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Access to MAX '91 Information via Computer Networks

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Various types of flare information, activity, active region reports, x-ray plots and daily Campaign Action notices are now available on SPAN, and INTERNET. Although this system was developed for use of Max '91 participants during campaigns, it is updated daily and maintained at times outside of campaigns. Thus it is available for general use outside of campaigns.

The Space Environment Laboratory maintains VAX and Apollo systems, both of which are on INTERNET. The VAX is also on the SPAN network as node SELVAX or 9555. Details of access to files on the VAX are given below.

I. Types of Information

The following types of information are available in conveniently labeled files on the VAX and Apollo systems.

* *Daily Event Listings*

Single line listings of solar flares compiled at 03:00 UT for the previous day. These files are composed in near-real-time by forecasters at NOAA's Space Environment Laboratory. Associations of optical and X-ray events are generally established through time coincidences of GOES data with optical identifications provided by the U.S. Air Force SOON network.

* *Solar Forecasts*

Probabilities of flare production for the sun as a whole, activity summaries and geomagnetic forecasts.

* *Solar Activity Reports*

Listings of significant activity from various regions as well as particle events and recent geomagnetic activity.

* *Region Reports*

Descriptions of various active regions including positions, areas and spot classifications and announcements of returning regions.

** Plots of GOES soft X-rays with tagged optical events*

Since Textronix emulation is available for almost all computers, Textronix 4010 compatible plot files which show the GOES hard and soft channels in standard 6-hour plots are available. There are four plots per day generated at 3:00 UT for the previous day. The files may be copied or plotted directly over the networks.

** Campaign Action*

Perhaps the most important information to be distributed during campaigns (and the only daily information which that is directly distributed to participants via EMAIL) are the daily Campaign Action notices. These bulletins will contain daily target information, status of primary instruments, observing itineraries, solar activity reports and brief reminders of scientific objectives. The distribution will be primarily through electronic mail and the GEOALERTS. Action notices are also saved in files as described below, thus if the message is not delivered promptly, then the participant should be able to retrieve the daily ACTION notice in the same manner as the other types of data.

II. SPAN Access to MAX '91 Information and Action Notices (VAX VMS)

On the SPAN network, node SELVAX:: or 9555:: has available a variety of files with various types of information as shown in Table I.

To receive Max '91 information files over SPAN (VAX VMS) one should type:

```
SET DEFAULT 9555::sys$userroot:[max91]
```

Entering a command such as

```
TYPE 21JUN89.EVENTS
```

will display the event listing for June 21st on the display. One may also type DIR to list the files that are available. Note that the complete file description with node can be specified in the TYPE statement without setting the default directory but this may be cumbersome if more than one file is accessed.

GOES Soft X-Ray Plots

(for TEXTRONIX-4010 compatible terminals and printers)

The SPAN Node 9555:: also has copies of GOES plots - Textronix files that are available at 9:00 UT for the previous day. A Textronix 4010 terminal or an equivalent emulation is required. On SPAN to receive a plot type:

```
TYPE 9555::SYS$USERROOT:[MAX91]08JUN89A.SAV (You may also COPY it  
to your directory)
```

Table I. Types of Max'91 Information and File Syntax

Type of information	Filename Syntax	Example
Daily Event Listings	DDMMYY.EVENTS	21JUN89.EVENTS
Solar Forecast	FORECAST.REPORT	FORECAST.REPORT (name never changes, File is replaced daily)
Region Report	REGION.REPORT	FORECAST.REPORT (name never changes)
Activity report	ACTIVITY.REPORT	ACTIVITY.REPORT (name never changes)
GOES Plots	DDMMYY*.SAV where *=A,B,C,or D A = 00 - 06 UT B = 06 - 12 UT C = 12 - 18 UT D = 18 - 00 UT	21JUN89C.SAV (i.e. the 6 hour plot starting at 18:00 UT on 21 JUNE)
Campaign Action Notices	DDMMYY.ACTION	21JUN89.ACTION

You will receive a 6-hour GOES plot 0:00 - 6:00 UT for 08 Jun 89 as the name suggests. The suffixes A,B,C or D in the file name indicates 0-6, 6-12, 12-18 and 18-24 UT, respectively, for the day described in the file name. The data in the upper and lower curves represent one minute averages of the 1-8A and 0.5-4A data respectively. To provide the most complete soft x-ray coverage (in case of losses of data) data from both the GOES-6 and GOES-7 satellites are presented. Data from GOES-6 is drawn as a dotted line while data from GOES-7 (the primary satellite) is drawn as a solid line.

IMPORTANT NOTE: ON VAX VMS SYSTEMS: for plots to work be sure that your terminal is set to NOWRAP. If it is not, then issue the command: SET TERM/NOWRAP

(Note that data more than 1 month old will be deleted from the disk in order to conserve disk space.)

Additional means of receiving the Daily Action Notices (during campaigns only)

A backup communications system for SELVAX:: has been established on the node SOLARX:: at the University of Colorado. Only the daily ACTION notices are stored on this account and they may be accessed by entering commands like:

```
TYPE SOLARX::UP:[MAX91]23JUN89.ACTION
```

Note also that a third method of receiving the action notices is to send any mail message to the solarmail address - SOLARX::maxaction. In this case, a mail message containing the current action notice will be transmitted back to requesting party in most instances.

III. INTERNET Access using TELNET and FTP

** TELNET access*

By far the easiest way to access Max '91 information over INTERNET is to log onto SELVAX directly and to access the files as described above for SPAN. It is also possible to copy the files to your computer by using FTP as described at the end of this section.

For TELNET access to SELVAX type:

```
telnet 192.168.244.10
```

When the system prompts for the USERNAME:, type MAXT (a mnemonic for Max' 91 and TELNET). No password is needed. Typing the various files as described for SPAN will bring the reports and plots to your screen. To terminate the connection type LOGOFF.

Note that this is a very restricted account and it cannot be used to connect to SPAN or access other directories on SELVAX. It is not intended for SPAN users to use the MAXT account since SET DEFAULT as described above accomplishes the same results.

** FTP access*

(The following assumes that anyone on INTERNET has FTP file transfer protocol available.)

INTERNET access to NOAA's SELVAX computer to acquire the Max '91 event listings, region reports, goes plots etc. is available.

To your system type the numeric address (lower case recommended): (On some systems the name address: *selvax.bldr.nist.gov* may be required instead of the numeric address.)

```
ftp 132.163.224.10
```

The system should respond with a USER: request. If it does request a username, type- *ftp*.

If a password is requested, simply type a carriage return since no password is required.

You then should have FTP access to SELVAX.

One should type: *cd [max91]* or perhaps *cd max91* ; to change defaults to the proper directory.

If your system fails to accept this you might try going to a higher level by:

```
ftp> cd .. ftp> cd max91
```

One of these steps should put you on the proper directory. Entering "dir" or "ls" or a similar command should provide a list of the files that are available. One can then "get" files from SELVAX as you desire since the SELVAX MAX91 account is open to file outgoing file transfers. (Note to transfer GOES plots one should type "binary" before the "get" command so as to correctly transfer the file.)

eg.: *ftp> binary* ; sets file transfer mode

```
ftp> get 25jun89a.sav ; should bring plot the file to your system
```

With the exception of the ACTION notices that are only issued during campaigns, the remainder of information described above is planned to be available on a continuous basis throughout the Max '91 program. Thus observatories can receive GOES plots or region summaries at anytime desired. However, due to a limited amount of disk space on SELVAX, some files may only be retained for one or two weeks. Campaign data will reside on the disk longer than files that are generated outside of campaigns.