

Attribute Ranges in GAN Model

Attribute	Permissible Range
Bloom_Index	(-1.0, 1.0)
Rolling_Chlorophyll_Anomaly	(-2.0, 5.0)
Rolling_SST_Anomaly	(-3.0, 3.0)
Surface_Chlorophyll	(0.0, 10.0) mg/m ³
Sea_Surface_Temperature	(20.0, 35.0) °C
Dissolved_Oxygen	(0.0, 12.0) mg/L
pH	(6.5, 9.5)
Total_Nitrogen	(0.0, 10.0) mg/L
Total_Phosphorus	(0.0, 1.0) mg/L

Notes:

- The ranges provided reflect typical conditions found in marine and coastal environments. Values outside these ranges may indicate anomalies or unusual conditions.
- These attributes are part of a dataset used for detecting Harmful Algal Blooms (HABs), which can have significant impacts on aquatic ecosystems and human health.
- The dataset was enhanced using Generative Adversarial Networks (GANs) to simulate diverse scenarios, improving the robustness of HAB detection models.