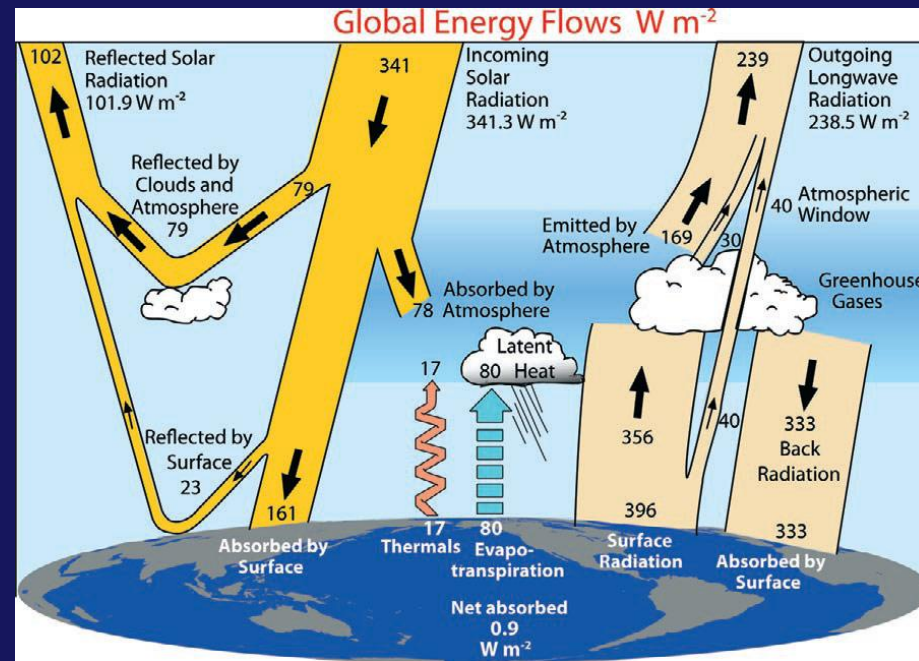


Radiation Experiments using Harmonie





First Goal

- To modify the radiation section of the `apl_arome.F90` subroutine to give the user the choice of using the ECMWF (IFS) radiation scheme (`Acradin.F90`, `Radheat.F90`) or the much simpler HiRLAM radiation scheme (`hlradia.F90`).



Some of the Differences between IFS & HL

- IFS has 6 SW bands, HiRLAM has one.
- IFS radiation call is only made every 15 timesteps, HR every timestep.
- HiRLAM currently uses constants to mimic the effects of aerosols. We are investigating what IFS uses but it seems to have 6 aerosol types.



Some of the issues encountered (so far!)

- Svalbard domain – strange boundary effects – because model does not have sea ice – got a data assimilation fix from Mariken Homleid (MetNO).
- A sample experiment failed when using 65 levels but worked with 60 levels.
- A sample experiment failed when echo statements were included in the code – possibly related to undefined arrays.



A Few of my Questions

- How do I include additional parameters in the postprocessed files? e.g. simultaneous and accumulation fluxes.
- How do I output additional parameters which are not currently appearing in the eta level files?
- Which files contain the aerosol data used by apl_arome.F90 (have found a few files containing aerosol data and cannot trace any of these back to apl_arome.F90)?
- Where to ask questions not answered on the forum?