

VI.3.3B-NETWORK PROGRAM PPINIT COMMAND NETWORK

Purpose

Command NETWORK determines parameters that depend on knowing the definition of the entire data network for the user's Forecast Area.

Included are items such as:

- o the closest estimators in each quadrant for a precipitation or temperature station
- o the closest stations with timing information about the centroid of an MAP area
- o the stations and their weights used for computing MAP, MAT or MAPE

When the Forecast Area is first being set up, the NETWORK command is not run until all stations are defined. Up until the time that NETWORK is first run, stations can be deleted, added or changed without any adverse effects. Areas should not be defined until the entire station network has been defined and the NETWORK command has been run.

Once the NETWORK command has been run, further changes to the data network could result in problems when running the Preprocessors if not done correctly. Program PPINIT has a number of checks to protect the Preprocessors. Certain changes to the data network require that the NETWORK command automatically be run while other changes do not. New stations can be added, new data types added to stations or basin boundaries can be redefined without NETWORK being rerun. Even though the changes are made, they do not take effect until NETWORK is run. Thus, the user determines when new stations or location changes really take effect. However, when stations are deleted or redefined and data types are removed, the NETWORK command is automatically run to insure that all stations used as estimators or to compute mean areal values will exist when the Preprocessors are run.

Table 1 contains a list of the parameter values maintained by the NETWORK command and lists the actions that make updating of these parameters necessary. As the various changes are made, program PPINIT sets indicators to specify which portions of the NETWORK command must be done when it is next run.

Program PPINIT prints a message whenever a parameter record or time series header is updated. For users with a large number of stations and/or areas defined, this results in a lot of printout. The MSGLEVEL option of the SETOPT command can be used to control the printing of these messages.

Format

@NETWORK

Table 1. Parameters Maintained by the NETWORK Command

Parameter	Action that makes updating necessary
Parameter Type PCPN:	
1. Weights and array locations of the 5 closest 24-hour PCPN stations per quadrant if $1/d^{**2}$ estimation weights being used Array location if significant weights being used <u>1</u> /	<ul style="list-style-type: none"> o add PCPN station o add PCPN to station definition o delete PCPN station <u>2</u>/ o remove PCPN from station definition <u>2</u>/ o significance changed to $1/d^{**2}$ <u>2</u>/ o change location of PCPN station
2. Weights and array locations of 3 closest <24 hour PCPN stations per quadrant <u>1</u> /	<ul style="list-style-type: none"> o add <24 hour PCPN station o add <24 hour PCPN to station definition o delete PCPN station with <24 hour data <u>2</u>/ o remove <24 hour PCPN from station definition <u>2</u>/ o change location of <24 hour PCPN station <u>2</u>/
Parameter Type TEMP:	
3. Weights and array locations of the 3 maximum/minimum stations per quadrant with greatest weight <u>1</u> /	<ul style="list-style-type: none"> o add TEMP station o add TEMP to station definition o remove TEMP from station definition <u>2</u>/ o change location of TEMP station <u>2</u>/ o change elevation of TEMP station <u>2</u>/ o change Fe factor <u>2</u>/
4. Weights and array locations of the 3 instantaneous TEMP stations per quadrant with greatest station weight <u>1</u> /	<ul style="list-style-type: none"> o add TEMP station o add instantaneous TEMP to station definition o delete TEMP station with instantaneous data <u>2</u>/ o remove TEMP from station definition <u>2</u>/ o remove instantaneous TEMP from station definition o change location of TEMP station <u>2</u>/

Table 1. Parameters Maintained by the NETWORK Command (continued)

Parameter	Action that makes updating necessary
5. Weights and array locations of the 2 forecast TEMP stations per quadrant with greatest weight <u>1</u> /	<ul style="list-style-type: none"> o change elevation of TEMP station <u>2</u>/ o change Fe factor o add TEMP station o add forecast TEMP to station definition o delete station with forecast TEMP <u>2</u>/ o remove forecast TEMP from station definition <u>2</u>/ o change location of TEMP station <u>2</u>/ o change elevation of TEMP station <u>2</u>/ o change Fe factor <u>2</u>/
Parameter Types MAP and MAPS:	
6. Weights, array location, identifier and NWSRFS/HRAP coordinates of the 1 closest station per quadrant if 1/d**2 timing weights being used Weights, array locations identifiers and NWSRFS/HRAP coordinates of maximum of 10 stations if 1/d**power timing weights being used <u>1</u> /	<ul style="list-style-type: none"> o add <24 hour PCPN o add <24 hour PCPN to station definition o delete PCPN station with <24 hour data <u>2</u>/ o remove <24 hour PCPN from station definition <u>2</u>/ o change location of station with <24 hour PCPN o change basin centroid of area using 1/d**2 or 1/d**power timing weights <u>3</u>/ o change centroid due to change in basin boundary <u>3</u>/ o change minimum weight of stations to be kept when NETWORK computes station weights for MAP, MAT and MAPE areas option defined in UGNL parameters <u>2</u>/
7. Weights, array locations, identifiers, radius of influence and NWSRFS/HRAP coordinates of stations used to compute MAP if grid-point, Thiessen, or 1/d**power weights used <u>1</u> /	<ul style="list-style-type: none"> o add PCPN station o add PCPN to station definition o delete PCPN station <u>2</u>/ o remove PCPN from station definition <u>2</u>/ o change location of PCPN station

Table 1. Parameters Maintained by the NETWORK Command (continued)

Parameter	Action that makes updating necessary
	<ul style="list-style-type: none"> o change basin centroid of area using 1/d**power station weights <u>3/</u> o change basin boundary o change minimum weight of stations to be kept when NETWORK computes station weights for MAP, MAT and MAPE areas option defined in UNGL parameters <u>2/</u>
Parameter Type MAT:	
8. Weights, identifiers and array locations of stations used to compute MAT if grid point or 1/d**power weights used <u>1/</u>	<ul style="list-style-type: none"> o add TEMP station o add TEMP to station definition o remove TEMP from station definition <u>2/</u> o change location of TEMP station o change basin centroid of area using 1/d**power weights <u>3/</u> o change basin boundary o change minimum weight of stations to be kept when NETWORK computes station weights for MAP, MAT and MAPE areas option defined in UGNL parameters <u>2/</u>
Parameter Types MAP and MAT: <u>4/</u>	
9. Centroid of area MAP area	o change basin boundary
10. Centroid of area MAT area	o change basin boundary
Parameter Type MAPE:	
11. Weights, identifiers and array locations of 5 closest PE stations if 1/d**power weights being used <u>1/</u>	<ul style="list-style-type: none"> o add PE station o add PE to station definition o remove PE from station definition <u>2/</u> o change location of PE station <u>2/</u> o change minimum weight of stations to be kept when NETWORK computes station weights for MAP, MAT and

Table 1. Parameters Maintained by the NETWORK Command (continued)

Parameter	Action that makes updating necessary
	MAPE areas option defined in UGNL parameters <u>2</u> /
Parameter Type OP24:	
12. Alphabetical order list	<ul style="list-style-type: none"> o add PCPN station o add PCPN to station definition o delete PCPN station <u>2</u>/ o remove PCPN from station definition o change description of PCPN station <u>5</u>/ o change NETWORK alphabetical order sort option defined in UGNL parameters <u>2</u>/
Parameter Type OPVR:	
13. Alphabetical order list	<ul style="list-style-type: none"> o add <24 hour PCPN station o add <24 hour PCPN to station definition o delete PCPN station with <24 hour data <u>2</u>/ o remove <24 hour PCPN from station definition <u>2</u>/ o change description of PCPN station <u>5</u>/ o change NETWORK alphabetical order sort option defined in UGNL parameters <u>2</u>/
Parameter Type OT24:	
14. Alphabetical order list	<ul style="list-style-type: none"> o add TEMP station o add TEMP to station definition o delete TEMP station <u>2</u>/ o remove TEMP from station definition o change description of TEMP station <u>5</u>/ o change NETWORK alphabetical order sort option defined in UGNL parameters <u>2</u>/

Table 1. Parameters Maintained by the NETWORK Command (continued)

Parameter	Action that makes updating necessary
Parameter Type OE24:	
15. Alphabetical order list	<ul style="list-style-type: none"> o add PE station o add PE to station definition o delete PE station <u>2</u>/ o remove PE from station definition o change description of PE station <u>5</u>/ o change NETWORK alphabetical order sort option defined in UGNL parameters <u>2</u>/
Parameter Type ORRS:	
16. Alphabetical order list	<ul style="list-style-type: none"> o add RRS station o add RRS to station definition o delete RRS station <u>2</u>/ o remove RRS from station definition o change description of RRS station <u>5</u>/ o change NETWORK alphabetical order sort option defined in UGNL parameters <u>2</u>/
Parameter Type GP24:	
17. Station grid point locations	<ul style="list-style-type: none"> o add station with a Grid Point Address o delete station with a Grid Point Address o remove Grid Point Address from station definition o change station with a Grid Point Address o change NETWORK alphabetical order sort option defined in UGNL parameters
Parameter Type OG24:	
18. Alphabetical order list	<ul style="list-style-type: none"> o add station with a Grid Point Address o delete station with a Grid

Table 1. Parameters Maintained by the NETWORK Command (continued)

Parameter	Action that makes updating necessary
	Point Address
	o remove Grid Point Address from station definition
	o change description of station with a Grid Point Address
	o change NETWORK alphabetical order sort option defined in UGNL parameters <u>2</u> /

Notes:

- 1/ The array locations are used by the Preprocessors to locate the observed station data in the data array returned by the Preprocessor Data Base read routine.
- 2/ NETWORK routine will be run automatically if this change is made.
- 3/ Basin centroid can be changed by redefining a basin boundary or by specifying a new centroid if a basin boundary is not used by an area.
- 4/ The time series headers in the Processed Data Base are updated.
- 5/ Updating necessary only if user has specified stations to be ordered by description (see DEFINE USER command).