Subject: Re: Any way to initialize mapping in IDL with WKT or a Proj.4 string?
Posted by Gordon Farquharson on Fri, 30 Sep 2016 21:31:24 GMT
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OK, so here is a solution. It can be extended to deal with any projection IDL knows about. Thank you, Exelis/Harris for implementing the IDL-Python bridge. Very useful.

For this solution to work, you need to have the IDL-Python bridge working and have the Python API for GDAL/OGR installed.

```
FUNCTION map_proj_init_proj4, proj4_string

   compile_opt IDL2, LOGICAL_PREDICATE, STRICTARRSUBS

   osr = python.import('osgeo.osr')
   srs = osr.SpatialReference()
   IF osr.SpatialReference.ImportFromProj4(srs, proj4_string) NE 0 THEN BEGIN
      message, 'error importing from Proj.4 string'
   ENDIF

   CASE 1 OF

      proj4_string.matches('\+proj=utm'): BEGIN
         semimajor_axis = osr.SpatialReference.GetSemiMajor(srs)
         semiminor_axis = osr.SpatialReference.GetSemiMinor(srs)
         utm_zone = osr.SpatialReference.GetUTMZone(srs)
         map = map_proj_init(101, $
                        SEMIMAJOR_AXIS=semimajor_axis, $
                        SEMIMINOR_AXIS=semiminor_axis, $
                        ZONE=utm_zone)
      END

      ELSE: BEGIN
         message, 'projection not recognized'
      END

   ENDCASE

   return, map

END
```

Usage:

```
IDL> map_struct = map_proj_init_proj4('+proj=utm +zone=10 +ellps=WGS84 +datum=WGS84
+units=m +no_defs')
IDL> print, map_proj_forward(-122, 42, MAP=map_struct), FORMAT='(2(F20.9))'
   582818.069248419   4650259.847758290
```

(The UTM/GCTP bug [1] seems to be fixed in IDL 8.5.1.)

Gordon

[1] http://www.idlcoyote.com/map_tips/utmwrong.php
