

CATZOC vs ENC Usage Bands

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Analysis basis

Investigate how CATZOC is related to Usage Bands.

Two approaches:

- Distribution of CATZOC within each Usage Band and comparison to 2021 results.
- CATZOC=6 (U) area comparison vs the Group 1 area objects (excluding the LNDARE).



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Distribution of CATZOC in each usage band

2021-11-05

CATZOC	Total number of CATZOC for each usage band	Total number of ENC per usage band	Average CATZOC per ENC
Usage Band			
1 (Overview)	5636	180	31
2 (General)	13105	660	20
3 (Coastal)	56563	2683	21
4 (Approach)	115982	5458	21
5 (Harbour)	136194	6737	20
6 (Berthing)	11911	1995	6
Total:	339391	17713	

2025-03-10

CATZOC	Total number of CATZOC for each usage band	Total number of ENC per usage band	Average CATZOC per ENC
Usage Band			
1 (Overview)	6009	224	27
2 (General)	15535	868	18
3 (Coastal)	62066	2674	23
4 (Approach)	140811	7179	20
5 (Harbour)	157529	9947	16
6 (Berthing)	14376	2139	7
Total:	396326	23031	

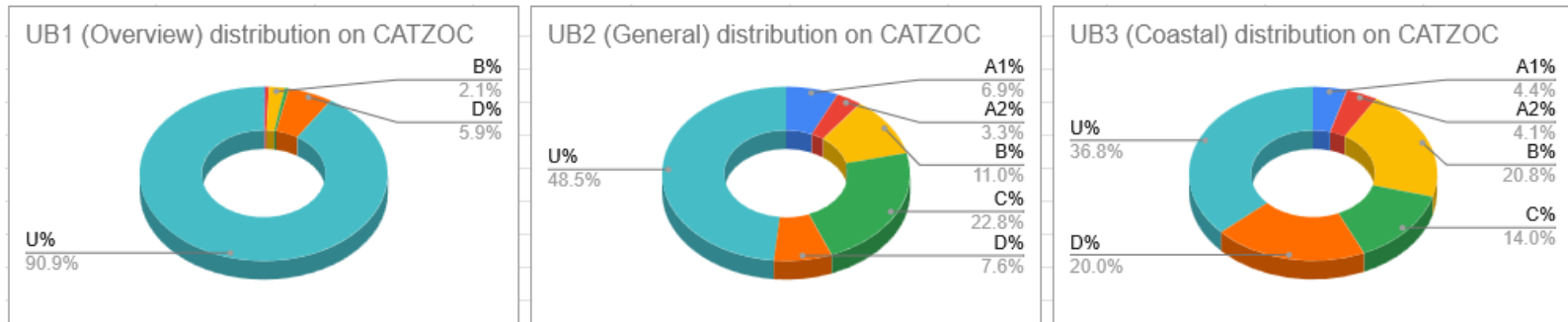
- DB analysis date: 2025-03-10



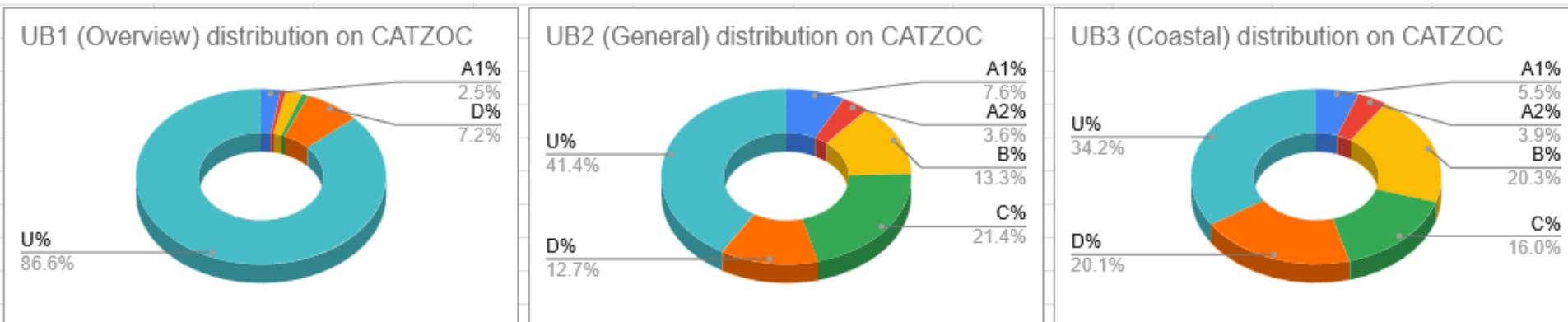
Distribution of CATZOC in each usage band

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2025-03-10



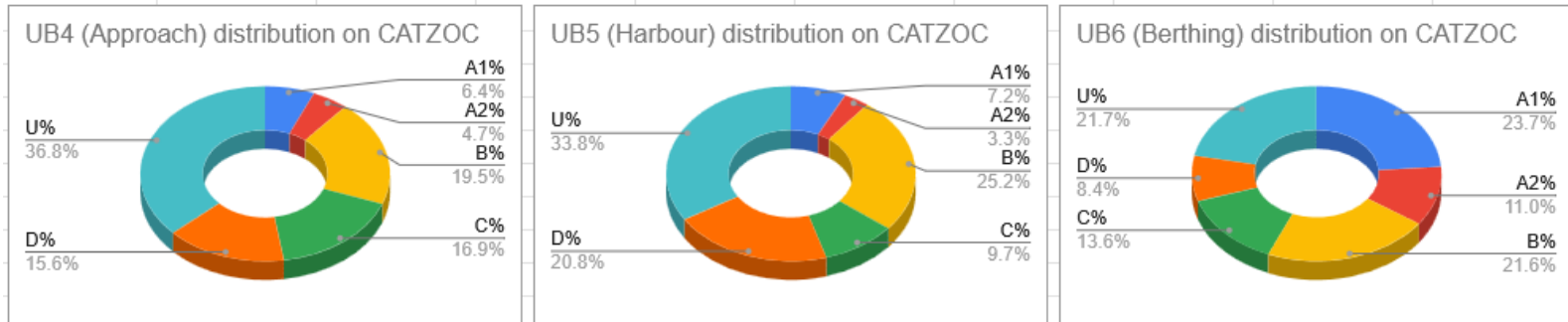
- Reduction of CATZOC=6 (U) encoding is visible through usage bands 1 – 3.



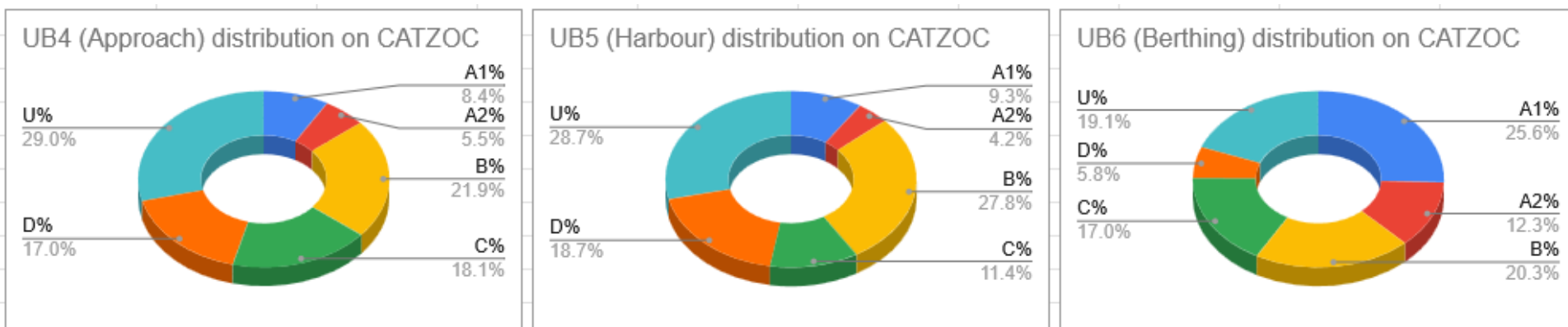
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Distribution of CATZOC in each usage band

2021-11-05



2025-03-10



- Reduction of CATZOC=6 (U) encoding is visible through usage bands 4 – 6.



Distribution of CATZOC in each usage band

2021-11-05

	1 (Overview)	2 (General)	3 (Coastal)	4 (Approach)	5 (Harbour)	6 (Berthing)
A1%	0.16%	6.86%	4.44%	6.44%	7.21%	23.73%
A2%	0.51%	3.33%	4.07%	4.70%	3.30%	10.99%
B%	2.08%	11.00%	20.78%	19.51%	25.24%	21.59%
C%	0.53%	22.79%	13.95%	16.93%	9.67%	13.59%
D%	5.86%	7.56%	19.98%	15.58%	20.79%	8.40%
U%	90.86%	48.45%	36.77%	36.84%	33.79%	21.69%

2025-03-10

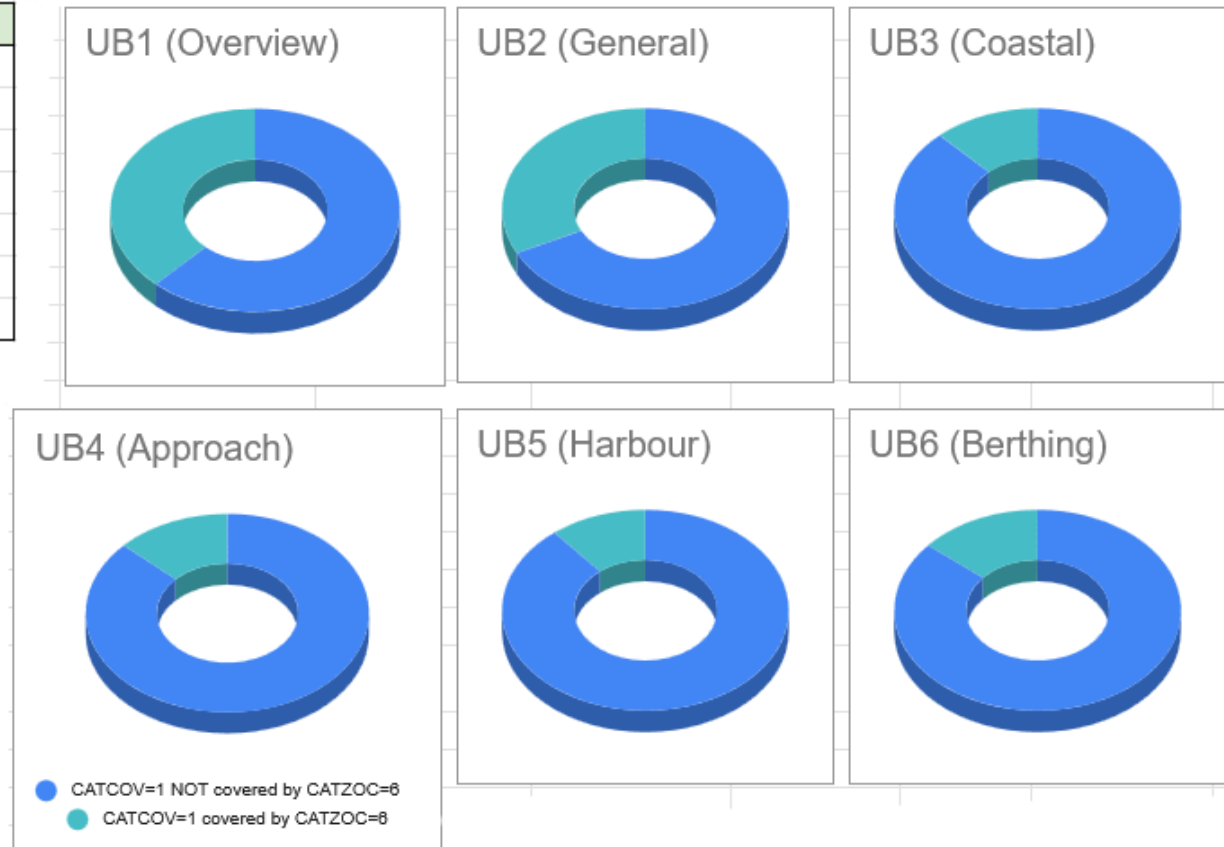
	1 (Overview)	2 (General)	3 (Coastal)	4 (Approach)	5 (Harbour)	6 (Berthing)
A1%	2.50	7.65	5.52	8.44	9.29	25.58
A2%	0.75	3.59	3.86	5.54	4.18	12.30
B%	2.13	13.26	20.32	21.90	27.81	20.26
C%	0.85	21.42	15.98	18.11	11.38	17.03
D%	7.21	12.67	20.07	16.97	18.69	5.77
U%	86.57	41.42	34.24	29.04	28.65	19.07

- The same as in the previous graphs, but in the table form.

CATZOC=6 vs Group 1 object areas

Overall CATZOC=6 vs CATCOV=1	
Usage Band	
1 (Overview)	38.01
2 (General)	29.58
3 (Coastal)	8.46
4 (Approach)	9.34
5 (Harbour)	7.63
6 (Berthing)	9.96

2025-03-10



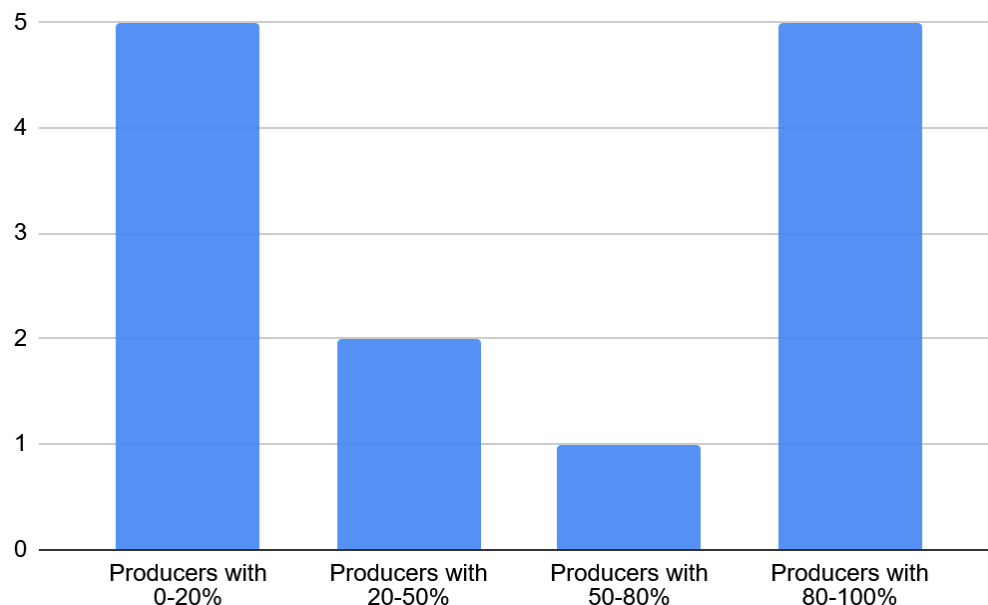
- The CATCOV=1 is the Group 1 object areas, excluding the LNDARE areas.

CATZOC=6 vs Group 1 object areas

2025-03-10

Usage Band 1 Producers		Areas comparison CATZOC=6 vs CATCOV=1 (minimized LNDARE effect)				
All Producers	From those encoding CATZOC=6	Over all UB1, %	Producers with 0-20%	Producers with 20-50%	Producers with 50-80%	Producers with 80-100%
31	13	38.01	5	2	1	5

- 13 producers out of 31 encode CATZOC=6 on UB1.
- 5 producers encode almost only CATZOC=6 (80-100% CATZOC=6)
- 5 producers encode evaluated CATZOC values (0-20% CATZOC=6)

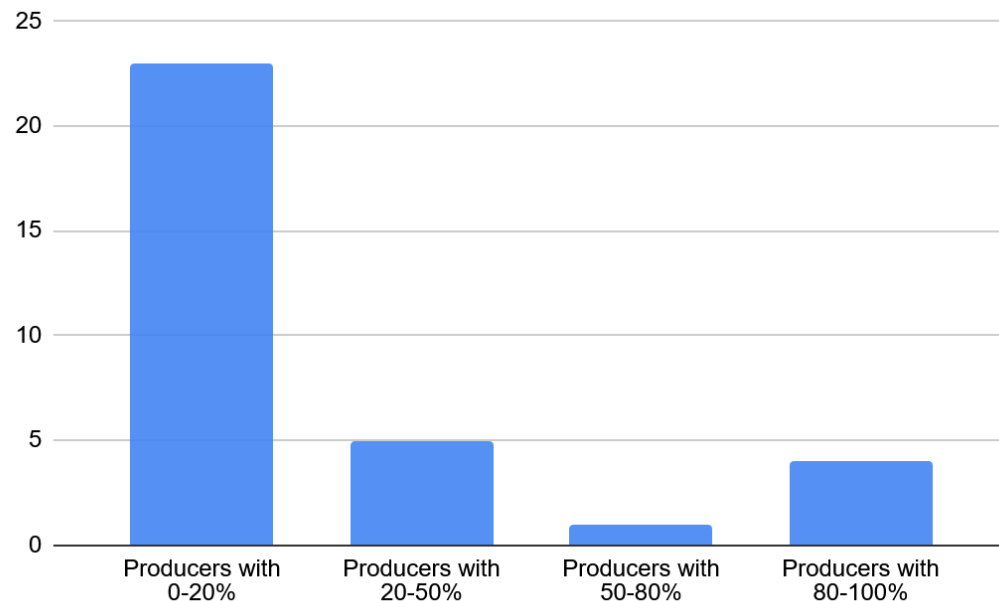


CATZOC=6 vs Group 1 object areas

2025-03-10

Usage Band 2 Producers		Areas comparison CATZOC=6 vs CATCOV=1 (minimized LNDARE effect)				
All Producers	From those encoding CATZOC=6	Over all UB2, %	Producers with 0-20%	Producers with 20-50%	Producers with 50-80%	Producers with 80-100%
48	33	29.58	23	5	1	4

- 33 producers out of 48 encode CATZOC=6 on UB2.
- 4 producers encode almost only CATZOC=6 (80-100% CATZOC=6)
- 23 producers encode evaluated CATZOC values (0-20% CATZOC=6)

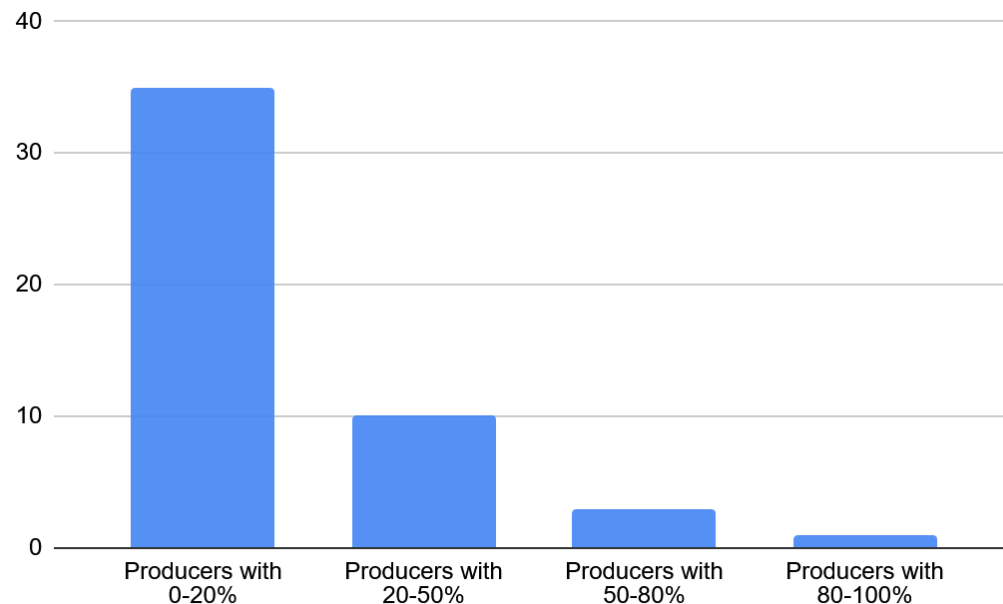


CATZOC=6 vs Group 1 object areas

2025-03-10

Usage Band 3 Producers		Areas comparison CATZOC=6 vs CATCOV=1 (minimized LNDARE effect)				
All Producers	From those encoding CATZOC=6	Over all UB3, %	Producers with 0-20%	Producers with 20-50%	Producers with 50-80%	Producers with 80-100%
72	49	8.46	35	10	3	1

- 49 producers out of 72 encode CATZOC=6 on UB3.
- 1 producer encodes almost only CATZOC=6 (80-100% CATZOC=6)
- 35 producers encode evaluated CATZOC values (0-20% CATZOC=6)

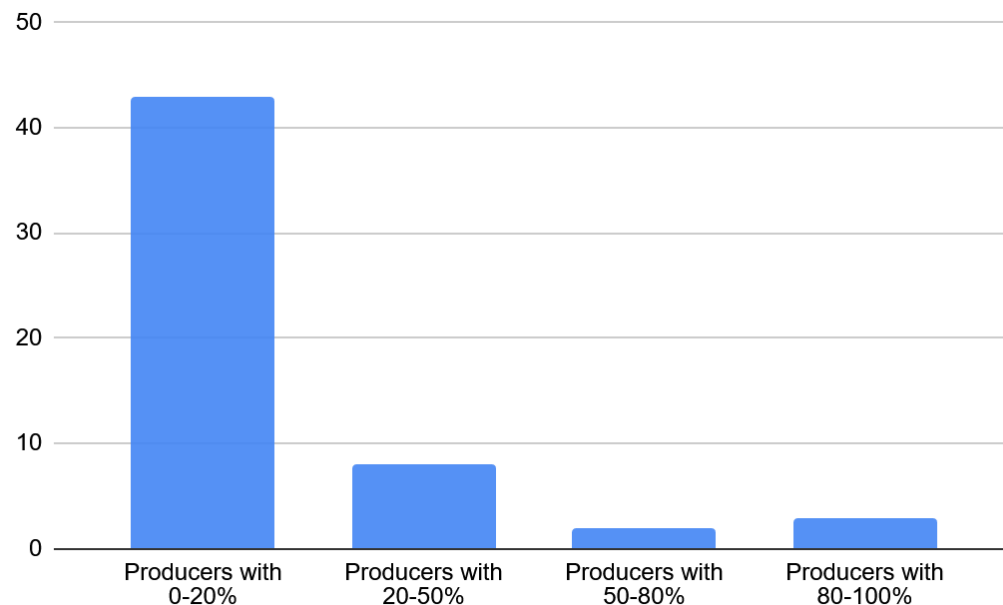


CATZOC=6 vs Group 1 object areas

2025-03-10

Usage Band 4 Producers		Areas comparison CATZOC=6 vs CATCOV=1 (minimized LNDARE effect)				
All Producers	From those encoding CATZOC=6	Over all UB4, %	Producers with 0-20%	Producers with 20-50%	Producers with 50-80%	Producers with 80-100%
72	56	9.34	43	8	2	3

- 56 producers out of 72 encode CATZOC=6 on UB4.
- 3 producers encode almost only CATZOC=6 (80-100% CATZOC=6)
- 43 producers encode evaluated CATZOC values (0-20% CATZOC=6)

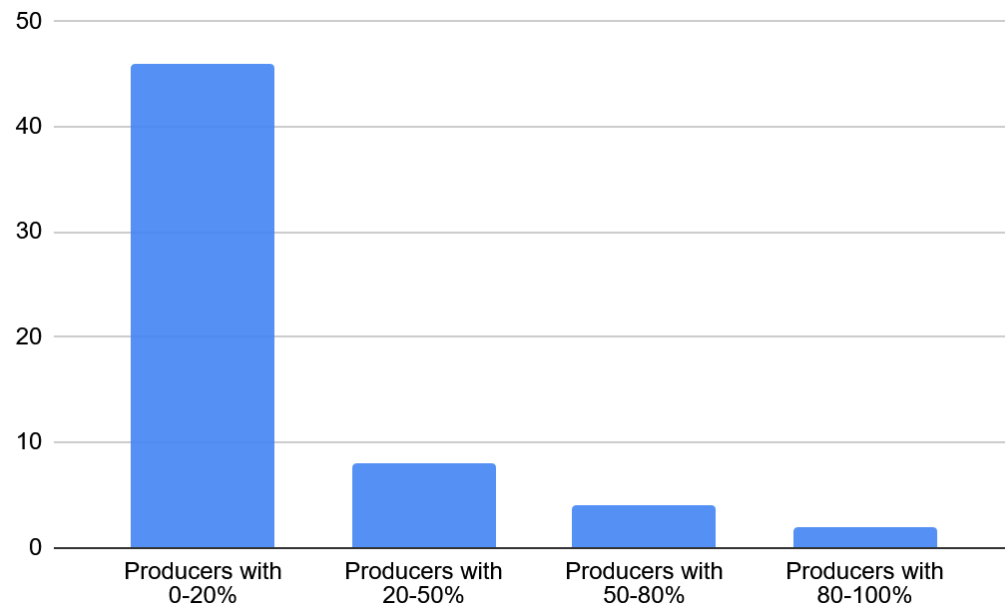


CATZOC=6 vs Group 1 object areas

2025-03-10

Usage Band 5 Producers		Areas comparison CATZOC=6 vs CATCOV=1 (minimized LNDARE effect)				
All Producers	From those encoding CATZOC=6	Over all UB5, %	Producers with 0-20%	Producers with 20-50%	Producers with 50-80%	Producers with 80-100%
74	60	7.63	46	8	4	2

- 60 producers out of 74 encode CATZOC=6 on UB5.
- 2 producers encode almost only CATZOC=6 (80-100% CATZOC=6)
- 46 producers encode evaluated CATZOC values (0-20% CATZOC=6)

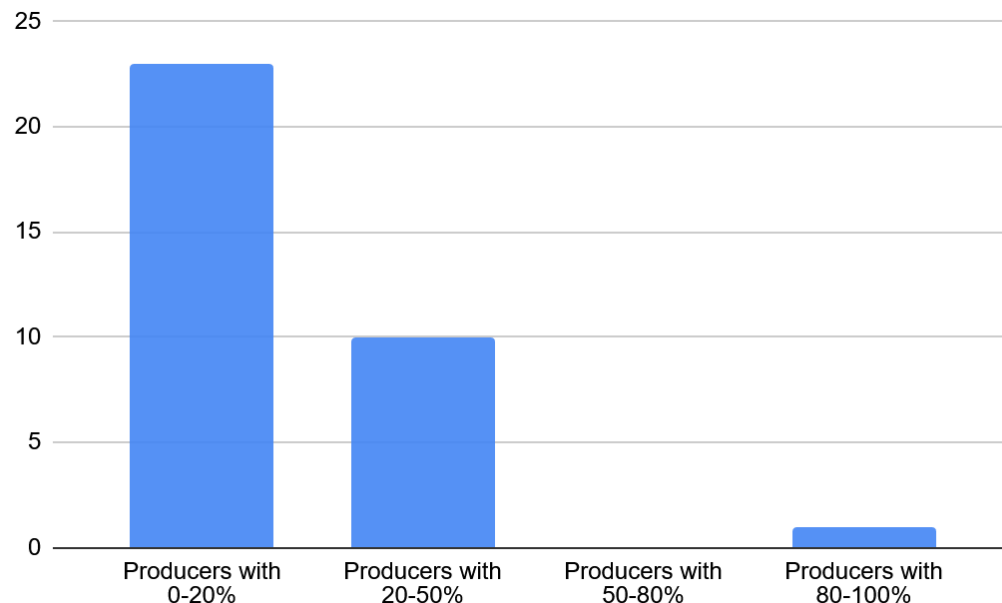


CATZOC=6 vs Group 1 object areas

2025-03-10

Usage Band 6 Producers		Areas comparison CATZOC=6 vs CATCOV=1 (minimized LNDARE effect)				
All Producers	From those encoding CATZOC=6	Over all UB6, %	Producers with 0-20%	Producers with 20-50%	Producers with 50-80%	Producers with 80-100%
49	34	9.96	23	10	0	1

- 60 producers out of 74 encode CATZOC=6 on UB6.
- 1 producer encodes almost only CATZOC=6 (80-100% CATZOC=6)
- 23 producers encode evaluated CATZOC values (0-20% CATZOC=6)



Conclusions and Reminders

- The overall situation in meaningful capturing of the M_QUAL object's CATZOC attribute is gradually improving.
- The monitoring method can and will be further finetuned to get as close to realistic overview as possible.
- S-57 UOC Reminds: ***Wherever possible, meaningful and useful values of CATZOC should be used (that is, values other than CATZOC = 6 (data not assessed)) for areas of bathymetry.***
- But amongst other reminders S-57 UOC also states: *Where M_QUAL areas are encoded over land, CATZOC should be set to 6 (unassessed).*
- **Meaningful** capture of the CATZOC attribute does not exclude the encoding of CATZOC=6 (data not assessed) if it is assessed and required to encode exactly this value.

Thank you for your attention

Questions?