

Running the tools (CMT, SubSeasonal Packages,...) developed by NOAA/CPC/International Desks:

Prerequisite Packages Installation for Linux Users

NOAA/CPC/International Desks

System Requirements

- **OS version:**
 - Linux
- **MEMORY:** 4GB or more (if possible)
- **Free DISK SPACE:** 10GB or more
- **Internet Connection**
- **SOFTWARE:**
 - openGrADS (v2.0.2)
 - GNU FORTRAN Compiler,
 - GNU precision calculator (bc),
 - gedit
 - wget
 - ImageMagick
 - GDAL (v2.1.2 or later)

Prerequisite Packages for Linux Users

- ❑ perl
- ❑ GNU bc Maths
- ❑ GNU Fortran
- ❑ ImageMagick
- ❑ GDAL
- ❑ openGrADS

Installing Perl-Env and Gnu bc Precision

- Install perl-Env

- `sudo apt-get install perl-Env` (Debian/Ubuntu users)
- `sudo yum install perl-Env` (RHEL/CentOS users)
- `sudo dnf install perl-Env` (Fedora 22+ users)

- Install gnu precision calculator (bc)

- `sudo apt-get install bc` (Debian/Ubuntu users)
- `sudo yum install bc` (RHEL/CentOS users)
- `sudo dnf install bc` (Fedora 22+ users)

Installing **gfortran** and **ImageMagick**

- **Install gfortran compiler**
 - `sudo apt-get install gcc-gfortran` (Debian/Ubuntu users)
 - `sudo yum install gcc-gfortran` (RHEL/CentOS users)
 - `sudo dnf install gcc-gfortran` (Fedora 22+ users)
- **Install ImageMagick**
 - `sudo apt-get install imagemagick` (Debian/Ubuntu users)
 - `sudo yum install ImageMagick` (RHEL/CentOS users)
 - `sudo dnf install ImageMagick` (Fedora 22+ users)

Installing GDAL

- For Debian/Ubuntu users
 - `sudo add-apt-repository ppa:ubuntugis/ppa`
 - `sudo apt-get update`
 - `sudo apt-get install gdal-bin`
- For Fedora 22+ Users:
 - `sudo dnf copr enable neteler/GDAL`
 - `sudo dnf update`
 - `sudo dnf install gdal gdal-python gdal-devel`
- For RHEL/CentOS Users:
 - `sudo wget -O /etc/yum.repos.d/gdal-copr.repo https://copr.fedoraproject.org/coprs/neteler/GDAL/repodata/epel-7/neteler-GDAL-epel-7.repo`
 - `sudo yum update`
 - `sudo yum install gdal gdal-python gdal-devel`

Installing OpenGrADS

- Using your linux terminal change your directory to /usr/local/bin, by typing
`cd /usr/local/bin`

- Download grads package using:

```
sudo wget
```

```
https://sourceforge.net/projects/opengrads/files/grads2/2.0.2.oga.2/Linux/grads-2.0.2.oga.2-bundle-x86\_64-unknown-linux-gnu.tar.gz
```

- Unpack the package using:

```
sudo tar -xzvf grads-2.0.2.oga.2-bundle-x86_64-unknown-linux-gnu.tar.gz
```

- Copy GrADS binaries and associated files into the current folder:

```
sudo cp -rf opengrads-2.0.2.oga.2/Contents/* .
```

- You may remove the unwanted files and folders:

```
sudo rm -rf opengrads-2.0.2.oga.2
```

```
sudo rm -rf grads-2.0.2.oga.2-bundle-x86_64-unknown-linux-gnu.tar.gz
```

- Test your GrADS installation:

- Close and reopen the terminal and type `grads -p`
- your installation is successful, if GrADS runs without error message

Installation Checking

On Linux terminal, you can use the “which” command to locate the prerequisite executable files

```
which perl; echo $?
```

```
which gcc; echo $?
```

```
which gfortran; echo $?
```

```
which bc; echo $?
```

```
which curl; echo $?
```

```
which wget; echo $?
```

```
which convert; echo $?
```

```
which gdal_rasterize; echo $?
```

```
which gedit; echo $?
```

```
which grads; echo $?
```

For each of these command lines, check status number display on the terminal:
if you see 0, then the package is installed; but if you have 1, the package is not installed.