_grid','j_Cpool_crop_harvest',           ! C-pool
    \for biomass harvested from crops [mol(C)/m^2(grid box)]
input_c_acid_ag1           =   'import_grid','j_YCpool_acid_ag1',              ! Above
    \ground litter-pool for acid soluble litter
input_c_water_ag1          =   'import_grid','j_YCpool_water_ag1',             ! - for
    \water soluble litter
input_c_ethanol_ag1        =   'import_grid','j_YCpool_ethanol_ag1',           ! - for
    \ethanol soluble litter
input_c_nonsoluble_ag1     =   'import_grid','j_YCpool_nonsoluble_ag1',        ! -
    \non-soluble soluble litter
input_c_acid_bg1           =   'import_grid','j_YCpool_acid_bg1',              ! Below
    \ground litter-pool for acid soluble litter
input_c_water_bg1          =   'import_grid','j_YCpool_water_bg1',             ! - for
    \water soluble litter
input_c_ethanol_bg1        =   'import_grid','j_YCpool_ethanol_bg1',           ! - for
    \ethanol soluble litter
input_c_nonsoluble_bg1     =   'import_grid','j_YCpool_nonsoluble_bg1',        ! - for
    \non-soluble litter
input_c_humus_1            =   'import_grid','j_YCpool_humus_1',
input_c_acid_ag2           =   'import_grid','j_YCpool_acid_ag2',
input_c_water_ag2          =   'import_grid','j_YCpool_water_ag2',
input_c_ethanol_ag2        =   'import_grid','j_YCpool_ethanol_ag2',
input_c_nonsoluble_ag2     =   'import_grid','j_YCpool_nonsoluble_ag2',
input_c_acid_bg2           =   'import_grid','j_YCpool_acid_bg2',
input_c_water_bg2          =   'import_grid','j_YCpool_water_bg2',
input_c_ethanol_bg2        =   'import_grid','j_YCpool_ethanol_bg2',
input_c_nonsoluble_bg2     =   'import_grid','j_YCpool_nonsoluble_bg2',
```

```
input_c_humus_2             =    'import_grid','j_YCpool_humus_2',
/
```

3 Parameter optimisation

Table S2. List of optimised parameters of the control simulation (CTRL) and the 35 Simulations with varying parameters including the simulation best fitting the requirements (EMAC/JSBACH).

Run	zasic	zinhomi	zinhoml	cmfctop	cprcon [e-04$s^2\,m^{-2}$]
EMAC/SRF	0.85	0.85	$\mathrm{zinhoml}_{\mathrm{default}}$	0.3	1
CTRL	0.85	0.85	$\mathrm{zinhoml}_{\mathrm{default}}$	0.3	1
3	0.8	default	default	default	default
4	0.85	default	default	default	default
5	0.89	default	default	default	default
6	0.91	default	default	default	default
7	default	0.8	default	default	default
8	default	0.85	default	default	default
9	default	0.9	default	default	default
10	default	0.95	default	default	default
11	default	1	default	default	default
12	default	default	0.7	default	default
13	default	default	0.77	default	default
14	default	default	0.8	default	default
15	default	default	0.9	default	default
EMAC/JSBACH	default	default	0.92	default	default
17	default	default	default	0.2	default
18	default	default	default	0.23	default
19	default	default	default	0.26	default
20	default	default	default	0.3	default
21	default	default	default	0.35	default
22	default	default	default	default	1
23	default	default	default	default	2
24	default	default	default	default	3
25	default	default	default	default	4
26	default	default	default	default	5
27	default	default	default	default	6
28	default	default	default	default	8
29	default	default	default	default	9
30	0.75	1	0.88	0.3	4
32	0.75	1	0.88	0.3	8
33	0.75	1	0.88	0.3	10
34	0.7	1	0.92	0.3	4
35	default	default	0.92	default	4

Table S3. Table of the temporally and globally averaged results ± inter annual variability as standard deviation of the CTRL and 35 Simulations with varying tuning parameters (1990 to 2010). Additionally, the corresponding reanalysis or observational results are listed as "REF". For precipitation REF refers to the GPCP monthly precipitation dataset (Adler et al. (2003)), while for the remaining variables REF refers to ERA5/ERA5-Land reanalysis datasets (Hersbach (2023);Muñoz Sabater(2019,2021)).

Run	LST [K]	TOA_{net} [W m^{-2}]	TOA_{sw} [W m^{-2}]	TOA_{lw} [W m^{-2}]	SRF_{net} [W m^{-2}]	SRF_{sw} [W m^{-2}]	SRF_{lw} [W m^{-2}]	$HFLX_{net}$ [W m^{-2}]	$HFLX_{sensible}$ [W m^{-2}]	$HFLX_{latent}$ [W m^{-2}]	Precip [mm day^{-1}]	ACLC	LWC [kg m^{-2}]	IWC [kg m^{-2}]	TWS [m]
REF	282.25 ± 0.27	0.45 ± 0.65	242.67 ± 0.65	-242.22 ± 0.29	105.91 ± 0.45	163.76 ± 0.54	-57.85 ± 0.31	-69.92 ± 0.57	-28.15 ± 0.68	-41.76 ± 0.43	2.7 ± 0.03	0.553 ± 0.00405	0.04707 ± 0.00098	0.02166 ± 0.00033	1.06012 ± 0.00947
EMAC/SRF	283.09 ± 0.27	3.56 ± 0.39	234.33 ± 0.27	-230.77 ± 0.34	107.92 ± 0.24	161.74 ± 0.31	-53.83 ± 0.3	-104.24 ± 0.35	-16.74 ± 0.18	-87.5 ± 0.42	2.83 ± 0.02	1.06067 ± 0.00444	0.10394 ± 0.00115	0.04972 ± 0.00068	0.34995 ± 0.00425
CTRL	280.71 ± 0.26	7.41 ± 0.47	237.46 ± 0.37	-230.06 ± 0.39	108.52 ± 0.25	166.09 ± 0.45	-57.58 ± 0.4	-110.68 ± 0.43	-11.68 ± 0.11	-99.0 ± 0.45	2.75 ± 0.02	0.6452 ± 0.0032	0.09538 ± 0.00114	0.04943 ± 0.00068	1.00555 ± 0.00291
Test3	280.54 ± 0.28	5.06 ± 0.51	235.54 ± 0.29	-230.48 ± 0.38	106.76 ± 0.25	164.66 ± 0.39	-57.91 ± 0.43	-111.01 ± 0.59	-11.7 ± 0.16	-99.31 ± 0.55	2.77 ± 0.02	0.6466 ± 0.0025	0.0959 ± 0.00159	0.04976 ± 0.00066	1.00345 ± 0.00823
Test4	280.66 ± 0.26	6.61 ± 0.5	237.22 ± 0.3	-230.61 ± 0.42	108.08 ± 0.28	165.97 ± 0.36	-57.88 ± 0.35	-110.92 ± 0.65	-11.59 ± 0.15	-99.33 ± 0.6	2.77 ± 0.02	0.6462 ± 0.0025	0.09594 ± 0.00114	0.04945 ± 0.00067	1.00362 ± 0.00761
Test5	280.73 ± 0.27	8.06 ± 0.43	238.78 ± 0.31	-230.72 ± 0.37	109.31 ± 0.26	167.24 ± 0.38	-57.93 ± 0.36	-110.81 ± 0.64	-11.6 ± 0.12	-99.21 ± 0.62	2.76 ± 0.02	0.646 ± 0.0022	0.09552 ± 0.00114	0.04936 ± 0.00063	1.00336 ± 0.00878
Test6	280.85 ± 0.29	8.63 ± 0.53	239.5 ± 0.31	-230.87 ± 0.39	109.92 ± 0.25	167.76 ± 0.4	-57.83 ± 0.37	-110.84 ± 0.64	-11.6 ± 0.15	-99.24 ± 0.65	2.76 ± 0.02	0.6453 ± 0.0022	0.09582 ± 0.00127	0.04919 ± 0.00059	1.0033 ± 0.0086
Test7	280.6 ± 0.29	6.67 ± 0.42	237.87 ± 0.35	-231.2 ± 0.41	108.53 ± 0.32	166.66 ± 0.39	-58.14 ± 0.37	-111.28 ± 0.61	-11.72 ± 0.14	-99.56 ± 0.59	2.77 ± 0.02	0.6465 ± 0.0027	0.09529 ± 0.00098	0.04955 ± 0.00061	1.00326 ± 0.00943
Test8	280.66 ± 0.26	6.61 ± 0.5	237.22 ± 0.3	-230.61 ± 0.42	108.08 ± 0.28	165.97 ± 0.36	-57.88 ± 0.35	-110.92 ± 0.65	-11.59 ± 0.15	-99.33 ± 0.6	2.77 ± 0.02	0.6462 ± 0.0025	0.09594 ± 0.00114	0.04945 ± 0.00067	1.00362 ± 0.00761
Test9	280.73 ± 0.27	6.35 ± 0.42	236.5 ± 0.24	-230.15 ± 0.34	107.56 ± 0.26	165.2 ± 0.3	-57.64 ± 0.35	-110.55 ± 0.6	-11.58 ± 0.11	-98.97 ± 0.58	2.76 ± 0.02	0.6462 ± 0.0018	0.09652 ± 0.00112	0.04933 ± 0.00055	1.0034 ± 0.00672
Test10	280.73 ± 0.27	6.48 ± 0.46	236.0 ± 0.31	-229.52 ± 0.45	107.19 ± 0.29	164.69 ± 0.34	-57.5 ± 0.33	-110.04 ± 0.59	-11.55 ± 0.14	-98.48 ± 0.58	2.74 ± 0.02	0.6465 ± 0.0028	0.09637 ± 0.00111	0.04942 ± 0.00057	1.00328 ± 0.00819
Test11	280.75 ± 0.26	6.34 ± 0.49	235.32 ± 0.36	-228.98 ± 0.33	106.71 ± 0.31	163.97 ± 0.43	-57.26 ± 0.39	-109.6 ± 0.58	-11.49 ± 0.14	-98.1 ± 0.55	2.73 ± 0.02	0.6474 ± 0.0024	0.09708 ± 0.00096	0.049 ± 0.00052	1.00239 ± 0.00791
Test12	280.58 ± 0.28	5.66 ± 0.44	236.32 ± 0.32	-230.65 ± 0.39	106.91 ± 0.33	164.94 ± 0.37	-58.02 ± 0.35	-110.57 ± 0.62	-11.59 ± 0.17	-98.97 ± 0.61	2.76 ± 0.02	0.6456 ± 0.0026	0.09557 ± 0.00096	0.04952 ± 0.00049	1.00348 ± 0.00838
Test13	280.57 ± 0.28	4.84 ± 0.42	235.5 ± 0.34	-230.67 ± 0.35	106.06 ± 0.27	164.01 ± 0.43	-57.95 ± 0.4	-110.55 ± 0.54	-11.63 ± 0.17	-98.93 ± 0.53	2.76 ± 0.02	0.6455 ± 0.0031	0.09529 ± 0.00108	0.04946 ± 0.00061	1.00356 ± 0.00795
Test14	280.53 ± 0.28	4.4 ± 0.47	235.04 ± 0.3	-230.64 ± 0.39	105.67 ± 0.24	163.47 ± 0.38	-57.8 ± 0.36	-110.57 ± 0.59	-11.65 ± 0.13	-98.92 ± 0.57	2.76 ± 0.02	0.6462 ± 0.0027	0.09533 ± 0.00104	0.04946 ± 0.00058	1.00368 ± 0.0075
Test15	280.55 ± 0.26	3.48 ± 0.39	234.1 ± 0.37	-230.62 ± 0.41	104.62 ± 0.29	162.42 ± 0.44	-57.79 ± 0.39	-110.5 ± 0.67	-11.57 ± 0.13	-98.93 ± 0.63	2.76 ± 0.02	0.6457 ± 0.0035	0.09531 ± 0.00098	0.04942 ± 0.00049	1.00327 ± 0.00821
EMAC/JSBACH	280.48 ± 0.23	3.23 ± 0.38	233.86 ± 0.29	-230.63 ± 0.38	104.43 ± 0.3	162.14 ± 0.34	-57.71 ± 0.35	-110.47 ± 0.67	-11.67 ± 0.14	-98.79 ± 0.61	2.76 ± 0.02	0.6464 ± 0.0028	0.09519 ± 0.0009	0.04936 ± 0.00054	1.00385 ± 0.00815
Test17	280.6 ± 0.23	3.89 ± 0.46	234.27 ± 0.31	-230.38 ± 0.37	105.94 ± 0.28	162.71 ± 0.38	-56.77 ± 0.37	-111.4 ± 0.58	-11.82 ± 0.14	-99.58 ± 0.55	2.78 ± 0.02	0.6578 ± 0.0025	0.09687 ± 0.00121	0.04916 ± 0.00063	1.00379 ± 0.00819
Test18	280.63 ± 0.23	4.81 ± 0.4	235.27 ± 0.33	-230.46 ± 0.37	106.67 ± 0.27	163.83 ± 0.41	-57.16 ± 0.41	-111.22 ± 0.6	-11.78 ± 0.15	-99.44 ± 0.58	2.77 ± 0.02	0.654 ± 0.0027	0.09656 ± 0.00118	0.04918 ± 0.0006	1.00344 ± 0.00751
Test19	280.64 ± 0.21	5.59 ± 0.44	236.14 ± 0.29	-230.56 ± 0.42	107.32 ± 0.24	164.77 ± 0.41	-57.45 ± 0.44	-111.11 ± 0.67	-11.72 ± 0.16	-99.39 ± 0.63	2.77 ± 0.02	0.6506 ± 0.0026	0.09622 ± 0.00136	0.04941 ± 0.00068	1.00382 ± 0.0075
Test20	280.66 ± 0.26	6.61 ± 0.5	237.22 ± 0.3	-230.61 ± 0.42	108.08 ± 0.28	165.97 ± 0.36	-57.88 ± 0.35	-110.92 ± 0.65	-11.59 ± 0.15	-99.33 ± 0.6	2.77 ± 0.02	0.6462 ± 0.0025	0.09594 ± 0.00114	0.04945 ± 0.00067	1.00362 ± 0.00761
Test21	280.69 ± 0.28	7.64 ± 0.37	238.32 ± 0.24	-230.68 ± 0.34	108.9 ± 0.26	167.18 ± 0.27	-58.27 ± 0.32	-110.69 ± 0.61	-11.6 ± 0.17	-99.09 ± 0.61	2.76 ± 0.02	0.6424 ± 0.0025	0.09519 ± 0.00094	0.04968 ± 0.00063	1.00316 ± 0.00774
Test22	280.66 ± 0.26	6.61 ± 0.5	237.22 ± 0.3	-230.61 ± 0.42	108.08 ± 0.28	165.97 ± 0.36	-57.88 ± 0.35	-110.92 ± 0.65	-11.59 ± 0.15	-99.33 ± 0.6	2.77 ± 0.02	0.6462 ± 0.0025	0.09594 ± 0.00114	0.04945 ± 0.00067	1.00362 ± 0.00761
Test23	280.49 ± 0.26	6.85 ± 0.48	241.36 ± 0.35	-234.51 ± 0.32	111.04 ± 0.22	170.57 ± 0.48	-59.53 ± 0.48	-113.5 ± 0.66	-11.91 ± 0.13	-101.59 ± 0.63	2.84 ± 0.02	0.6267 ± 0.0029	0.08383 ± 0.00098	0.03996 ± 0.00057	1.00189 ± 0.00737
Test24	280.41 ± 0.22	6.29 ± 0.41	242.5 ± 0.28	-236.21 ± 0.33	111.74 ± 0.26	171.84 ± 0.35	-60.09 ± 0.36	-114.76 ± 0.56	-12.06 ± 0.12	-102.7 ± 0.57	2.87 ± 0.02	0.619 ± 0.0026	0.07962 ± 0.00066	0.0366 ± 0.00056	1.0015 ± 0.00797
Test25	280.4 ± 0.27	5.88 ± 0.43	243.13 ± 0.32	-237.25 ± 0.33	112.06 ± 0.23	172.56 ± 0.46	-60.51 ± 0.48	-115.45 ± 0.65	-12.16 ± 0.14	-103.29 ± 0.63	2.89 ± 0.02	0.6133 ± 0.0028	0.07735 ± 0.00073	0.0349 ± 0.00056	1.00089 ± 0.00818
Test26	280.35 ± 0.26	5.59 ± 0.39	243.44 ± 0.29	-237.85 ± 0.36	112.25 ± 0.25	172.9 ± 0.37	-60.65 ± 0.35	-115.92 ± 0.59	-12.18 ± 0.1	-103.74 ± 0.61	2.91 ± 0.02	0.6099 ± 0.0026	0.07629 ± 0.00061	0.03385 ± 0.00087	1.00167 ± 0.00813
Test27	280.34 ± 0.25	5.31 ± 0.38	243.62 ± 0.31	-238.31 ± 0.29	112.33 ± 0.24	173.11 ± 0.41	-60.78 ± 0.43	-116.21 ± 0.56	-12.26 ± 0.13	-103.95 ± 0.6	2.92 ± 0.02	0.6069 ± 0.0034	0.07533 ± 0.00071	0.03305 ± 0.00042	1.0011 ± 0.00768
Test28	280.28 ± 0.28	5.11 ± 0.37	243.93 ± 0.37	-238.82 ± 0.28	112.48 ± 0.26	173.47 ± 0.47	-60.99 ± 0.47	-116.58 ± 0.61	-12.36 ± 0.16	-104.22 ± 0.61	2.92 ± 0.02	0.6036 ± 0.0033	0.07422 ± 0.00081	0.03216 ± 0.00043	1.00115 ± 0.00858
Test29	280.32 ± 0.3	4.95 ± 0.43	244.0 ± 0.35	-239.05 ± 0.35	112.49 ± 0.27	173.54 ± 0.46	-61.05 ± 0.45	-116.73 ± 0.59	-12.32 ± 0.18	-104.41 ± 0.58	2.93 ± 0.02	0.6018 ± 0.0033	0.07398 ± 0.00073	0.03186 ± 0.00042	1.00108 ± 0.00824
Test30	280.17 ± 0.31	0.54 ± 0.41	236.07 ± 0.28	-235.53 ± 0.36	105.78 ± 0.26	165.57 ± 0.35	-59.79 ± 0.39	-114.13 ± 0.62	-11.99 ± 0.14	-102.14 ± 0.61	2.87 ± 0.02	0.6146 ± 0.0025	0.07776 ± 0.00067	0.03467 ± 0.0005	1.00037 ± 0.00886
Test32	280.08 ± 0.28	-0.08 ± 0.43	237.09 ± 0.34	-237.17 ± 0.27	106.35 ± 0.23	166.66 ± 0.46	-60.31 ± 0.47	-115.27 ± 0.55	-12.13 ± 0.13	-103.13 ± 0.6	2.9 ± 0.02	0.6062 ± 0.0024	0.07447 ± 0.0008	0.03201 ± 0.00055	1.00072 ± 0.00858
Test33	280.07 ± 0.28	-0.19 ± 0.45	237.34 ± 0.42	-237.52 ± 0.35	106.52 ± 0.29	166.92 ± 0.52	-60.4 ± 0.42	-115.57 ± 0.61	-12.16 ± 0.14	-103.41 ± 0.58	2.91 ± 0.02	0.6028 ± 0.0037	0.07393 ± 0.00063	0.03153 ± 0.00041	1.00103 ± 0.00849
Test34	280.06 ± 0.25	-0.89 ± 0.36	234.44 ± 0.36	-235.33 ± 0.35	104.42 ± 0.28	164.15 ± 0.44	-59.73 ± 0.41	-114.11 ± 0.54	-12.01 ± 0.16	-102.09 ± 0.52	2.87 ± 0.01	0.6168 ± 0.0031	0.07773 ± 0.00069	0.03483 ± 0.0005	1.00153 ± 0.00794
Test35	280.21 ± 0.25	2.53 ± 0.44	239.73 ± 0.39	-237.2 ± 0.33	108.41 ± 0.26	168.65 ± 0.51	-60.24 ± 0.44	-114.97 ± 0.58	-12.15 ± 0.13	-102.82 ± 0.58	2.88 ± 0.02	0.6129 ± 0.003	0.0771 ± 0.00081	0.03461 ± 0.00046	1.00171 ± 0.00781

Table S4. Root mean square error (RMSE) and normalised RMSE by the range of the reference data (NRMSE) of reference data minus simulation for the analysed time period (1990 to 2010).

Run	LST [K]	TOA_{net} [W m^{-2}]	TOA_{sw} [W m^{-2}]	TOA_{lw} [W m^{-2}]	SRF_{net} [W m^{-2}]	SRF_{sw} [W m^{-2}]	SRF_{lw} [W m^{-2}]	$HFLX_{net}$ [W m^{-2}]	$HFLX_{sensible}$ [W m^{-2}]	$HFLX_{latent}$ [W m^{-2}]	Precip [mm day^{-1}]	ACLC	LWC [kg m^{-2}]	IWC [kg m^{-2}]	TWS [m]
CTRL RSME	4.862	9.6	6.954	12.382	5.781	5.5	0.966	42.622	5.116	15.632	0.082	0.019	0.042	0.027	0.058
CTRL NRSME	0.347	0.436	0.401	1.605	0.318	0.315	0.222	1.123	1.117	1.202	0.25	0.527	2.898	10.755	0.635
Test:3 RMSE	4.919	8.068	8.49	11.971	5.228	5.055	0.942	42.944	5.101	15.948	0.097	0.02	0.042	0.028	0.06
Test:3 NRMSE	0.351	0.366	0.49	1.552	0.288	0.29	0.217	1.132	1.114	1.226	0.295	0.564	2.934	10.888	0.663
Test:4 RMSE	4.88	9.044	7.131	11.839	5.6	5.441	0.909	42.858	5.205	15.966	0.092	0.02	0.042	0.027	0.06
Test:4 NRMSE	0.349	0.411	0.411	1.535	0.308	0.312	0.209	1.129	1.136	1.227	0.28	0.554	2.936	10.765	0.66
Test:5 RMSE	4.856	10.086	6.024	11.731	6.18	6.069	0.915	42.753	5.189	15.844	0.086	0.019	0.042	0.027	0.06
Test:5 NRMSE	0.347	0.458	0.348	1.521	0.34	0.348	0.21	1.127	1.133	1.218	0.261	0.548	2.907	10.727	0.664
Test:6 RMSE	4.822	10.524	5.586	11.58	6.537	6.382	0.917	42.781	5.198	15.882	0.088	0.019	0.042	0.027	0.06
Test:6 NRMSE	0.345	0.478	0.322	1.501	0.36	0.366	0.211	1.127	1.135	1.221	0.268	0.53	2.928	10.661	0.665
Test:7 RSME	4.9	9.08	6.651	11.261	5.789	5.76	0.961	43.206	5.073	16.191	0.099	0.02	0.027	0.042	0.06
Test:7 NRSME	0.35	0.412	0.384	1.46	0.319	0.33	0.221	1.139	1.108	1.245	0.3	0.562	2.891	10.802	0.667
Test:8 RSME	4.88	9.044	7.131	11.839	5.6	5.441	0.909	42.858	5.205	15.966	0.092	0.02	0.042	0.027	0.06
Test:8 NRSME	0.349	0.411	0.411	1.535	0.308	0.312	0.209	1.129	1.136	1.227	0.28	0.554	2.936	10.765	0.66
Test:9 RSME	4.858	8.864	7.698	12.292	5.417	5.172	0.935	42.505	5.215	15.614	0.087	0.02	0.043	0.027	0.06
Test:9 NRSME	0.347	0.403	0.444	1.593	0.298	0.296	0.215	1.12	1.139	1.2	0.264	0.554	2.976	10.716	0.661
Test:10 RSME	4.858	8.95	8.106	12.909	5.318	5.058	0.968	42.013	5.241	15.133	0.076	0.02	0.043	0.027	0.06
Test:10 NRSME	0.347	0.406	0.468	1.674	0.293	0.29	0.222	1.107	1.144	1.163	0.232	0.562	2.965	10.751	0.664
Test:11 RSME	4.851	8.861	8.676	13.442	5.223	4.981	1.098	41.593	5.297	14.757	0.07	0.021	0.043	0.027	0.061
Test:11 NRSME	0.347	0.402	0.501	1.743	0.288	0.285	0.252	1.096	1.157	1.134	0.213	0.585	3.014	10.584	0.673
Test:12 RSME	4.904	8.424	7.847	11.798	5.259	5.11	0.925	42.521	5.201	15.616	0.087	0.019	0.042	0.027	0.06
Test:12 NRSME	0.35	0.383	0.453	1.529	0.29	0.293	0.213	1.121	1.135	1.2	0.265	0.538	2.91	10.789	0.663
Test:13 RSME	4.909	7.938	8.519	11.782	5.161	4.983	0.932	42.506	5.167	15.565	0.085	0.019	0.042	0.027	0.06
Test:13 NRSME	0.351	0.36	0.491	1.527	0.284	0.285	0.214	1.12	1.128	1.196	0.26	0.535	2.891	10.766	0.661
Test:14 RSME	4.925	7.706	8.913	11.809	5.162	4.98	0.914	42.523	5.147	15.564	0.086	0.02	0.042	0.027	0.06
Test:14 NRSME	0.352	0.35	0.514	1.531	0.284	0.285	0.21	1.121	1.124	1.196	0.263	0.554	2.894	10.767	0.659
Test:15 RSME	4.916	7.277	9.732	11.834	5.317	5.154	0.926	42.457	5.219	15.569	0.085	0.019	0.042	0.027	0.06
Test:15 NRSME	0.351	0.33	0.561	1.534	0.293	0.295	0.213	1.119	1.139	1.197	0.257	0.541	2.892	10.75	0.665
EMAC/JSBACH RSME	4.939	7.175	9.943	11.822	5.367	5.225	0.919	42.426	5.123	15.439	0.084	0.02	0.042	0.027	0.06
EMAC/JSBACH NRSME	0.353	0.326	0.574	1.533	0.296	0.299	0.211	1.118	1.118	1.187	0.255	0.559	2.884	10.728	0.658
Test:17 RSME	4.897	7.46	9.58	12.068	5.159	5.08	1.414	43.32	4.976	16.21	0.102	0.031	0.043	0.027	0.06
Test:17 NRSME	0.35	0.339	0.553	1.564	0.284	0.291	0.325	1.142	1.086	1.246	0.311	0.867	3.001	10.651	0.659
Test:18 RSME	4.886	7.923	8.713	11.983	5.215	4.976	1.159	43.144	5.019	16.072	0.098	0.027	0.043	0.027	0.06
Test:18 NRSME	0.349	0.36	0.503	1.553	0.287	0.285	0.267	1.137	1.096	1.235	0.296	0.763	2.979	10.657	0.662
Test:19 RSME	4.881	8.376	7.986	11.892	5.349	5.078	1.03	43.044	5.074	16.026	0.097	0.024	0.043	0.027	0.06
Test:19 NRSME	0.349	0.38	0.461	1.542	0.295	0.291	0.237	1.134	1.108	1.232	0.296	0.671	2.956	10.749	0.658
Test:20 RSME	4.88	9.044	7.131	11.839	5.6	5.441	0.909	42.858	5.205	15.966	0.092	0.02	0.042	0.027	0.06
Test:20 NRSME	0.349	0.411	0.411	1.535	0.308	0.312	0.209	1.129	1.136	1.227	0.28	0.554	2.936	10.765	0.66
Test:21 RSME	4.869	9.771	6.328	11.77	5.967	6.029	0.991	42.64	5.193	15.73	0.086	0.016	0.042	0.027	0.06
Test:21 NRSME	0.348	0.444	0.365	1.526	0.329	0.345	0.228	1.124	1.134	1.209	0.261	0.455	2.883	10.853	0.665
Test:22 RSME	4.88	9.044	7.131	11.839	5.6	5.441	0.909	42.858	5.205	15.966	0.092	0.02	0.042	0.027	0.06
Test:22 NRSME	0.349	0.411	0.411	1.535	0.308	0.312	0.209	1.129	1.136	1.227	0.28	0.554	2.936	10.765	0.66
Test:23 RSME	4.935	9.206	4.79	8.052	7.276	8.439	1.936	45.337	4.89	18.198	0.151	0.007	0.03	0.018	0.061
Test:23 NRSME	0.353	0.418	0.276	1.044	0.401	0.483	0.445	1.195	1.068	1.399	0.458	0.198	2.099	7.021	0.678
Test:24 RSME	4.965	8.823	4.604	6.443	7.79	9.486	2.422	46.54	4.746	19.287	0.184	0.011	0.026	0.014	0.062
Test:24 NRSME	0.355	0.401	0.266	0.835	0.429	0.543	0.557	1.226	1.036	1.483	0.559	0.316	1.809	5.697	0.683
Test:25 RSME	4.969	8.561	4.626	5.488	8.026	10.118	2.827	47.213	4.649	19.878	0.203	0.016	0.024	0.013	0.062
Test:25 NRSME	0.355	0.389	0.267	0.711	0.442	0.579	0.65	1.244	1.015	1.528	0.615	0.453	1.653	5.024	0.689
Test:26 RSME	4.987	8.377	4.666	4.949	8.176	10.407	2.944	47.659	4.635	20.322	0.217	0.019	0.023	0.012	0.062
Test:26 NRSME	0.356	0.38	0.269	0.642	0.45	0.596	0.677	1.256	1.012	1.562	0.66	0.541	1.58	4.618	0.681
Test:27 RSME	4.992	8.209	4.7	4.545	8.235	10.59	3.077	47.941	4.557	20.531	0.226	0.022	0.022	0.011	0.062
Test:27 NRSME	0.357	0.373	0.271	0.589	0.453	0.607	0.707	1.263	0.995	1.578	0.686	0.621	1.514	4.293	0.686
Test:28 RSME	5.016	8.089	4.777	4.111	8.355	10.912	3.28	48.299	4.46	20.798	0.236	0.025	0.021	0.01	0.062
Test:28 NRSME	0.358	0.367	0.276	0.533	0.46	0.625	0.754	1.273	0.974	1.599	0.716	0.709	1.438	3.944	0.687
Test:29 RSME	5.001	8.001	4.794	3.931	8.362	10.975	3.338	48.444	4.494	20.98	0.24	0.027	0.021	0.01	0.062
Test:29 NRSME	0.357	0.363	0.277	0.51	0.46	0.629	0.767	1.277	0.981	1.613	0.73	0.758	1.421	3.825	0.687
Test:30 RSME	5.061	6.618	8.048	7.085	5.16	5.29	2.148	45.935	4.814	18.735	0.18	0.015	0.024	0.012	0.063
Test:30 NRSME	0.362	0.301	0.464	0.918	0.284	0.303	0.494	1.21	1.051	1.44	0.547	0.42	1.681	4.933	0.696
Test:32 RSME	5.096	6.641	7.234	5.55	5.176	5.763	2.639	47.032	4.675	19.72	0.213	0.023	0.021	0.01	0.063
Test:32 NRSME	0.364	0.302	0.417	0.72	0.285	0.33	0.607	1.239	1.021	1.516	0.646	0.639	1.455	3.888	0.692
Test:33 RSME	5.103	6.652	7.05	5.239	5.196	5.901	2.715	47.327	4.649	19.994	0.221	0.026	0.02	0.009	0.062
Test:33 NRSME	0.365	0.302	0.407	0.679	0.286	0.338	0.624	1.247	1.015	1.537	0.67	0.731	1.417	3.696	0.688
Test:34 RSME	5.106	6.75	9.431	7.269	5.368	4.993	2.097	45.914	4.795	18.691	0.182	0.013	0.024	0.013	0.062
Test:34 NRSME	0.365	0.307	0.544	0.942	0.296	0.286	0.482	1.21	1.047	1.437	0.554	0.367	1.678	4.995	0.682
Test:35 RSME	5.044	6.939	5.466	5.533	5.733	6.987	2.575	46.752	4.658	19.413	0.194	0.016	0.024	0.012	0.062
Test:35 NRSME	0.36	0.315	0.315	0.717	0.316	0.4	0.592	1.232	1.017	1.492	0.59	0.463	1.636	4.909	0.68