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| WORLD METEOROLOGICAL ORGANIZATIONCOMMISSION FOR BASIC SYSTEMS-----------------------------SECOND MEETING OFINTER-PROGRAMME EXPERT TEAM ONCODES MAINTENANCEOFFENBACH, GERMANY, MAY 28 - JUNE 1 2018 |  | IPET-CM-II / Doc. 2.2 (8)(22.05.2018)-------------------------ITEM 2.2ENGLISH ONLY |

Additions to GRIB2 templates and tables

**New GRIB2 Code Table 4.9 entries**

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**Summary and Purpose of Document**

This document proposes new GRIB2 Code Table 4.9 entries.

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**ACTION PROPOSED**

The meeting is requested to review the proposed new entries and accept them for validation.

**DISCUSSION**

The tables annexed herewith contain proposed additions to Table 4.9 of the GRIB2 section of the Manual on Codes, for new probabilistic forecasts types.

A categorical probabilistic forecast is often used for long term forecasts. The forecast is expressed as the probability of the forecasted event to be in one of the defined categories. The 3 equiprobable categories being defined as follows:

* Above normal
* Near normal
* Below normal

The categories can be defined either by the model climatology or by the observed climatology. As of this writing, existing probabilistic Product Definition Templates (PDT) that use Code Table 4.9 do not provide space to qualify the type or methodology of the climatology that was used. However, rather than creating a brand new PDT, we suggest that in this case, the characterization of the reference climatology is best done in user documentation to be provided by the data producer.

**PROPOSAL**

Please see Annex.

Annex

Proposed entries for Code Table 4.9 (new ones in red)

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| **Code Figure** | **Meaning** |
| 0 | Probability of event below lower limit |
| 1 | Probability of event above upper limit |
| 2 | Probability of event between upper and lower limits (the range includes lower limit but no the upper limit) |
| 3 | Probability of event above lower limit |
| 4 | Probability of event below upper limit |
| 5 | Probability of event in above normal category (See Notes 1 and 2) |
| 6 | Probability of event in near normal category (See Notes 1 and 2) |
| 7 | Probability of event in below normal category (See Notes 1 and 2) |
| 8-191 | Reserved |
|  |  |
| 192-254 | Reserved for Local Use |
| 255 | Missing |

Note 1: Above normal, near normal and below normal are defined as three equiprobable categories based on climatology at each point over the geographical area covered by the grid. The type and methodology of the reference climatology are unspecified and should be documented concurrently by the data producer.

Note 2: Product Definition Templates that use Code Table 4.9 contain octets to store the values of lower and upper limits. When categorical probability is used (such as below, near and above normal), these octets shall be set to “all ones” (missing).

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