Table Report

Database summary

Number of tables:	6
Number of columns:	94
Number of indexes:	8
Number of foreign keys:	3

Tables	Columns	Indexes	Foreign keys	Notes
timestamps	1	0	0	Indicates when potential_timelevel_grids was last updated.
spatial_references	13	0	0	Spatial references table used by the Spatial Datablade
timelevel_giefs	7	0	1	Stores the original dimensions of each individual "slice" that is ingested.
timelevel_grids	33	5	1	Stores the grid values of a data set as a 4D (time, level, y, x) GRDValue.
potential_timelevel_grids	19	2	1	Indicates the dimensions of data set, given its metadata, so a GRDValue of an appropriate size can be pre-allocated in timelevel_grids.
timelevel_giefs_in	21	1	0	The entry point for GIEF-Fs into the database.

potential_timelevel_grids

Notes:

Serves two purposes:
* allow easy generation of Metcast Potential Table of Contents
* indicate the dimensions of data set, given its metadata, so a GRDValue of an appropriate size can be pre-allocated in timelevel_grids

level_values and tau_values are very similar to level_values and time_values in timelevel_grids, except instead of indicating what nonuniform values are actually present in a GRDValue, they indicate the values that are expected to be present; i.e. potential values.

Taus are used instead of epoc seconds since the reference time for data sets will always be changing.

Number of columns: 19
Number of indexes: 2
Number of foreign keys: 1

User defined types:

Name	Data Type
row_set_smallfloat	O-Fixed Length
row_set_smallfloat	O-Fixed Length
lvarchar	C-Variable Length(2048)

Columns	Data type	Allow NULLs	Value/Range
g_parameter_name (U1)	C-Variable Length(64)	Not allowed	
g_unit_name (U1)	C-Variable Length(32)	Not allowed	
g_model_name (U1,I1)	C-Variable Length(32)	Not allowed	
g_runtime_name (U1,I1)	C-Variable Length(16)	Allowed	
g_geometry_name (U1,I1)	C-Variable Length(32)	Not allowed	
g_publisher (U1,I1)	C-Variable Length(100)	Not allowed	
g_level_name (U1)	C-Variable Length(32)	Not allowed	
g_level_units (U1)	C-Variable Length(32)	Not allowed	
g_level_upper (U1)	N-Floating Point	Allowed	
g_level_lower (U1)	N-Floating Point	Allowed	
g_geophysical_layer_name	C-Variable Length(32)	Not allowed	
g_security_identifier	N-Signed Integer	Allowed	
tau_values	O-Fixed Length	Not allowed	
level_values	O-Fixed Length	Not allowed	
component_count	N-Signed Integer	Not allowed	
x_resolution (U1)	N-Floating Point	Not allowed	
y_resolution (U1)	N-Floating Point	Not allowed	
bbox	C-Variable Length(2048)	Not allowed	
srid (FK)	N-Signed Integer	Not allowed	

Indexes	Columns	Sort order
ptlg_grid_desc_idx (I1)	g_model_name	Ascending
	g_geometry_name	Ascending
	g_runtime_name	Ascending
	g_publisher	Ascending
ptlg_unique_idx (U1)	g_parameter_name	Ascending
	g_unit_name	Ascending
	g_model_name	Ascending
	g_runtime_name	Ascending
	g_geometry_name	Ascending
	g_publisher	Ascending
	g_level_name	Ascending
	g_level_units	Ascending
	g_level_upper	Ascending
	g_level_lower	Ascending
	x_resolution	Ascending
	y_resolution	Ascending

Foreign keys	Child	Parent
spatial_references_potential_timelevel_grids_FK1	srid	spatial_references.srid

Column details

1. g_parameter_name (U1)
Physical data type: C-Variable Length(64)
Allow NULLs: Not allowed
Notes: see FNMOC GIEF-F Conventions

2. g_unit_name (U1)
Physical data type: C-Variable Length(32)
Allow NULLs: Not allowed
Notes: see FNMOC GIEF-F Conventions

3. g_model_name (U1,I1)
Physical data type: C-Variable Length(32)
Allow NULLs: Not allowed
Notes: see FNMOC GIEF-F Conventions

4. g_runtime_name (U1,I1)
Physical data type: C-Variable Length(16)
Allow NULLs: Allowed
Notes: see FNMOC GIEF-F Conventions

5. g_geometry_name (U1,I1)
Physical data type: C-Variable Length(32)
Allow NULLs: Not allowed
Notes: see FNMOC GIEF-F Conventions

6. g_publisher (U1,I1)
Physical data type: C-Variable Length(100)
Allow NULLs: Not allowed
Notes: see FNMOC GIEF-F Conventions

7. g_level_name (U1)
Physical data type: C-Variable Length(32)
Allow NULLs: Not allowed
Notes: see FNMOC GIEF-F Conventions

8. g_level_units (U1)
Physical data type: C-Variable Length(32)
Allow NULLs: Not allowed

9. g_level_upper (U1)
Physical data type: N-Floating Point
Allow NULLs: Allowed

10. g_level_lower (U1)
Physical data type: N-Floating Point
Allow NULLs: Allowed

11. g_geophysical_layer_name
Physical data type: C-Variable Length(32)
Allow NULLs: Not allowed
Notes: see FNMOC GIEF-F Conventions

12. g_security_identifier
Physical data type: N-Signed Integer
Allow NULLs: Allowed

13. tau_values
Physical data type: O-Fixed Length
Allow NULLs: Not allowed
Notes: The expected taus for this grid class; assuming a corresponding 4D volume in timelevel_grids (of this grid class) has been fully populated, time_values of timelevel_grids will have an entry for every tau listed here.

14. level_values
Physical data type: O-Fixed Length
Allow NULLs: Not allowed

Notes: The expected level values of this grid class

15. component_count
Physical data type: N-Signed Integer
Allow NULLs: Not allowed

16. x_resolution (U1)
Physical data type: N-Floating Point
Allow NULLs: Not allowed

17. y_resolution (U1)
Physical data type: N-Floating Point
Allow NULLs: Not allowed

18. bbox
Physical data type: C-Variable Length(2048)
Allow NULLs: Not allowed

19. srid (FK)
Physical data type: N-Signed Integer
Allow NULLs: Not allowed

Index details

ptlg_grid_desc_idx
Column(s): g_model_name (Asc)
g_geometry_name (Asc)
g_runtime_name (Asc)
g_publisher (Asc)
Unique: No

ptlg_unique_idx
Column(s): g_parameter_name (Asc)
g_unit_name (Asc)
g_model_name (Asc)
g_runtime_name (Asc)
g_geometry_name (Asc)
g_publisher (Asc)
g_level_name (Asc)
g_level_units (Asc)
g_level_upper (Asc)
g_level_lower (Asc)
x_resolution (Asc)
y_resolution (Asc)
Unique: Yes

Foreign key details (child)

spatial_references_potential_timelevel_grids_FK1

Definition:	**Child**	**Parent**
	srid	spatial_references.srid

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Verb phrase: has
Inverse phrase: is of
Ref. Integrity on update: No Action
Ref. Integrity on delete: No Action

spatial_references

Notes: Spatial references table used by the Spatial Datablade

Number of columns: 13
Number of indexes: 0
Number of foreign keys: 0

Columns	Data type	Allow NULLs	Value/Range
srid	N-Signed Integer	Not allowed	
srname	C-Variable Length(255)	Allowed	
description	C-Variable Length(64)	Allowed	
auth_name	C-Variable Length(255)	Allowed	
auth_srid	N-Signed Integer	Allowed	
falsex	N-Floating Point	Not allowed	
falsey	N-Floating Point	Not allowed	
xyunits	N-Floating Point	Not allowed	
falsez	N-Floating Point	Not allowed	
zunits	N-Floating Point	Not allowed	
falsem	N-Floating Point	Not allowed	
munits	N-Floating Point	Not allowed	
srtext	C-Fixed Length(2048)	Not allowed	

Foreign keys	Child	Parent
GRDGRD_srid_fk	timelevel_grids.srid	srid
spatial_references_potential_timelevel_grids_FK1	potential_timelevel_grids.srid	srid

Column details

1. srid
Physical data type: N-Signed Integer
Allow NULLs: Not allowed
Notes: see Spatial DataBlade User's Guide

2. srname
Physical data type: C-Variable Length(255)
Allow NULLs: Allowed
Notes: This column provides a shorter, more manageable string to identify each spatial reference entry (more descriptive than an srid, less verbose than the srtext).

It is not a Spatial DataBlade standard column, but was added specifically for our use. It is populated by a trigger, using the projection/geogcs name of the row's srtext as its value.

We assume that pre-defined entries defined by the Spatial DataBlade (and potentially our own pre-defined list) have unique projection/geogcs names; their values are directly used for srname.

However, for new rows inserted by the Grid DataBlade, the project/geogcs name will not always be unique; the srname will be constructed using the projection/geogcs name plus the srid.

3. description
Physical data type: C-Variable Length(64)
Allow NULLs: Allowed
Notes: see Spatial DataBlade User's Guide

4. auth_name
Physical data type: C-Variable Length(255)
Allow NULLs: Allowed
Notes: see Spatial DataBlade User's Guide

5. auth_srid
Physical data type: N-Signed Integer
Allow NULLs: Allowed
Notes: see Spatial DataBlade User's Guide

6. falsex

Physical data type:	N-Floating Point
Allow NULLs:	Not allowed
Notes:	see Spatial DataBlade User's Guide

7. falsey

Physical data type:	N-Floating Point
Allow NULLs:	Not allowed
Notes:	see Spatial DataBlade User's Guide

8. xyunits

Physical data type:	N-Floating Point
Allow NULLs:	Not allowed
Notes:	see Spatial DataBlade User's Guide

9. falsez

Physical data type:	N-Floating Point
Allow NULLs:	Not allowed
Notes:	see Spatial DataBlade User's Guide

10. zunits

Physical data type:	N-Floating Point
Allow NULLs:	Not allowed
Notes:	see Spatial DataBlade User's Guide

11. falsem

Physical data type:	N-Floating Point
Allow NULLs:	Not allowed
Notes:	see Spatial DataBlade User's Guide

12. munits

Physical data type:	N-Floating Point
Allow NULLs:	Not allowed
Notes:	see Spatial DataBlade User's Guide

13. srtext

Physical data type:	C-Fixed Length(2048)
Allow NULLs:	Not allowed
Notes:	see Spatial DataBlade User's Guide

timelevel_giefs

Notes: Stores the original dimensions of each individual "slice" that is ingested. Not used for anything in particular, but can be useful as a short-term log.

Number of columns: 7
Number of indexes: 0
Number of foreign keys: 1

User defined types:

Name	Data Type
row_set_datetime	O-Fixed Length
row_set_smallfloat	O-Fixed Length
lvarchar	C-Variable Length(2048)

Columns	Data type	Allow NULLs	Value/Range
gief_id	N-Auto Counter	Not allowed	
grid_id (FK)	N-Signed Integer	Allowed	
time_values	O-Fixed Length	Not allowed	
level_values	O-Fixed Length	Not allowed	
insertion_datetime	T-Date & Time	Not allowed	
insertion_user	C-Variable Length(255)	Not allowed	
insert_diagnostic	C-Variable Length(2048)	Allowed	

Foreign keys	Child	Parent
GRDGFF_grid_id_fk	grid_id	timelevel_grids.grid_id

Column details

1. gief_id
Physical data type: N-Auto Counter
Allow NULLs: Not allowed
Notes: automatically generated unique identifier

2. grid_id (FK)
Physical data type: N-Signed Integer
Allow NULLs: Allowed
Notes: identifier of the timelevel_grids grid in which this grid has been inserted

3. time_values
Physical data type: O-Fixed Length
Allow NULLs: Not allowed
Notes: the values along the nonuniform time axis of the GIEF

4. level_values
Physical data type: O-Fixed Length
Allow NULLs: Not allowed
Notes: the values along the nonuniform level axis of the GIEF

5. insertion_datetime
Physical data type: T-Date & Time
Allow NULLs: Not allowed
Notes: automatically populated column storing the date and time when the record was created

6. insertion_user
Physical data type: C-Variable Length(255)
Allow NULLs: Not allowed
Notes: automatically populated column storing the user id of the process that created the record

7. insert_diagnostic
Physical data type: C-Variable Length(2048)
Allow NULLs: Allowed
Notes: stores any error messages generated during the ingestion of a GIEF into timelevel_grids

Foreign key details (child)

GRDGFF_grid_id_fk

Definition:	**Child**	**Parent**
	grid_id	timelevel_grids.grid_id

Relationship type:	Non-Identifying
Cardinality:	One -to- Zero-or-More
Allow NULLs:	Not allowed
Verb phrase:	has
Inverse phrase:	is of
Ref. Integrity on update:	No Action
Ref. Integrity on delete:	No Action

timelevel_giefs_in

Notes: The entry point for GIEF-Fs into the database. Individual "slices" are ingested via GRDFromGief() and are migrated to timelevel_grids via an insert trigger. Immediately after the insert trigger finishes, the row which triggered it may be deleted; it serves no purpose as all of its data and metadata has been copied into timelevel_grids or timelevel_giefs.

Number of columns: 21
Number of indexes: 1
Number of foreign keys: 0

User defined types:

Name	Data Type
grdvalue	C-Variable Length(2048)

Columns	Data type	Allow NULLs	Value/Range
gief_id	N-Auto Counter	Not allowed	
grid	C-Variable Length(2048)	Not allowed	
dim_names	C-Variable Length(255)	Not allowed	
field_names	C-Variable Length(255)	Not allowed	
g_reference_time	C-Fixed Length(15)	Not allowed	
g_parameter_name	C-Variable Length(64)	Not allowed	
g_unit_name	C-Variable Length(32)	Not allowed	
g_model_name	C-Variable Length(32)	Not allowed	
g_runtime_name	C-Variable Length(16)	Allowed	
g_geometry_name	C-Variable Length(32)	Not allowed	
g_publisher	C-Variable Length(100)	Not allowed	
g_level_name	C-Variable Length(32)	Not allowed	
g_level_units	C-Variable Length(32)	Allowed	
g_level_upper	N-Floating Point	Allowed	
g_level_lower	N-Floating Point	Allowed	
g_geophysical_layer_name	C-Variable Length(32)	Not allowed	
g_time_units	C-Fixed Length(22)	Not allowed	
g_security_identifier	N-Signed Integer	Allowed	
g_Conventions	C-Fixed Length(11)	Not allowed	
g_source_file_name	C-Variable Length(255)	Allowed	
g_original_file_type	C-Variable Length(255)	Allowed	

Indexes	Columns	Sort order
GRDGF_grid_id_idx (I1)		

Column details

1. gief_id
Physical data type: N-Auto Counter
Allow NULLs: Not allowed
Notes: automatically generated unique identifier

2. grid
Physical data type: C-Variable Length(2048)
Allow NULLs: Not allowed
Notes: grid built from a GIEF file (usually a single slice of a 4D volume)

3. dim_names
Physical data type: C-Variable Length(255)
Allow NULLs: Not allowed
Notes: comma-separated list of dimension names, built by the DataBlade function GRDFromGief, which ingests the GIEF file

4. field_names
Physical data type: C-Variable Length(255)
Allow NULLs: Not allowed
Notes: comma-separated list of grid variable in the ingested GIEF, built by the DataBlade function GRDFromGief

5. g_reference_time
Physical data type: C-Fixed Length(15)
Allow NULLs: Not allowed
Notes: see FNMOC GIEF-F Conventions

6. g_parameter_name
Physical data type: C-Variable Length(64)
Allow NULLs: Not allowed
Notes: see FNMOC GIEF-F Conventions

7. g_unit_name
Physical data type: C-Variable Length(32)
Allow NULLs: Not allowed
Notes: see FNMOC GIEF-F Conventions

8. g_model_name
Physical data type: C-Variable Length(32)
Allow NULLs: Not allowed
Notes: see FNMOC GIEF-F Conventions

9. g_runtime_name
Physical data type: C-Variable Length(16)
Allow NULLs: Allowed
Notes: see FNMOC GIEF-F Conventions

10. g_geometry_name
Physical data type: C-Variable Length(32)
Allow NULLs: Not allowed
Notes: see FNMOC GIEF-F Conventions

11. g_publisher
Physical data type: C-Variable Length(100)
Allow NULLs: Not allowed
Notes: see FNMOC GIEF-F Conventions

12. g_level_name
Physical data type: C-Variable Length(32)
Allow NULLs: Not allowed
Notes: see FNMOC GIEF-F Conventions

13. g_level_units
Physical data type: C-Variable Length(32)
Allow NULLs: Allowed
Notes: see FNMOC GIEF-F Conventions

14. g_level_upper
Physical data type: N-Floating Point
Allow NULLs: Allowed
Notes: see FNMOC GIEF-F Conventions

15. g_level_lower
Physical data type: N-Floating Point
Allow NULLs: Allowed
Notes: see FNMOC GIEF-F Conventions

16. g_geophysical_layer_name
Physical data type: C-Variable Length(32)
Allow NULLs: Not allowed
Notes: see FNMOC GIEF-F Conventions

17. g_time_units
Physical data type: C-Fixed Length(22)
Allow NULLs: Not allowed
Notes: see FNMOC GIEF-F Conventions

18. g_security_identifier

Physical data type:	N-Signed Integer
Allow NULLs:	Allowed
Notes:	see FNMOC GIEF-F Conventions

19. g_Conventions

Physical data type:	C-Fixed Length(11)
Allow NULLs:	Not allowed
Notes:	see FNMOC GIEF-F Conventions

20. g_source_file_name

Physical data type:	C-Variable Length(255)
Allow NULLs:	Allowed
Notes:	see FNMOC GIEF-F Conventions

21. g_original_file_type

Physical data type:	C-Variable Length(255)
Allow NULLs:	Allowed
Notes:	see FNMOC GIEF-F Conventions

Index details

GRDGF_grid_id_idx

Column(s):	
Unique:	No

timelevel_grids

Notes:

Stores the grid values of a data set as a 4D (time, level, y, x) GRDValue. If the incoming data set has a corresponding entry in potential_timelevel_grids, the dimensions from that entry will be used to pre-allocate a GRDValue large enough to store the initial "slice" as well as the other potential slices that have yet to be ingested. Otherwise, the "slice", as ingested, will be used to populate a row.

Grids are migrated into this table from timelevel_giefs_in via an insert trigger. The trigger performs the logic described above that will determine when a new GRDValue is necessary to store the incoming data.

The Grid DataBlade has certain restrictions which influenced the design of the tables:
1. grid "slices" must be ingested into a 4D volume in a monotonic increasing order along the nonuniform axes
2. 4D volumes are pre-allocated and are expensive to resize. When new grid "slices" are used to update an existing 4D volume, they should fit in the pre-allocated space.

When a new GRDValue for a data set recorded in the potential_timelevel_grids table is created, the time and level nonuniform axes are initialized according to the taus and levels indicated in its row in potential_timelevel_grids. This allows the "slices" for the data set to arrive in any order, since their position in the GRDValue has been "reserved".

Originally, the Grid DataBlade did not have the ability to initialize nonuniform axes at the time of GRDValue pre-allocation, and it was sometimes difficult to ensure the ingestion order of data set "slices".

Note on level_values and time_values columns:
Originally SET collection types, they are now row types with an embedded SET to work around a bug in Informix. When the value of SETs or LISTs with more than 20 items are extracted via mi_exec and the MI_QUERY_BINARY option, Informix will return error number 9875, complaining about a bad internal structure.

The Grid DataBlade function GRDRowToGief iterates over all the columns of the grid table, extracts their values and THEN filters out those columns that aren't destined to be a NetCDF attributes (i.e.; those without a g_ or l_ prefix). In this process it triggers the above bug.

During some experiments, it was discovered that if the SET was embedded in a row type, the bug does not occur.

Number of columns: 33
Number of indexes: 5
Number of foreign keys: 1

User defined types:

Name	Data Type
grdvalue	C-Variable Length(2048)
row_set_datetime	O-Fixed Length
row_set_smallfloat	O-Fixed Length
geoobject	C-Variable Length(2048)
geotimerange	C-Fixed Length(56)
geoaltrange	C-Fixed Length(24)
lvarchar	C-Variable Length(2048)

Columns	Data type	Allow NULLs	Value/Range
grid_id	N-Auto Counter	Not allowed	
grid	C-Variable Length(2048)	Not allowed	
dim_names	C-Variable Length(255)	Not allowed	
field_names	C-Variable Length(255)	Not allowed	
insert_datetime	T-Date & Time	Not allowed	
update_datetime	T-Date & Time	Not allowed	
g_reference_time	C-Fixed Length(15)	Not allowed	
g_parameter_name	C-Variable Length(64)	Not allowed	
g_unit_name	C-Variable Length(32)	Not allowed	
g_model_name (I3)	C-Variable Length(32)	Not allowed	
g_runtime_name (I3)	C-Variable Length(16)	Allowed	
g_geometry_name (I3)	C-Variable Length(32)	Not allowed	
g_publisher (I3)	C-Variable Length(100)	Not allowed	
g_level_name	C-Variable Length(32)	Not allowed	
g_level_units	C-Variable Length(32)	Allowed	

g_level_upper	N-Floating Point	Allowed
g_level_lower	N-Floating Point	Allowed
g_geophysical_layer_name	C-Variable Length(32)	Not allowed
g_time_units	C-Fixed Length(22)	Not allowed
g_security_identifier	N-Signed Integer	Allowed
g_Conventions	C-Fixed Length(11)	Not allowed
time_values	O-Fixed Length	Not allowed
level_values	O-Fixed Length	Not allowed
geodetic_location (I2)	C-Variable Length(2048)	Not allowed
time_range (I5)	C-Fixed Length(56)	Not allowed
level_range (I4)	C-Fixed Length(24)	Not allowed
reference_time_datetime (I1)	T-Date & Time	Not allowed
is_potential_grid	L-True or False	Allowed
component_count	N-Signed Integer	Not allowed
x_resolution	N-Floating Point	Not allowed
y_resolution	N-Floating Point	Not allowed
bbox	C-Variable Length(2048)	Not allowed
srid (FK)	N-Signed Integer	Not allowed

Indexes	Columns	Sort order
tlg_datetime_idx (I1)	reference_time_datetime	Ascending
tlg_spatial_idx (I2)	geodetic_location	Ascending
tlg_grid_desc_idx (I3)	g_model_name	Ascending
	g_geometry_name	Ascending
	g_runtime_name	Ascending
	g_publisher	Ascending
tlg_level_idx (I4)	level_range	Ascending
tlg_time_idx (I5)	time_range	Ascending

Foreign keys	Child	Parent
GRDGRD_srid_fk	srid	spatial_references.srid
GRDGFF_grid_id_fk	timelevel_giefs.grid_id	grid_id

Column details

1. grid_id

Physical data type: N-Auto Counter
Allow NULLs: Not allowed
Notes: automatically generated unique identifier

2. grid

Physical data type: C-Variable Length(2048)
Allow NULLs: Not allowed
Notes: 4D grid built from one or more GIEF files (each file is represented by an entry in timelevel_giefs)

3. dim_names

Physical data type: C-Variable Length(255)
Allow NULLs: Not allowed
Notes: comma-separated list of dimension names, built by the DataBlade function GRDFromGief, which ingests the GIEF file

4. field_names

Physical data type: C-Variable Length(255)
Allow NULLs: Not allowed
Notes: comma-separated list of grid variable in the ingested GIEF, built by the DataBlade function GRDFromGief

5. insert_datetime

Physical data type: T-Date & Time
Allow NULLs: Not allowed
Notes: the date and time at which timelevel_grids record was created

6. update_datetime

Physical data type: T-Date & Time
Allow NULLs: Not allowed

Notes: the date and time at which the grid was updated

7. g_reference_time
Physical data type: C-Fixed Length(15)
Allow NULLs: Not allowed
Notes: see FNMOC GIEF-F Conventions

8. g_parameter_name
Physical data type: C-Variable Length(64)
Allow NULLs: Not allowed
Notes: see FNMOC GIEF-F Conventions

9. g_unit_name
Physical data type: C-Variable Length(32)
Allow NULLs: Not allowed
Notes: see FNMOC GIEF-F Conventions

10. g_model_name (I3)
Physical data type: C-Variable Length(32)
Allow NULLs: Not allowed
Notes: see FNMOC GIEF-F Conventions

11. g_runtime_name (I3)
Physical data type: C-Variable Length(16)
Allow NULLs: Allowed
Notes: see FNMOC GIEF-F Conventions

12. g_geometry_name (I3)
Physical data type: C-Variable Length(32)
Allow NULLs: Not allowed
Notes: see FNMOC GIEF-F Conventions

13. g_publisher (I3)
Physical data type: C-Variable Length(100)
Allow NULLs: Not allowed
Notes: see FNMOC GIEF-F Conventions

14. g_level_name
Physical data type: C-Variable Length(32)
Allow NULLs: Not allowed
Notes: see FNMOC GIEF-F Conventions

15. g_level_units
Physical data type: C-Variable Length(32)
Allow NULLs: Allowed
Notes: see FNMOC GIEF-F Conventions

16. g_level_upper
Physical data type: N-Floating Point
Allow NULLs: Allowed
Notes: see FNMOC GIEF-F Conventions

17. g_level_lower
Physical data type: N-Floating Point
Allow NULLs: Allowed
Notes: see FNMOC GIEF-F Conventions

18. g_geophysical_layer_name
Physical data type: C-Variable Length(32)
Allow NULLs: Not allowed
Notes: see FNMOC GIEF-F Conventions

19. g_time_units
Physical data type: C-Fixed Length(22)
Allow NULLs: Not allowed
Notes: see FNMOC GIEF-F Conventions

20. g_security_identifier
Physical data type: N-Signed Integer
Allow NULLs: Allowed
Notes: see FNMOC GIEF-F Conventions

21. g_Conventions
Physical data type: C-Fixed Length(11)
Allow NULLs: Not allowed
Notes: see FNMOC GIEF-F Conventions

22. time_values
Physical data type: O-Fixed Length
Allow NULLs: Not allowed
Notes: the values along the nonuniform time axis of the grid

23. level_values
Physical data type: O-Fixed Length
Allow NULLs: Not allowed
Notes: the values along the nonuniform level axis of the grid

24. geodetic_location (I2)
Physical data type: C-Variable Length(2048)
Allow NULLs: Not allowed
Notes: Geodetic DataBlade GeoObject storing the spatial bounds (line, box, or polygon) of the grid

25. time_range (I5)
Physical data type: C-Fixed Length(56)
Allow NULLs: Not allowed
Notes: start and end times of the grid

26. level_range (I4)
Physical data type: C-Fixed Length(24)
Allow NULLs: Not allowed
Notes: lower and upper levels of the grid

27. reference_time_datetime (I1)
Physical data type: T-Date & Time
Allow NULLs: Not allowed
Notes: g_reference_time converted to a time data type

28. is_potential_grid
Physical data type: L-True or False
Allow NULLs: Allowed
Notes: indicates if the grid metadata was found in potential_timelevel_grids

29. component_count
Physical data type: N-Signed Integer
Allow NULLs: Not allowed
Notes: number of grid variables in grid

30. x_resolution
Physical data type: N-Floating Point
Allow NULLs: Not allowed
Notes: x resolution of the grid

31. y_resolution
Physical data type: N-Floating Point
Allow NULLs: Not allowed
Notes: y resolution of the grid

32. bbox
Physical data type: C-Variable Length(2048)
Allow NULLs: Not allowed
Notes: NWSE bounding box of the grid

33. srid (FK)
Physical data type: N-Signed Integer

Allow NULLs: Not allowed
Notes: the id of the spatial reference system the grid uses

Index details

tlg_datetime_idx
Column(s): reference_time_datetime (Asc)
Unique: No

tlg_spatial_idx
Column(s): geodetic_location (Asc)
Unique: No

tlg_grid_desc_idx
Column(s): g_model_name (Asc)
g_geometry_name (Asc)
g_runtime_name (Asc)
g_publisher (Asc)
Unique: No

tlg_level_idx
Column(s): level_range (Asc)
Unique: No

tlg_time_idx
Column(s): time_range (Asc)
Unique: No

Foreign key details (child)

GRDGRD_srid_fk

Definition:	**Child**	**Parent**
	srid	spatial_references.srid

Relationship type: Non-Identifying
Cardinality: One -to- Zero-or-More
Allow NULLs: Not allowed
Verb phrase: has
Inverse phrase: is of
Ref. Integrity on update: No Action
Ref. Integrity on delete: No Action

timestamps

Notes: Indicates when potential_timelevel_grids was last updated.

Number of columns: 1
Number of indexes: 0
Number of foreign keys: 0

Columns	Data type	Allow NULLs	Value/Range
potential_timelevel_grids	T-Date & Time	Not allowed	

Column details

1. potential_timelevel_grids

Physical data type: T-Date & Time
Allow NULLs: Not allowed