

IOGP P6/11 Seismic bin grid data exchange format

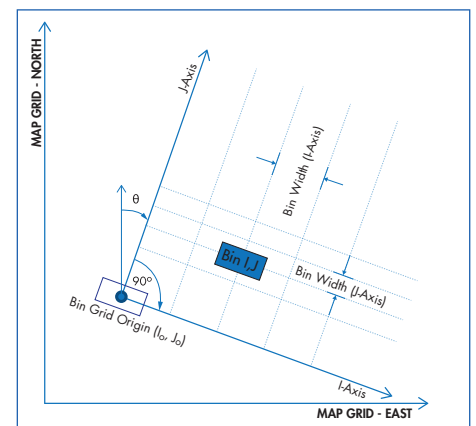


IOGP has replaced the UK00A P6/98 format with the P6/11 Seismic bin grid data exchange format.

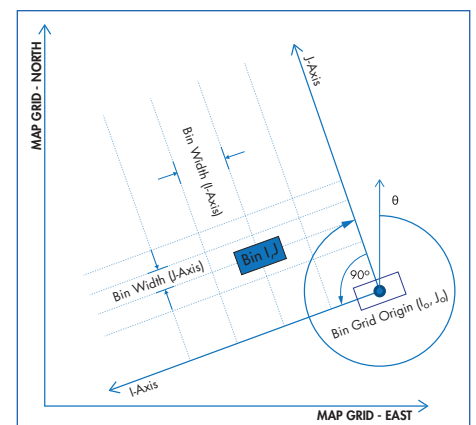
The most recent revision (May 2024) of the format is now available to download for free from IOGP's bookstore at www.iogp.org/bookstore

The original 'P6/98 Definition of 3D Seismic Binning Grids' format was produced by UK00A in 1998, to define the geometry of a seismic bin grid. In 2011, IOGP replaced it with the 'P6/11 Seismic bin grid data exchange format', expanding the functionality to include bin grid position data in addition to geometry, the ability to trace a bin grid back to its original parent, and alignment with the coordinate modelling adopted by IOGP's EPSG Geodetic Parameter Dataset (www.epsg.org). The P6/11 shares a Common Header with IOGP's other seismic data exchange formats: P1/11 and P2/11.

The P6/11 supports left- and right-handed bin grids, as shown in the diagram opposite.



I-axis is 90 degrees clockwise from the J-axis when viewed from above the plane of the two bin grid axes.



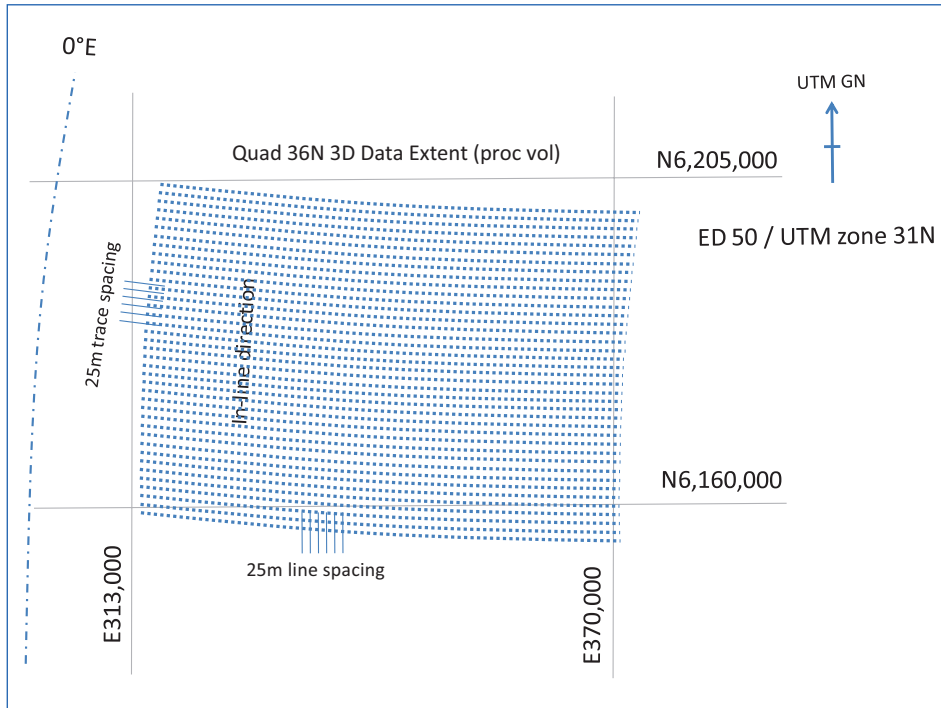
I-axis is 90 degrees counter-clockwise from the J-axis when viewed from above the plane of the two bin grid axes.

Among the benefits of the P6/11 are:

- A structured ASCII text style for human and machine-readability.
- Comma-separated fields enabling direct extraction into a spreadsheet.
- Freedom from previous constraints on field or file line lengths.
- Maintain a complete geospatial record throughout the life cycle of the underlying geophysical data, by documenting changes to the bin grid that arise from reprocessing and merges, such as rotation, transformation, conversion, etc.
- Allow the exchange of bin grid position data in addition to bin grid geometry, thus maintaining full geospatial integrity of original bin node coordinates.
- Enable the exchange of bin cell attribute data, such as water depth, fold of coverage, etc.
- Facilitate the use of GIS to manage and map seismic position data and bin grids, and integration with other geoscience datasets.



Bin Grid Re-projection:



Processed bin grid re-projected bin-by-bin to UTM 31N map grid.

After re-projection of a bin grid, the geometry is commonly distorted. However, to accommodate geoscience applications that can only work with rectilinear grids, the resulting geometry is often approximated and positional integrity easily lost. In such situations, P6/11 has the following benefits:

- Retain a link back to the original geometry and bin node positions.
- Produce a bin centres file of the re-projected data at their true positions.
- Maintain overall geospatial integrity of the bin grid position data through re-processing and merges.
- Provide an audit trail of the changes to a bin grid through time.

For more information about the Geomatics Committee

please see: www.iogp.org/geomatics

or contact the Committee Manager at lks@iogp.org

Applications

- Exchange of bin grid geometry and position data.
- Bin grid loading sheet parameters and coordinates.
- Verification of bin grid in seismic workstation.
- Bin node coordinates archive.
- Exchange of bin grid attributes (such as fold).
- Exchange of survey perimeters.
- Bin grid life cycle audit trail.
- Exchange of 3D seismic velocity model.

IOGP P6/11 replaces UK00A P9/98

A revised user guide for the P6/11 format will be available in 2024



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