

NSDSS Implementation Guide

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1. About This Document

This chapter provides a general overview of this document and contains the following major sub-sections:

- Document Purpose
- Document Audience
- Using this Document
- References

2. Document Purpose

This document serves as the Reference guide for the NSDSS Web Services Prototype. It explains how to operate and use the NSDSS Web Services (NSDSS WS) after it has been installed and pre-configured. In particular, the document focuses on how to access NSDSS Web Services and perform tasks such as:

- Data Permissions
- Operations and Maintenance
- Exception Handling

In summary, this document is intended to serve the following purposes:

- Give you a general overview of the NSDSS Web Services.
- Explain how to operate and administer NSDSS WS.

3. Document Audience

3.1. Pre-Requisites

The following knowledge, skills, and experience are recommended before reading this document:

- Working knowledge of the installation facility's network topology and the interconnections between the facility's components and target client network topology.
- Working knowledge of how to perform administration on Windows Server 2008.
- Working knowledge of how to perform administration on IIS.
- Basic proficiency in using one of the following web browsers:
 - Microsoft® Windows® Internet Explorer® 7 (or up)
 - Mozilla Firefox™ 2.0 (or up)

3.2. Out-of-Scope Content

The following topics are not covered by this document but may be available in other referenced documents (see references):

- Functional specifications
- Installation instructions
- Configuration instructions
- Application programming interface (API) descriptions
- Any other out-of-scope content is not covered by any part of the NSDSS documentation suite.

3.3. Optional Content

File listing are provided which represent the state at release time of some of the configuration and data files. These may not be representative of the state of those files at the time this document is being consumed.



Referred to later in this document is CUAHSI ODM content that is included in the release package in the “ODM Documentation” subfolder and is included in the package solely for convenience. The contents of this folder are not part of the NSDSS Web Services.

4. Using This Document

4.1. Document Structure

This document is divided into the following chapters:

4.2. Typographical Conventions

The following sections describe the typographical conventions used in this document.

4.2.1. Formatting Styles

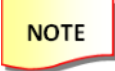

Formatting Description	Element or Information Type
Arial	Field names (Includes drop-down lists, check boxes, radial buttons, and other lists and selections)
	API method or operation names
ARIAL SMALL CAPS	Keystrokes

<i>Calibri Bold Italics</i>	References to other documents or source material
	Screen, window, pop-up, and tab names. (First letter capitalized)
<u><i>Calibri Bold + Italics + Underline, Blue</i></u>	Cross-references (links) to other headings or sections in this document
<i>Calibri Italics</i>	Emphasis to a block of text
Courier New	Code samples (Such as scripts, file formats, XML data, and so on)
	Directory paths
	Filenames
Courier New Bold < <i>Courier New Bold Italics</i> >	Input (text) that the user must enter (Variables are expressed in italics surrounded by angle brackets <>)

4.2.2. Special Icons

The following special icons are used in this document to alert the reader to important pieces of information:

Icon	Description
------	-------------

	<p>Note: Extra or supplementary information that needs to be emphasized to the reader. Can provide further context, instructions, or understanding.</p>
	<p>Tip: Useful tips or pointers that can help the reader while they are using the prototype or this document.</p>

4.3. References

The latest versions of the following documents should be used in conjunction with this NSDSS WS Reference guide. They provide other useful, supplementary information about the prototype.

Reference	Description
<i>NSDSS Database Guide</i>	Documentation for the database models used for the implementation of NSDSS Web Services (ODM documentation not included)
<i>NSDSS Interface Specifications</i>	Specification documentation for the NSDSS Web Services APIs
<i>Getting Started With ODM</i>	Obtainable from CUAHSI and included in release package (file <code>GettingStartedWithODM.pdf</code>)
<i>ODM Web Service 1.0 install package</i>	Obtainable from CUAHSI and included in release package (file <code>GenericWSSetup_20090115.zip</code>)
<i>ODM Web Service 1.1 install package</i>	Obtainable from CUAHSI and included in release package (file <code>GenericODWS-1-1_Release.zip</code>)
<i>ODM Blank SQL Server Schema</i>	Obtainable from CUAHSI and included in release package (file <code>ODM1.1BlankSQLServerSchema.zip</code>)
<i>ODM 1.1 Schema Diagram</i>	Obtainable from CUAHSI and included in release package (file <code>ODM1_1SchemaDiagram_md.jpg</code>)
<i>HIS document 4 Configuring web</i>	Obtainable from CUAHSI and included in

<i>services for an observations database (version 1.0)</i>	release package (file HISDoc4_ConfigureWebServices.pdf)
<i>ODM 1.1 Design Specifications</i>	Obtainable from CUAHSI and included in release package (file ODM1.1DesignSpecifications.pdf)

5. System Configuration

The current NSDSS Server is implemented as a single VMWare image with storage connected to a SAN storage frame located at University of Alaska at Fairbanks. The parameters for that server's configuration are as follows:

Operating System	Windows Server 2008 R2 Standard
Processor	Virtual, single CPU provisioned, configured as Xeon 5405 @ 2.00 Ghz
Memory	6.00 GB
System Type	64-bit operating system
Hostname (FQDN)	Nsdss.ine.uaf.edu
Hostname (NETBIOS)	NSDSS
Workgroup	INE
Configured Windows Roles	Active Directory Lightweight Server (ADAM) Internet Information Server (IIS 7)
Additional Software	SQL Server 2008 (Database and Tools) CUAHSI HIS Server (1.1) freeSSHd Softerra LDAP Browser 2.6 Notepad++

	SSH Secure Shell Symantec Endpoint Protection VMWare

Specific Firewall Rules are configured for the operation of the NSDSS Services. These include:

Name	Criteria	Remote Addresses	Local Port	Remote Port
8080 Test Rule	Local Port	All	8080	Any
NSDSS – SQL Server default	1433	(development hosts only)	Any	Any
NSDSS SQL Server Debug 1	Local Port	(development hosts only)	135	Any
NSDSS SQL Server Debug 2	Program MSSQL\Binn\sqlservr.exe	(development hosts only)	Any	Any
SFTP Daemon	Program freeSSHd\FreeSSHService.exe	Any	Any	Any

6. Active Services

These services are the installed and configured services on the NSDSS Server.

`\${SERVER}` is current configured as 'nsdss.ine.uaf.edu'

`\${PORT}` is current configured as '8080'.

All services must be configured as Applications and not Virtual Directories.

6.1. General Web.Config Settings for all Services

6.1.1. Microsoft Test Interface

The following section is inserted in all web.config files in order to enable the IIS to display the test interface for web service calls that is accessible from a browser. If this section is removed, the APIs in the service can be only be called programmatically:

```
<webServices>
  <!--
  This section allows for remote use of the Test web service pages.
  -->
  <protocols>
    <add name="HttpGet"/>
    <add name="HttpPost"/>
  </protocols>
</webServices>
```

6.2. NS_CatalogService

6.2.1. Service Parameters:

Name	NS_CatalogService
Base Web Service	NSDSS Catalog Service
Endpoint	http://\${SERVER}:\${PORT}/NS_CatalogService/NS_CatalogService.asmx
Physical Path	C:\NSAPP\NSCS
Application Pool	Classic .NET AppPool

6.2.2. Web Config

Configuration points:

6.2.2.1. *appSettings Section*

`AuthADAMDN` contains the Distinguished Name for the ADAM (ADLS Store) containing the User, Group and Roles Objects for the NSDSS Service.

`AuthADAMServer` contains the IP Address or FQDN for the server hosting the ADAM Server Role.

AuthADAMPort contains the port number for the ADAM Server instance.



The Auth parameters could be configured to be different for different services to add granularity to API security. It is, however, recommended that they all point to the same store unless this level of security is required as administration of AAA could become quite complex if this granularity is implemented.

LogConfigFile contains the full pathname for the configuration file for log4net.

LogName is currently not used, can contain any value.

6.2.2.2. *connectionStrings Section*

NSCATConnectionString is set to the read only database user `webclient` (used for standard querying operations on the metadatabase)

NSCATConnectionString1 is set to the modify capable user `nscatmaster` (used for operations on the controlled values tables on the metadatabase)

NSCATConnectionString2 is set to the dba user `sa` (only used in development testing)

6.2.2.3. *NS_CatalogService.My.MySettings Section*

NS_CatalogService_ndu_GetWSService is set to the primary NetCDF Service endpoint for the metadatabase.

NS_CatalogService_ndu_UAFObservations_WaterOneFlow is set to the primary ODM Service endpoint for the metadatabase.

6.2.2.4. *Listing*

```
<?xml version="1.0"?>
<configuration>
  <configSections>
    <sectionGroup name="applicationSettings"
type="System.Configuration.ApplicationSettingsGroup, System, Version=2.0.0.0, Culture=neutral,
PublicKeyToken=b77a5c561934e089">
      <section name="NS_CatalogService.My.MySettings"
type="System.Configuration.ClientSettingsSection, System, Version=2.0.0.0, Culture=neutral,
PublicKeyToken=b77a5c561934e089" requirePermission="false"/>
    </sectionGroup>
    <sectionGroup name="system.web.extensions"
type="System.Web.Configuration.SystemWebExtensionsSectionGroup, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35">
      <sectionGroup name="scripting"
type="System.Web.Configuration.ScriptingSectionGroup, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35">
        <section name="scriptResourceHandler"
type="System.Web.Configuration.ScriptingScriptResourceHandlerSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/>
      </sectionGroup>
    </sectionGroup>
  </configSections>

```

```

        <sectionGroup name="webServices"
type="System.Web.Configuration.ScriptingWebServicesSectionGroup, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35">
        <section name="jsonSerialization"
type="System.Web.Configuration.ScriptingJsonSerializationSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="Everywhere"/>
        <section name="profileService"
type="System.Web.Configuration.ScriptingProfileServiceSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/>

        <section name="authenticationService"
type="System.Web.Configuration.ScriptingAuthenticationServiceSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/>
        <section name="roleService"
type="System.Web.Configuration.ScriptingRoleServiceSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/></sectionGroup></sectionGroup></sectionGroup></configSect
ions>
    <appSettings>
        <add key="AuthADAMDN" value="o=uaf,c=us"/>
        <add key="AuthADAMServer" value="nsdss.ine.uaf.edu"/>
        <add key="AuthADAMPort" value="50000"/>
        <add key="LogConfigFile" value="C:\NSApp\l4ncfg.xml"/>
        <add key="LogName" value="CatServ"/>
    </appSettings>
    <connectionStrings>
        <add name="NSCATConnectionString" connectionString="Data Source=nsdss.ine.uaf.edu;Initial
Catalog=NSCAT;Persist Security Info=True;User ID=webclient;Password= "
        providerName="System.Data.SqlClient" />
        <add name="NSCATConnectionString1" connectionString="Data Source=nsdss.ine.uaf.edu;Initial
Catalog=NSCAT;Persist Security Info=True;User ID=nscatmaster;Password= "
        providerName="System.Data.SqlClient" />
        <add name="NSCATConnectionString2" connectionString="Data Source=nsdss.ine.uaf.edu;Initial
Catalog=NSCAT;Persist Security Info=True;User ID=sa;Password= "
        providerName="System.Data.SqlClient" />
    </connectionStrings>
    <system.web>
        <!--
        Set compilation debug="true" to insert debugging
        symbols into the compiled page. Because this
        affects performance, set this value to true only
        during development.

        Visual Basic options:
        Set strict="true" to disallow all data type conversions
        where data loss can occur.
        Set explicit="true" to force declaration of all variables.
        -->
        <compilation debug="true" strict="false" explicit="true">
            <assemblies>
                <add assembly="System.Core, Version=3.5.0.0, Culture=neutral,
                PublicKeyToken=B77A5C561934E089"/>
                <add assembly="System.Web.Extensions, Version=3.5.0.0,
                Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
                <add assembly="System.Xml.Linq, Version=3.5.0.0, Culture=neutral,
                PublicKeyToken=B77A5C561934E089"/>
                <add assembly="System.Data.DataSetExtensions, Version=3.5.0.0,
                Culture=neutral, PublicKeyToken=B77A5C561934E089"/></assemblies></compilation>
            <pages>
                <namespaces>
                    <clear/>
                    <add namespace="System"/>
                    <add namespace="System.Collections"/>
                    <add namespace="System.Collections.Specialized"/>
                    <add namespace="System.Configuration"/>

```

```

        <add namespace="System.Text" />
        <add namespace="System.Text.RegularExpressions" />
        <add namespace="System.Web" />
        <add namespace="System.Web.Caching" />
        <add namespace="System.Web.SessionState" />
        <add namespace="System.Web.Security" />
        <add namespace="System.Web.Profile" />
        <add namespace="System.Web.UI" />
        <add namespace="System.Web.UI.WebControls" />
        <add namespace="System.Web.UI.WebControls.WebParts" />
        <add namespace="System.Web.UI.HtmlControls" />
    </namespaces>
    <controls>
        <add tagPrefix="asp" namespace="System.Web.UI"
assembly="System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35" />
        <add tagPrefix="asp" namespace="System.Web.UI.WebControls"
assembly="System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35" /></controls></pages>
    <!--
    The <authentication> section enables configuration
    of the security authentication mode used by
    ASP.NET to identify an incoming user.
-->
    <authentication mode="Windows" />
    <!--
    The <customErrors> section enables configuration
    of what to do if/when an unhandled error occurs
    during the execution of a request. Specifically,
    it enables developers to configure html error pages
    to be displayed in place of a error stack trace.

<customErrors mode="RemoteOnly" defaultRedirect="GenericErrorPage.htm">
    <error statusCode="403" redirect="NoAccess.htm" />
    <error statusCode="404" redirect="FileNotFound.htm" />
</customErrors>
-->
    <webServices>
        <!--
    This section allows for remote use of the Test web service pages.
-->

        <protocols>
            <add name="HttpGet" />
            <add name="HttpPost" />
        </protocols>
    </webServices>
    <httpHandlers>
        <remove verb="*" path="*.asmx" />
        <add verb="*" path="*.asmx" validate="false"
type="System.Web.Script.Services.ScriptHandlerFactory, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35" />
        <add verb="*" path="*_AppService.axd" validate="false"
type="System.Web.Script.Services.ScriptHandlerFactory, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35" />
        <add verb="GET,HEAD" path="ScriptResource.axd" validate="false"
type="System.Web.Handlers.ScriptResourceHandler, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35" /></httpHandlers>
    <httpModules>
        <add name="ScriptModule" type="System.Web.Handlers.ScriptModule,
System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35" /></httpModules></system.web>
    <applicationSettings>
        <NS_CatalogService.My.MySettings>
        <setting name="NS_CatalogService_nde_GetWSService" serializeAs="String">
        <value>http://nsdss.ine.uaf.edu:8080/NS_NetCDFService/NS_NetCDFService.asmx</value>
        </setting>
        <setting name="NS_CatalogService_nde_UAFObservations_WaterOneFlow"
        serializeAs="String">

```

```

    <value>http://nsdss.ine.uaf.edu:8080/NS_UAFWERCDDataService/cuahsi_1_1.asmx</value>
  </setting>
</NS_CatalogService.My.MySettings>
  </applicationSettings>
  <system.codedom>
    <compilers>
      <compiler language="vb;vbs;visualbasic;vbscript" extension=".vb"
type="Microsoft.VisualBasic.VBCodeProvider, System, Version=2.0.0.0, Culture=neutral,
PublicKeyToken=b77a5c561934e089" warningLevel="4">
        <providerOption name="CompilerVersion" value="v3.5"/>
        <providerOption name="OptionInfer" value="true"/>
        <providerOption name="WarnAsError"
value="false"/></compiler></compilers></system.codedom>
  <system.webServer>
    <validation validateIntegratedModeConfiguration="false"/>
    <modules>
      <remove name="ScriptModule"/>
      <add name="ScriptModule" preCondition="managedHandler"
type="System.Web.Handlers.ScriptModule, System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/></modules>
    <handlers>
      <remove name="WebServiceHandlerFactory-Integrated"/>
      <remove name="ScriptHandlerFactory"/>
      <remove name="ScriptHandlerFactoryAppServices"/>
      <remove name="ScriptResource"/>
      <add name="ScriptHandlerFactory" verb="*" path="*.asmx"
preCondition="integratedMode" type="System.Web.Script.Services.ScriptHandlerFactory,
System.Web.Extensions, Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
      <add name="ScriptHandlerFactoryAppServices" verb="*"
path="*_AppService.axd" preCondition="integratedMode"
type="System.Web.Script.Services.ScriptHandlerFactory, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
      <add name="ScriptResource" verb="GET,HEAD" path="ScriptResource.axd"
preCondition="integratedMode" type="System.Web.Handlers.ScriptResourceHandler,
System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/></handlers></system.webServer>
  <runtime>
    <assemblyBinding xmlns="urn:schemas-microsoft-com:asm.v1">
      <dependentAssembly>
        <assemblyIdentity name="System.Web.Extensions"
publicKeyToken="31bf3856ad364e35"/>
        <bindingRedirect oldVersion="1.0.0.0-1.1.0.0"
newVersion="3.5.0.0"/></dependentAssembly>
      <dependentAssembly>
        <assemblyIdentity name="System.Web.Extensions.Design"
publicKeyToken="31bf3856ad364e35"/>
        <bindingRedirect oldVersion="1.0.0.0-1.1.0.0"
newVersion="3.5.0.0"/></dependentAssembly></assemblyBinding></runtime></configuration>

```

6.3. NS_Model

6.3.1. Service Parameters:

Name	NS_Model
Base Web Service	NSDSS Model Publishing Interface Web Service
Endpoint	http://{SERVER}:{PORT}/ NS_Model / NS_Model.asmx

Physical Path	C:\NSAPP\NSMOD
Application Pool	NSDSS Applications

6.3.2. Web Config

6.3.2.1. *appSettings Section*

See Section [6.2.2.1](#) for configuration of AuthADAMDN, AuthADAMServer, AuthADAMPort, LogConfigFile and LogName parameters.

ODMNameSpace is always set to the XML NameSpace defined by CUAHSI for WaterML data, "<http://www.cuahsi.org/waterML/1.0/>".

ODMValueTag is set to the name of the XML node that indicates a value in the XML, usually "value".

6.3.2.2. *Listing*

```
<?xml version="1.0"?>
<configuration>
  <configSections>
    <sectionGroup name="system.web.extensions"
type="System.Web.Configuration.SystemWebExtensionsSectionGroup, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35">
      <sectionGroup name="scripting"
type="System.Web.Configuration.ScriptingSectionGroup, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35">
        <section name="scriptResourceHandler"
type="System.Web.Configuration.ScriptingScriptResourceHandlerSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/>
        <sectionGroup name="webServices"
type="System.Web.Configuration.ScriptingWebServicesSectionGroup, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35">
          <section name="jsonSerialization"
type="System.Web.Configuration.ScriptingJsonSerializationSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="Everywhere"/>
          <section name="profileService"
type="System.Web.Configuration.ScriptingProfileServiceSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/>
          <section name="authenticationService"
type="System.Web.Configuration.ScriptingAuthenticationServiceSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/>
          <section name="roleService"
type="System.Web.Configuration.ScriptingRoleServiceSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/>
        </sectionGroup>
      </sectionGroup>
    </configSections>
  <appSettings>
    <add key="AuthADAMDN" value="o=uaf,c=us"/>
  </appSettings>
</configuration>
```

```

    <add key="AuthADAMServer" value="nsdss.ine.uaf.edu"/>
    <add key="AuthADAMPort" value="50000"/>
    <add key="LogConfigFile" value="C:\NSApp\l4ncfg.xml"/>
    <add key="LogName" value="ModPubl"/>
    <add key="ODMNameSpace" value="http://www.cuahsi.org/waterML/1.0/" />
    <add key="ODMValueTag" value="value"/>
  </appSettings>
  <connectionStrings/>
  <system.web>
    <!--
      Set compilation debug="true" to insert debugging
      symbols into the compiled page. Because this
      affects performance, set this value to true only
      during development.

      Visual Basic options:
      Set strict="true" to disallow all data type conversions
      where data loss can occur.
      Set explicit="true" to force declaration of all variables.
    -->
    <compilation debug="true" strict="false" explicit="true">
      <assemblies>
        <add assembly="System.Core, Version=3.5.0.0, Culture=neutral,
        PublicKeyToken=B77A5C561934E089"/>
        <add assembly="System.Data.DataSetExtensions, Version=3.5.0.0,
        Culture=neutral, PublicKeyToken=B77A5C561934E089"/>
        <add assembly="System.Web.Extensions, Version=3.5.0.0,
        Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
        <add assembly="System.Xml.Linq, Version=3.5.0.0, Culture=neutral,
        PublicKeyToken=B77A5C561934E089"/>
      </assemblies>
    </compilation>
    <pages>
      <namespaces>
        <clear/>
        <add namespace="System"/>
        <add namespace="System.Collections"/>
        <add namespace="System.Collections.Generic"/>
        <add namespace="System.Collections.Specialized"/>
        <add namespace="System.Configuration"/>
        <add namespace="System.Text"/>
        <add namespace="System.Text.RegularExpressions"/>
        <add namespace="System.Linq"/>
        <add namespace="System.Xml.Linq"/>
        <add namespace="System.Web"/>
        <add namespace="System.Web.Caching"/>
        <add namespace="System.Web.SessionState"/>
        <add namespace="System.Web.Security"/>
        <add namespace="System.Web.Profile"/>
        <add namespace="System.Web.UI"/>
        <add namespace="System.Web.UI.WebControls"/>
        <add namespace="System.Web.UI.WebControls.WebParts"/>
        <add namespace="System.Web.UI.HtmlControls"/>
      </namespaces>
      <controls>
        <add tagPrefix="asp" namespace="System.Web.UI"
        assembly="System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
        PublicKeyToken=31BF3856AD364E35"/>
        <add tagPrefix="asp" namespace="System.Web.UI.WebControls"
        assembly="System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
        PublicKeyToken=31BF3856AD364E35"/>
      </controls>
    </pages>
    <!--
      The <authentication> section enables configuration
      of the security authentication mode used by
      ASP.NET to identify an incoming user.
    -->
  </system.web>

```

```

    <authentication mode="Windows"/>
    <!--
    The <customErrors> section enables configuration
    of what to do if/when an unhandled error occurs
    during the execution of a request. Specifically,
    it enables developers to configure html error pages
    to be displayed in place of a error stack trace.

    <customErrors mode="RemoteOnly" defaultRedirect="GenericErrorPage.htm">
      <error statusCode="403" redirect="NoAccess.htm" />
      <error statusCode="404" redirect="FileNotFound.htm" />
    </customErrors>
    -->
  <webServices>
    <!--
      This section allows for remote use of the Test web service pages.
    -->
    <protocols>
      <add name="HttpGet"/>
      <add name="HttpPost"/>
    </protocols>
  </webServices>
  <httpHandlers>
    <remove verb="*" path="*.asmx"/>
    <add verb="*" path="*.asmx" validate="false"
type="System.Web.Script.Services.ScriptHandlerFactory, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
    <add verb="*" path="*_AppService.axd" validate="false"
type="System.Web.Script.Services.ScriptHandlerFactory, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
    <add verb="GET,HEAD" path="ScriptResource.axd"
type="System.Web.Handlers.ScriptResourceHandler, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35" validate="false"/>
  </httpHandlers>
  <httpModules>
    <add name="ScriptModule" type="System.Web.Handlers.ScriptModule,
System.Web.Extensions, Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
  </httpModules>
</system.web>
<system.codedom>
  <compilers>
    <compiler language="vb;vbs;visualbasic;vbscript" extension=".vb"
warningLevel="4" type="Microsoft.VisualBasic.VBCodeProvider, System, Version=2.0.0.0,
Culture=neutral, PublicKeyToken=b77a5c561934e089">
      <providerOption name="CompilerVersion" value="v3.5"/>
      <providerOption name="OptionInfer" value="true"/>
      <providerOption name="WarnAsError" value="false"/>
    </compiler>
  </compilers>
</system.codedom>
  <!--
  The system.webServer section is required for running ASP.NET AJAX under Internet
  Information Services 7.0. It is not necessary for previous version of IIS.
  -->
  <system.webServer>
    <validation validateIntegratedModeConfiguration="false"/>
    <modules>
      <remove name="ScriptModule"/>
      <add name="ScriptModule" preCondition="managedHandler"
type="System.Web.Handlers.ScriptModule, System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/>
    </modules>
    <handlers>
      <remove name="WebServiceHandlerFactory-Integrated"/>
      <remove name="ScriptHandlerFactory"/>
      <remove name="ScriptHandlerFactoryAppServices"/>
      <remove name="ScriptResource"/>

```

```

        <add name="ScriptHandlerFactory" verb="*" path="*.asmx"
preCondition="integratedMode" type="System.Web.Script.Services.ScriptHandlerFactory,
System.Web.Extensions, Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
        <add name="ScriptHandlerFactoryAppServices" verb="*"
path="*_AppService.axd" preCondition="integratedMode"
type="System.Web.Script.Services.ScriptHandlerFactory, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
        <add name="ScriptResource" preCondition="integratedMode" verb="GET,HEAD"
path="ScriptResource.axd" type="System.Web.Handlers.ScriptResourceHandler, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
    </handlers>
</system.webServer>
<runtime>
    <assemblyBinding xmlns="urn:schemas-microsoft-com:asm.v1">
        <dependentAssembly>
            <assemblyIdentity name="System.Web.Extensions"
publicKeyToken="31bf3856ad364e35"/>
            <bindingRedirect oldVersion="1.0.0.0-1.1.0.0" newVersion="3.5.0.0"/>
        </dependentAssembly>
        <dependentAssembly>
            <assemblyIdentity name="System.Web.Extensions.Design"
publicKeyToken="31bf3856ad364e35"/>
            <bindingRedirect oldVersion="1.0.0.0-1.1.0.0" newVersion="3.5.0.0"/>
        </dependentAssembly>
    </assemblyBinding>
</runtime>
</configuration>

```

6.4. NS_NetCDFService

6.4.1. Service Parameters:

Name	NS_NetCDFService
Base Web Service	NetCDF Web Service
Endpoint	http://\${SERVER}:\${PORT}/ NS_NetCDFService /NS_NetCDFService.asmx
Physical Path	C:\NSAPP\NDNWS
Application Pool	Classic .NET AppPool

6.4.2. Web Config

6.4.2.1. *appSettings* Section

See Section [6.2.2.1](#) for configuration of the AuthADAMDN, AuthADAMServer, and AuthADAMPort keys.

CDFFileStore is set to the base pathname for the directory structure containing all NetCDF datafiles accessible by the service.

CDFFilePark is set to the temporary FTP directory where incoming NetCDF data is uploaded before the data is published to the CDFFileStore.

ConversionFile is not used at this time.

LogFile is not used at this time.

6.4.2.2. *connectionStrings Section*

NCMetaConnectionString is set to the connection string for the user with read access to the NCMeta database.

NSCATMastConnectionString is set to the connection string for the user with read/modify access to the NCMeta database.

6.4.2.3. *Listing*

```
<?xml version="1.0"?>
<configuration>
  <configSections>
    <section name="log4net" type="log4net.Config.Log4NetConfigurationSectionHandler,
log4net" requirePermission="false"/>
    <sectionGroup name="system.web.extensions"
type="System.Web.Configuration.SystemWebExtensionsSectionGroup, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35">
      <sectionGroup name="scripting"
type="System.Web.Configuration.ScriptingSectionGroup, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35">
        <section name="scriptResourceHandler"
type="System.Web.Configuration.ScriptingScriptResourceHandlerSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/>
        <sectionGroup name="webServices"
type="System.Web.Configuration.ScriptingWebServicesSectionGroup, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35">
          <section name="jsonSerialization"
type="System.Web.Configuration.ScriptingJsonSerializationSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="Everywhere"/>
          <section name="profileService"
type="System.Web.Configuration.ScriptingProfileServiceSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/>
          <section name="authenticationService"
type="System.Web.Configuration.ScriptingAuthenticationServiceSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/>
          <section name="roleService"
type="System.Web.Configuration.ScriptingRoleServiceSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/></sectionGroup></sectionGroup></sectionGroup></configSections>
  <appSettings>
    <add key="CDFFileStore" value="C:\NSAPP\CDFFiles"/>
    <add key="CDFFilePark" value="C:\NSAPP\CDFPark"/>
    <add key="LogFile" value="C:\NSAPP\CDFFiles\usage.log"/>
    <add key="AuthADAMDN" value="o=uaf,c=us"/>
    <add key="AuthADAMServer" value="nsdss.ine.uaf.edu"/>
    <add key="AuthADAMPort" value="50000"/>
    <add key="ConversionFile" value="C:\NSAPP\convunit.xml"/>
  </appSettings>
</configuration>
```

```

    <connectionStrings>
      <add name="NCMetaConnectionString" connectionString="Data
Source=nsdss.ine.uaf.edu;Initial Catalog=NCMeta;user id=webclient;password=;Persist Security
Info=True" providerName="System.Data.SqlClient"/>
      <add name="NSCATMastConnectionString" connectionString="Data
Source=nsdss.ine.uaf.edu;Initial Catalog=NCMeta;Persist Security Info=True;User
ID=nsdssmaster;Password= " providerName="System.Data.SqlClient"/>
    </connectionStrings>
  <system.web>
    <!--
      Set compilation debug="true" to insert debugging
symbols into the compiled page. Because this
affects performance, set this value to true only
during development.

Visual Basic options:
Set strict="true" to disallow all data type conversions
where data loss can occur.
Set explicit="true" to force declaration of all variables.
-->
    <compilation debug="true" strict="false" explicit="true">
      <assemblies>
        <add assembly="System.Core, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=B77A5C561934E089"/>
        <add assembly="System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
        <add assembly="System.Xml.Linq, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=B77A5C561934E089"/>
        <add assembly="System.Data.DataSetExtensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=B77A5C561934E089"/></assemblies></compilation>
    <pages>
      <namespaces>
        <clear/>
        <add namespace="System"/>
        <add namespace="System.Collections"/>
        <add namespace="System.Collections.Specialized"/>
        <add namespace="System.Configuration"/>
        <add namespace="System.Text"/>
        <add namespace="System.Text.RegularExpressions"/>
        <add namespace="System.Web"/>
        <add namespace="System.Web.Caching"/>
        <add namespace="System.Web.SessionState"/>
        <add namespace="System.Web.Security"/>
        <add namespace="System.Web.Profile"/>
        <add namespace="System.Web.UI"/>
        <add namespace="System.Web.UI.WebControls"/>
        <add namespace="System.Web.UI.WebControls.WebParts"/>
        <add namespace="System.Web.UI.HtmlControls"/>
      </namespaces>
      <controls>
        <add tagPrefix="asp" namespace="System.Web.UI"
assembly="System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/>
        <add tagPrefix="asp" namespace="System.Web.UI.WebControls"
assembly="System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/></controls></pages>
    <!--
      The <authentication> section enables configuration
of the security authentication mode used by
ASP.NET to identify an incoming user.
-->
    <authentication mode="Windows"/>
    <!--
      The <customErrors> section enables configuration
of what to do if/when an unhandled error occurs
during the execution of a request. Specifically,
it enables developers to configure html error pages
to be displayed in place of a error stack trace.

```

```

<customErrors mode="RemoteOnly" defaultRedirect="GenericErrorPage.htm">
  <error statusCode="403" redirect="NoAccess.htm" />
  <error statusCode="404" redirect="FileNotFound.htm" />
</customErrors>
-->
  <webServices>
    <!--
    This section allows for remote use of the Test web service pages.
    -->
    <protocols>
      <add name="HttpGet"/>
      <add name="HttpPost"/>
    </protocols>
  </webServices>
  <httpHandlers>
    <remove verb="*" path="*.asmx"/>
    <add verb="*" path="*.asmx" validate="false"
type="System.Web.Script.Services.ScriptHandlerFactory, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
    <add verb="*" path="*_AppService.axd" validate="false"
type="System.Web.Script.Services.ScriptHandlerFactory, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
    <add verb="GET,HEAD" path="ScriptResource.axd" validate="false"
type="System.Web.Handlers.ScriptResourceHandler, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/></httpHandlers>
  <httpModules>
    <add name="ScriptModule" type="System.Web.Handlers.ScriptModule,
System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/></httpModules></system.web>
  <log4net>
    <appender name="Console" type="log4net.Appender.ConsoleAppender">
      <layout type="log4net.Layout.PatternLayout">
        <!-- Pattern to output the caller's file name and line number -->
        <conversionPattern value="%5level [%thread] (%file:%line) -
%message%newline"/>
      </layout>
    </appender>
    <appender name="RollingFile" type="log4net.Appender.RollingFileAppender">
      <file value="ncdf-1.log"/>
      <appendToFile value="true"/>
      <maximumFileSize value="100KB"/>
      <maxSizeRollBackups value="2"/>
      <layout type="log4net.Layout.PatternLayout">
        <conversionPattern value="%date %level %thread %logger -
%message%newline"/>
      </layout>
    </appender>
  </root>
  <level value="DEBUG"/>
  <appender-ref ref="Console"/>
  <appender-ref ref="RollingFile"/>
</root>
</log4net>
<system.codedom>
  <compilers>
    <compiler language="vb;vbs;visualbasic;vbscript" extension=".vb"
type="Microsoft.VisualBasic.VBCodeProvider, System, Version=2.0.0.0, Culture=neutral,
PublicKeyToken=b77a5c561934e089" warningLevel="4">
      <providerOption name="CompilerVersion" value="v3.5"/>
      <providerOption name="OptionInfer" value="true"/>
      <providerOption name="WarnAsError"
value="false"/></compiler></compilers></system.codedom>
  <system.webServer>
    <validation validateIntegratedModeConfiguration="false"/>
  </modules>
  <remove name="ScriptModule"/>

```

```

        <add name="ScriptModule" preCondition="managedHandler"
type="System.Web.Handlers.ScriptModule, System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/></modules>
    <handlers>
        <remove name="WebServiceHandlerFactory-Integrated"/>
        <remove name="ScriptHandlerFactory"/>
        <remove name="ScriptHandlerFactoryAppServices"/>
        <remove name="ScriptResource"/>
        <add name="ScriptHandlerFactory" verb="*" path="*.asmx"
preCondition="integratedMode" type="System.Web.Script.Services.ScriptHandlerFactory,
System.Web.Extensions, Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
        <add name="ScriptHandlerFactoryAppServices" verb="*"
path="*_AppService.axd" preCondition="integratedMode"
type="System.Web.Script.Services.ScriptHandlerFactory, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
        <add name="ScriptResource" verb="GET,HEAD" path="ScriptResource.axd"
preCondition="integratedMode" type="System.Web.Handlers.ScriptResourceHandler,
System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/></handlers></system.webServer>
    <runtime>
        <assemblyBinding xmlns="urn:schemas-microsoft-com:asm.v1">
            <dependentAssembly>
                <assemblyIdentity name="System.Web.Extensions"
publicKeyToken="31bf3856ad364e35"/>
                <bindingRedirect oldVersion="1.0.0.0-1.1.0.0"
newVersion="3.5.0.0"/></dependentAssembly>
            <dependentAssembly>
                <assemblyIdentity name="System.Web.Extensions.Design"
publicKeyToken="31bf3856ad364e35"/>
                <bindingRedirect oldVersion="1.0.0.0-1.1.0.0"
newVersion="3.5.0.0"/></dependentAssembly></assemblyBinding></runtime></configuration>

```

6.5. NS_Publish

6.5.1. Service Parameters:

Name	NS_Publish
Base Web Service	ODM Web Service
Endpoint	http://\${SERVER}:\${PORT}/ NS_Publish /cuahsi_1_0.asmx
Physical Path	C:\NSAPP\NS_Publish
Application Pool	Classic .NET AppPool

6.5.2. Web Config

This is an instance of the CUAHSI ODM Web Service 1.0. Please refer to the CUAHSI ODM Web Service installation instructions for installation and configuration of this service. It is NOT recommended that the Web.config for this service be modified by hand.

6.6. NS_PUBUnit

6.6.1. Service Parameters:

Name	NS_PUBUnit
Base Web Service	ODM Service Web Service
Endpoint	http://\${SERVER}:\${PORT}/ NS_PUBUnit /NS_ODMService.asmx
Physical Path	C:\NSAPP\NSPubUnit
Application Pool	NSDSS Applications

6.6.2. Web Config

6.6.2.1. *appSettings Section*

ODMNameSpace is always set to the XML NameSpace defined by CUAHSI for WaterML data, "<http://www.cuahsi.org/waterML/1.0/>".

ODMValueTag is set to the name of the XML node that indicates a value in the XML , usually "value".

ODMUnitsTag is set to the name of the XML node that indicates a unit definition in the XML , usually "units".

ODMQueryTag is set to the name of the XML node that indicates the beginning of a WaterML Query definition, usually "queryInfo".

ODMNoDataValueTag is set to the attribute that indicates a value which is not specified (a missing data value in a time series, for instance) in the XML , usually "NoDataValue".



NoDataValue is configurable in ODM and must be set according to the definition for the specific ODM instance being wrapped.

See section [6.2.2.1](#) for configuration of the LogName key.

6.6.2.2. *NS_ODMService.My.MySettings Section*

NS_ODMService_ndu_WaterOneFlow is set to the primary service endpoint for the ODM Web Service instance being wrapped.

NS_ODMService_UCServer_UCService is set to the primary service endpoint for the NSDSS Unit Conversion Service.

6.6.2.3. Listing

```
<?xml version="1.0"?>
<configuration>
  <configSections>
    <sectionGroup name="applicationSettings"
type="System.Configuration.ApplicationSettingsGroup, System, Version=2.0.0.0, Culture=neutral,
PublicKeyToken=b77a5c561934e089">
      <section name="NS_ODMService.My.MySettings"
type="System.Configuration.ClientSettingsSection, System, Version=2.0.0.0, Culture=neutral,
PublicKeyToken=b77a5c561934e089" requirePermission="false"/>
    </sectionGroup>
    <sectionGroup name="system.web.extensions"
type="System.Web.Configuration.SystemWebExtensionsSectionGroup, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35">
      <sectionGroup name="scripting"
type="System.Web.Configuration.ScriptingSectionGroup, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35">
        <section name="scriptResourceHandler"
type="System.Web.Configuration.ScriptingScriptResourceHandlerSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/>
        <sectionGroup name="webServices"
type="System.Web.Configuration.ScriptingWebServicesSectionGroup, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35">
          <section name="jsonSerialization"
type="System.Web.Configuration.ScriptingJsonSerializationSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="Everywhere"/>
          <section name="profileService"
type="System.Web.Configuration.ScriptingProfileServiceSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/>
          <section name="authenticationService"
type="System.Web.Configuration.ScriptingAuthenticationServiceSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/>
          <section name="roleService"
type="System.Web.Configuration.ScriptingRoleServiceSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/></sectionGroup></sectionGroup></sectionGroup></configSections>
  <appSettings>
    <add key="ODMValueTag" value="value"/>
    <add key="ODMUnitsTag" value="units"/>
    <add key="ODMQueryTag" value="queryInfo"/>
    <add key="ODMValuesTag" value="values"/>
    <add key="ODMNameSpace" value="http://www.cuahsi.org/waterML/1.0/" />
    <add key="ODMNoDataValueTag" value="NoDataValue"/>
    <add key="LogName" value="NSODMUAF"/>
  </appSettings>
  <connectionStrings/>
  <system.web>
    <!--
    Set compilation debug="true" to insert debugging
    symbols into the compiled page. Because this
    affects performance, set this value to true only
    during development.

    Visual Basic options:
    Set strict="true" to disallow all data type conversions
    where data loss can occur.
  -->

```

```

    Set explicit="true" to force declaration of all variables.
-->
    <compilation debug="true" strict="false" explicit="true">
      <assemblies>
        <add assembly="System.Core, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=B77A5C561934E089"/>
        <add assembly="System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
        <add assembly="System.Xml.Linq, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=B77A5C561934E089"/>
        <add assembly="System.Data.DataSetExtensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=B77A5C561934E089"/></assemblies></compilation>
    <pages>
      <namespaces>
        <clear/>
        <add namespace="System"/>
        <add namespace="System.Collections"/>
        <add namespace="System.Collections.Specialized"/>
        <add namespace="System.Configuration"/>
        <add namespace="System.Text"/>
        <add namespace="System.Text.RegularExpressions"/>
        <add namespace="System.Web"/>
        <add namespace="System.Web.Caching"/>
        <add namespace="System.Web.SessionState"/>
        <add namespace="System.Web.Security"/>
        <add namespace="System.Web.Profile"/>
        <add namespace="System.Web.UI"/>
        <add namespace="System.Web.UI.WebControls"/>
        <add namespace="System.Web.UI.WebControls.WebParts"/>
        <add namespace="System.Web.UI.HtmlControls"/>
      </namespaces>
      <controls>
        <add tagPrefix="asp" namespace="System.Web.UI"
assembly="System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/>
        <add tagPrefix="asp" namespace="System.Web.UI.WebControls"
assembly="System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/></controls></pages>
    <!--
    The <authentication> section enables configuration
    of the security authentication mode used by
    ASP.NET to identify an incoming user.
-->
    <authentication mode="Windows"/>
    <!--
    The <customErrors> section enables configuration
    of what to do if/when an unhandled error occurs
    during the execution of a request. Specifically,
    it enables developers to configure html error pages
    to be displayed in place of a error stack trace.

<customErrors mode="RemoteOnly" defaultRedirect="GenericErrorPage.htm">
  <error statusCode="403" redirect="NoAccess.htm" />
  <error statusCode="404" redirect="FileNotFound.htm" />
</customErrors>
-->
    <webServices>
    <!--
    This section allows for remote use of the Test web service pages.
-->
      <protocols>
        <add name="HttpGet"/>
        <add name="HttpPost"/>
      </protocols>
    </webServices>
    <httpHandlers>
      <remove verb="*" path="*.asmx"/>

```

```

        <add verb="*" path="*.asmx" validate="false"
type="System.Web.Script.Services.ScriptHandlerFactory, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
        <add verb="*" path="*_AppService.axd" validate="false"
type="System.Web.Script.Services.ScriptHandlerFactory, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
        <add verb="GET,HEAD" path="ScriptResource.axd" validate="false"
type="System.Web.Handlers.ScriptResourceHandler, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/></httpHandlers>
    <httpModules>
        <add name="ScriptModule" type="System.Web.Handlers.ScriptModule,
System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/></httpModules></system.web>
    <applicationSettings>
        <NS_ODMService.My.MySettings>
            <setting name="NS_ODMService_нду_WaterOneFlow" serializeAs="String">
                <value>http://nsdss.ine.uaf.edu:8080/NS_Publish/cuahsi_1_1.asmx</value>
            </setting>
            <setting name="NS_ODMService_UCServer_UCService" serializeAs="String">
                <value>http://nsdss.ine.uaf.edu:8080/NS_UCServer/UCServer.asmx</value>
            </setting>
        </NS_ODMService.My.MySettings>
    </applicationSettings>
    <system.codedom>
        <compilers>
            <compiler language="vb;vbs;visualbasic;vbscript" extension=".vb"
type="Microsoft.VisualBasic.VBCodeProvider, System, Version=2.0.0.0, Culture=neutral,
PublicKeyToken=b77a5c561934e089" warningLevel="4">
                <providerOption name="CompilerVersion" value="v3.5"/>
                <providerOption name="OptionInfer" value="true"/>
                <providerOption name="WarnAsError"
value="false"/></compiler></compilers></system.codedom>
    <system.webServer>
        <validation validateIntegratedModeConfiguration="false"/>
        <modules>
            <remove name="ScriptModule"/>
            <add name="ScriptModule" preCondition="managedHandler"
type="System.Web.Handlers.ScriptModule, System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/></modules>
        <handlers>
            <remove name="WebServiceHandlerFactory-Integrated"/>
            <remove name="ScriptHandlerFactory"/>
            <remove name="ScriptHandlerFactoryAppServices"/>
            <remove name="ScriptResource"/>
            <add name="ScriptHandlerFactory" verb="*" path="*.asmx"
preCondition="integratedMode" type="System.Web.Script.Services.ScriptHandlerFactory,
System.Web.Extensions, Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
            <add name="ScriptHandlerFactoryAppServices" verb="*"
path="*_AppService.axd" preCondition="integratedMode"
type="System.Web.Script.Services.ScriptHandlerFactory, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
            <add name="ScriptResource" verb="GET,HEAD" path="ScriptResource.axd"
preCondition="integratedMode" type="System.Web.Handlers.ScriptResourceHandler,
System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/></handlers></system.webServer>
    <runtime>
        <assemblyBinding xmlns="urn:schemas-microsoft-com:asm.v1">
            <dependentAssembly>
                <assemblyIdentity name="System.Web.Extensions"
publicKeyToken="31bf3856ad364e35"/>
                <bindingRedirect oldVersion="1.0.0.0-1.1.0.0"
newVersion="3.5.0.0"/></dependentAssembly>
            <dependentAssembly>
                <assemblyIdentity name="System.Web.Extensions.Design"
publicKeyToken="31bf3856ad364e35"/>
                <bindingRedirect oldVersion="1.0.0.0-1.1.0.0"
newVersion="3.5.0.0"/></dependentAssembly></assemblyBinding></runtime></configuration>

```

6.7. NS_UAFObservationsDataService

This is an instance of the CUAHSI ODM Web Service 1.0. Please refer to the CUAHSI ODM Web Service installation instructions for installation and configuration of this service. It is NOT recommended that the Web.config for this service be modified by hand.

6.7.1. Service Parameters:

Name	NS_UAFObservationsDataService
Base Web Service	ODM Service
Endpoint	http://\${SERVER}:\${PORT}/NS_UAFObservationsDataService/cuahsi_1_0.asmx
Physical Path	C:\NSAPP\ODM_NSDSS
Application Pool	Classic .NET AppPool

6.8. NS_UAFObservationsUnit

6.8.1. Service Parameters:

Name	NS_UAFObservationsUnit
Base Web Service	ODM Service Web Service
Endpoint	http://\${SERVER}:\${PORT}/NS_CatalogService/NS_CatalogService.asmx
Physical Path	C:\NSAPP\NSUnit
Application Pool	Default App Pool

6.8.2. Web Config

See sections [6.6.2.1](#) and [6.6.2.2](#) for configuration keys for this service.

6.8.2.1. Listing

```
<?xml version="1.0"?>
<configuration>
  <configSections>
    <sectionGroup name="applicationSettings"
      type="System.Configuration.ApplicationSettingsGroup, System, Version=2.0.0.0, Culture=neutral,
      PublicKeyToken=b77a5c561934e089">
```

```

        <section name="NS_ODMService.My.MySettings"
type="System.Configuration.ClientSettingsSection, System, Version=2.0.0.0, Culture=neutral,
PublicKeyToken=b77a5c561934e089" requirePermission="false"/>
    </sectionGroup>
    <sectionGroup name="system.web.extensions"
type="System.Web.Configuration.SystemWebExtensionsSectionGroup, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35">
        <sectionGroup name="scripting"
type="System.Web.Configuration.ScriptingSectionGroup, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35">
            <section name="scriptResourceHandler"
type="System.Web.Configuration.ScriptingScriptResourceHandlerSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/>
            <sectionGroup name="webServices"
type="System.Web.Configuration.ScriptingWebServicesSectionGroup, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35">
                <section name="jsonSerialization"
type="System.Web.Configuration.ScriptingJsonSerializationSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="Everywhere"/>
                <section name="profileService"
type="System.Web.Configuration.ScriptingProfileServiceSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/>
                <section name="authenticationService"
type="System.Web.Configuration.ScriptingAuthenticationServiceSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/>
                <section name="roleService"
type="System.Web.Configuration.ScriptingRoleServiceSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/></sectionGroup></sectionGroup></sectionGroup></configSect
ions>
    <appSettings>
        <add key="ODMValueTag" value="value"/>
        <add key="ODMUnitsTag" value="units"/>
    <add key="ODMQueryTag" value="queryInfo"/>
    <add key="ODMValuesTag" value="values"/>
        <add key="ODMNameSpace" value="http://www.cuahsi.org/waterML/1.0/" />
        <add key="ODMNoDataValueTag" value="NoDataValue"/>
        <add key="LogName" value="NSODMUAF"/>
    </appSettings>
    <connectionStrings/>
    <system.web>
        <!--
Set compilation debug="true" to insert debugging
symbols into the compiled page. Because this
affects performance, set this value to true only
during development.

Visual Basic options:
Set strict="true" to disallow all data type conversions
where data loss can occur.
Set explicit="true" to force declaration of all variables.
-->
        <!--
        <compilation debug="false" strict="false" explicit="true">
        <!--
        <compilation debug="true" strict="false" explicit="true"> -->
            <assemblies>
                <add assembly="System.Core, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=B77A5C561934E089"/>
                <add assembly="System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
                <add assembly="System.Xml.Linq, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=B77A5C561934E089"/>
                <add assembly="System.Data.DataSetExtensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=B77A5C561934E089"/></assemblies></compilation>

```

```

    <pages>
      <namespaces>
        <clear/>
        <add namespace="System"/>
        <add namespace="System.Collections"/>
        <add namespace="System.Collections.Specialized"/>
        <add namespace="System.Configuration"/>
        <add namespace="System.Text"/>
        <add namespace="System.Text.RegularExpressions"/>
        <add namespace="System.Web"/>
        <add namespace="System.Web.Caching"/>
        <add namespace="System.Web.SessionState"/>
        <add namespace="System.Web.Security"/>
        <add namespace="System.Web.Profile"/>
        <add namespace="System.Web.UI"/>
        <add namespace="System.Web.UI.WebControls"/>
        <add namespace="System.Web.UI.WebControls.WebParts"/>
        <add namespace="System.Web.UI.HtmlControls"/>
      </namespaces>
      <controls>
        <add tagPrefix="asp" namespace="System.Web.UI"
assembly="System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/>
        <add tagPrefix="asp" namespace="System.Web.UI.WebControls"
assembly="System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/></controls></pages>
    <!--
      The <authentication> section enables configuration
      of the security authentication mode used by
      ASP.NET to identify an incoming user.
    -->
      <authentication mode="Windows"/>
    <!--
      The <customErrors> section enables configuration
      of what to do if/when an unhandled error occurs
      during the execution of a request. Specifically,
      it enables developers to configure html error pages
      to be displayed in place of a error stack trace.
    <customErrors mode="RemoteOnly" defaultRedirect="GenericErrorPage.htm">
      <error statusCode="403" redirect="NoAccess.htm" />
      <error statusCode="404" redirect="FileNotFound.htm" />
    </customErrors>
    -->
      <webServices>
        <!--
          This section allows for remote use of the Test web service pages.
        -->
          <protocols>
            <add name="HttpGet"/>
            <add name="HttpPost"/>
          </protocols>
        </webServices>
        <httpHandlers>
          <remove verb="*" path="*.asmx"/>
          <add verb="*" path="*.asmx" validate="false"
type="System.Web.Script.Services.ScriptHandlerFactory, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
          <add verb="*" path="*_AppService.axd" validate="false"
type="System.Web.Script.Services.ScriptHandlerFactory, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
          <add verb="GET,HEAD" path="ScriptResource.axd" validate="false"
type="System.Web.Handlers.ScriptResourceHandler, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/></httpHandlers>
          <httpModules>
            <add name="ScriptModule" type="System.Web.Handlers.ScriptModule,
System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/></httpModules></system.web>

```

```

<applicationSettings>
  <NS_ODMService.My.MySettings>
    <setting name="NS_ODMService_ndu_WaterOneFlow" serializeAs="String">
      <value>http://nsdss.ine.uaf.edu:8080/NS_UAFObservationsDataService/cuahsi_1_1.asmx</value>
    </setting>
    <setting name="NS_ODMService_UCServer_UCService" serializeAs="String">
      <value>http://nsdss.ine.uaf.edu:8080/NS_UCServer/UCServer.asmx</value>
    </setting>
  </NS_ODMService.My.MySettings>
</applicationSettings>
<system.codedom>
  <compilers>
    <compiler language="vb;vbs;visualbasic;vbscript" extension=".vb"
type="Microsoft.VisualBasic.VBCodeProvider, System, Version=2.0.0.0, Culture=neutral,
PublicKeyToken=b77a5c561934e089" warningLevel="4">
      <providerOption name="CompilerVersion" value="v3.5"/>
      <providerOption name="OptionInfer" value="true"/>
      <providerOption name="WarnAsError"
value="false"/></compiler></compilers></system.codedom>
  <system.webServer>
    <validation validateIntegratedModeConfiguration="false"/>
    <modules>
      <remove name="ScriptModule"/>
      <add name="ScriptModule" preCondition="managedHandler"
type="System.Web.Handlers.ScriptModule, System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/></modules>
    <handlers>
      <remove name="WebServiceHandlerFactory-Integrated"/>
      <remove name="ScriptHandlerFactory"/>
      <remove name="ScriptHandlerFactoryAppServices"/>
      <remove name="ScriptResource"/>
      <add name="ScriptHandlerFactory" verb="*" path="*.asmx"
preCondition="integratedMode" type="System.Web.Script.Services.ScriptHandlerFactory,
System.Web.Extensions, Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
      <add name="ScriptHandlerFactoryAppServices" verb="*"
path="*_AppService.axd" preCondition="integratedMode"
type="System.Web.Script.Services.ScriptHandlerFactory, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
      <add name="ScriptResource" verb="GET,HEAD" path="ScriptResource.axd"
preCondition="integratedMode" type="System.Web.Handlers.ScriptResourceHandler,
System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/></handlers></system.webServer>
  <runtime>
    <assemblyBinding xmlns="urn:schemas-microsoft-com:asm.v1">
      <dependentAssembly>
        <assemblyIdentity name="System.Web.Extensions"
publicKeyToken="31bf3856ad364e35"/>
        <bindingRedirect oldVersion="1.0.0.0-1.1.0.0"
newVersion="3.5.0.0"/></dependentAssembly>
      <dependentAssembly>
        <assemblyIdentity name="System.Web.Extensions.Design"
publicKeyToken="31bf3856ad364e35"/>
        <bindingRedirect oldVersion="1.0.0.0-1.1.0.0"
newVersion="3.5.0.0"/></dependentAssembly></assemblyBinding></runtime></configuration>

```

6.9. NS_UAFWERCDataService

This is an instance of the CUAHSI ODM Web Service 1.0. Please refer to the CUAHSI ODM Web Service installation instructions for installation and configuration of this service. It is NOT recommended that the Web.config for this service be modified by hand.

6.9.1. Service Parameters:

Name	NS_UAFWERCDataService
Base Web Service	ODM Service
Endpoint	http://\${SERVER}:\${PORT}/NS_UAFWERCDataService /cuahsi_1_0.asmx
Physical Path	C:\NSAPP\WERC
Application Pool	Classic .NET AppPool

6.10. NS_UAFWERCUnit

6.10.1. Service Parameters:

Name	NS_UAFWERCUnit
Base Web Service	ODM Service Web Service
Endpoint	http://\${SERVER}:\${PORT}/NS_UAFWERCUnit/NS_ODMService.asmx
Physical Path	C:\NSAPP\WRUnit
Application Pool	Default AppPool

6.10.2. Web Config

See sections [6.6.2.1](#) and [6.6.2.2](#) for configuration keys for this service.

6.10.2.1. Listing

```
<?xml version="1.0"?>
<configuration>
  <configSections>
    <sectionGroup name="applicationSettings"
type="System.Configuration.ApplicationSettingsGroup, System, Version=2.0.0.0, Culture=neutral,
PublicKeyToken=b77a5c561934e089">
      <section name="NS_ODMService.My.MySettings"
type="System.Configuration.ClientSettingsSection, System, Version=2.0.0.0, Culture=neutral,
PublicKeyToken=b77a5c561934e089" requirePermission="false"/>
    </sectionGroup>
    <sectionGroup name="system.web.extensions"
type="System.Web.Configuration.SystemWebExtensionsSectionGroup, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35">
      <sectionGroup name="scripting"
type="System.Web.Configuration.ScriptingSectionGroup, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35">
        <section name="scriptResourceHandler"
type="System.Web.Configuration.ScriptingScriptResourceHandlerSection, System.Web.Extensions,
```

```

Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/>
    <sectionGroup name="webServices"
type="System.Web.Configuration.ScriptingWebServicesSectionGroup, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35">
    <section name="jsonSerialization"
type="System.Web.Configuration.ScriptingJsonSerializationSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="Everywhere"/>
    <section name="profileService"
type="System.Web.Configuration.ScriptingProfileServiceSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/>
    <section name="authenticationService"
type="System.Web.Configuration.ScriptingAuthenticationServiceSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/>
    <section name="roleService"
type="System.Web.Configuration.ScriptingRoleServiceSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/></sectionGroup></sectionGroup></sectionGroup></configSect
ions>
    <appSettings>
        <add key="ODMValueTag" value="value"/>
        <add key="ODMUnitsTag" value="units"/>
    <add key="ODMQueryTag" value="queryInfo"/>
    <add key="ODMValuesTag" value="values"/>
        <add key="ODMNameSpace" value="http://www.cuahsi.org/waterML/1.0/" />
        <add key="ODMNoDataValueTag" value="NoDataValue"/>
        <add key="LogName" value="NSODMUAF"/>
    </appSettings>
    <connectionStrings/>
    <system.web>
        <!--
        Set compilation debug="true" to insert debugging
        symbols into the compiled page. Because this
        affects performance, set this value to true only
        during development.

        Visual Basic options:
        Set strict="true" to disallow all data type conversions
        where data loss can occur.
        Set explicit="true" to force declaration of all variables.
        -->
        <compilation debug="true" strict="false" explicit="true">
            <assemblies>
                <add assembly="System.Core, Version=3.5.0.0, Culture=neutral,
                PublicKeyToken=B77A5C561934E089"/>
                <add assembly="System.Web.Extensions, Version=3.5.0.0,
                Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
                <add assembly="System.Xml.Linq, Version=3.5.0.0, Culture=neutral,
                PublicKeyToken=B77A5C561934E089"/>
                <add assembly="System.Data.DataSetExtensions, Version=3.5.0.0,
                Culture=neutral, PublicKeyToken=B77A5C561934E089"/></assemblies></compilation>
            <pages>
                <namespaces>
                    <clear/>
                    <add namespace="System"/>
                    <add namespace="System.Collections"/>
                    <add namespace="System.Collections.Specialized"/>
                    <add namespace="System.Configuration"/>
                    <add namespace="System.Text"/>
                    <add namespace="System.Text.RegularExpressions"/>
                    <add namespace="System.Web"/>
                    <add namespace="System.Web.Caching"/>
                    <add namespace="System.Web.SessionState"/>
                    <add namespace="System.Web.Security"/>

```

```

        <add namespace="System.Web.Profile"/>
        <add namespace="System.Web.UI"/>
        <add namespace="System.Web.UI.WebControls"/>
        <add namespace="System.Web.UI.WebControls.WebParts"/>
        <add namespace="System.Web.UI.HtmlControls"/>
    </namespaces>
    <controls>
        <add tagPrefix="asp" namespace="System.Web.UI"
assembly="System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/>
        <add tagPrefix="asp" namespace="System.Web.UI.WebControls"
assembly="System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/></controls></pages>
    <!--
    The <authentication> section enables configuration
    of the security authentication mode used by
    ASP.NET to identify an incoming user.
-->
    <authentication mode="Windows"/>
    <!--
    The <customErrors> section enables configuration
    of what to do if/when an unhandled error occurs
    during the execution of a request. Specifically,
    it enables developers to configure html error pages
    to be displayed in place of a error stack trace.

<customErrors mode="RemoteOnly" defaultRedirect="GenericErrorPage.htm">
    <error statusCode="403" redirect="NoAccess.htm" />
    <error statusCode="404" redirect="FileNotFound.htm" />
</customErrors>
-->
    <webServices>
        <!--
    This section allows for remote use of the Test web service pages.
-->
        <protocols>
            <add name="HttpGet"/>
            <add name="HttpPost"/>
        </protocols>
    </webServices>
    <httpHandlers>
        <remove verb="*" path="*.asmx"/>
        <add verb="*" path="*.asmx" validate="false"
type="System.Web.Script.Services.ScriptHandlerFactory, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
        <add verb="*" path="*_AppService.axd" validate="false"
type="System.Web.Script.Services.ScriptHandlerFactory, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
        <add verb="GET,HEAD" path="ScriptResource.axd" validate="false"
type="System.Web.Handlers.ScriptResourceHandler, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/></httpHandlers>
    <httpModules>
        <add name="ScriptModule" type="System.Web.Handlers.ScriptModule,
System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/></httpModules></system.web>
    <applicationSettings>
        <NS_ODMService.My.MySettings>
            <setting name="NS_ODMService_ndu_WaterOneFlow" serializeAs="String">
                <value>http://nsdss.ine.uaf.edu:8080/NS_UAFWERCDDataService/cuahsi_1_1.asmx</value>
            </setting>
            <setting name="NS_ODMService_UCServer_UCService" serializeAs="String">
                <value>http://nsdss.ine.uaf.edu:8080/NS_UCServer/UCServer.asmx</value>
            </setting>
        </NS_ODMService.My.MySettings>
    </applicationSettings>
    <system.codedom>
        <compilers>

```

```

        <compiler language="vb;vbs;visualbasic;vbscript" extension=".vb"
type="Microsoft.VisualBasic.VBCodeProvider, System, Version=2.0.0.0, Culture=neutral,
PublicKeyToken=b77a5c561934e089" warningLevel="4">
        <providerOption name="CompilerVersion" value="v3.5"/>
        <providerOption name="OptionInfer" value="true"/>
        <providerOption name="WarnAsError"
value="false"/></compiler></compilers></system.codedom>
    <system.webServer>
        <validation validateIntegratedModeConfiguration="false"/>
        <modules>
            <remove name="ScriptModule"/>
            <add name="ScriptModule" preCondition="managedHandler"
type="System.Web.Handlers.ScriptModule, System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/></modules>
        <handlers>
            <remove name="WebServiceHandlerFactory-Integrated"/>
            <remove name="ScriptHandlerFactory"/>
            <remove name="ScriptHandlerFactoryAppServices"/>
            <remove name="ScriptResource"/>
            <add name="ScriptHandlerFactory" verb="*" path="*.asmx"
preCondition="integratedMode" type="System.Web.Script.Services.ScriptHandlerFactory,
System.Web.Extensions, Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
            <add name="ScriptHandlerFactoryAppServices" verb="*"
path="*_AppService.axd" preCondition="integratedMode"
type="System.Web.Script.Services.ScriptHandlerFactory, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
            <add name="ScriptResource" verb="GET,HEAD" path="ScriptResource.axd"
preCondition="integratedMode" type="System.Web.Handlers.ScriptResourceHandler,
System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/></handlers></system.webServer>
    <runtime>
        <assemblyBinding xmlns="urn:schemas-microsoft-com:asm.v1">
            <dependentAssembly>
                <assemblyIdentity name="System.Web.Extensions"
publicKeyToken="31bf3856ad364e35"/>
                <bindingRedirect oldVersion="1.0.0.0-1.1.0.0"
newVersion="3.5.0.0"/></dependentAssembly>
            <dependentAssembly>
                <assemblyIdentity name="System.Web.Extensions.Design"
publicKeyToken="31bf3856ad364e35"/>
                <bindingRedirect oldVersion="1.0.0.0-1.1.0.0"
newVersion="3.5.0.0"/></dependentAssembly></assemblyBinding></runtime></configuration>

```

6.11. NS_UCService

6.11.1. Service Parameters:

Name	NS_UCService
Base Web Service	Unit Conversion Service Web Service
Endpoint	http://{SERVER}:{PORT}/NS_UCServer/UCServer.asmx
Physical Path	C:\NSAPP\NSUCS
Application Pool	NSDSS Applications

6.11.2. Web Config

6.11.2.1. appSettings Section

See [6.2.2.1](#) for configuration of AuthADAMDN, AuthADAMServer, AuthADAMPort, LogConfigFile and LogName parameters.

ConversionFile is set to the master file for unit conversion settings. See Appendix A for the current listing.

6.11.2.2. Listing

```
<?xml version="1.0"?>
<configuration>

  <configSections>
    <sectionGroup name="system.web.extensions"
type="System.Web.Configuration.SystemWebExtensionsSectionGroup, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35">
      <sectionGroup name="scripting" type="System.Web.Configuration.ScriptingSectionGroup,
System.Web.Extensions, Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35">
        <section name="scriptResourceHandler"
type="System.Web.Configuration.ScriptingScriptResourceHandlerSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/>
        <sectionGroup name="webServices"
type="System.Web.Configuration.ScriptingWebServicesSectionGroup, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35">
          <section name="jsonSerialization"
type="System.Web.Configuration.ScriptingJsonSerializationSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="Everywhere" />
          <section name="profileService"
type="System.Web.Configuration.ScriptingProfileServiceSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication" />
          <section name="authenticationService"
type="System.Web.Configuration.ScriptingAuthenticationServiceSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication" />
          <section name="roleService"
type="System.Web.Configuration.ScriptingRoleServiceSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication" />
        </sectionGroup>
      </sectionGroup>
    </sectionGroup>
  </configSections>

  <appSettings>
    <add key="AuthADAMDN" value="o=uaf,c=us"/>
    <add key="AuthADAMServer" value="nsdss.ine.uaf.edu"/>
    <add key="AuthADAMPort" value="50000"/>
    <add key="LogConfigFile" value="C:\NSApp\l4ncfg.xml"/>
    <add key="LogName" value="ConvServ"/>
    <add key="ConversionFile" value="C:\NSApp\convunit.xml"/>
  </appSettings>

  <system.web>
    <!--
      Set compilation debug="true" to insert debugging
```

symbols into the compiled page. Because this affects performance, set this value to true only during development.

Visual Basic options:

Set `strict="true"` to disallow all data type conversions where data loss can occur.

Set `explicit="true"` to force declaration of all variables.

```
-->
<compilation debug="true" strict="false" explicit="true">

  <assemblies>
    <add assembly="System.Core, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=B77A5C561934E089"/>
    <add assembly="System.Data.DataSetExtensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=B77A5C561934E089"/>
    <add assembly="System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/>
    <add assembly="System.Xml.Linq, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=B77A5C561934E089"/>
  </assemblies>

</compilation>
<pages>
  <namespaces>
    <clear />
    <add namespace="System" />
    <add namespace="System.Collections" />
    <add namespace="System.Collections.Generic" />
    <add namespace="System.Collections.Specialized" />
    <add namespace="System.Configuration" />
    <add namespace="System.Text" />
    <add namespace="System.Text.RegularExpressions" />
    <add namespace="System.Linq" />
    <add namespace="System.Xml.Linq" />
    <add namespace="System.Web" />
    <add namespace="System.Web.Caching" />
    <add namespace="System.Web.SessionState" />
    <add namespace="System.Web.Security" />
    <add namespace="System.Web.Profile" />
    <add namespace="System.Web.UI" />
    <add namespace="System.Web.UI.WebControls" />
    <add namespace="System.Web.UI.WebControls.WebParts" />
    <add namespace="System.Web.UI.HtmlControls" />
  </namespaces>

  <controls>
    <add tagPrefix="asp" namespace="System.Web.UI" assembly="System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
    <add tagPrefix="asp" namespace="System.Web.UI.WebControls"
assembly="System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/>
  </controls>

</pages>
<!--
  The <authentication> section enables configuration
  of the security authentication mode used by
  ASP.NET to identify an incoming user.
-->
<authentication mode="Windows" />
<!--
  The <customErrors> section enables configuration
  of what to do if/when an unhandled error occurs
  during the execution of a request. Specifically,
  it enables developers to configure html error pages
  to be displayed in place of a error stack trace.
```

```

<customErrors mode="RemoteOnly" defaultRedirect="GenericErrorPage.htm">
  <error statusCode="403" redirect="NoAccess.htm" />
  <error statusCode="404" redirect="FileNotFound.htm" />
</customErrors>
-->

  <webServices>
    <!--
    This section allows for remote use of the Test web service pages.
    -->

    <protocols>
      <add name="HttpGet"/>
      <add name="HttpPost"/>
    </protocols>
  </webServices>

  <httpHandlers>
    <remove verb="*" path="*.asmx"/>
    <add verb="*" path="*.asmx" validate="false"
type="System.Web.Script.Services.ScriptHandlerFactory, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
    <add verb="*" path="*_AppService.axd" validate="false"
type="System.Web.Script.Services.ScriptHandlerFactory, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
    <add verb="GET,HEAD" path="ScriptResource.axd"
type="System.Web.Handlers.ScriptResourceHandler, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35" validate="false"/>
  </httpHandlers>
  <httpModules>
    <add name="ScriptModule" type="System.Web.Handlers.ScriptModule, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
  </httpModules>

</system.web>

<system.codedom>
  <compilers>
    <compiler language="vb;vbs;visualbasic;vbscript" extension=".vb" warningLevel="4"
type="Microsoft.VisualBasic.VBCodeProvider, System, Version=2.0.0.0,
Culture=neutral, PublicKeyToken=b77a5c561934e089">
      <providerOption name="CompilerVersion" value="v3.5"/>
      <providerOption name="OptionInfer" value="true"/>
      <providerOption name="WarnAsError" value="false"/>
    </compiler>
  </compilers>
</system.codedom>

<!--
The system.webServer section is required for running ASP.NET AJAX under Internet
Information Services 7.0. It is not necessary for previous version of IIS.
-->
<system.webServer>
  <validation validateIntegratedModeConfiguration="false"/>
  <modules>
    <remove name="ScriptModule" />
    <add name="ScriptModule" preCondition="managedHandler"
type="System.Web.Handlers.ScriptModule, System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/>
  </modules>
  <handlers>
    <remove name="WebServiceHandlerFactory-Integrated"/>
    <remove name="ScriptHandlerFactory" />
    <remove name="ScriptHandlerFactoryAppServices" />
    <remove name="ScriptResource" />
    <add name="ScriptHandlerFactory" verb="*" path="*.asmx" preCondition="integratedMode"
type="System.Web.Script.Services.ScriptHandlerFactory, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>

```

```

    <add name="ScriptHandlerFactoryAppServices" verb="*" path="*_AppService.axd"
preCondition="integratedMode"
        type="System.Web.Script.Services.ScriptHandlerFactory, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
    <add name="ScriptResource" preCondition="integratedMode" verb="GET,HEAD"
path="ScriptResource.axd" type="System.Web.Handlers.ScriptResourceHandler, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" />
    </handlers>
</system.webServer>

<runtime>
    <assemblyBinding xmlns="urn:schemas-microsoft-com:asm.v1">
        <dependentAssembly>
            <assemblyIdentity name="System.Web.Extensions" publicKeyToken="31bf3856ad364e35"/>
            <bindingRedirect oldVersion="1.0.0.0-1.1.0.0" newVersion="3.5.0.0"/>
        </dependentAssembly>
        <dependentAssembly>
            <assemblyIdentity name="System.Web.Extensions.Design"
publicKeyToken="31bf3856ad364e35"/>
            <bindingRedirect oldVersion="1.0.0.0-1.1.0.0" newVersion="3.5.0.0"/>
        </dependentAssembly>
    </assemblyBinding>
</runtime>
</configuration>

```

6.12. OPPub

6.12.1. Service Parameters:

Name	OPPub
Base Web Service	ODM Publishing Web Service
Endpoint	http://\${SERVER}:\${PORT}/NS_CatalogService/NS_CatalogService.asmx
Physical Path	C:\NSAPP\NSCS
Application Pool	Classic .NET AppPool

6.12.2. Web Config

6.12.2.1. *appSettings* Section

See [6.2.2.1](#) for configuration of AuthADAMDN, AuthADAMServer, AuthADAMPort, LogConfigFile and LogName keys.

See [6.3.2.1](#) for configuration of the ODMNamespace and ODMValueTag keys.

6.12.2.2. *connectionStrings Section*

ODpubConnectionString is set to a user with read/modify access to the ODM database instance used for Publishing ODM time series.

6.12.2.3. *Listing*

```
<?xml version="1.0"?>
<configuration>
  <configSections>
    <sectionGroup name="system.web.extensions"
type="System.Web.Configuration.SystemWebExtensionsSectionGroup, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35">
      <sectionGroup name="scripting"
type="System.Web.Configuration.ScriptingSectionGroup, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35">
        <section name="scriptResourceHandler"
type="System.Web.Configuration.ScriptingScriptResourceHandlerSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/>
        <sectionGroup name="webServices"
type="System.Web.Configuration.ScriptingWebServicesSectionGroup, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35">
          <section name="jsonSerialization"
type="System.Web.Configuration.ScriptingJsonSerializationSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="Everywhere"/>
          <section name="profileService"
type="System.Web.Configuration.ScriptingProfileServiceSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/>
          <section name="authenticationService"
type="System.Web.Configuration.ScriptingAuthenticationServiceSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/>
          <section name="roleService"
type="System.Web.Configuration.ScriptingRoleServiceSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/>
        </sectionGroup>
      </sectionGroup>
    </configSections>
    <appSettings>
      <add key="AuthADAMDN" value="o=uaf,c=us"/>
      <add key="AuthADAMServer" value="nsdss.ine.uaf.edu"/>
      <add key="AuthADAMPort" value="50000"/>
      <add key="LogConfigFile" value="C:\NSApp\l4ncfg.xml"/>
      <add key="LogName" value="CatServ"/>
      <add key="ODMNameSpace" value="http://www.cuahsi.org/waterML/1.0/" />
      <add key="ODMValueTag" value="value"/>
    </appSettings>
    <connectionStrings>
      <add name="ODpubConnectionString" connectionString="Data
Source=nsdss.ine.uaf.edu;Initial Catalog=ODpub;Persist Security Info=True;User ID=sa;Password= "
providerName="System.Data.SqlClient"/>
    </connectionStrings>
    <system.web>
      <!--
Set compilation debug="true" to insert debugging
symbols into the compiled page. Because this
affects performance, set this value to true only
during development.

Visual Basic options:
```

```

    Set strict="true" to disallow all data type conversions
    where data loss can occur.
    Set explicit="true" to force declaration of all variables.
-->
    <compilation debug="true" strict="false" explicit="true">
        <assemblies>
            <add assembly="System.Core, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=B77A5C561934E089"/>
            <add assembly="System.Data.DataSetExtensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=B77A5C561934E089"/>
            <add assembly="System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
            <add assembly="System.Xml.Linq, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=B77A5C561934E089"/>
        </assemblies>
    </compilation>
    <pages>
        <namespaces>
            <clear/>
            <add namespace="System"/>
            <add namespace="System.Collections"/>
            <add namespace="System.Collections.Generic"/>
            <add namespace="System.Collections.Specialized"/>
            <add namespace="System.Configuration"/>
            <add namespace="System.Text"/>
            <add namespace="System.Text.RegularExpressions"/>
            <add namespace="System.Linq"/>
            <add namespace="System.Xml.Linq"/>
            <add namespace="System.Web"/>
            <add namespace="System.Web.Caching"/>
            <add namespace="System.Web.SessionState"/>
            <add namespace="System.Web.Security"/>
            <add namespace="System.Web.Profile"/>
            <add namespace="System.Web.UI"/>
            <add namespace="System.Web.UI.WebControls"/>
            <add namespace="System.Web.UI.WebControls.WebParts"/>
            <add namespace="System.Web.UI.HtmlControls"/>
        </namespaces>
        <controls>
            <add tagPrefix="asp" namespace="System.Web.UI"
assembly="System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/>
            <add tagPrefix="asp" namespace="System.Web.UI.WebControls"
assembly="System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/>
        </controls>
    </pages>
    <!--
    The <authentication> section enables configuration
    of the security authentication mode used by
    ASP.NET to identify an incoming user.
-->
    <authentication mode="Windows"/>
    <!--
    The <customErrors> section enables configuration
    of what to do if/when an unhandled error occurs
    during the execution of a request. Specifically,
    it enables developers to configure html error pages
    to be displayed in place of a error stack trace.

    <customErrors mode="RemoteOnly" defaultRedirect="GenericErrorPage.htm">
        <error statusCode="403" redirect="NoAccess.htm" />
        <error statusCode="404" redirect="FileNotFound.htm" />
    </customErrors>
-->
    <webServices>
        <!--
        This section allows for remote use of the Test web service pages.

```

```

-->
        <protocols>
            <add name="HttpGet"/>
            <add name="HttpPost"/>
        </protocols>
    </webServices>
    <httpHandlers>
        <remove verb="*" path="*.asmx"/>
        <add verb="*" path="*.asmx" validate="false"
type="System.Web.Script.Services.ScriptHandlerFactory, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
        <add verb="*" path="*_AppService.axd" validate="false"
type="System.Web.Script.Services.ScriptHandlerFactory, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
        <add verb="GET,HEAD" path="ScriptResource.axd"
type="System.Web.Handlers.ScriptResourceHandler, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35" validate="false"/>
    </httpHandlers>
    <httpModules>
        <add name="ScriptModule" type="System.Web.Handlers.ScriptModule,
System.Web.Extensions, Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
    </httpModules>
</system.web>
<system.codedom>
    <compilers>
        <compiler language="vb;vbs;visualbasic;vbscript" extension=".vb"
warningLevel="4" type="Microsoft.VisualBasic.VBCodeProvider, System, Version=2.0.0.0,
Culture=neutral, PublicKeyToken=b77a5c561934e089">
            <providerOption name="CompilerVersion" value="v3.5"/>
            <providerOption name="OptionInfer" value="true"/>
            <providerOption name="WarnAsError" value="false"/>
        </compiler>
    </compilers>
</system.codedom>
<!--
The system.webServer section is required for running ASP.NET AJAX under Internet
Information Services 7.0. It is not necessary for previous version of IIS.
-->
<system.webServer>
    <validation validateIntegratedModeConfiguration="false"/>
    <modules>
        <remove name="ScriptModule"/>
        <add name="ScriptModule" preCondition="managedHandler"
type="System.Web.Handlers.ScriptModule, System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/>
    </modules>
    <handlers>
        <remove name="WebServiceHandlerFactory-Integrated"/>
        <remove name="ScriptHandlerFactory"/>
        <remove name="ScriptHandlerFactoryAppServices"/>
        <remove name="ScriptResource"/>
        <add name="ScriptHandlerFactory" verb="*" path="*.asmx"
preCondition="integratedMode" type="System.Web.Script.Services.ScriptHandlerFactory,
System.Web.Extensions, Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
        <add name="ScriptHandlerFactoryAppServices" verb="*"
path="*_AppService.axd" preCondition="integratedMode"
type="System.Web.Script.Services.ScriptHandlerFactory, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
        <add name="ScriptResource" preCondition="integratedMode" verb="GET,HEAD"
path="ScriptResource.axd" type="System.Web.Handlers.ScriptResourceHandler, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
    </handlers>
</system.webServer>
<runtime>
    <assemblyBinding xmlns="urn:schemas-microsoft-com:asm.v1">
        <dependentAssembly>
            <assemblyIdentity name="System.Web.Extensions"
publicKeyToken="31bf3856ad364e35"/>

```

```

        <bindingRedirect oldVersion="1.0.0.0-1.1.0.0" newVersion="3.5.0.0"/>
      </dependentAssembly>
    <dependentAssembly>
      <assemblyIdentity name="System.Web.Extensions.Design"
publicKeyToken="31bf3856ad364e35"/>
      <bindingRedirect oldVersion="1.0.0.0-1.1.0.0" newVersion="3.5.0.0"/>
    </dependentAssembly>
  </assemblyBinding>
</runtime>
</configuration>

```

6.13. NCDCProxy

6.13.1. Service Parameters:

Name	NCDCProxy
Base Web Service	NDCD REST Service Data Retrieval Proxy
Endpoint	http://\${SERVER}:\${PORT}/NCDCProxy/NCDCProxy.asmx
Physical Path	C:\NSAPP\NCDCProxy
Application Pool	NSDSS Applications

6.13.2. Web Config

6.13.2.1. appSettings Section

See [6.2.2.1](#) for configuration of AuthADAMDN, AuthADAMServer, AuthADAMPort, LogConfigFile and LogName parameters.

ConversionFile is set to the master file for unit conversion settings. See Appendix A for the current listing.

6.13.2.2. Listing

```

<?xml version="1.0"?>
<configuration>
  <configSections>
    <sectionGroup name="system.web.extensions"
type="System.Web.Configuration.SystemWebExtensionsSectionGroup, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35">
      <sectionGroup name="scripting"
type="System.Web.Configuration.ScriptingSectionGroup, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35">
        <section name="scriptResourceHandler"
type="System.Web.Configuration.ScriptingScriptResourceHandlerSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/>
      </sectionGroup>
    </sectionGroup>
  </configSections>
  <sectionGroup name="webServices"
type="System.Web.Configuration.ScriptingWebServicesSectionGroup, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35">

```

```

        <section name="jsonSerialization"
type="System.Web.Configuration.ScriptingJsonSerializationSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="Everywhere"/>
        <section name="profileService"
type="System.Web.Configuration.ScriptingProfileServiceSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/>
        <section name="authenticationService"
type="System.Web.Configuration.ScriptingAuthenticationServiceSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/>
        <section name="roleService"
type="System.Web.Configuration.ScriptingRoleServiceSection, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35" requirePermission="false"
allowDefinition="MachineToApplication"/>
    </sectionGroup>
</sectionGroup>
</configSections>
<appSettings/>
<connectionStrings/>
<system.web>
    <!--
    Set compilation debug="true" to insert debugging
    symbols into the compiled page. Because this
    affects performance, set this value to true only
    during development.

    Visual Basic options:
    Set strict="true" to disallow all data type conversions
    where data loss can occur.
    Set explicit="true" to force declaration of all variables.
    -->
    <httpRuntime executionTimeout="1200"/>
    <compilation debug="false" strict="false" explicit="true">
        <assemblies>
            <add assembly="System.Core, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=B77A5C561934E089"/>
            <add assembly="System.Data.DataSetExtensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=B77A5C561934E089"/>
            <add assembly="System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
            <add assembly="System.Xml.Linq, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=B77A5C561934E089"/>
        </assemblies>
    </compilation>
    <pages>
        <namespaces>
            <clear/>
            <add namespace="System"/>
            <add namespace="System.Collections"/>
            <add namespace="System.Collections.Generic"/>
            <add namespace="System.Collections.Specialized"/>
            <add namespace="System.Configuration"/>
            <add namespace="System.Text"/>
            <add namespace="System.Text.RegularExpressions"/>
            <add namespace="System.Linq"/>
            <add namespace="System.Xml.Linq"/>
            <add namespace="System.Web"/>
            <add namespace="System.Web.Caching"/>
            <add namespace="System.Web.SessionState"/>
            <add namespace="System.Web.Security"/>
            <add namespace="System.Web.Profile"/>
            <add namespace="System.Web.UI"/>
            <add namespace="System.Web.UI.WebControls"/>
            <add namespace="System.Web.UI.WebControls.WebParts"/>

```

```

        <add namespace="System.Web.UI.HtmlControls"/>
    </namespaces>
    <controls>
        <add tagPrefix="asp" namespace="System.Web.UI"
assembly="System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/>
        <add tagPrefix="asp" namespace="System.Web.UI.WebControls"
assembly="System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/>
    </controls>
</pages>
<!--
The <authentication> section enables configuration
of the security authentication mode used by
ASP.NET to identify an incoming user.
-->
    <authentication mode="Windows"/>
    <!--
The <customErrors> section enables configuration
of what to do if/when an unhandled error occurs
during the execution of a request. Specifically,
it enables developers to configure html error pages
to be displayed in place of a error stack trace.

<customErrors mode="RemoteOnly" defaultRedirect="GenericErrorPage.htm">
    <error statusCode="403" redirect="NoAccess.htm" />
    <error statusCode="404" redirect="FileNotFound.htm" />
</customErrors>
-->
    <httpHandlers>
        <remove verb="*" path="*.asmx"/>
        <add verb="*" path="*.asmx" validate="false"
type="System.Web.Script.Services.ScriptHandlerFactory, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
        <add verb="*" path="*_AppService.axd" validate="false"
type="System.Web.Script.Services.ScriptHandlerFactory, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
        <add verb="GET,HEAD" path="ScriptResource.axd"
type="System.Web.Handlers.ScriptResourceHandler, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35" validate="false"/>
    </httpHandlers>
    <httpModules>
        <add name="ScriptModule" type="System.Web.Handlers.ScriptModule,
System.Web.Extensions, Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
    </httpModules>
</system.web>
<system.codedom>
    <compilers>
        <compiler language="vb;vbs;visualbasic;vbscript" extension=".vb"
warningLevel="4" type="Microsoft.VisualBasic.VBCodeProvider, System, Version=2.0.0.0,
Culture=neutral, PublicKeyToken=b77a5c561934e089">
            <providerOption name="CompilerVersion" value="v3.5"/>
            <providerOption name="OptionInfer" value="true"/>
            <providerOption name="WarnAsError" value="false"/>
        </compiler>
    </compilers>
</system.codedom>
<!--
The system.webServer section is required for running ASP.NET AJAX under Internet
Information Services 7.0. It is not necessary for previous version of IIS.
-->
<system.webServer>
    <validation validateIntegratedModeConfiguration="false"/>
    <modules>
        <remove name="ScriptModule"/>
        <add name="ScriptModule" preCondition="managedHandler"
type="System.Web.Handlers.ScriptModule, System.Web.Extensions, Version=3.5.0.0, Culture=neutral,
PublicKeyToken=31BF3856AD364E35"/>

```

```

    </modules>
    <handlers>
      <remove name="WebServiceHandlerFactory-Integrated"/>
      <remove name="ScriptHandlerFactory"/>
      <remove name="ScriptHandlerFactoryAppServices"/>
      <remove name="ScriptResource"/>
      <add name="ScriptHandlerFactory" verb="*" path="*.asmx"
preCondition="integratedMode" type="System.Web.Script.Services.ScriptHandlerFactory,
System.Web.Extensions, Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
      <add name="ScriptHandlerFactoryAppServices" verb="*"
path="*_AppService.axd" preCondition="integratedMode"
type="System.Web.Script.Services.ScriptHandlerFactory, System.Web.Extensions, Version=3.5.0.0,
Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
      <add name="ScriptResource" preCondition="integratedMode" verb="GET,HEAD"
path="ScriptResource.axd" type="System.Web.Handlers.ScriptResourceHandler, System.Web.Extensions,
Version=3.5.0.0, Culture=neutral, PublicKeyToken=31BF3856AD364E35"/>
    </handlers>
  </system.webServer>
  <runtime>
    <assemblyBinding xmlns="urn:schemas-microsoft-com:asm.v1">
      <dependentAssembly>
        <assemblyIdentity name="System.Web.Extensions"
publicKeyToken="31bf3856ad364e35"/>
        <bindingRedirect oldVersion="1.0.0.0-1.1.0.0" newVersion="3.5.0.0"/>
      </dependentAssembly>
      <dependentAssembly>
        <assemblyIdentity name="System.Web.Extensions.Design"
publicKeyToken="31bf3856ad364e35"/>
        <bindingRedirect oldVersion="1.0.0.0-1.1.0.0" newVersion="3.5.0.0"/>
      </dependentAssembly>
    </assemblyBinding>
  </runtime>
</configuration>

```

7. Security Configuration

Services Security LDAP uses an ADAM (lightweight) instance on the server. The ADAM LDAP runs on port 50000 and can be accessed using the “ADSI Edit” tools on the UAF NSDSS Server. There are three group/roles of consequence: Admins (full access to all user function and can write values), NCUsers (access to NetCDF services), and ODMUsers (access to ODM services). Each user must exist in at least one group to be a valid system user.

Appendices

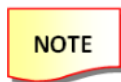
Appendix A. Current Unit Conversion Master File

The Unit conversion Master File is an XML file with a neutral namespace. All units are contained within a single node named `conversions`.

Each `baseunit` node defines a unit with a canonical name (the `name` attribute) and a unique dimension (the `property` attribute).

Abbreviations and aliases of the base unit (for example 10 % is the same as 10 percent) are defined in `basealt` nodes, with the alias defined in its `name` attribute.

Alternative units of the same dimension (for example Fahrenheit vs. Celsius or inch vs. foot) are defined in `altunit` nodes, and are defined by their `name` attribute, a `factor` value by which the base unit must be multiplied and then a `offset` value which must be added following the multiplication into order to arrive at the final value in the alternative unit.



This order is important!

The equation is:

$$(alternate) = (value * factor) + offset$$

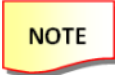
Abbreviations and aliases of alternative units are defined in `altunitalt` nodes, with the `name` attribute.

See the following master file listing for examples of well known units and their conversions:

```
<?xml version="1.0" encoding="utf-8" ?>
<conversions>
  <baseunit name="percent" property="ratio">
    <basealt name="Percent" />
    <basealt name="ratio" />
    <basealt name="%" />
    <basealt name="degree" />
  </baseunit>
  - <baseunit name="watts per square meter" property="intensity">
    <basealt name="w/m2" />
    <basealt name="W/m2" />
    <basealt name="W m-2" />
    <basealt name="watts/m2" />
  </baseunit>
  <baseunit name="kelvin" property="temperature">
    <basealt name="K" />
    <basealt name="degrees kelvin" />
    <basealt name="degrees Kelvin" />
    <basealt name="degree kelvin" />
    <basealt name="degree Kelvin" />
  </baseunit>
</conversions>
```

```
<basealt name="degrees K" />
<basealt name="degK" />
<basealt name="deg K" />
<altunit name="fahrenheit" factor="1.8" offset="-459.67">
  <altunitalt name="F" />
  <altunitalt name="degF" />
  <altunitalt name="deg F" />
  <altunitalt name="degree F" />
  <altunitalt name="degrees F" />
  <altunitalt name="degrees fahrenheit" />
  <altunitalt name="degrees Fahrenheit" />
  <altunitalt name="degree fahrenheit" />
  <altunitalt name="degree Fahrenheit" />
</altunit>
<altunit name="celcius" factor="1" offset="-273.25">
  <altunitalt name="C"/>
  <altunitalt name="degC" />
  <altunitalt name="deg C" />
  <altunitalt name="degree C" />
  <altunitalt name="degrees C" />
  <altunitalt name="degree celsius" />
  <altunitalt name="degree Celsius" />
  <altunitalt name="degrees celsius" />
  <altunitalt name="degrees Celsius" />
</altunit>
</baseunit>
<baseunit name="kg m-2 s-1" property="precipitation-rate">
  <altunit name="inch per hour" factor="141.7" offset="0">
    <altunitalt name="inches per hour" />
    <altunitalt name="inches per hr" />
    <altunitalt name="inch per hr" />
  </altunit>
  <altunit name="inch per month" factor="102024" offset="0">
    <altunitalt name="inches per month" />
    <altunitalt name="inches per mo" />
    <altunitalt name="inch per mo" />
    <altunitalt name="in/month" />
    <altunitalt name="inches/month" />
    <altunitalt name="inch/month" />
    <altunitalt name="in/mo" />
    <altunitalt name="inches/mo" />
    <altunitalt name="inch/mo" />
  </altunit>
  <altunit name="mm per mo" factor="2591410" offset="0">
    <altunitalt name="mms per month" />
    <altunitalt name="mms per mo" />
    <altunitalt name="mm per month" />
    <altunitalt name="millimeters per month" />
    <altunitalt name="millimeters per mo" />
    <altunitalt name="mm/month" />
    <altunitalt name="mm/mo" />
  </altunit>
  <altunit name="m per day" factor="86.047" offset="0">
    <altunitalt name="ms per day" />
    <altunitalt name="ms per dy" />
    <altunitalt name="m per day" />
    <altunitalt name="millimeters per day" />
    <altunitalt name="millimeters per mo" />
    <altunitalt name="m/day" />
    <altunitalt name="m/dy" />
    <altunitalt name="meters/day" />
  </altunit>
</baseunit>
<baseunit name="meters per second" property="rate">
  <basealt name="meters_per_second" />
  <basealt name="m/s" />
  <basealt name="m s-1" />
  <altunit name="km per hour" factor="3.6" offset="0">
```

MD5 checksums are included to assure that files being used are correct regardless of timestamp of filename modifications.

Filename	Size (bytes)	MD5 checksum	Description
genericODws_deploy.dll	266240	0d461f77d6481a6ef77808bcf7ed7b73	In ODM Web Services package, part of CUAHSI release
HydroObjects.dll	24576	dbe453bac0f3918c539584b3c29befe1	In ODM Web Services package, part of CUAHSI release
Log4net.dll	270336	b89cb7f3f1a1e2807e708f5435deb13d	Library for log4net operation
Netcdf.dll	180224	89cdfb52b5d4ddafb993aeae7542c38d	Unidata netcdf handling library. 
<i>B.1.1.1. waterOneFlowImpl.dll</i>	<i>B.1.1.1. 8304</i>	<i>B.1.1.3. e7b0099feb770f9c820205b3b3202f32</i>	<i>B.1.1.4. In ODM Web Services package, part of CUAHSI release</i>