

S-57 to S-101 Converter

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Overview

- Delivery Content
- Demo
- Findings

Scope

- Covered by TSMAD22_DIPWG3-11.2A_S-101_Open_Source_Translator.pdf
- Prove that S-57 can be converted
- Provide test data to industry
- Open source
 - Co-funded between Esri and NOAA
- Still evolving

Delivery Content

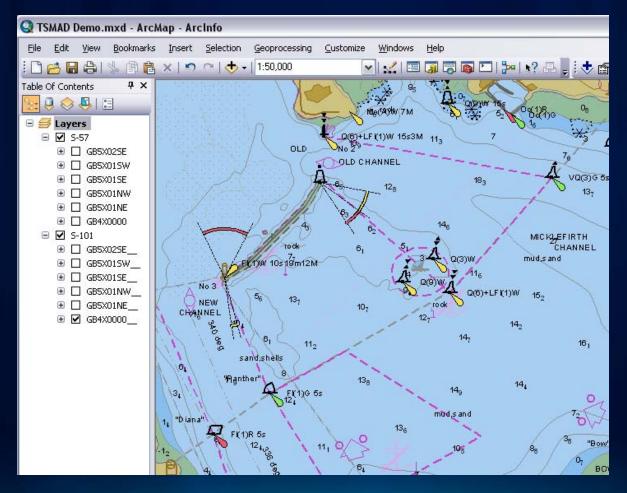
- MS Visual Studio 2010 projects
 - Developed in C++ and C#
 - Can be compiled for both 32-bit and 64-bit OS
 - .NET 4 dependency
- Install includes 2 executables
 - Converter executable
 - ASCII dump executable
- ArcGIS Viewer
 - Utilizes S-52 Edition 3.2
 - Views both S-57 and S-101 cells

Executables

- S101Converter.exe
 - Batch process
 - Converts update files if they exists in the same folder as the .000 dataset
 - Multithreaded
 - Appends "__" to existing S-57 dataset name
 - Hardcoded to read 12012011_S101_FC_Ver_0.5.xml
- S100Dump.exe
 - Writes a S-101 .000 dataset to a .txt file to review content

ArcGIS S-57 & S-101 Viewer

ArcGIS 9X & 10.0



Demo

- S-101Converter.exe
- S100Dump.exe
- ArcGIS Viewer

Converter Documentation Notes

Overview

- Document dependencies
 - Feature Catalog
 - 12012011_S101_FC_Ver_0.5_XSL.xml
 - S-101 Product Specification draft version 0.0.5
 - Part_10a_ISO-IEC_8211_Encoding.doc
 - Version finalized in Victoria
- Observations
- Recommendations
- **Outstanding Items**

Dataset General Information

CSCALE

- An ATTR field is added to the record to specify the **CSCALE** value of the cell. This was done to preserve the original compilation scale value of the cell for display purposes.
- Currently part of Exchange Set Metadata

Information Types

- Created two information types to preserve spatial attributes
- Used Metadata features with existing attributes for mapping
 - M_SREL QUAPOS
 - M_QUAL POSACC

Complex Curves

- Evaluates all line and area records
 - Builds a list of records with 10* or more FSPTs
 - Increase pattern value will decrease complex curve records
- Looks for repeating patterns of FSPTs
 - Builds a list
- Evaluates patterns against all line and area features
 - Creates complex Curve Record when match is found
- Builds CUCO (complex curve field) record for features
 - Could contain complex Curve records and Curve records

*10 is an arbitrary number

Feature Records

- The S-57 OBJL subfield is used to map directly to the S-101 Feature Catalog. If it cannot be found, an error message is generated and the feature is ignored.
 - For example: OBJL 136 Tidal stream harmonic prediction (TS_PRH)
- S-57 C_ASSO objects are not converted
 - Not in Feature Catalog
 - No error message
- Themes are not implemented
 - Awaiting TSMAD decision

Feature Records

Continued

- ASCD (association code) and RLCD (role code) subfields are set to 401 and 404, respectively.
 - More clarification on this is required for the converter
- The converter creates UNSARE features when S-57 FLODOC, HULKES and PONTON features are encountered, with the same geometry, as these features have been removed from the SOE category in S-101.
 - TSMAD 21 decision

Feature Catalog Version 0.8 - changes

- Spatial Attributes
 - Defined in Feature Catalog
- Feature Associations
 - Implemented
- Complex Curves
 - No longer limited
- Final Feature Catalog Name
 - Browse option will be added

Feature Catalog Version 0.8 – DSGI Changes

- Data Set General Information
 - The following ATTRs were added
 - Producing agency
 - Comment
 - Issue date
 - Minimum display scale
 - Maximum display scale
 - Optimum viewing scale
 - Purpose
 - Specific usage
 - Update number

Outstanding Items

- CMFZ is current set to 10. Should be 100
- Encoding guide review (Jan 2012)
 - Might impact converter
- Needs more testing
- Distribute latest version before TSMAD 23

Recommendation for IEHG

- Work with Thomas Richardson (UKHO)
 - Define your Feature Catalog
- Run data through the converter
- How does the decision to add UNSARE decision impact IENC? Do you have your own special use case?

Questions?

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