INTREPID direct access, import and export formats (R11) Top

This appendix contain a complete list of file and database formats:

- From which INTREPID can import data to an INTREPID dataset OR
- Which INTREPID can directly access OR
- To which INTREPID can export from INTREPID datasets OR

Direct access by INTREPID

Access to Geosoft datasets

INTREPID can open and save Geosoft vector (**.gdb**) and grid (**.grd**) data files (both compressed and uncompressed). To save a dataset in Geosoft format, just specify the required extension **.gdb** (vector) or **.grd** (grid) when you specify the output file. INTREPID automatically saves the dataset in the format required.

For information about preparing to access Geosoft data, see "Accessing Geosoft files" in INTREPID Installation guide (S05).

Notes about Geosoft dataset processing

- Uncompressed Geosoft grids do not contain any geolocation data. If you want to include this, import the Geosoft grid to an INTREPID dataset and add the georeference information to the **.isi** file. Do this by setting Geographic Registration in the Import tool. See "Setting Geographic Registration for vector datasets" in Importing to INTREPID datasets (T05) and "Setting Geographic Registration for a grid dataset" in Importing to INTREPID datasets (T05).
- INTREPID supports Geosoft compressed grids.
- For vector datasets, INTREPID stores metadata such as statistics and aliases in a **.isi** file that it automatically adds.

  The first time you open a **.gdb** file in INTREPID, INTREPID scans the file and automatically creates the **.isi** file.

  If the **.gdb** file has more than one set of coordinate fields with different datums or projections, you need to select the ones that you want to use. To select a set of coordinate fields, set the **X** and **Y** aliases to refer to these fields. Use the Project Manager to edit aliases and select datums and projections. See:

  - "Managing dataset aliases" in INTREPID Project Manager (T02)
  - "Nominating the datum and projection of a dataset" in INTREPID Project Manager (T02)
- You may need to check the tie line convention from *Oasis*. INTREPID derives from the **.gdb** file two calculated fields **GS_LINE**, **GS_LINETYPE** to act as line number and line type fields for INTREPID tools.
- INTREPID does not recognise the Geosoft line selection. If you want INTREPID to ignore a line, change its **linetype** field value to 9.
- INTREPID supports multi-tool use of the same database. *Oasis Montaj Viewer* write-locks the **.gdb**. If you want multi-tool access, don't open it with *Oasis Montaj Viewer* at that time.
- INTREPID automatically allows for the differing sampling rate in **.gdb** files.
- Both INTREPID and *Oasis* use the POSC underlying specification for datums and projections.

- The *Oasis Montaj Viewer* driver cannot create or write a new channel with more than 2000 records. The native INTREPID *Geosoft* driver does not have this limitation.
- Once you have nominated your **Line**, **X** and **Y** aliases, you are unlikely to notice any differences between a native INTREPID database and an *Oasis* database.
- We have specified extensions in the Geosoft format to allow for the compound data types (see "Compound data types" in INTREPID database, file and data structures (R05)):
  - Tensor
  - Vector (Vector, Component, Gradient)
  - Observed (Vector, Tensor)

Access to *ERMapper* data

INTREPID grid datsets have identical format to *ERMapper* grids.

- *ERMapper* header (**.ers**) files can have both upper and lower case text. INTREPID treats these files in a case insensitive manner.
- It is our policy with grid datasets to always have grid statistics available. INTREPID will therefore add statistics to *ERMapper* header (**.ers**) files unless you specify otherwise. To disable updating of the header file by INTREPID, define the system parameter INTREPID_ERMAPPER_UPDATE (i.e., give it a value).
- INTREPID may delete comments (lines starting with #) from the *ERMapper* header (**.ers**) file. It will not do this if you have disabled header file updating as described in the preceding paragraph.

Generic Mapping Tools (GMT), Data Object Design Studio (DODS), *netCDF*

INTREPID can directly access files and save in Generic Mapping Tools (GMT) *netCDF* format.

You can just open a *netCDF* (**.cdf** or **.nc**) file in an INTREPID tool.

To save a dataset in *netCDF* format, specify the extension **.cdf** or **.nc** with the output file name. INTREPID automatically saves the dataset in the format required.

ESRI ArcShape files

INTREPID can directly access files and save in *ESRI ArcShape* format.

You can just open an *ESRI ArcShape* (**.shp**) file in an INTREPID tool.

To save a vector dataset in *ESRI ArcShape* format, specify the extension **.shp** with the output file name. INTREPID automatically saves the dataset in the format required.

Direct access to *Oracle* databases

INTREPID can directly access *Oracle* and other relational databases for read and write. See Direct access to relational databases (R16) for details.

Image formats

INTREPID can directly access and write to image formats where this is useful or meaningful.

Image formats differ from grid formats as follows:

- Images can only contain integer values, with precision sometimes as low as one byte. INTREPID automatically reduces real numbers to integer approximations when writing the data. If an INTREPID tool needs to write real numbers to do its job, such as writing out an FFT-transformed grid, it will not produce image format output.
- Image formats contain little or no geo-location metadata. When INTREPID writes in an image format, it creates supplementary metadata files.

When it processes or writes to an image file, INTREPID always writes a **.isi** file containing metadata.

INTREPID can access or write to the following image formats:

Type	Extension	Notes
Joint Photographic Experts Group (JPEG)	**.jpg**	JPEG files contain no geolocation metadata. INTREPID writes a **.jpgw** file identifying origin and cell size. The **.isi** file identifies datum and projection
Aldus-Adobe's public domain Tagged-Image File Format (TIFF)	**.tif**	The TIFF specification contains no georeference information. INTREPID writes a **.tifw** file that contains cell origin and cell size information. The **.isi** file identifies datum and projection
Georeference or geocoded raster imagery using Aldus-Adobe's public domain Tagged-Image File Format (GeoTIFF)	**.tif**	The GeoTIFF specification contains georeference information, including datum and projection. INTREPID writes a **.tifw** file that also contains the cell origin and cell size information. The **.isi** file also identifies datum and projection
Earth Resource Mapping enhanced compressed wavelet (ECW)	**.ecw**	This Earth Resource Mapping open standard compressed image format is only available under *Windows*. It contains its own geolocation information.
Earth Resource Mapping algorithm format	**.alg**	This Earth Resource Mapping image rendering language format It contains geolocation information or refers to **.ers** files

Open data access protocol (OpenDAP)—INTREPID JetStream

See Open Data Access Protocol and JetStream (R17) for information.

AGSO geophysical data tapes

INTREPID contains the specifications for fields and precision of data in geophysical data tapes distributed by the Australian Geological Survey Organisation, Geophysical Processing Division.

The specification file is in ASCII format and has the name **`BMRStandardChannels`** and resides in the directory ***`install_path`*`/config`** (where ***`install_path`*** is the location of your INTREPID installation). See "Importing AGSO vector data" in Importing to INTREPID datasets (T05) for details.

Import and export formats

The following table is a summary only of the data formats.

For specific instructions about importing data to INTREPID datasets, see Importing to INTREPID datasets (T05).

For specific instructions about exporting data from INTREPID datasets, see Exporting from INTREPID datasets (T07).

For specific instructions about access to INTREPID datasets by other software packages, see "Accessing INTREPID datasets and tools using other software" in Configuring and using INTREPID (R04)

For specific instructions about direct INTREPID access to other data formats, see "Accessing data created by other software" in Configuring and using INTREPID (R04).

In the table the **I** and **E** columns indicate whether the formats are available for import, direct open, export and direct save. The columns contain notations as follows:

L	imports to a line dataset
Pt	imports to a point dataset
Pg	imports to a polygon dataset
OV	opens as a vector dataset of appropriate type
SV	INTREPID can directly save vector datasets into this format
G	imports to a grid dataset
OG	opens directly as a grid dataset
SG	INTREPID can directly save grid datasets into this format
EX	INTREPID can export into this format
W	Multi-scale edge detection wizard exports in this format

More than one symbol indicates that you have a choice of dataset format or that the dataset type is specified in the import file.

Format	Description	I	E
Vector formats			
AGSO ASCII Argus	The ARGUS tape format is a standard for geophysical data exchange developed over many years by AGSO. The ARGUS system has now been replaced by INTREPID, but the tape format is still used. The file **`BMRStandardChannels in the install_path/config`** directory contains field specifications for this format.	L	EX
AGSO Binary Argus	The Binary Argus format is currently used by AGSO.	L	
AGSO Binary Basos	The AGSO Binary Basos format is an old format not currently used by AGSO.	L	
AGSO RAF	The AGSO RAF format is a compressed archive format that is usually internal to AGSO.	L	
ASCII Columns	ASCII Columns format is for delimited or fixed field length text files. For importing, Data Description Format (DDF) files contain field specifications for the import file. See The INTREPID DDF format (R08) for further details. For exporting, export specification files contain field specifications for the resulting export text file.	L Pt Pg	EX W
ArcView Shape		L OV	EX SV W
ECS GPCBASE	ECS GPCBASE export files have X, Y coordinates, a line number field and a Z field. INTREPID uses aliases to identify X, Y and line number, and prompts you for the Z field.		EX
ASCII XYZ	ASCII XYZ is a format for traverse line data. It consists of lines of text (records). The data for a traverse line consists of a header record with the line number, followed by free format X, Y, Z records. The traverse line data is terminated by a blank record. This format is compatible with Geosoft XYZ files.	L	EX
Geosoft GDB	Geosoft vector data file.	OV L Pt Pg	EX SV
Geosoft XYZ	Geosoft vector data file	L Pt Pg	EX
Geosolutions	Geosolutions software **`.BDB`** files can be of line type or point type.	L Pt	EX (L)

Format	Description	I	E
gOcad			W
GR_820	Radiometric instrument Exploranium GR 820 files have a binary format. INTREPID can import GR 820 binary data blocks into a predetermined vector dataset format. The binary data blocks can be alone in a file or embedded in an ASCII columns file. If your GR 820 files contain additional information, contact our technical support service for assistance with customising the import process. See "Exploranium GR820 import" in The INTREPID DDF format (R08)for information about importing GR820 data embedded in ASCII columns files.	L	
MapInfo MIF			EX W
Moss	Moss is a polygon format often used in government for mining and prospecting lease boundaries. It is similar to Geosoft XYZ format.	L	
NetCDF XYZ	NetCDF is a self-describing data format that is suitable for data interchange between unrelated software packages. NetCDF is also sometimes used as a data archiving format. You can obtain information and code for implementing this format from the Internet.	OV L Pt Pg	SV EX
Oracle databases		OV	SV
Picodas	Picodas is an aircraft acquisition data system used by contractors. It can be used for radiometric and magnetic data.	L	
SEGY	SEGY is a seismic line format used by the petroleum industry. Contact our technical support service for further information about this format if required.	L	
VOXEL Geo			EX
VRML	Virtual Reality Markup Language		W
Grid (raster) formats			
AGSO ASCII Grid	The AGSO ASCII grid exchange format.	G	EX
AGSO Binary Grid	The AGSO binary grid exchange format.	G	

Format	Description	I	E
ARC/INFO	ARC/INFO and INTREPID grids have the same format. To generate INTREPID header information, import an ARC/INFO grid as a Binary Image. INTREPID can generate an ARC/INFO header file for any grid dataset so that ARC/INFO can access it. For real (4 byte) data we suggest that you export the data as an ASCII image, then import to ARC/INFO. See "ArcView, MapInfo and ERMapper access to datasets—INTREPIDlynx" in Configuring and using INTREPID (R04)for instructions.	G OG	SG
ASCII Image	An ASCII Image file consists of a sequence of numbers in ASCII text (optionally separated by spaces). Each number represents the value of a cell of the grid. Grids exported to this format can be imported as ASCII grids to ARC/INFO.	G	EX
ASCII ImageXYZ	ASCII Image XYZ format has X, Y and Z values for each cell of the grid. Data is stored in rows from West to East.		EX
ASEG GXF	ASEG GXF (Geophysics Exchange Format) is a compressed ASCII format with header keywords followed by the data. It originated in Canada and is used for grid interchange between software packages.	G	EX
Binary Image	Binary Image format uses a sequence of binary encoded numbers, each value representing a cell of the grid. This format is software-independent and does not use a header file. You can import ARC/INFO and ERDAS Imagine byte and integer (2 byte) grids as Binary Images.	G	EX
DODS	Distributes Oceanographic Data Systems (**.nc** files)	OG	SG
Earth Resources Mapping Algorithm	See Image formats	OG G	SG
Earth Resources Mapping ECW	See Image formats	OG G	SG
ECS GRDUTE	ECS GRDUTE is an ASCII file with a header specifying grid origins and cell sizes. The cell data are arranged as 16 x 16 grid blocks.	G	EX
ECS Gridfile	ECS Gridfile is a binary format which can contain a number of grids. The origin for ECS Gridfile format is the bottom left point of the grid.	G	EX
Encom Image	An Encom Image file is a binary file composed of a header of 240 bytes followed by the grid values in rows from a starting origin at the bottom left corner.	G	

Format	Description	I	E
ERDAS IMAGINE (byte and integer (2 byte) grids)	ERDAS IMAGINE and INTREPID grids have the same format. To generate INTREPID header information, import an ERDAS IMAGINE grid as a Binary Image. INTREPID can generate an ERDAS IMAGINE header file for any grid dataset so that ERDAS IMAGINE can access it. See "ArcView, MapInfo and ERMapper access to datasets—INTREPIDlynx" in Configuring and using INTREPID (R04) for instructions.	OG G	SG
ERMapper	The *ERMapper* and INTREPID grid formats are identical. INTREPID automatically maintains *ERMapper* header files with all grid datasets. *ERMapper* and INTREPID can access each other's grid datasets	OG	SG
Geosoft GRD	Geosoft GRD is an Windows grid format. INTREPID can automatically distinguish the MS–DOS format from the GIPSI (UNIX) format (see below).	OG G	SG
Geosoft GRD (Integer)		OG G	EX
GIPSI GRD	GIPSI GRD is a UNIX grid format. GIPSI grid files contain binary data with a 512 byte header followed by the grid data. INTREPID can automatically distinguish the *Windows* format (see above) from the GIPSI (UNIX) format.	G	EX
GEOPAK	GEOPAK software data has this format.	G	EX
GXF		G	EX
Geosolutions Image	Geosolutions software data has this format.	G	EX
GeoTIFF	See Image formats	OG G	SG
JPEG	See Image formats	OG G	SG
LCT Binary Image		G	EX
NetCDF GRID (GMT)	NetCDF is a self-describing data format that is suitable for data interchange between unrelated software packages. NetCDF is also sometimes used as a data archiving format. You can obtain information and code for implementing this format from the Internet.	OG	SG
TIFF	See Image formats	OG G	
USGS Image		G	EX
Zmap	Zmap is an oil industry standard seismic grid format containing ASCII data.	G	EX