# GFE Migration[¶](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/HowToGfe#GFEMigration)

## Background Information[¶](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/HowToGfe#BackgroundInformation)

* [AFPS](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/AFPS) no longer exists
* [SmartScript differences](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/SmartScriptMissingMethods) This page shows what SmartScript methods have been tested, which are renamed, etc. [SmartScriptIssues](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/SmartScriptIssues) is another good page.
* [base/site/user](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/BaseSiteUserDirctories) directories. Note BASE/SITE/USER file structure is not finalized and is likely to change.
* Numeric module replaced by numpy. See: [NumericToNumpy](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/NumericToNumpy)
* Help other's with porting by recording your changes on the porting notes page: [HowToGfePortingNotes](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/HowToGfePortingNotes)
* Useful utilities to install before starting:
  1. [AppGfeModuleInstaller](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/AppGfeModuleInstaller)
  2. [AppGfeCheckForPointTools](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/AppGfeCheckForPointTools)
  3. [AppFindGfeFile](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/AppFindGfeFile)
  4. [AppGfeRenameModules](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/AppGfeRenameModules)
  5. [AppGfePorter](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/AppGfePorter)

## Server Maintenance[¶](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/HowToGfe#ServerMaintenance)

GFE server processes are incorporated into EDEX, and can be stopped/started using the GFE Site Activation page.

* Activate/Deactivate site: <https://collaborate.nws.noaa.gov/trac/siteconfig/wiki/GfeActivateSite>

## localConfig.py[¶](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/HowToGfe#localConfig.py)

localConfig.py - Covered in the localization guide in the [AWIPS Migration Site Configuration](https://collaborate.nws.noaa.gov/trac/siteconfig) project Wiki (search for "localConfig")

## gfeConfig[¶](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/HowToGfe" \l "gfeConfig" \o "Link to this section)

The gfeConfig file is generally the same as AWIPS-1. Changes are discussed below.

* gfeConfig setting changes: <https://collaborate.nws.noaa.gov/trac/siteconfig/wiki/GfeConfigFileChanges>
* Information on configuring map background settings: <https://collaborate.nws.noaa.gov/trac/siteconfig/wiki/GfeSiteConfigMaps>

## Tools, Procedures, Formatters[¶](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/HowToGfe#ToolsProceduresFormatters)

**Note for smart tool developers**: to have line numbers appear in the Cave Python editor, go to CAVE --> Preferences --> Editors and select box to show line numbers.

### Installing GFE modules[¶](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/HowToGfe#InstallingGFEmodules)

It is not recommended to access the edex file system directly. To add new GFE modules from the command line, use ifpServerText, and from CAVE, use the localization perspective.

#### Install GFE\_module\_installer.sh[¶](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/HowToGfe#InstallGFE_module_installer.sh)

The script [GFE\_module\_installer.sh](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/AppGfeModuleInstaller) is a wrapper to ifpServerText that makes installing even easier. It is highly recommended for every site to install GFE\_module\_installer.sh. The install instructions for many GFE files will use GFE\_module\_installer.sh.

### Check if the file has been ported[¶](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/HowToGfe#Checkifthefilehasbeenported)

* First, check the [NCLADT repository](https://collaborate.nws.noaa.gov/trac/ncladt/browser/ncladt/ladroot/gfe) to see if your file has already been ported. Use these files rather than trying to convert them on your own. Use [findAdamGfeFile.sh](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/AppFindGfeFile) to search for GFE files on ADAM. This is an example script to run find commands on the different locations where AWIPS2 GFE files are and also search a working copy of the ladroot/gfe repository directory.
* **A note about ported tools** - Every effort was made to test the tools ported from AWIPS I. But keep in mind that differences in configurations, local data sets, and lack of data make some tools difficult, if not impossible, to guarantee that the tool will run at your site with no modifications. If your ported tool does not run the first time - don't panic. It's likely just a minor issue with your configuration or lack of data. Study the error message, look at the line of code causing the problem (gennerally found in the stack trace) and try to deduce a solution. Try different ways to accomplish the same task. It's likely that you can get the tool working with just a few changes.

### If the file has not been ported[¶](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/HowToGfe#Ifthefilehasnotbeenported)

* Identify any point based tools. Point based tools were depreciated in AWIPS 1 and are not supported in AWIPS 2. Run the [checkForPointTools.py](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/AppGfeCheckForPointTools) program on AWIPS 1 and address any point tools identified. Click on the Documentation link for instructions on how to run.
* Copy and rename AWIPS 1 GFE files. AWIPS 1 files have to be renamed to get rid of the mangled name ifpServer uses and to change file extensions to .py. Use [GFE\_rename\_modules.py](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/AppGfeRenameModules).
* Perform initial conversion using the [gfePorter](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/AppGfePorter) application. This does simple translation of known items such as Numeric to numpy in the code. This is an initial porting step. For simple tools and procedures, this will result in code ready for use in AWIPS 2. However, many AWIPS 1 files will require further manual work.
* Refer to [HowToGfePortingNotes](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/HowToGfePortingNotes) for details about what needs to be changed.
* Common changes to look out for when porting: [CommonSmartToolChanges](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/CommonSmartToolChanges) **This needs to be incorporated into** [**HowToGfePortingNotes**](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/HowToGfePortingNotes)**!!'''**

## Edit Areas, Sample Sets, Color Tables, etc.[¶](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/HowToGfe#EditAreasSampleSetsColorTablesetc.)

* Virgil Middendorf has created scripts to transition several of these files from AWIPS-1 to AWIPS-2 using the ADAM platform: [AppConvertEditAreas](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/AppConvertEditAreas)

## SmartInits[¶](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/HowToGfe#SmartInits)

### Porting Smart Inits[¶](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/HowToGfe" \l "PortingSmartInits" \o "Link to this section)

* Transition information on Smart Inits is found in the Step-by-Step Localization Guide: <https://collaborate.nws.noaa.gov/trac/siteconfig/wiki/LocalizationPage>
* Most AWIPS-1 SmartInits are compatible. The biggest issue is Numpy/Numeric differences. See: [NumericToNumpy](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/NumericToNumpy)
* The method of using multiple models in a single smart init has changed: [MultipleModelSmartInits](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/MultipleModelSmartInits)
* SITE SmartInits go into directory: edex/data/utility/edex\_static/site/XXX/smartinit - where XXX is the site identifier.
  + You will likely have to create this directory yourself.
* The class defined in your SmartInit code must be named the same as the SmartInit filename + Forecaster
  + For example, if your filename is MyGFS40.py, then the class **MUST** be named MyGFS40Forecaster in the code.
* To override a baseline SmartInit, use the same entries in localConfig as AWIPS-1:
* del serverConfig.INITMODULES["GFS40"]
* serverConfig.INITMODULES["MyGFS40"]=["GFS40"]

The del command tells it NOT to do the default GFS40.py SmartInit, and the new INITMODULES statement tells it to run the MyGFS40.py SmartInit when the GFS40 model arrives

* In AWIPS 1, you could have a "dummy" SmartInit that would not have any calcXXXX routines, and when it was run, it would at least create a "blank" GFE database. That does not appear to be true in AWIPS-2. You must return at least one grid from a calcXXXX routine in your SmartInit for a database to be created. And it appears that it must be a "real" grid (meaning returning "None" doesn't work).

### Loading Smart Init Changes[¶](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/HowToGfe#LoadingSmartInitChanges)

* After updating SmartInit code in localConfig.py, you must restart GFE server processes via the GFE Site Activation web page: <https://collaborate.nws.noaa.gov/trac/siteconfig/wiki/GfeActivateSite>
* Changes to smart init files are automatically loaded into EDEX the next time the smart init is called. There is no need to restart GFE processes.

## Maps[¶](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/HowToGfe#Maps)

GFE no longer has its own map database. Instead, it uses the map database used by all CAVE perspectives. Because of this, maps are handled much differently in AWIPS-2.

* Information on importing shapefiles and creating filtered maps: <https://collaborate.nws.noaa.gov/trac/siteconfig/wiki/HowToImportShapeFile>

## svcbu.properties file (Replaces A1 .env Files)[¶](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/HowToGfe#svcbu.propertiesfileReplacesA1.envFiles)

The ifps-ccc.env file is no longer used in AWIPS-2. Instead, the necessary functionality has been transferred to the /awips2/GFESuite/ServiceBackup/configuration/svcbu.properties file.

* Compare settings in your AWIPS-1 .env files to settings in svcbu.properties to ensure the correct settings. There are two settings to whcih you should pay particular attention:
  1. SVCBU\_TRIM\_ELEMS - As in AWIPS-1, determines whether elements sent to the Central Server are filtered. Filtering is done via the /awips2/GFESuite/ServiceBackup/data/svcbu\_export\_elements.xxx file
  2. EXPORT\_GRID - As in AWIPS-1, determines how grids are sent to the Central Server

## Creating images from GFE grids[¶](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/HowToGfe#CreatingimagesfromGFEgrids)

Please add your knowledge/experiences about this topic.

ifpImage command should be available.

## Service Backup[¶](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/HowToGfe#ServiceBackup)

Service Backup should function similar to AWIPS 1. The only thing that changed in AWIPS II is how these functions get executed not what they do. Files will still be sent in netCDF format. The iscMosaic and ifpnetCDF command line programs have been ported and should use the same arguments as the AWIPS 1 versions. The Restore database will still be used to receive grids from the site performing backup.

## Grids to Web Servers[¶](https://collaborate.nws.noaa.gov/trac/ncladt/wiki/HowToGfe#GridstoWebServers)

Grids will continue to be sent to the web servers in compressed netCDF format created with ifpnetCDF.

TBD: Need information on launching of applications from GFE Products menu. Currently, menu items can be set up in the site's gfeConfig file to launch external programs such as to create GFE images or export the grids to the web servers.