

# Aqualarm

## Overview

The Aqualarm import function (`<importType>Aqualarm</importType>`) imports data from the aqualarm services that return XML content. (since 2015.02).

The service can be found at [www.aqualarm.nl](http://www.aqualarm.nl)

## HTTPS communication

Since 2017 the Aqualarm service is using HTTPS. Since Aqualarm uses a PKI overheid certificate which isn't available to the import, it should be made known to FEWS.

The process of making the certificates available has been documented at: [How to configure secure https connection to Matroos](#).

For aqualarm the following certificates have to be imported in the truststore:

[StaatderNederlandenRootCA-G2.crt](#) : public certificate of the staat der nederlanden, valid until 2020.

[aqualarm.nl.crt](#): public certificate of aqualarm, valid until 2019.

[client.truststore](#) : truststore with imported certificates

## Configuring the Import

To make the importer known to FEWS, the import module has to be declared in the `moduleInstanceDescriptors.xml` in the `RegionConfigFiles` directory of the FEWS configuration:

```
<?xml version="1.0" encoding="UTF-8"?>
<moduleInstanceDescriptors xmlns="http://www.wldelft.nl/fews"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
    xsi:schemaLocation="http://www.wldelft.nl/fews
        http://fews.wldelft.nl/schemas/version1.0/moduleInstanceDescriptors.xsd" version="1.0">
    ...
    <moduleInstanceDescriptor id="ImportAqualarm"/>
    ...
</moduleInstanceDescriptors>
```

An example of the Aqualarm import configuration is given here. The `importType` is named **Aqualarm** which should be configured in the general section of the import. The URL to the service should be configured here as well. The actual data to be retrieved can be tuned by setting the `relativeViewPeriod` and the `timeSeries` to specify the locations and parameters. N.B.: the used parameters and locations have to be mapped with an `idMap` to the actual id's that are used by the Aqualarm service (`IdAqualarm` in this example). `TimeZone` is assumed to be configured in the general section, otherwise GMT is assumed.

```

<?xml version="1.0" encoding="UTF-8"?>
<timeSeriesImportRun xmlns="http://www.wldelft.nl/fews" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.wldelft.nl/fews
http://fews.wldelft.nl/schemas/version1.0/timeSeriesImportRun.xsd">
  <import>
    <general>
      <importType>Aqualarm</importType>
      <serverUrl>http://www.aqualarm.nl</serverUrl>
      <connectionTimeoutMillis>20000</connectionTimeoutMillis>
      <relativeViewPeriod unit="day" start="-10" end="0" startOverrutable="true"
endOverrutable="true"/>
      <idMapId>IdAqualarm</idMapId>
      <importTimeZone>
        <timeZoneName>GMT+2</timeZoneName>
      </importTimeZone>
    </general>
    <timeSeriesSet>
      <moduleInstanceId>ImportAqualarm</moduleInstanceId>
      <valueType>scalar</valueType>
      <parameterId>H.observed</parameterId>
      <locationId>Lobith</locationId>
      <timeSeriesType>external historical</timeSeriesType>
      <timeStep unit="nonequidistant"/>
      <readWriteMode>add originals</readWriteMode>
    </timeSeriesSet>
    <timeSeriesSet>
      <moduleInstanceId>ImportAqualarm</moduleInstanceId>
      <valueType>scalar</valueType>
      <parameterId>H.observed</parameterId>
      <locationId>Eijsden</locationId>
      <timeSeriesType>external historical</timeSeriesType>
      <timeStep unit="nonequidistant"/>
      <readWriteMode>add originals</readWriteMode>
    </timeSeriesSet>
  </import>
</timeSeriesImportRun>

```

The previous timeseries will be mapped using the IdAqualarm id mapping. As an example the internal FEWS location Lobith is mapped to the aqualarm location code: LOBI:

```

<?xml version="1.0" encoding="UTF-8"?>
<idMap version="1.1" xmlns="http://www.wldelft.nl/fews" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.wldelft.nl/fews http://fews.wldelft.nl/schemas/version1.0/idMap.xsd">
  <parameter internal="H.observed" external="CLBI"/>
  <location external="LOBI" internal="Lobith" />
  <location external="EIJS" internal="Eijsden" />
</idMap>

```

Example XML response from the Aqualarm service. Currently only the ParamDateTime and ParamValue are imported. If a value is set as NA, it's handled as a missing value by FEWS.

```

<?xml version="1.0" encoding="UTF-8"?>
<Rowsets DateCreated="2015-09-16T14:01:28" EndDate="2003-11-03T14:22:49" StartDate="2000-11-03T14:21:49"
Version="9.5">
  <Rowset>
    <Columns>
      <Column Description="LocationCode" MaxRange="1.0" MinRange="0.0" Name="LocationCode" SQLDataType="12"
SourceColumn="LocationCode"/>
      <Column Description="ParamCode" MaxRange="1.0" MinRange="0.0" Name="ParamCode" SQLDataType="12"
SourceColumn="ParamCode"/>
      <Column Description="Compoundname" MaxRange="1.0" MinRange="0.0" Name="Compoundname" SQLDataType="12"
SourceColumn="Compoundname"/>
      <Column Description="ReportCode" MaxRange="1.0" MinRange="0.0" Name="ReportCode" SQLDataType="12"
SourceColumn="ReportCode"/>
      <Column Description="ParamValue" MaxRange="1.0" MinRange="0.0" Name="ParamValue" SQLDataType="6"
SourceColumn="ParamValue"/>
      <Column Description="Units" MaxRange="1.0" MinRange="0.0" Name="Units" SQLDataType="12" SourceColumn="

```

```

Units"/>
    <Column Description="ParamDateTime" MaxRange="1.0" MinRange="0.0" Name="ParamDateTime" SQLDataType="
93" SourceColumn="ParamDateTime"/>
    <Column Description="ParamQuality" MaxRange="1.0" MinRange="0.0" Name="ParamQuality" SQLDataType="-6"
SourceColumn="ParamQuality"/>
    <Column Description="Validated" MaxRange="1.0" MinRange="0.0" Name="Validated" SQLDataType="12"
SourceColumn="Validated"/>
    <Column Description="Modified" MaxRange="1.0" MinRange="0.0" Name="Modified" SQLDataType="12"
SourceColumn="Modified"/>
</Columns>
<Row>
    <LocationCode>LOBI</LocationCode>
    <ParamCode>CLBI</ParamCode>
    <Compoundname>Chloride</Compoundname>
    <ReportCode/>
    <ParamValue>NA</ParamValue>
    <Units>mg/l</Units>
    <ParamDateTime>2015-09-16T08:00:06</ParamDateTime>
    <ParamQuality>0</ParamQuality>
    <Validated/>
    <Modified/>
</Row>
<Row>
    <LocationCode>LOBI</LocationCode>
    <ParamCode>CLBI</ParamCode>
    <Compoundname>Chloride</Compoundname>
    <ReportCode/>
    <ParamValue>NA</ParamValue>
    <Units>mg/l</Units>
    <ParamDateTime>2015-09-15T08:00:06</ParamDateTime>
    <ParamQuality>0</ParamQuality>
    <Validated/>
    <Modified/>
</Row>
<Row>
    <LocationCode>LOBI</LocationCode>
    <ParamCode>CLBI</ParamCode>
    <Compoundname>Chloride</Compoundname>
    <ReportCode/>
    <ParamValue>140</ParamValue>
    <Units>mg/l</Units>
    <ParamDateTime>2015-09-14T08:00:07</ParamDateTime>
    <ParamQuality>0</ParamQuality>
    <Validated>ja</Validated>
    <Modified>ja</Modified>
</Row>
<Row>
    <LocationCode>LOBI</LocationCode>
    <ParamCode>CLBI</ParamCode>
    <Compoundname>Chloride</Compoundname>
    <ReportCode/>
    <ParamValue>127</ParamValue>
    <Units>mg/l</Units>
    <ParamDateTime>2015-09-13T08:00:07</ParamDateTime>
    <ParamQuality>0</ParamQuality>
    <Validated>ja</Validated>
    <Modified>ja</Modified>
</Row>
<Row>
    <LocationCode>LOBI</LocationCode>
    <ParamCode>CLBI</ParamCode>
    <Compoundname>Chloride</Compoundname>
    <ReportCode/>
    <ParamValue>121</ParamValue>
    <Units>mg/l</Units>
    <ParamDateTime>2015-09-12T08:00:06</ParamDateTime>
    <ParamQuality>0</ParamQuality>
    <Validated>ja</Validated>
    <Modified>ja</Modified>
</Row>
<Row>

```

```
<LocationCode>LOBI</LocationCode>
<ParamCode>CLBI</ParamCode>
<Compoundname>Chloride</Compoundname>
<ReportCode/>
<ParamValue>118</ParamValue>
<Units>mg/l</Units>
<ParamDateTime>2015-09-11T08:00:06</ParamDateTime>
<ParamQuality>0</ParamQuality>
<Validated>ja</Validated>
<Modified>ja</Modified>
</Row>
<Row>
  <LocationCode>LOBI</LocationCode>
  <ParamCode>CLBI</ParamCode>
  <Compoundname>Chloride</Compoundname>
  <ReportCode/>
  <ParamValue>114</ParamValue>
  <Units>mg/l</Units>
  <ParamDateTime>2015-09-10T08:00:06</ParamDateTime>
  <ParamQuality>0</ParamQuality>
  <Validated>ja</Validated>
  <Modified>ja</Modified>
</Row>
</Rowset>
</Rowsets>
...
```