# Class I Receptors

Overview

The National Park Service (NPS) Air Resources Division (ARD) has developed a database of modeling receptors for all of the Class I areas in the United States. Alaska, Hawaii, and the Virgin Islands are now included in the datasets. NPS ARD also has developed a file conversion program to convert the data from latitude/longitude to either Lambert Conformal or UTM projection.

The Class I Receptor Data files, associated shapefiles, and the Conversion program are available to download from the links listed below:

* [Class I Area Receptor Data](https://irma.nps.gov/DataStore/DownloadFile/595891)
* [Class I Conversion Program](https://irma.nps.gov/DataStore/DownloadFile/595893)
* [NPS Class I Boundary Shapefile](https://irma.nps.gov/DataStore/DownloadFile/595892)
* [FWS Class I Boundary Shapefile](https://irma.nps.gov/DataStore/DownloadFile/595894)
* [USFS Class I Boundary Shapefile](https://irma.nps.gov/DataStore/DownloadFile/595895)

More Information

The Class I Areas Conversion program, which uses the Class I Areas receptor files and database, allows the user to select one to many Class I areas and convert those areas to either a Lambert Conformal or UTM projection. The projection and datum of the receptor files is Geographic Coordinate System (GCS), North American Datum (NAD) 1983.

The format of the receptor files is as follows:

* Column 1 = longitude in decimal degrees
* Column 2 = latitude in decimal degrees
* Column 3 = elevation in meters

The format of the converted files is as follows:

* Column 1 = Lambert X in kilometers or UTM Easting in kilometers
* Column 2 = Lambert Y in kilometers or UTM Northing in kilometers
* Column 3 = elevation in meters

The receptors are created approximately one kilometer apart. Depending on the size of the Class I area, the receptors are then extracted to every second, every third or every fourth receptor in an effort to keep the number of receptors between 100 and 1000 per area.

The input data are defined according to the user's CALMET domain parameters. If converting to Lambert Conformal, the user needs to specify Ref Latitude, Ref Longitude, Standard Parallel 1 and 2. All of these input units are expressed in decimal degrees. If converting to UTM, a UTM zone is required. When converting to UTM, keep in mind that the areas selected should all be in located within the same zone. When converting to UTM, the output file will be in NAD1927.

The NPS provides access to national park boundary files and other GIS resources through its [Integrated Resource Management Applications Data Store](https://irma.nps.gov/DataStore/Reference/Profile/2258009) web site.