



Location Intelligence

# GeoStan™ z/OS Geocoding Suite

## Installation Guide for z/OS

April 2019



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The Master Location Data (MLD) product is a produced work that referenced the Microsoft US Building Footprints dataset. This dataset is available at <https://github.com/Microsoft/USBuildingFootprints> and is licensed under the Open Database License (ODbL). The license is available at <https://opendatacommons.org/licenses/odbl/>.



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This document provides instructions on how to download and install the GeoStan Geocoding Suite software.

## Related documentation

Pitney Bowes provides the following documentation for the GeoStan Geocoding Suite.

You can obtain the product manuals from the Pitney Bowes website at: <https://www.pitneybowes.com/us/support/products/software/centrus-support.html>.

Document Title	File Name
Geographic Determination Library Reference Manual	gdl.pdf
GeoStan Reference Manual	geostan.pdf
Spatial+ Reference Manual	spatial.pdf
GeoStan FileServer Reference Manual	filesvr.pdf

## Contacting Technical Support

Pitney Bowes Technical Support Representatives work closely with your company's personnel to help you use your Pitney Bowes products. If you are having difficulty during the installation, before you contact Technical Support make a note of exactly what you are trying to accomplish as well as any error messages the system displays. Reporting complete details will enable the technical support representative to pinpoint the problem and resolve it quickly. To reach Technical Support, refer to the contact information on our website: <https://www.pitneybowes.com/us/contact-dcs.html>.

# 4 – Installing the GeoStan Geocoding Suite

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## Overview

This section provides information on installing the software.

## Downloading the software

The following procedure explains how to download the software from the Pitney Bowes eStore. For more information, refer to this [eStore](#) document for detailed download instructions.

1. Access the Pitney Bowes eStore using the link provided by the technical bulletin.
2. On the eStore landing page, click the Shopping Cart logo.
3. Add your items to the Shopping Cart, then click **Checkout**.
4. If you are a new eStore user, you will need to create an eStore New Customer account. For return users, sign in as a Returning Customer with your email and password.
5. Verify your order details, then click **Submit**.
6. On the Order Completed page, click **Download**.
7. Save the zipped file.
8. Extract the contents.

## Software files

The following table describes the files provided in the Internet install.

Note: The software files you receive are based on your license agreement.

Product	Dsname	Description
GeoStan	GEOINSTL.C	Sample C/C++ source code
	GEOINSTL.CNTL	Installation JCL library
	GEOINSTL.COB	Sample COBOL source code & copy book
	GEOINSTL.H	C/C++ header files
	GEOINSTL.LOAD	GeoStan load library
	GEOINSTL.MAP	CICS Maps
	GEOINSTL.MSGS	Error message file
	GEOINSTL.OBJ	GeoStan object library
	GEOINSTL.CASSFORM.TMP	USPS CASS form PS 3553
	GEOINSTL.DPV.XXF.SU\$	DPV license file



Product	Dsname	Description
	GEOINSTL.LACSLINK.XXL.S U\$	LACS <sup>LINK</sup> license file
	GEOINSTL.STG1.FMT	Geocoder format file
	GEOINSTL.STG1.TXT	Geocoder input file
	GEOINSTL.TEMPLATE.GAX	Sample auxiliary file
	IDSINSTL.JCL	Internet install JCL
	PARSE.DIR	Address parsing directory file
	US.GSD	US address database
	US.GSL	LOT file
	US.GSZ	ZIPMove file
	US.Z9	US ZIP9 database
	ZIP9.GSU	USPS high-rise alternate/unique ZIP + 4 index data
	CBSAC.DIR	Core-Based Statistical Area (CBSA) lookup file
	CITYCOST.DLD	City, county, state centroid geocoding file
	USPS.GDI	Reverse alias index file
	CTYST.DIR	City/State directory file
GDL	GDLINSTL.CNTL	Installation JCL library
	GDLINSTL.C	Sample C source files
	GDLINSTL.COB	Sample COBOL source code & copy book
	GDLINSTL.CPP	C++ source files
	GDLINSTL.H	C/C++ header files
	GDLINSTL.LOAD	GDL load library
	GDLINSTL.OBJ	GDL object library
	IDSINSTL.JCL	Internet install JCL
	GDLINSTL.SPATLINE.GSB	Data file for test program
	GDLINSTL.SPATPOLY.GSB	Data file for test program
	GDLINSTL.ZIP5.GSB	5-digit ZIP Code polygon file
Spatial+	SPLINSTL.CNTL	Installation JCL library
	SPLINSTL.C	Sample C source code

<b>Product</b>	<b>Dsname</b>	<b>Description</b>
	SPLINSTL.COB	Sample COBOL source code and copy book
	SPLINSTL.CPP	Sample C++ source code
	SPLINSTL.H	C/C++ header files
	SPLINSTL.LOAD	Spatial+ load library
	SPLINSTL.MAP	CICS Maps
	SPLINSTL.OBJ	Spatial+ object library
	SPLINSTL.SPATIAL.TXT	Input file for verification test
	SPLINSTL.SPATIAL.TXT. COBOL	Input file for verification test
	IDSINSTL.JCL	Internet install JCL
	COUNTIES.GSA	Counties polygon attribute file
	COUNTIES.GSB	Counties polygon file
	STATES.GSB	States polygon file
	US.GSB	US intersection point file
GeoStan FileServer	QGFINSTL.CNTL	Installation JCL library
	QGFINSTL.LOAD	Sample load library
	QGFINSTL.OBJ	FileServer object library
	IDSINSTL.JCL	Internet install JCL

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## Step 1: Upload the Internet Distribution/DVD JCL

Upload the `IDSINSTL.JCL` dataset of the product you want to install into an existing JCL PDS dataset. You may use whatever FTP facility your company normally uses. FTP in ASCII mode as this dataset is in ASCII and needs to be converted to EBCDIC upon upload.

## Step 2: Run the upload and installation job

After uploading the `IDSINSTL.JCL`, you need to customize the JCL for your installation according to the instructions in the JCL. Submit the job to upload and install the software (and for some products, data).

**Note:** If you need the data loaded into VSAM files, use JCL member `FLAT2VSM` in the product's JCL Library (not applicable to FileServer Library).

When the job completes, you should receive a condition code of "0000". If any other code is returned, investigate the output listing for the job and correct the error.

**Note:** If installing GeoStan FileServer, see ["Configuring GeoStan FileServer: additional information"](#) on page 21.

## Step 3: Install DPV and LACS<sup>Link</sup>

To install DPV under CICS, perform the following steps:

1. Obtain the DPV data from Pitney Bowes eStore.
2. Upload the data to your mainframe.
3. Customize and run `GEOSTAN.CNTL(DPREPROF)`.
4. Customize and run `GEOSTAN.CNTL(DPVCSO)`.
5. Ensure the following load modules are in your CICS load library:
  - `GEOSTAN.LOAD(PBDPVHSA)`
  - `GEOSTAN.LOAD(PBDPVHSC)`
  - `GEOSTAN.LOAD(PBDPVHSF)`
  - `GEOSTAN.LOAD(PBDPVHSX)`
  - `GEOSTAN.LOAD(PBDPVLCD)`
6. Ensure that you properly install the `G1DPVLAC` group in your CICS region (Step 4 written into your CSD).

After completing this install, be sure to set the `GS_INIT_DPV` (`GS-INIT-DPV`) initialization property (C/C++/Cobol) and the `GS_FIND_DPV` (`GS-FIND-DPV`) find property (C/C++/Cobol) in order to use DPV. To install LACS<sup>Link</sup> under CICS, complete the following steps:

1. Obtain the LACS data from Pitney Bowes eStore.

2. Upload the data to your mainframe.
3. Customize and run GEOSTAN.CNTL(LLREPRO).
4. Customize and run GEOSTAN.CNTL(DPVCSD), if not already completed for DPV.
5. Ensure that you install the G1DPVLAC group in your CICS region (Step 4 written into your CSD), if not already done for DPV.

After installing LACSLink under CICS in your environment, be sure to set the GS\_INIT\_LACSLINK (GS-INIT-LACSLINK) initialization property (C/C++/Cobol) and the GS\_FIND\_LACSLINK (GS-FIND-LACSLINK) find property (C/C++/Cobol) in order to use LACSLink.

For more information on DPV and LACSLink, contact customer support using the contact information on our website:

<https://www.pitneybowes.com/us/contact-dcs.html>.

## Step 4: Optional install on CICS systems

If you are installing GeoStan, Spatial+, or Geographic Determination Library you can optionally install the products on CICS systems.

To install on CICS:

1. If you have not already done so, execute the job FLAT2VSM.
2. Customize and run the member DEFCSL located in the product.CNTL dataset, as shown in the following example:

```
//DEFCSL JOB 1,RUNIT,MSGCLASS=H,NOTIFY=&SYSUID
//*****
//*
//* CHANGE ALL 'YOURPREFIX' TO YOUR PRODUCT
//* PREFIX
//*
//* CHANGE CICS. TO THE HIGH LEVEL QUALIFIER OF
//* YOUR CICS REGION (CHECK THE LOADLIB AND THE
//* CSD)
//*
//*****
```

**Note:** This requires authority to update the CICS CSD. This job does not install the resources. You must manually install the resources in your CICS region using the IBM-supplied CEDDA transaction, or by adding "INSTALL GROUP" to the DEFCSL input parameters.

If you are installing GDL on CICS systems, you need to customize and run DEFCSL for GDL, Spatial+, and GeoStan.

1. Perform one of the steps below, listed under the product you are installing:

### GeoStan

- Copy GEOCICS and GEOMAP from GEOSTAN.LOAD to your CICS load library or add GEOSTAN.LOAD to your CICS steplib.
- Customize and submit CICSCOB - GEOSTAN.CNTL(CICSCOB).

### Spatial+

- Copy PIPCICS and SPATMAP from SPATIAL.LOAD to your CICS load library or add SPATIAL.LOAD to your CICS steplib.

### GDL

- There is no supplied mapset for GDL. There is, however, a sample JCL to compare a Cobol program using GDL for CICS, located in GDL.CNTL(CICSCOB).

## Step 5: Run the installation verification jobs

After you have run the installation jobs, and optionally installed GeoStan or Spatial+ on CICS, you can run the installation verification jobs.

The following sections provide information on running the installation verification jobs for specific z/OS products. When running the installation verification jobs, make sure to use the actual JCL in the library, as it may change each release.

To run the verification programs, LE/370 must be installed on your system. All items in the JCL marked <=== C LIBRARY must reflect the correct names of C libraries as installed on your system. If you have questions about these names, check with the personnel responsible for installation and maintenance of your IBM C compiler software.

### GeoStan

**Note:** To run the installation verification program for a CICS-enabled system, log into CICS and run transaction G1GI. Type the address and last line. Verify that a standardized name and address are returned.

To run the GeoStan installation verification job:

1. Edit the JCL in **yourprefix**.GEOSTAN.CNTL(GSIVPJOB).

The following is an example of the JCL:

```
//yourjob JOB ...          <=== Fill in the job card
//*****
//*
//*      Job to run sample application
//*
//*      Lines marked with <=== must be tailored to your installation.
//*
//*****
//      MVSTEST PROC GEOSPFX=yourprefix.GEOSTAN<=== GeoStan
//*      data set prefix
//*
```

Substitute the items in **bold** with the appropriate values, as follows:

<b>yourjob</b>	The job name and rest of the job card per your installation standards.
<b>yourprefix</b>	The correct prefix for your z/OS product target data set names.

**Note:** If you installed VSAM data sets, you must modify the JCL to reflect the correct data set names.

2. Optionally, edit the JCL in **yourprefix**.GEOSTAN.CNTL (PNTIVPCK) to verify the point-level data installation. For information on editing the JCL, see the preceding step.
3. Submit and run the applicable jobs.

When the jobs complete, you should receive a condition code of "0000". If any other code is returned, investigate the job's output listing and correct the error.

If you do NOT have point-level data, and are not matching to an auxiliary (GAX) file, the output from the GSIVPJOB job should be:	GROUP 1 SOFTWARE INC 4750 WALNUT ST BOULDER, CO 80301-2532 longitude: -105.239771 latitude: 40.018912 location code: AS0 match code: S80
If you have point-level data, the output from the PNTIVPCK job should be:	GROUP 1 SOFTWARE INC 4750 WALNUT ST BOULDER, CO 80301-2532 longitude: -105.240976 latitude: 40.018301 location code: AP02 match code: S80
If you are using an auxiliary (GAX) file, the test JCL (GSIVPJOB) first runs MVSTEST without using an auxiliary file. It then reruns MVSTEST using an auxiliary file. The output from the job when rerun using the auxiliary file should be:	GROUP 1 SOFTWARE INC 4750 WALNUT ST BOULDER, CO 80301-2532 longitude: -105.240976 latitude: 40.018912 location code: AG0 match code: G00

## GDL

To run the GDL installation verification job:

1. Edit the JCL in **yourprefix.GDL.CNTL(C)** to comply with installation standards.

The following is an example of the JCL:

```
//jobname JOB 1,RUNIT,MSGCLASS=H,NOTIFY=&SYSUID
//*
//CPPJCL PROC MEMBER=*member*, <=== SOURCE CODE MEMBER NAME
//          PRODPFX=yourprefix.GCL <=== GDL DSN PREFIX
//          PRODSFX=C <=== SOURCE LIB SUFFIX
//*****
//*
//* GDL C++ COMPILE AND LINK PROCEDURE
//*
//* NOTE:ALL ITEMS MARKED WITH<=== ARE LOCATE DEPENDENT
//* AND MUST BE TAILORED TO YOUR INSTALLATION STANDARDS
//*
//*****
//COMPILE EXEC PGM=CCNDVR,REGION=0M,
```

Substitute the items in **bold** with the appropriate values, as follows:

<b>jobname</b>	The job name and rest of the job card per your installation standards.
<b>*member*</b>	GDLEX.
<b>yourprefix</b>	The correct prefix for your GDL z/OS product target data set names.
<b>CPP</b>	C

1. Submit and run the job.

When the job completes, you should receive a condition code of "0000". If any other code is returned, investigate the job's output listing and correct the error.

2. After the program has successfully compiled, edit **yourprefix.GDL.CNTL(RGDLEX)** so that it complies with your installation standards.

The following is an example of the JCL:

```
//JOBNAME JOB 1,RUNIT,MSGCLASS=H,NOTIFY=&SYSUID
//GDLEXEXEC PGM=GDLEX, REGION=0M,
//PARM='TRAP(ON),STAC(1M,,ANY,),AL(ON)'/
//*****

/** MAKE THE FOLLOWING CHANGES BEFORE RUNNING THIS JOB.
/**
/** YOURGDLPREFIX- THE PREFIX YOU CHOSE FOR YOUR GDL/390 DATA
/**          SETS.
/** YOURGEOSTANPREFIX - THE PREFIX YOU CHOSE FOR YOUR GEOSTAN/390
/**          DATA SETS.
/** YOURSPATIALPREFIX - THE PREFIX YOU CHOSE FOR YOUR SPATIAL/390
/**          DATA SETS.
/**
/** NOTE: ALL ITEMS MARKED WITH <=== ARE LOCATION DEPENDENT AND MUST
/**       TAILORED TO YOUR SHOP
/*******
//STEPLIB DD DSN=GDL.DEVL.LOAD,DISP=SHR
//*****GEOSTAN FILES*****
//MVSMSG DD DSN=YOURGEOSTANPREFIX.MSGS(GEOMSGS),DISP=SHR
//CITYDIR DD DSN=YOURGEOSTANPREFIX.CTYST.DIR,DISP=SHR
//GSDFILE DD DSN=YOURGEOSTANPREFIX.US.GSD,DISP=SHR
//GSLFILE DD DSN=YOURGEOSTANPREFIX.US.GSL,DISP=SHR
//GSUFILE DD DSN=YOURGEOSTANPREFIX.ZIP9.GSU,DISP=SHR
//EWSFILE DD DSN=YOURGEOSTANPREFIX.EWS.TXT,DISP=SHR
//PARSDIR DD DSN=YOURGEOSTANPREFIX.PARSE.DIR,DISP=SHR
//Z9FILE DD DSN=YOURGEOSTANPREFIX.US.Z9,DISP=SHR
//*****SPATIAL FILES*****
//COUNTIES DD DSN=YOURSPATIALPREFIX.COUNTIES.GSB,DISP=SHR
//STATES DD DSN=YOURSPATIALPREFIX.STATES.GSB,DISP=SHR
//USGSB DD DSN=YOURSPATIALPREFIX.US.GSB,DISP=SHR
//ZIPIN DD DSN=YOURGDLPREFIX.ZIP5.GSB,DISP=SHR
//*ZIPSRCH DD DSN=YOURGEOSTANPREFIX.US.Z9,DISP=SHR
//*****SPATIAL TEST FILES*****
//LICENSE DD DUMMY
//LINEFILE DD DSN=YOURGDLPREFIX.SPATLINE.GSB,DISP=SHR
//POLYFILE DD DSN=YOURGDLPREFIX.SPATPOLY.GSB,DISP=SHR
//*****MISCFILES*****
//CEEDUMP DD SYSOUT=*
//MVSDEBUG DD SYSOUT=*
//SYSOUT DD SYSOUT=*
//SYSPRINT DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
```

Substitute the items in **bold** with the appropriate values, as follows:

<b>JOBNAME</b>	The job name and rest of the job card per your installation standards.
<b>YOURGDLPREFIX</b>	The correct prefix for your GDL z/OS target dataset names.
<b>YOURGEOSTANPREFIX</b>	The correct prefix for your GeoStan z/OS target dataset names.
<b>YOURSPATIALPREFIX</b>	The correct prefix for your Spatial+ z/OS target dataset names.



- Submit and run the job.  
When the job completes, you should receive a condition code of "0000". If any other code is returned, investigate the job's output listing and correct the error.

## Spatial+

Spatial+ has multiple verification jobs. To ensure the correct installation of Spatial+, make sure to complete each installation verification test.

Note: To run the installation verification program for a CICS-enabled system, log into CICS and run transaction G1S1. The initial screen displays a latitude and longitude along with a specified GSB file to query. Press Enter and verify that at least one polygon name is returned from the specified GSB.

If you installed VSAM GSB data sets, you must modify the JCL to reflect the correct data set names.

### Test 1

To run this Spatial+ installation verification job:

- Edit the JCL in **yourprefix**.SPATIAL.CNTL(SPIVPJOB).

The following is an example of the JCL:

```
//yourjob JOB...<===FILL IN THE JOB CARD
//*
//* CHANGE 'YOURPREFIX' TO YOUR SPATIAL HLQ
//* SET 'VS' TO '.VS' IF YOU WISH TO RUN THE IVP ON THE VSAM FILES
//*
//IVPCHK  PROC  PRODHLQ=YOURPREFIX,VS=
```

Substitute the items in **bold** with the appropriate values, as follows:

<b>yourjob</b>	The job name and rest of the job card per your installation standards.
<b>YOURPREFIX</b>	The correct prefix for your Spatial+ z/OS product target dataset names.

- Submit and run the job.

When the job completes, you should receive a condition code of "0000". If any other code is returned, investigate the job's output listing and correct the error.

### Test 2

To run this Spatial+ installation verification job:

- Edit the JCL in **yourprefix**.SPATIAL.CNTL(C).

The following is an example of the JCL:

```
//yourjob JOB 1,RUNIT,MSGCLASS=H,NOTIFY=&SYSUID
//*
//*****
//*
//*  SAMPLE COMPILE AND LINK FOR C++ PROGRAMS
//*
//*  NOTE: ALL ITEMS MARKED WITH <===ARE LOCATION DEPENDENT
```

```

//*   AND MUST BE TAILORED TO YOUR INSTALLATION'S STANDARDS.
//*
//*****
//CPPJCL  PROC MEMBER=*MEMBER*,      <=== SOURCE CODE MEMBER NAME
//          PRODPFX=YOURPREFIX,      <=== SPATIAL DSN PREFIX
//          PRODSFX=CPP                <=== SOURCE LIB SUFFIX
//*****
//COMPILE EXEC PGM=CCNDRVR,REGION=0M,

```

Substitute the items in bold with the appropriate values, as follows:

<b>yourjob</b>	The job name and rest of the job card per your installation standards.
<b>*MEMBER*</b>	CLOSEST
<b>YOURPREFIX</b>	The correct prefix for your Spatial+ z/OS product target dataset names.
<b>CPP</b>	C++ source Lib Suffix.

2. Submit and run the job.

When the job completes, you should receive a condition code of “0000”. If any other code is returned, investigate the job’s output listing and correct the error.

3. After the program has successfully compiled, edit **yourprefix**.SPATIAL.CNTL(RUNCLOS) so that it complies with the standards for your installation.

The following is an example of the JCL:

```

//yourjob JOB 1<===FILL IN THE JOB CARD
//*
//* CHANGE 'YOURPREFIX' TO YOUR SPATIAL HLQ
//* SET 'VS' TO '.VS' IF YOU WISH TO RUN THE IVP ON THE VSAM FILES
//*
//CLOSEST  PROC PRODHLQ=YOURPREFIX,VS=
//CLOSEST  EXEC PGM=CLOSEST,REGION=0M
//STEPLIB  DD DSN=&PRODHLQ. .LOAD,DISP=SHR
//INFILE   DD DSN=&PRODHLQ. .SPATIAL.TXT,DISP=SHR
//COUNTGSB DD DSN=&PRODHLQ. .COUNTIES.GSB&VS,DISP=SHR
//USGSB    DD DSN=&PRODHLQ. .US.GSB&VS,DISP=SHR
//OUTFILE  DD SYSOUT=*
//SYSOUT   DD DUMMY

```

Substitute the items in bold with the appropriate values, as follows:

<b>yourjob</b>	The job name and rest of the job card per your installation standards.
<b>YOURPREFIX</b>	The correct prefix for your Spatial+ z/OS product target dataset names.

4. Submit and run the job.

When the job completes, you should receive a condition code of “0000”. If any other code is returned, investigate the job’s output listing and correct the error.

**Test 3**

To run this Spatial+ installation verification job:

1. Edit the JCL in **yourprefix**.SPATIAL.CNTL (COBOL).

**Note:** If you do not have the IBM COBOL compiler, modify the JCL to run the prelink and link steps only.

The following is an example of the JCL:

```
//yourjob JOB 1,RUNIT,MSGCLASS=H,NOTIFY=&SYSUID
//*
//*****
//*
//* SAMPLE COMPILE AND LINK FOR COBOL PROGRAMS
//*
//* NOTE: ALL ITEMS MARKED WITH <===ARE LOCATION DEPENDENT
//* AND MUST BE TAILORED TO YOUR INSTALLATION'S STANDARDS.
//*
//*****
//COBJCL PROC MEMBER=*MEMBER*,<=== SOURCE CODE MEMBER NAME
// PRODPFX=YOURPREFIX<=== SPATIAL DATA SET PREFIX
```

Substitute the items in bold with the appropriate values, as follows:

<b>yourjob</b>	The job name and rest of the job card per your installation standards.
<b>*MEMBER*</b>	PIPSTUDY
<b>YOURPREFIX</b>	The correct prefix for your Spatial+ z/OS product target dataset names.

2. Submit and run the compile/link job.

When the job completes, you should receive a condition code of "0000". If any other code is returned, investigate the job's output listing and correct the error.

3. After the program has successfully compiled, edit **yourprefix**.SPATIAL.CNTL (RUNPIPST) so that it complies with your installation's standards.

The following is an example of the JCL:

```
//yourjob JOB <===FILL IN THE JOB CARD
//*
//* CHANGE 'YOURPREFIX' TO YOUR SPATIAL HLQ
//* SET 'VS' TO '.VS' IF YOU WISH TO RUN THE IVP ON THE VSAM FILES
//*
//PIPSTUDY PROC PRODHQ=YOURPREFIX,VS=
//PIPSTUDY EXEC PGM=PIPSTUDY,REGION=0M <=== POINT AT YOUR LOAD LIBRARY
//STEPLIB DD DSN=&PRODHQ..LOAD,DISP=SHR
// DD DSN=CEE.SCEERUN,DISP=SHR <=== C RUNTIME LIBRARY
//INFILE DD DSN=&PRODHQ..SPATIAL.TXT.COBO,DISP=SHR
//OUTFILE DD SYSOUT=*,DCB=(RECFM=FBA,LRECL=133)
//COUNTGSB DD DSN=&PRODHQ..COUNTIES.GSB&VS,DISP=SHR
//COUNTGSA DD DSN=&PRODHQ..COUNTIES.GSA&VS,DISP=SHR
//USGSB DD DSN=&PRODHQ..US.GSB&VS,DISP=SHR
//SYSOUT DD SYSOUT=*
//SYSABEND DD SYSOUT=*
```

---

Substitute the items in bold with the appropriate values, as follows:

<b>yourjob</b>	The job name and rest of the job card per your installation standards.
<b>YOURPREFIX</b>	The correct prefix for your Spatial+ z/OS product target dataset names.

4. Submit and run the job.

When the job completes, you should see a condition code of “0000”. If any other code is returned, investigate the job’s output listing and correct the error.

## Step 6: Create a linkable load module

Optionally, create a load module to link the GeoStan library modules into other applications. Customize and run `product.CNTL(LINKLOAD)`.

The SYSLIN datasets you choose to include depend upon the objects you would like linked in to the load module.

n If you execute your applications in batch (for example not IMS or CICS), your SYSLIN is:

```
//SYSLIN DD DSN=yourprefix.product.CNTL(LKINC),DISP=SHR
```

n If you are using your applications in CICS, your SYSLIN is:

```
//SYSLIN DD DSN=yourprefix.product.CNTL(LKINCICS),DISP=SHR
```

This assumes you wrote your application in C or C++. If you wrote your application in COBOL, add the following item to your SYSLIN:

```
//DD DSN=yourprefix.product.CNTL(LKINCOB),DISP=SHR
```

This is a concatenation to your SYSLIN. You should have both LKINC and LKINCOB or LKINCICS and LKINCOB.

## Early Warning System data

The USPS provides free Early Warning System (EWS) data to prevent matching errors due to the age of the address information in the GSDFILxx datasets. The USPS creates a new EWS dataset each week that you can download from the USPS Website (<https://postalpro.usps.com/cass/EWS>).

The USPS requires EWS files for CASS processing. You can use the GSDFILxx datasets on the Centrus Data Products Suite installation for 135 days, but after 105 days you cannot create a CASS report.

When you download the EWS file, ensure it is uploaded in TEXT mode to the mainframe as `RECFM=FB LRECL=87`, and ensure the JCL uses `DDNAME //EWSFILE`.

---

## Configuring GeoStan FileServer: additional information

To complete your installation of the GeoStan FileServer, follow the steps below:

1. Create an APF authorized load library. You must include load modules `FILESVR` and `FILEOPS` in this APF load library.
2. Update the JCL for the GeoStan FileServer started task `yourhlq.FILESVR.CNTL(STFLSVR)` and copy this into your `PROCLIB`.
3. The FileServer started task must be made non-swappable. You may need assistance from your systems programmer to complete this step. In the `SCHEDXX` member in `SYS1.PARMLIB` you should have the following entry added:

```
PPT PGMNAME(FILESVR) NOSWAP
```

### Linking appropriate modules into the GeoStan application

In your link-edit job, use the `LKINCFS` or `LKINCIFS` for batch or CICS respectively in your `product.CNTL` library. Use this instead of the original `LKINC` or `LKINCICS`.

### Customizing the GeoStan FileServer JCL

Set all of the appropriate GeoStan ddnames in the GeoStan FileServer JCL. The following datasets are not currently supported by GeoStan FileServer:

- n DPV data
- n LACS<sup>Link</sup> data
- n Auxfiles

If you plan to use any of these files, you must continue to allocate them to your batch JCL or your local CICS region.

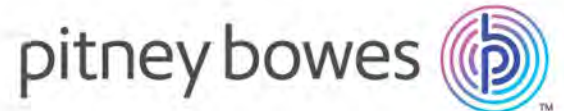
## Installing Centrus Data

1. If you need to install one or more of the Centrus Data Products, refer to the *Centrus Data Product Suite Release Announcement* and *Centrus Data Product Suite Installation Notes* provided with those files.

Once the install completes, the data files will be present in the location you specified.

2. FTP the data files you need from the directory specified above to the mainframe using the following file transfer settings for each file:
  - BINARY
  - RECFM=FBS
  - LRECL=8192
  - BLKSIZE=24576
  - TRACKS
  - PRIMARY=? This must be calculated based on the input file size.

- 
- SECONDARY=? This must be calculated based on the input file size.
3. You can now configure your applications on the mainframe to point to the datasets transferred above.



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