Appendix xx: Inyo-Mono IRWMP Data Management Plan

Contents

Introduction

The need for a Data Management Plan has evolved alongside the Inyo-Mono Integrated Regional Water Management Program over the course of the last several years. As the program has matured, the need for a well-documented Data Management plan has become evident. This plan was developed in response to that need, as well as to provide a mechanism to ensure quality assurance and control of data used in Integrated Regional Water Management Planning within the region.

Types of data

The various types of data are outlined in Chapter 4: Data Management of the Inyo-Mono IRWM Plan and therefore will not be repeated as part of this plan. Please visit http://inyo-monowater.org/wp-content/uploads/2014/10/IM_PhaseIIPlan_Ch4_Data_formatted20141003.pdf to view Chapter 4.

Baseline Data Retrieval and Organization Standards

Spatial Data and Metadata Standards

All spatial data acquired will comply with Federal Geographic Data Committee (FGDC) guidelines so as to make all in-house data compatible with State and National databases. http://www.fgdc.gov/ Detailed guidance from the California Environmental Resources Evaluation System (CERES) further outlines how using the FGDC standard also qualifies data for automatic compatibility with CERES and the California Environmental Information Catalog (CEIC): http://www.ceres.ca.gov/prog_info/standards.htm. The FGDC Standards guidance from CERES provided above will be followed for all original IRWM program data and data housed within the DMS File Geodatabase.

When generated by the Inyo-Mono IRWM Program, spatial data will be housed in the Inyo-Mono Region's File Geodatabase that constitutes the spatial component of the Inyo-Mono Data Management System. All data housed in this File Geodatabase will be assigned the following spatial reference information (NAD 83, UTM Zone 11 N).

Spatial data acquired for specific analyses or base data will be reprojected using this spatial reference information such that it can be housed in the File Geodatabase. This will allow sharing of data with stakeholders who may not possess advanced GIS knowledge needed to remedy problematic alignment issues.

Aspatial Data

Aspatial data will be housed in the Inyo-Mono Regional Access Database, the second component of the Inyo-Mono Regional Data Management System. Where applicable, data will be input using a pre-designed form available on the switchboard (front end of the database). The forms will be designed such that users inputting data will need to know very little about Access. Additionally input masks and validations rules will be applied into the design of the tables so that Access has built in quality assurance and control measures. These measures insure the proper type of information is input into each field with error messages that specify when inappropriate data has attempted entry. These measures are not foolproof, but will allow some fundamental QA/QC control at the data entry level. The GIS/Data Management Coordinator will also provide routine maintenance to ensure data quality standards are being met and perform any updates or revisions needed to the database.

For program documents that are not suitable for entry into the database (i.e. WORD documents, PowerPoint Presentations, Etc…), a file naming convention has been designed to allow for easy file recognition and searching on the Program server.

All Program files should be begin with a capital I for Inyo and M for Mono. Underscores should be used as the only non-letter or number character in the file name(no spaces should ever be used within a file name). Next a 3 or 4 character grant identifier should be used (PG1 = Planning Grant 1, DAC =Disadvantaged Communities work, and IMP2 = Round 2 Implementation). The third file name component is a descriptive yet concise file name using camel casing (http://en.wikipedia.org/wiki/CamelCase) instead of spaces to make the name easily identifiable. Lastly the date in the format provided and authors initials should follow separated by and underscore. The examples below are offered for illustrative purposes.

IM_GrantAbbreviation_descriptiveFileName_Date(YYYYMMDD)_authorInitials(ifapplicable).filetype

IM_PG2_dataMgmtPlan_20141016_jh.docx (File name for the data management plan)

Online Data Retrieval

Relevant online water databases that may be utilized for data acquisition or data submission include but are not limited to; the aforementioned CERES California Environmental Information Catalog (CEIC), Environmental Data Exchange Network (CEDEN), California Data Exchange Center (CDEC), Surface Ambient Water Monitoring Program (SWAMP), Integrated Regional Water Information Systems (IRWIS), DWRs Water Data Library (WDL), California Statewide Groundwater Elevation Monitoring Database (CASGEM), and USGS National Water Information System (NWIS). Acquired data may not share metadata standards of internal regional original

data, and the authority of the data source should be carefully considered prior to use by the Inyo-Mono IRWM Program.

When using data acquired from online sources, the staff member should ensure to also transfer any metadata associated with the data. If no official "metadata" file exists, the staff member should at a minimum record the data source, date and the intent for the data download in a text file and title the file in the following manner, *ReadMe_datafileName_Date.txt.* It is absolutely imperative that all data downloaded from the web contain a date within the file name. This will ensure that others who may seek information about the data source can ensure they have the most current dataset and provide them the potential to relocate the information source to check for updates, or verify some aspect of the data that may be in question.

Policies for access and sharing

The IRWM Program promotes collaboration and integration on many levels, including and especially with regards to data. Additionally, it is recognized that the IRWMP effort is funded with State dollars through Proposition 84. Thus, all original data generated by the Inyo-Mono RWMG, once finalized by the Program Office Staff will be made available for public use as requested. Data distribution may take place only once metadata standards are met to ensure the Inyo-Mono region maintains a reputable data source to other IRWMP Regions and Organizations. Sensitive data, if shared with the Inyo-Mono Program Staff for specific analytical reasons, will be carefully protected to maintain the security of the data entrusted to the Inyo-Mono program.

The recent release of ArcGIS Online http://www.arcgis.com/home/index.html has opened up a brand new arena for collaborative data transfer and lease in the geospatial realm. To the extent possible online web maps published by the GIS/Data Management Coordinator will be published to "*share with everyone*" so that local water-related data can be made available to the broadest interested audience available. When prudent, these public web maps will be embedded into the Inyo-Mono Website to facilitate RWMG member usage. The map publisher will follow advised sharing practices from ESRI available at the following link: http://resources.arcgis.com/en/help/arcgisonline/#/Best_practices_for_sharing/010q00000011000000/

In some instances web maps may be published and made available only to specific user Groups within the IRWMP Organization when draft or proprietary data are involved, but should be limited to specific instances or short-term projects as a best management practice.

Policies and provisions for re-use, re-distribution

All data requests will be directed to the GIS /Data Management Coordinator or designee. The Staff will make every effort to disperse data requests in a timely manner and of professional quality. Spatial data can be sent as an independent Shapefile or the entire File Geodatabase may be shared. For aspatial data requests, the entire Access database could be emailed or specifically requested tables can be export to a variety of file formats to facilitate use by the requesting agency.

The Inyo-Mono IRWM Program assumes no liability for accuracy of data once it is transferred to a third party user. All users who utilize Inyo-Mono IRWMP data should reference the data used in the Source Data section of the published map documents as follows.

Source Data: Inyo-Mono IRWMP, 2012 (or whatever year is appropriate for the data being used)

At present, the Inyo-Mono IRWM Program does not serve data up to its users; therefore it is the responsibility of the third party user to ensure the most current version of the data is being used for analyses purposes.

Plans for archiving

Due to the immense time investment of data acquisition, archiving Inyo-Mono IRWMP data will occur on a quarterly basis. Working documents will be backed up on the GIS /Data Management Coordinator's external hard drive, with additional backups hosted on the Inyo-Mono Program Office network, and triplicate copies to the ESRI or Google Cloud when appropriate.