All Staff Workshop 2022 – Surface session: April 04, 2022

(10:00 AM) lemoigne: @dmitrii: I didn't hear very well your question, but I guess you were asking if the action on physio was coordinated. Yes it is, since the developements/corrections that will be made on the ESACCI ma will be integrated in our algorithm at MF to produce updated ECOSG.
(10:11 AM) Florian Meier: How do you initialise snow density and albedo in your scheme, if you do snow assimilation?
(10:13 AM) Rafiq: the mulch-trick looks more like an engineering solution rather then understanding what is happening? is there a link with the depth of the each of the 12 layers?
(10:17 AM) Oskar Landgren (METNO): It is unfortunately not possible to hear the questions from the audience. Could the speaker please repeat the question before giving the answer?
(10:18 AM) Trygve Aspelien: We use the average density of max and min
(10:18 AM) Florian Meier: Thank you.
(10:30 AM) Rafiq: is this reduced diurnal cycle seen for all the diffusion layer or is it limited to a certain depth?
(10:38 AM) Rafiq: thanks a lot Eric
Patrick Samuelsson 11:32 AM
@Geoffrey: Thanks!! A comment or question... what do you say, can we encourage people who have national ideas to build high-resolution land cover data sets to join your effort to hopefully fulfil both their own needs and contribute to a Europe-over-all product...
Geoffrey Bessardon (Met Éireann) 11:32 AM
yes Bolli we noticed that ESA-CCI underestimated the urban area extent so even before going to the LCZ complexity level. Urban labels is a bit special as CORINE labels were used to define ECO-SG LCZ
Geoffrey Bessardon (Met Éireann) 11:34 AM
@ Patrick I think if not producing the map it would be great to push people to share with us any national local dataset that they are aware of
Christoph Gebhardt 11:34 AM
@Geoffrey: there is work on/with ECOCLIMAP-SG for urban modelling in COSMO as well. Jan-Peter Schulz (DWD) would be the person to contact if there is interest to share experiences and ideas
Geoffrey Bessardon (Met Éireann) 11:36 AM
@Christoph: Thanks any idea would be welcome
Christoph Gebhardt 11:38 AM
@Geoffrey Jan-Peter.Schulz@dwd.de
Rafiq 11:54 AM
@Katia, I saw in your slide that you will work on a version of TEB with higher impact on the atmospheric layer. Just to let you know that Natalie and my self are also planning to do this work so maybe we need to talk once to coordinate our work.
Natalie Theeuwes (KNMI) 12:07 PM
@Rafiq, thanks for bringing this up. I think this is what Katia was talking about. Because I talked to her about our plans.
Rafiq 12:07 PM
@Natalie, ook then it is perfect!

All Staff Workshop 2022 – Dynamics session: April 04, 2022

Piet Termonia 1:43 PM
Thanks a lot Petra for the nice presentation. Maybe it would be better to consider splines in the inside zone as in the Extension zone?
Rafiq 1:53 PM
I am not at all expert but there is no technical solution for this problem I mean from IT?
Martin Dian 1:54 PM
the results are worse with cubic truncation due to tuning of the model on quadratic truncation?
Ludovic Auger 1:54 PM
In Meteo France we arrive more or less to the same conclusion, the size reduction what not so great compared to the annoyance caused.
Rafiq 1:56 PM
yes indeed
HMU Maria Derkova 2:31 PM

Do I understand correctly that you couple hdrometeors? If yes, how? I thaught only spectral fields are coupled
Bolli Palmason, IMO2:37 PM
@Derkova Check the NREQIN and NCOUPLING namelist variables and then you need to add the parameters to the LBC data
Florian Meier2:37 PM
How wide is your Davies coupling zone in these experiments?
Javier Calvo2:37 PM
It seems that you get better results with IFS coupling at least for the wind, isn't it?
Petra Smolíková2:39 PM
Mariska, GFL fields may be coupled as well, to the nesting model values, or to a constant, according to NREQIN.
Morten2:42 PM
Thanks for the nice presentation. Have you consider to run 2.5 km on the same small domains as 500 and 750m, to make a "cleaner" impact of resolution?
SHMU Maria Derkova2:44 PM
well, but these parameters do apply when reading the INIT file. Not the coupling!
OK, only now I read all texts in chat
Florian Meier2:45 PM
There is one switch for coupling and one for init
James Fannon Met Eireann2:53 PM
@Maria Derkova: Yes we use cloud liquid/ice and hydrometeor LBC coupling in most of these tests. I believe only the dynamic fileds are coupled by default, but additional coupling can be activated using the YL_NL%NCOUPLING options in the NAMGFL namelist
SHMU Maria Derkova2:54 PM
thx
James Fannon Met Eireann2:55 PM
@Javier yes for the 500/750m runs the IFS boundaries seemed to perform better for U10, but possibly this is related to nesting in 65L HAR

All Staff Workshop 2022 – Surface session: April 05, 2022

Juan Jesús González Alemán (AEMet)9:37 AM
I missed why Oct 21 was chosen, but did you analized if there was much presence of aerosols? A good period could be when there is precipitation but with low dynamical forcing for precipitation.
Juan Jesús González Alemán (AEMet)9:38 AM
I mean a good period for contrasting differences of the influence or aerosols in precipitation.
Rooij de, Wim (KNMI)9:57 AM
I guess in the Kattegat case missing meso-scale organisation is (part of) the problem of missing prec. Within SPP EPS we try to capture this
Sebastian Contreras 9:57 AM
Could you say something about the motivation behind changing the values of C, and x (influencing the N = N (lambda) relationship) for snow? The distribution remains exponential, right? Maybe interesting to consider a different distributions like gamma or generalised gamma?
Sebastian Contreras 9:59 AM
thanks
Oskar Landgren (MET Norway)10:02 AM
@Karl-Ivar. I just checked and it turns I did not use ECUME6 in my near-real-time aerosol experiments, so that may indeed explain some of the difference against MetCoOp deterministic. I should try to make a new run with that, or possibly also changing to another time period with more differences in aerosol concentrations.
seity10:11 AM
What is the horizontal resolution of your simulations ? Did you test with finer grids ? Do you think coefficents will have to be retuned ?
Javier Calvo10:11 AM
Did your compare your results with the estimate from the vertical integrated graupel?
BENGHABRIT10:12 AM

please can you share me the presentation? I'm working on lighthning in AROME and it's very interesting for me.
Rooij de, Wim (KNMI) 10:13 AM
Did you consider LPI? YairIf you did what are you experiences with it
Jenny Engdahl 11:18 AM
@Florian Meyer: Not yet, but plan to do so in the near future :)
Jenny Engdahl 11:19 AM
@Wim: Pretty sure LTOTPREC is set to False.
@Juan: Thanks for the tip. I'll keep that in mind when I look for cases ;)
@Wim: Thanks, I'll look into that :)
Rooij de, Wim (KNMI) 11:21 AM
thanks Jenny (happy that LTOTPREC=false in your exps)
Sebastian Contreras 11:27 AM
Very nice talk! Did you check the influence of deposition on the dissipation phase? Differences between LIMA/ICE3?
Florian Meier 11:29 AM
What is the soil property in your Simulations? ECOCLIMAP I?
Karl-Ivar Ivarsson SMHI 11:41 AM
Is the change in CPU use referring to the whole model or just cloud physics ?
seity 11:53 AM
To the whole model
Karl-Ivar Ivarsson SMHI 11:54 AM
Thank you, interesting talk !😀
seity 12:09 PM
Do you have explanations why Deardorf does so bad ?
Sebastian C 1:29 PM
Can you say something more about possible limitations of ML methods for microphysics? (I remember that Morrison et al 2020 has some discussion as well) And something regarding differences between warm/ice microphysics?
Sebastian C 1:32 PM
in the fluid dynamics context here some other recent examples
https://journals.aps.org/prfluids/collections/machine-learning (see the first one: '...can be considered a promising approach to numerical weather prediction tasks in the age of data')
Sebastian C 1:34 PM
Thanks.
Meto - SMHI 1:38 PM
Thanks Sebastian. I will have a look.
SHMU Maria Derkova 1:49 PM
Slovakia ;)
seity 2:17 PM
@Emily : You show a reduction of fog by using increased vertical resolution (90 levels). It is different to what we saw at Météo France with AROME. Do you think it is due to defferences we have in microphysics between our configurations, or to the fact that you look at fogs occuring over sea / over land for us ?
Emily Gleeson (Met Éireann) 2:18 PM
Not sure but would be interesting for both of us to try the same case parhaps Yann?
seity 2:19 PM
Yes I agree !
seity 2:22 PM
I could start to have a look in AROME on the selected dates of your presentation.
Emily Gleeson (Met Éireann) 2:23 PM
Thanks Yann - that'd be great
Florian Meier 3:54 PM
@Ryad: Can you estimate additional memory need to keep the gradients between dynamics and column physics part?
Florian Meier 4:56 PM
Yes, GNSS-STD operator in AROME uses NOBSPROFS approach.

All Staff Workshop 2022 – Data Assimilation session: April 06, 2022

Florian Meier 9:45 AM
So the EDA was still classical one and not based on B from EnVar?
sabel Monteiro 10:02 AM
Can you elaborate(specify better) on work/topics discussed regarding diagostics and verification in RT11 ? (apart referrences)
Isabel Monteiro 10:04 AM
similar question from Claude in the room
janus 10:04 AM
so answered?
Isabel Monteiro 10:05 AM
no
janus 10:05 AM
more info.
Isabel Monteiro 10:06 AM
because it is common to several RTs
Mate Mile 10:11 AM
@Isabel, I can try to answer here. With classical verification and diagnostic tools, it is difficult to estimate the impact on different scales in mesoscale DA. Therefore, we need more tools to analyze different model scales. In the corresponding slide of RT11, some references are listed which can be relevant for such investigation. For the time being spatial variance was tested (see an example on slide 16).
Mate Mile 10:14 AM
Let's discuss it further during the next meeting of RT11
Florian Meier 10:21 AM
Why did you use 2m observations but not pressure/10m winds in 4D-Var? As the former might more interact with soil assimilation I would guess the latter to be less problematic.
Isabel Monteiro 10:24 AM
Thanks you! This is a common topic for research and also for operations. We make decisions based on this it shoulndn't be overlooked. I agree on common discussion. We have also some ideas on this. Spatial verification is critical for this. harp team is also working on this I think
Pau Escribà 10:28 AM
We assimilate surface pressure in 4DVAR Florian... And secondly, I think is less problematic to assimilate T2m and Rh2m in 4DVAR that not doing it because the coupling with surface should be smoother
Isabel Monteiro 10:30 AM
@Eoin, why did you decide to remove verification from RT10?
Isabel Monteiro 10:37 AM
It is a topic in several RTs.
Meto - SMHI 11:21 AM
you mentioned activity in coupling the surface and atm. analysis; some more details about this maybe? Thanks
Isabel Monteiro 11:39 AM
@Benedikt, Sorry if I miss this info in your slides, but are you using AMVs from Geostationary, Polar orbit satellites or both?
Isabel Monteiro 11:43 AM
In upper air verification, are you taking radiosonde drift in consideration? Also a question to Meteo France
Benedikt Strajnar 11:52 AM
@Isabel No, in the upper-air verification we don't take into account the radiosonde drift.
Florian Meier 11:54 AM
Did you backphase the flexible setting of DOW FG-check limit, because by default it is hardcoded until cy48t1.
Isabel Monteiro 11:55 AM
Thanks, do you have plans to use it?
Isabel Monteiro 11:57 AM
@Chair (Jan B.) if there is time can you ask the question to Meteo France? (answer can be in text chat if no time)Thanks!
Florian Meier 11:58 AM

I know in AEMET they did.
janus 11:58 AM
I already notified Loik and will repeat before closure.
Loik 12:03 PM
I don't think that drift is accounted for vérification åt MF
although I am not sure
Isabel Monteiro 12:20 PM
@Loik, Thanks. So the question mark remains 😉
Martin Ridal 12:22 PM
In our preprocessing we have a check for overlapping elevation angles. We compare the beamwidth with the elevation angle and if they overlap we remove the lowest one. This would solve the problem with you elevation angles being almost the same.
Loik 2:08 PM
@Isabel the MF verification team confirms that RS drift is not accounted for in scores at MF . WMO norms do not include this yet
Isabel Monteiro 2:08 PM
Thanks!

All Staff Workshop 2022 – Meteorological Quality Assurance & Applications session: April 07, 2022

Isabel Monteiro 9:17 AM
Good morning. Is there a strategy to promote spatial verification? in Accord
Rooij de, Wim (KNMI) 9:59 AM
merci
seity 10:00 AM
Just a comment on AROME-eSuite, the impact of ARPEGE improvements can be seen at +48 (not on the AROME Indicator which in only at +24)
Zeynep Feriha ÜNAL -TSMS 10:19 AM
It is a brilliant study for the future extreme weather events, but would you consider to study past extreme events as this?
Zeynep Feriha ÜNAL -TSMS 10:22 AM
There should be more samples just like this, for example the events at last five years
ASW2022 hall Ljubljana 10:24 AM
We have an archive of precipitation at ZAMG and we use that to look at past events, but it's limited by what is archivved of course. But yes, it's also used for looking at past events.
Zeynep Feriha ÜNAL -TSMS 10:26 AM
Thank you for your answer
janus 11:12 AM
Do you plan to increase fc lead time
Sebastian C 11:13 AM
Maybe plans to compare this ML approach with other approaches (such as PARAFOG (fuzzy logic schemes))?
janus 11:16 AM
thank you Kevin. FYI there is a similar project at KNMI.
Rooij de, Wim (KNMI) 11:41 AM
nice talk! In nwp we do have more clouds in cy43 than cy40 but this is generally benificial. Above sea not much experience. At KNMI we sure want to contribute (and will) to try to seek for robust improvements
Juan Carlos Sanchez 11:42 AM
Yes Emily, in our firsts test we use 250E6 at the surface. In following tests we have set it to 0. But we have not tested an intermediate value between.
Rooij de, Wim (KNMI) 11:42 AM
BTW, we fully understand why we have more clouds. In climate runs many processes influence the results, so need more study (but your work is already very good step)
Juan Carlos Sanchez 11:45 AM
@Win, thank you, we are happy to share all our findings and help

Rooij de, Wim (KNMI)11:46 AM
@Andreas: Fully is not the right word indeed ;-)
Isabel Monteiro11:56 AM
Can you please elaborate a bit more on the work done (by Austria?) in spatial verification?

All Staff Workshop 2022 – Code & system session: April 07, 2022

Rafiq1:55 PM
can you please remind why SURFEX code can not be ported into GPUs?
Jure Cedilnik (ARSO)2:02 PM
@Philippe, can you please respond to Rafiq's question in the chat?
Filip2:14 PM
Twenty years ago when Arome project was proposed we also heard the idea is to used Meso-NH physics completely undisturbed. Since then this got significantly relaxed. Why do you think (once again) that those translators would not impose changes in the scientific code? Or other way around, why we need to keep the scientifice code intact when there is a potential to gain a performance?
Daan Degrauwe2:21 PM
@Filip: The code will need to adhere to some rules in order for the code transformation tools to work. It is indeed not unthinkable that some piece of code still cannot be transformed automatically by the tool. For such piece of code, the decision will need to be made whether maintaining parallel (hardware-dependent) branches is feasible and worthwhile.
Filip2:24 PM
Thanks @Daan, that is how I would also understand it. Just perhaps make sure you don't oversell the concept of undisturbed scientific code and ensure there are ways to modify it according to the specific HW needs. Thanks again.
Daan Degrauwe2:25 PM
Point taken!

All Staff Workshop 2022 – DA side-meeting: April 07, 2022

Florian Meier4:13 PM
The advantage of slack is that also people who were not included in E-Mail communication can see it and stuff stays somehow visible.
Isabel Monteiro4:14 PM
agree with Florian
I found out that there are problems with MHWS2 in ST7
SHMU Maria Derkova4:34 PM
for me the reporting to the common document was rather OK. I would appretiate more guidance on figures. When I have typed my text, there were no figures, only verbal report
janus4:40 PM
no science anymoe?
Alena Trojakova4:49 PM
@Isabel Can you share the link to the web page you speak about ?
Isabel Monteiro4:54 PM
https://nwp-saf.eumetsat.int/site/monitoring/nrt-monitoring/

All Staff Workshop 2022 – E.P.S. session: April 08, 2022

Matthieu Plu (MF)9:18 AM
Question on the EDA-EPS cycling that you have shown: do EDA and EPS have the same resolution and size?
Matthieu Plu (MF)9:20 AM
thanks
Rooij de, Wim (KNMI)9:38 AM

sound from questions in the hall are brokenly
Juan Carlos Sanchez 9:53 AM
Yes, indeed now when the speaker is talking
Alan Hally (Met Éireann) 9:53 AM
Yes it drops out for a few seconds for the speaker
Rooij de, Wim (KNMI) 9:53 AM
yes also for the speaker!
Emily Gleeson (Met Éireann) 9:53 AM
yes it's dropping quite a lot
Christoph Gebhardt 9:54 AM
sorry, I missed it: is the perturbation with gRPP also done once at forecast start or do parameter values change during forecast?
janus 9:54 AM
several people still use camara. So bandwidth?
Rooij de, Wim (KNMI) 9:55 AM
Do not think so. Microphone issue?
Rooij de, Wim (KNMI) 10:00 AM
thanks. Did switching of SLHD had a large impact ?
Rooij de, Wim (KNMI) 10:19 AM
and correlating mass flux will further improve spread
janus 11:09 AM
Interesting approach Michiel. Can you point me to a paper. I would think there are more areas of application: data-assimilation?
Rooij de, Wim (KNMI) 11:36 AM
nice talk!
Aristofanis Tsiringakis (KNMI) 12:01 PM
Thats a good point!
janus 12:02 PM
MF is not moving to SP soon
Frtom the DA session.
janus 12:03 PM
SP has wider use than EPS
janus 12:08 PM
SP is operational @ECMWF

All Staff Workshop 2022 – Closing session: April 08, 2022

Rafiq 1:27 PM
will be there any user guide for contribution practice, says step by step approach?
Rafiq 1:31 PM
ok thanks a lot!
Christoph Gebhardt 2:08 PM
👍 I agree