



Normalizing Product Portrayal Across a Large Organization

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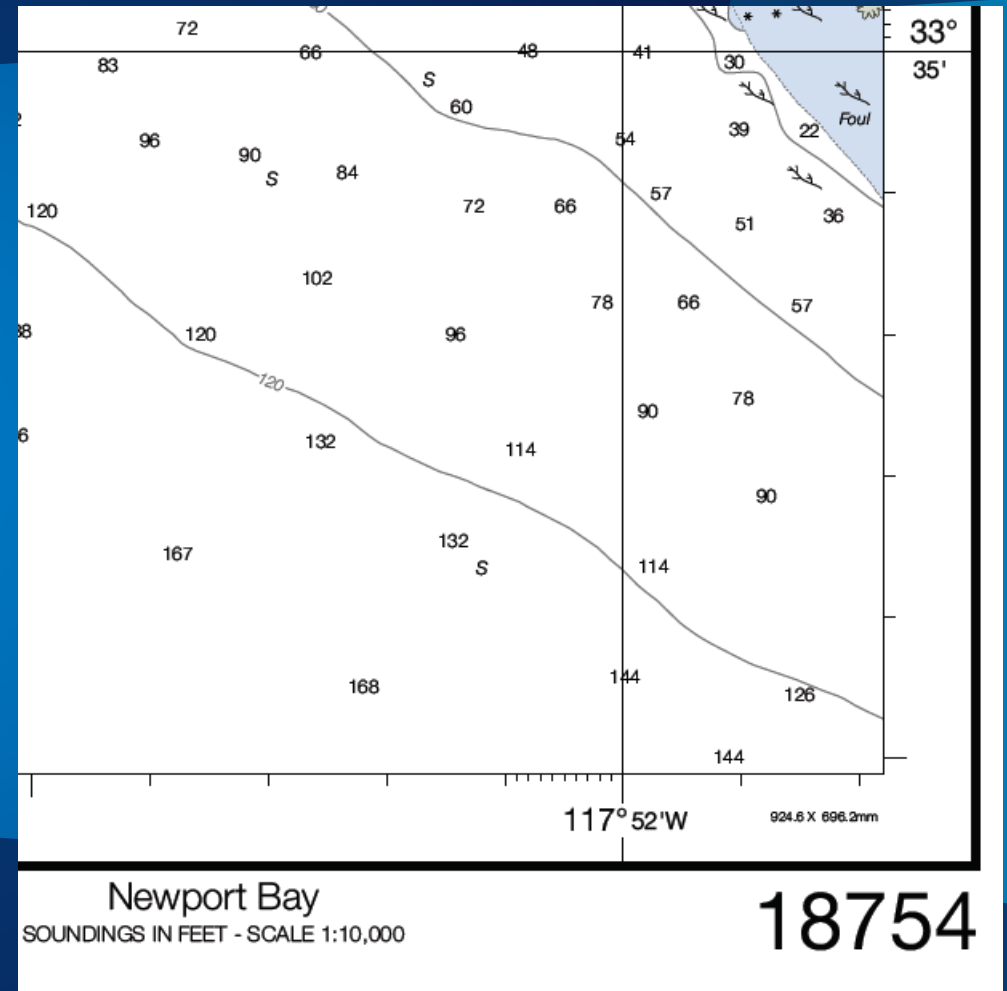


Standardizing hard copy paper charts at NOAA

- **Standardized Grid and Graticules**
- **Database Driven Cartography and automating annotation**
- **Sharing Roads and Urban networks, and Topographic Contours**
- **Creating Consistent Compass Roses**
- **Templates for Standard Surround Elements (Marginalia)**
- **Zone of Confidence Diagrams**
- **Dynamic Scale Bars and Channel Tabulations**

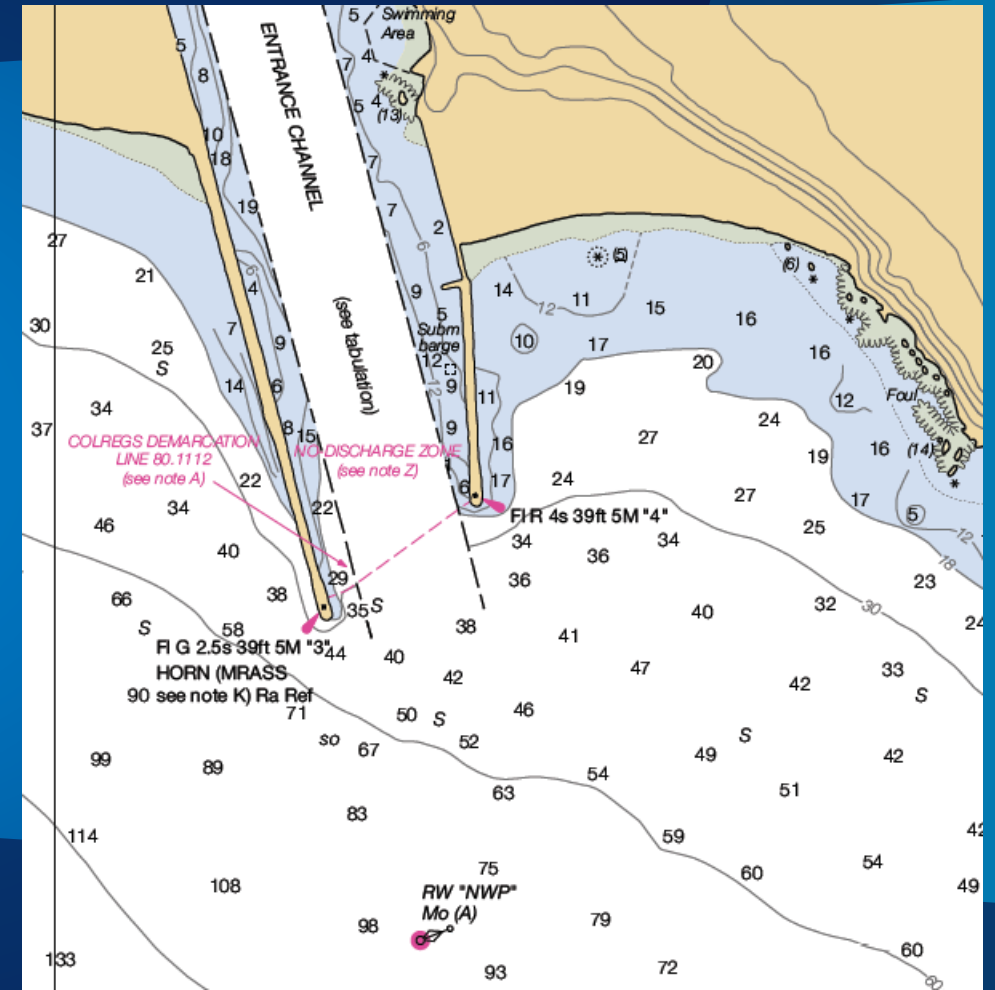
Standardized Grid and Graticules

- Standardized grid template files (XMLs)
- Automated tool to create grids for each paper product
- Ensures consistency with grids across the organization
- Customizable for special case products
- Stored in the database with the data
- Persisted throughout the life of the product



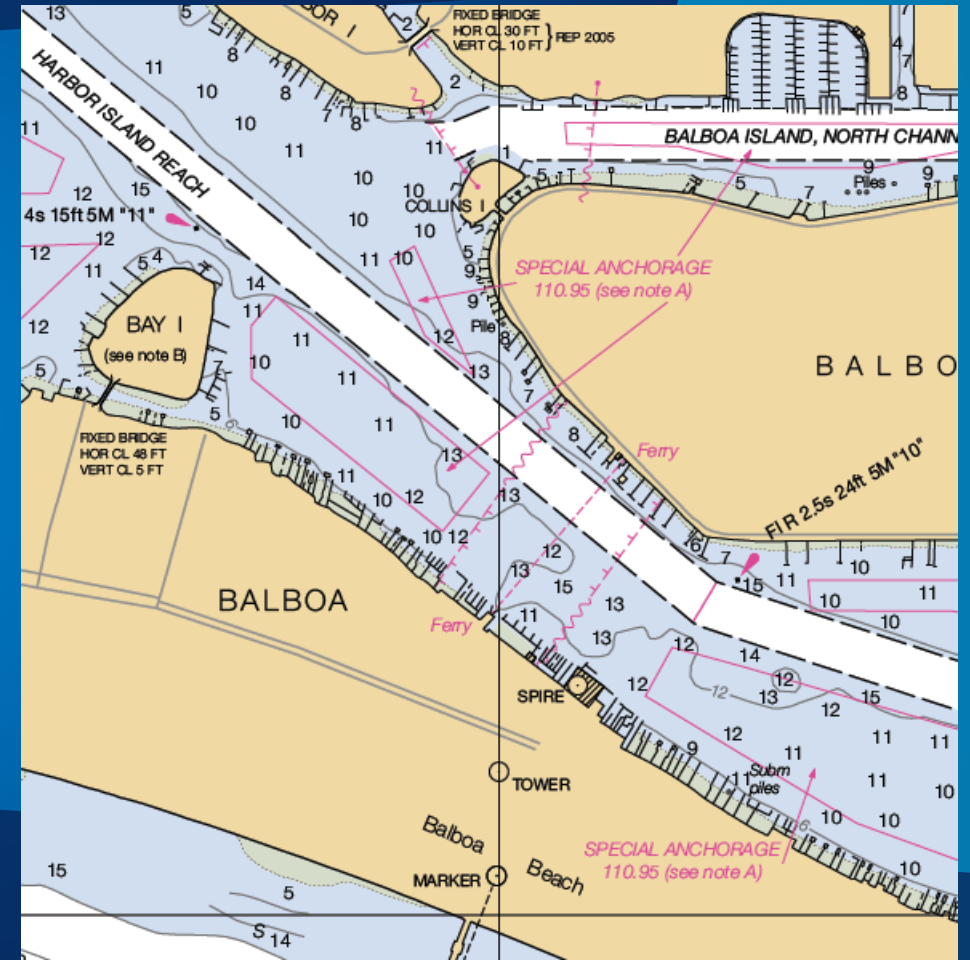
Database Driven Cartography

- Standardized symbols stored, distributed
- Properly encoded data ensures the correct symbol—applied via queries
- Automatically generated based on rules and symbols
- Adheres to NOAA specifications
- Reduces cartographic finishing work
- Simplifies work for data maintenance—only update data that changed, no starting over



Feature-linked Annotation

- Database-driven labels—captured from name and other fields
- Predefined placement, style and size
- Converted to feature-linked annotation
- Annotation persists throughout life of the feature:
 - Moves with feature
 - New features receive new annotation
 - Deleted upon feature deletion



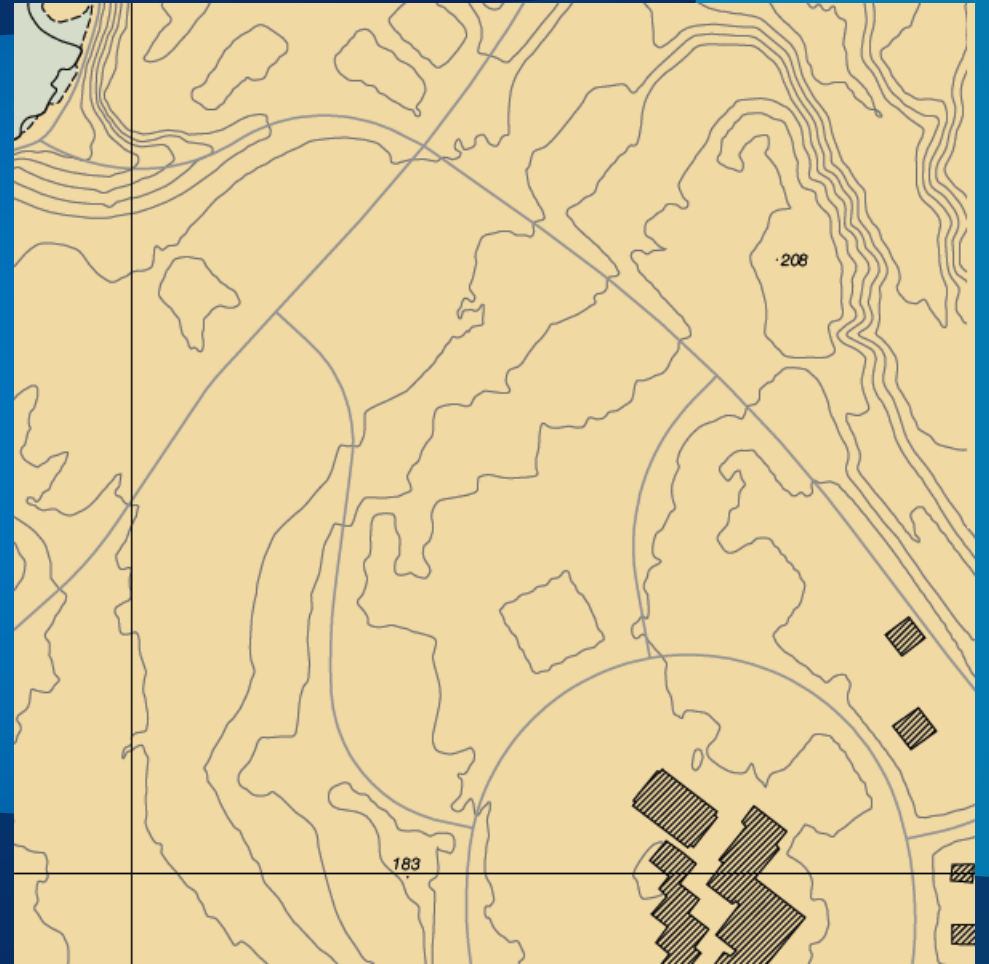
Road Networks and Urban tints

- Urban features maintained by another agency—US Census Bureau TIGER
- GIS allows use of features easily and seamlessly
- Reduced work for cartographer—removes the need to digitize features
- Standardizes feature attribution and density



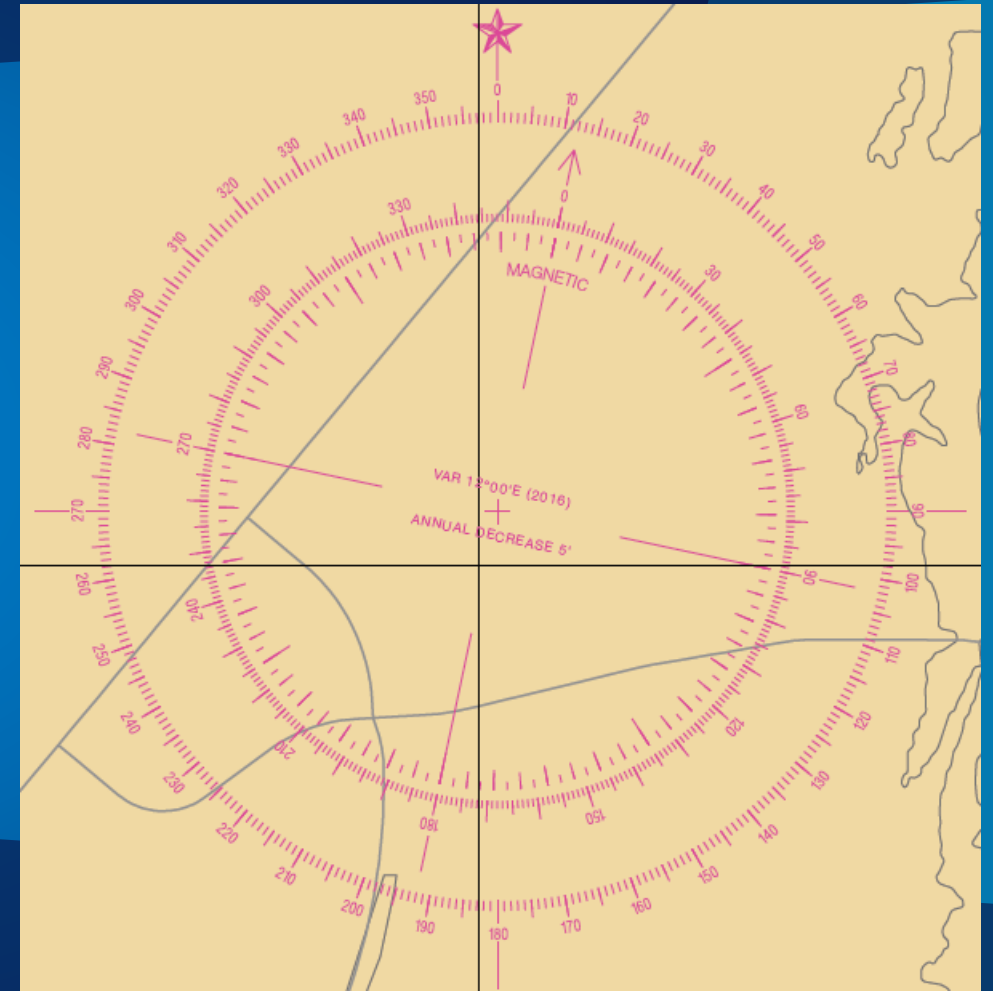
Topographic Contour Lines

- NOAA generated charts don't typically display topographic contours
- Extract contours from USGS Topographic Quadrangle data
- Reduces unnecessary digitizing



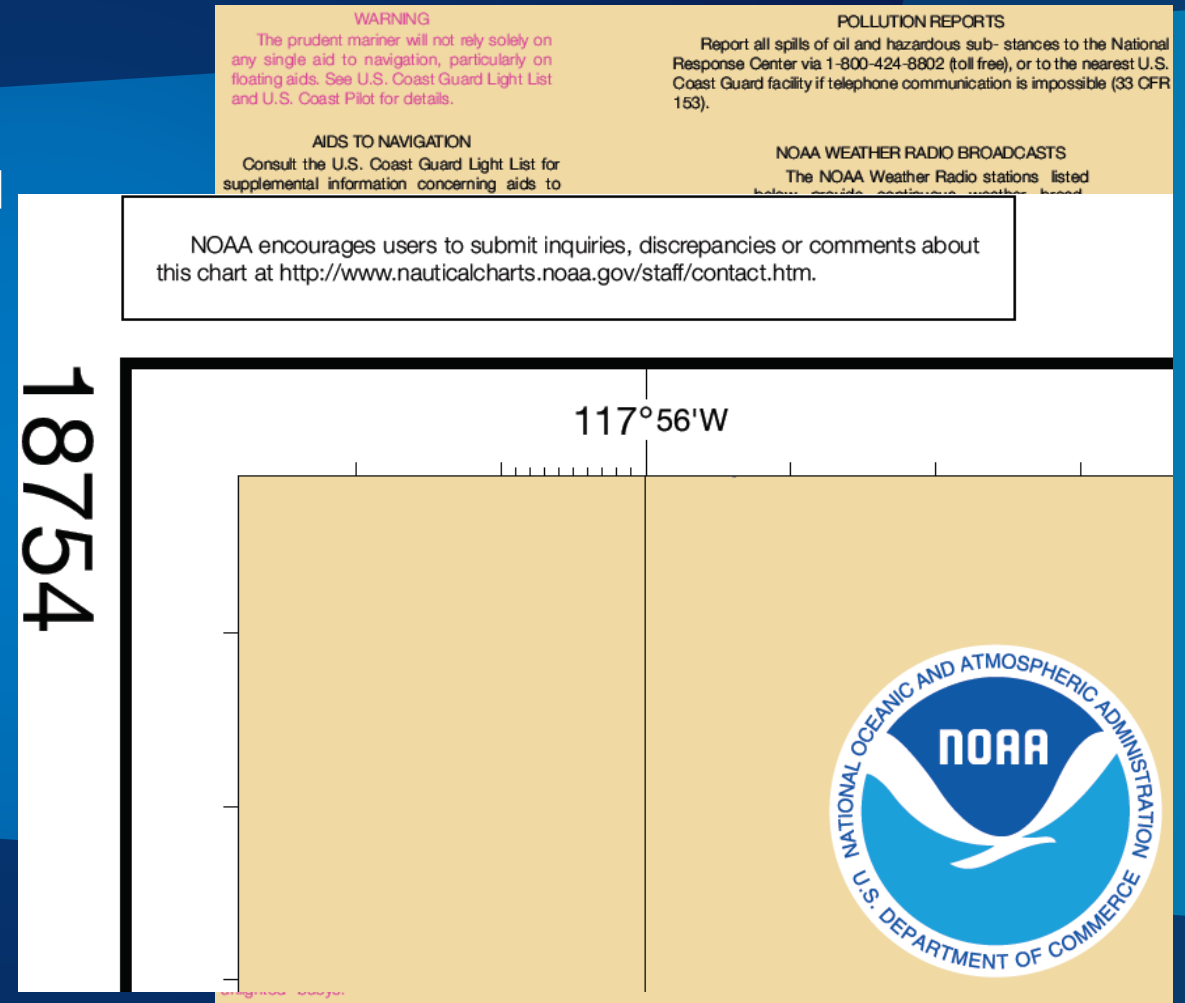
Compass Roses

- Magnetic variation points seldom captured in ENC (digital) data
- Automated tool applies rose symbol and annotation
 - Uses 2015 WMM to calculate magnetic variations
 - Model updated every 10 years
- Inner (magnetic) rose automatically rotates
- Updates with new calculated values



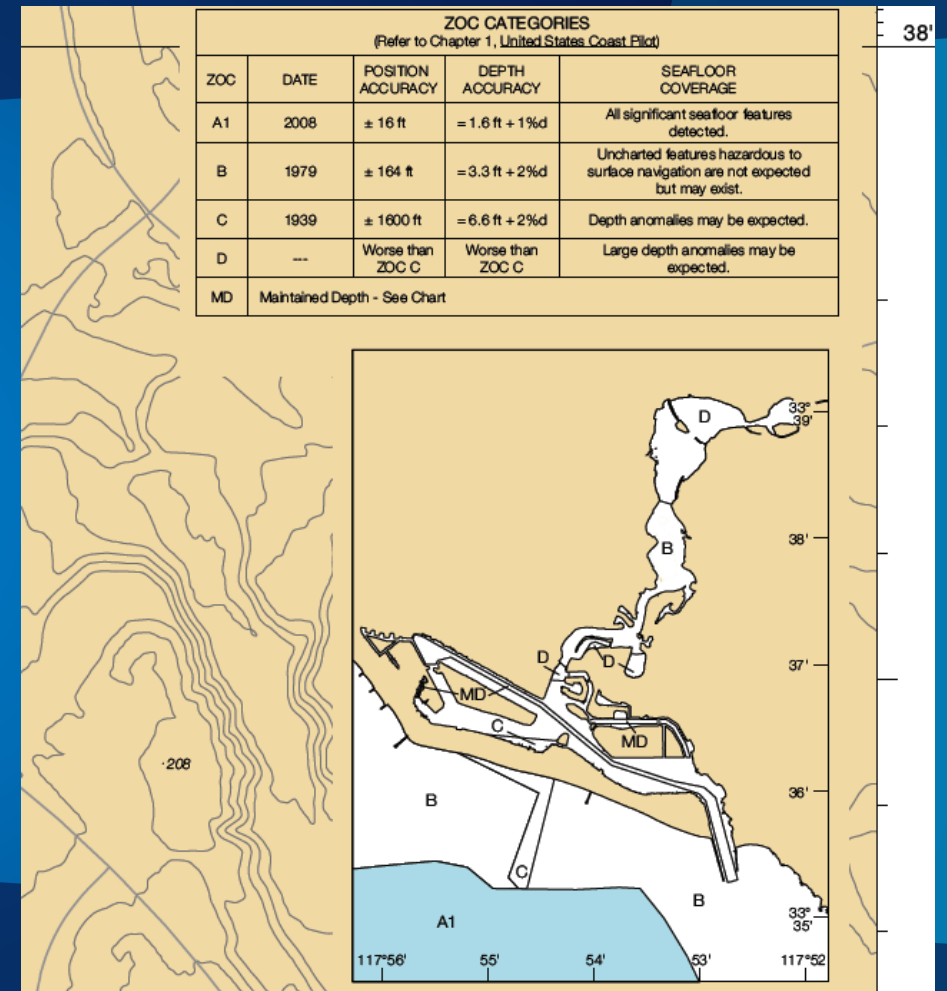
Standardized Marginalia (Surround Elements)

- Template map document stores standard surround elements
- Automated tool updates content, placement and orientation
- Element library to augment template manually
- Reduced cartographic finishing



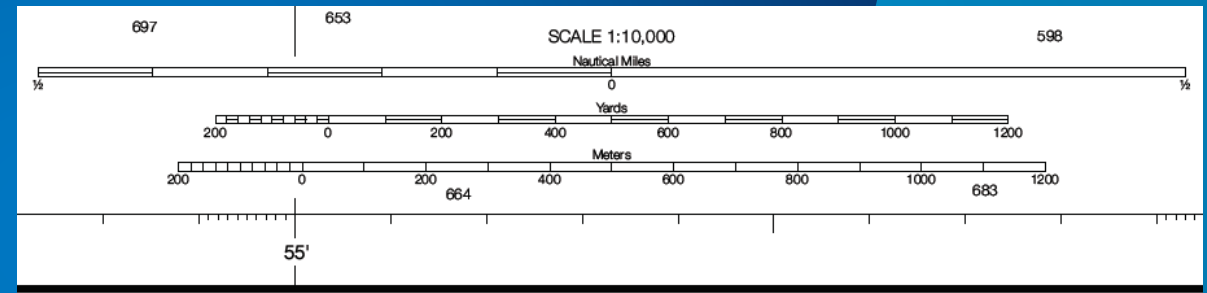
Zone of Confidence (ZOC) Diagrams

- ZOCs replacing traditional Source Diagrams
- Data derived from M_QUAL features
- Tool automates process for creating the diagram
- As M_QUAL data is updated, the diagram auto-updates



Dynamic Scalebars and Channel Tabulations

- Scalebars automatically adjust to the correct width when placed on the chart



- Channel tabulations are linked to underlying data

NEWPORT BAY CHANNEL DEPTHS								
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO JUN 2015								
CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)					PROJECT DIMENSIONS			
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH MLLW (FEET)
ENTRANCE CHANNEL	13.0	21.0	19.0	7.0	8-15	500	0.8	20
CORONA DEL MAR BEND	17.0	21.0	21.0	16.0	8-15	200-500	0.3	20
BALBOA REACH	17.0	17.0	17.0	17.0	8-15	200	0.5	20
HARBOR ISLAND REACH	16.0	17.0	17.0	16.0	8-15	200	0.7	20
LIDO ISLE REACH	13.0	16.0	16.0	15.0	8-15	200	0.8	20
TURNING BASIN	11.0	15.0	16.0	16.0	8-15	200-1000	0.3	20
BALBOA ISLAND, NORTH CHANNEL	6.0	10.0	10.0	7.0	8-15	200	0.9	10

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION



In Summation

- Pre-configured templates
- Automated processes
- Remarkable improvement in reducing production time
- Facilitates maintenance
- Enforces standardization across the organization



Understanding our world.