Use of SCN features: Yes Max learning objects: 200 objects/class Strategy N° 5

Gulf Selected Samples prediction using all regions training set, Learning with all classes present in the selected samples, no extra training categories, No Calanoida, Cyclopoida, Zooplankton classes in learning set

Confusion Matrix - In percent of Actual Value

												COIII	iuStOI	ı /Vld	ıııx –	- 111	perce	eni O	ı ACl	udl Vdll	ue									
Acartia spp.	18%		<1%	<1%	36%	5%	4%	<1%		<1%	<1%	<1%	<1%	4%	2%	1%	<1%	2%	<1%	<1	1%	<1% <1%	<1%	<1% <1%	<1%		<1%	12%		12%
Bivalvia (larvae)		91%	<1%	<1%	<1%	<1%	<1%	<1%	6%		<1%	<1%	<1%	<1%		<1%		<1%	<1%			<1%	<1%	<1%			<1%		<1%	
Copepoda (nauplii)		4%	85%	<1%	<1%	<1%	<1%		<1%		5%	<1%		<1%		4%			<1%		•	<1%		<1%						
Podon/Pleopsis spp.		7%	18%	39%	<1%	<1%	<1%	2%	18%	<1%	11%	<1%		<1%		<1%	<1%	<1%	<1%			<1% <1%		<1%	<1%		<1%	<1%		<1%
Oithona spp.	<1%		<1%	<1%	71%	2%	7%				<1%	<1%	<1%	11%		4%		2%	<1%				<1%	<1%				<1%	<1%	<1%
Calanoida (ci-ciii)			3%	3%	10%	22%	11%		<1%		9%	3%		13%		9%		10%	5%			<1%	2%	<1%			<1%	<1%		
Pseudodiaptomus spp.	<1%		2%	<1%	18%	2%	48%		<1%		3%	1%		13%	<1%	3%		3%	3%	<1	1%	<1%						2%		1%
Hydrozoa (medusa)	<1%	2%		5%	1%		<1%	68%	5%	<1%	3%	<1%		<1%		<1%	3%	6%	<1%	<1	1%		<1%	<1%			<1%	2%		<1%
Gastropoda (larvae/Limacina)		16%	10%	8%			<1%	3%	54%		4%	1%		<1%				<1%	<1%			<1%					<1%	<1%		<1%
Temora spp.	<1%		2%	2%	4%	<1%	19%			18%	4%	2%		3%	5%	2%		7%	5%	13	3%	<1%			<1%			10%		3%
Bryozoa (larvae)		3%	23%	11%	<1%			<1%	7%		52%	<1%							<1%			<1%	<1%				<1%	<1%		
Polychaeta (larvae)	<1%	<1%	30%	5%	1%		2%		<1%	<1%	5%	19%		1%		13%	<1%	5%	13%			<1%	<1%		<1%	<1%				
Ascidiacea (larvae)	<1%				3%		<1%				<1%	<1%	90%	1%								<1%	<1%	1%		2%				
Harpacticoida- epibenthic			5%		18%	5%	6%				2%	<1%		45%		5%		4%	<1%	29	%			<1%				3%	2%	2%
Centropages spp.	20%				43%					5%				2%	16%				2%									9%		2%
Echinodermata (larvae)			5%	11%	3%		8%									32%		19%	19%									3%		
Obelia spp. (medusa)				5%	14%			10%						5%		5%	24%	19%	14%									5%		
Evadne spp.					6%			6%										69%	12%									6%		
Cirripedia (larvae)			44%						6%		6%	6%				12%			12%								12%			
Chaetognatha					8%								8%							23%			15%	38%		8%				
Pseudocalanus spp.	29%									29%										14	%							14%		14%
Cnidaria (larvae)			29%	29%												14%						29%								
npoda-non brachyura (larvae)																						75%				25%				
Fritillaria spp.																							100%							
Oikopleura spp.																							100%							
Monstrillidae																								100%	ó					
Decapoda-brachyura (zoeae)																						100%								
Osteichthyes (larvae)																				100%										
Ostracoda								100%																						
Paracalanus spp.																												100%		
Microsetella spp.																		100%												
Eurytemora spp.																				100	0%									
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Classification Report Matrix

n	Classification Report Matrix nax 200 learning objects per class							
	precision	recall	f1-score					
Acartia spp. (n=18062-train=200)	0.99	0.18	0.31					
Bivalvia (larvae) (n=7955-train=200)	0.94	0.91	0.92					
Copepoda (nauplii) (n=2753-train=200)	0.73	0.85	0.78					
Podon/Pleopsis spp. (n=2715-train=200)	0.84	0.39	0.53					
Oithona spp. (n=2572-train=200)	0.21	0.71	0.32					
Calanoida (ci-ciii) (n=1348-train=200)	0.22	0.22	0.22					
Pseudodiaptomus spp. (n=1059-train=200)	0.32	0.48	0.38					
Hydrozoa (medusa) (n=671-train=200)	0.75	0.68	0.71					
Gastropoda (larvae/Limacina) (n=629-train=200)	0.25	0.54	0.34					
Temora spp. (n=308-train=200)	0.29	0.18	0.22					
Bryozoa (larvae) (n=247-train=200)	0.14	0.52	0.22					
Polychaeta (larvae) (n=237-train=200)	0.29	0.19	0.23					
Ascidiacea (larvae) (n=194-train=200)	0.85	0.90	0.87					
Harpacticoida- epibenthic (n=108-train=200)	0.04	0.45	0.07					
Centropages spp. (n=44-train=200)	0.02	0.16	0.04					
Echinodermata (larvae) (n=37-train=200)	0.02	0.32	0.04					
Obelia spp. (medusa) (n=21-train=200)	0.07	0.24	0.11					
Evadne spp. (n=16-train=200)	0.02	0.69	0.03					
Cirripedia (larvae) (n=16-train=200)	0.01	0.12	0.01					
Chaetognatha (n=13-train=89)	0.75	0.23	0.35					
Pseudocalanus spp. (n=7-train=200)	0.00	0.14	0.01					
Cnidaria (larvae) (n=7-train=25)	0.09	0.29	0.13					
ecapoda-non brachyura (larvae) (n=4-train=200)	0.10	0.75	0.18					
Fritillaria spp. (n=3-train=200)	0.02	1.00	0.04					
Oikopleura spp. (n=2-train=200)	0.00	0.00	0.00					
Monstrillidae (n=2-train=27)	0.18	1.00	0.31					
Decapoda-brachyura (zoeae) (n=1-train=200)	0.00	0.00	0.00					
Osteichthyes (larvae) (n=1-train=45)	0.00	0.00	0.00					
Ostracoda (n=1-train=25)	0.00	0.00	0.00					
Paracalanus spp. (n=1-train=200)	0.00	1.00	0.00					
Microsetella spp. (n=1-train=4)	0.00	0.00	0.00					
Eurytemora spp. (n=1-train=200)	0.00	0.00	0.00					
macro avg	0.25	0.41	0.23					
weighted avg	0.82	0.46	0.49					
	precision	recall	f1-score					

Predictions of discarded taxa from training

	Acartia spp.	0.6% (n=50)	0.0%	0.0%	
	Ascidiacea (larvae)	0.2% (n=13)	0.0%	0.1% (n=2)	
	Bivalvia (larvae)	0.1% (n=4)	0.0%	35.9% (n=655)	
	Bryozoa (larvae)	7.4% (n=574)	8.7% (n=2)	15.3% (n=279)	50
	Calanoida (ci-ciii)	16.5% (n=1269)	0.0%	0.3% (n=6)	
	Centropages spp.	0.0% (n=2)	0.0%	0.0%	
	Cirripedia (larvae)	3.8% (n=293)	0.0%	1.2% (n=22)	
	Cnidaria (larvae)	0.3% (n=24)	0.0%	0.1% (n=2)	
	Copepoda (nauplii)	4.3% (n=333)	8.7% (n=2)	18.9% (n=345)	40
	Decapoda-brachyura (zoeae)	0.0%	0.0%	0.1% (n=1)	
	Echinodermata (larvae)	10.5% (n=813)	4.3% (n=1)	1.6% (n=29)	
Predicted Taxa	Eurytemora spp.	0.4% (n=29)	0.0%	0.0%	
$\frac{1}{9}$	Evadne spp.	6.3% (n=486)	0.0%	0.4% (n=8)	20
eq	Fritillaria spp.	1.2% (n=91)	0.0%	0.3% (n=5)	30
ict	Gastropoda (larvae/Limacina)	0.4% (n=33)	4.3% (n=1)	13.8% (n=251)	
ed	Harpacticoida- epibenthic	9.8% (n=756)	56.5% (n=13)	0.6% (n=11)	
Pr	Hydrozoa (medusa)	0.1% (n=7)	0.0%	1.9% (n=35)	
	Microsetella spp.	0.1% (n=5)	8.7% (n=2)	0.0%	20
	Obelia spp. (medusa)	0.0% (n=3)	0.0%	0.1% (n=1)	20
	Oikopleura spp	0.7% (n=51)	0.0%	0.4% (n=8)	
	Oithona spp.	14.4% (n=1114)	4.3% (n=1)	0.3% (n=6)	
	Ostracoda	0.2% (n=16)	0.0%	0.8% (n=14)	
	Paracalanus spp.	2.0% (n=156)	0.0%	0.0%	10
	Podon/Pleopsis spp.	2.3% (n=174)	0.0%	6.6% (n=121)	10
	Polychaeta (larvae)	1.3% (n=97)	4.3% (n=1)	0.9% (n=16)	
	Pseudocalanus spp.	0.1% (n=9)	0.0%	0.0%	
	Pseudodiaptomus spp.	16.9% (n=1302)	0.0%	0.3% (n=5)	
	Temora spp.	0.1% (n=7)	0.0%	0.0%	0
		Calanoida (uni	$C_{yclopoid_{m{\partial}}}$ $C_{yclopoid_{m{\partial}}}$ $C_{yclopoid_{m{\partial}}}$ $C_{yclopoid_{m{\partial}}}$	≥ooplankton (uni	idı
				,	7)

Actual discarded Taxa

Relative Abundance of Top Taxonomic Instances per Sample



