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**Technical Note**

NCEP Standards for Operational Codes and Implementations<sup>1</sup>

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# NCEP Standards for Operational Codes and Implementations

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## 1. Introduction

This technical note gives an overview and description of the standards expected of Environmental Modeling Center (EMC) programmers when preparing programs to run in the NCEP production suite. Many of the standards and procedures for implementing new codes have been documented by NCEP Central Operations (NCO), however some of these documents are now outdated or, in some cases, exist only by "word of mouth". Thus, there is a need for a survey of the current operational standards and procedures, written for an audience consisting primarily of EMC programmers who may not be aware of the demands and protocols of the production suite.

This technical note is divided into several sections: 1) an overview of the NCEP production suite and the general design principles desirable in a new program, 2) some specifics of how to prepare run scripts and code for implementation, 3) a description of the procedures to follow once scripts and code are ready, and 4) an appendix containing some further documentation of NCO policies and standards.

## 2. Overview and general design principles

### *a. The Production Suite*

The NCEP production suite consists of those jobs that run under the class "prod" on one of the three NCEP central computers (currently one Cray C90, two Cray J916 machines). This class of jobs is assigned a higher priority than general "batch" jobs, and a certain percentage of machine resources (*i.e.* global memory, job queues) are reserved strictly for production jobs. The amount of the machine reserved for production is not fixed, as it has to be periodically adjusted to meet the needs of production. Currently, the total global memory of 890 Mwords on the Cray C90 is partitioned so that 410 Mwords,