Use of SCN features: No Max learning objects: 5000 objects/class Strategy N° 1

NL 2020 Selected Samples prediction using NL 2020 training set, Learning with all classes present in the selected samples, no extra training categories, No Anthoathecata, Calanoida, Copepoda, Zooplankton classes in learning set

| Classi | fication F | Report N | Natrix | |
|----------|------------|----------|---------------|---|
| max 5000 | learning | objects | per class | 5 |

| | | | | | | | | Confu | ısion Matrix | – In p | oercen1 | t of A | ctual Valu | e | | | | | m | | arning obje | cts per clas | SS | |
|----------------------------------------|-------|-------------|-------|--------------|--------------------|-------------|---------------|--------|-----------------|------------|-------------------------|-----------------|----------------|-------------|----------------|------------------------|-------------|--------------------------|--------------------------------------------------|-----------|-------------|--------------|----|-----|
| | | | | | | | | | | ' | | | | | | | | | | precision | recall | f1-score | | |
| Temora spp. | | 10% | | 20% | <1% <1% | <1% | | | | <1% | | | | | <1% | | 2% | | Temora spp. (n=18103-train=5000) | 0.70 | 0.60 | 0.64 | | |
| Acartia spp. Evadne spp. | | | 2% | 14% | <1% 3% | ~10/ | 3% <1% | ~10/ | | <1% | | | | <1% | <1% <1% | | <1% | | Acartia spp. (n=13302-train=5000) | 0.74 | 0.53 | 0.62 | | |
| | | | | | | < 1/0 | | | | -40. | .40. | | .40. | .40. | | | | | Evadne spp. (n=5228-train=2845) | 0.81 | 0.94 | 0.87 | | |
| Pseudocalanus spp. Centropages spp. | | | | 52% 4% | <1% 5% | | <1% | | | <1% <1% | < 1% | | <1% | <1% | <1% | <1% | <1% | | Pseudocalanus spp. (n=3053-train=4552) | 0.22 | 0.52 | 0.31 | | |
| Podon/Pleopsis spp. | | | | | 14% | | <1% | | | | <1% | | | | <1% | | 41% | | Centropages spp. (n=330-train=40) | 1.00 | 0.05 | 0.10 | | 1.0 |
| Eurytemora spp. | | | | | 1% | | 21% | | | 3% | | | | | <1% | | 3% | | Podon/Pleopsis spp. (n=253-train=201) | 0.12 | 0.14 | 0.13 | | |
| Gastropoda (larvae/Limacina) | | | 9% | | 31% | 31% | | 13% | | | | | | | | | 15% | | Eurytemora spp. (n=178-train=88) | | 0.00 | 0.00 | | |
| Oithona spp. | | 5% | 4% | | | | 88% | | | 1% | | | | 1% | | | 1% | | Gastropoda (larvae/Limacina) | 0.51 | 0.31 | 0.39 | | |
| Bivalvia (larvae) | | | | | | 14% | | 86% | | | | | | | | | | | (n=112-train=110) Oithona spp. | | | | | 0.8 |
| Oikopleura spp. | 1% | 1% | | | | | | | 70% | | 1% | 3% | | 23% | | | | | (n=98-train=1409) | 0.00 | 0.88 | 0.14 | | 0.0 |
| Hydrozoa (medusa) | 5% | | 14% | | | | | | 6% | | 2% | | 27% | 3% | | 25% | 19% | | Bivalvia (larvae) (n=92-train=71) | 0.77 | 0.86 | 0.81 | | |
| Harpacticoida- epibenthic | 8% | 20% | | 30% | | | 2% | | | 36% | | | | | | | 4% | | Oikopleura spp. (n=70-train=761) | 0.98 | 0.70 | 0.82 | | |
| Calanus spp. | | | | 16% | | | | | | | 80% | | | | 4% | | | | Hydrozoa (medusa) (n=64-train=21) | 0.67 | 0.06 | 0.11 | | |
| Chaetognatha | | | | 7% | | | | | | | _ | 73% | | | | | | 20% | Harpacticoida- epibenthic (n=50-train=136) | 0.10 | 0.36 | 0.16 | | 0.6 |
| Chiridius spp. | 14% | | | 57% | | | | | | | 29% | | | | | | | | Calanus spp. | 0.62 | 0.80 | 0.70 | | |
| Aglantha spp. (medusa) | | | | | | | | | 20% | | | | 50% | ш | | 30% | | | (n=25-train=213) Chaetognatha | 0.05 | 0.73 | 0.79 | | |
| Fritillaria spp. | | | | | | | 29% | | | | | | | 71% | | | | | (n=15-train=67) Chiridius spp. | 0.03 | | | | |
| Echinodermata (larvae) | | | 20% | 500 . | 20% | | 40% | | | | 500 . | | | 20% | | | | | (n=14-train=1) | 0.00 | 0.00 | 0.00 | | 0.4 |
| Metridia spp. | | | | 50% | | | | | | | 50% | | | | | | | | Aglantha spp. (medusa) (n=10-train=21) | 0.22 | 0.50 | 0.30 | | |
| Decapoda-non brachyura (larvae) | | | | | | | | | | | 100% | | | | | | Γ00. | | Fritillaria spp. (n=7-train=3447) | 0.04 | 0.71 | 0.08 | | |
| Cnidaria (larvae) Obelia spp. (medusa) | | | | | | | | | | | | | | | | 100% | 50% | | Echinodermata (larvae) (n=5-train=276) | 0.00 | 0.00 | 0.00 | | |
| Polychaeta (larvae) | | | | 100% | | | | | | | | | | | | 1000 | | | Metridia spp. (n=2-train=15) | 0.00 | 0.00 | 0.00 | | 0.2 |
| Amphipoda | | | | | | | | | | | 100% | | | | | | | | Decapoda-non brachyura (larvae) (n=2-train=7) | 0.00 | 0.00 | 0.00 | | |
| Tomopteris spp. | | | | | | | | | 100% | | | | | | | | | | Cnidaria (larvae) (n=2-train=3) | 0.00 | 0.00 | 0.00 | | |
| | Tenor | Acarre Spp. | Spp. | PS CHOL | Centro, Podon Cury | Cash, | Oithon Oithon | Bivali | Oikoplo Hydro | Harpa | Calanus | Charto | Chiridius Agla | res Privile | Chinos Metridi | Decape Chidari Ober | lia Polyci | Amphipoda Tomopteris | , | 0.05 | 1.00 | 0.09 | | |
| | | 500 | , 200 | <i>Spp.</i> | Centropages Spp. | Temora SPD. | topoda (lan | Spp. | Oikopleura Spp. | Od (medus | Calanus ticoida Cala | `\$ <i>PD</i> . | and the Spp. | 10 SPD. (1) | Pedusa) | Decapoda Pon brachyura | is pp. (nel | Amphipoda Ponopteris St. | Polychaeta (larvae) (n=1-train=452) | 0.00 | 0.00 | 0.00 | | 0.0 |
| | | | | | | ٠ | | inacin | | | | Chihic | | | (Sa) | Te) Tyura | lan | <i>y</i> | Amphipoda (n=1-train=1) | 0.00 | 0.00 | 0.00 | | |
| | | | | | | | | | | | | | | | | | de | | Tomopteris spp. (n=1-train=1) | 0.00 | 0.00 | 0.00 | | |
| | | | | | | | | | Pr | edicte | d Value | ?S | | | | | | | macro avg | 0.33 | 0.37 | 0.27 | | |
| | | | | | | | | | | | | | | | | | | | weighted avg | | 0.60 | 0.63 | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |

Actual Values

f1-score

precision recall

Predictions of discarded taxa from training

| | Acartia spp. | 0.0% | 12.5% (n=4) | 13.7% (n=626) | 4.3% (n=48) | | 80 |
|-----------|------------------------------|--------------------------------------|------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------------|---------------------|----|
| | Aglantha spp. (medusa) | 33.3% (n=2) | 0.0% | 0.0% | 0.0% | | |
| | Bivalvia (larvae) | 0.0% | 0.0% | 0.0% (n=1) | 7.3% (n=82) | | 70 |
| | Calanus spp. | 0.0% | 0.0% | 0.0% (n=2) | 0.0% | | |
| | Echinodermata (larvae) | 0.0% | 0.0% | 0.3% (n=14) | 1.1% (n=12) | | 60 |
| | Evadne spp. | 0.0% | 0.0% | 18.8% (n=857) | 48.5% (n=545) | | |
| Э | Fritillaria spp. | $16.7\% \ \scriptscriptstyle{(n=1)}$ | 0.0% | 0.4% (n=20) | 1.0% (n=11) | | 50 |
| | Gastropoda (larvae/Limacina) | 0.0% | 0.0% | 0.0% | 5.3% (n=60) | | |
| cted | Harpacticoida- epibenthic | 0.0% | 0.0% | 0.9% (n=41) | 0.1% (n=1) | | 40 |
| Predicted | Hydrozoa (medusa) | $16.7\% \ \scriptscriptstyle{(n=1)}$ | 0.0% | 0.0% | 0.0% | | |
| <u> </u> | Obelia spp. (medusa) | 33.3% (n=2) | 0.0% | 0.0% | 0.0% | | 30 |
| | Oikopleura spp. | 0.0% | 0.0% | 0.0% | 0.4% (n=4) | | |
| | Oithona spp. | 0.0% | 0.0% | 13.0% (n=592) | 2.8% (n=31) | | 20 |
| | Podon/Pleopsis spp. | 0.0% | 0.0% | 2.5% (n=113) | 16.0% (n=180) | | 20 |
| | Polychaeta (larvae) | 0.0% | 0.0% | 5.2% (n=235) | 9.2% (n=103) | | 10 |
| | Pseudocalanus spp. | 0.0% | 81.2% (n=26) | 18.8% (n=856) | 1.4% (n=16) | | 10 |
| | Temora spp. | 0.0% | 6.2% (n=2) | 26.4% (n=1205) | 2.7% (n=30) | | 0 |
| | | Anthoral heather | $^{C_{m{a}l_{m{a}}n_{m{o}i_{m{d}_{m{a}}}}}}_{n_{m{lpha}},2}$ $^{C_{m{a}l_{m{a}}n_{m{o}i_{m{d}_{m{a}}}}}}_{m{a}}$ | Copepoda (n≥4562 (unid) | Zooplankto n≈1123 (unid) | ⁿ (unid) | 0 |

Actual discarded Taxa

Relative Abundance of Top Taxonomic Instances per Sample Val Pred 1.0 -0.8 -Relative Abundance 0.4 0.2 -0.0 S25 S21 S22 S23 S24 S26 S27 S28 S29 S30 Sample Short ID

