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| WORLD METEOROLOGICAL ORGANIZATION  COMMISSION FOR BASIC SYSTEMS  -----------------------------  THIRD MEETING OF  INTER-PROGRAMME EXPERT TEAM ON CODES MAINTENANCE  MARRAKECH, MOROCCO, 15 - 19 APRIL 2019 |  | IPET-CM-III / Doc. 2.2(2)  03.04.2019  -------------------------  ITEM 2.2  ENGLISH ONLY |

MANUAL ON CODES: TABLE-DRIVEN CODE FORMS

FM 92 GRIB

New GRIB2 code Table 4.2 entries

*Submitted by Yves Pelletier (Canada)*

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**Summary and Purpose of Document**

This document proposes new GRIB2 Code Table 4.2 entries for the physical atmospheric properties of presence of snow squalls

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**ACTION PROPOSED**

The Team is requested to review the proposed new parameter and approve it for implementation within the May 2019 fast-track (FT2019-2) update to the WMO Manual on Codes.

**ANNEX:**

1. Proposed new entry for Code Table 4.2

**DISCUSSIONS**

The table annexed herewith contains proposed addition to Table 4.2 of the GRIB2 section of the Manual on Codes. The new parameter, namely the presence of snow squalls, is used for winter severe weather forecasting and reflects new post-processing diagnostics forecasts being implemented at the Canadian Centre for Meteorological and Environmental Prediction. It is hoped that it is sufficiently general for eventual use by other Centers.

Two types of snow squalls can be defined:

- Snow squalls triggered by warm air flowing over relatively warmer bodies of water

- Snow squalls triggered by an intense cold front moving through an unstable airmass

In fact, what is being looked for, in general, is to forecast the potential occurrence of the following meteorological phenomenon: heavy snow showers reducing visibility to near zero...

- Visibility expected to drop to less than 1/2 mi;

- Accompanied or not by blowing snow;

- Occurring suddenly and being of short duration (especially for frontal squalls);

- May last for a much longer time in the case of lake/water effect squalls.

In all cases, snow squalls are produced when the surface temperature is near or below zero Celsius and, obviously, the temperature is below zero in the whole profile above the surface.

The parameter proposed here diagnoses if there is or not presence of snow squalls.

**PROPOSAL**

The table annexed herewith contains proposed addition to Table 4.2 of the GRIB2 section of the Manual on Codes, for new physical atmospheric forecast parameter, namely presence of snow squalls. Interpretation notes are included.

**Annex**

**Proposed new entry for Code Table 4.2**

**Product Discipline 0 – Meteorological products, parameter category 19: physical atmospheric properties**

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| **Number** | **Parameter** | **Units** |
| 36 | Presence of snow squalls | [Code table 4.222](http://www.nco.ncep.noaa.gov/pmb/docs/grib2/grib2_doc/grib2_table4-222.shtml) |
| 37-191 | Reserved |  |
| 192-254 | Reserved for Local Use |  |