

BOUNDARY FILES

1. Introduction

This file describes the formatting procedures for converting between ARCMAP boundary shapefiles and MATLAB boundary files.

2. Converting ARCMAP Boundary Shapefiles to MATLAB Boundary Files

The program for doing this is a DOS program called **SHP2BND.exe** (“Shape-to-Boundary”) that appears in the course directory, **f:\sys502\extra_materials**. It converts an ARCMAP shapefile to an ascii file in **.bnd** format that can be imported to MATLAB.

(1) To convert an ARCMAP boundary shapefile, say **boundary**, to **.bnd** format, move the three files: **boundary.shp**, **boundary.shx**, **boundary.dbf**, to your home directory, say **e:\home**. Next move the file **SHP2BND.exe** to the same directory.

(2) Open a DOS window (**Programs → Command Prompt**) and move to the directory containing the files in (1). [If this directory is **e:\home**, type **e:**, hit return, and then type **cd home** and hit return.]

(3) At the DOS prompt, using the boundary file name **boundary** type

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>> shp2bnd boundary
```

and hit return. (Be sure not to use an extension on the file name.)

(4) You will first see that this program is written by Oleg Smirnov. Click **OK**. You will next see the name of the output file (**boundary.bnd**). Click **OK**. On the lab network, it may take some time to run this program depending on the size of the boundary file (but it should not take more than one minute). You will then be told that the program is done. Click **OK**.

(5) The file **boundary.bnd** should now appear in the same directory, **e:\home**. [Depending on the Network status this may take some time.] This file is in **.bnd** format. For transfer to MATLAB, you should rename this file with text (**.txt**) format.

3. Converting MATLAB Boundary Files to ARCMAP Boundary Shapefiles

The program for doing this is an DOS program called **BND2SHP.exe** (“Boundary-to-Shape”) that appears in the course directory, **f:\sys502\extra_materials**. It converts **.bnd** file, say **boundary.bnd**, into a triplet (**shp,shx,dbf**) known as a **shapefile**.

NOTE!! This is an old DOS program that does not allow names to exceed EIGHT letters. If they do, RENAME them.

(1) First copy the file **BND2SHP.exe** to the directory containing **boundary.bnd**, say **e:\home**.

(2) Open a DOS window (**Programs → Command Prompt**) and move to the directory containing the files in (1). [If this directory is **e:\home**, type **e:**, hit return, and then type **cd home** and hit return.]

(3) At the DOS prompt type:

>> bnd2shp boundary

and hit return. (Be sure not to use an extension on the file name.)

(4) You may also add a parameter (optional) that names the ID variable that will be created to name polygons in the shapefile, and is where IDs from the .BND file will be copied. For example:

>> bnd2shp boundary ID

This will read file **boundary.bnd** and create the shapefile with ID as the polygon identifier.
[Depending on the Network status this may take some time.]

(3) The created shapefile (**boundary.shp**, **boundary.shx**, **boundary.dbf**) should now appear in the directory, **e:\home**, and can be directly opened in ARCMAP using **Add Data**.