

# ESRI ASCII Grid Reader/Writer

## FORMAT NOTES:

This format is not supported in FME Base Edition.

The ESRI® ASCII Grid Reader/Writer module provides the Feature Manipulation Engine (FME) with access to data in the ESRI ASCII Grid format.

## ESRI ASCII Grid Quick Facts

Format Type Identifier	ESRIASCIIGRID
Reader/Writer	Both
Licensing Level	Professional
Dependencies	None
Dataset Type	Reader: File, Writer: Directory
Feature Type	ESRIASCIIGRID or <source_dataset_filename>
Typical File Extensions	.grd, .asc
Automated Translation Support	Yes
User-Defined Attributes	Through TAB files
Coordinate System Support	Through TAB files
Generic Color Support	No
Spatial Index	Never
Schema Required	Not applicable
Transaction Support	No
Geometry Type	esriasciigrid_type

Geometry Support			
Geometry	Supported?	Geometry	Supported?
aggregate	no	point	no
circles	no	polygon	no
circular arc	no	raster	yes
donut polygon	no	solid	no
elliptical arc	no	surface	no
ellipses	no	text	no
line	no	z values	no
none	no		

Band Interpretations	Int32, Real64
Palette Key Interpretations	not applicable

Palette Value Interpretations	not applicable
Interleave Type	not applicable
Nodata Value	Any, default is -9999
Cell Origin	0 or 0.5
Multi-Band	No
Multi-Palette	No
World File Support	No
TAB File Support	Yes

## Overview

ESRI ASCII Grid is a very simple format. It has a very short header that precedes the raster data. This header provides the location and size of the raster to follow. The raster is written as a series of rows, which contain one ASCII integer or floating point value per column in the raster. The first element of the raster corresponds to the upper left-hand corner of the raster. For each raster, there is only a single feature returned, since this feature will contain the entire raster.

## Reader Overview

FME considers a single ESRI ASCII Grid file to be a dataset. ESRI ASCII Grid files are raster files containing elevation data. Each elevation sample in the file is a point in a single FME raster feature.

## Reader Directives

The suffixes shown are prefixed by the current `<ReaderKeyword>` in a mapping file. By default, the `<ReaderKeyword>` for the ESRI ASCII Grid reader is `ESRIASCIIGRID`.

### DATASET

**Required/Optional:** *Required*

The value for this directive is the name of a single ESRI ASCII Grid file. The normal extensions for ESRI ASCII Grid files are `.grd` and `.asc`.

#### Example:

```
ESRIASCIIGRID_DATASET "C:\DATA\ESRIASCII\portland.grd"
```

### GROUP\_BY\_DATASET

**Required/Optional:** *Required*

The value for this directive is either Yes or No. When the value is set to No, the only feature type this reader will use is the reader type name, which in this case is `ESRIASCIIGRID`. When the value is set to Yes, the feature type of each dataset is the file name (without the path or the extension) of the dataset. The default value for this directive is No.

An example of the `GROUP_BY_DATASET` keyword in use is:

```
GROUP_BY_DATASET "Yes"
```

## Writer Overview

The ESRI ASCII Grid writer creates and writes data into a single directory specified by the `DATASET` keyword.

## Writer Directives

### DATASET

**Required/Optional:** *Required*

The value for this directive is the path of the output directory where the data will be written. If there is more than one raster output, the path and file extension of the dataset directive will be used, but the name `esriasciigrid_raster_filename` attribute on each raster will be used for the base of the filename. The normal extensions for ESRI ASCII Grid files are `.grd` and `.asc`. The ESRI ASCII Grid writer distinguishes duplicate output files by appending numbers to the filenames. Please see *About FME Rasters* on page 13 for details.

#### Example:

```
ESRIASCIIGRID_DATASET "C:\DATA\ESRIASCII\OUTPUT"
```

[Workbench Parameter: <WorkbenchParameter>](#)

### GROUP\_BY\_DATASET

**Required/Optional:** *Required*

The value for this directive is either Yes or No. When the value is set to No, the only feature type this reader will use is the reader type name, which in this case is ESRI-ASCIIGRID. When the value is set to Yes, the feature type of each dataset is the filename (without the path or the extension) of the dataset. The default value for this directive is No.

An example of the `GROUP_BY_DATASET` keyword in use is:

```
GROUP_BY_DATASET "Yes"
```

[Workbench Parameter: <WorkbenchParameter>](#)

## FME Raster Features

FME raster features represent raster data and use several concepts that are unlike those used in the handling of vector data. See *About FME Rasters* on page 13.

## Feature Representation

In addition to the generic FME feature attributes that FME Workbench adds to all features (see *About Feature Attributes* on page 7), this format adds the format-specific attributes described in this section.

ESRI ASCII Grid features specify a matrix of  $x$ ,  $y$ , and  $z$  coordinates.

For each raster, there will only be a single feature returned. It will have the following attributes.

<b>Attribute Name</b>	<b>Contents</b>
esriasciigrid_type	This will always be esriasciigrid_raster.