ZOC/ECDIS Symbol	Position Accuracy	Depth Accuracy		Sea floor Coverage	Typical Survey Characteristics
A1 	± 5 m + 5% depth	0·5 m + 1% depth		Full area search undertaken. All significant seafloor features detected and depths measured.	Controlled, systematic survey high position and depth accuracy achieved using DGPS or a minimum three high quality lines of position (LOP) and a multibeam, channel or mechanical sweep system.
		Depth (m)	Accuracy (m)		
		10 30 100 1000	± 0.6 ± 0.8 ± 1.5 ± 10.5		
A2 	± 20 m	1·0 m + 2% depth		Full area search undertaken. All significant seafloor features detected and depths measured.	Controlled, systematic survey achieving position and depth accuracy less than ZOC A1 and using a modern survey echosounder and a sonar or mechanical sweep system.
		Depth (m)	Accuracy (m)		
		10 30 100 1000	± 1.2 ± 1.6 ± 3.0 ± 21.0		
B 	± 50 m	1·0 m + 2% depth		Full area search not achieved; uncharted features, hazardous to surface navigation are not expected but may exist.	Controlled, systematic survey achieving similar depth but lesser position accuracies than ZOC A2, using a modern survey echosounder, but no sonar or mechanical sweep system.
		Depth (m)	Accuracy (m)		
		10 30 100 1000	± 1.2 ± 1.6 ± 3.0 ± 21.0		
C 	± 500 m	2·0 m + 5% depth		Full area search not achieved; uncharted features; hazardous to surface navigation are not expected but may exist.	Low accuracy survey or data collected on an opportunity basis such as soundings on passage.
		Depth (m)	Accuracy (m)		
		10 30 100 1000	± 2.5 ± 3.5 ± 7.0 ± 52.0		
D 	Worse than ZOC C	Worse than ZOC C		Full area search not achieved, large depth anomalies may be expected.	Poor quality data or data that cannot be quality assessed due to lack of information.
U 	Unassessed – the quality of the data has yet to be assessed; therefore, other means are required to ascertain survey quality				

Notes

- The categorisation of hydrographic data is based on three factors (position accuracy, depth accuracy, and sea floor coverage).
- The CATZOC attribute is the mechanism by which an ENC gives an estimate of the reliability of the source data. This is designed to give the mariner the same degree of understanding as the Source Diagram on an equivalent paper chart. ZOC A1 and A2 require very high accuracy standards which were rarely, if ever, achieved before the advent of satellite positioning in the 1980s. Therefore, many sea lanes that have been regarded as adequately surveyed or many years may carry a ZOC B classification.
- The ZOC classification attained by a survey is for the survey at the date it was conducted. In areas of mobile seabed the actual seabed may differ markedly from what has been charted, even if the survey is only a few months old (see 1.14).
- More information is available in NP231, including detailed notes regarding this diagram.