Coordinate Reference System Window

The Coordinate Reference System window is used throughout the TNT products to set the spatial reference parameters for geospatial data. For example, you use this window when you need to specify the coordinate reference system to be used in georeferencing a spatial object, importing certain types of external files, or reprojecting a geospatial object. You can use the Coordinate Reference System window to select from among hundreds of predefined coordinate reference systems and coordinate systems provided with the TNT products or to define and save any number of custom coordinate reference systems.
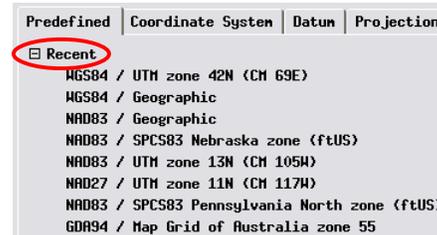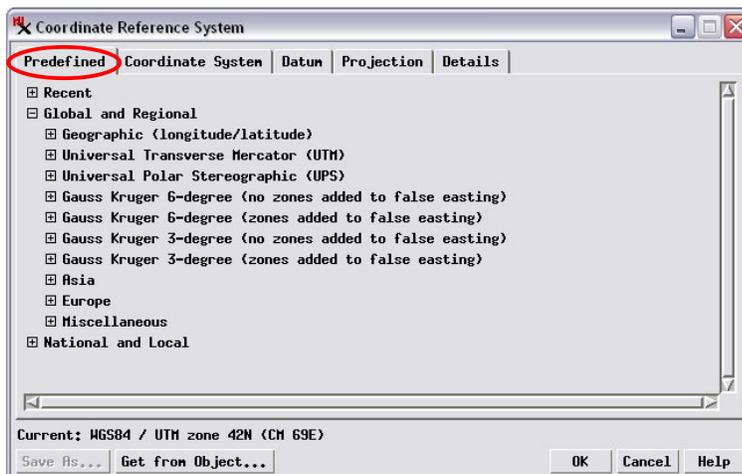
Predefined Panel

The controls on the Coordinate Reference System window are organized in tabbed panels. The Predefined panel is shown by default when you open the window. This panel presents a hierarchical listing of predefined coordinate reference systems (coordinate system plus datum) that can be selected in a single step, as well as several globally-applicable coordinate systems such as Universal Transverse Mercator that can be paired with any available datum to form a coordinate reference system (CRS) appropriate for any specific area. Detailed discussions of the use of the Predefined panel can be found in the Technical Guide entitled *Predefined Coordinate Reference Systems*.

You can also press the Get from Object pushbutton at the bottom of the Coordinate Reference System window to open a Select Object window with which you can select any spatial object as a source for a CRS.

After you have selected one or more CRSs in any TNT process, a Recent grouping appears at the top of the Predefined panel. For your convenience this grouping lists the last ten CRSs that you have selected in any TNT process, allowing you to select any of them in one step.

The "Current" CRS shown near the bottom of the window is the one that will be used when you press the OK button. This field updates automatically when you select a CRS or a component. When you initially open the Coordinate Reference System window, the "Current" CRS is the one in use in the process from which you opened the window or, if none, the default WGS84 / Geographic CRS.
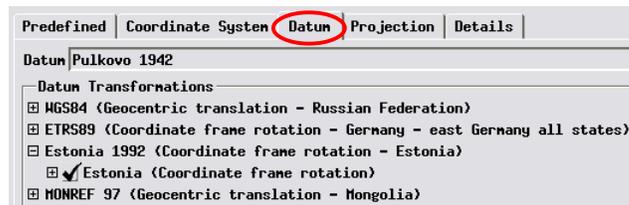
Coordinate System, Datum, and Projection Panels
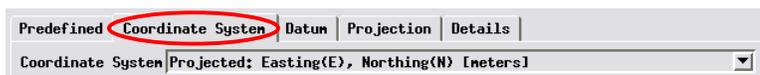
In many cases you can select a predefined CRS or coordinate system solely from the Predefined panel. In these cases the Coordinate System and Projection tabbed panels merely show the parameters associated with your predefined selection. However, in cases where no predefined selection matches your spatial referencing parameters, you can use the controls on these panels to select the appropriate coordinate system and projection as you proceed to set up a custom CRS. For further information see the TechGuide entitled *Custom Coordinate Reference System Setup*.

The Datum menu selection on the Datum panel is set automatically when you select a complete predefined CRS on the Predefined panel. When you select a predefined global coordinate system that does not automatically specify a datum, or when you are setting up a custom CRS, you can use the Datum menu to select from the hundreds of available datums. When a datum has been selected by any means, you can use the Datum Transformations pane on this panel to select specific transformations directly between different datums (if available). For more information see the TechGuide entitled *Predefined Coordinate Systems*.

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Details Panel

The Details tabbed panel lists all the parameters for the selected coordinate reference system, including the datum, projection, coordinate system, and their component parameters. The name of each CRS component is followed by a MicroImages ID number (in square brackets). This ID number can be used in assignment statements in scripts written in the TNT Geospatial Scripting Language (SML) to define specific instances of the CRS or CRS component to use in defining georeference information for spatial objects being processed or created in the script.

```
Predefined │ Coordinate System │ Datum │ Projection │ Details
Name: WGS84 / UTM zone 42N (CM 69E) [12479]
Projection: UTM zone 42N (CM 69E) [25344]
    Method: Transverse Mercator [1909]
    Latitude of natural origin [1538]: N 0 00 00.000
    Longitude of natural origin [1539]: E 69 00 00.000
    Scale factor at natural origin [1540]: 0.9996
    False easting [1541]: 500000 m
    False northing [1542]: 0 m
Datum: World Geodetic System 1984 (WGS84) [2800]
    Type: Geodetic
    Epoch: 1984
    Ellipsoid: WGS 1984 [1351]
        Semi-major axis 6378137
        Inverse flattening: 298.257224
    Prime Meridian: Greenwich [1001]
    Valid Area
        World
Coordinate System [1200]

☐ Show all component IDs
```

```
Predefined │ Coordinate System │ Datum │ Projection │ Details
Name: WGS84 / UTM zone 42N (CM 69E) [12479]
Other identifiers
    EPSG:32642
Projection: UTM zone 42N (CM 69E) [25344]
    Other identifiers
        MicroImages_Legacy:5.42N
        EPSG:16042
        UTM:42
        TOTAL:N42
    Method: Transverse Mercator [1909]
    Latitude of natural origin [1538]: N 0 00 00.000
    Longitude of natural origin [1539]: E 69 00 00.000
    Scale factor at natural origin [1540]: 0.9996
    False easting [1541]: 500000 m
    False northing [1542]: 0 m
Datum: World Geodetic System 1984 (WGS84) [2800]
    Other identifiers
        EPSG:6326

☒ Show all component IDs
```

You can turn on the *Show all component IDs* toggle button to show identifiers used in other spatial referencing databases and catalogs, such as the EPSG (European Petroleum Survey Group) geodetic parameter database.

Request New Coordinate Reference System Components

If there is a coordinate reference system, coordinate system, datum, or datum transformation that you use but that is not included in the TNT products, you can contact MicroImages software support to request that it be added. You should provide the name and full parameters for the CRS component. A web reference to the information is also always helpful.