## **Surface Session**

Florian Meier

Is there vertical length scale for snow background error used and if so which?

Laura

Global snow observation map: missing Sweden and large parts of Russia: not all observations enter correctly GTS. This might be something to SRNWP surface group to try correct together. Problem has been known for years, also attempts to influence at WMO level have evidently not helped.

Patricia de Rosnay

Data from Sweden and 5 other European countries are available in the new WMO BUFR on the GTS.

Alena Trojakova

Which algorithm was used for LST assimilation (OI or SEKF or ??)

Rafiq

how is done the interpolation from the lower resolution of the EDA to the high resolution of the deterministic model?

Patricia de Rosnay

How did you define the snow analysis background and observation errors?

Ekaterina

How the bias for dyfferent LST products was calculated? Comparing with what?

David Fairbairn

Do you plan to assimilate ASCAT soil moisture with the EDA?

Ján Mašek

Which value of snow density is used for observations with no snow in model?

Benedikt

Maybe the remaining questions could be answered here by chat?

Dmitrii Mironov

Patrick, to you include any orography in the definition of roughness length, or it is purely "vegetative" rougness length

Patrick Le Moigne

the drag effect has been externalized and is done outside the vegetation scheme

Samuel Viana

Yes and we don't have any subgrid orography scheme active in harmonie for now.

Dmitrii Mironov

Do you have an SSO scheme, like the one by Lott and Miller?

Patrick Le Moigne

yes we do have such scheme in surfex

#### Dmitrii Mironov

Any plan to introduce TOFD scheme (e.g. Beljaars etal.) or a like scheme?

## Patrick Le Moigne

beljaars scheme is available... doesn't mean used!

## Rafiq

what is the percentage of these points?

#### Dmitrii Mironov

Available = implemented, but not switsched on?

## Patrick Le Moigne

yes probably not activated in Harmonie-Arome...

## Dmitrii Mironov

Patrcik, we should talk abiut it somw day.

I am at the office all the time, let me know wen we can talk.

## Carl Fortelius

We did not implement the UTCI

#### Laura

Dmitri, there are quite a lot of experience on orographic momentum fluxes of all scales

## Dmitrii Mironov

Yes, Laura, I read your papers. I will contact you some day. Do good.

#### Laura

Yuri, what is the variable in Topaz? Did you consider using it as pseudo-observation for (OI) analysis? O.K., if you explain later in the presentation then forget this question.

## Ekaterina

Small comment: our blacklisting of snow stations is not because they are non-representative. It is because we have problems in observation operator and land-sea mask.

How snow analysis works in CARRA over Iceland? All the SYNOP stations are blacklisted. Then, only satellite data are used?

## Bolli Palmason

yes. reason: almost all stations on low-land, so they remove snow from nearby mountains that is very unrealistic

## Laura

Thank you for showing Nordic Snow Network! Greenland is there in Nordic Snow Network!

## Pascal Marquet

why using the dry-air value "theta" as one of the MO variables since we deal with moist-air? Would not be more relevant to use the moist-entropy potential temperature instead? Pascal Marquet: are the MO functions the same for T and q? And if so, why?

Metodija Shapkalijevski

Q from Meto: Any possibility to include stability-dependent roughness length(s)?

Florian Meier

CANOPY scheme is switched off here?

Dmitrii Mironov

Comment: no problem to reformulte the Obukhov length in moist variables.

Metodija Shapkalijevski

Just a comment: the given roughness length formulations are derived for neutral stratification (assuming neutral condition near the surface). But above forest (urban canopy as well) will be stability dependent (e.g., Harman & Finnigan 2007; 2008; Zelitinkevich 2008). This will affect the momentum flux and consequently the U10m and V10m.

Wim de Rooy

I guess we need to verifiy the combined impact toegther with Kristian and Nielss's work on translation to diagnostic height

# Side-meeting on Surface

Bolli Palmason

Difference in cloud masking can explain difference in number of obs between cryoclim and h-saf I guess

Ekaterina

it is no cloud masking in both products. As produccers explain.

Mariken

CryoClim aggregates individual swaths to daily products

Roger Randriamampianina

which obs monitor Laura is talking? Is it what we call obsmon?

Trygve Aspelien

The python surfex api also writes SQLite tables to be used in obsmon

Alena Trojakova

Maybe I missed in the talk. But what is the dieefrence between your "barrel" approach and the approach of ECMWF?

Stefan Schneider

@Meteo France: what is the status of the dapation of OI/CANARI to ISBA-DIF

JavierCalvo

There is also a 1 km version of IMS analysis

Alena Trojakova

In which cycle it done? As fas as I understood ISBA-DIFF is only in SURFEX 8.1 or higher?

Metodija Shapkalijevski

I am not sure if my following comment should be placed here (maybe a bit off subject) but just in case: please know that I have written code of the Harman&Finnigan roughness lengths. It is a fortran code so one can adupt it and try it

**Emily** 

Agree with Laura too - this platform has been great

Stefan Schneider

Patrik, you mentioned that UTCI is added in SURFEX, but Carl wrote that he did not. What is the actual status?

eric

What about the z0 tuning or formulztion ddepending of the database? can we share more the resuts and experiements?

# **System session**

Alena Trojakova

What kind of optimizations in cy47 cause the speed-up of this cycle with respect to cy46?

Daniel Santos Muñoz

Ussually the Intel compiler was not the most efficient for AMD chips Do you receive any suggestion by ATOS about the best compiler option? Do you plan to use Intel only?

Martina

There is speed up for nproma=24 but not 16

Patrick Le Moigne

which SURFEX version for CY48T1?

Yann

I will propose to enter v9 (or pre-v9 depending of what will be available and validated in AROME and ARPEGE).

Trygve Aspelien

That's the same issue with mitraillette

Mariska

Q to Daniel if possible: are there any potential HIRLAM contributions to CY43t2 bf11?

**Gerard Cats** 

Roel: why cant you do PrepIFS?

# **Dynamics session**

Xiaohua Yang

Question to Petra, at what grid resolution would you recommend to turn on nonhydrostatic option?

Nils

Can you switch the epsilon choice in the PC scheme?

Andre Simon

Have you tried experiments on subgrid turbulence below 1 km resolution?

Ilian Gospodinov

Why not try to use the explicit alternative to PC instead of NESC?

Vivoda Jozef

if HY is physical, then any value of epsilon is as well (because is closer to real NH) epsilon is going to be vertically dependent

Nils

thanks, it was more if epsilon=0.5 can be used in the predictor and epsilon=1 in corrector

Ilian Gospodinov

i will contact Petra later

## E.P.S. session

Jeanette Onvlee

Are you considering use of continuous assimilation (overlapping windows)?

Marcin Kolonko

On verification of All stations RRR for February 2020 Bias diagram is the same as MAE. Does that mean that the RRR was constantly under/overestimated in that case or that's by mistake? {penultimate slide in the presentation]

Xiaohua Yang

does the bias correction gives positive impact?

Jeanette Onvlee

yes

## **Posters session**

# **Physics session**

Kristian

ERA5 is known to have cloud issues over the Arctic Ocean. Thus, it is not the best of references ... it would be better to test against YOPP data, for instance from the currently ongoing MOSAIC expedition

eric

yes it is planned however the YOPP ddata set are almost on the coast. For the MOSAIC data we sent the output but the observations are not available yet

Wim de Rooy

maybe I missed it but is SLHD switched off for all parameters? Thnx

Ján Mašek

What is the impact of linear SL interpolators on mass budget (surface pressure bias)?

#### Dmitrii Mironov

Do you have sub-grid scale ice in cloud scheme? If yes, how do you treat it?

## Xiaohua Yang

how would be computation cost associated with 3D physics

## Karl-Ivar Ivarsson

Could the exess of cloudwater be due to lack of mass consevation decribed by Yann?

#### Laura

In MUSC experiments with cloud condensate involved, the nudging towards initial profiles seems to have large impact (based on other studies), bringing some uncertainty. Did you perhaps try to play with this in your fog study?

## Harold

what about false positive cases? validation/verifiction must be done on no cases as well as yes cases. And what about distribution of clwc, compared to vis or fog presence? this is looking at bias and conditional biases.

#### Kristian

Yes, the cloud optical thickness is proportional to the cloudwater load Clearly too much cloudwater is a problem!!

#### Xiaohua Yang

can one code the per step computation of UH into inline output? Fullpos?

## Metodija Shapkalijevski

Based on the theory of TTE (e.g. Zelitinkevich 2013)), the is prognostic variable, l\_mix = f(TKE, TPE), instead of diagnostic. Did you maybe try to use l\_mix as prognostic?

## Ján Mašek

No, we have not tried l\_mix solution.

## Ján Mašek

Comment to ISBA vs. SURFEX differences - work has progressed since, now we know the main differences are due to moist processes. Match in no precip case is much better.

## Pau Escriba

Question about large differences in T lowest level in ALARO when using ISBA or SURFEX. Do you have idea wich of the 2 verifies better?

#### Ján Mašek

No, we have not computed the scores since we are still in a stage of technical validation.

## Pau Escriba

Aja, ok. In AEMET we have seen the same and we have also to compute scores to see what is better...

#### Laura

Just to repeat an old comment. In HIRLAM we decided around 20 years agot not to use orographic roughness for parametrization of subgrid-scale "orographic turbulence"

## Ján Mašek

What was the reason for that?

#### Laura

We assumed to have more advanced ways to treat orographic momentum fluxes of different scales. In principle, the orographic roughness is unphysical, empirical way as discussed by Wood et al, 2001 if I remember correctly the year, in QJRMS.

## Ján Mašek

OK, one of those is ACDRAG parameterization which I guess is off in most AROME models.

#### Samuel Viana

I assume you're using only 1 patch in surfex, right? That will give unrealistically similar windspeed biases in forested vs low vegetation areas, I guess.

#### Jeanette Onvlee

Are you considering to try ECOCLIMAP-SG? In our experience, it generally looks more realistic than v2.

#### Ján Mašek

Yes, in future. Currently we do not handle yet SURFEX 8.1.

## Metodija Shapkalijevski

Should the vegetation roughness be a bit smaller during winter (leafless conditions)?

## Laura

ACDRAG is for GWD, yes, off in AROME. Remains the more turbulent-related part that is by default in SURFEX treated by Beljaars et al, within CANOPY scheme only. We have suggested extremely simple OROTUR instead, but of course there are other possibilites.

## Ján Mašek

Samuel: These experiments are still run without SURFEX. In creation of roughness fields the tiling was off.

#### Laura

If you need fine-scale sources for orographic stuff, external code to derive them from SRTM 100m-resolution for example is available.

## Ján Mašek

Metodija: Yes, this can be considered but currently high vegetation roughness depends solely on tree height.

## Patrick Le Moigne

ecoclimap2 is for years around 2000 whereas ecsg represents todays vegetation

#### Laura

Roughness is nothing observable! It is scale-dependent or whatever, also for vegetation.

#### eric

What kind of modifications you have done? reducing the mixing .. in HARATU or in the shallow or both?

#### Fleur

What part of the modification is responsible for the preservation of the inversion in stratocumulus?

## Carl Fortelius

Frequency bias of cloud base height in cy40 new shows overprediction of the very lowest base values, and more so than in cy40. Can you comment on this?

#### Pau Escriba

Do you plan the introduce these nice modification in HARMONIE cy43?

## Metodija Shapkalijevski

can this improvment be applicable for the fog problem?

#### JavierCalvo

Were the CRIME modifications already in cy43 target 1 and 2?

## Sylvie MALARDEL

Yann, do we have these modif in the French operational Aromes?

#### Yann

no, it is only in H branches.

#### Kristian

Yes, this would be very interesting to collaborate on!

## Yann

I think we will discuss that during the fog meeting.

#### Ekaterina

What does it mean "near real time" here? With some time lag? Which?

#### Ján Mašek

It means aerosol information available at forecast start. For the short range forecast, delay is of order of days.

#### Dmitrii Mironov

Laura, are planning to use a fully prognostic aerosols (like e.g ART), at least quasi-operationally or on demand?

## Claude Fiscer

what is ifsradia?

## Ján Mašek

Radiation scheme of IFS (the old one).

#### Laura

The ECMWF radiation scheme of cy25, default in ALADIN-HIRLAM

Katya, still about n.r.t. Daniels is just describing, can be about one day old or so, received via boundaries as Daniel describes.

#### Kristian

For n.r.t. aerosols CAMS forecasts for the first noon of the forecast would make sense to use in our limited area model runs.

#### Yann

what is the radiation code did you use in your tests? Hlradia?

#### Laura

In fact CAMS aerosol in indeed forecast, initial state every 00 and 12 based on assimilation of observations. Could be used 00+ and 12+ every three hours. So in that sense, Dmitri, prognostic yes.

#### Isabel Monteiro

Are you also considering the CAMS Biomass Burning Aerosol? Perhaps with considerable impact over Iberia and southern Europe during summertime.

#### Laura

We have seem that it is necessary and not complicated to take into account the aerosol optical properties dependency on wavelengths. So not rely on AOD550 only as now. This is in principle ready, coded already, but the radiation schemes are not ready to use the tailored input yet. Except hlradia, that is not for operational use.

CAMS biomassa burning aerosol is in black carbon, mainly, that is included. And organics, CAMS classification includes this but not as separate species.

#### Yann

dust parametrisation is available in AROME (also in Harmonie I think). It could be tested in your canary case (emissions from Surfex)

## Laura

Daniel, is it possible to get CAMS aerosol via every boundary, every +3h replacing the existing fields during the integration? Or is it done this way?

#### Ján Mašek

Is there a plan for putting n.r.t aerosol code into t-codes?

#### Jeanette Onvlee

yes, the aim is to forward phase these codes to Cy46, in prepration for contributing them to Cy48

#### Laura

Introduction of n.r.t. aerosol into HARMONIE is done mostly via scripts when preparing boundaries. gl is applied. In this sense, the code to cy46 only solves part of the issue.

## Ján Mašek

OK, what I was interested in is reading the aerosol data by model and their dataflow to microphysics and radiation.

#### Laura

We have this, yes, in cy43 in two flavours, For radiation, Daniel used AOD550 with the present IFSRADIA, while we did the runtime 3D optical properties for the aerosol mixture. I do not know about the details of data flow towards microphysics.

#### Ján Mašek

Thank you, radiation part is of main interest for me.

#### Laura

I am planning to combine Daniel's cy43 code with our cy43 code available now fully only in a MUSC experiment. Will try to do this as soon as possible.

## Karl-Ivar Ivarsson

Using a "mild" LTOTPREC i.e advect convective precipitation but nothing more also gives more precipitation near coast and less over moutains for similar cases.

#### Kristian

Very interesting results from both Daniel and Oskar!

## Jenny Engdahl

Oskar is correct. I do get the opposite result, more prec in the mountains and less along the coast. But I still use the static CCNs, 100 over coast and 300 over land

## Oskar Landgren

Thanks. Yes we should try to make a setup combining these things.

## Jenny Engdahl

Would be very interesting to check CAMS aerosols with the Thompson scheme I think my scheme is more sensitive to CCNs

#### Yann

Thank you for these very interesting results. It could be also interesting to test LIMA in CY46.

## Jana Campa

Are you planning to include the heating in the wires? It might have influence on how much snow actually sticks to the wires.

## Erik Janzon

Can this be adaptable to wind turbines?

#### Laura

Or vice versa - is there any use of the experience of forecasting icing on wind turbines?

## **Verification session**

## Wim de Rooy

Is Harp completely covering (standard) verification done in Monitor (so we can stick to one system?

## Maria Monteiro

Indeed, when can we think on HARP as a common tool and would you advise the countries to start to use it on a regular basis?

#### andrew

I haven't done a comparison with monitor yet, so not completely sure Also harp is \*still\* under development in some parts of the API are changing.

## Alex Deckmyn

i would like to add: the more people use it, the quicker we can solve issues like installation

andrew

Installation should be straightforward. Grib support is generally the only challenge

Maria Monteiro

how to start? from the web page guidance?

andrew

I'm writing complete documentation now.. should be done within months 2 months

# Side meeting fog

Laura

Could you please tell how the droplet size is taken into account in radiation when LIMA is used?

**Driss BARI** 

which formula is used to computed visibility? is it the kunkel's one or another one?

thierry bergot

could you please compare the score to persistance?

Harold

forecast vis is clearly + biaised in AROME

JavierCalvo

Will the data from the field campaign available?

Bent

how big a role of the deposit term for improvement

Laura

Radiation is ecRAD?

Harold

are hu2m and soil water contents assimilated in AROME's test configuration tests? It is of great importance for mist/fog forecasting.

Karl-Ivar Ivarsson

At MF you did a parmeterization of setteling of dropels on vegitations. Have you tested this in this context ?

thierry bergot

what the accuracy of LWP from radiomater?

Harold

Could we someday plot both distribution of obs vis and forecast vis? Biases would then be shown.

Wim de Rooy

deposit might help in the situations with high windspeed (much deposition in reality?) where we still could see fog.

Christine

No Laura, radiation is not ecRad for the moment, but the older scheme

## Andre Simon

In the LIMA scheme, did you take into account the number of droplets? Or only the liquid water/ice content?

#### Christine

Yes droplet concentration is prognostic in LIMA

#### **JavierCalvo**

Can you conclude that there is added value in high resolution runs?

## thierry bergot

how could you explain that LWC is modify (smaller LWP) and that the dissipation time is the same? The dissipation time don't depends on LWP?

## Harold

of course deposition reduces the + biais...

## Wim de Rooy

are there any observation (depending on wind speed maybe) that can help to develop parametriization?

#### Christine

Probably because the critical value of LWP to dissipate is not reached

#### Bolli Palmason

To HIRLAM colleagues: is LIMA in cy43h2.1?

## Laura

No

## Metodija Shapkalijevski

Do you maybe checked (compare) OBS vs MODEL s level of stratification?

## Laura

Might be useful to try acraneb2 for LW to see if something changes with the present CWPs Should be straight-forward especially if you run MUSC experiments

## Karl-Ivar Ivarsson

Agree with Laura. A questiont to Sander:

#### Laura

Would give insight to sensitivities of radiation - fog interactions

## Ján Mašek

Yes. Maybe there is an impact of LW scattering on/off?

#### Yann

YCould you remind me the date of this case? Maybe I have ddh files of AROME on that case.

#### Karl-Ivar Ivarsson

Can you from Cabau observations see if the fog-top entrainment is enough? e.g. the moisture extent above the fog ?

#### Kristian

With sample profiles from selected cases, LW reference computations could be made

#### Kristian

I tested the impact of LW scattering and found this to be around 1 W/m<sup>2</sup>

## Wim de Rooy

what about the impact of XRIMAX and how is/could this be related to the translation t0 diagnostic levels by Kristian?

#### Laura

Is the cooling at the fog top or even inside?

## Daniel Martin

Could be the number of droplets used by the radiation scheme too large?

#### Laura

Cooling in Cabauw obs as you tell, what about the model?

## Metodija Shapkalijevski

how the surface momentum and energy fluxes compare with observed one at Cabauw before and during the fog? Maybe a bit late question. Sorry

## Wim de Rooy

I remember from Martin Kotzow that for the artic fog forecasts are pretty good

#### Laura

I think the FMI northern forecasters might tell something, we need to find out about ice fog

## Harold

what about assimilated surf. vars. in various models ? same previous question as for AROME (hu2m, soil lwc)

## **Bent**

we should also understand forg over sea, common for all

## Ekaterina

EWe defenitely not use T2m and RH2m for upper air. I guess Meteo-France as well.

## Roger Randriamampianina

Spain is assimilating T2m & RHU2m with positive impact

## Ekaterina

For upper air&?

#### Samuel Viana

Katya: Yes. There's info on that in AEMET's poster

#### **Bent**

what about the impact of ecume?

Yann

I plan to test it (Ecume v6)

Ekaterina

So, they are assimilated twice?

Karl-Ivar Ivarsson

Have tested ecume6. unfortuately more sea fog with ecume6

Christine

Probably fog over sea will be reduced if the subgrid condensation scheme is switched off

Laura

And get the reference calculations from Kristian, For the case selected I mean

JavierCalvo

SoFog3D would be a good test period. 1D is not perfect for this

Laura

It is perfect for radiation diagnostics, not for time evolutions

Kristian

Laura - it is better if I can get the actual HARMONIE-AROME profiles from cases and make LW computations for these.

Yes, this is an important point

thierry bergot

intercomparison : an intercomparison is currently done with LANFEX (UKMO) data -> demistify project See Ian Boutle (UKMO)

Christine

1D and 3D with LES

**Bent** 

Should we aim at a physical working meeting in late Autumn?

Kristian

Will you make a doodle for these working days?

Laura

Better to create a wiki page or something now

eric

goog idea the wiki page!!

# **Applications sessions**

Martina

The cut out depends only on the mean wind, not wind gusts?

Xiaohua Yang

Gert, in your combined IFS-RMI ensemble, did you use full ensemble from IFS, or just a subensemble?

## Iris Odak Plenkovic

Did you try probabilistic forecast (probability of exceeding)?

## Jeanette Onvlee

We have a wind farm parametrization available, you have wind farm data for validation, we can cooperate on this

## Geert Smet

@Xiaohua: full ensemble

@Iris: we give a probability of cut-out to Elia, but usually they mainly/only look at Alaro. It's quite difficult to let them think probablistically...

#### Iris Odak Plenkovic

Thank you Geert, that is exactly why I asked, since we often get similar feedback from user

#### Geert Smet

@Jeanette: indeed this parametrization was something I want to look at in the future. Could be interesting to cooperate.

## Jeanette Onvlee

Also the calibration, probably

#### Dmitrii Mironov

Sylvie, do you couple with full-fldged 3d NEMO or with 1d ocean mixed-layer parameterization, or both? Are the results published?

## Isabel Monteiro

Q1: Do you also use scatterometer winds in your DA system? If yes, which ones? Q2: In couple model, will you use 10-m wind or wind stress?

## Jeanette Onvlee

Sounds like you use different ocean and wave models in Arome than those which are used in the global model. Does that give rise to problems?

## eric

may be I missed but what is the resolution of ALADIN?

## Jeanette Onvlee

12km

## Oskar Landgren

(12 km and 24 km for the Arctic)

## Xiaohua Yang

big thumb up for these "underground activities" in the HCLIM community. Who is the contact person on the HCLIM setuo for Greenland? Wold be interesting to learn experience from the Carrapan arctic reanalysis perspective.

Bert van Ulft It's Rasmus Pedersen from DMI Oskar Landgren That would be me and Rasmus

#### Ekaterina

In these Lake Victoria experiments, was FLake running?

## Jeanette Onvlee

Good to hear the Lake Victoria results! In WMO context we have been suspecting that the mesoscale models would be really needed to properly describe convective storms over the lake. Your results certainly support this!

#### eric

Do you try ALADIN physics at 3Km with the deep convection switch off? and AROME at 12Km use a deep convection scheme? if yes which one,

#### David Lindstedt

@Ekaterina: Yes FLake is activated

#### Nauman Awan

Can you please tell which groups are participating for the Alpine AL domain?

#### Ekaterina

Jeanette, there are extensive studies of this situation over Lake Victoria by Wim Thiery

## Xiaohua Yang

results with arome@12 km is fascinating. same question about deep convection., and main tunning about microphysics?

## Ekaterina

Thank you, David! Just to let you know: I did many modifications to run FLake smoothly, but they are in cy40h1.1.1.

## David Lindstedt

OK, Thanks Ekaterina. These runs over Lake Viktoria was made by Grigory and he knows more about them if you are interested.

## Xiaohua Yang

what are the main stability fixes?

## Danijel Belusic

Eric: We tried ALADIN at 5 km without convection parametrization. It worked well, but it doesn't help with the LBC issue when we force AROME with it.

We haven't tried convectoin parametrization in AROME. I know that Karl-Ivar has been looking into this option, but I am not sure what the status is.

## Wim de Rooy

if you run arome a 2.5km without shallow convection scheme you see (too) large cloud structures. Probably this is also a sign of too large convective structures leading to too high extremes. Currently we are doing tests with Marvin Kahnert for a clod air outbreak with/wthout and partly without convection parametrization

## Danijel Belusic

The Alpine domain is actually a part of CORDEX FPS on convection. There are over 20 groups participating. See here: https://www.hymex.org/cordexfps-convection/wiki/doku.php

Xiaohua: I am not sure if your question is if we have tuned anything for coarse runs. The answer is no, we haven't done any modifications comapred to the usual runs.

#### eric

Thanks Danijel, for ALADIN at 3km without deep convection it is more for the pdf of precipitation compared to AROME at 2.5km ..

#### Ekaterina

For improving SURFEX over Arctic in climate mode: what about modelling of glaciers? We whould like to something better that we have now

## Xiaohua Yang

thanks for explanation. Those are also useful work that benefited NWP users.

## Danijel Belusic

Thanks Wim. We might try somethig similar at 12 km.

Eric, we haven't looked at pdf's from ALADIN. Good suggestion.

Rasmus from DMI is looking into glaciers.

## Xiaohua Yang

thank you Danjiel for explanation. Very intrestimg and useful exploreation about coarse resolution indeed.

For validation of cycles, I have renewed our mitraillette tool (known by some ALADIN phasers and in MF). I feel this new version is simple to install (anywhere) and use. It can also be used for everyday jobs running, as long as you only run forecast jobs (no DA or EPS), since internal job list is the same as in the current mit' version. Code is available on web. Please let me know if interested.

#### eric

For the physics and ECOCLIMAP version, a common problem is the 10m wind speed and the z0m and then surface drag .. may be a common action ?

## Dmitrii Mironov

Jeanette and Piet, seems like we need an inter-consortia workshop on coupling with the ocean in shot-range to medium-range NWP (climate guys couple anyway). 3d NEMO and the like is fine, but it is a brutal force approach. I feel we all would appreciate a more elegant solution, like 1d parameterization intimately couple to an ocean data assimilation scheme. So we need to find something cheap but still physically sound. I would be happy if we can discuss possible ways to go.

#### Harold

Question: is mitraillette known and used among consortium people? Also, many thanks to Patricia and chairmen

## Daniel Santos Muñoz

@Harold I am writing you an email right now

#### Ekaterina

I support. Even more common actions on physiography are needed It was Carl Fortelius

#### Dmitrii Mironov

Yes, but is still actual due to Corona?

## Harold

Daniel: harold.petithomme@meteo.fr, if this is what you intended. Mitraillette is just shell script, and Makefile (20 lines) for installation. So, very easy.

General comment to the scope of the visio meeting format: (+) all sessions started on time with 1 min precision! (-) Impossible to applaud. Namely Patricia would deserve applaud at the beginning and at the end of each session

Yes, it was perfect, Idid not have a feeling, it is organized first time in this way. Big thanks to Patricia, chairs, organizers!

Balazs Szintai yes, decision on EWGLAM expected next week

Patricia Thank to all of YOU