

# AWC 2018 FIP RAPv4 Changes



derived\_model\_...h\_AWC\_2018.tar

Attached to this page directly above this text is a tarball that contains the following files:

- paramdef.derived\_model\_fields
- WrfRrModel.hh
- WrfRrModel.cc
- NwpModel.cc

## Instructions to Incorporate Changes

1. Copy the tarball to the AWC machine that runs FIP
2. Unpack the tarball and copy the files into the directory containing the source code for derived\_model\_fields. This should be in the cvs directory under apps/icing/fip/src/derived\_model\_fields
3. Build the app and copy the new executable into the bin directory if necessary
4. Modify the Grib2toMdv.wrf\_rr\_ncep param file to include APCP1Hr and CIMIXR if that has not be done already. You will need to change the following:

```
param = "CICE",
```

to instead say

```
param = "CIMIXR",
```

and you will have to add the following input item:

```
{
  param = "APCP1Hr",
  level = "SFC",
  mdv_name = "APCP",
  units = NO_CHANGE,
  upper_range_limit = 0,
  lower_range_limit = 0,
  encoding_type = ENCODING_FLOAT32,
  qc_default_type = BAD_VALUE,
  qc_default_value = 0,
  vert_level_min = -1,
  vert_level_max = -1,
  vert_level_dz = 1
},
```

5. Modify the Hybrid2Pressure.wrf\_rr\_ncep param file to pass through APCP1Hr. Change this code:

```
include_input_field_names = {
    "CIN",
    "ACPCP1Hr",
    "NCPCP1Hr",
    "ACPCP2Hr",
    "NCPCP2Hr",
    "ACPCP3Hr",
    "NCPCP3Hr",
    "CAPE"
};
```

to

```
include_input_field_names = {
    "CIN",
    "ACPCP1Hr",
    "APCP",
    "NCPCP1Hr",
    "ACPCP2Hr",
    "NCPCP2Hr",
    "ACPCP3Hr",
    "NCPCP3Hr",
    "CAPE"
};
```

6. Modify the derived\_model\_fields.wrf\_rr\_ncep param file to read and pass through APCP1Hr. Change the following:

```
wrf_rr_model_field_names = {
    height = "HGT",
    temp = "TMP",
    spfh = "MIXR",
    vert_vel = "VVEL",
    cw_mr = "CLWMR",
    rw_mr = "RWMR",
    ice_mr = "ICMR",
    snow_mr = "SNMR",
    graup_mr = "GRMR",
    cape = "CAPE",
    cin = "CIN"
};
```

to

```
wrf_rr_model_field_names = {
    height = "HGT",
    temp = "TMP",
    spfh = "MIXR",
    vert_vel = "VVEL",
    cw_mr = "CLWMR",
    rw_mr = "RWMR",
    ice_mr = "ICMR",
    snow_mr = "SNMR",
    graup_mr = "GRMR",
    cape = "CAPE",
    cin = "CIN",
    apcp = "APCP"
};
```

7. Modify the fip\_algo.WRF-RR-NCEP param file to read APCP1Hr instead of MODEL\_PRECIP. Change the following:

```
model_precipitation = "MODEL_PRECIP",
```

to

```
model_precipitation = "APCP",
```