



Massachusetts Military Reservation- Environmental Data Management System

Environmental Technology Symposium and Workshop
March 27, 2003

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**US Army Corps
of Engineers®**

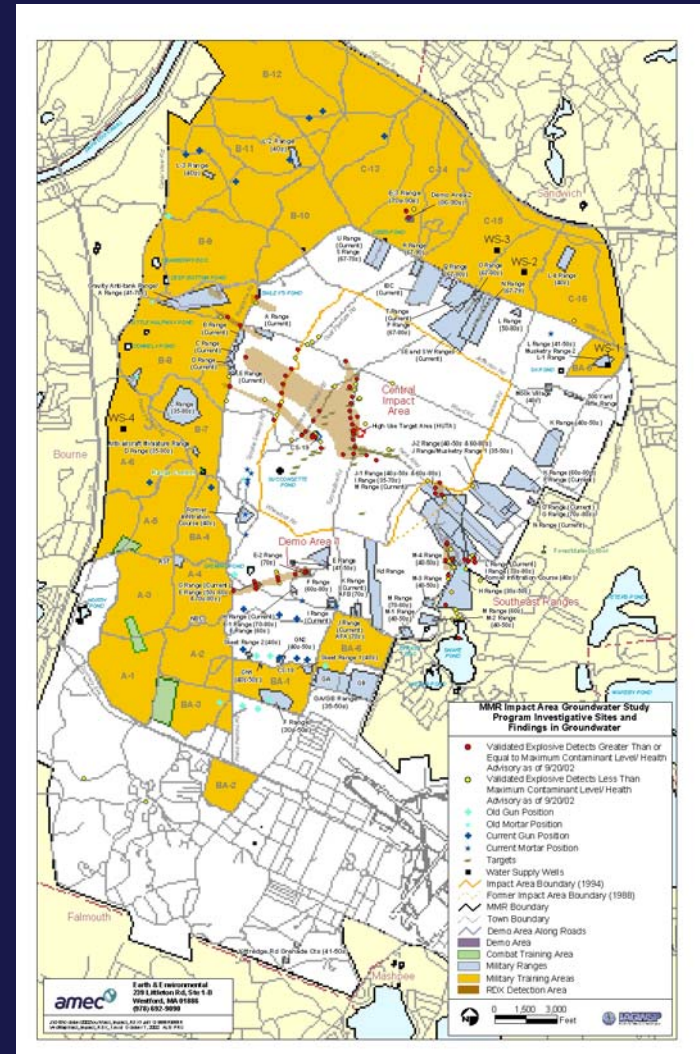
Technology Tools

Technology tools allow us to:

- enhance our work product
- present/ analyze data more effectively
- provide controlled access to information
- reach a greater audience
- work smarter and faster

MMR Program Overview

- Massachusetts Military Reservation (MMR) Impact Area Groundwater Study Program (IAGWSP)
- MMR IAGWSP started in 1997 to assess and cleanup impacts of military training at Camp Edwards
- Ongoing work at MMR includes: site investigation, rapid response actions, remediation, and unexploded ordnance (UXO) removal



Broad List of Stakeholders

- **Public**
- **Impact Area Review Team**
- **EPA-** Environmental Protection Agency
- **MADEP-** Massachusetts Department of Environmental Protection
- **Contractors** (AMEC, ECC, Jacobs, Tetra Tech)
- **USACE-** United States Army Corps of Engineers
- **MAARNG-** Massachusetts Army National Guard
- **NGB-** National Guard Bureau

Extensive Dataset

Various data types: chemical, geologic, geographic, spatial, and unexploded ordnance (UXO) discovery.

Scale:

- Tabular data from multiple contractors in excess of 3 million records.
- Geographical Information System (GIS) layers total over 1000.

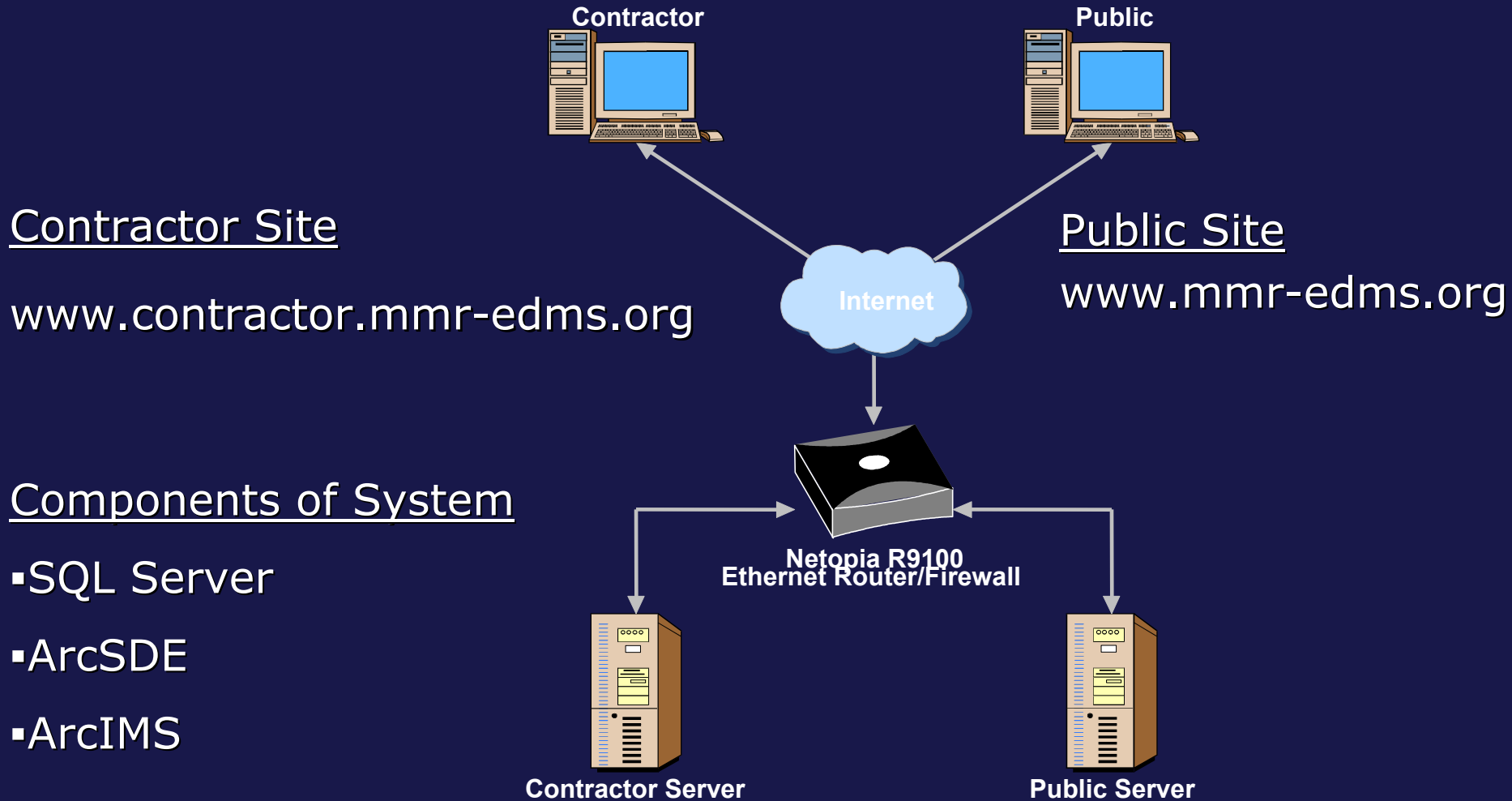


Web-based EDMS

Environmental Data Management System (EDMS)

- **Interactive Mapping:** “clickable” GIS map layers to evaluate contaminant sources, particle tracks, plumes, and chemical data results
- **Data Query:** query or view data, download reports
- **Data Exchange:** Upload, share, download spatial data layers and tabular data
- **Enterprise Level System:** Efficient, scalable infrastructure to store and access data
- **Quality Data:** Contractor maintains ownership of its own data

MMR-EDMS System Configuration



Massachusetts
Military Reservation

Environmental Data Management System



Figure & Table
Downloads



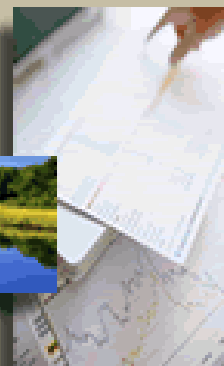
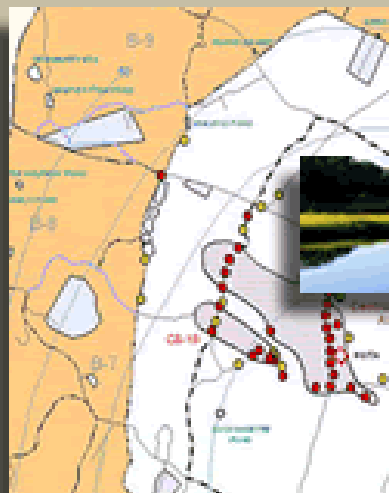
Data Format
Standards



View Map



Query
Database





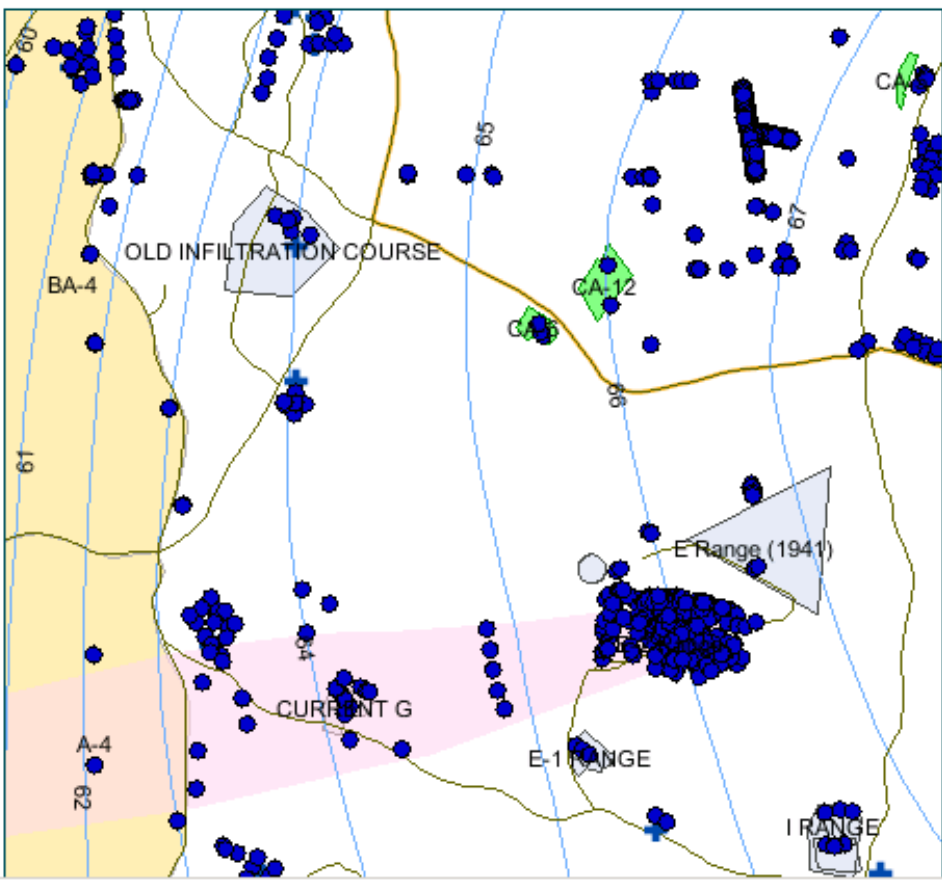
EDMS Data Administration

Massachusetts
Military Reservation

- SAMPLE DATA
- GIS DATA
- VIEW MAP
- REQUEST LOCID
- CUSTOM QUERY
- MY PROFILE
- SITE MAP
- HELP
- LOGOUT

Home > View Map

View Map



Visible Layers	
<input type="checkbox"/>	1997 Aerial Photos
<input checked="" type="checkbox"/>	+ Gun and Mortar Positions
<input type="checkbox"/>	Target Locations
<input checked="" type="checkbox"/>	Groundwater Contours
<input type="checkbox"/>	MMR Model 9 Particle Tracks (AMEC)
<input type="checkbox"/>	J-Range Model 8 Particle Tracks (AMEC)
<input type="checkbox"/>	High Use Target Areas (HUTA)
<input type="checkbox"/>	J-Range RDX Detection Area (AMEC - 5/22/02)
<input type="checkbox"/>	J-Range Perchlorate Detection Area (AMEC - 5/21/02)
<input type="checkbox"/>	J-Range HMX Detection Area (AMEC - 4/23/02)
<input type="checkbox"/>	Demo Area 1 RDX Detection Area (AMEC - 9/23/02)
<input checked="" type="checkbox"/>	Demo Area 1 Perchlorate Detection Area (AMEC - 9/23/02)
<input type="checkbox"/>	Central Impact Area RDX Detection Area (AMEC - 8/20/02)



SAMPLE DATA	GIS DATA	VIEW MAP	REQUEST LOCID	CUSTOM QUERY	MY PROFILE	SITE MAP
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[Home](#) > [Sample Data](#) > Search Chemical Data

Search Chemical Data

In this section you can search through Chemical data that has been added to the database.

LOCID	<input type="text"/>
LOCID Alias	<input type="text"/>
Contractor	<input type="text" value="AMEC EARTH & ENVIRONMENTAL, WESTFORD, MA"/>
Sample Type	<input type="text" value="Groundwater"/>
Sample Date	from: <input type="text"/> <input type="text"/> <input type="text"/> to: <input type="text"/> <input type="text"/> <input type="text"/>
Analyte Category	<input type="text" value="Non-Metallic Inorganic Species"/>
Analysis Method	<input type="text" value="No Selection"/>
Parameter (Analyte)	<input type="text" value="PERCHLORATE"/> <input checked="" type="radio"/> Detects only <input type="radio"/> Detects and non-detects <input checked="" type="radio"/> Validated data only <input type="radio"/> Unvalidated and validated data

Chemical Data Search Results

Your query has produced **more than 500** matching records.

The following list is the results from your query. Select the LOCID for a Sample Data Summary Report.

Page: [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [8](#) [9](#) [10](#)

Click the "Download Records" button to download the complete set of records in XML format.

LOCID	Sample Date	Sample Type	Begin Depth	End Depth	Sample Code	Sample No.	Parameter	Value	Units
00-1	24-Oct-2002	Groundwater	64	70	Normal Environmental Sample	2	PERCHLORATE	0.43	UG/L
00-4	15-Jun-2002	Groundwater	64	70	Normal Environmental Sample	2	PERCHLORATE	0.459	UG/L
00-4D	11-May-2002	Groundwater	0	0	Normal Environmental Sample	2	PERCHLORATE	0.4	UG/L
00-7	05-Apr-2002	Groundwater	57	63	Normal Environmental Sample	2	PERCHLORATE	0.54	UG/L
01-2	25-Mar-2002	Groundwater	50	56	Field Duplicate	2	PERCHLORATE	0.364	UG/L
01-2	12-Apr-2002	Groundwater	50	56	Normal Environmental Sample	2	PERCHLORATE	0.523	UG/L
1-88A	21-Mar-2002	Groundwater	102.9	102.9	Normal Environmental Sample	2	PERCHLORATE	0.388	UG/L
1-88A	13-Apr-2002	Groundwater	102.9	102.9	Normal Environmental Sample	2	PERCHLORATE	0.398	UG/L
1-88A	12-May-2002	Groundwater	102.9	102.9	Normal Environmental Sample	2	PERCHLORATE	0.5	UG/L
1-88B	15-Jun-2002	Groundwater	105.5	105.5	Normal Environmental Sample	2	PERCHLORATE	0.439	UG/L
4036000-03G	20-Mar-2002	Groundwater	50	60	Normal Environmental Sample	2	PERCHLORATE	0.498	UG/L
4036000-03G	27-Mar-2002	Groundwater	50	60	Normal Environmental Sample	2	PERCHLORATE	0.408	UG/L
4036000-03G	13-Jun-2002	Groundwater	50	60	Normal Environmental Sample	2	PERCHLORATE	0.373	UG/L
4036000-03G	14-Aug-2002	Groundwater	50	60	Normal Environmental Sample	1	PERCHLORATE	0.41	UG/L
4036000-03G	22-Oct-2002	Groundwater	50	60	Normal Environmental Sample	1	PERCHLORATE	0.47	UG/L
4036000-03G	29-Oct-2002	Groundwater	50	60	Normal Environmental Sample	1	PERCHLORATE	0.59	UG/L
4036000-03G	04-Dec-2002	Groundwater	50	60	Normal Environmental Sample	1	PERCHLORATE	0.37	UG/L
4036000-04G	13-Mar-2002	Groundwater	54.6	64.6	Normal Environmental Sample	2	PERCHLORATE	0.479	UG/L



EDMS Data Administration

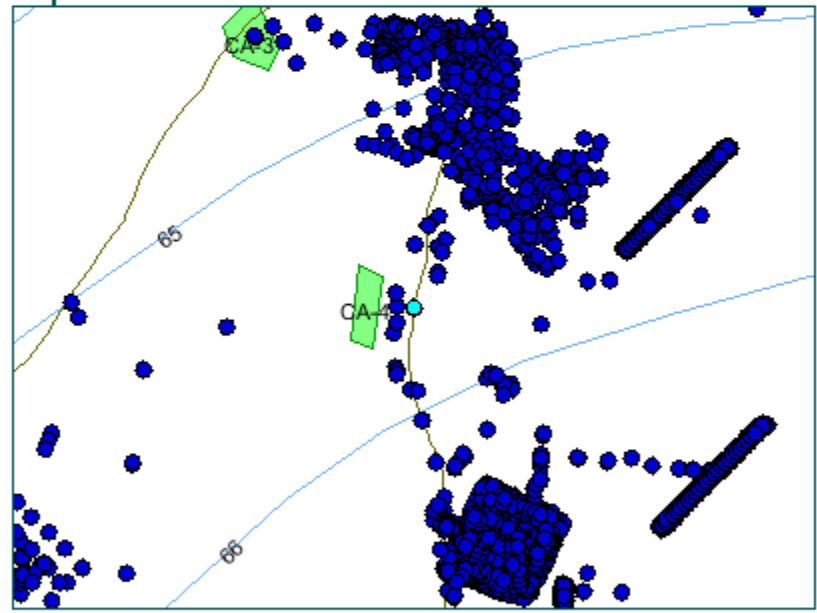
- SAMPLE DATA
- GIS DATA
- VIEW MAP
- REQUEST LOCID
- CUSTOM QUERY

- MY PROFILE
- SIT

Home > Sample Data > Sample Data Summary Report

Sample Data Summary Report (LOCID WL100M1)

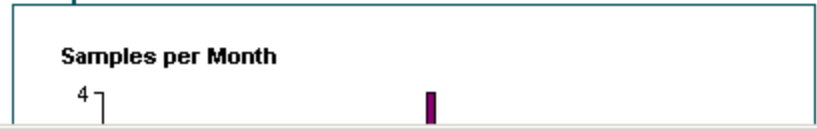
Map Location



LOCID	WL100M1
Type	Well
X Coord (Easting)	372017.34
Y Coord (Northing)	4619302.67

- Sample Location (LOCID)
- LOCID WL100M1

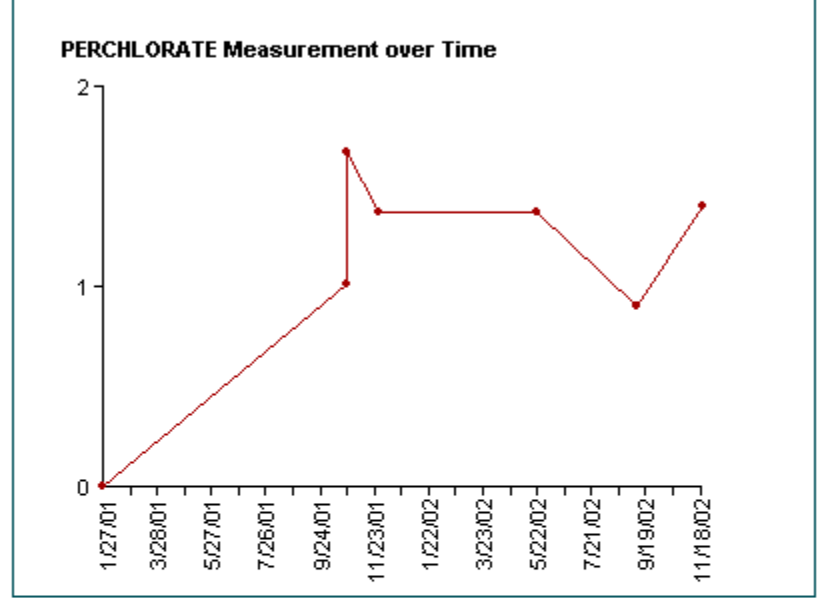
Samples Per Month Chart



Parameter: (All Parameters) [v]

Chart dates: From: [] [] [] To: [] [] []

Parameter Result/Date Chart



Parameter: **PERCHLORATE**

Chart dates: From: [] [] [] [] [] []
 To: [] [] [] [] [] []
 - OR -
 All dates

<< Update Chart

Sample Data

Sample Date	Sample Type	Begin Depth	End Depth	Sample Code	Sample No.	Parameter	Value	Units	Qualifier	EP
27-Jan-2001	Groundwater	179	189	Normal Environmental Sample	2	PERCHLORATE	0	UG/L	ND	
23-Oct-2001	Groundwater	179	189	Field Duplicate	1	PERCHLORATE	1.01	UG/L	TR	
23-Oct-2001	Groundwater	179	189	Normal Environmental Sample	1	PERCHLORATE	1.67	UG/L	TR	
27-Nov-2001	Groundwater	179	189	Normal Environmental Sample	2	PERCHLORATE	1.37	UG/L	TR	
21-May-2002	Groundwater	179	189	Normal Environmental Sample	2	PERCHLORATE	1.37	UG/L	EQ	
10-Sep-2002	Groundwater	179	189	Normal Environmental Sample	2	PERCHLORATE	0.9	UG/L	TR	
21-Nov-2002	Groundwater	179	189	Normal Environmental Sample	2	PERCHLORATE	1.4	UG/L	EQ	

Benefits of a Web-based Solution

- **Accommodate diverse data needs:** general information for public to raw data for Contractors
- **Defined levels of security:** open access to general information to secured access for data exchange
- **Empower Stakeholders:** work directly with the data
- **Centralize information:** ease of use, consistency among Contractors, data archive
- **Minimal O&M:** Contractors maintain data on the web site
- **Retain value of the data:** dataset fully referenced, standardized



Contact Information

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