Chat during PHYSICS session

janus9:14 AM

Yves, any news on the linear physics.

Ján Mašek9:15 AM

Any changes in GWD schema?

janus9:16 AM

Do you use ML in parameter estimating

Karl-Ivar Ivarsson, SMHI9:27 AM

What XRIMAX did use use in the fog experiments?

fu vejr (Bent)9:31 AM

Bent: What about fog over sea ? previously there has been too persistent fog ? can you say something about the impact of recent changes over sea ?

Jenny Engdahl9:39 AM

Are there any publications of the results from the ICICLE campaign?

Ján Mašek9:39 AM

For lowest level at 1m is there any correction for roughness sublayer?

Laura Rontu9:39 AM

Thanks Yann, a lot of interesting things. Concerning ecRad toy comparison - I think in further sensitivity tests diagnostic mode MUSC might be ideal for testing.

seity9:44 AM

@Jenny : I do not think. Benoit could confirm

@Jan : No, nothing is done for that in these simulations

@Laura : Yes, I agree.

Jenny Engdahl9:47 AM

@Seity: Too bad. Very interesting results :) Btw, what it is the namelist variable for the subgrid condensation?

Kristian9:47 AM

Shouldn't the net LW radiation be negative here? (slide 7)

seity9:52 AM

@Jenny : LOSUBG_COND, LOSIGMAS and VSIGQSAT in NAMPARAR

Jenny Engdahl9:53 AM

@Seity: thanks!

Dmitrii Mironov10:00 AM

Sander, can you cope with the computational cost of stochastic parameterization as you go operational?

Isabel Monteiro (IPMA)10:00 AM

Hi, regarding the cloud water path comparison with SEVIRI (slides 14,...) what did you use from SEVIRI? a derived product?

Emily Gleeson (Met Éireann)10:02 AM
@Isabel - I used the MSGCPP product by KNMI

Oskar Landgren (MET Norway)10:03 AM

@Sander. Thank you for a very nice presentation! What was the area and for how long did Sebastian's simulations run? (The ones with the same CCN concentration over ocean and land.)

Isabel Monteiro (IPMA)10:06 AM

Thanks Emily! Not sure if this makes sense, but did you ever consider to compare a HARMONIE-AROME pseudo-10.8 micro (for e.g.) with the actual SEVIRI 10.8 micro? instead of a derived product

Laura Rontu 10:09 AM

Bogdan, you might check the impact of ororad to the Alpine night temperature problem in AROME/SURFEX. Of course, there are many possible candicates of night inversion-related problems in valleys.

Emily Gleeson (Met Éireann) 10:12 AM

@Isabel I have not done that yet. I wanted to look at the integrated cloud condensate values so that's why I used that product

Isabel Monteiro (IPMA) 10:14 AM

Thank you Emily!

Wim de Rooy 10:15 AM

Isabel: Maybe in addition. Emily will repeat this validation with a cloud simulator for Harmonie. For some cases we expect significant impact.

(hope this is correct Emily ;-)

martina tudor 10:21 AM

any data assim in alaro Poland?

Bogdan Bochenek 10:21 AM

no assimilation yet

Eric BAZILE 10:21 AM

in alaro do you use the GWD ?

martina tudor 10:23 AM

gwd is used

in 4 km

Alexandre M. 10:23 AM

Well ororad may emphasize the positive bias in the valleys at night...

seity 10:24 AM

especially if you use sky view factor effect in the LW

Laura Rontu 10:28 AM

Ororand effectively assumes in LW that the whole valley is in LW balance, which might be good in closed valleys but perhaps too strong in real life?

Sander Tijm 10:28 AM

@Oskar, it was a single cold start run on the KNMI domain (800x800 points)

Oskar Landgren (MET Norway) 10:29 AM

@Sander. Thanks! Are there plans for longer experiments as well?

Sander Tijm 10:32 AM

It is already implemented in the Met-Eireann operational run. They have results from longer runs (4 months) and 2 months of parallel running

Meto Shapkalijevski 10:41 AM
What was the problem for not using the Cranck-Nickolson (1.5 semi-implicit) discretization sheme for non-linear terms in th TKE and epsilun?

Dmitrii Mironov 10:43 AM
Jan, how expensive are those additional corrections/iterations?

Peter Bechtold 11:20 AM

Pascal yes IFS has ZDEC included, corresponding to total dissipation and is about 2.5 W/m2 yglobally es mainly from turbulence but also GWD (stratosphere) and convection (momentum transport)

Radmila 11:26 AM

2.5 W/m2 is the global rate of change between potential and kinetic energy, is not it?

Javier Calvo 11:28 AM
Do you intent to implement these changes in the AROME operational suite?

Susanna Hagelin (SMHI) 11:54 AM

I see black too

Alena Trojakova 11:54 AM

I see black too

Alan Hally Met Éireann 12:13 PM

Very nice talk Wim, do the rain evaporation results suggest that this could be a potential parameter to explore for SPP perturbations within HarmonEPS?

Peter Bechtold 12:13 PM

open cell and streets etc in models is very sensitive to changes in micing=diffusion+CMT/condensation, might be possible to investigate (stability) as function of Rayleigh number and Prandtl number

Alan Hally Met Éireann 12:15 PM

Thanks Wim!

Eric BAZILE 12:15 PM

do yuou check the wind ?

Guðrún Nína Petersen 12:19 PM

Thank you Wim, very nice and interesting talk.

Florian Meier 12:22 PM

Yes, OK here

Wim de Rooy 12:41 PM

comment: there is another reason why lhgt_qs shoud increase with height; because observations show that variance increase higher up because of long lived cirrus cloud (advected in the grid box)

fu vejr 12:41 PM

LHGT_QS Impact of T2m temp

Emily Gleeson (Met Éireann)12:42 PM

@Karl-Ivar - does LHGT_QC impact on Sc clouds?

janus2:12 PM

Very good Jenny: confidence intervals

Laura Rontu2:14 PM

Jenny, does LWC and IWC cloud-only mean that the precipitation particles are not included (snow, graupel, rain) neither in model or in observations?

Florian Meier2:15 PM

Was Makkonen somehow adapted to wingshape of aircraft?

seity2:15 PM

Jenny, could you remind briefly the main modified processes in ICE-T / ICE3

Karl-Ivar Ivarsson, SMHI2:15 PM

Ice , is it cloud ice only or also snow+graupel?

Wim de Rooy2:15 PM

Nice talk. Two questions: 1) Is ICE-T available as option in cy43? 2) did you use a cloud simulator for harmonie-arome for the comparsion with satellite

janus2:17 PM

Did you consider to use Mode-S?

Karoliina, FMI2:17 PM

Do you accumulate ice by using all water phases from Harmonie?

Wim de Rooy2:20 PM

thanks. we are interested

seity2:20 PM

thanks for your answers.

Karoliina, FMI2:21 PM

Thanks Jenny from the very interesting talk :)

Jenny Engdahl2:22 PM

@seity: here is a link to my first paper describing the changes to the scheme: https://www.tandfonline.com/doi/full/10.1080/16000870.2019.1697603

@Wim: 2) No, but that sounds interesting

@janus: Tim Carlsen is my satellite guy, I'll ask him :)

janus2:24 PM

It is actually aircraft data but much denser.

janus2:25 PM

Thanks for your reaction.

Jenny Engdahl2:27 PM

@Karoliina: The operational algorithm uses solid species for mixed phase clouds, but only with a factor of 1%. So I decided to only use water species to simplify the calculations. Btw, I've cited your icing atlas paper a lot in my second paper :)

Karoliina, FMI2:28 PM

Thanks for the answer @Jenny :)

Jenny Engdahl2:28 PM

@janus: Ah, yeah I checked for aircraft data, but turns out the coverage wasn't very good over my domain

janus2:31 PM

Check out EMADDC data

Florian Meier2:33 PM

Do you use Fitch-AROME implementation from ZAMG or is this something different?

Florian Meier2:34 PM

aviation obstacle lists for pilots are a good source for windfarm coordinates

Jenny Engdahl2:36 PM

@janus: Thanks! I'll check it out :)

Karoliina, FMI2:39 PM
Very nice presentation @Natalie. Need to dig into this more in detail :)

Emily Gleeson (Met Éireann)2:40 PM

Very nice talks Jenny and Natalie:)

Natalie Theeuwes2:41 PM

Thanks

Jenny Engdahl2:55 PM

@Emily: Thanks

Claude Fischer3:02 PM

once trained , can NN/SOM be applied to another area (perhaps of similar size and the same type with complex coast line ?)

Claude Fischer3:04 PM

OK, thx

martina tudor3:05 PM

Claude, the training and forecast was done on a pc, it is actually really cheap

all you need is training data and a lot of it

Claude Fischer3:17 PM

@Martina: can you however still run the training part on pc/laptop, or do you need big enough server for that ?

Emily Gleeson (Met Éireann)3:33 PM
@Laura - for your Helsinki case, which MUSC expt looks most comparable to obs [diagnostic mode]?

Daniel Santos Muñoz3:34 PM

This dust intrussions from Sahara are afecting snow evolution and stability of the snow pack.

Daniel Santos Muñoz3:36 PM

In Pyrinies and Alps is possible te see different layer I can share with you some pictures @Laura and also a change in the albedo

Laura Rontu3:39 PM

@DanielS, thank you for the snow comment!

seity3:50 PM

In the model, do you use CCN in your visibility computation ?

martina tudor3:51 PM

yes, Claude, the training can be run on a pc

Laura Rontu3:51 PM

@DanielM. Concerning fog in the north. When the dust reached Helsinki, we had also fog, especially over the sea and sea ice. This might be related to the dust, but most probably the most important factor was the strong warm advection over cold surface here. Perhaps such thermodynamics also have an impact in the north of Spain, perhaps a bit higher topography, too.

martina tudor3:55 PM

Aerosols are not all ccn. number of ccn is not necesarily equal to the number of droplets in the cloud. more ccn means smaller droplets and less prec.

Isabel Monteiro (IPMA) 3:56 PM

@Daniel Martin, did you consider to use MODIS-Terra/Aqua products instead of the CAMS rean. products? Did you ran tests for the Canarias domain, as well ?

Kristian Pagh Nielsen (DMI) 3:56 PM

@seity_ Visibility in default HARMONIE is computed with the gl subroutines visibility.f90 and ccn.f90. They do not depend on the CCN variable in the model, but maybe Daniel has improved on this already?

Wim de Rooy 3:57 PM

if for the time being, we have to choose a fixed value for ccn. Is the new value 50 everywhere a decent one if you look at cams or is it pretty low?

Karl-Ivar Ivarsson, SMHI 3:57 PM

So it was better to omit autoconversion ?

Isabel Monteiro (IPMA) 3:57 PM

@Why Daniel ?

Daniel 4:01 PM

@Karl-Ivar: When the autoconversion is not activated for clodu droplets of radius lower than 20 micometers it was better.

Laura Rontu 4:01 PM

@Wim. In radiation we only can see impact in special cases when n.r.t. aerosol optical depths are order of magnitude larger than according to climatology. Then, all kind of details in handling aerosols also show up, but in normal days they do not matter. Perhaps that is the case for CCN, too? I mean, a reasonable average would work in 95 % of cases and work not at all in the special cases?

Karl-Ivar Ivarsson, SMHI 4:02 PM

Thank you Daniel! Nice presentation!

Daniel4:09 PM

@seity I haven't modified the calculation of the visibility.

seity4:10 PM

thanks Daniel, nice presentation.

martina tudor4:16 PM

the effective radiuses are hardcoded? not even namelist tuning parametres?

Laura Rontu4:17 PM

@Martina, there are a lot of alternatives in the RAYFM, options chosen by namelists. For acraneb, hlradia, fewer alternatives are there.

Laura Rontu4:18 PM

Karl-Ivar suggests deriving them from (ICE3) microphysics, could be tested. Those hardcodings Kristian show are the upper and lower limits.

Kristian Pagh Nielsen (DMI)4:21 PM

@Martina the effective radiuses are not hardcoded. They are computed from the cloud droplet number concentrations (CDNCs) and the cloud water concentration (CWC).

ahangire4:45 PM

@Kristian I have already compared several parameterizations on my ideal case cloud. But it would be better if I do it on the same cloud as you. I am sending the complementary information with email. Thanks.

Claude Fischer4:45 PM

sorry I need to leave for a few minutes (meeting)

Toon Moene (KNMI)4:45 PM

Yes.

Kristian Pagh Nielsen (DMI) 4:48 PM

@Erfan The idea for the benchmarking study is that all run with the same input variables. In this way we can validate our results between us. Perhaps I can make a Overleaf document that we can share describing this - and for sharing results.

Roger Randriamampianina 4:53 PM

I need to leave for other meeting

Meto Shapkalijevski 4:57 PM

More sofisticated roughness sublayer (RSL) is under implementation at the moment; it should be ready in the next months.

Karl-Ivar Ivarsson, SMHI 5:06 PM

Interesting discussion, but sorry, I have to leave now. Have a nice evening !