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| WORLD METEOROLOGICAL ORGANIZATIONCOMMISSION FOR BASIC SYSTEMS-----------------------------FIRST MEETING OFINTER-PROGRAMME EXPERT TEAM ONCODES MAINTENANCEGENEVA, SWITZERLAND, 24 - 28 JULY 2017 |  | IPET-CM-I / Doc. 2.2 (3)(30. 5. 2017)-------------------------ITEM 2.2xENGLISH ONLY |

Additions to GRIB2 templates and tables

**New GRIB2 Code Table 4.2 entries**

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**Summary and Purpose of Document**

This document proposes new GRIB2 Code Table 4.2 parameters.

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**ACTION PROPOSED**

The meeting is requested to review the proposed new parameters and approve them for implementation within the November 2017 fast-track (FT2017-2) update to the WMO Manual on Codes.

**DISCUSSION**

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**

See Annex.

Annex

Proposed new entries for Code Table 4.2

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| --- | --- | --- | --- | --- |
| **Parameter** | **Product Discipline** | **Parameter Category** | **Parameter number** | **Units** |
| Highest freezing level | 0 | 19 (Physical atmospheric properties) | 236 | m |
| Visibility through liquid fog | 0 | 19 (Physical atmospheric properties) | 237 | m |
| Visibility through ice fog | 0 | 19 (Physical atmospheric properties) | 238 | m |
| Visibility through blowing snow | 0 | 19 (Physical atmospheric properties) | 239 | m |
| Convective precipitation occurrence | 0 | 1 (Moisture) | 243 | Numeric\*\*\*\* |
| Thunderstorm intensity index  | 0 | 7 (Thermodynamic stability) | 201 | Numeric\* |
| Precipitation intensity index | 0 | 1 (Moisture) | 244 | Numeric\*\*\*\*\* |
| Probability of freezing rain | 1 | 1 (Hydrology probabilities)  | 196 | % |
| Probability of freezing drizzle | 1 | 1 (Hydrology probabilities) | 197 | % |
| Probability of hail | 1 | 1 (Hydrology probabilities) | 198 | % |
| Probability of ice pellets | 1 | 1 (Hydrology probabilities) | 199 | % |
| Probability of snow squall | 1 | 1 (Hydrology probabilities) | 200 | % |
| Probability of blizzard | 1 | 1 (Hydrology probabilities) | 201 | % |

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\*\*\*\* 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.

\* Can take the values 0, 1, 2 and 3 according to the intensity of the thunderstorm.

 0 = no thunderstorm occurrence, 1 = weak thunderstorm, 2 = moderate thunderstorm,

 3 = severe thunderstorm

\*\*\*\*\* Can take the values 0, 1, 2 and 3 according to the intensity of the precipitation.

 The numbering below is consistent with the synoptic code for precipitation intensity:

 0 = no precipitation occurrence, 1 = light precipitation, 2 = moderate precipitation,

 3 = heavy precipitation.