NAVFAC Environmental Data

Transforming the Navy Environmental Data Management Program

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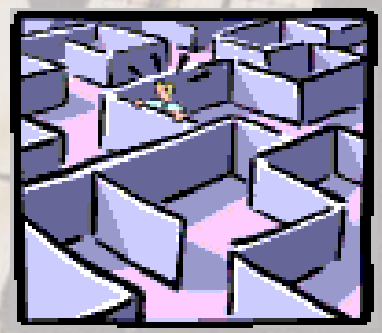
Background

- NAVFAC manages environmental remediation projects
- Increasing number and types of contracts
- Annual budget of $200-$500 million
- Data management becoming more complex
- Problems with “missing” data

The Past…

- IR data stored in numerous locations
- Variable and/or incompatible data formats
- Costly to insure data integrity
- Difficult to access data



How to meet the challenges of modern business?

The Vision…

Develop standards, design and implement a system to:

- Maintain data integrity
- Allow ready access to and sharing of data
- Facilitate effective data analysis
- Enable better, faster decision-making

More Intelligent Data = Better Decisions

NAVFAC Adopted the Spatial Data Standards (SDS)

- National Standard developed by USACE CADD/GIS Technology Center
  - NCITS 353 - affiliate of ANSI
- Executive Order 12906
- NAVFAC Interim Policy Guidance

National Standard for Spatial Data

NIMA

SDS Background

- Nonproprietary data standard
- Expanded/Updated annually
- Designed for use with GIS and RDBMS
- Used throughout DoD

Enables effective data management & sharing

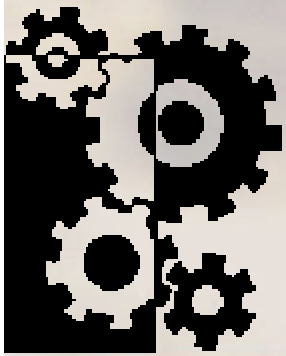
Step One: Design an SDS-Compliant Navy Environmental IR Database

- Analytical testing, location, field measurement, data validation, toxicity, EPA regulations, etc.
- Eventually: Real-time data uploads from hand-held instruments in the field

Designed with the future in mind

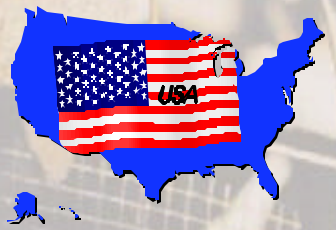
Began with a Prototype…

- Learned SDS ‘ways’ and objects
- Mapped historical data to SDS
- Conducted internal & external reviews
- Coordinated with CADD/GIS Tech Center
- Designed and implemented SDS database at a regional level



The concepts were tested and proven

…And Expanded to a National System



- Incorporated required elements for all NAVFAC regions
- Built in flexibility to accommodate variations in business practices
- Used our common environmental/IR “language”

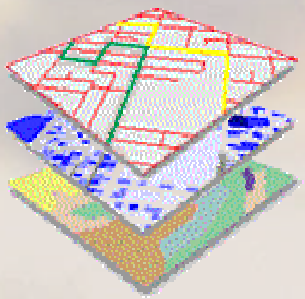
Step Two: Develop and Implement Internet Tools

- Assure 24/7 data access and management
- Focus on spatial implementation (GIS-enabled)
- Leverage readily-available, off-the-shelf products
- Develop and distribute tools throughout NAVFAC

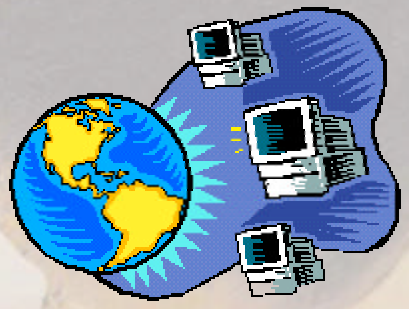
Built-In Data Dependency

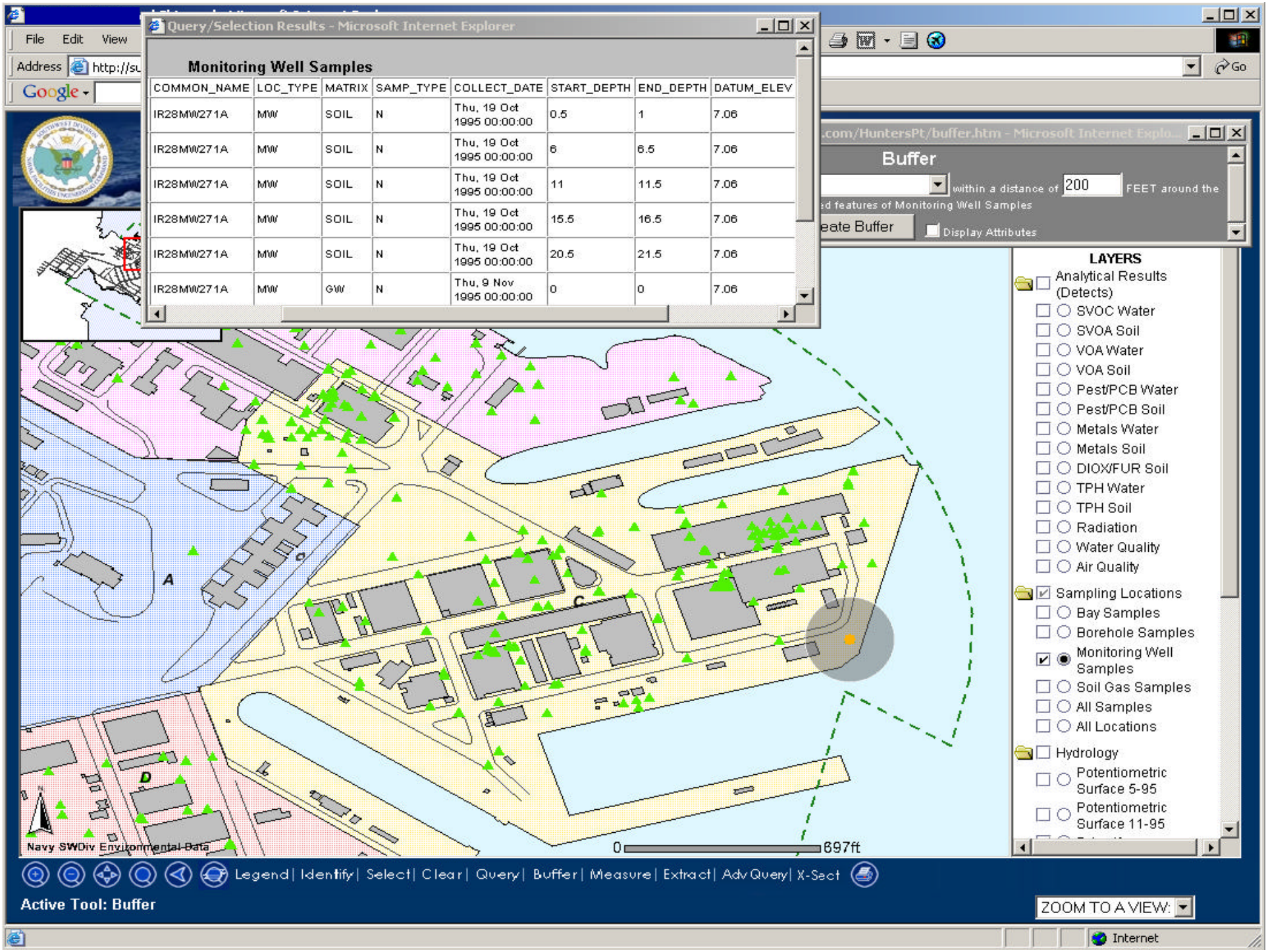
Internet GIS Tools are the Hub

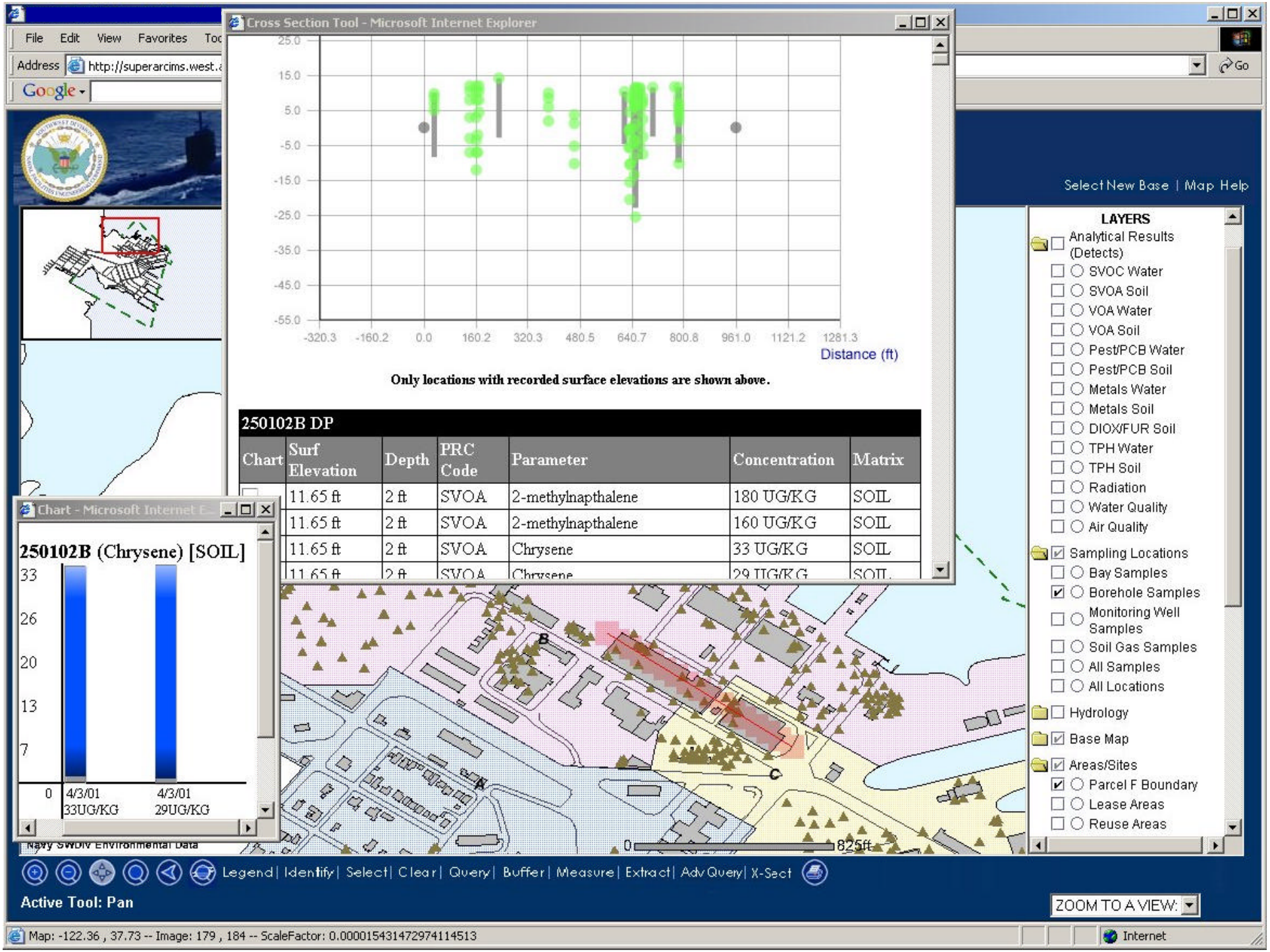
- Create a user-friendly interface (no need for intensive training)
- Build on skills and knowledge that users already possess
- Provide spatial data to users via internet browser



"Visualize your data"




Query/Selection Results - Microsoft Internet Explorer
Monitoring Well Samples
COMMON_NAME | LOC_TYPE | MATRIX | SAMP_TYPE | COLLECT_DATE | START_DEPTH | END_DEPTH | DATUM_ELEV
IR28MW271A | MW | SOIL | N | Thu, 19 Oct 1995 00:00:00 | 0.5 | 1 | 7.06
IR28MW271A | MW | SOIL | N | Thu, 19 Oct 1995 00:00:00 | 6 | 6.5 | 7.06
IR28MW271A | MW | SOIL | N | Thu, 19 Oct 1995 00:00:00 | 11 | 11.5 | 7.06
IR28MW271A | MW | SOIL | N | Thu, 19 Oct 1995 00:00:00 | 15.5 | 16.5 | 7.06
IR28MW271A | MW | SOIL | N | Thu, 19 Oct 1995 00:00:00 | 20.5 | 21.5 | 7.06
IR28MW271A | MW | GW | N | Thu, 9 Nov 1995 00:00:00 | 0 | 0 | 7.06
Buffer
within a distance of 200 FEET around the
Display Attributes
LAYERS
Analytical Results (Detects)
SVOC Water
SVOA Soil
VOA Water
VOA Soil
Pest/PCB Water
Pest/PCB Soil
Metals Water
Metals Soil
DIOX/FUR Soil
TPH Water
TPH Soil
Radiation
Water Quality
Air Quality
Sampling Locations
Bay Samples
Borehole Samples
Monitoring Well Samples
Soil Gas Samples
All Samples
All Locations
Hydrology
Potentiometric Surface 5-95
Potentiometric Surface 11-95
Navy SWDiv Environmental Data
0
697ft
Legend | Identify | Select | Clear | Query | Buffer | Measure | Extract | Adv Query | X-Sect
Active Tool: Buffer
ZOOM TO A VIEW:
Internet


Cross Section Tool - Microsoft Internet Explorer
25.0
15.0
5.0
-5.0
-15.0
-25.0
-35.0
-45.0
-55.0
-320.3
-160.2
0.0
160.2
320.3
480.5
640.7
800.8
961.0
1121.2
1281.3
Distance (ft)
Only locations with recorded surface elevations are shown above.
250102B DP
Chart
Surf Elevation
Depth
PRC Code
Parameter
Concentration
Matrix
11.65 ft
2 ft
SVOA
2-methylnapthalene
180 UG/KG
SOIL
11.65 ft
2 ft
SVOA
2-methylnapthalene
160 UG/KG
SOIL
11.65 ft
2 ft
SVOA
Chrysene
33 UG/KG
SOIL
Chart - Microsoft Internet E...
250102B (Chrysene) [SOIL]
33
26
20
13
7
0
4/3/01
33UG/KG
4/3/01
29UG/KG
Navy SWDIV Environmental Data
Select New Base | Map Help
LAYERS
Analytical Results (Detects)
SVOC Water
SVOA Soil
VOA Water
VOA Soil
Pest/PCB Water
Pest/PCB Soil
Metals Water
Metals Soil
DIOX/FUR Soil
TPH Water
TPH Soil
Radiation
Water Quality
Air Quality
Sampling Locations
Bay Samples
Borehole Samples
Monitoring Well Samples
Soil Gas Samples
All Samples
All Locations
Hydrology
Base Map
Areas/Sites
Parcel F Boundary
Lease Areas
Reuse Areas
0
825ft
Legend | Identify | Select | Clear | Query | Buffer | Measure | Extract | Adv Query | X-Sect
Active Tool: Pan
ZOOM TO A VIEW:
Map: -122.36 , 37.73 -- Image: 179 , 184 -- ScaleFactor: 0.00001543147297411 4513
Internet

Step Three: Provide Internet Interface to Data Management

- View on-line documentation and Division-specific instructions
- Submit proposed updates or additions to the database
- Administer and track database changes
- Access NAVFAC Electronic Data Deliverable (NEDD) specifications

The next deployment phase

EDD Web Site - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Search Favorites History Links

Address http://

EDD

INFORMATION

DIVISION INSTRUCTIONS

LOG IN

EDD FORMAT

- BIOLOGICAL
- CHEMISTRY
- FIELD
- GEOLOGY
- HYDROLOGY
- LOCATION
- COMMON
- SAMPLE
- SUBMITTAL

ELECTRONIC DATA DELIVERABLE

UNITED STATES NAVY — NAVAL FACILITIES ENGINEERING COMMAND

The EDD format specifies the interfa
Environmental Installation Restoration
(NEIRDS). This site allows viewing of th
as new r

Customize viewing:

Subtype: Altitude Datum

Division: EFA Northwest

Retrieve Data

Enter data to request a change:

Record type: ALT-DAT_D

Action: Add

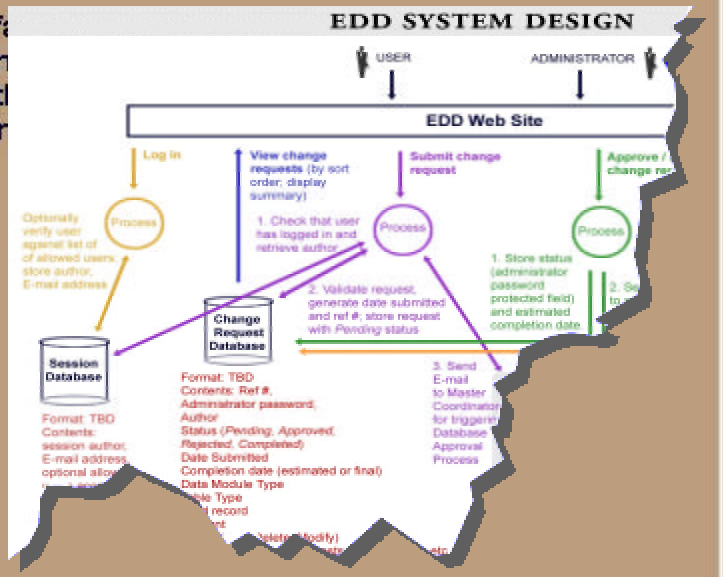
New definition (for add, modify)

Submit Change Request

NEIRDS Version #: 2.0.7

Altitude Datum Domains
The surface of reference from which altitudes are measured.

ALT_DAT_D	DEFINITION
ALWP	Average Low Water Plane
LWRP	Low Water Reference Plane 1974
MHW	Mean High Water
MLG	Mean Low Gulf
MLLW	Mean Lower Low Water
MSL	Mean Sea Level
NAVD_88	North American Vertical Datum of 1988
NAVD_29	National Geodetic Vertical Datum of 1929



http://pluto.palomar.edu/lucore471/edd/navigation.htm#

Internet

The Brave New World

- Data administered by the Navy
- Contractors concentrate on higher-value tasks
- Data access is improved – Real Time
- Decision-making is expedited
- Data management costs significantly reduced

Modernizing the Navy's business practices

Transforming the Navy Environmental Data Management Program

Questions?