

GeoPDFs and ArcGIS

The screenshot displays the Adobe Acrobat Pro Extended interface with a GeoPDF map titled "Rattlesnake National Recreation Area and Wilderness". The map shows a large green wilderness area with various trails, roads, and landmarks. A legend in the bottom right corner defines symbols for National Forest Trails, Contours, Streams, Rattlesnake National Recreation Area, Wilderness, South Zone Boundary, Joint Trail Possible Area, Ownership, US Forest Service Land, Tribal Lands, and Non-Forest Service Land. The layers panel on the left lists various map elements like "Other 2", "Labels", "Horse Trailhead", "Restrooms", "Trailheads", and "TrailheadsAnno". The status bar at the bottom shows coordinates: Lon: 113.88374 W, Lat: 47.03001 N, and MGRS: 12T TT 80891 12535.



presented by
 Michael Sweet
 College of Forestry and Conservation
 The University of Montana

GeoPDFs

- Provide a standard format for use and exchange of GIS documents with non-GIS users
- Custom coordinate displays (up to three)
- Allow efficient distribution and communication of spatial data to anyone who needs to view, add to, update or print it
- Smaller, faster and easier to transmit than complete GIS data sets
- Publishers can select the specific spatial data they want recipients to see – contains only pertinent info
- Can be integrated into any program that supports PDF files.

GeoPDF

- **Accuracy**
 - is as precise as the source data.
 - set by the creator of the PDF to an appropriate precision for the scale of map created.
- **Features**
 - Although users can view GeoPDF files without the free TerraGo toolbar, they will miss out on the enhanced functionality of these files including:
 - Drawing Tools –points, lines and polygons
 - Notes
 - Comments
 - Stamps/Symbols
- *Shapefiles and comments drawn on GeoPDFs can be exported and imported back into your GIS application*




- **GeoPDF Configurations**
- Users can view, measure, mark up, make notes and print GeoPDFs with the free and ubiquitous Adobe Reader and TerraGo's free plug-in GeoPDF Toolbar
- three options to publish a GeoPDF:
 - From ESRI ArcMap, MAP2PDF for ArcGIS
 - From Adobe's Acrobat, MAP2PDF for Acrobat (Professional for MapBooks)
 - From ESRI ArcMap 9.3
- Both ArcMap and TerraGo GeoPDF export options will work on a single machine.

- **Georegistration Tools in Map2PDF for Acrobat**
- Map2PDF for Acrobat you:
- Have write access,
- Can georegister a map
 - allow a user to take an ordinary PDF and create a GeoPDF
 - Need reference data
 - Need at least three control points (preferably 15-30)
- Can change the coordinate system of an existing map
- Can import annotation and notes
- Can export annotation and notes within Map2PDF for Acrobat.

Map2PDF for Acrobat



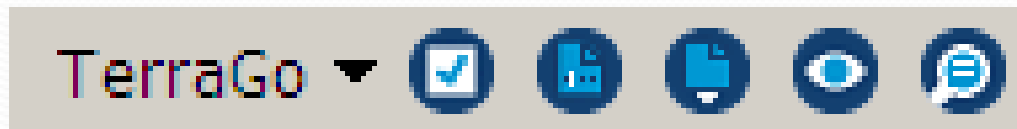
The Map2PDF for Acrobat enables users to:

- The GeoRegister Tool georegisters a map and creates a GeoPDF 
- GeoMark enable Tool enables the use of the GeoMark Toolbar in order to create points, lines, polygons, comments on a GeoPDF 
- MapAssembler tool button allows users to assemble multiple GeoPDF files to be incorporated as a single layered GeoPDF. 

Map2PDF for ArcGIS

Map2PDF for ArcGIS allows for enhanced exporting capabilities from within ArcMap

- Enhanced abilities to export attributes compared to integrated ArcGIS 9.3 export.
- supposed to let one view a GeoPDF map as a layer



Map2PDF for ArcGIS

Preference Editor tool allows you to define basic default settings for viewed and exported GeoPDF files



Export Configuration tool allows configuration of detailed GeoPDF export options. It provides more control over the look and operability of your exported GeoPDF than the default ArcMap GeoPDF exporting option.



GeoPDF Export tool actually exports your map to a GeoPDF file.



View GeoPDF tool is supposed to import a GeoPDF into your map as a layer. We did not have much success with this feature as errors were rampant anytime we tried to view a GeoPDF.



Annotation Inspector tool apparently provides you with access to the information associated with annotations when you view a GeoPDF in ArcMap. We were not able to test the functionality of this feature.



GEOPDF TOOLBAR

- TerraGo's free GeoPDF Toolbar contains two separate toolbars that enhance user interactivity with GeoPDFs.
 - GeoMark Toolbar
 - GeoPDF Toolbar.
 - Both are contained within the Free GeoPDF Toolbar but can be turned on and off separately.
- The GeoMark Toolbar
 - allows users to :
 - add comments,
 - draw shapes
 - insert GeoStamps
 - import shp, KML and GPX files
 - export shp and KML files
- Once a shape is created on the map, comments can be added and shapefiles can be exported along with the attached comments. Points, lines and polygons are grouped together and exported as three separate shapefiles (point, line, and polygon).



GeoPDF Toolbar



- The GeoPDF Toolbar has five buttons that allow users to locate specific geographic locations, view a point in Google Maps, Measure length and area, track your movement with an attached GPS and import and export data.
- Point tool or “GeoTool”
 - Creates Points
 - Allows users to Google Map a point location
- The GeoLocator tool
 - Shows and finds locations by coordinates.
 - Allows the user to change the displayed coordinate systems
- GeoMeasure tool
 - Allows users to measure both length and area on the document.
- GeoTrack tool button
 - Allows for a user to attach a GPS unit and track the GPS location in real-time on the GeoPDF.
- GeoInfo tool button
 - Enables users to add, export and delete data on the GeoPDF.



GeoPDF Function Matrix

Issues	Software Environment			Consumer side Free Adobe Reader w/ Terrago Desktop
	Production side			
	ArcGIS 9.3	ArcGIS w/Terrago Map2PDF	Acrobat Pro Ext w/ Map2PDF	
Straight PDF generation	✓	✓	✓	
GeoPDF generation	✓	✓	✓	✓
Map books			need professional	✓
3d PDF	Export VRML from ArcScene and import to Acrobat Pro Extended			✓
Interactivity(adding shape files)				✓
Georegister PDF			✓	
Attribute export	limited	enhanced		
Export shp and KML files				✓
Import shp, KML and GPX files				✓