

## **GEOGRAPHICAL INFORMATION SYSTEMS (GIS) LANGUAGE FOR CONTRACTS/GRANTS**

### **1.Description**

Describe the purpose and intent of developing GIS data or models or training:

- GIS data layers created/edited
- GIS data analysis done to create reports or maps
- GIS models created for analysis
- GIS programming to create ArcView, Arc/Info, ArcGIS extensions, scripts or programs
- GIS training provided

### **2.Audience**

Describe the intended end user of the data. The State or Regional Board should have knowledge of and access to ArcView, ArcGIS or Arc/Info software.

### **3.Software**

Describe the software that will be used (including the version number) and the data type of the deliverable.

- The software used must allow for the delivery of data in an ESRI supported file format such as shape file or coverage.
- All custom programming such as extensions and AMLs that are written are considered a project deliverable and should be made available (unencrypted) to the state and regional boards.

### **4.Initial data needed and timeframe for acquisition**

Describe what types of data sets are needed to begin the project. Include details on:

- Scale
- Source agency or company or other entity
- Source media
- Time frame/schedule of data acquisition

If existing GIS data will be incorporated into the project, metadata documentation must be included as part of the dataset. Scale, projection, datum, and data quality of original data should be well researched and documented. If the existing dataset is to be re-projected into another coordinate system, details on this procedure should be documented and included in the metadata.

### **5.Database organization**

- Type of database created: - internal (within attributes of the GIS data) and/or external database such as Access, Oracle or other database that is linked
- List field names and briefly describe what is contained within the field
- Will field names be compatible with any existing data standards such as EPA STORET or SWIM

### **6.GPS and GIS data layer generated**

If data sets will be created specifically for the project

- List person/agency who will be responsible for collecting data and their background in terms of GIS experience.
- If data is to be collected by GPS it must also include the following
- GPS make and model
- Datum and projection/coordinate system reported
- Time and place descriptions (preferably create data dictionary prior to collecting GPS points)
- List the spatial precision required by the project (e.g. 1m)
- What is the data collection protocol (e.g. If a dairy is GPSed, which building is GPSed?)

The State Water Resources Control Board's *Guidelines For Global Positioning System Units* (September 2000) addresses performance standards, documentation of field methods, and data reporting standards. The State Board's GIS Subcommittee recommends that this document in its entirety be referred to when writing or reviewing contracts that will utilize GPS to collect data.

## **7. Metadata**

Metadata must be created in electronic format for each GIS layer that is created. At a minimum metadata should conform to the Teale Data Center standard (FGDC compliant metadata is also acceptable) and should include:

- Description of the layer including geographic extent and data type (point, line, raster, regions etc.)
- Projection/coordinate system including datum and units
- Source of data: e.g. GPS, scanning, on-screen digitizing, interpolation from quad map
- Scale (survey or actual scale of map data is transferred from)
- Contact person/agency
- Descriptions of all fields, look up tables, database codes and data attribute types as a data dictionary
- Whether or not data will be updated or is a one time occurrence
- A qualitative assessment of the accuracy of the data

## **8. GIS Data Analysis report**

If the contract requires GIS data analysis or creates GIS models then it needs to be documented in a final report that is delivered with the model and/or data. If output from a model was used to populate GIS database fields or attribute tables, a model user's guide or other documentation that outlines the assumptions and limitations of the model must.

## **Summary**

Deliverables for GIS projects/data must include:

1. GIS data in an ESRI supported format
2. metadata in a text format to meet at least the Teale data center format or the more detailed FGDC format

3. custom programs such as extensions, scripts, AMLs

4. preliminary, interim and final reports as required by the project manager