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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(1)  01.04.2019  -------------------------  ITEM 2.2  ENGLISH ONLY |

MANUAL ON CODES: TABLE-DRIVEN CODE FORMS

Additions to GRIB templates and tables

New GRIB2 parameter for evapotranspiration rate

*Submitted by Jeff Ator (U.S.A.)*

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**Summary and Purpose of Document**

This document proposes a new GRIB2 Code Table 4.2 parameter for pre-operational approval.

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**ACTION PROPOSED**

The meeting is requested to approve the new parameter for pre-operational use.

**DISCUSSIONS**

During late 2018, personnel in the U.S. Air Force and National Aeronautics and Space Administration (NASA) noted what they perceived to be an error in the published units for “Evapotranspiration” in GRIB2 Code Table 4.2. The parameter is currently listed as Parameter 6 within Discipline 2, Category 0, and with units of kg-2 s-1 which is most likely a typographical error. This was reported to the IPET-CM, and comments were received in particular from WMO, ECMWF and DWD with agreement that the published units were problematic. The consensus of the discussion was that a note should be added to the existing parameter to document the concern about the units, and at the same time a new rate parameter should be added with the correct units.

The new parameter is proposed as “Evapotranspiration rate” with units kg m-2 s-1, and per the rules of GRIB2 a user may, if needed, use this new parameter along with statistical “Accumulation” (code figure 1) from Code Table 4.10 to derive “Evapotranspiration” in units of kg m-2 in the corresponding data section of a GRIB2 message.

A formal proposal was submitted to the IPET-CM in February 2019 along with several sample GRIB2 messages for validation, all encoded using the NCEP wgrib2 software. No additional feedback was received, and given that NASA would like to begin using this new parameter in GRIB2 products during the summer of 2019, we respectfully ask for pre-operational approval of this proposal.

**PROPOSAL**

1. Add the following note to existing parameter 6 (“Evapotranspiration”) within discipline 2, category 0 of Code Table 4.2:

**The listed units for this parameter may not be optimal for use with certain applications. Instead, it may be preferable to use parameter 39 with statistical process 1 (“Accumulation”), in order to report evapotranspiration in units of kg m–2**

1. Add the following new parameter to discipline 2, category 0 of Code Table 4.2:

**Discipline 2 (Land Surface Products)**

**Category 0 (Vegetation/Biomass)**

**Parameter**

**39                 Evapotranspiration rate            kg m–2 s–1**