

Florida Water Resources Monitoring Council (FWRMC)
Public Meeting of Monitoring Catalog Workgroup – November 14, 2012

Attendees:

Agency	Name
Florida Department of Environmental Protection (DEP)	Kate Muldoon
DEP	Stephanie Sunderman
DEP	Gail Sloane
Florida Department of Health (DOH)	Bob Vincent
St. Johns River Water Management District (SJRWMD)	Aiša Cerić
SJRWMD	Tom Mirti
Southwest Florida Water Management District (SWFWMD)	Carol Kraft
SWFWMD	Dave DeWitt
South Florida Water Management District (SFWMD)	Brian Turcotte
Miami-Dade County Department of Regulatory and Economic Resources	Susan Markley
University of South FL (USF)	Jim Griffin
USF	Jan Allyn
USF	Keith Bornhorst
USF	Bridgette Froeschke
USF	Jason Scolaro
Floridians for a Sustainable Population	John Glenn

Introduction

Kate Muldoon (KM) welcomed everyone to the Monitoring Catalog Workgroup meeting and reviewed the agenda. The primary item to be discussed is developing and finalizing a recommendation for the list of metadata elements to be included in the FL Catalog of Monitoring Programs.

Discussion of Metadata Elements to be Included in FWRMC Catalog Effort

KM indicated that a straw-man proposal of metadata elements to include in the catalog was emailed to the workgroup participants on 11/2/2012. The straw-man proposal was developed using notes from previous FWRMC Monitoring Catalog Workgroup meetings, the DEP GIS Location Data Standard, FGDC metadata guidelines, and templates from the Southeast Coastal Water Quality Monitoring Metadata Project and the Gulf of Mexico Alliance (GOMA) Catalog of Monitoring Programs. Participants reviewed the proposal and sent in comments and suggested changes.

(For the remainder of this section of the meeting report, the metadata elements included in the straw-man proposal are presented in table format. For each element, comments received prior to the meeting will be summarized in the “comments received” section and the discussion that occurred at the meeting will be summarized in the “discussion” section under each element.)

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE
UNIQUE_STATION_ID	Y	Primary key identifier for stations within the Monitoring Catalog database. Automatically generated by database.	VARCHAR2	N	20

Comments received:

None

Discussion:

- Susan Markley (SM) indicated that it would be helpful to indicate, for each element, if the information is to be supplied by the data providers or if the information will be generated by the Water Atlas staff. Brian Turcotte (BT) agreed and indicated that the straw-man proposal included several items that need to be considered for inclusion in the database schema, but are not typically considered metadata elements. KM agreed and

indicated that she would provide the additional clarification requested as the discussion moved through the elements included in the straw-man proposal.

- KM clarified that UNIQUE_STATION_ID does not require the data providers to enter any information.
- JS indicated that UNIQUE_STATION_ID will likely be a combination of ORGANIZATION_NAME and STATION_ID.

Conclusion:

Change data size to 150.

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE
ORGANIZATION_NAME	Y	Organization overseeing monitoring project collecting information at the station.	VARCHAR2	Y	100

Comments received:

- Increase data size to 250.

Discussion:

- KM clarified that the data providers will need to enter this information.
- JS indicated that UNIQUE_STATION_ID will likely be a combination of ORGANIZATION_NAME and STATION_ID. JS suggested limiting the data size for these elements, to better accommodate this process.

Conclusion:

Keep element as described in the straw-man proposal.

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE
PROJECT_NAME	Y	Monitoring project collecting information at the station.	VARCHAR2	N	100

Comments received:

- Increase data size to 250. Allow multiple project names for each station.
- Is this meant to be the “project” the sites are associated with or the “program” that performs the data collection?

Discussion:

- KM clarified that this field is meant to be the “project” sites are associated with. There was a request during a previous meeting to eliminate “program” from the list of metadata elements because program names change very often.
- BT suggested that it may be of interest to include the relationship between individual sampling events and projects, instead of just the relationship between stations and projects. Others added that it would be helpful to summarize how information collected at one station may be of interest to many projects. BT indicated that the organization of this information in current databases is a result of the business processes used (e.g. Logging individual samples with the projects that they are associated with, or associating a list of projects with a station so that every sample collected at that station is associated with all of the projects on the list.)
- SM added that the same stations / locations may be visited for multiple projects / purposes (e.g. long-term monitoring stations may be visited for event specific monitoring as well).
- BT suggested having a station table that has a many-to-many relationship with a project table. This will require clarifying whether each metadata element is associated with the project table or with the station table. Tom Mirti (TM) agreed and indicated that having a list of projects associated with each station will be helpful for summarizing the value of the monitoring information that is being collected.
- KM asked the Water Atlas staff how they’ve dealt with this problem if it has arisen in other efforts. Jason Sclaro (JS) indicated that it would not be a problem to include a many-to-many relationship in the database.

Conclusion:

Change data size to 250, and develop a many-to-many relationship between projects and stations.

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE
PROJECT_URL	N	Address (URL) for a web page describing the project.	VARCHAR2	N	500

Comments received:

- This element is a low priority.

Discussion:

- Jim Griffin (JG) indicated that several of the fields in the straw-man proposal are not included in the information currently available from STORET. Data providers will need to be contacted to provide the missing information.

Conclusion:

Change data size to 250.

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE
PROJECT_DESIGN_METHODODOLOGY	Y	Strategy to meet the goals and objectives of the project. Domain: Deterministic, Probabilistic	VARCHAR2	Y	25

Comments received:

- This element is a low priority.
- Is it necessary for this to be a required field?

Discussion:

- Aiša Cerić (AC) suggested making this field optional because many projects do not have a documented design. BT and SM agreed, indicating that this information is not included in many current databases, and suggested expanding the domain to allow options such as “other”, “unknown”, and “not reported”. SM added that the design / methodology of many projects are neither deterministic nor probabilistic (e.g. data collected along cruise tracks / transects).

Conclusion:

Change element to not required, and expand domain to include the following: Deterministic, Probabilistic, Other, Unknown, Not Reported.

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE
PROJECT_ABSTRACT	Y	Brief summary of the project.	VARCHAR2	N	250

Comments received:

- Increase data size to 4000.
- This element is a low priority.
- Are both PROJECT_ABSTRACT and PROJECT_PURPOSE necessary? What different information is expected to be captured between these two columns?

Discussion:

- KM clarified that both PROJECT_ABSTRACT and PROJECT_PURPOSE are required per the DEP / FGDC guidelines. The abstract provides a brief summary of the project, while the purpose just indicated the reason for information collection (e.g. baseline data, benchmark, event specific, experimental, regulatory, seasonal, trend, etc). PROJECT_DATA_QUALITY_OBJECTIVES is not required per the FGDC guidelines, and is intended to convey the primary focus of the project.
- SM asked for further clarification on the difference between PROJECT_ABSTRACT and PROJECT_PURPOSE. SS summarized the FGDC definitions: The abstract is a brief narrative summary of the data set. (e.g. “Florida statewide point coverage of selected cities with population information.”) The Purpose is a summary of the intentions with which the data set was developed. (e.g. “This dataset was created for resource management and cartographic purposes.”)

Conclusion:

Change data size to 4000.

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE
PROJECT_PURPOSE	Y	Reason for information collection.	VARCHAR2	N	250

Comments received:

- Increase data size to 4000.
- Are both PROJECT_ABSTRACT and PROJECT_PURPOSE necessary? What different information is expected to be captured between these two columns?

Discussion:

- BT suggested limiting the domain for PROJECT_PURPOSE to allow catalog users to search for monitoring locations by purpose. SM indicated that many projects have multiple purposes, so it may be better to provide a list of suggestions for purpose, but leave the field as free-text to better accommodate projects with multiple purposes or projects with purposes that do not fit into any of the suggested categories.
- KM suggested that the PROJECT_DATA_QUALITY_OBJECTIVES information may be able to be incorporated into the information entered into the PROJECT_PURPOSE field, but only if PROJECT_PURPOSE was not domain limited. TM, AC, and Carol Kraft (CK) agreed.
- JS indicated that it would be possible to have a free-text field for PROJECT_PURPOSE, with instructions that tell data providers to include specific types of information. However, having this field as free-text will limit users' ability to easily search based on PROJECT_PURPOSE.

Conclusion:

Change data size to 4000. Provide guidance to data providers to enter text description containing information about the general purpose of data collection and the data quality objectives (DQOs).

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE
PROJECT_DATA_QUALITY_OBJECTIVES	Y	Conveys documented data quality objectives or provides link to where they are available.	VARCHAR2	N	250

Comments received:

- Increase data size to 4000.
- Is it necessary for this field to be required?
- Is this referencing a true DQO document or is this just to let people know whether there is a DQO available?

Discussion:

- JG indicated that DQOs are a fairly well established metadata element, per EPA guidelines. JG suggested that if the text description of the DQOs is incorporated into the purpose field, then the PROJECT_DATA_QUALITY_OBJECTIVES could be a domain limited field indicating whether or not (domain = "yes" or "no") DQOs are included in the PROJECT_PURPOSE text. AC, BT, CK, and Bob Vincent (BV) agreed.

Conclusion:

Change definition to "Conveys whether documented data quality objectives (DQOs) are available". Make this field domain limited (domain: yes, no, not reported). Change data size to 12.

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE
STATION_NAME	Y	Full name of the site or station.	VARCHAR2	N	100

Comments received:

- Increase data size to 250.

Discussion:

- JS suggested limiting the data size for STATION_NAME and STATION_ID to 50, to better accommodate the process currently used by Water Atlas staff to populate the UNIQUE_STATION_ID field. (See discussion under STATION_ID for further clarification.)

Conclusion:

Change data size to 50.

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE
STATION_ID	N	Code or identifier used as the station identifier within the data provider's internal database.	VARCHAR2	N	100

Comments received:

Increase data size to 250.

Make this a required field.

Discussion:

- BT asked for clarification on the intended definition. SS clarified that the information entered into this field is intended to represent the unique identifier that catalog users would need to know if they were to go to the data provider's website to search for data related to a specific station.
- KM and JS indicated that the information provided for STATION_ID and STATION_NAME could be identical, if the data providers internal database does not have any additional unique identifiers associated with stations.
- JS indicated that UNIQUE_STATION_ID will likely be a combination of ORGANIZATION_NAME and STATION_ID. JS suggested limiting the data size for STATION_NAME and STATION_ID to 50, to better accommodate this process.
- JS suggested making this field required to ensure that the data provider has clearly indicated what the unique identifier for each station is.
- SM suggested making an instructions document that clearly defines each element and the information that data providers are expected to enter.
- SM also asked what options will be available to enter large quantities of information quickly (e.g. importing from Excel spreadsheets). KM and JS clarified that the Water Atlas staff will work with data providers to develop a variety of data transfer and editing methods, including bulk upload features.

Conclusion:

Change element to required. Change data size to 50.

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE
STATION_DESCRIPTION	N	Description of the site or station.	VARCHAR2	N	250

Comments received:

- Increase data size to 500.
- Make this a required field.
- Can you give an example of the type of information this is envisioned to capture?

Discussion:

- KM clarified that this field is intended to capture any supplemental descriptive information about the station that the data provider would like to share. For example, if the station name is not very descriptive then this field can be used to clarify the general area or project type that the station is associated with (e.g. STATION_NAME="gtmfmwq" and STATION_DESCRIPTION="Fort Matanzas water quality station").
- BT suggested including a search feature that uses the STATION_DESCRIPTION information. The search should be case insensitive and allow wild cards.
- TM asked what the typical data size for this field is in the current Water Atlas. JS indicated that the majority of existing entries don't have STATION_DESCRIPTION information entered, and less than 1% entered more than 250 characters.

Conclusion:

Keep element as described in the straw-man proposal.

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE
STATION_URL	N	Address (URL) for a web page describing the station.	VARCHAR2	N	250

Comments received:

- Increase data size to 500.
- Make this a required field.
- What information is this envisioned to capture?

Discussion:

- KM clarified that this field is intended to capture a website that contains information specific to only the station being referenced. For example, many USGS stations have their own websites with information about the station and data collected at that station (e.g. http://waterdata.usgs.gov/nwis/inventory/?site_no=02234600&agency_cd=USGS&).
- BT, TM, and AC suggested that this field remain as described in the straw-man proposal.

Conclusion:

Keep element as described in the straw-man proposal.

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE
LATITUDE	Y	The decimal degree longitude.	FLOAT	N	12,6
LONGITUDE	Y	The decimal degree latitude.	FLOAT	N	12,6

Comments received:

- Is it necessary to require a specific format here, or can the Water Atlas perform necessary conversions?

Discussion:

- SM indicated that this format may not work well for projects that do not have fixed stations that are sampled repeatedly. TM added that transect data also do not fit this model well because they are associated with a line, not a single point.
- SM asked how projects with probabilistic sampling designs would represent the geographic location of their sampling points. GS indicated that DEP's probabilistic network would list the locations of each random sampling point visited, but then clarify that the sampling frequency is limited to a single visit. JG, JS, and SM indicated that other projects may want to enter the centroid of the polygon representing the strata from which the random sampling location is selected, and then only list the locations of each sampling point with the associated data. SS added concern that using the centroids of strata would not be very useful for statewide monitoring programs with very large strata.
- KM and SS suggested adding two fields: one field for geometry type (point, line, or polygon), and another field where the location information could be entered using a standard format. This information could be stored as three feature classes, one for each geometry type. TM and AC agreed that it may be desirable to add this capability.
- BT suggested an alternative solution - including a disclaimer that the points may not represent exact sampling locations, and in some cases represent a larger sampling unit such as a polygon or transect.
- SS suggested another alternative solution - adding a field called PROXIMITY_TO_SAMPLING_ACTIVITY to specify a qualifier for the location information entered. (e.g. "Location represents the center of a polygon from which random sampling locations are selected.")
- JS suggested increasing the data size and precision to 14,8.

Conclusion:

Change data size for both elements (used for point data) to 14,8. ***Continue discussion at next meeting. KM and SS will draft several options to discuss at the next meeting.***

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE
XY_DATUM	Y	The horizontal reference for measuring locations on the Earth's surface. Domain: CAC (Cape Canaveral), HARN (High Accuracy Reference Network), HPGN (High Precision GIS Network / High Precision Geodetic Reference), NAD27 (North American Datum of 1927), NAD83 (North American Datum of 1983), WGS84 (World Geodetic Survey of 1984)	VARCHAR2	Y	10

Comments received:

None

Discussion:

- TM asked if projection information is also needed. KM indicated that the Water Atlas staff would display all data using a common projection.

Conclusion:

Keep element as described in the straw-man proposal.

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE
LOCATION_COLLECTION_METHOD	Y	The method or mechanism used to derive the location measurements. Domain: ADDM (Address Matching), AGPS (Autonomous GPS), CALC (Calculated by GIS Software), CSUR (Cadastral Survey), DGPS (Differentially Corrected GPS), DMAP (Digital Map Interpolation), DPHO (Digital Aerial Photography With Ground Control), GGPS (Geodetic Quality GPS), LORN (LORAN-C Navigational Device), MMAP (Manual Map Interpolation), MPHO (Manual Aerial Photography With Ground Control), OTHR (A Method Not Listed) SATI (Satellite Imagery With Ground Control) WGPS (GPS with Wide-Area Augmentation Service Correction) UNKN (Unknown Method) ZIP2 (ZIP Code + 2 Segment Centroid) ZIP4 (ZIP Code + 4 Segment Centroid) ZIPC (Zip Code Centroid)	VARCHAR2	Y	4

Comments received:

None

Discussion:

- BT asked what the source for this list was. SS indicated that it was from the DEP GIS Location Data Standard document. BT suggested expanding the domain to include additional options from the USGS list found at http://nwis.waterdata.usgs.gov/usa/nwis/help?codes_help#coord_meth_cd.

Conclusion:

Expand domain to include other options from USGS list.

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE
LOCATION_DESCRIPTION	N	Additional location description information	VARCHAR2	N	250

Comments received:

- Increase data size to 500.
- This element is a low priority.

Discussion:

- SM asked for clarification on the difference between STATION_DESCRIPTION and LOCATION_DESCRIPTION. SS indicated that the intent of both fields is just to give the data providers the option to include any additional information that they want to share.
- BT and AC indicated that the information that would be entered in STATION_DESCRIPTION and LOCATION_DESCRIPTION would be identical, so there is no need to include this field if STATION_DESCRIPTION has already been included.

Conclusion:

Do not include this element.

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE
COUNTY	Y	The name of the FL county station is located in.	VARCHAR2	Y	100

Comments received:

- New element (not included in original straw-man proposal).

Discussion:

- SS asked if this is information that the data providers want to provide, or if this should be left for the Water Atlas staff to populate using the location information provided.
- KM and BT indicated that several situations may make it difficult for the Water Atlas staff to identify the correct corresponding county (e.g. stations that are in the middle of a river that borders two counties, or stations that represent a polygon that spans multiple counties).
- JS, JG, and SM suggested that this field not be required to allow for inclusion of stations that are outside state waters (e.g. in the Gulf of Mexico). SS suggested keeping this field required, and adding “Not Applicable” to the domain.

Conclusion:

Change data size to 50. Expand domain to include “Not Applicable.”

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE
DRAINAGE_BASIN	Y	The name of the 8-digit USGS HUC station is located in.	VARCHAR2	Y	8

Comments received:

- New element (not included in original straw-man proposal).

Discussion:

- JS, JG, and SM suggested that this field not be required to allow for inclusion of stations that are outside the boundaries of the USGS HUCs (e.g. in the Gulf of Mexico). SS suggested keeping this field required, and adding “Not Applicable” to the domain.
- JS suggested allowing Water Atlas staff to populate this information using spatial analysis based on the location information provided.

Conclusion:

Make this a field that the Water Atlas staff populate using spatial analysis. Change definition to “The name of the 8-digit USGS HUC that the station is located in”.

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE
WATERBODY_NAME	N	The name of the waterbody station is located in.	VARCHAR2	N	100

Comments received:

- Increase data size to 250.
- Make this a required element.
- Change name to "WATER_RESOURCE_NAME".
- For groundwater wells, indicate aquifer or aquifer system.
- Are there a list of acceptable standardized waterbody names that should be used here? If well is listed in WATERBODY_TYPE, then where would one populate the aquifer the well taps? Should there be another column that is for groundwater such as "Hydrology of Open Interval"?

Discussion:

- JS suggested keeping the data size smaller because the largest WATER_RESOURCE_NAME currently in the Water Atlas is only 45 characters long.
- KM asked how the Water Atlas identifies the water body associated with groundwater wells. JG indicated that they do not currently identify the aquifer that the well is in, and indicated that the group will need to agree on a system to use for groundwater wells. KM suggested developing a straw-man proposal for the information desired for groundwater wells. BV volunteered to help develop the straw-man.
- JG and JS indicated that the WATER_RESOURCE_NAME will be populated by the Water Atlas staff using spatial analysis, but asked that data providers enter information for WATER_RESOURCE_NAME to assist with quality assurance for the spatial analysis and to provide guidance for sites such as meteorological stations that may not have a water resource associated with them.
- SM suggested providing guidance or a domain to clarify which name should be used in situations where the water resource has several names. JG indicated that the Water Atlas currently lists all known alternative names for a water body.

Conclusion:

Change name to WATER_RESOURCE_NAME. Change element to required. Change definition to "The name of the waterbody that the station in located in." ***Continue discussion of groundwater resources at next meeting. BV, KM, and SS will draft a straw-man proposal for groundwater well information to discuss at the next meeting.***

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE
WATERBODY_TYPE	Y	The type of waterbody station is located in. Domain: River / Stream Canal Lake Wetland Reservoir Riverine Impoundment Estuary Tidal Fresh Tidal Brackish Ocean Bay Well Spring	VARCHAR2	Y	25

Comments received:

- Change name to "STATION_TYPE"
- Change definition to "The type of station that data collection occurs at / in."

- Expand domain to include full list from USGS (http://help.waterdata.usgs.gov/site_tp_cd).

Discussion:

- JG suggested including some (but not all) of the resources from the USGS list of STATION_TYPES because many do not occur in FL.
- JG and JS also suggested expanding the domain to include “not applicable” and “other” because approximately one third of the data currently in the Water Atlas does not have this information entered.
- SM suggested including clear definitions of each option in the domain. SS indicated that all options included in domains will be defined in the database / application documentation.

Conclusion:

- Change name to STATION_TYPE. Change definition to “The type of station that data collection occurs at / in.” Expand domain to include several additional options from the USGS STATION_TYPES list, “Not Applicable”, and “Other”. ***KM and SS will draft a list of options to include in the domain for discussion at the next meeting.***

METADATA ELEMENT NAME	REQUIRED (Y/N)	DEFINITION	DATA TYPE	DOMAIN LIMITED (Y/N)	DATA SIZE
START_DATE	Y	Date monitoring activity started at the station.	DATE	N	
END_DATE	N	Date the monitoring activity ended or is anticipated to end at the station (use 99/99/9999 for ongoing monitoring with no anticipated end date).	DATE	N	

Comments received:

- Is it necessary for this to be a required field?
- Is the monitoring activity related to the start date of the data collection in relation to the project or the start date of data collection in relation to the site itself?

Discussion:

- SM indicated that defining the expectations for this element, and several other upcoming elements, is important because this information can vary by project, station, or parameter.
- KM suggested grouping this type of information at the project level instead of the station level, to reduce the effort required from data providers for data entry and maintenance.
- BT indicated that SFWMD would be able to provide START_DATE information at the project, station, or parameter level. ***The group will need to decide what level of detail (project, station, parameter) is desired for the Catalog's inventory of these metadata elements.***
- SM clarified that it would be easy to enter the START_DATE for any activity at a station, but the situation becomes complicated as monitoring stops and starts again or if parameters are removed or added over time. Additionally, some parameters may be monitored at different frequencies than others at the same station.
- KM asked if data providers or Water Atlas staff would be able to use their existing data to derive some of these metadata elements (START_DATE, END_DATE, SAMPLING_FREQUENCY, PARAMETERS, etc.). BT indicated that some of the elements, like START_DATE could be derived, but others, like SAMPLING_FREQUENCY, are not easily calculated and require knowledge of the project design.
- BT and JG suggested adding a disclaimer that clearly defines the information included in each element, and then referring the users to the DATA_URL or data provider contact information to address some of the issues mentioned above. SM added concern that the suggested solution will result in limiting the information available to users through the Catalog.

Conclusion:

Continue discussion at next meeting.

Next Meeting

KM suggested that the workgroup meet again via webinar during the first week of December to continue discussion of the remaining elements from the straw-man proposal and address the outstanding issues mentioned above.