

# **COSMO Development Guidelines**

## **Introduction**

Dmitrii Mironov

COSMO Scientific Project Manager

(Deutscher Wetterdienst, Offenbach am Main, Germany)

October 2021

The purpose of the COSMO Working-Group Development Guidelines is to facilitate planning of the COSMO research and development activities and to efficiently use the (always limited) Consortium human resources. This is particularly important during the COSMO to ICON transition period, when the Consortium members are under high time pressure and priorities should be clearly set. Note that the Development Guidelines are not meant to replace the COSMO Science Plan. The original intention was to ease the transition from COSMO to ICON by providing guidance in terms of priorities, use of resources, and risk assessment. However, the Guidelines prove to go beyond the scope of the transition period by considering medium-term (ca. five years) and long-term (ten years and beyond) prospects and should therefore help the COSMO scientist to contribute to the future initiatives aimed at further developing the ICON modelling framework and its successful application. Whether only one edition of the Working-Group Development Guidelines is issued, or the Guidelines are maintained as the COSMO documents supplementary to the Science Plan, will be decided later. In the latter case, the Guidelines should be regularly updated as some tasks are completed, new pressing issues arise, and fresh ideas are put forward. Updating and maintaining these relatively concise documents should help us to discipline our own thoughts and to anticipate what we can have “at the end of the day” prior to undertaking any research and development effort.

The Guidelines are not a single document; they are a series of texts that differ in terms of structure, degree of specification, and style. The various texts are deliberately not homogenized. The way the Guidelines of the various COSMO Working Groups are written is left to the discretion of the experts in the respective fields (the Working Group leaders and the COSMO SPM). As a result, the various Guidelines not only differ in terms of their scope (structure, level of details, etc.) but to some extent reflect personal preferences of the authors and their vision of the future. What all Guidelines have in common is that they are not focused on the issues of immediate concern only but attempt to delineate medium-term and long-term prospects.

Note finally that some issues outlined in the Guidelines have already been considered in detail, and the outcomes of the respective projects have a good chance to become operational (or at least to enter the official ICON code). Other projects are at their embryonic stage, and only preliminary thoughts have been made as to how the problem in question should be addressed.