

**National Climatic Data Center**

**DATA DOCUMENTATION**

**FOR**

**DATASET 6120 (DSI-6120)**

**NMC/CAC Medium Range Forecast**

**December 15, 2003**

National Climatic Data Center  
151 Patton Ave.  
Asheville, NC 28801-5001 USA

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## Table of Contents

<u>Topic</u>	<u>Page Number</u>
1. Abstract.....	2
2. Element Names and Definitions: .....	3
3. Start Date.....	4
4. Stop Date.....	4
5. Coverage.....	4
6. How to order data.....	4
7. Archiving Data Center. ....	4
8. Technical Contact.....	4
9. Known Uncorrected Problems.....	4
10. Quality Statement.....	4
11. Essential Companion Data Sets.....	4
12. References.....	4

1. **Abstract:** A routine archiving of NMC's daily 10-day forecasts in truncated (R12) spectral coefficient form was in effect beginning November 30, 1981 at 00Z. This historical dataset has not been active since 1988. A user friendly version of this data set is still available via the National Climatic Data Center (NCDC). These data were updated once a year in mid-January.

The forecast contained in this data set were not produced with the same global model. In fact, in the early part of the record, different models were used in the production of a single forecast. Models and changes since October 19, 1983 were tabulated by G.H. White. Prior to then, forecast were not integrated globally out to 10 days, nor was model resolution uniform throughout the run. For example, in December 1981, forecasts were made globally with R30 resolution and 12 layers out to 48 hours, with only R20 resolution after 48 hours, with only 12 layers after 71 hours, and with a 3 layer primitive equation model after 144 hours. Starting in January 1982 the global spectral run with R20, 6 layer resolution was extended to 192 hours and the run completed with a hemispheric version of the same model. During 1982 the R20, 12 layer resolution was extended to 144 hours. Finally, starting in October 1983 forecasts were made with global coverage and R40, 12 layer resolution all the way to 240 hours.

Because of certain vicissitudes in the NMC operational job streams and data files, not all of the daily spectral forecasts were archived. As a result, there exist gaps and even duplications in the original time series. As a result, the data set was reconstituted so that the overall structure would be the same as if there had not been any discontinuities in the daily archiving. This was done to insure data structure homogeneity in order to facilitate FORTRAN code writing such that missing records would be easily flagged in the overhead of each record. The user would then simply ignore these data points and continue on with calculations of actual spectral coefficients.

As time proceeds, daily forecasts are organized by verification day. For each day, there exist eleven substructures: observations plus ten forecasts at leads of one to ten days. Within these substructures, there is a third gradation for each level of the model: 1000 mb, 750 mb, 500 mb and 250 mb. This is even true for the reconstituted days and/or forecasts. The only difference being that these will be flagged and the storage locations of coefficients will contain the value  $-.723269E+76$  (that exceeds any meaningful meteorological values). The following diagram will exemplify the data time structure.

2. **Element Names and Definitions:**

Element Name	Description	Format & Length
Year	82, 83, 84	Integer, 2
Month	01 (Jan), 02 (Feb), ....12 (Dec)	Integer, 2
Day	01, 02....31	Integer, 2
Model Initialization Time	00Z or 12Z	Integer, 2
Forecast Length TAU = 00 Obs	24 hours, 48 hours, ....196 hours, 216 hours, 240 hours	Integer, 3
Level of	Coded values are:	Integer 2

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:

Atmosphere	1000 mb = 10, 700 mb = 70, 500 mb = 50, 250 mb = 25	
Quality Control Flag	Coded values are: Actual forecast or observation = 00 Reconstructed forecast or observation = -9	Integer, 2
-2	Reserved for later use	Integer, 2
-2	Reserved for later use	Integer, 2

3. **Start Date:** 19820101

4. **Stop Date:** 19881231

5. **Coverage:**

- a. Southernmost Latitude: -90.0S
- b. Northernmost Latitude: 90.0N
- c. Westernmost Longitude: -180.0W
- d. Easternmost Longitude: 180.0E

6. **How to Order Data:**

Ask NCDC's Climate Services about the cost of obtaining this data set.

Phone: 828-271-4800

FAX: 828-271-4876

E-mail: [NCDC.Orders@noaa.gov](mailto:NCDC.Orders@noaa.gov)

7. **Archiving Data Center:**

Archive Branch  
National Climatic Data Center  
151 Patton Avenue  
Asheville, NC 28801

8. **Technical Contact:**

National Climatic Data Center  
151 Patton Avenue  
Asheville, NC 28801

9. **Known Uncorrected Problems:** None.

10. **Quality Statement:**

11. **Essential Companion Datasets:**

12. **References:**

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