Issues with data

General issue for models using WW3

Wrong peak wave period

Because of an error in WW3, the values of Peak wave period might be occasionally wrong if a centre running the affected version of WW3 does not apply a dedicated fix to remove such wrong values in their model outputs.

Currently in LC-WFV project we have had to relax the upper limit for Peak wave period and the centres NIWA, BoM, LOPS so that even those occasional values higher than 80 are archived. Otherwise that parameter could not be archived at all for those centres.

METEOAM (cnmc)

Mean zero-crossing wave period issue at step 0

Brief description:

Due to the bug in the computation of the second moment and the zero moment of the frequency spectrum (inconsistent diagnostic methods, truncation errors due to limited GRIB precision for the initial conditions) the values of the mean zero-crossing wave period at step 0 are wrong . Affected data:

- 0Z: 2018-11-01...2018-11-05
- 12Z: 2018-10-31...2018-11-04

Recommendation:

Do not use the affected data.

SHNSM (sabm)

Wrong peak wave period data

Brief description:

Due to the bug in in the determination of the peak wave period values all available data can be affected.

Recommendation:

Do not use that parameter until the bug fix is implemented by the provider.

DWD (edzw)

U/V component problem **Fixed on 2019-06-27 by re-processing and re-archiving all data Feb-Apr 2019**

Description:

Problems were identified in DWD operational runs where a recalculation of February to April period has been needed.

GRIB files advanced packing

Different GRIB2 packing than simple (cwao, rjtd, rksl data only)

Brief description:

It has been discovered that input data from three providers are using advanced (complex) GRIB packing. It might be useful to have smaller files generally but unfortunately it can create issues in some GRIB tools or for users as e.g. more CPU is needed to process data. For archiving purposes the hardware (tape) packing is used which is a better solution for number of reasons.

Recommendation:

Be aware that the centres below (have) used advanced packing. It does not affect data values at all but users can experience slower data processing in some scenarios.

- JMA (rjtd) => changed to simple packing since 0Z 2019-04-03
- ECCC (cwao) => changed to simple packing since 12Z 2019-07-03
- KMA (rksl) => changed to simple packing since 12Z 2019-07-09

DMI (ekmi)

U/V component sign problem **Fixed from 12Z 2019-07-16 onwards**

Description:

U/V component sign is opposite than it should be.

The wind speed discrepancy at day 5

Description:

The intensity fields (wind speed) exhibit some differences at day 5 comparing to other models. The explanation by the provider is that DMI gets access to ECMWF wind fields with a delay so large that the previous forecast.must be used for the day 5.

To illustrate the problem see the comparison of 10 m wind forecasts from ECMWF and DMI for one case study (ecmf-10m-V ecmf-10m-WS ekmi-10m-V ekmi-10m-WS). Because of the delayed access to ECMWF winds the +120h ecmf data is thus compared to +132h

ekmi data (using the analysis 12h earlier) as explained by the provider.

Météo-France (lfpw)

10m wind issue **Fixed from 2019-10-01 onwards**

Description:

There is a problem with 10m wind forecasts which can be illustrated by comparing wind speed and wind components from ECMWF and Meteo-France:

NCEP (kwbc)

Too high Peak wave period values in some grid points (fix will be implemented in the next model upgrade)

Description:

Occasionally there are excessively high peak wave period values (>50s) affecting just single grid points.

ECCC (cwao)

Too high or negative Peak wave period values in some grid points (fix will be implemented in the next model upgrade expected in Nov 2021)

Description:

Occasionally there are excessively high (>100s) or negative peak wave period values affecting just single grid points.

Some more information on the issue is available in https://github.com/NOAA-EMC/WW3/issues/304

NZMS (nzkl)

Missing 10 metre V wind component in the period 14-09-2020...23-05-2021

Description:

10 m V wind component has been missing since 14-09-2020 after the model change. The issue has been fixed since 24-05-2021

Different number of longitude points in the period 14-09-2020...11-06-2021 (technical imperfection not affecting the data)

Description:

NZMS data after the model upgrade on 14-09-2020 contained grid with 1441 longitude points from 0 to 359.9 degrees instead of the intended 1440 points from 0 to 359.75 degrees corresponding exactly to 0.25 degrees resolution. The extra grid point made the resolution slightly less than 0.25. The fix has been applied since 0Z, 11-06-2021 run.

Negative Peak wave period values in some grid points (fixed on 11 Jan 2022)

Description:

Occasionally there are negative peak wave period values mostly in a small region in the Arctic Ocean. It seems that in some edge cases the ice concentration is making troubles in the quadratic fit used to obtain the peak period.

BoM (ammc)

Negative Peak wave period values in some grid points (fixed on 07 Oct 2022)

Description:

Because of an error in the grid conversion, the minima of Peak wave period could be occasionally wrong (negative up to -100). That issue affected the period Sep-Oct 2022.

METNO (enmi)

Issue with 10 U/V values in the period 12Z, 2023-03-08 - 6Z, 2023-05-08 (fixed since 6Z 08 May 2023 onwards)

Description:

https://jira.ecmwf.int/servicedesk/customer/portal/4/SD-75112

The values of 10 U/V component are wrong in some gridpoints and for some time steps in the period 12Z, 20230308 - 6Z, 20230508

That issue seemed to affect always just 2 steps (+33 and +54). According to the provider, those corrupt values were solely above Novaja Semlja and did not compromise the wave model results otherwise.