



# **IBM ILOG JViews Maps V8.6**

## **JViews Maps Glossary**



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## *JViews Maps Glossary*

### **Abridged Molodensky transform**

The standard way to convert coordinates from one datum to another is to first convert the coordinates to geocentric coordinates, then apply the datum shift and rotation parameters, then convert them back to geographic coordinates. As an alternative to this transform, the Molodensky formula implements directly a transform that is quite satisfactory for three parameter transformations.

### **affine transform**

Affine transforms are commonly used in coordinate transformation. An affine transform is simply defined by a 4x4 double values matrix, and are applied to coordinates by multiplying them as if they were one 1x4 matrix.

### **AJAX**

Asynchronous JavaScript and XML is a web development technique for creating interactive web applications. AJAX makes web pages more responsive by exchanging small amounts of data with the server behind the scenes, so that the entire web page does not have to be reloaded each time it is changed. This increases the web page's interactivity, speed, and usability.

## **APP-6a**

APP-6a is the NATO standard for military map marking symbols. The previous version is APP-6 (1986). APP-6a was adopted in 2001. The NATO standardization agreement describing APP-6a is STANAG 2019. In the United States the equivalent Standard is MIL-STD-2525B.

## **Bursa-Wolf datum conversion**

Applied to geocentric coordinates to model a seven-parameters datum change. A seven-parameters is defined by the dX, dY, dZ axis shifts, the eX, eY, eZ rotations around axis, and a scale factor expressed in parts per million.

## **C4I**

Command, Control, Communications, Computers and Intelligence. A type of defense application for which JViews Maps for Defense is eminently suitable.

## **C4ISR**

Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance. A type of defense application for which JViews Maps for Defense is eminently suitable.

## **CADRG format**

Compressed ARC Digitized Raster Graphics. A map format for scanned maps published by the U.S. National Imagery and Mapping Agency (NIMA).

## **CFCC**

Census Feature Class Codes used with TIGER/Line® Files. For example, A11 applies to primary roads with limited access or interstate highways, unseparated.

## **coordinate system**

A reference system for the definition of a location of a point on the earth. For example, the geographical coordinate system uses latitude and longitude.

## **CSS**

(CSS) Cascading Style Sheets. A mechanism for adding style, such as fonts, colors, spacing, to Web documents. The CSS language is specified by World Wide Web Consortium (W3C) Recommendations. Full Recommendations exist for CSS level 1 and level 2.

## **CSS2**

(CSS) Cascading Style Sheets, level 2. A style sheet language that allows authors to attach style to structured documents, such as HTML documents or XML applications. CSS2 separates the presentation style from the content and thus simplifies Web authoring and site maintenance.

## **DAFIF file**

The Digital Aeronautical Flight Information File (or DAFIF) is a set of files that contain data on airports, nav aids, waypoints, special use airspace and other facts relevant to flying in the entire world. This data is provided by the US military, through the National Geospatial Intelligence Agency (NGA).

## **data source**

(JViews Diagrammer) A container of data supported by JViews Diagrammer, such that all or part of the data can be loaded into the Designer and used in a diagram. Examples of data sources are a Microsoft® Access® database, a CSV (comma-separated values) file, an XML file in diagram format.

(JViews Maps) The preferred way to connect your application to georeferenced data sets. A map data source connects a feature iterator, a renderer, and a map layer. Specific map data sources are dedicated to specific types of map format.

## **datum conversion**

Geodetic datums (or “horizontal datums”) help in the process of approximation of the earth’s surface by providing a translation and an optional rotation adjustment of an ellipsoid relative to an arbitrary center of the earth.

## **declaration**

(CSS) The elements of the right side of a style rule. The declaration set is enclosed within curly brackets. Each declaration is a property-value pair. Each property-value pair ends with a semi-colon. A property-value pair sets a rendering *projection* on a graphic object that represents a model object.

## **DEM format**

Digital Elevation Model file format.

## **DIGEST ASRP and USRP**

These images are used primarily by international defense and military agencies. ArcGIS® support automatically georeferences DIGEST images, and there are two profiles for data in DIGEST-ARC Standard Raster Product (ASRP), produced by the United Kingdom Military Survey, and Universal Polar Stereographic (UPS)/UTM Standard Raster Product (USRP), produced by the French Defense Mapping Agency.

## **DTED format**

Digital Terrain Elevation Data (DTED® ). A map format for terrain elevations published by the U.S. National Imagery and Mapping Agency (NIMA).

## **DXF format**

AutoCAD DXF™ (Drawing Interchange Format, or Drawing Exchange Format) is a CAD data file format, developed by Autodesk® as their solution for enabling data interoperability between AutoCAD and other programs.

## **FACC**

Feature and Attribute Coding Catalog. A standard for the classification (naming, labeling, identification) of environmental objects, and for articulating their attributes (characteristics).

## **geometry**

A map feature geometry is information relating to its shape (line, polygon, raster, and so on) and position.

## **GeoTIFF format**

GeoTIFF represents an effort by over 160 different remote sensing, GIS, cartographic, and surveying related companies and organizations to establish a TIFF based interchange format for georeferenced raster imagery.



## **GPS**

Global Positioning System. Worldwide radio-navigation system formed from a constellation of satellites and their ground stations.

## **GTOPO30**

GTOPO30 is a global digital elevation model (DEM) with a horizontal grid spacing of 30 arc seconds (approximately 1 kilometer). It covers the full extent of latitude from 90 degrees south to 90 degrees north and the full extent of longitude from 180 degrees west to 180 degrees east. The vertical units represent elevation in meters above mean sea level. In the DEM, ocean areas are masked as "no data" and are assigned a value of -9999.

## **JOGL**

Java™ bindings for *multithreading* (JSR-231). JOGL provides hardware-supported 3D graphics to applications written in Java.

## **JSF**

JavaServer™ Faces (JSF) technology simplifies building user interfaces for JavaServer applications.

## **JSP**

JavaServer™ Pages (JSP™ ) technology provides a simplified, fast way to create dynamic web content.

## **KML/ KMZ**

Google Earth Keyhole Markup Language (KML) and KML Zipped (KMZ) formats. KML is an XML grammar and file format for modeling and storing geographic features such as points, lines, images, and polygons for display in Google Earth™, Google Maps™, and Google Maps for mobile.

## **layer**

(Map) The `IlvMapLayer` class represents a map layer, that is, a cartographic theme. It associates a style, `IlvMapStyle` or one of its subclasses, with an `IlvManagerLayer` that contains graphic objects.

(JViews Framework) Storage area of manager in which graphic objects are placed. A manager uses multiple layers, referenced by index numbers. Objects in a higher-numbered layer are displayed in front of objects of a lower-numbered layer.

### **load-on-demand**

Load-on-demand is a mechanism that lets you load into memory only the portion of a map that you want to view. This capability is implemented via a specific manager layer, called a tiled layer.

### **map feature**

A map feature is an object that represents a cartographic data as it was read from its source file. It can be a segment of road, an aerial image, the summit of a hill, or a digital terrain model. A map feature holds three main information fields: its geometry, the projection in which its geometry is expressed, and its attributes.

### **Map Layer**

A Map Layer defines the look and feel of part of a map background. A Map Layer contains a data source and its associated styling information, such as zoom levels, grids, properties, and so on. Together, a set of Map Layers constitute a theme, see *theme*. Map Layers can be managed individually.

### **map loader**

The map loader is a facility supplied with JViews Maps that allows you to import into a JViews manager a map that has a predefined format. Predefined formats in IBM® ILOG® JViews are CADRG, DTED® , and Shapefile.

### **MGRS**

Military Grid Reference System. An extension of the UTM map coordinate system.

### **MIF file**

MapInfo® interchange files for vector maps. This format may contain rendering information.

## **multithreading**

Multithreading is a programming paradigm for implementing application concurrency and, therefore, also a way to exploit the parallelism of shared memory multi-processors.

## **Non-Georeferenced image file**

A .gif, .tif, .jpg, or .jpeg file that has no coordinate system associated with it.

## **OpenGIS**

OpenGIS® Specifications are technical documents that detail interfaces or encodings. Software developers use these documents to build support for the interfaces or encodings into their products and services. These specifications have been developed by the Open Geospatial Consortium to address specific interoperability challenges.

## **OpenGL**

An environment for developing portable, interactive 2D- and 3D-graphics applications.

## **Oracle Spatial**

A database repository for vector map data. Oracle® Spatial is not just a simple format, it has various possibilities such as spatial indexing, spatial operators, geometry operators, and so on. This is an extension of the Oracle® Database.

## **orthodromy measure**

Measure of distance that corresponds to a great circle line, route, or distance. An orthodromic path between two points on the Earth's surface is the shortest possible way (on the surface of the Earth) between these two points.

## **PDA**

Personal Digital Assistant, a portable computing device that can be carried into battle and used to receive or transmit information for the mapping application.

## **projection**

A map projection is a mathematical transformation to project the surface of the Earth, or a portion of it, onto a flat surface such as a piece of paper or a computer screen. Since

the Earth has an ellipsoidal shape, attempts to project its points on a plane always results in some kind of distortion of conformality, distance, direction, scale, and area. Map projections fall into three main categories: cylindrical, conic, or azimuthal. A projection can also be conformal, meaning that it preserves angles, or equal area, meaning that it displays true area ratio. A map has always an associated projection.

## **property**

Characteristic of an object to which you can assign values.

## **renderer**

A renderer is an object that transforms a map feature into an IBM® ILOG® JViews graphic object that can be displayed through a manager view.

## **rpf**

Raster Product Format.

## **S57 standard**

S-57 is the electronic data transfer standard prepared by the International Hydrographic Organization (IHO) committee. The geodatabase model allows the user to import Electronic Navigational Charts (ENC) .000 files, which in turn provides the user with a highly accurate vector data set that is ideal as foundation data.

## **Shapefile format**

An exchange format for vector maps of the Environmental Systems Research Institute (ESRI® ). This format supports polygons, arcs, lines, and points.

## **Spatial Reference System**

A way to link coordinates to a reference, so that objects whose coordinates are expressed in different systems can be displayed in the same manager.

## **style rule**

(CSS) A formal statement which conforms to the CSS syntax and is used to attach styles to model objects. A style rule contains a *Shapefile format* and a *datum conversion*.

## **style sheet**

(CSS) A list of style rules for customizing the appearance of a diagram in a diagram component. A style sheet is saved in a file with extension `.css`.

## **theme**

(Maps) A collection of all layer styles, zoom levels, and how zooming affects each map configuration. It is a collection of all the style sets defined for the layers of a map application. For each layer, you can specify a set of visual properties in the Map Style Property Sheet. These properties can be associated with a selected zoom level. When a zoom operation crosses the zoom threshold, the next style set is applied dynamically.

(Designer) A style sheet that gives a particular look-and-feel. It is available as a starter style sheet. This feature lets you specify alternative colors and fonts across an entire application.

## **thin client**

A thin client is a computer (client) in client-server architecture networks, which depends primarily on the central server for processing activities.

## **TIGER/Line**

TIGER/Line® files are extracts of selected geographic and cartographic information from U.S. Census Bureau's Topologically Integrated Geographic Encoding and Referencing (TIGER) database. They contain detailed vectorial data for each county or county equivalent in the U.S.

## **tile**

A tile is a rectangular area that constitutes the basic element of a tiled layer. A tile can be loaded into memory and be visible in a view or can be placed in a cache. Cached tiles are still loaded into memory but are no longer visible. Cached tiles are eligible for unloading.

## **tiled layers**

A tiled layer is a particular type of manager layer specifically designed to support load-on-demand. A tiled layer is divided into a set of rectangular tiles of identical size that form a tiling grid.

## **UAV**

Unmanned Aerial Vehicle or drone that gathers intelligence, in this case for military purposes.

## **UPS**

The Universal Polar Stereographic coordinate system is used in conjunction with the Universal Transverse Mercator (UTM) coordinate system to locate positions on the surface of the earth, see *UTM*. Like UTM, the UPS coordinate system uses a metric-based cartesian grid laid out on a conformally projected surface. UPS covers the Earth's polar regions.

## **UTM**

The Universal Transverse Mercator (UTM) coordinate system is a grid-based method of specifying locations on the surface of the Earth using two-dimensional horizontal positions.

## **VMAP format**

The National Geospatial-Intelligence Agency (NGA) Vector Map (VMAP) product is a collection of data bases that provide vector-based geospatial data at low-, medium-, or high-resolution.

## **WMS standard**

An Open Geospatial Consortium Web Map Service (WMS) produces maps of spatially referenced data dynamically from geographic information. This international standard defines a map to be a portrayal of geographic information as a digital image file suitable for display on a computer screen.