|  |  |  |
| --- | --- | --- |
| WORLD METEOROLOGICAL ORGANIZATIONCOMMISSION FOR BASIC SYSTEMS-----------------------------THIRD MEETING OFINTER-PROGRAMME EXPERT TEAM ONCODES MAINTENANCEMARRAKECH, MOROCCO, 15 - 19 APRIL 2019 |  | IPET-CM-III / Doc. 2.2(3)03.04.2019-------------------------ITEM 2.2ENGLISH ONLY |

MANUAL ON CODES: TABLE-DRIVEN CODE FORMS

FM 92 GRIB

New GRIB2 code Table 4.2 entries

*Submitted by Yves Pelletier (Canada)*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Summary and Purpose of Document**

This document proposes new GRIB2 Code Table 4.2 parameters.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**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 tables annexed herewith contain proposed additions to Table 4.2 of the GRIB2 section of the Manual on Codes. These are necessary to reflect new post-processing diagnostics and Nowcasting forecasts being implemented at the Canadian Centre for Meteorological and Environmental Prediction. It is hoped that they are sufficiently general for eventual use by other Centers.

We kindly request the IPET-CM to help us clarify whether the precipitation type probability parameters in Code Table 4.2, Product discipline 1 (hydrological products) may be used in the context of a general meteorology product. If not, we would be grateful for guidance on the proper procedure.

**PROPOSAL**

The table annexed herewith contains proposed addition to Table 4.2 of the GRIB2 section of the Manual on Codes. Interpretation notes are included.

**Annex**

**Proposed new entry for Code Table 4.2**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Parameter** | **Product Discipline** | **Parameter Category** | **Parameter number** | **Units** |
| Thunderstorm intensity index  | 0 | 7 (Thermodynamic stability) | 20 | Code table 4.246 proposed new table |
| Precipitation intensity index | 0 | 1 (Moisture) | 122 | Code table 4.247 proposed new table |
| Probability of freezing rain | 1 | 1 (Hydrology probabilities)  | 3 | % |
| Probability of freezing drizzle | 1 | 1 (Hydrology probabilities) | 4 | % |
| Probability of hail (Pas dans la requête Weather Elements) | 1 | 1 (Hydrology probabilities) | 198 | % |
| Probability of ice pellets | 1 | 1 (Hydrology probabilities) | 5 | % |
| Probability of snow squall | 1 | 1 (Hydrology probabilities) | 6 | % |
| Probability of snow | 1 | 1 (Hydrology probabilities) | 7 | % |
| Probability of rain | 1 | 1 (Hydrology probabilities) | 8 | % |
| Probability of blizzard (Pas dans la requête Weather Elements) | 1 | 1 (Hydrology probabilities) | 201 | % |
| Snow level | 0 | 19 (Physical atmospheric) | 36 | m |
| Dominant precipitation type | 0 | 1 (Moisture) | 123 | Code table 4.201 proposed modified table |
| Presence of showers | 0 | 1 (Moisture) | 124 | Numeric\*\*\*\* |
| Presence of blowing snow | 0 | 1 (Moisture) | 125 | Numeric\*\*\*\* |
| Presence of blizzard | 0 | 1 (Moisture) | 126 | Numeric\*\*\*\* |
| Ice pellets (non water equivalent) precipitation rate | 0 | 1 (Moisture) | 127 | m/s |

\*\*\*\* This parameter indicates whether the precipitation is convective (value=1) or not (value=0). The method used to determine the character of the precipitation is left open to the producer.

**One table modification proposed:**

**GRIB2 - CODE TABLE 4.201**

**PRECIPITATION TYPE**

|  |  |
| --- | --- |
| **Code Figure** | **Meaning** |
| 0 | Reserved |
| 1 | Rain |
| 2 | Thunderstorm |