Marine Institute – CDI Physical Oceanographic data workflow

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Marine Institute CDI

- Delayed Mode Oceanographic data collection
  - Processed CTD (6967 stations)
  - Research vessel underway (approx. 300 surveys)
- Near real time data collection
  - Sensor data (40 sensors)

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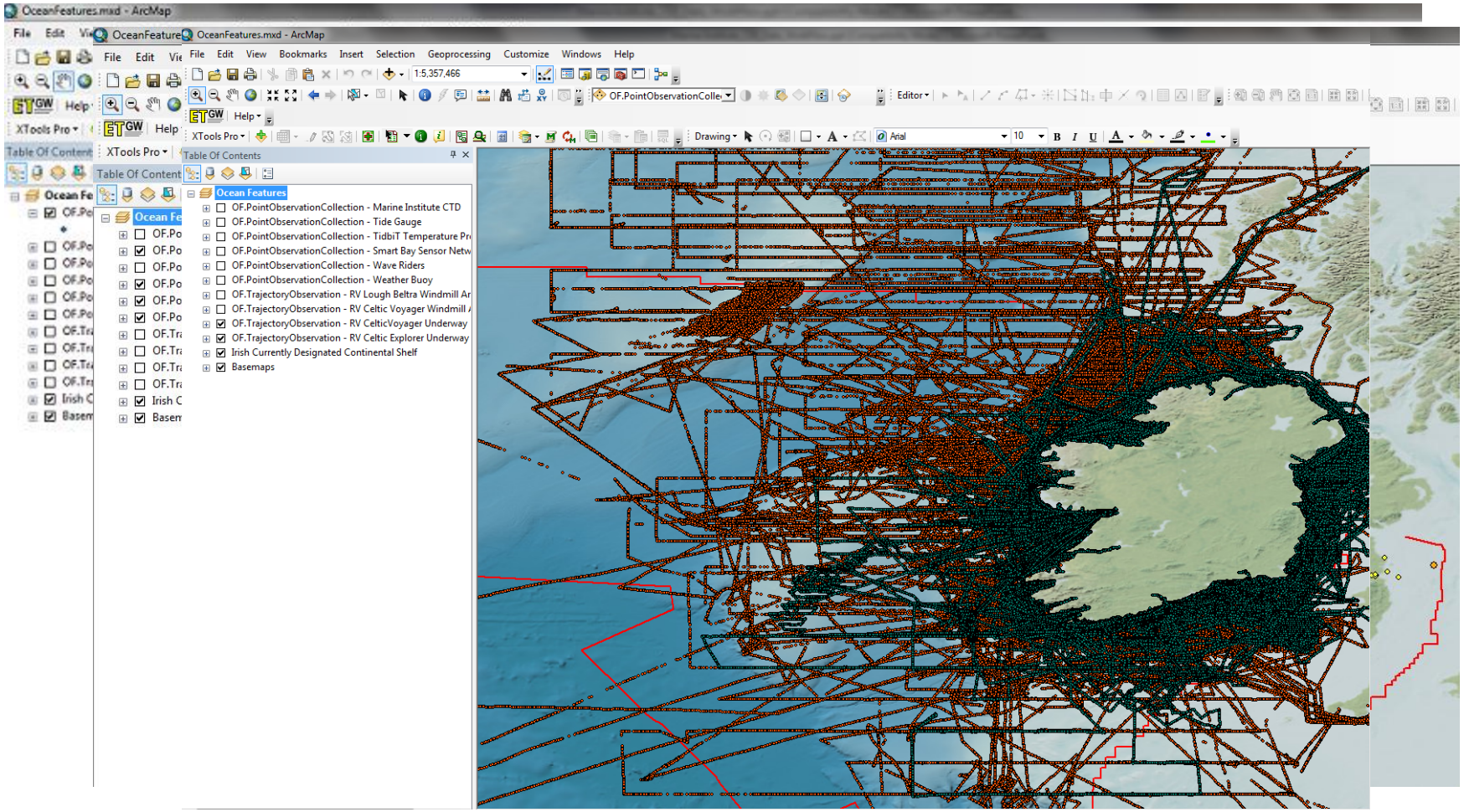
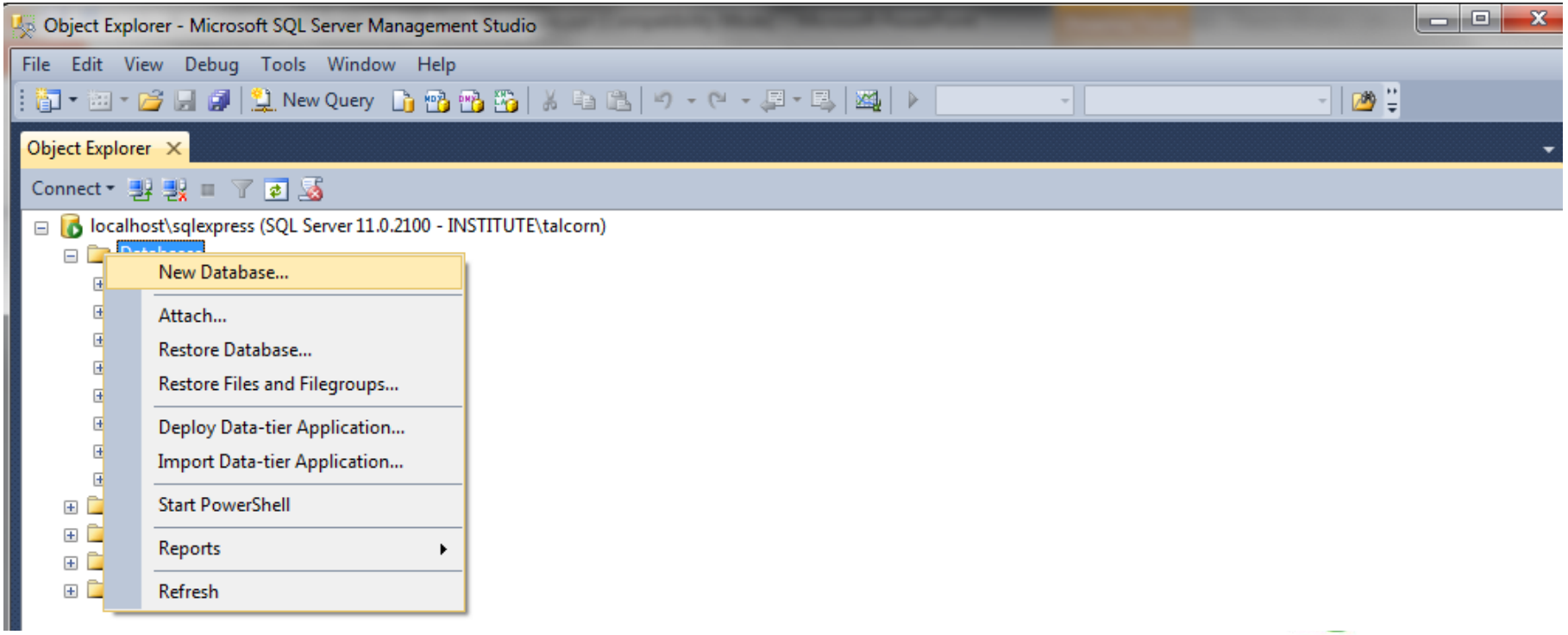
Ocean features



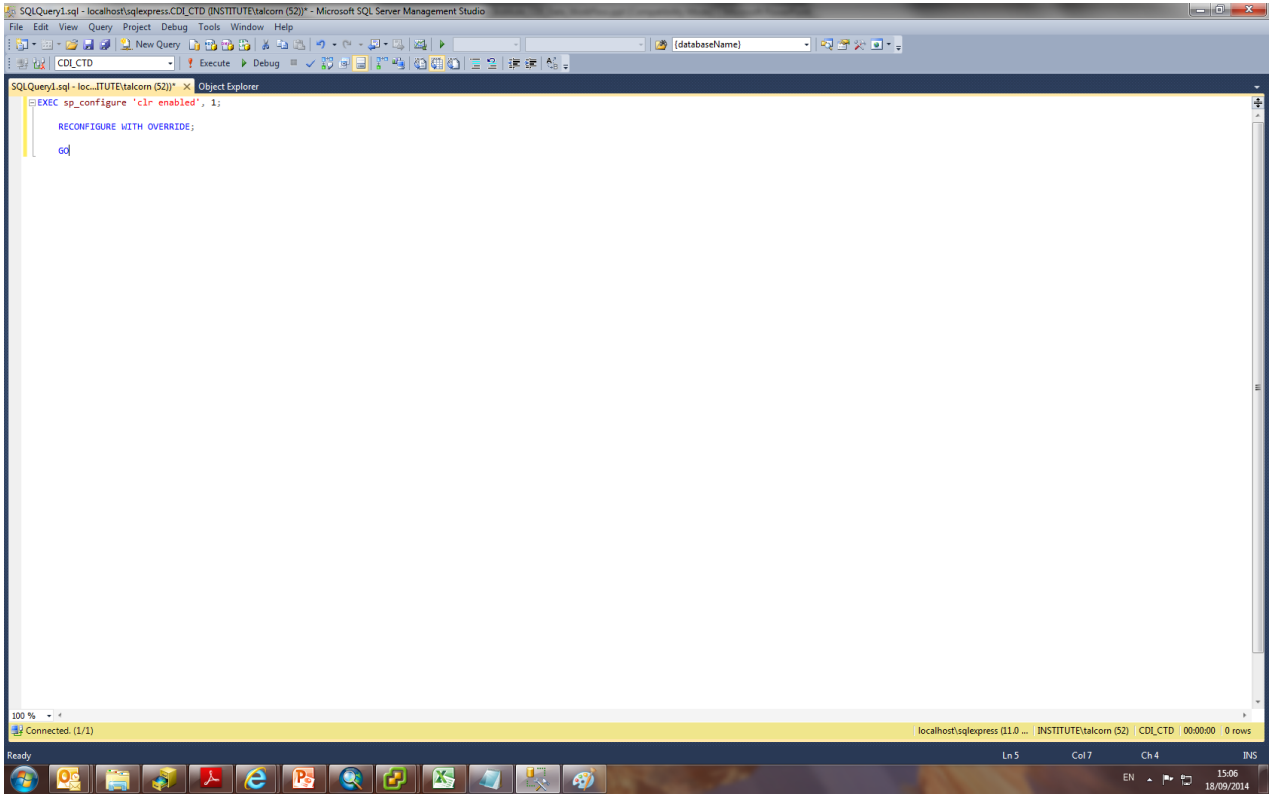
1. Create new empty SQL Database

- SQL Server Management Studio



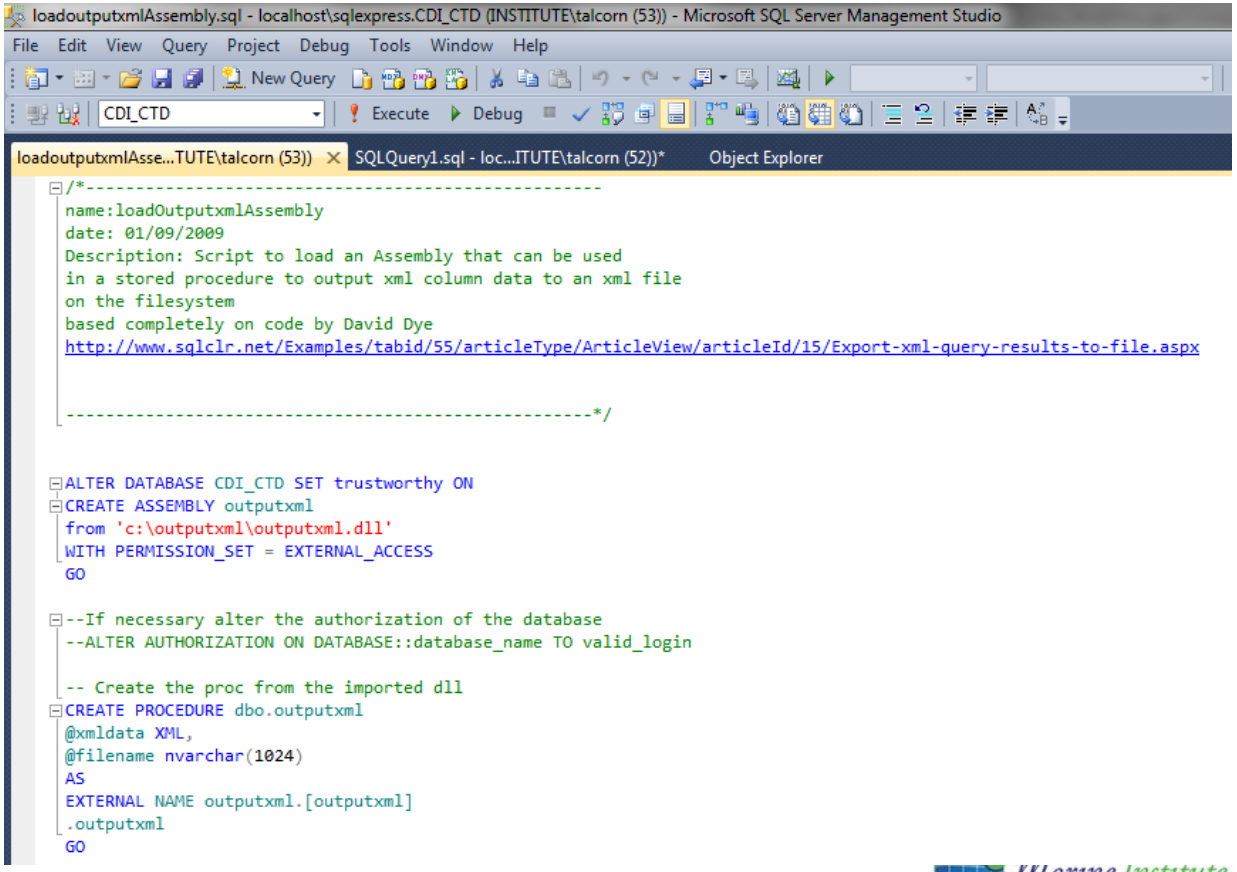
2. Enable CLR in CDI database

- Execute Stored Procedure
  - Common Language Runtime



3. Load dll Assembly

- Script to load an Assembly
  - xml column
  - xml file
- Create Stored Procedure



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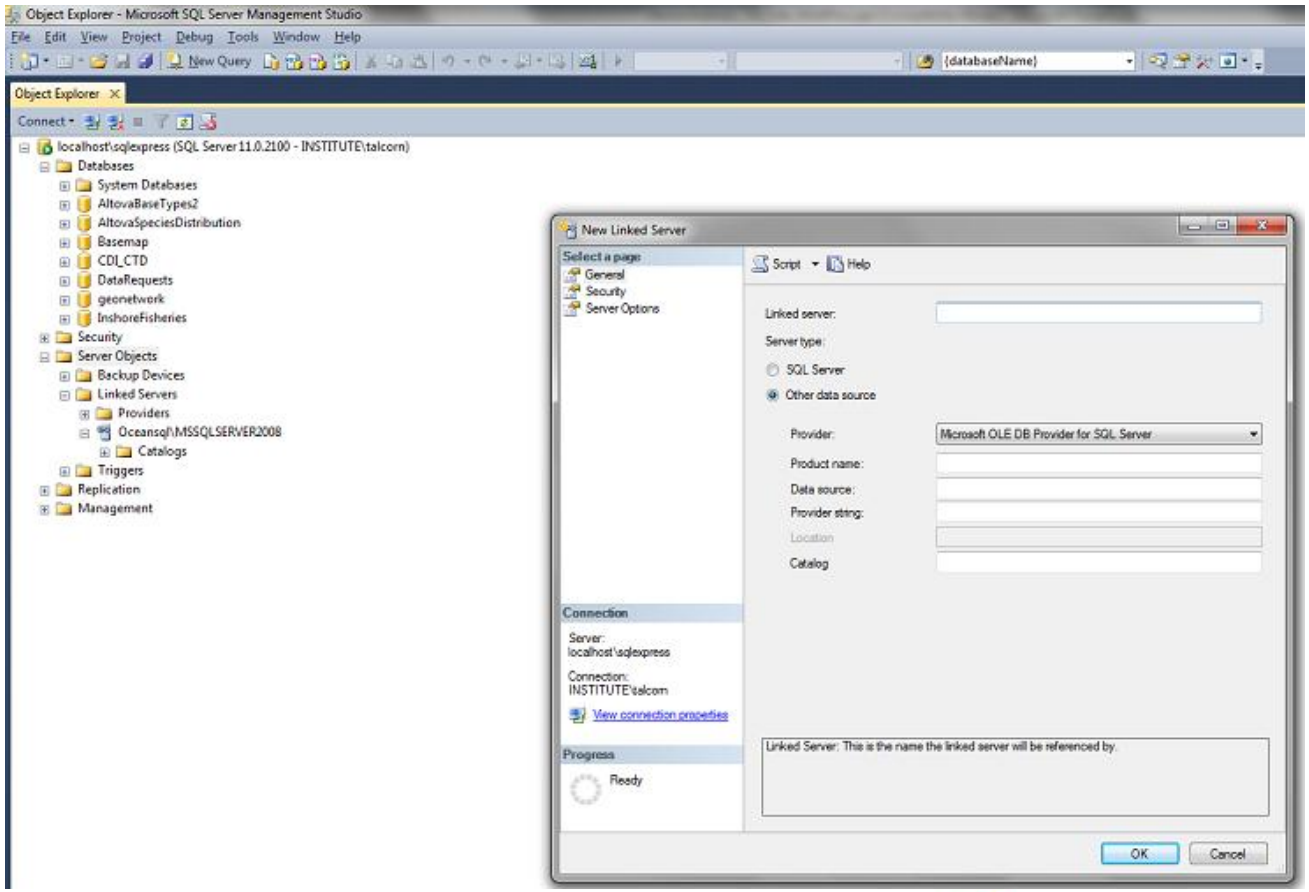
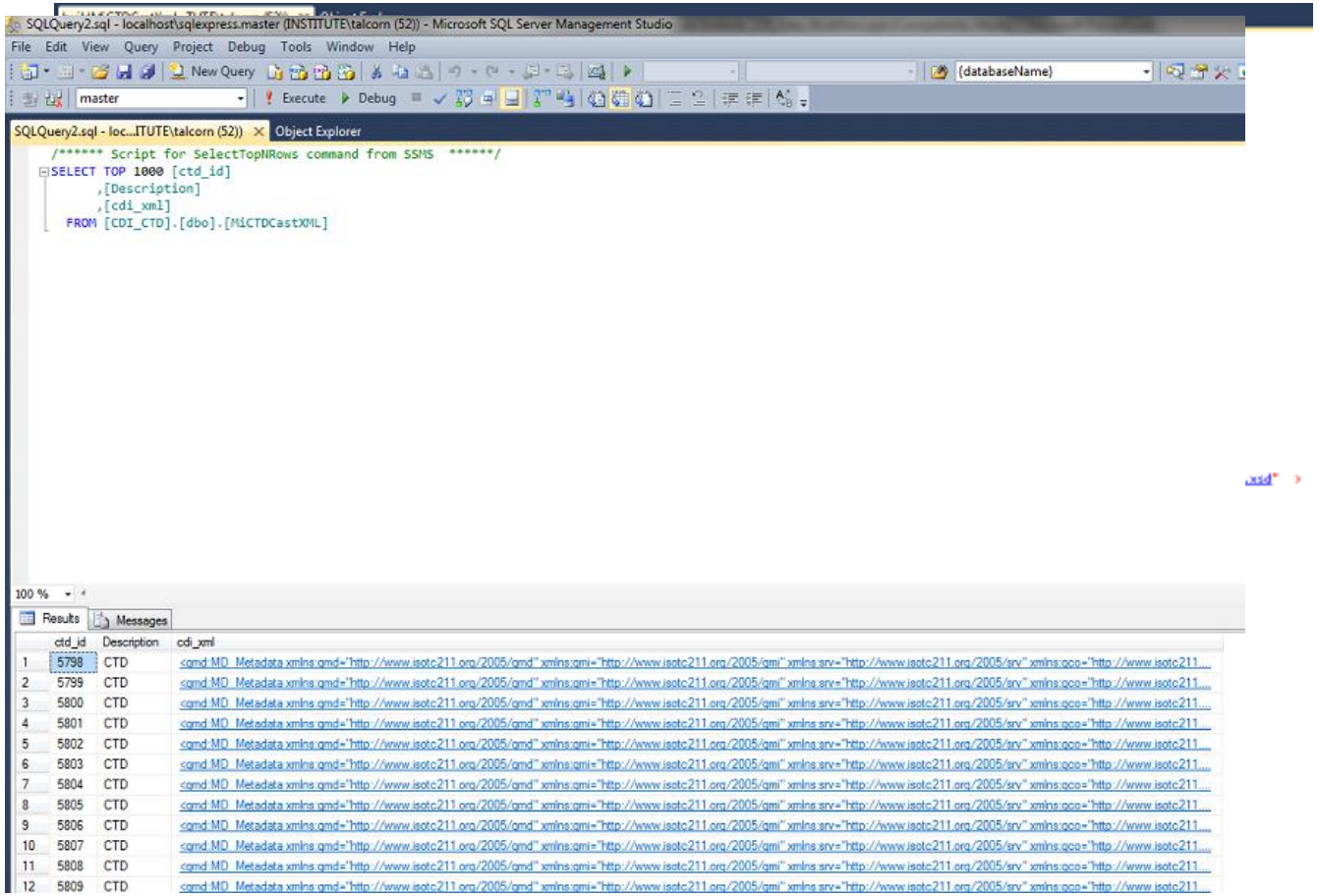
4. Create Linked SQL Server

- **Linked Servers**
  - CDI
  - Oceanographic services



5. Build XML Metadata using Stored Procedure

- **Marine Institute CTD Cast metadata**
  - XQuery



6. Output descriptive metadata

- **Transform**
  - SQL Server table
  - CDI XML files
- **Transfer**
  - CDI xml to MARIS

outputCTDxmlfiles_...ITUTE\dalcom (52)) | Object Explorer

```
CREATE PROCEDURE outputNictdXml @path varchar(1024)

/*-----------------------------------------------------------------------
Output the xml data in each row of a view/table in current database using a cursor
and dynamically created bcp statement

dsmyth 31/08/2008

based on example bcp out from:
http://www.simple-talk.com/sql/t-sql-programming/xml-jumpstart-workbench/

-----------------------------------------------------------------------*/
AS

DECLARE @output xml, @filename VARCHAR(2024), @ctd_id int

DECLARE xmloutput_cursor CURSOR FOR
SELECT * FROM dbo.NICTDCastXML

OPEN xmloutput_cursor

FETCH NEXT FROM xmloutput_cursor
INTO @ctd_id

WHILE @@FETCH_STATUS = 0
BEGIN

--DECLARE @output xml
--SET @output = (SELECT ProductID, Name, ListPrice
--                    FROM Production.Product Product
--                    FOR XML AUTO, ROOT('Catalog'), TYPE)
--EXEC dbo.outputxml @output, 'c:\Output.xml'
--GO

SELECT  @filename = @path+'nictd'+CAST(@ctd_id as varchar(50))+'.xml'
SELECT  @output = cdi_xml FROM dbo.NICTDCastXML WHERE ctd_id = @ctd_id
EXECUTE dbo.outputxml @output, @filename

FETCH NEXT FROM xmloutput_cursor
INTO @ctd_id
END
CLOSE xmloutput_cursor
DEALLOCATE  xmloutput_cursor
GO
```

7. Output CDI ODV data

- **Execute Stored Procedure (e.g. outputMictdXml)**
  - SQL Server table
  - Create local CDI ODV files
- **Transfer**
  - CDI ODV files to Marine Institute CDI server
  - Update Marine Institute CDI server Coupling Table

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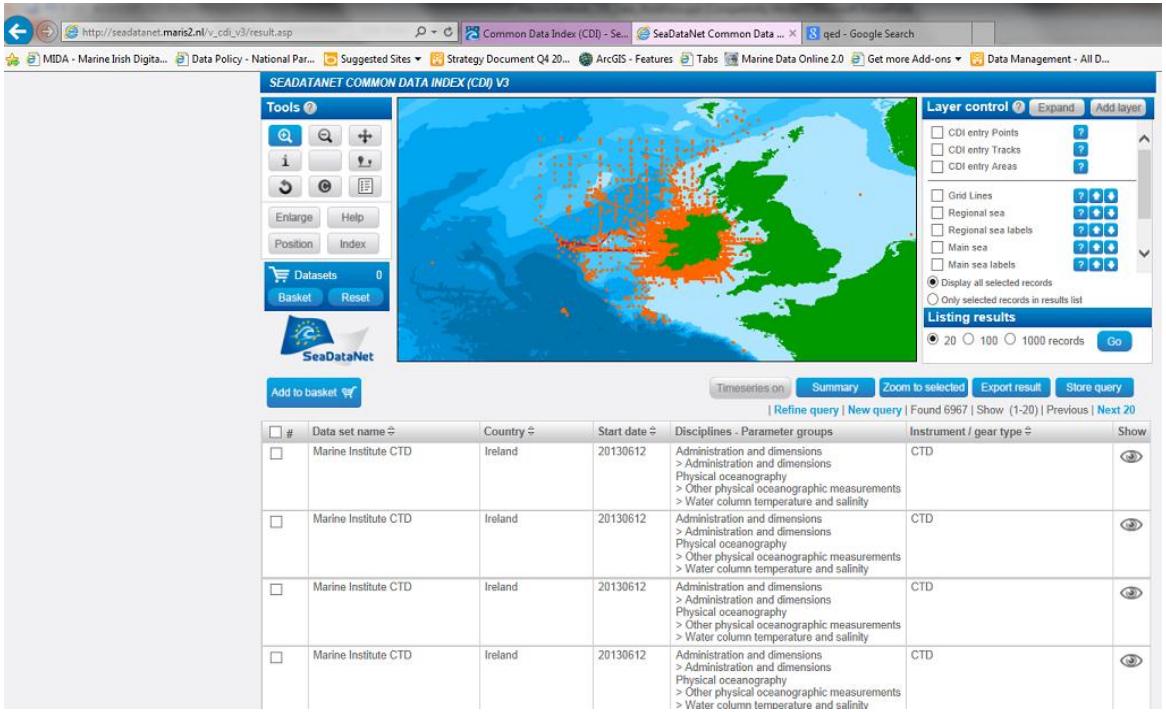
8. Notify Maris

- **Notification**
  - CDI metadata xml delivery
  - Test
  - Sign-off
- **(QED) Quod Erat Demonstrandum**



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Go raibh maith agat!