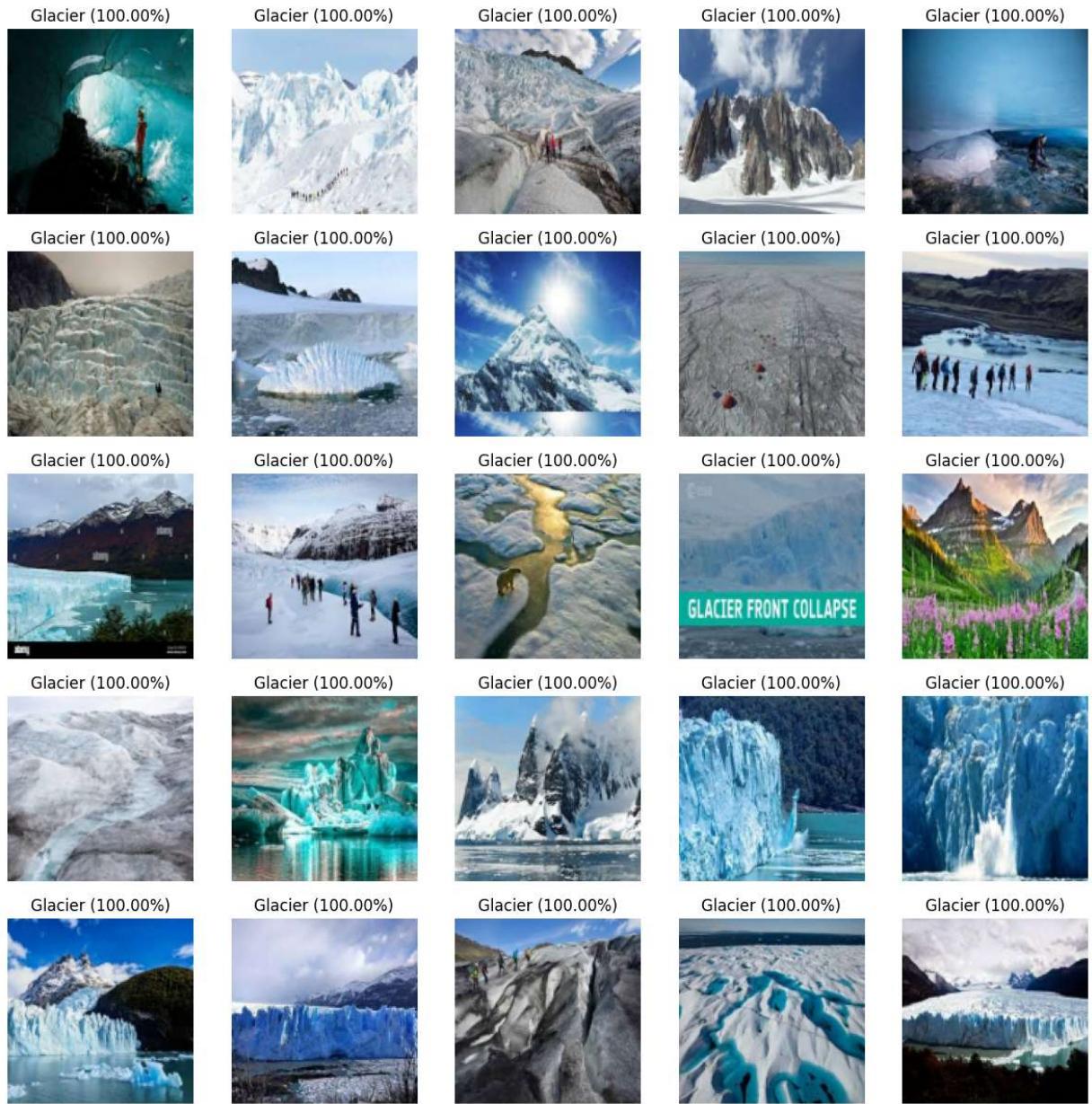


## Visualize Dataset



## Variational AutoEncoder

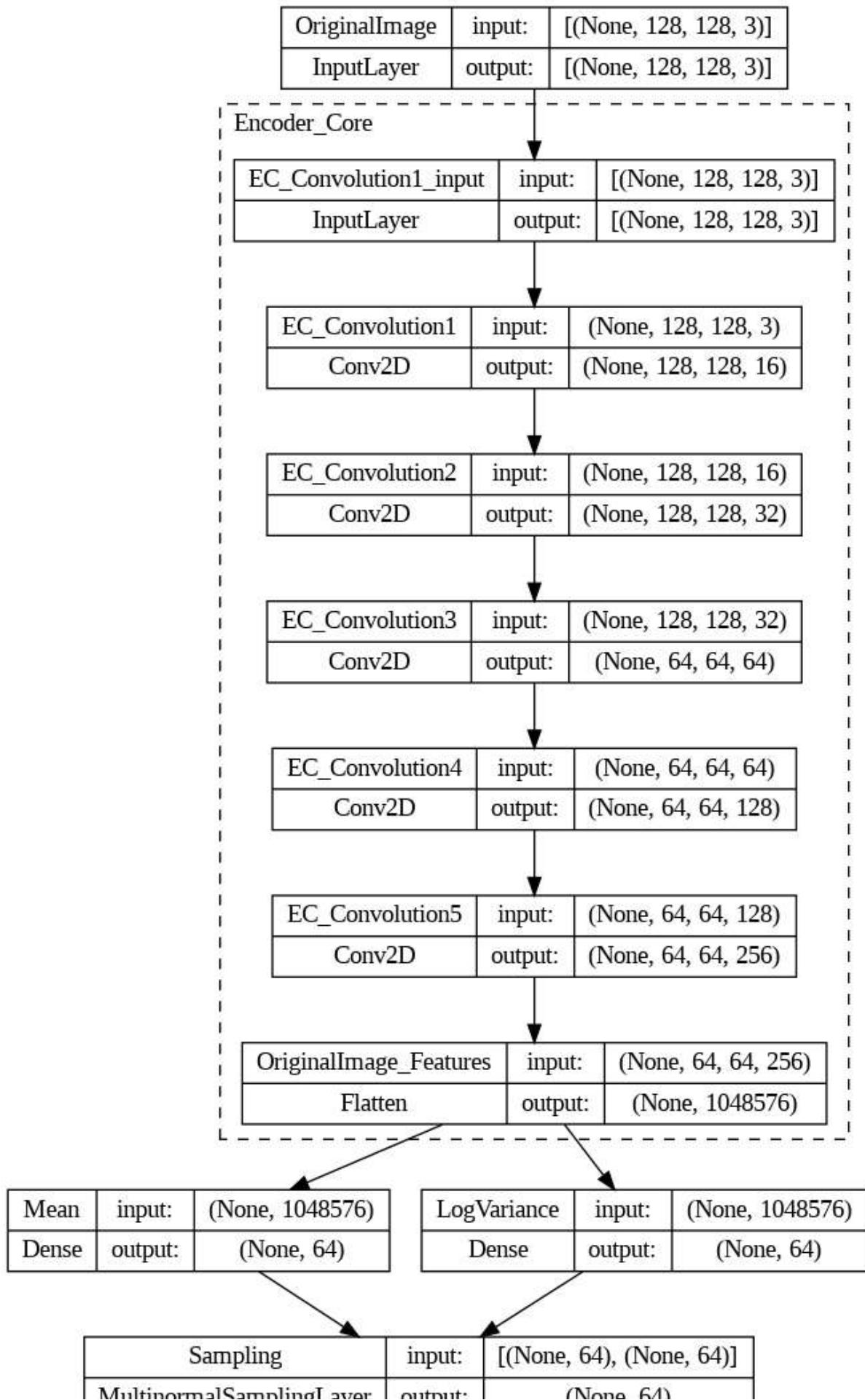
Model: "VAE"

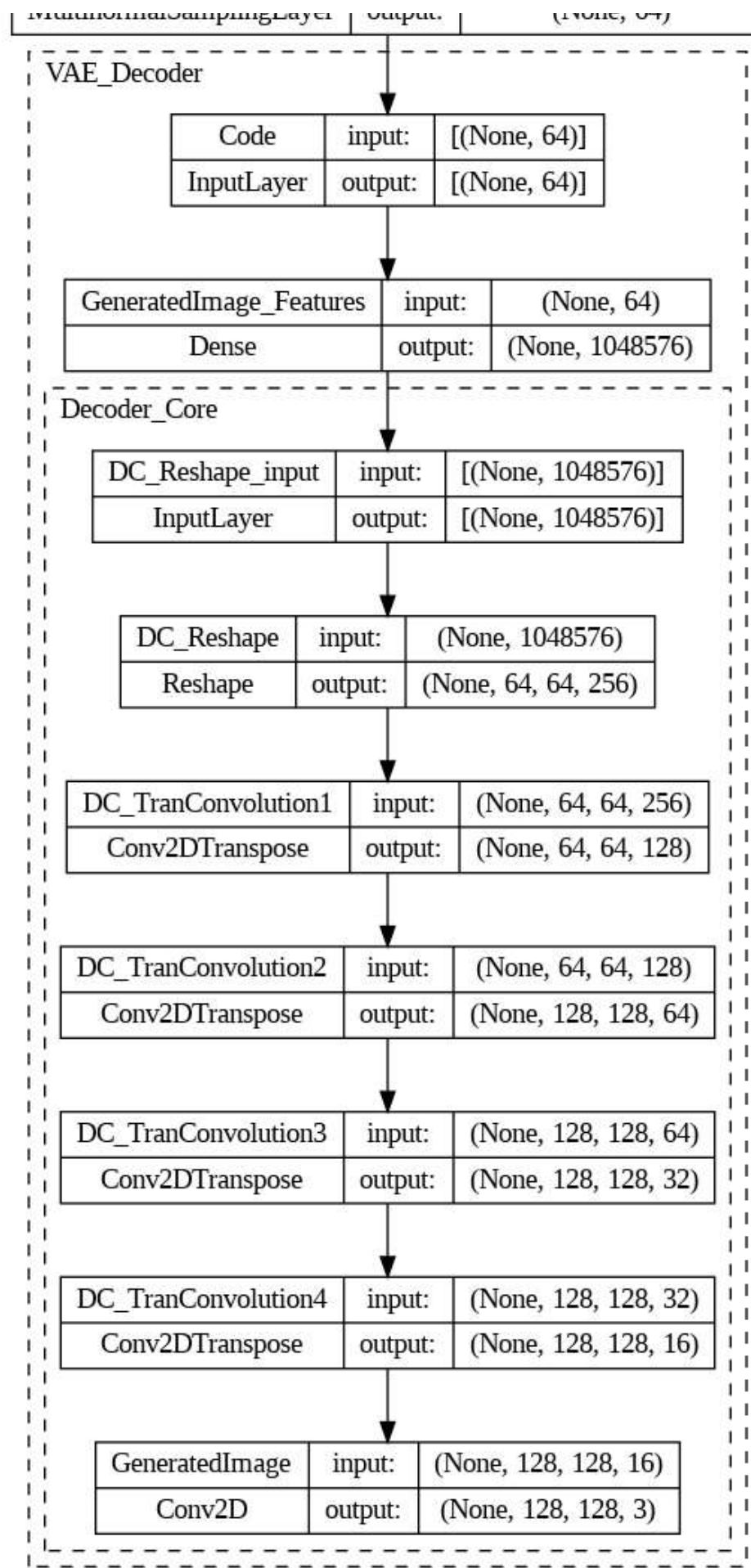
---

Layer (type)	Output Shape	Param #	Connected to
<hr/>			
<hr/>			
OriginalImage (InputLayer)	[(None, 128, 128, 3)]	0	[]
Encoder_Core (Sequential)	(None, 1048576)	392608	['OriginalImage[0][0]']
Mean (Dense)	(None, 64)	6710892	['Encoder_Core[0][0]']
		8	
LogVariance (Dense)	(None, 64)	6710892	['Encoder_Core[0][0]']
		8	
Sampling (MultinormalSamplingLayer)	(None, 64)	0	['Mean[0][0]', 'LogVariance[0][0]']
[0]'			
VAE_Decoder (Functional)	(None, 128, 128, 3)	6833195	['Sampling[0][0]']
[0]'		5	
<hr/>			
<hr/>			
Total params: 202942419 (774.16 MB)			
Trainable params: 202942419 (774.16 MB)			
Non-trainable params: 0 (0.00 Byte)			

---

Out[86]:





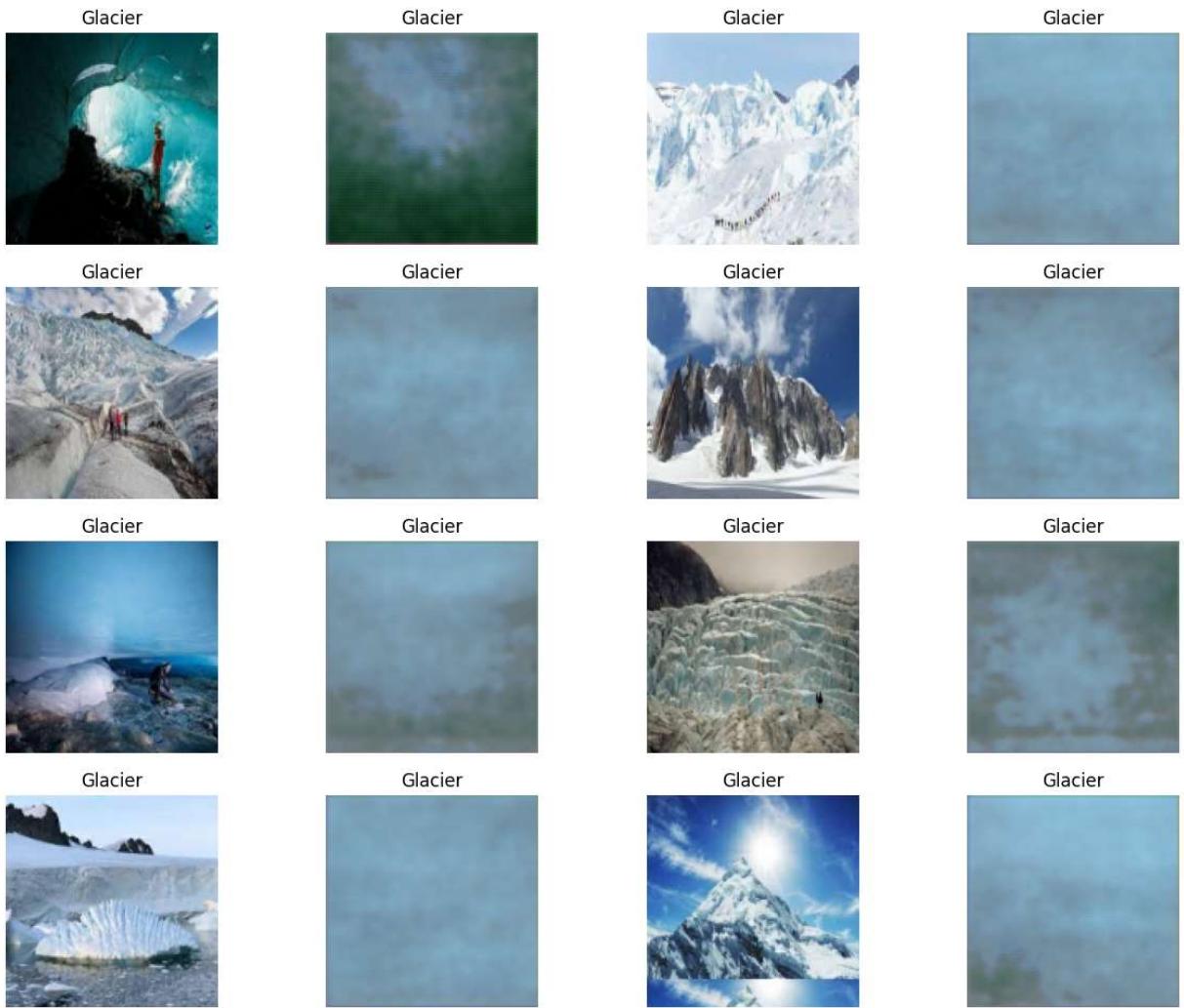
## Training

Epoch 1/1000

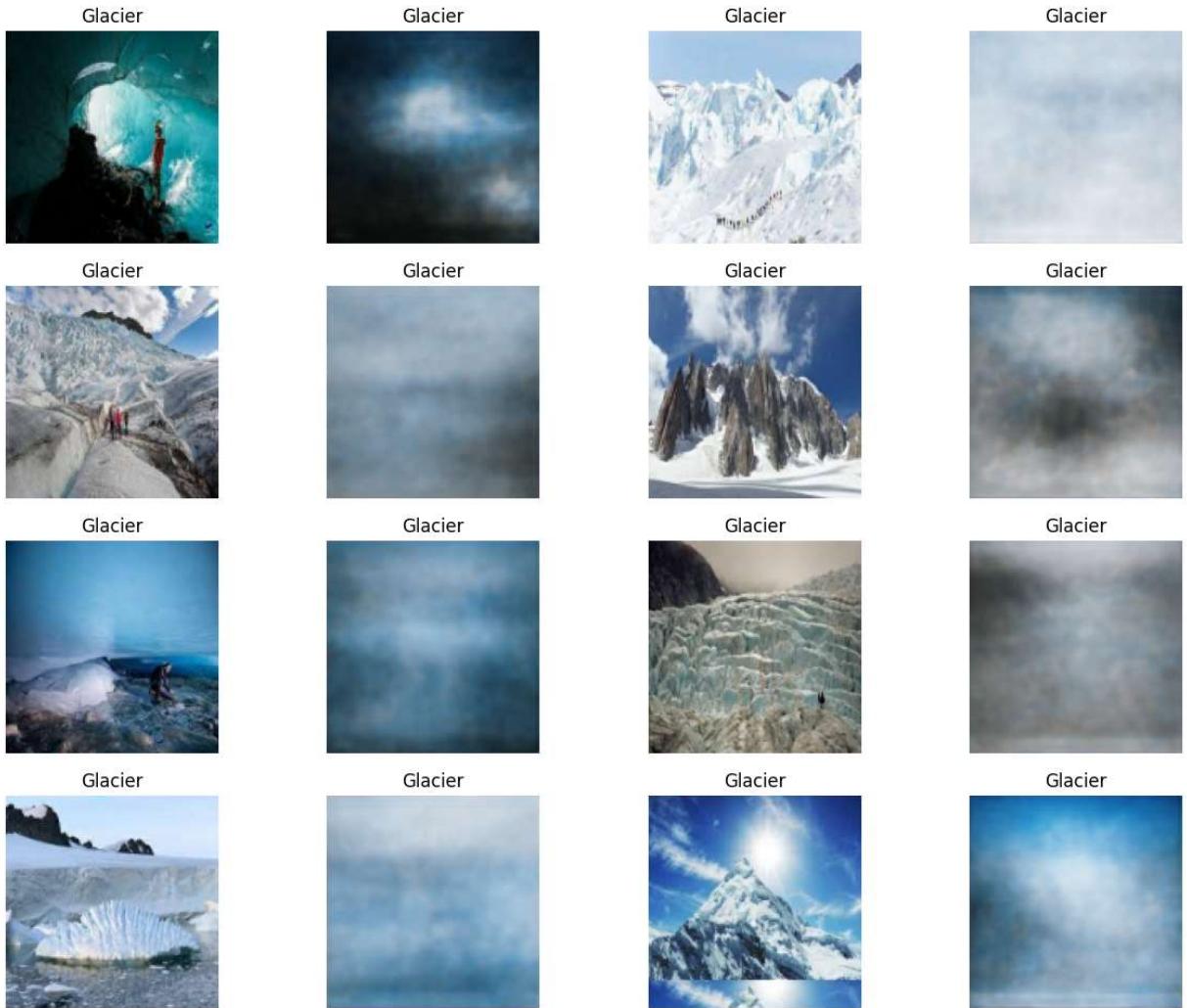
120/Unknown - 24s 100ms/step - loss: 1817460.1250 - reconstruction\_error: 121.58

57 - regularization\_error: 1817337.3750

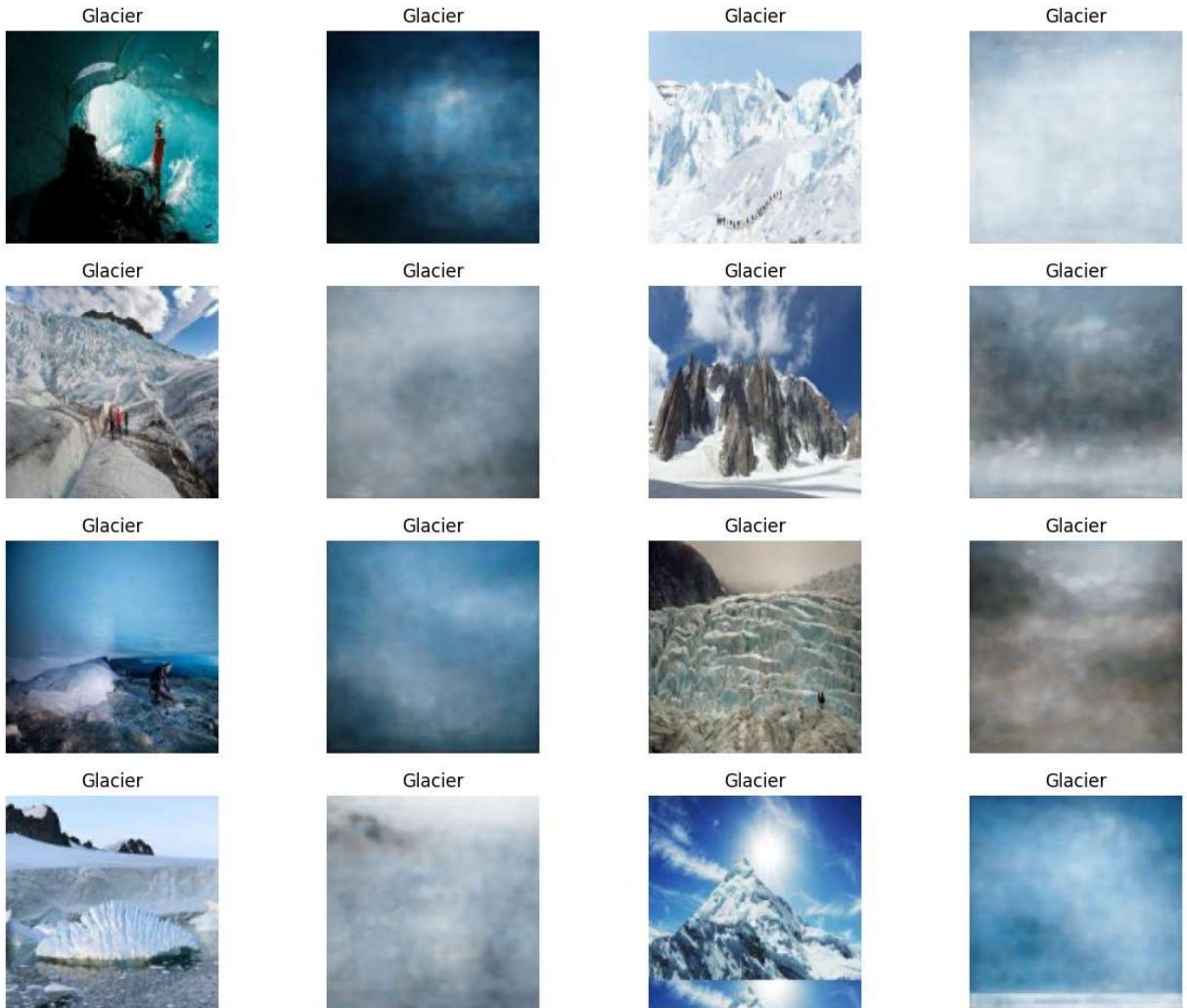
[2023-12-02 09:55:31.123550]: Reconstructing images for epoch 1 ...



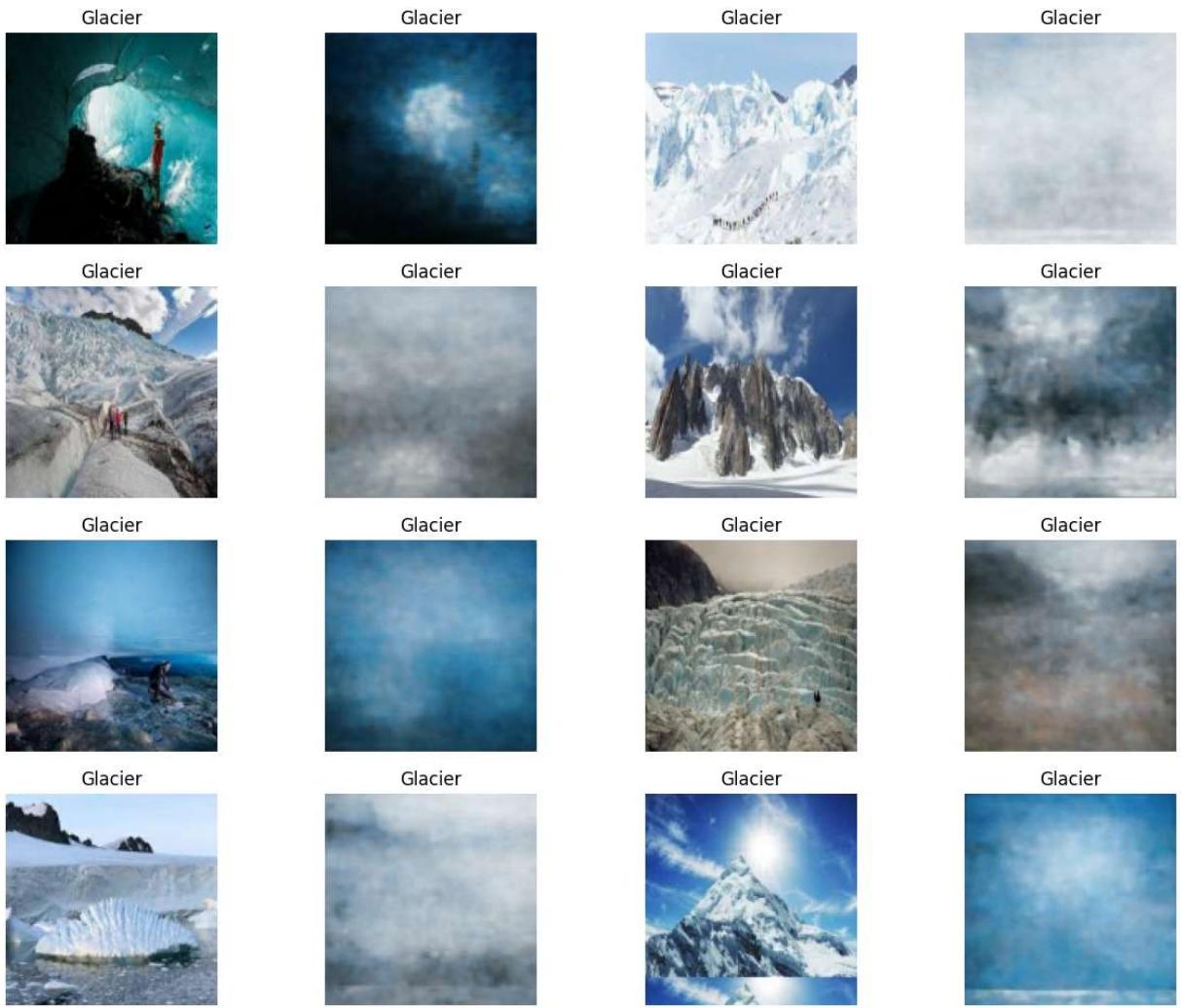
```
120/120 [=====] - 36s 200ms/step - loss: 1817460.1250 - reconstruction_error: 121.5857 - regularization_error: 1817337.3750 - val_loss: 102.3151 - val_reconstruction_error: 97.1589 - val_regularization_error: 5.1563
Epoch 2/1000
120/120 [=====] - 19s 161ms/step - loss: 90.1410 - reconstruction_error: 82.5990 - regularization_error: 7.5421 - val_loss: 81.9949 - val_reconstruction_error: 73.4276 - val_regularization_error: 8.5673
Epoch 3/1000
120/120 [=====] - 23s 175ms/step - loss: 80.1487 - reconstruction_error: 69.8277 - regularization_error: 10.3210 - val_loss: 78.4699 - val_reconstruction_error: 67.9158 - val_regularization_error: 10.5541
Epoch 4/1000
120/120 [=====] - 22s 181ms/step - loss: 76.1284 - reconstruction_error: 64.5781 - regularization_error: 11.5503 - val_loss: 75.5424 - val_reconstruction_error: 63.6319 - val_regularization_error: 11.9105
Epoch 5/1000
120/120 [=====] - 16s 132ms/step - loss: 73.8322 - reconstruction_error: 61.5744 - regularization_error: 12.2578 - val_loss: 72.0988 - val_reconstruction_error: 60.5918 - val_regularization_error: 11.5070
Epoch 6/1000
120/120 [=====] - 21s 171ms/step - loss: 71.4260 - reconstruction_error: 58.4963 - regularization_error: 12.9297 - val_loss: 70.8111 - val_reconstruction_error: 59.1757 - val_regularization_error: 11.6354
Epoch 7/1000
120/120 [=====] - 20s 161ms/step - loss: 69.0672 - reconstruction_error: 56.1101 - regularization_error: 12.9571 - val_loss: 69.5890 - val_reconstruction_error: 57.6335 - val_regularization_error: 11.9555
Epoch 8/1000
120/120 [=====] - 20s 167ms/step - loss: 66.6531 - reconstruction_error: 53.4318 - regularization_error: 13.2213 - val_loss: 66.6682 - val_reconstruction_error: 53.6954 - val_regularization_error: 12.9727
Epoch 9/1000
120/120 [=====] - 21s 176ms/step - loss: 66.0205 - reconstruction_error: 52.6381 - regularization_error: 13.3824 - val_loss: 66.9368 - val_reconstruction_error: 54.2111 - val_regularization_error: 12.7257
Epoch 10/1000
120/120 [=====] - 24s 200ms/step - loss: 65.1389 - reconstruction_error: 51.6117 - regularization_error: 13.5272 - val_loss: 67.3849 - val_reconstruction_error: 55.3556 - val_regularization_error: 12.0293
Epoch 11/1000
120/120 [=====] - ETA: 0s - loss: 64.2422 - reconstruction_error: 50.5562 - regularization_error: 13.6860
[2023-12-02 09:59:06.655951]: Reconstructing images for epoch 11 ...
```



```
120/120 [=====] - 28s 232ms/step - loss: 64.2422 - reconstruction_error: 50.5562 - regularization_error: 13.6860 - val_loss: 64.6486 - val_reconstruction_error: 51.6248 - val_regularization_error: 13.0238
Epoch 12/1000
120/120 [=====] - 26s 214ms/step - loss: 63.5805 - reconstruction_error: 49.9304 - regularization_error: 13.6500 - val_loss: 65.0029 - val_reconstruction_error: 51.9646 - val_regularization_error: 13.0383
Epoch 13/1000
120/120 [=====] - 27s 218ms/step - loss: 63.5046 - reconstruction_error: 49.8200 - regularization_error: 13.6846 - val_loss: 64.9934 - val_reconstruction_error: 52.2495 - val_regularization_error: 12.7439
Epoch 14/1000
120/120 [=====] - 17s 137ms/step - loss: 63.0749 - reconstruction_error: 49.2635 - regularization_error: 13.8114 - val_loss: 64.8597 - val_reconstruction_error: 51.0261 - val_regularization_error: 13.8336
Epoch 15/1000
120/120 [=====] - 31s 255ms/step - loss: 62.2917 - reconstruction_error: 48.5180 - regularization_error: 13.7737 - val_loss: 64.5493 - val_reconstruction_error: 50.9220 - val_regularization_error: 13.6273
Epoch 16/1000
120/120 [=====] - 23s 192ms/step - loss: 62.5191 - reconstruction_error: 48.4562 - regularization_error: 14.0629 - val_loss: 65.0632 - val_reconstruction_error: 50.5655 - val_regularization_error: 14.4977
Epoch 17/1000
120/120 [=====] - 24s 200ms/step - loss: 61.8502 - reconstruction_error: 47.9218 - regularization_error: 13.9285 - val_loss: 64.5070 - val_reconstruction_error: 51.1018 - val_regularization_error: 13.4052
Epoch 18/1000
120/120 [=====] - 19s 158ms/step - loss: 61.6985 - reconstruction_error: 47.6370 - regularization_error: 14.0614 - val_loss: 64.0622 - val_reconstruction_error: 50.1568 - val_regularization_error: 13.9054
Epoch 19/1000
120/120 [=====] - 32s 265ms/step - loss: 61.4479 - reconstruction_error: 47.3546 - regularization_error: 14.0933 - val_loss: 63.7521 - val_reconstruction_error: 50.2869 - val_regularization_error: 13.4653
Epoch 20/1000
120/120 [=====] - 50s 418ms/step - loss: 61.5277 - reconstruction_error: 47.3567 - regularization_error: 14.1710 - val_loss: 64.4851 - val_reconstruction_error: 50.0693 - val_regularization_error: 14.4158
Epoch 21/1000
120/120 [=====] - ETA: 0s - loss: 61.1765 - reconstruction_error: 46.9480 - regularization_error: 14.2285
[2023-12-02 10:04:46.643951]: Reconstructing images for epoch 21 ...
```



```
120/120 [=====] - 76s 632ms/step - loss: 61.1765 - reconstruction_error: 46.9480 - regularization_error: 14.2285 - val_loss: 63.3630 - val_reconstruction_error: 49.7368 - val_regularization_error: 13.6262
Epoch 22/1000
120/120 [=====] - 79s 660ms/step - loss: 61.2103 - reconstruction_error: 46.9421 - regularization_error: 14.2682 - val_loss: 63.5513 - val_reconstruction_error: 49.8157 - val_regularization_error: 13.7356
Epoch 23/1000
120/120 [=====] - 73s 609ms/step - loss: 60.7833 - reconstruction_error: 46.2787 - regularization_error: 14.5046 - val_loss: 63.8305 - val_reconstruction_error: 49.9947 - val_regularization_error: 13.8359
Epoch 24/1000
120/120 [=====] - 70s 581ms/step - loss: 60.5558 - reconstruction_error: 46.1677 - regularization_error: 14.3881 - val_loss: 63.7078 - val_reconstruction_error: 49.7994 - val_regularization_error: 13.9084
Epoch 25/1000
120/120 [=====] - 69s 576ms/step - loss: 60.4235 - reconstruction_error: 45.7508 - regularization_error: 14.6727 - val_loss: 64.5161 - val_reconstruction_error: 49.8187 - val_regularization_error: 14.6973
Epoch 26/1000
120/120 [=====] - 51s 426ms/step - loss: 60.4660 - reconstruction_error: 45.7825 - regularization_error: 14.6835 - val_loss: 63.1123 - val_reconstruction_error: 49.4258 - val_regularization_error: 13.6865
Epoch 27/1000
120/120 [=====] - 47s 392ms/step - loss: 60.0091 - reconstruction_error: 45.3865 - regularization_error: 14.6227 - val_loss: 64.6615 - val_reconstruction_error: 49.3391 - val_regularization_error: 15.3225
Epoch 28/1000
120/120 [=====] - 57s 477ms/step - loss: 60.3586 - reconstruction_error: 45.5741 - regularization_error: 14.7845 - val_loss: 64.5354 - val_reconstruction_error: 49.4468 - val_regularization_error: 15.0887
Epoch 29/1000
120/120 [=====] - 58s 484ms/step - loss: 59.8118 - reconstruction_error: 45.0319 - regularization_error: 14.7799 - val_loss: 63.6542 - val_reconstruction_error: 49.4953 - val_regularization_error: 14.1589
Epoch 30/1000
120/120 [=====] - 54s 455ms/step - loss: 59.5047 - reconstruction_error: 44.7148 - regularization_error: 14.7900 - val_loss: 63.5687 - val_reconstruction_error: 49.1525 - val_regularization_error: 14.4162
Epoch 31/1000
120/120 [=====] - ETA: 0s - loss: 59.3315 - reconstruction_error: 44.5134 - regularization_error: 14.8181
[2023-12-02 10:15:10.391889]: Reconstructing images for epoch 31 ...
```



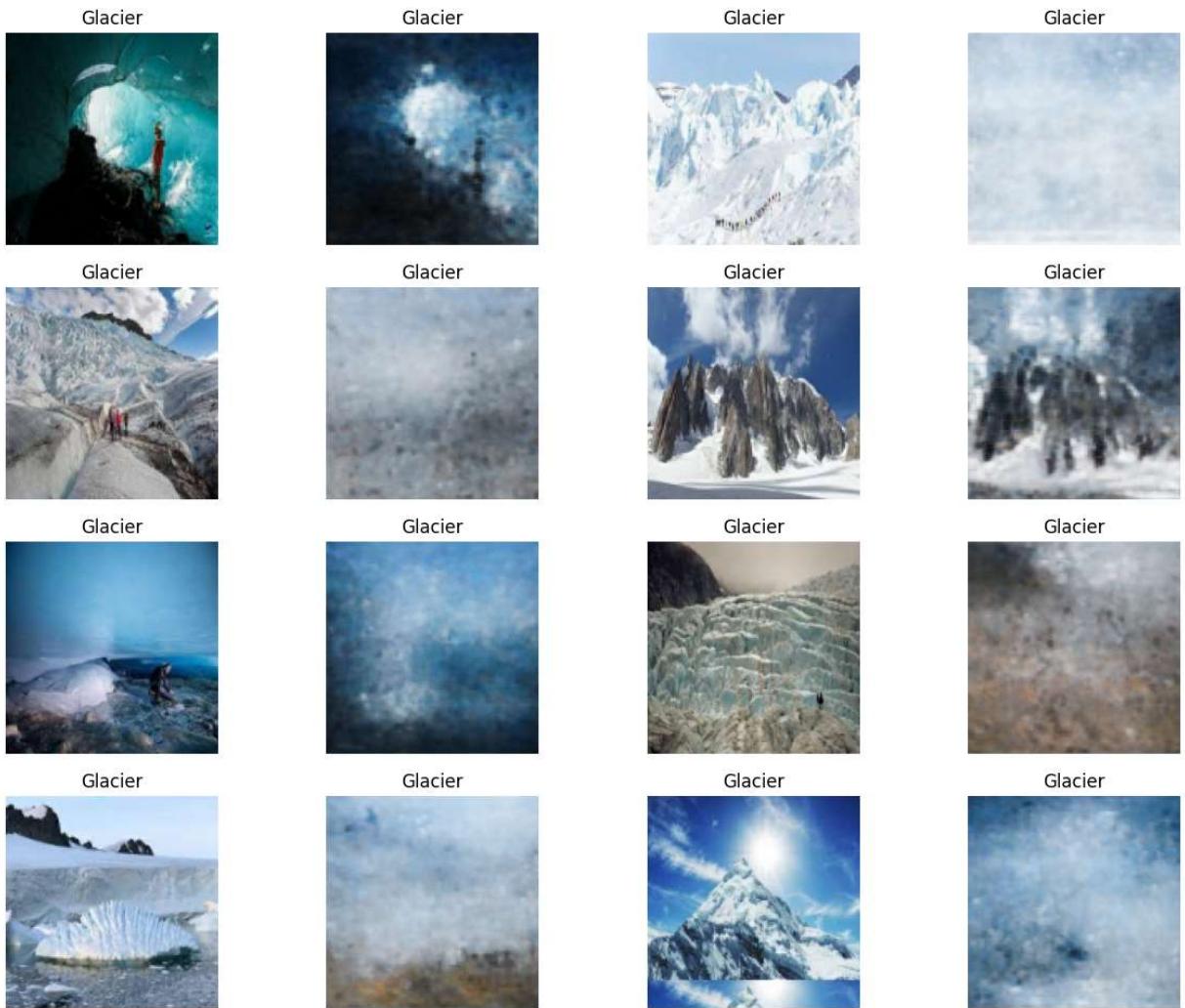
```
120/120 [=====] - 64s 531ms/step - loss: 59.3315 - reconstruction_error: 44.5134 - regularization_error: 14.8181 - val_loss: 63.6517 - val_reconstruction_error: 48.8754 - val_regularization_error: 14.7763
Epoch 32/1000
120/120 [=====] - 70s 583ms/step - loss: 59.2399 - reconstruction_error: 44.3345 - regularization_error: 14.9054 - val_loss: 64.1734 - val_reconstruction_error: 49.6359 - val_regularization_error: 14.5375
Epoch 33/1000
120/120 [=====] - 73s 611ms/step - loss: 59.3648 - reconstruction_error: 44.3315 - regularization_error: 15.0333 - val_loss: 63.8677 - val_reconstruction_error: 50.8736 - val_regularization_error: 12.9941
Epoch 34/1000
120/120 [=====] - 61s 508ms/step - loss: 59.0243 - reconstruction_error: 43.8023 - regularization_error: 15.2220 - val_loss: 63.7630 - val_reconstruction_error: 49.3395 - val_regularization_error: 14.4235
Epoch 35/1000
120/120 [=====] - 56s 464ms/step - loss: 59.1869 - reconstruction_error: 43.8404 - regularization_error: 15.3465 - val_loss: 64.2506 - val_reconstruction_error: 49.5057 - val_regularization_error: 14.7449
Epoch 36/1000
120/120 [=====] - 64s 535ms/step - loss: 58.6671 - reconstruction_error: 43.3838 - regularization_error: 15.2834 - val_loss: 64.4606 - val_reconstruction_error: 49.7481 - val_regularization_error: 14.7126
Epoch 37/1000
120/120 [=====] - 45s 372ms/step - loss: 58.7834 - reconstruction_error: 43.5018 - regularization_error: 15.2816 - val_loss: 63.9814 - val_reconstruction_error: 49.8795 - val_regularization_error: 14.1019
Epoch 38/1000
120/120 [=====] - 28s 235ms/step - loss: 58.7248 - reconstruction_error: 43.4077 - regularization_error: 15.3171 - val_loss: 63.7897 - val_reconstruction_error: 49.3800 - val_regularization_error: 14.4097
Epoch 39/1000
120/120 [=====] - 28s 234ms/step - loss: 58.2743 - reconstruction_error: 42.8273 - regularization_error: 15.4470 - val_loss: 63.9329 - val_reconstruction_error: 48.9059 - val_regularization_error: 15.0270
Epoch 40/1000
120/120 [=====] - 42s 350ms/step - loss: 58.3046 - reconstruction_error: 42.7039 - regularization_error: 15.6006 - val_loss: 64.1938 - val_reconstruction_error: 49.3572 - val_regularization_error: 14.8367
Epoch 41/1000
120/120 [=====] - ETA: 0s - loss: 58.2041 - reconstruction_error: 42.5818 - regularization_error: 15.6223
[2023-12-02 10:23:44.874336]: Reconstructing images for epoch 41 ...
```



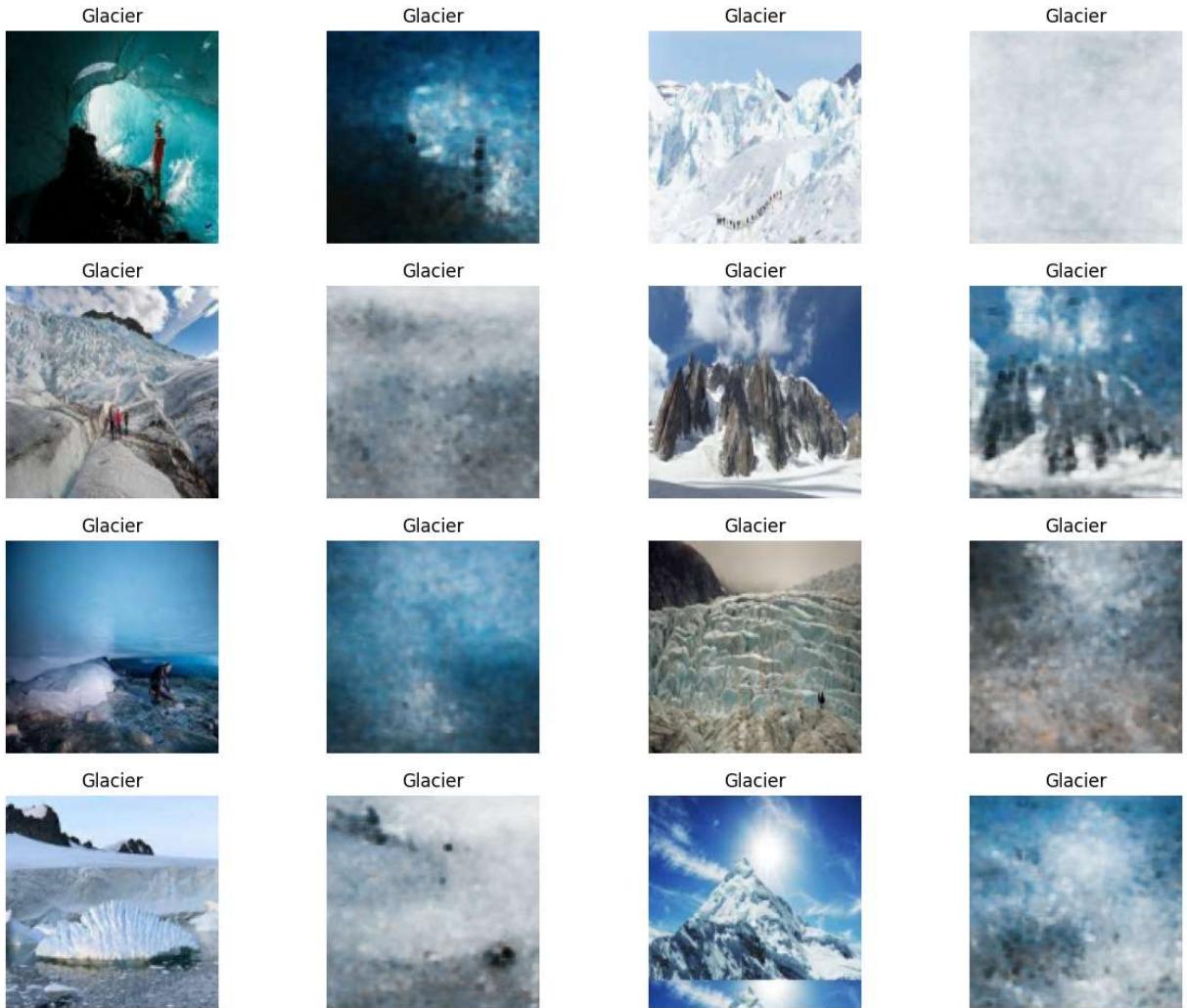
```
120/120 [=====] - 46s 384ms/step - loss: 58.2041 - reconstruction_error: 42.5818 - regularization_error: 15.6223 - val_loss: 64.1757 - val_reconstruction_error: 48.6762 - val_regularization_error: 15.4994
Epoch 42/1000
120/120 [=====] - 38s 314ms/step - loss: 57.9463 - reconstruction_error: 42.2599 - regularization_error: 15.6864 - val_loss: 63.6715 - val_reconstruction_error: 49.6448 - val_regularization_error: 14.0266
Epoch 43/1000
120/120 [=====] - 46s 381ms/step - loss: 57.8978 - reconstruction_error: 42.1859 - regularization_error: 15.7119 - val_loss: 64.0657 - val_reconstruction_error: 47.8512 - val_regularization_error: 16.2144
Epoch 44/1000
120/120 [=====] - 150s 1s/step - loss: 57.7377 - reconstruction_error: 41.9718 - regularization_error: 15.7660 - val_loss: 64.1167 - val_reconstruction_error: 48.8757 - val_regularization_error: 15.2410
Epoch 45/1000
120/120 [=====] - 138s 1s/step - loss: 57.4581 - reconstruction_error: 41.6091 - regularization_error: 15.8490 - val_loss: 64.4330 - val_reconstruction_error: 49.2263 - val_regularization_error: 15.2067
Epoch 46/1000
120/120 [=====] - 61s 505ms/step - loss: 57.5145 - reconstruction_error: 41.4646 - regularization_error: 16.0499 - val_loss: 63.8860 - val_reconstruction_error: 49.9440 - val_regularization_error: 13.9420
Epoch 47/1000
120/120 [=====] - 40s 336ms/step - loss: 57.1314 - reconstruction_error: 41.1589 - regularization_error: 15.9725 - val_loss: 64.3957 - val_reconstruction_error: 48.4363 - val_regularization_error: 15.9594
Epoch 48/1000
120/120 [=====] - 22s 187ms/step - loss: 57.3453 - reconstruction_error: 41.2487 - regularization_error: 16.0966 - val_loss: 64.4205 - val_reconstruction_error: 49.2020 - val_regularization_error: 15.2185
Epoch 49/1000
120/120 [=====] - 24s 196ms/step - loss: 56.8519 - reconstruction_error: 40.6319 - regularization_error: 16.2200 - val_loss: 65.2062 - val_reconstruction_error: 50.8678 - val_regularization_error: 14.3385
Epoch 50/1000
120/120 [=====] - 24s 202ms/step - loss: 56.5756 - reconstruction_error: 40.3118 - regularization_error: 16.2638 - val_loss: 65.8023 - val_reconstruction_error: 49.8725 - val_regularization_error: 15.9298
Epoch 51/1000
120/120 [=====] - ETA: 0s - loss: 56.3987 - reconstruction_error: 40.2388 - regularization_error: 16.1600
[2023-12-02 10:33:16.872722]: Reconstructing images for epoch 51 ...
```



```
120/120 [=====] - 25s 211ms/step - loss: 56.3987 - reconstruction_error: 40.2388 - regularization_error: 16.1600 - val_loss: 64.3257 - val_reconstruction_error: 48.6043 - val_regularization_error: 15.7214
Epoch 52/1000
120/120 [=====] - 20s 169ms/step - loss: 56.4812 - reconstruction_error: 40.1006 - regularization_error: 16.3807 - val_loss: 65.1125 - val_reconstruction_error: 49.3554 - val_regularization_error: 15.7570
Epoch 53/1000
120/120 [=====] - 31s 261ms/step - loss: 56.0906 - reconstruction_error: 39.5770 - regularization_error: 16.5135 - val_loss: 66.1334 - val_reconstruction_error: 49.6943 - val_regularization_error: 16.4392
Epoch 54/1000
120/120 [=====] - 23s 190ms/step - loss: 56.1007 - reconstruction_error: 39.6516 - regularization_error: 16.4492 - val_loss: 64.9084 - val_reconstruction_error: 49.8655 - val_regularization_error: 15.0429
Epoch 55/1000
120/120 [=====] - 28s 230ms/step - loss: 55.9788 - reconstruction_error: 39.4983 - regularization_error: 16.4805 - val_loss: 65.0830 - val_reconstruction_error: 49.3526 - val_regularization_error: 15.7305
Epoch 56/1000
120/120 [=====] - 28s 231ms/step - loss: 55.6727 - reconstruction_error: 38.9900 - regularization_error: 16.6826 - val_loss: 64.6601 - val_reconstruction_error: 48.9100 - val_regularization_error: 15.7500
Epoch 57/1000
120/120 [=====] - 27s 228ms/step - loss: 55.7933 - reconstruction_error: 38.9983 - regularization_error: 16.7950 - val_loss: 64.4489 - val_reconstruction_error: 49.0554 - val_regularization_error: 15.3935
Epoch 58/1000
120/120 [=====] - 28s 237ms/step - loss: 55.3533 - reconstruction_error: 38.7104 - regularization_error: 16.6429 - val_loss: 65.2910 - val_reconstruction_error: 49.9480 - val_regularization_error: 15.3429
Epoch 59/1000
120/120 [=====] - 28s 232ms/step - loss: 55.3217 - reconstruction_error: 38.5141 - regularization_error: 16.8075 - val_loss: 64.6359 - val_reconstruction_error: 49.2928 - val_regularization_error: 15.3430
Epoch 60/1000
120/120 [=====] - 24s 204ms/step - loss: 54.9466 - reconstruction_error: 38.1791 - regularization_error: 16.7675 - val_loss: 65.3739 - val_reconstruction_error: 48.5953 - val_regularization_error: 16.7787
Epoch 61/1000
120/120 [=====] - ETA: 0s - loss: 55.2821 - reconstruction_error: 38.3355 - regularization_error: 16.9466
[2023-12-02 10:37:41.022225]: Reconstructing images for epoch 61 ...
```



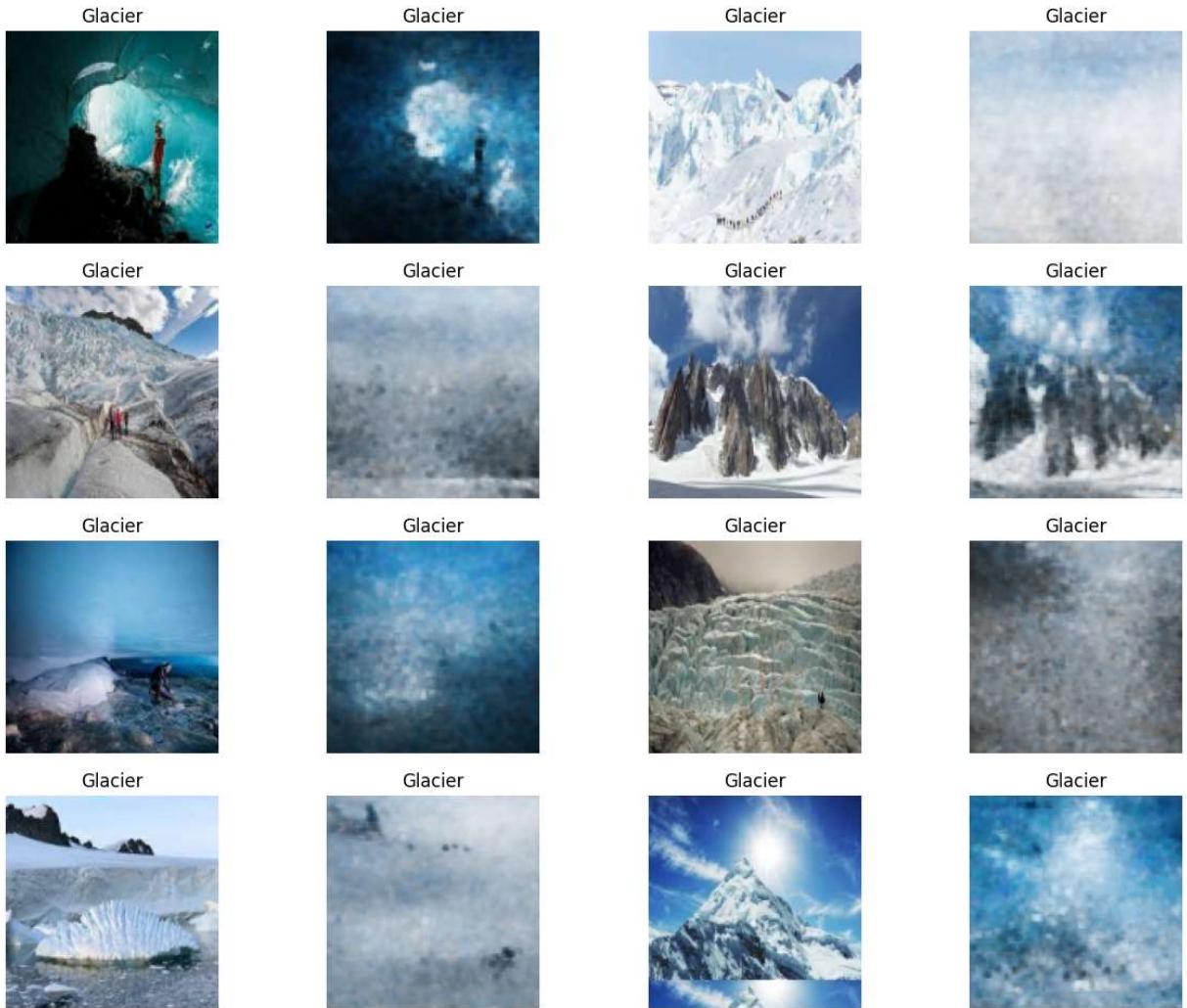
```
120/120 [=====] - 26s 217ms/step - loss: 55.2821 - reconstruction_error: 38.3355 - regularization_error: 16.9466 - val_loss: 66.3759 - val_reconstruction_error: 50.1996 - val_regularization_error: 16.1763
Epoch 62/1000
120/120 [=====] - 26s 218ms/step - loss: 54.6958 - reconstruction_error: 37.6130 - regularization_error: 17.0827 - val_loss: 66.2039 - val_reconstruction_error: 50.3599 - val_regularization_error: 15.8440
Epoch 63/1000
120/120 [=====] - 27s 226ms/step - loss: 54.4329 - reconstruction_error: 37.5017 - regularization_error: 16.9312 - val_loss: 65.1089 - val_reconstruction_error: 49.2461 - val_regularization_error: 15.8628
Epoch 64/1000
120/120 [=====] - 23s 195ms/step - loss: 54.3726 - reconstruction_error: 37.3284 - regularization_error: 17.0442 - val_loss: 66.1383 - val_reconstruction_error: 50.7598 - val_regularization_error: 15.3785
Epoch 65/1000
120/120 [=====] - 26s 215ms/step - loss: 54.3449 - reconstruction_error: 37.2201 - regularization_error: 17.1248 - val_loss: 65.2553 - val_reconstruction_error: 49.2925 - val_regularization_error: 15.9629
Epoch 66/1000
120/120 [=====] - 26s 218ms/step - loss: 54.1736 - reconstruction_error: 36.8063 - regularization_error: 17.3672 - val_loss: 66.8212 - val_reconstruction_error: 49.9346 - val_regularization_error: 16.8866
Epoch 67/1000
120/120 [=====] - 23s 187ms/step - loss: 54.0570 - reconstruction_error: 36.8493 - regularization_error: 17.2077 - val_loss: 65.1918 - val_reconstruction_error: 49.4039 - val_regularization_error: 15.7879
Epoch 68/1000
120/120 [=====] - 21s 173ms/step - loss: 53.8484 - reconstruction_error: 36.6478 - regularization_error: 17.2006 - val_loss: 66.7454 - val_reconstruction_error: 50.4642 - val_regularization_error: 16.2812
Epoch 69/1000
120/120 [=====] - 24s 198ms/step - loss: 53.9134 - reconstruction_error: 36.6452 - regularization_error: 17.2682 - val_loss: 65.8017 - val_reconstruction_error: 49.0808 - val_regularization_error: 16.7209
Epoch 70/1000
120/120 [=====] - 22s 181ms/step - loss: 53.8550 - reconstruction_error: 36.4219 - regularization_error: 17.4331 - val_loss: 65.1775 - val_reconstruction_error: 48.8132 - val_regularization_error: 16.3644
Epoch 71/1000
120/120 [=====] - ETA: 0s - loss: 53.5832 - reconstruction_error: 36.0915 - regularization_error: 17.4917
[2023-12-02 10:41:49.931038]: Reconstructing images for epoch 71 ...
```



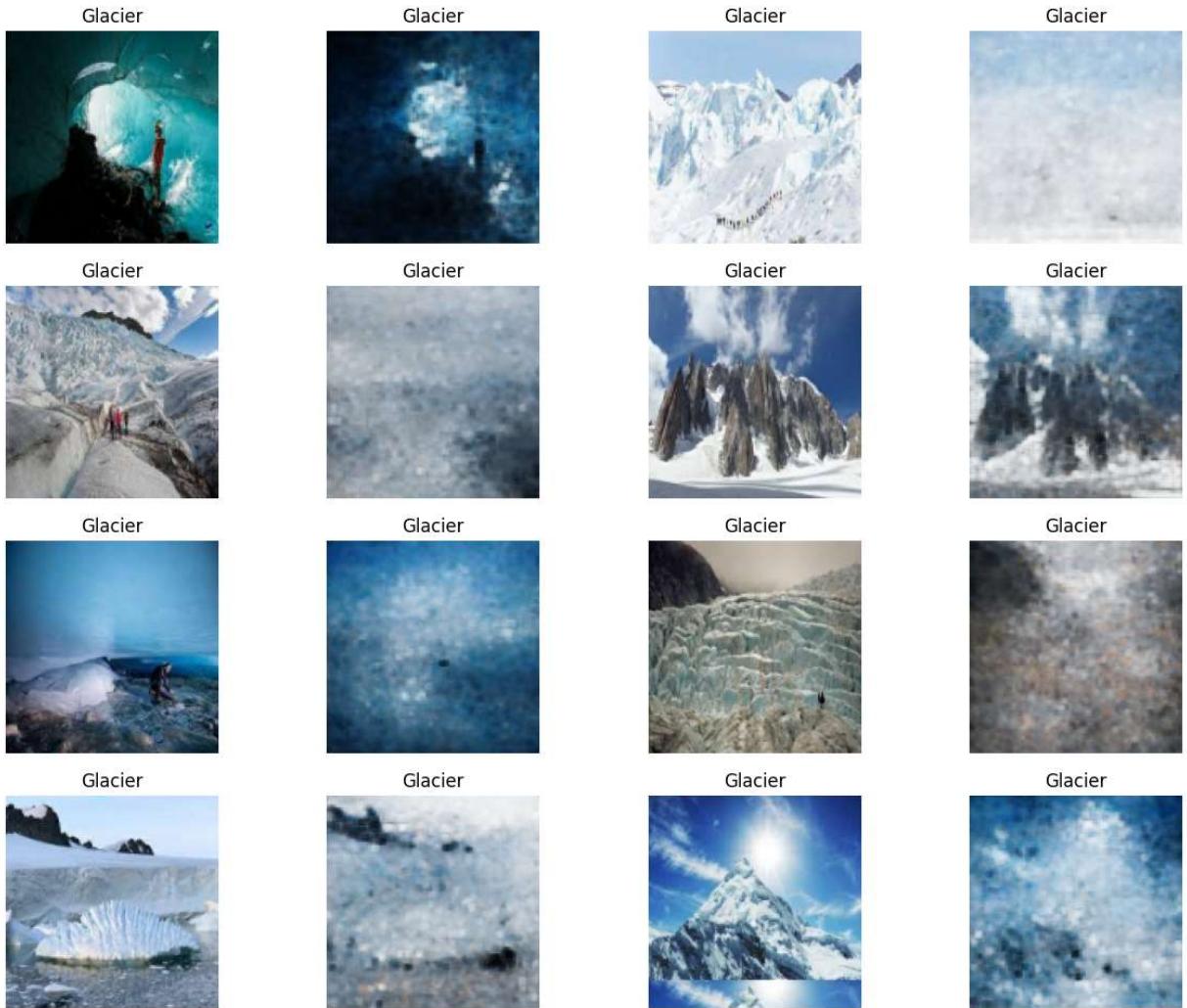
```
120/120 [=====] - 31s 256ms/step - loss: 53.5832 - reconstruction_error: 36.0915 - regularization_error: 17.4917 - val_loss: 65.3706 - val_reconstruction_error: 49.2898 - val_regularization_error: 16.0808
Epoch 72/1000
120/120 [=====] - 25s 206ms/step - loss: 53.3736 - reconstruction_error: 35.8964 - regularization_error: 17.4772 - val_loss: 65.4737 - val_reconstruction_error: 49.3491 - val_regularization_error: 16.1246
Epoch 73/1000
120/120 [=====] - 22s 182ms/step - loss: 53.4216 - reconstruction_error: 35.8131 - regularization_error: 17.6085 - val_loss: 65.5912 - val_reconstruction_error: 49.4250 - val_regularization_error: 16.1662
Epoch 74/1000
120/120 [=====] - 27s 222ms/step - loss: 53.0762 - reconstruction_error: 35.5415 - regularization_error: 17.5347 - val_loss: 65.1716 - val_reconstruction_error: 48.7119 - val_regularization_error: 16.4596
Epoch 75/1000
120/120 [=====] - 21s 175ms/step - loss: 52.6942 - reconstruction_error: 35.2269 - regularization_error: 17.4673 - val_loss: 66.5041 - val_reconstruction_error: 50.0349 - val_regularization_error: 16.4693
Epoch 76/1000
120/120 [=====] - 24s 202ms/step - loss: 53.2015 - reconstruction_error: 35.4358 - regularization_error: 17.7657 - val_loss: 67.2279 - val_reconstruction_error: 49.8181 - val_regularization_error: 17.4098
Epoch 77/1000
120/120 [=====] - 27s 221ms/step - loss: 53.0491 - reconstruction_error: 35.3239 - regularization_error: 17.7251 - val_loss: 66.1934 - val_reconstruction_error: 49.5861 - val_regularization_error: 16.6073
Epoch 78/1000
120/120 [=====] - 26s 213ms/step - loss: 52.4521 - reconstruction_error: 34.8307 - regularization_error: 17.6214 - val_loss: 65.9848 - val_reconstruction_error: 48.6305 - val_regularization_error: 17.3543
Epoch 79/1000
120/120 [=====] - 24s 204ms/step - loss: 52.2983 - reconstruction_error: 34.5429 - regularization_error: 17.7554 - val_loss: 65.3412 - val_reconstruction_error: 49.6467 - val_regularization_error: 15.6944
Epoch 80/1000
120/120 [=====] - 26s 219ms/step - loss: 52.2212 - reconstruction_error: 34.5450 - regularization_error: 17.6761 - val_loss: 66.4049 - val_reconstruction_error: 49.5586 - val_regularization_error: 16.8464
Epoch 81/1000
120/120 [=====] - ETA: 0s - loss: 52.2416 - reconstruction_error: 34.6111 - regularization_error: 17.6305
[2023-12-02 10:46:15.245808]: Reconstructing images for epoch 81 ...
```



```
120/120 [=====] - 26s 213ms/step - loss: 52.2416 - reconstruction_error: 34.6111 - regularization_error: 17.6305 - val_loss: 66.3645 - val_reconstruction_error: 49.7705 - val_regularization_error: 16.5940
Epoch 82/1000
120/120 [=====] - 22s 187ms/step - loss: 52.1598 - reconstruction_error: 34.3214 - regularization_error: 17.8384 - val_loss: 67.0761 - val_reconstruction_error: 50.5588 - val_regularization_error: 16.5173
Epoch 83/1000
120/120 [=====] - 24s 200ms/step - loss: 51.9932 - reconstruction_error: 34.1842 - regularization_error: 17.8090 - val_loss: 66.7481 - val_reconstruction_error: 50.0944 - val_regularization_error: 16.6537
Epoch 84/1000
120/120 [=====] - 25s 210ms/step - loss: 52.0951 - reconstruction_error: 34.0890 - regularization_error: 18.0062 - val_loss: 67.1678 - val_reconstruction_error: 50.5347 - val_regularization_error: 16.6331
Epoch 85/1000
120/120 [=====] - 25s 212ms/step - loss: 51.8304 - reconstruction_error: 33.9649 - regularization_error: 17.8656 - val_loss: 67.1986 - val_reconstruction_error: 49.8487 - val_regularization_error: 17.3500
Epoch 86/1000
120/120 [=====] - 25s 207ms/step - loss: 51.7535 - reconstruction_error: 33.8409 - regularization_error: 17.9126 - val_loss: 67.3497 - val_reconstruction_error: 51.2680 - val_regularization_error: 16.0817
Epoch 87/1000
120/120 [=====] - 23s 188ms/step - loss: 51.5532 - reconstruction_error: 33.6681 - regularization_error: 17.8851 - val_loss: 66.4375 - val_reconstruction_error: 49.5532 - val_regularization_error: 16.8843
Epoch 88/1000
120/120 [=====] - 23s 190ms/step - loss: 51.4243 - reconstruction_error: 33.3837 - regularization_error: 18.0406 - val_loss: 66.6408 - val_reconstruction_error: 49.0062 - val_regularization_error: 17.6347
Epoch 89/1000
120/120 [=====] - 24s 199ms/step - loss: 51.1575 - reconstruction_error: 33.1104 - regularization_error: 18.0472 - val_loss: 65.6599 - val_reconstruction_error: 49.3773 - val_regularization_error: 16.2826
Epoch 90/1000
120/120 [=====] - 23s 196ms/step - loss: 51.3555 - reconstruction_error: 33.3458 - regularization_error: 18.0096 - val_loss: 66.0531 - val_reconstruction_error: 48.4064 - val_regularization_error: 17.6468
Epoch 91/1000
120/120 [=====] - ETA: 0s - loss: 51.0880 - reconstruction_error: 33.1695 - regularization_error: 17.9185
[2023-12-02 10:50:22.971635]: Reconstructing images for epoch 91 ...
```



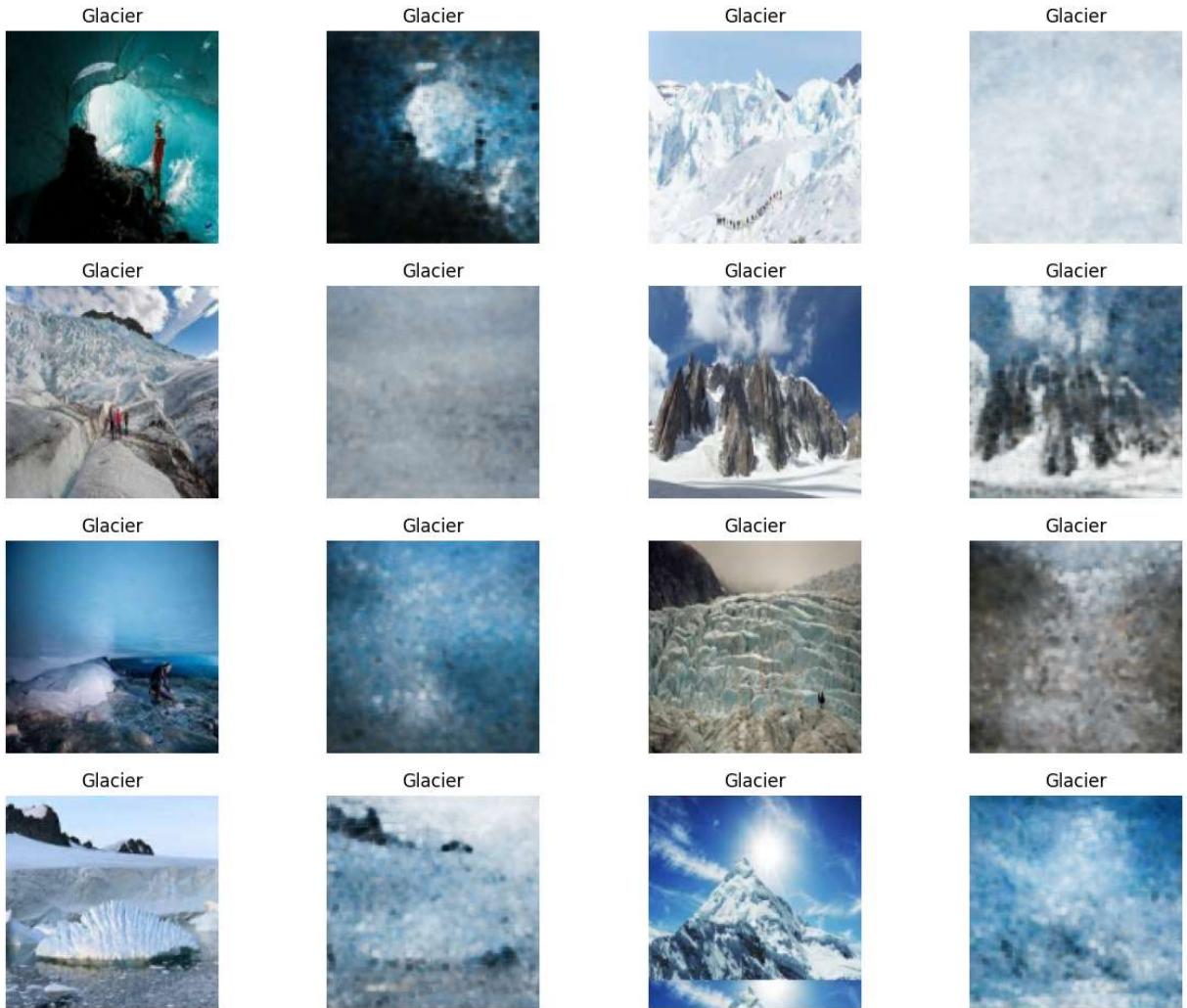
```
120/120 [=====] - 31s 256ms/step - loss: 51.0880 - reconstruction_error: 33.1695 - regularization_error: 17.9185 - val_loss: 64.9405 - val_reconstruction_error: 49.6161 - val_regularization_error: 15.3245
Epoch 92/1000
120/120 [=====] - 25s 207ms/step - loss: 51.1611 - reconstruction_error: 33.0775 - regularization_error: 18.0836 - val_loss: 67.5092 - val_reconstruction_error: 50.6765 - val_regularization_error: 16.8327
Epoch 93/1000
120/120 [=====] - 28s 236ms/step - loss: 50.9906 - reconstruction_error: 32.8037 - regularization_error: 18.1869 - val_loss: 67.1669 - val_reconstruction_error: 49.8981 - val_regularization_error: 17.2687
Epoch 94/1000
120/120 [=====] - 28s 235ms/step - loss: 51.1538 - reconstruction_error: 32.8852 - regularization_error: 18.2686 - val_loss: 67.2607 - val_reconstruction_error: 49.7496 - val_regularization_error: 17.5111
Epoch 95/1000
120/120 [=====] - 25s 210ms/step - loss: 50.9757 - reconstruction_error: 32.7006 - regularization_error: 18.2751 - val_loss: 66.4363 - val_reconstruction_error: 50.1836 - val_regularization_error: 16.2527
Epoch 96/1000
120/120 [=====] - 23s 195ms/step - loss: 50.6077 - reconstruction_error: 32.3703 - regularization_error: 18.2374 - val_loss: 67.3839 - val_reconstruction_error: 50.0765 - val_regularization_error: 17.3074
Epoch 97/1000
120/120 [=====] - 21s 178ms/step - loss: 50.8988 - reconstruction_error: 32.7462 - regularization_error: 18.1526 - val_loss: 67.5773 - val_reconstruction_error: 48.9356 - val_regularization_error: 18.6417
Epoch 98/1000
120/120 [=====] - 25s 212ms/step - loss: 50.6786 - reconstruction_error: 32.3886 - regularization_error: 18.2900 - val_loss: 66.5841 - val_reconstruction_error: 49.2291 - val_regularization_error: 17.3550
Epoch 99/1000
120/120 [=====] - 26s 219ms/step - loss: 50.4312 - reconstruction_error: 32.1094 - regularization_error: 18.3218 - val_loss: 66.9941 - val_reconstruction_error: 49.2094 - val_regularization_error: 17.7847
Epoch 100/1000
120/120 [=====] - 24s 201ms/step - loss: 50.3163 - reconstruction_error: 32.0159 - regularization_error: 18.3004 - val_loss: 65.8464 - val_reconstruction_error: 49.3118 - val_regularization_error: 16.5346
Epoch 101/1000
120/120 [=====] - ETA: 0s - loss: 50.2327 - reconstruction_error: 31.9913 - regularization_error: 18.2414
[2023-12-02 10:54:34.532211]: Reconstructing images for epoch 101 ...
```



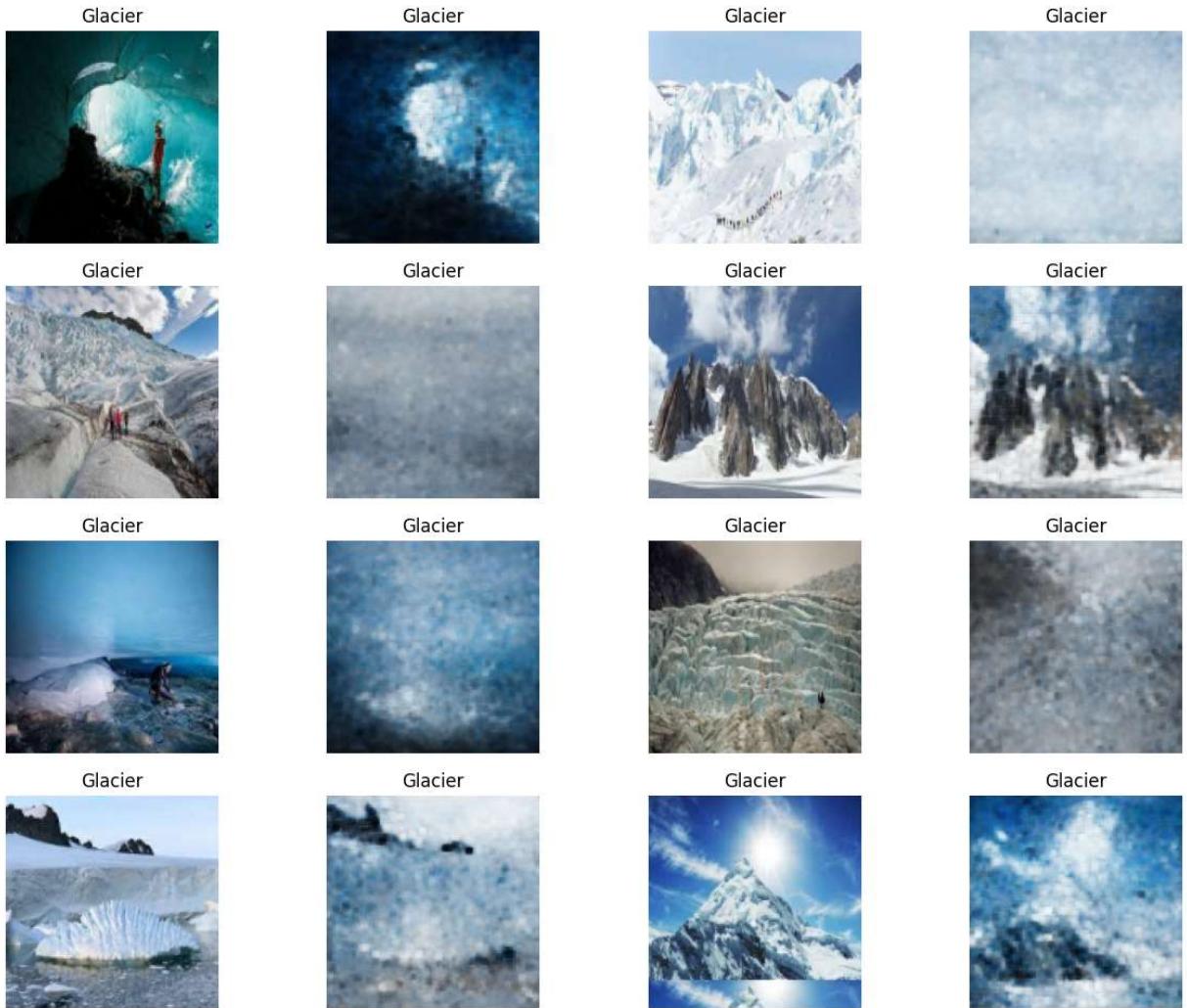
```
120/120 [=====] - 23s 190ms/step - loss: 50.2327 - reconstruction_error: 31.9913 - regularization_error: 18.2414 - val_loss: 66.5383 - val_reconstruction_error: 49.5817 - val_regularization_error: 16.9565
Epoch 102/1000
120/120 [=====] - 24s 201ms/step - loss: 50.2512 - reconstruction_error: 31.8001 - regularization_error: 18.4512 - val_loss: 67.2711 - val_reconstruction_error: 50.6951 - val_regularization_error: 16.5760
Epoch 103/1000
120/120 [=====] - 23s 189ms/step - loss: 50.3243 - reconstruction_error: 31.9280 - regularization_error: 18.3963 - val_loss: 67.2224 - val_reconstruction_error: 49.5783 - val_regularization_error: 17.6442
Epoch 104/1000
120/120 [=====] - 26s 213ms/step - loss: 50.3316 - reconstruction_error: 31.8235 - regularization_error: 18.5081 - val_loss: 67.2044 - val_reconstruction_error: 49.8757 - val_regularization_error: 17.3287
Epoch 105/1000
120/120 [=====] - 20s 166ms/step - loss: 49.9205 - reconstruction_error: 31.4218 - regularization_error: 18.4987 - val_loss: 67.9404 - val_reconstruction_error: 50.0252 - val_regularization_error: 17.9152
Epoch 106/1000
120/120 [=====] - 24s 199ms/step - loss: 49.9138 - reconstruction_error: 31.5035 - regularization_error: 18.4103 - val_loss: 66.5016 - val_reconstruction_error: 49.3557 - val_regularization_error: 17.1460
Epoch 107/1000
120/120 [=====] - 23s 187ms/step - loss: 49.7171 - reconstruction_error: 31.1854 - regularization_error: 18.5318 - val_loss: 67.2183 - val_reconstruction_error: 49.7118 - val_regularization_error: 17.5065
Epoch 108/1000
120/120 [=====] - 22s 186ms/step - loss: 49.7576 - reconstruction_error: 31.3505 - regularization_error: 18.4071 - val_loss: 67.0364 - val_reconstruction_error: 50.1146 - val_regularization_error: 16.9218
Epoch 109/1000
120/120 [=====] - 24s 199ms/step - loss: 49.4144 - reconstruction_error: 30.9076 - regularization_error: 18.5067 - val_loss: 66.9549 - val_reconstruction_error: 49.2849 - val_regularization_error: 17.6700
Epoch 110/1000
120/120 [=====] - 21s 177ms/step - loss: 49.5995 - reconstruction_error: 31.0823 - regularization_error: 18.5172 - val_loss: 66.4618 - val_reconstruction_error: 49.9936 - val_regularization_error: 16.4682
Epoch 111/1000
120/120 [=====] - ETA: 0s - loss: 49.1638 - reconstruction_error: 30.7348 - regularization_error: 18.4291
[2023-12-02 10:58:26.585392]: Reconstructing images for epoch 111 ...
```



```
120/120 [=====] - 26s 214ms/step - loss: 49.1638 - reconstruction_error: 30.7348 - regularization_error: 18.4291 - val_loss: 67.2413 - val_reconstruction_error: 49.6593 - val_regularization_error: 17.5820
Epoch 112/1000
120/120 [=====] - 22s 187ms/step - loss: 49.5878 - reconstruction_error: 31.0675 - regularization_error: 18.5203 - val_loss: 67.1456 - val_reconstruction_error: 50.3762 - val_regularization_error: 16.7693
Epoch 113/1000
120/120 [=====] - 24s 202ms/step - loss: 51.2211 - reconstruction_error: 32.4012 - regularization_error: 18.8199 - val_loss: 66.7820 - val_reconstruction_error: 50.0096 - val_regularization_error: 16.7724
Epoch 114/1000
120/120 [=====] - 23s 195ms/step - loss: 49.2623 - reconstruction_error: 30.7194 - regularization_error: 18.5429 - val_loss: 66.8679 - val_reconstruction_error: 49.3594 - val_regularization_error: 17.5085
Epoch 115/1000
120/120 [=====] - 25s 205ms/step - loss: 48.7826 - reconstruction_error: 30.2829 - regularization_error: 18.4996 - val_loss: 67.9625 - val_reconstruction_error: 50.6715 - val_regularization_error: 17.2911
Epoch 116/1000
120/120 [=====] - 24s 199ms/step - loss: 49.0200 - reconstruction_error: 30.5470 - regularization_error: 18.4730 - val_loss: 66.8636 - val_reconstruction_error: 50.0399 - val_regularization_error: 16.8237
Epoch 117/1000
120/120 [=====] - 23s 189ms/step - loss: 49.1481 - reconstruction_error: 30.4512 - regularization_error: 18.6970 - val_loss: 66.8365 - val_reconstruction_error: 49.3306 - val_regularization_error: 17.5059
Epoch 118/1000
120/120 [=====] - 20s 165ms/step - loss: 48.9631 - reconstruction_error: 30.3331 - regularization_error: 18.6299 - val_loss: 67.1498 - val_reconstruction_error: 49.9948 - val_regularization_error: 17.1550
Epoch 119/1000
120/120 [=====] - 23s 189ms/step - loss: 48.9748 - reconstruction_error: 30.3039 - regularization_error: 18.6708 - val_loss: 67.6627 - val_reconstruction_error: 50.6916 - val_regularization_error: 16.9711
Epoch 120/1000
120/120 [=====] - 25s 205ms/step - loss: 48.5413 - reconstruction_error: 29.9911 - regularization_error: 18.5502 - val_loss: 67.0173 - val_reconstruction_error: 50.2482 - val_regularization_error: 16.7691
Epoch 121/1000
120/120 [=====] - ETA: 0s - loss: 48.4741 - reconstruction_error: 29.8591 - regularization_error: 18.6150
[2023-12-02 11:02:25.625134]: Reconstructing images for epoch 121 ...
```



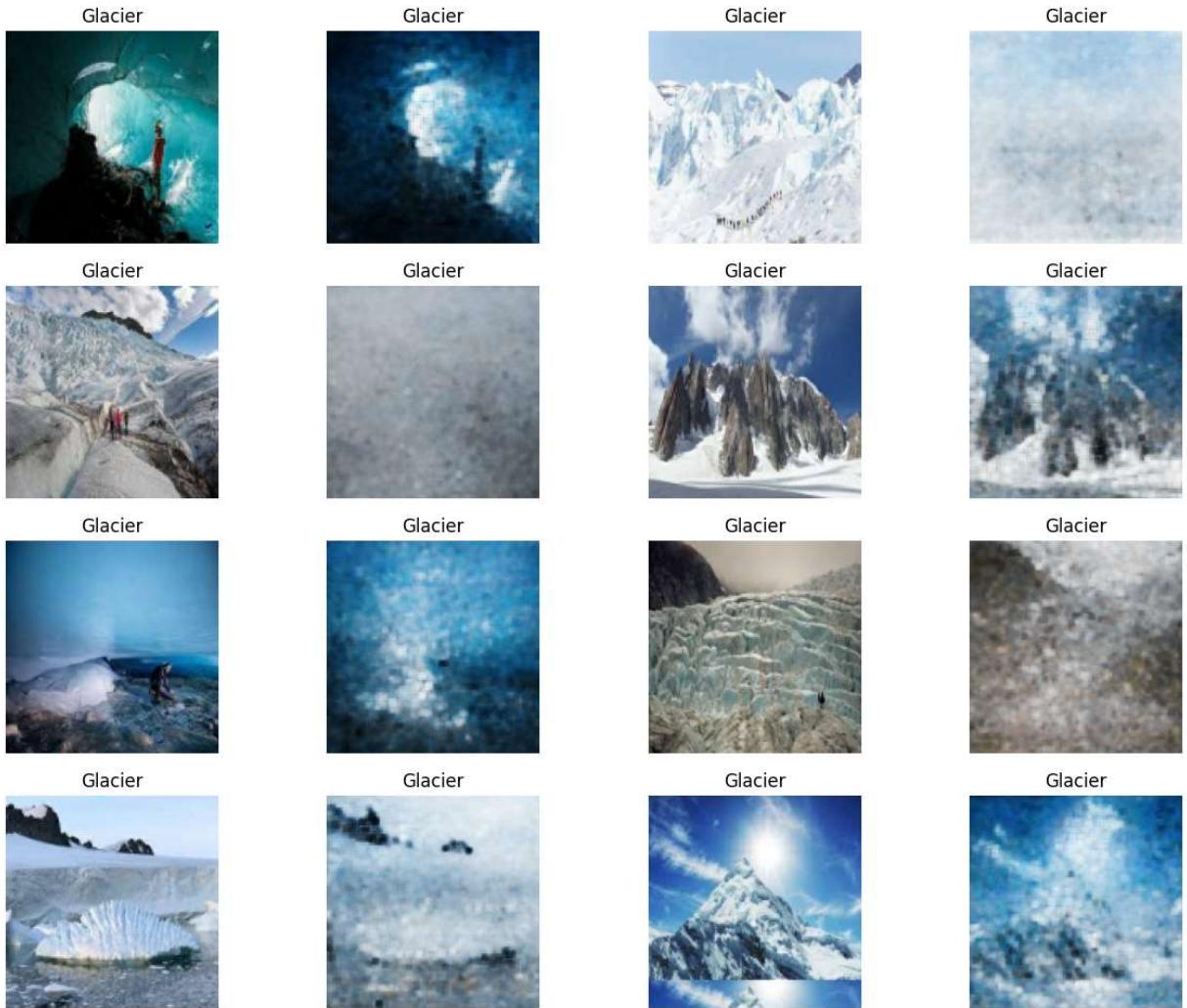
```
120/120 [=====] - 28s 230ms/step - loss: 48.4741 - reconstruction_error: 29.8591 - regularization_error: 18.6150 - val_loss: 66.8024 - val_reconstruction_error: 49.8343 - val_regularization_error: 16.9681
Epoch 122/1000
120/120 [=====] - 24s 202ms/step - loss: 48.7218 - reconstruction_error: 30.0319 - regularization_error: 18.6899 - val_loss: 67.5097 - val_reconstruction_error: 50.5109 - val_regularization_error: 16.9989
Epoch 123/1000
120/120 [=====] - 25s 209ms/step - loss: 48.1493 - reconstruction_error: 29.6456 - regularization_error: 18.5038 - val_loss: 67.8964 - val_reconstruction_error: 51.4289 - val_regularization_error: 16.4675
Epoch 124/1000
120/120 [=====] - 23s 193ms/step - loss: 48.4913 - reconstruction_error: 29.8538 - regularization_error: 18.6375 - val_loss: 68.0896 - val_reconstruction_error: 50.5109 - val_regularization_error: 17.5787
Epoch 125/1000
120/120 [=====] - 23s 191ms/step - loss: 48.2887 - reconstruction_error: 29.5004 - regularization_error: 18.7883 - val_loss: 68.2691 - val_reconstruction_error: 50.5059 - val_regularization_error: 17.7632
Epoch 126/1000
120/120 [=====] - 22s 180ms/step - loss: 48.3430 - reconstruction_error: 29.6245 - regularization_error: 18.7185 - val_loss: 67.3249 - val_reconstruction_error: 49.5420 - val_regularization_error: 17.7830
Epoch 127/1000
120/120 [=====] - 23s 188ms/step - loss: 48.3986 - reconstruction_error: 29.5376 - regularization_error: 18.8610 - val_loss: 70.4218 - val_reconstruction_error: 52.3544 - val_regularization_error: 18.0674
Epoch 128/1000
120/120 [=====] - 26s 213ms/step - loss: 48.0404 - reconstruction_error: 29.3186 - regularization_error: 18.7218 - val_loss: 66.9631 - val_reconstruction_error: 51.0905 - val_regularization_error: 15.8727
Epoch 129/1000
120/120 [=====] - 22s 185ms/step - loss: 47.8564 - reconstruction_error: 29.0921 - regularization_error: 18.7643 - val_loss: 67.0510 - val_reconstruction_error: 50.4799 - val_regularization_error: 16.5711
Epoch 130/1000
120/120 [=====] - 23s 195ms/step - loss: 48.0674 - reconstruction_error: 29.3079 - regularization_error: 18.7595 - val_loss: 68.6749 - val_reconstruction_error: 49.5160 - val_regularization_error: 19.1589
Epoch 131/1000
120/120 [=====] - ETA: 0s - loss: 47.7126 - reconstruction_error: 29.0124 - regularization_error: 18.7001
[2023-12-02 11:06:24.223613]: Reconstructing images for epoch 131 ...
```



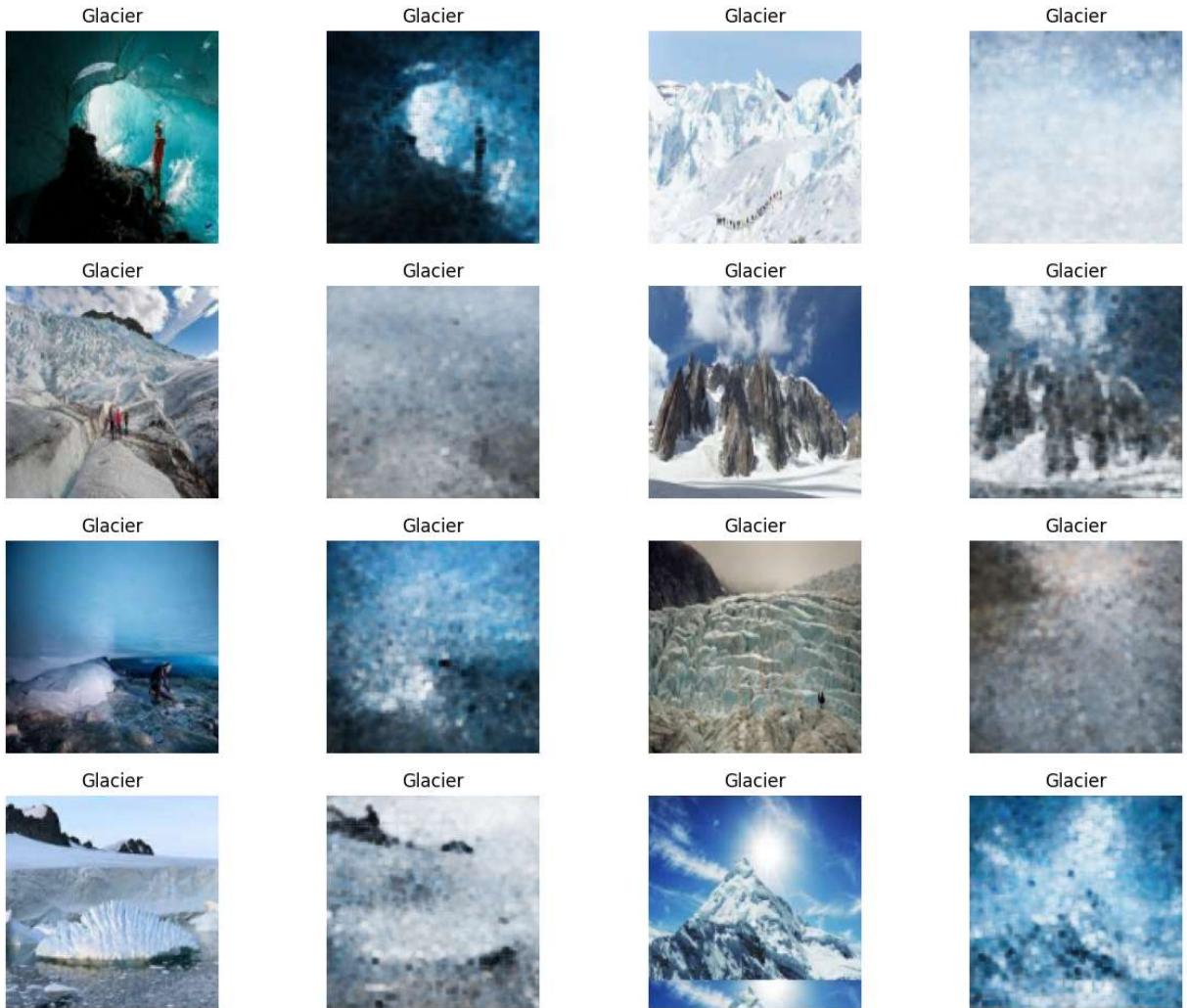
```
120/120 [=====] - 26s 214ms/step - loss: 47.7126 - reconstruction_error: 29.0124 - regularization_error: 18.7001 - val_loss: 67.8100 - val_reconstruction_error: 50.9900 - val_regularization_error: 16.8201
Epoch 132/1000
120/120 [=====] - 27s 226ms/step - loss: 47.8210 - reconstruction_error: 29.1061 - regularization_error: 18.7149 - val_loss: 67.3506 - val_reconstruction_error: 49.3005 - val_regularization_error: 18.0501
Epoch 133/1000
120/120 [=====] - 24s 197ms/step - loss: 47.6577 - reconstruction_error: 28.8522 - regularization_error: 18.8055 - val_loss: 67.9532 - val_reconstruction_error: 49.9722 - val_regularization_error: 17.9809
Epoch 134/1000
120/120 [=====] - 25s 205ms/step - loss: 47.8198 - reconstruction_error: 29.0427 - regularization_error: 18.7771 - val_loss: 70.7824 - val_reconstruction_error: 52.9377 - val_regularization_error: 17.8447
Epoch 135/1000
120/120 [=====] - 23s 190ms/step - loss: 48.0246 - reconstruction_error: 29.0844 - regularization_error: 18.9402 - val_loss: 67.4621 - val_reconstruction_error: 50.3417 - val_regularization_error: 17.1204
Epoch 136/1000
120/120 [=====] - 22s 179ms/step - loss: 47.6337 - reconstruction_error: 28.7493 - regularization_error: 18.8844 - val_loss: 69.7228 - val_reconstruction_error: 51.6473 - val_regularization_error: 18.0756
Epoch 137/1000
120/120 [=====] - 24s 197ms/step - loss: 47.8043 - reconstruction_error: 28.8725 - regularization_error: 18.9318 - val_loss: 67.7054 - val_reconstruction_error: 49.7380 - val_regularization_error: 17.9675
Epoch 138/1000
120/120 [=====] - 24s 199ms/step - loss: 47.4412 - reconstruction_error: 28.5204 - regularization_error: 18.9208 - val_loss: 67.2694 - val_reconstruction_error: 50.0376 - val_regularization_error: 17.2318
Epoch 139/1000
120/120 [=====] - 24s 201ms/step - loss: 47.2508 - reconstruction_error: 28.4542 - regularization_error: 18.7965 - val_loss: 67.9150 - val_reconstruction_error: 50.5132 - val_regularization_error: 17.4018
Epoch 140/1000
120/120 [=====] - 24s 197ms/step - loss: 47.4312 - reconstruction_error: 28.5368 - regularization_error: 18.8944 - val_loss: 67.6955 - val_reconstruction_error: 50.8998 - val_regularization_error: 16.7958
Epoch 141/1000
120/120 [=====] - ETA: 0s - loss: 47.5535 - reconstruction_error: 28.6820 - regularization_error: 18.8715
[2023-12-02 11:10:45.137723]: Reconstructing images for epoch 141 ...
```



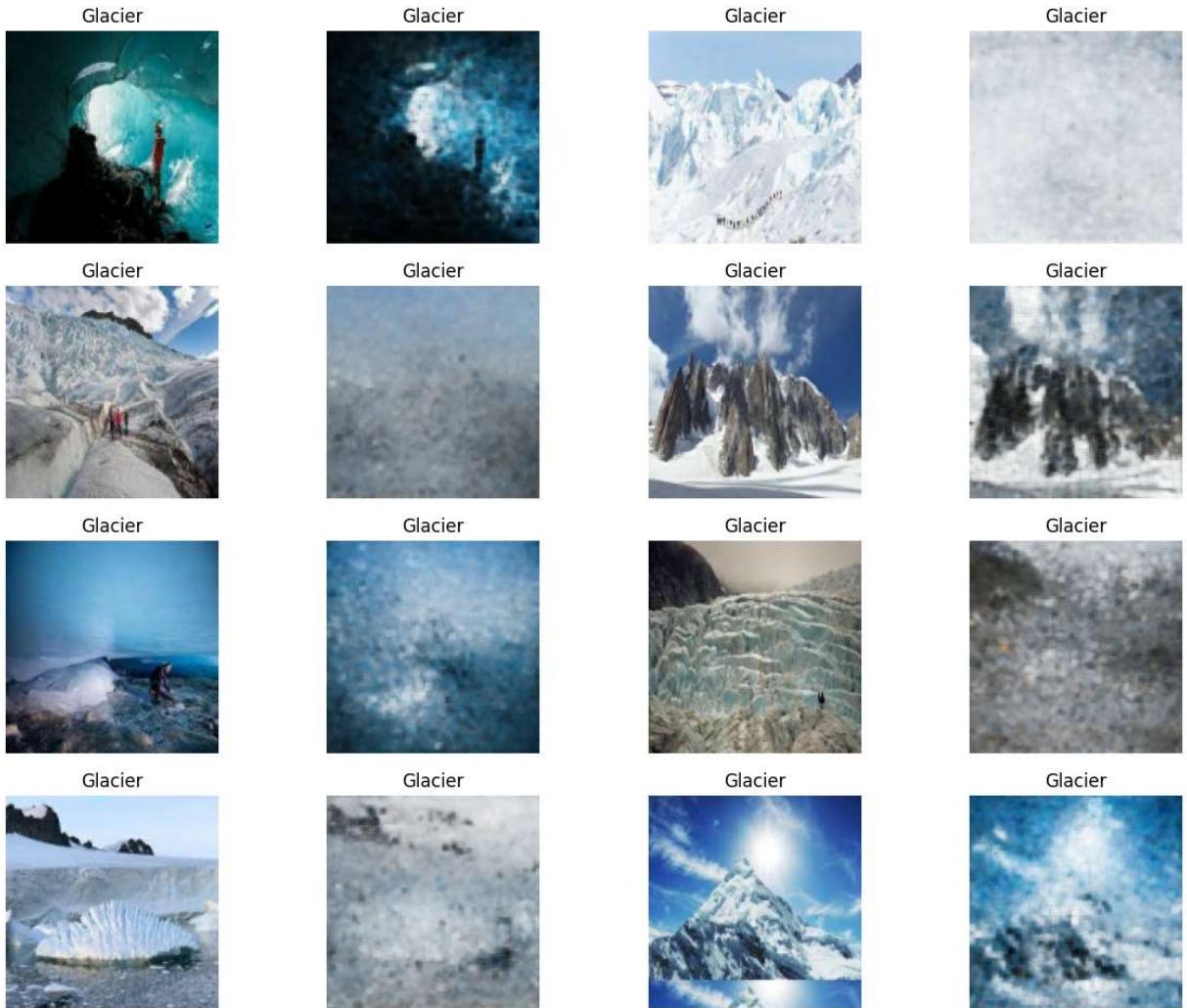
```
120/120 [=====] - 28s 234ms/step - loss: 47.5535 - reconstruction_error: 28.6820 - regularization_error: 18.8715 - val_loss: 68.4473 - val_reconstruction_error: 51.0293 - val_regularization_error: 17.4179
Epoch 142/1000
120/120 [=====] - 25s 208ms/step - loss: 47.2640 - reconstruction_error: 28.2292 - regularization_error: 19.0348 - val_loss: 67.8055 - val_reconstruction_error: 49.8096 - val_regularization_error: 17.9960
Epoch 143/1000
120/120 [=====] - 21s 171ms/step - loss: 47.6400 - reconstruction_error: 28.6140 - regularization_error: 19.0260 - val_loss: 68.0254 - val_reconstruction_error: 50.2123 - val_regularization_error: 17.8131
Epoch 144/1000
120/120 [=====] - 20s 169ms/step - loss: 47.2359 - reconstruction_error: 28.2835 - regularization_error: 18.9524 - val_loss: 67.5300 - val_reconstruction_error: 50.1051 - val_regularization_error: 17.4249
Epoch 145/1000
120/120 [=====] - 23s 189ms/step - loss: 47.2339 - reconstruction_error: 28.2854 - regularization_error: 18.9484 - val_loss: 69.4068 - val_reconstruction_error: 51.8765 - val_regularization_error: 17.5304
Epoch 146/1000
120/120 [=====] - 23s 186ms/step - loss: 46.6832 - reconstruction_error: 27.8945 - regularization_error: 18.7886 - val_loss: 68.5670 - val_reconstruction_error: 50.7485 - val_regularization_error: 17.8186
Epoch 147/1000
120/120 [=====] - 18s 152ms/step - loss: 46.8744 - reconstruction_error: 27.9505 - regularization_error: 18.9239 - val_loss: 68.4553 - val_reconstruction_error: 50.7191 - val_regularization_error: 17.7362
Epoch 148/1000
120/120 [=====] - 23s 192ms/step - loss: 47.0877 - reconstruction_error: 28.0887 - regularization_error: 18.9991 - val_loss: 67.2973 - val_reconstruction_error: 50.9387 - val_regularization_error: 16.3586
Epoch 149/1000
120/120 [=====] - 25s 207ms/step - loss: 47.2236 - reconstruction_error: 28.2934 - regularization_error: 18.9302 - val_loss: 67.7526 - val_reconstruction_error: 49.9290 - val_regularization_error: 17.8235
Epoch 150/1000
120/120 [=====] - 21s 177ms/step - loss: 47.0330 - reconstruction_error: 27.9787 - regularization_error: 19.0543 - val_loss: 69.2628 - val_reconstruction_error: 51.0887 - val_regularization_error: 18.1741
Epoch 151/1000
120/120 [=====] - ETA: 0s - loss: 46.9209 - reconstruction_error: 27.9037 - regularization_error: 19.0172
[2023-12-02 11:14:29.288886]: Reconstructing images for epoch 151 ...
```



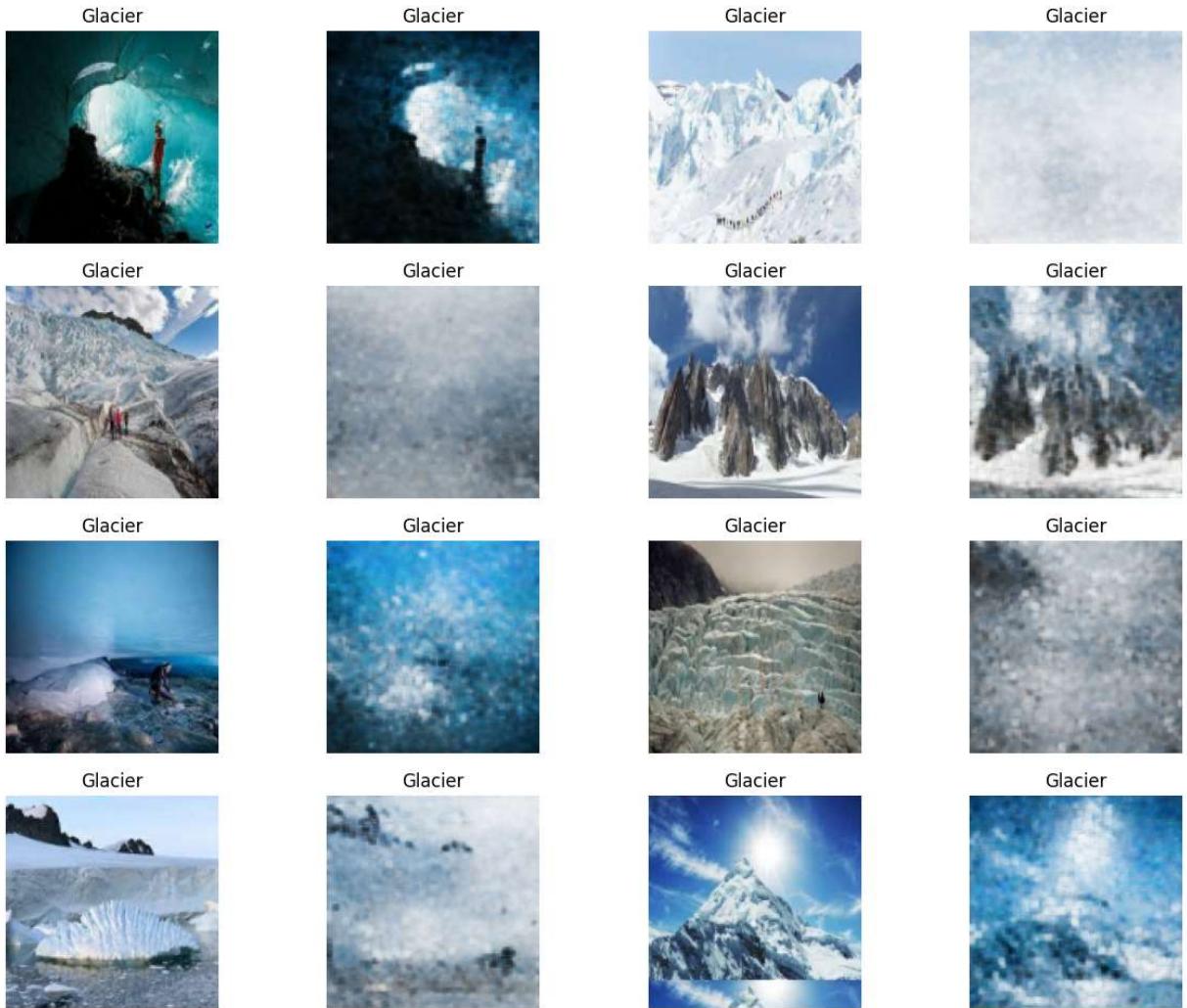
```
120/120 [=====] - 24s 199ms/step - loss: 46.9209 - reconstruction_error: 27.9037 - regularization_error: 19.0172 - val_loss: 68.9545 - val_reconstruction_error: 51.5269 - val_regularization_error: 17.4276
Epoch 152/1000
120/120 [=====] - 24s 196ms/step - loss: 46.9373 - reconstruction_error: 27.9805 - regularization_error: 18.9568 - val_loss: 68.9093 - val_reconstruction_error: 50.8186 - val_regularization_error: 18.0907
Epoch 153/1000
120/120 [=====] - 23s 191ms/step - loss: 46.5118 - reconstruction_error: 27.6336 - regularization_error: 18.8782 - val_loss: 67.4416 - val_reconstruction_error: 49.9730 - val_regularization_error: 17.4686
Epoch 154/1000
120/120 [=====] - 24s 202ms/step - loss: 46.6754 - reconstruction_error: 27.6889 - regularization_error: 18.9865 - val_loss: 67.0540 - val_reconstruction_error: 51.0057 - val_regularization_error: 16.0483
Epoch 155/1000
120/120 [=====] - 21s 177ms/step - loss: 46.7688 - reconstruction_error: 27.6693 - regularization_error: 19.0995 - val_loss: 68.0678 - val_reconstruction_error: 50.8392 - val_regularization_error: 17.2286
Epoch 156/1000
120/120 [=====] - 23s 192ms/step - loss: 46.5282 - reconstruction_error: 27.5264 - regularization_error: 19.0018 - val_loss: 67.5206 - val_reconstruction_error: 50.6469 - val_regularization_error: 16.8737
Epoch 157/1000
120/120 [=====] - 24s 204ms/step - loss: 46.4372 - reconstruction_error: 27.4347 - regularization_error: 19.0024 - val_loss: 69.6555 - val_reconstruction_error: 50.7734 - val_regularization_error: 18.8821
Epoch 158/1000
120/120 [=====] - 22s 185ms/step - loss: 46.5421 - reconstruction_error: 27.5268 - regularization_error: 19.0154 - val_loss: 69.0485 - val_reconstruction_error: 50.3655 - val_regularization_error: 18.6830
Epoch 159/1000
120/120 [=====] - 23s 192ms/step - loss: 46.2456 - reconstruction_error: 27.3158 - regularization_error: 18.9298 - val_loss: 69.0400 - val_reconstruction_error: 50.9833 - val_regularization_error: 18.0567
Epoch 160/1000
120/120 [=====] - 27s 228ms/step - loss: 46.3489 - reconstruction_error: 27.3237 - regularization_error: 19.0252 - val_loss: 70.7344 - val_reconstruction_error: 52.6624 - val_regularization_error: 18.0719
Epoch 161/1000
120/120 [=====] - ETA: 0s - loss: 46.7268 - reconstruction_error: 27.6403 - regularization_error: 19.0865
[2023-12-02 11:18:29.877871]: Reconstructing images for epoch 161 ...
```



```
120/120 [=====] - 26s 220ms/step - loss: 46.7268 - reconstruction_error: 27.6403 - regularization_error: 19.0865 - val_loss: 68.2673 - val_reconstruction_error: 49.9149 - val_regularization_error: 18.3524
Epoch 162/1000
120/120 [=====] - 27s 224ms/step - loss: 46.0981 - reconstruction_error: 27.0983 - regularization_error: 18.9997 - val_loss: 69.3766 - val_reconstruction_error: 51.2665 - val_regularization_error: 18.1101
Epoch 163/1000
120/120 [=====] - 27s 222ms/step - loss: 45.8662 - reconstruction_error: 26.9010 - regularization_error: 18.9652 - val_loss: 68.4545 - val_reconstruction_error: 50.5224 - val_regularization_error: 17.9321
Epoch 164/1000
120/120 [=====] - 28s 232ms/step - loss: 46.1208 - reconstruction_error: 27.1130 - regularization_error: 19.0078 - val_loss: 69.1121 - val_reconstruction_error: 50.8018 - val_regularization_error: 18.3104
Epoch 165/1000
120/120 [=====] - 25s 205ms/step - loss: 46.2741 - reconstruction_error: 27.1529 - regularization_error: 19.1213 - val_loss: 67.4093 - val_reconstruction_error: 49.6884 - val_regularization_error: 17.7209
Epoch 166/1000
120/120 [=====] - 24s 203ms/step - loss: 45.9740 - reconstruction_error: 26.8432 - regularization_error: 19.1307 - val_loss: 68.5778 - val_reconstruction_error: 52.1442 - val_regularization_error: 16.4336
Epoch 167/1000
120/120 [=====] - 29s 243ms/step - loss: 46.3392 - reconstruction_error: 27.1749 - regularization_error: 19.1643 - val_loss: 68.5956 - val_reconstruction_error: 50.6477 - val_regularization_error: 17.9479
Epoch 168/1000
120/120 [=====] - 22s 186ms/step - loss: 46.0364 - reconstruction_error: 26.8028 - regularization_error: 19.2335 - val_loss: 67.4050 - val_reconstruction_error: 51.0826 - val_regularization_error: 16.3224
Epoch 169/1000
120/120 [=====] - 23s 190ms/step - loss: 45.8870 - reconstruction_error: 26.7774 - regularization_error: 19.1096 - val_loss: 68.9527 - val_reconstruction_error: 50.9049 - val_regularization_error: 18.0478
Epoch 170/1000
120/120 [=====] - 26s 214ms/step - loss: 45.8827 - reconstruction_error: 26.7986 - regularization_error: 19.0841 - val_loss: 68.9157 - val_reconstruction_error: 50.9655 - val_regularization_error: 17.9502
Epoch 171/1000
120/120 [=====] - ETA: 0s - loss: 45.7590 - reconstruction_error: 26.6155 - regularization_error: 19.1435
[2023-12-02 11:22:47.484518]: Reconstructing images for epoch 171 ...
```



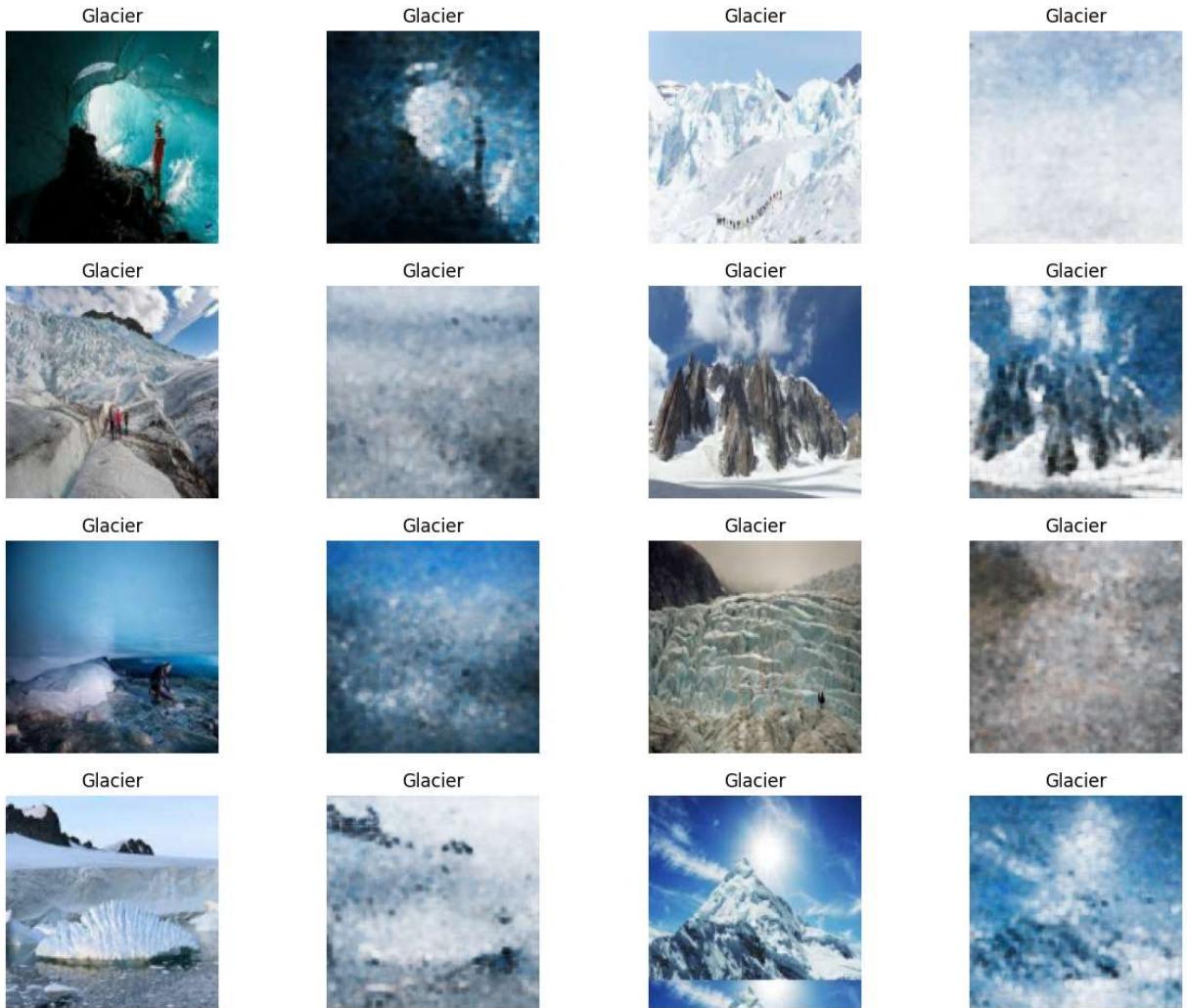
```
120/120 [=====] - 27s 225ms/step - loss: 45.7590 - reconstruction_error: 26.6155 - regularization_error: 19.1435 - val_loss: 69.0501 - val_reconstruction_error: 51.0908 - val_regularization_error: 17.9593
Epoch 172/1000
120/120 [=====] - 22s 181ms/step - loss: 45.7691 - reconstruction_error: 26.6571 - regularization_error: 19.1120 - val_loss: 67.2607 - val_reconstruction_error: 50.4627 - val_regularization_error: 16.7980
Epoch 173/1000
120/120 [=====] - 23s 193ms/step - loss: 45.8162 - reconstruction_error: 26.6550 - regularization_error: 19.1612 - val_loss: 68.9037 - val_reconstruction_error: 51.1746 - val_regularization_error: 17.7291
Epoch 174/1000
120/120 [=====] - 26s 216ms/step - loss: 45.7819 - reconstruction_error: 26.5856 - regularization_error: 19.1963 - val_loss: 69.1743 - val_reconstruction_error: 50.1992 - val_regularization_error: 18.9752
Epoch 175/1000
120/120 [=====] - 23s 194ms/step - loss: 45.6862 - reconstruction_error: 26.5091 - regularization_error: 19.1771 - val_loss: 69.2590 - val_reconstruction_error: 51.1431 - val_regularization_error: 18.1159
Epoch 176/1000
120/120 [=====] - 22s 183ms/step - loss: 45.7843 - reconstruction_error: 26.6339 - regularization_error: 19.1504 - val_loss: 68.7641 - val_reconstruction_error: 51.7097 - val_regularization_error: 17.0544
Epoch 177/1000
120/120 [=====] - 23s 189ms/step - loss: 45.4447 - reconstruction_error: 26.2988 - regularization_error: 19.1459 - val_loss: 69.0621 - val_reconstruction_error: 52.6415 - val_regularization_error: 16.4206
Epoch 178/1000
120/120 [=====] - 26s 215ms/step - loss: 45.4467 - reconstruction_error: 26.3123 - regularization_error: 19.1345 - val_loss: 72.4035 - val_reconstruction_error: 53.5858 - val_regularization_error: 18.8177
Epoch 179/1000
120/120 [=====] - 22s 179ms/step - loss: 45.9156 - reconstruction_error: 26.6797 - regularization_error: 19.2359 - val_loss: 69.3274 - val_reconstruction_error: 51.8789 - val_regularization_error: 17.4485
Epoch 180/1000
120/120 [=====] - 22s 185ms/step - loss: 45.4397 - reconstruction_error: 26.2786 - regularization_error: 19.1611 - val_loss: 68.3743 - val_reconstruction_error: 51.3862 - val_regularization_error: 16.9881
Epoch 181/1000
120/120 [=====] - ETA: 0s - loss: 45.6529 - reconstruction_error: 26.3680 - regularization_error: 19.2848
[2023-12-02 11:27:00.946179]: Reconstructing images for epoch 181 ...
```



```
120/120 [=====] - 26s 217ms/step - loss: 45.6529 - reconstruction_error: 26.3680 - regularization_error: 19.2848 - val_loss: 70.6949 - val_reconstruction_error: 52.3444 - val_regularization_error: 18.3505
Epoch 182/1000
120/120 [=====] - 23s 188ms/step - loss: 45.4093 - reconstruction_error: 26.1842 - regularization_error: 19.2251 - val_loss: 69.0209 - val_reconstruction_error: 51.4486 - val_regularization_error: 17.5723
Epoch 183/1000
120/120 [=====] - 23s 191ms/step - loss: 45.1159 - reconstruction_error: 25.9609 - regularization_error: 19.1549 - val_loss: 68.4060 - val_reconstruction_error: 50.7047 - val_regularization_error: 17.7013
Epoch 184/1000
120/120 [=====] - 22s 181ms/step - loss: 45.2324 - reconstruction_error: 26.0404 - regularization_error: 19.1920 - val_loss: 68.5511 - val_reconstruction_error: 50.2785 - val_regularization_error: 18.2726
Epoch 185/1000
120/120 [=====] - 23s 189ms/step - loss: 45.1725 - reconstruction_error: 26.0816 - regularization_error: 19.0910 - val_loss: 68.3711 - val_reconstruction_error: 50.8459 - val_regularization_error: 17.5252
Epoch 186/1000
120/120 [=====] - 22s 181ms/step - loss: 45.1754 - reconstruction_error: 25.9169 - regularization_error: 19.2585 - val_loss: 69.3065 - val_reconstruction_error: 51.3056 - val_regularization_error: 18.0009
Epoch 187/1000
120/120 [=====] - 23s 196ms/step - loss: 45.1780 - reconstruction_error: 25.9102 - regularization_error: 19.2678 - val_loss: 68.4177 - val_reconstruction_error: 50.8512 - val_regularization_error: 17.5665
Epoch 188/1000
120/120 [=====] - 24s 198ms/step - loss: 44.9978 - reconstruction_error: 25.8977 - regularization_error: 19.1001 - val_loss: 68.3404 - val_reconstruction_error: 49.7258 - val_regularization_error: 18.6146
Epoch 189/1000
120/120 [=====] - 22s 180ms/step - loss: 45.3347 - reconstruction_error: 25.9561 - regularization_error: 19.3786 - val_loss: 69.3564 - val_reconstruction_error: 51.2647 - val_regularization_error: 18.0918
Epoch 190/1000
120/120 [=====] - 24s 200ms/step - loss: 45.3098 - reconstruction_error: 25.8602 - regularization_error: 19.4496 - val_loss: 68.2665 - val_reconstruction_error: 51.6660 - val_regularization_error: 16.6006
Epoch 191/1000
120/120 [=====] - ETA: 0s - loss: 45.1657 - reconstruction_error: 25.9047 - regularization_error: 19.2609
[2023-12-02 11:30:50.614556]: Reconstructing images for epoch 191 ...
```



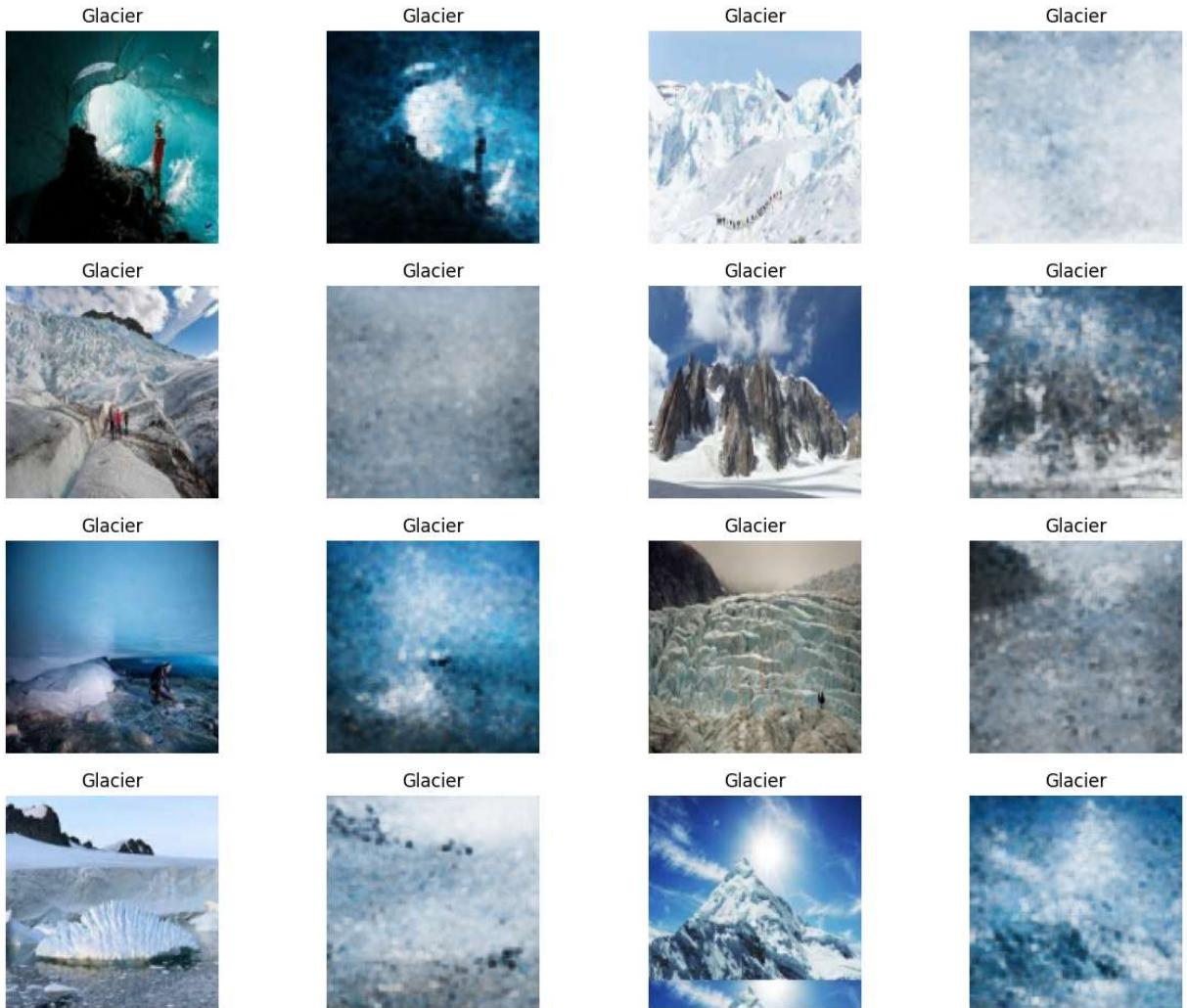
```
120/120 [=====] - 23s 192ms/step - loss: 45.1657 - reconstruction_error: 25.9047 - regularization_error: 19.2609 - val_loss: 69.3092 - val_reconstruction_error: 51.1683 - val_regularization_error: 18.1409
Epoch 192/1000
120/120 [=====] - 23s 192ms/step - loss: 45.0205 - reconstruction_error: 25.6800 - regularization_error: 19.3404 - val_loss: 68.5079 - val_reconstruction_error: 51.2991 - val_regularization_error: 17.2088
Epoch 193/1000
120/120 [=====] - 25s 209ms/step - loss: 44.9919 - reconstruction_error: 25.7297 - regularization_error: 19.2622 - val_loss: 68.9557 - val_reconstruction_error: 50.5959 - val_regularization_error: 18.3599
Epoch 194/1000
120/120 [=====] - 24s 202ms/step - loss: 44.9529 - reconstruction_error: 25.6405 - regularization_error: 19.3123 - val_loss: 70.1398 - val_reconstruction_error: 52.1224 - val_regularization_error: 18.0174
Epoch 195/1000
120/120 [=====] - 22s 182ms/step - loss: 44.7086 - reconstruction_error: 25.4988 - regularization_error: 19.2098 - val_loss: 67.3767 - val_reconstruction_error: 51.2880 - val_regularization_error: 16.0887
Epoch 196/1000
120/120 [=====] - 23s 194ms/step - loss: 44.8278 - reconstruction_error: 25.6018 - regularization_error: 19.2260 - val_loss: 67.1867 - val_reconstruction_error: 50.4344 - val_regularization_error: 16.7523
Epoch 197/1000
120/120 [=====] - 25s 206ms/step - loss: 45.0021 - reconstruction_error: 25.7982 - regularization_error: 19.2039 - val_loss: 69.2105 - val_reconstruction_error: 51.8952 - val_regularization_error: 17.3154
Epoch 198/1000
120/120 [=====] - 26s 216ms/step - loss: 44.8075 - reconstruction_error: 25.5142 - regularization_error: 19.2933 - val_loss: 69.4511 - val_reconstruction_error: 52.2089 - val_regularization_error: 17.2423
Epoch 199/1000
120/120 [=====] - 20s 164ms/step - loss: 45.1859 - reconstruction_error: 25.7642 - regularization_error: 19.4216 - val_loss: 69.7580 - val_reconstruction_error: 50.6474 - val_regularization_error: 19.1106
Epoch 200/1000
120/120 [=====] - 23s 195ms/step - loss: 44.8014 - reconstruction_error: 25.4840 - regularization_error: 19.3174 - val_loss: 69.5244 - val_reconstruction_error: 51.1831 - val_regularization_error: 18.3413
Epoch 201/1000
120/120 [=====] - ETA: 0s - loss: 44.6158 - reconstruction_error: 25.3031 - regularization_error: 19.3127
[2023-12-02 11:34:48.137756]: Reconstructing images for epoch 201 ...
```



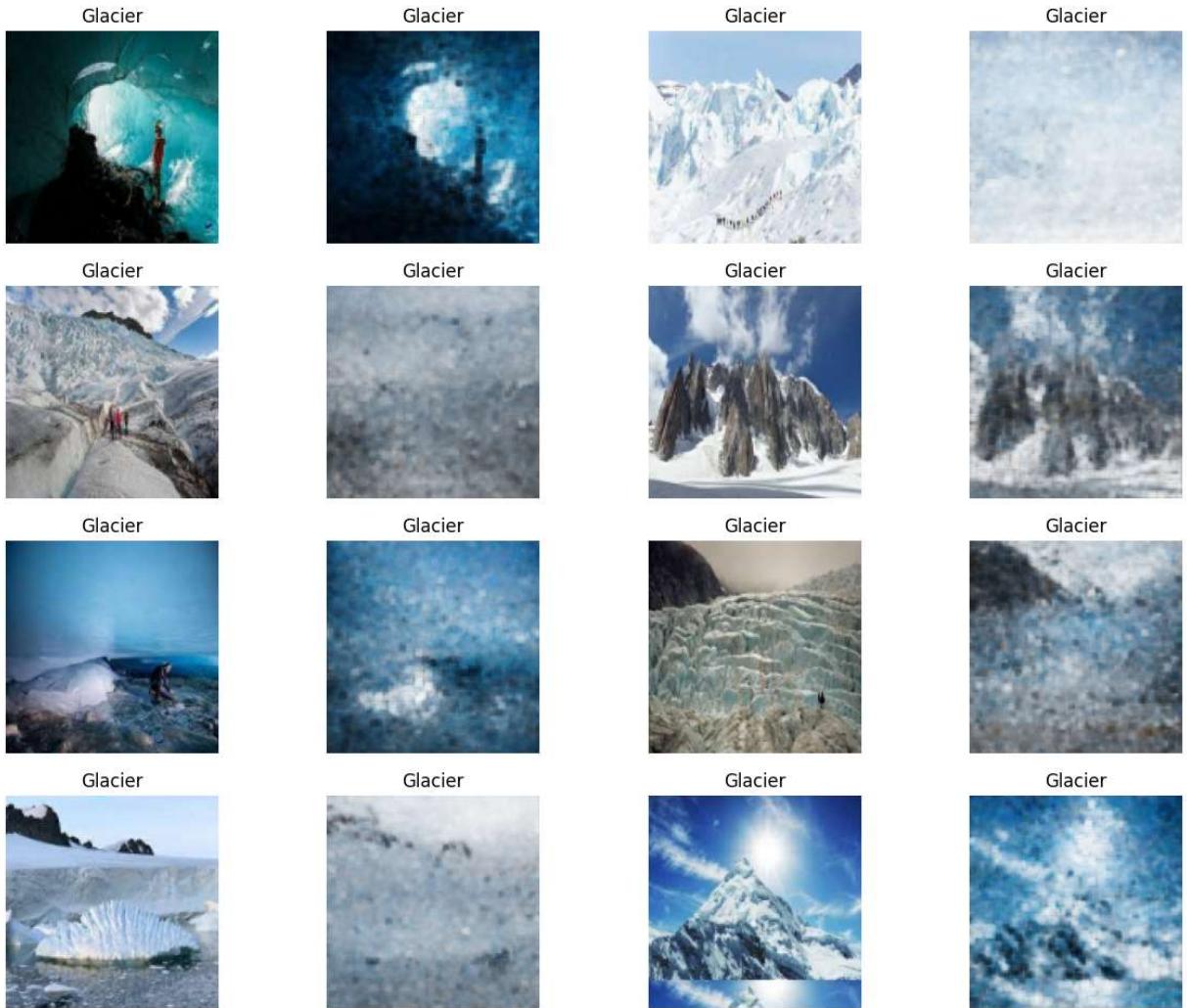
```
120/120 [=====] - 25s 212ms/step - loss: 44.6158 - reconstruction_error: 25.3031 - regularization_error: 19.3127 - val_loss: 68.6156 - val_reconstruction_error: 50.6075 - val_regularization_error: 18.0082
Epoch 202/1000
120/120 [=====] - 23s 188ms/step - loss: 44.5514 - reconstruction_error: 25.4280 - regularization_error: 19.1234 - val_loss: 68.2320 - val_reconstruction_error: 51.4969 - val_regularization_error: 16.7351
Epoch 203/1000
120/120 [=====] - 25s 205ms/step - loss: 44.5275 - reconstruction_error: 25.1848 - regularization_error: 19.3426 - val_loss: 68.4268 - val_reconstruction_error: 51.0976 - val_regularization_error: 17.3292
Epoch 204/1000
120/120 [=====] - 24s 202ms/step - loss: 44.3432 - reconstruction_error: 25.2140 - regularization_error: 19.1292 - val_loss: 69.3941 - val_reconstruction_error: 51.3444 - val_regularization_error: 18.0497
Epoch 205/1000
120/120 [=====] - 23s 195ms/step - loss: 44.6413 - reconstruction_error: 25.2709 - regularization_error: 19.3704 - val_loss: 71.3318 - val_reconstruction_error: 52.2855 - val_regularization_error: 19.0464
Epoch 206/1000
120/120 [=====] - 22s 185ms/step - loss: 44.5959 - reconstruction_error: 25.2659 - regularization_error: 19.3300 - val_loss: 68.2136 - val_reconstruction_error: 51.4072 - val_regularization_error: 16.8063
Epoch 207/1000
120/120 [=====] - 26s 220ms/step - loss: 44.5715 - reconstruction_error: 25.2393 - regularization_error: 19.3322 - val_loss: 69.2406 - val_reconstruction_error: 52.3150 - val_regularization_error: 16.9257
Epoch 208/1000
120/120 [=====] - 25s 212ms/step - loss: 44.3187 - reconstruction_error: 25.0269 - regularization_error: 19.2918 - val_loss: 69.2728 - val_reconstruction_error: 51.0547 - val_regularization_error: 18.2181
Epoch 209/1000
120/120 [=====] - 24s 199ms/step - loss: 44.3418 - reconstruction_error: 24.9698 - regularization_error: 19.3720 - val_loss: 69.7548 - val_reconstruction_error: 52.0541 - val_regularization_error: 17.7007
Epoch 210/1000
120/120 [=====] - 24s 203ms/step - loss: 44.7784 - reconstruction_error: 25.3804 - regularization_error: 19.3980 - val_loss: 68.4554 - val_reconstruction_error: 52.0970 - val_regularization_error: 16.3584
Epoch 211/1000
120/120 [=====] - ETA: 0s - loss: 44.3792 - reconstruction_error: 25.0410 - regularization_error: 19.3382
[2023-12-02 11:39:13.297901]: Reconstructing images for epoch 211 ...
```



```
120/120 [=====] - 31s 260ms/step - loss: 44.3792 - reconstruction_error: 25.0410 - regularization_error: 19.3382 - val_loss: 68.4581 - val_reconstruction_error: 50.9539 - val_regularization_error: 17.5042
Epoch 212/1000
120/120 [=====] - 24s 198ms/step - loss: 44.2575 - reconstruction_error: 24.8208 - regularization_error: 19.4367 - val_loss: 70.2201 - val_reconstruction_error: 51.8625 - val_regularization_error: 18.3576
Epoch 213/1000
120/120 [=====] - 24s 198ms/step - loss: 44.6291 - reconstruction_error: 25.2479 - regularization_error: 19.3812 - val_loss: 68.1268 - val_reconstruction_error: 50.4868 - val_regularization_error: 17.6400
Epoch 214/1000
120/120 [=====] - 23s 195ms/step - loss: 44.2242 - reconstruction_error: 24.8692 - regularization_error: 19.3550 - val_loss: 71.3512 - val_reconstruction_error: 52.1439 - val_regularization_error: 19.2073
Epoch 215/1000
120/120 [=====] - 25s 211ms/step - loss: 44.2585 - reconstruction_error: 24.8414 - regularization_error: 19.4171 - val_loss: 69.3637 - val_reconstruction_error: 51.2682 - val_regularization_error: 18.0955
Epoch 216/1000
120/120 [=====] - 22s 186ms/step - loss: 44.2733 - reconstruction_error: 24.9257 - regularization_error: 19.3476 - val_loss: 70.3600 - val_reconstruction_error: 51.2019 - val_regularization_error: 19.1581
Epoch 217/1000
120/120 [=====] - 22s 183ms/step - loss: 44.1541 - reconstruction_error: 24.7973 - regularization_error: 19.3569 - val_loss: 69.8059 - val_reconstruction_error: 52.8001 - val_regularization_error: 17.0058
Epoch 218/1000
120/120 [=====] - 29s 241ms/step - loss: 44.1799 - reconstruction_error: 24.7352 - regularization_error: 19.4447 - val_loss: 68.7436 - val_reconstruction_error: 51.7660 - val_regularization_error: 16.9776
Epoch 219/1000
120/120 [=====] - 24s 199ms/step - loss: 44.6434 - reconstruction_error: 25.2806 - regularization_error: 19.3628 - val_loss: 69.4605 - val_reconstruction_error: 51.1103 - val_regularization_error: 18.3502
Epoch 220/1000
120/120 [=====] - 23s 188ms/step - loss: 43.8993 - reconstruction_error: 24.6403 - regularization_error: 19.2590 - val_loss: 68.4158 - val_reconstruction_error: 51.0454 - val_regularization_error: 17.3704
Epoch 221/1000
120/120 [=====] - ETA: 0s - loss: 44.1760 - reconstruction_error: 24.6770 - regularization_error: 19.4991
[2023-12-02 11:43:35.048999]: Reconstructing images for epoch 221 ...
```



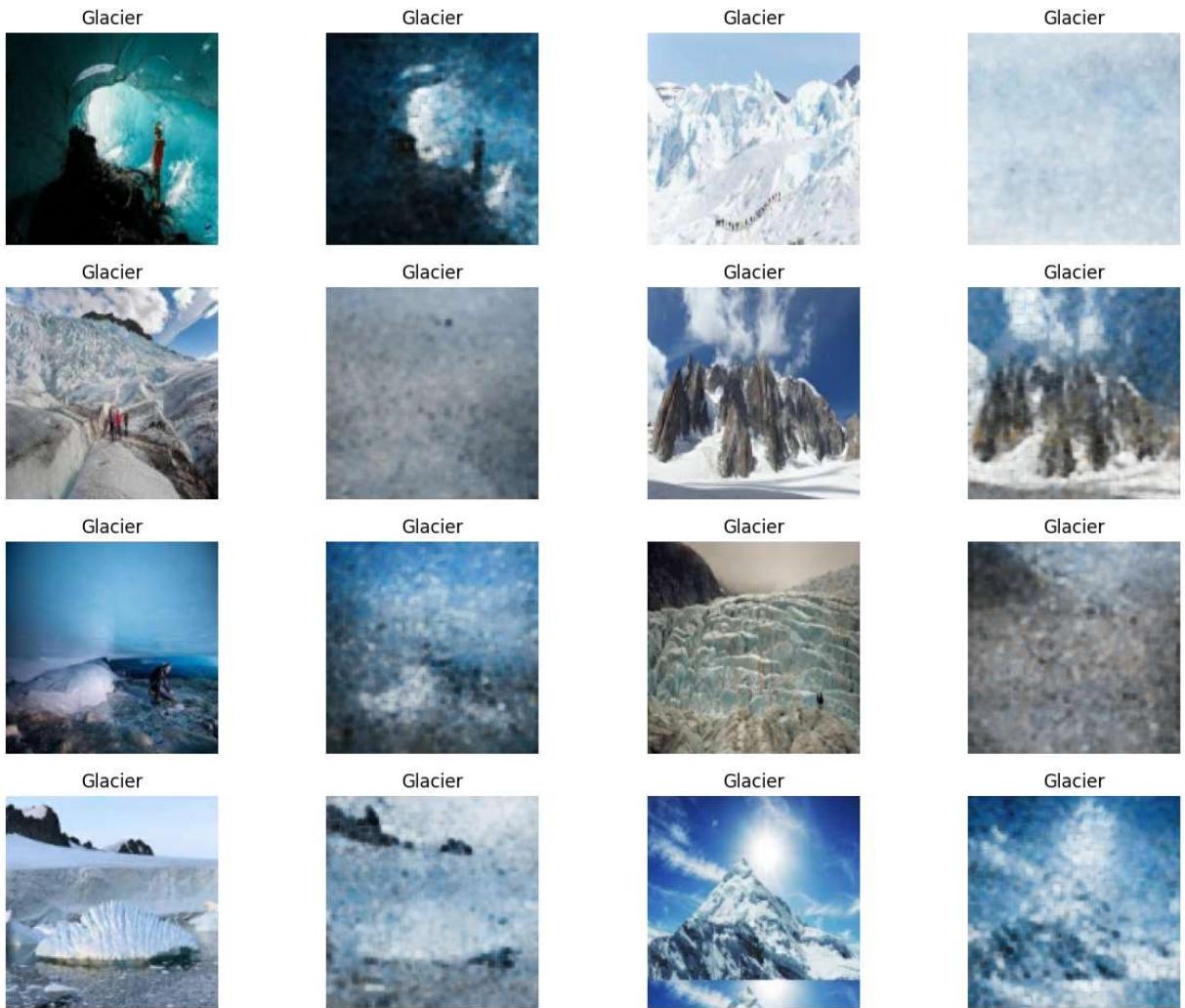
```
120/120 [=====] - 27s 225ms/step - loss: 44.1760 - reconstruction_error: 24.6770 - regularization_error: 19.4991 - val_loss: 68.6525 - val_reconstruction_error: 52.1077 - val_regularization_error: 16.5448
Epoch 222/1000
120/120 [=====] - 23s 195ms/step - loss: 43.9896 - reconstruction_error: 24.6836 - regularization_error: 19.3061 - val_loss: 68.0585 - val_reconstruction_error: 51.1610 - val_regularization_error: 16.8974
Epoch 223/1000
120/120 [=====] - 25s 212ms/step - loss: 43.9892 - reconstruction_error: 24.7604 - regularization_error: 19.2288 - val_loss: 70.1624 - val_reconstruction_error: 51.1726 - val_regularization_error: 18.9899
Epoch 224/1000
120/120 [=====] - 25s 209ms/step - loss: 43.8272 - reconstruction_error: 24.4760 - regularization_error: 19.3512 - val_loss: 69.8623 - val_reconstruction_error: 51.8777 - val_regularization_error: 17.9846
Epoch 225/1000
120/120 [=====] - 27s 225ms/step - loss: 43.6502 - reconstruction_error: 24.3748 - regularization_error: 19.2754 - val_loss: 69.6225 - val_reconstruction_error: 52.2135 - val_regularization_error: 17.4090
Epoch 226/1000
120/120 [=====] - 24s 202ms/step - loss: 43.9762 - reconstruction_error: 24.5688 - regularization_error: 19.4075 - val_loss: 69.9161 - val_reconstruction_error: 51.0791 - val_regularization_error: 18.8370
Epoch 227/1000
120/120 [=====] - 24s 198ms/step - loss: 43.8920 - reconstruction_error: 24.5507 - regularization_error: 19.3413 - val_loss: 70.3081 - val_reconstruction_error: 52.0047 - val_regularization_error: 18.3035
Epoch 228/1000
120/120 [=====] - 24s 198ms/step - loss: 43.8209 - reconstruction_error: 24.3760 - regularization_error: 19.4449 - val_loss: 69.1321 - val_reconstruction_error: 53.1202 - val_regularization_error: 16.0119
Epoch 229/1000
120/120 [=====] - 23s 187ms/step - loss: 43.8405 - reconstruction_error: 24.5823 - regularization_error: 19.2581 - val_loss: 70.6051 - val_reconstruction_error: 50.9460 - val_regularization_error: 19.6591
Epoch 230/1000
120/120 [=====] - 23s 188ms/step - loss: 43.8972 - reconstruction_error: 24.5914 - regularization_error: 19.3058 - val_loss: 68.6416 - val_reconstruction_error: 51.7140 - val_regularization_error: 16.9276
Epoch 231/1000
120/120 [=====] - ETA: 0s - loss: 43.8270 - reconstruction_error: 24.4265 - regularization_error: 19.4005
[2023-12-02 11:47:41.580243]: Reconstructing images for epoch 231 ...
```



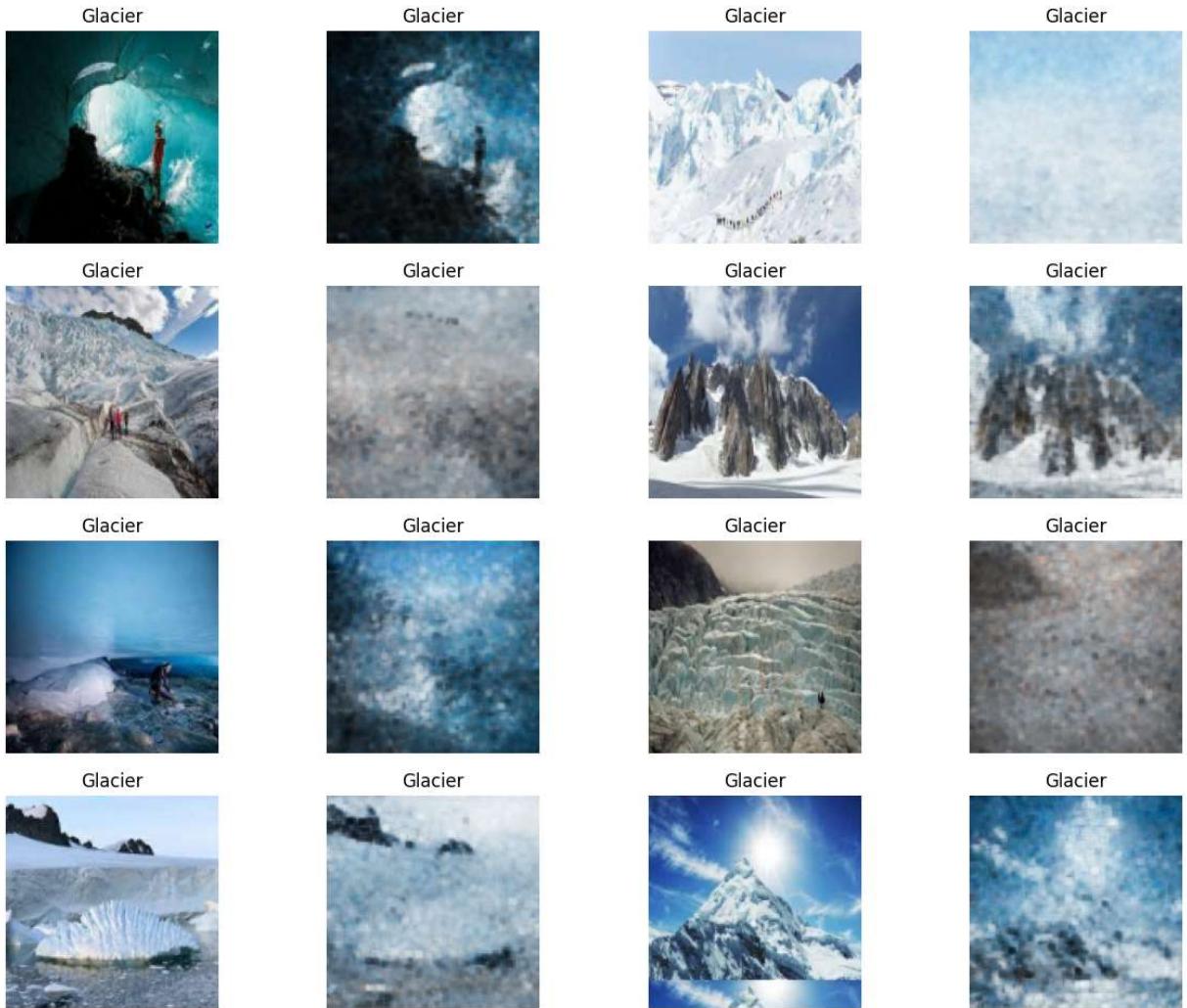
```
120/120 [=====] - 25s 209ms/step - loss: 43.8270 - reconstruction_error: 24.4265 - regularization_error: 19.4005 - val_loss: 68.5611 - val_reconstruction_error: 51.6110 - val_regularization_error: 16.9501
Epoch 232/1000
120/120 [=====] - 23s 194ms/step - loss: 43.7873 - reconstruction_error: 24.4512 - regularization_error: 19.3361 - val_loss: 70.9369 - val_reconstruction_error: 51.7317 - val_regularization_error: 19.2052
Epoch 233/1000
120/120 [=====] - 24s 203ms/step - loss: 43.9209 - reconstruction_error: 24.4376 - regularization_error: 19.4833 - val_loss: 69.9040 - val_reconstruction_error: 51.3470 - val_regularization_error: 18.5570
Epoch 234/1000
120/120 [=====] - 20s 165ms/step - loss: 43.4999 - reconstruction_error: 24.1253 - regularization_error: 19.3746 - val_loss: 68.9903 - val_reconstruction_error: 53.0631 - val_regularization_error: 15.9272
Epoch 235/1000
120/120 [=====] - 25s 208ms/step - loss: 43.5466 - reconstruction_error: 24.2236 - regularization_error: 19.3230 - val_loss: 70.6678 - val_reconstruction_error: 52.0152 - val_regularization_error: 18.6526
Epoch 236/1000
120/120 [=====] - 20s 165ms/step - loss: 43.7574 - reconstruction_error: 24.3715 - regularization_error: 19.3859 - val_loss: 70.3017 - val_reconstruction_error: 50.8457 - val_regularization_error: 19.4560
Epoch 237/1000
120/120 [=====] - 24s 202ms/step - loss: 43.6170 - reconstruction_error: 24.2939 - regularization_error: 19.3231 - val_loss: 70.3792 - val_reconstruction_error: 51.7965 - val_regularization_error: 18.5827
Epoch 238/1000
120/120 [=====] - 27s 226ms/step - loss: 43.4083 - reconstruction_error: 24.0223 - regularization_error: 19.3859 - val_loss: 68.7646 - val_reconstruction_error: 51.1431 - val_regularization_error: 17.6216
Epoch 239/1000
120/120 [=====] - 25s 211ms/step - loss: 43.9017 - reconstruction_error: 24.3740 - regularization_error: 19.5277 - val_loss: 68.1461 - val_reconstruction_error: 50.7724 - val_regularization_error: 17.3737
Epoch 240/1000
120/120 [=====] - 27s 226ms/step - loss: 43.8646 - reconstruction_error: 24.3007 - regularization_error: 19.5638 - val_loss: 70.3437 - val_reconstruction_error: 53.2030 - val_regularization_error: 17.1407
Epoch 241/1000
120/120 [=====] - ETA: 0s - loss: 43.4426 - reconstruction_error: 24.0936 - regularization_error: 19.3490
[2023-12-02 11:51:47.835379]: Reconstructing images for epoch 241 ...
```



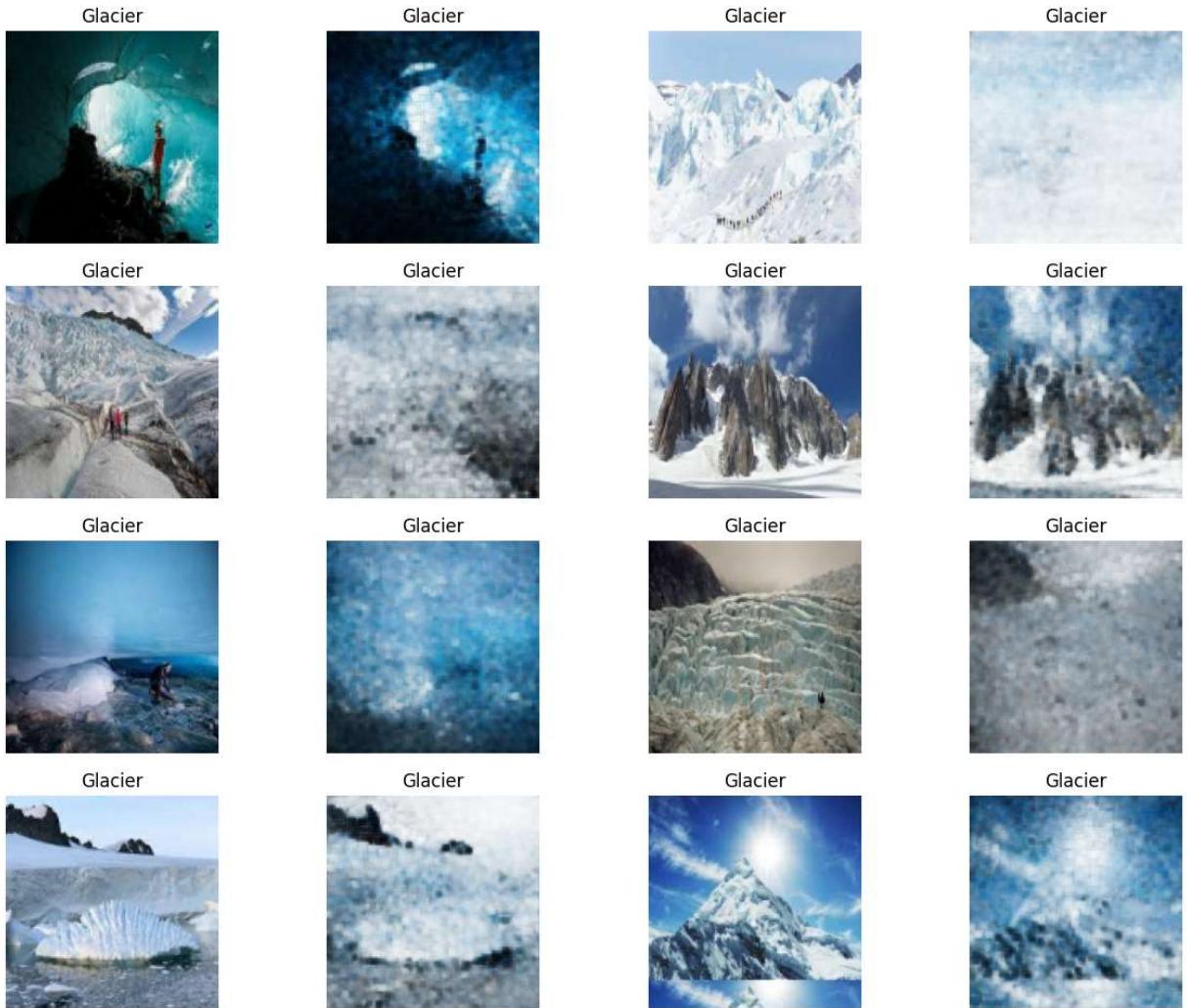
```
120/120 [=====] - 29s 242ms/step - loss: 43.4426 - reconstruction_error: 24.0936 - regularization_error: 19.3490 - val_loss: 69.6130 - val_reconstruction_error: 51.4333 - val_regularization_error: 18.1798
Epoch 242/1000
120/120 [=====] - 21s 175ms/step - loss: 43.5170 - reconstruction_error: 24.1301 - regularization_error: 19.3870 - val_loss: 68.8359 - val_reconstruction_error: 52.0261 - val_regularization_error: 16.8098
Epoch 243/1000
120/120 [=====] - 21s 172ms/step - loss: 43.3807 - reconstruction_error: 23.9183 - regularization_error: 19.4624 - val_loss: 69.3296 - val_reconstruction_error: 52.1479 - val_regularization_error: 17.1817
Epoch 244/1000
120/120 [=====] - 24s 204ms/step - loss: 43.7331 - reconstruction_error: 24.2124 - regularization_error: 19.5207 - val_loss: 69.7225 - val_reconstruction_error: 51.0877 - val_regularization_error: 18.6348
Epoch 245/1000
120/120 [=====] - 23s 191ms/step - loss: 43.0287 - reconstruction_error: 23.6882 - regularization_error: 19.3405 - val_loss: 69.7298 - val_reconstruction_error: 52.5243 - val_regularization_error: 17.2055
Epoch 246/1000
120/120 [=====] - 25s 210ms/step - loss: 43.4108 - reconstruction_error: 24.0201 - regularization_error: 19.3907 - val_loss: 69.3899 - val_reconstruction_error: 52.0094 - val_regularization_error: 17.3806
Epoch 247/1000
120/120 [=====] - 22s 180ms/step - loss: 43.4949 - reconstruction_error: 23.9761 - regularization_error: 19.5189 - val_loss: 68.7678 - val_reconstruction_error: 51.5370 - val_regularization_error: 17.2308
Epoch 248/1000
120/120 [=====] - 20s 163ms/step - loss: 43.1968 - reconstruction_error: 23.8885 - regularization_error: 19.3083 - val_loss: 69.6958 - val_reconstruction_error: 51.9843 - val_regularization_error: 17.7115
Epoch 249/1000
120/120 [=====] - 25s 212ms/step - loss: 43.2489 - reconstruction_error: 23.8907 - regularization_error: 19.3582 - val_loss: 70.5261 - val_reconstruction_error: 52.3758 - val_regularization_error: 18.1503
Epoch 250/1000
120/120 [=====] - 24s 204ms/step - loss: 43.4544 - reconstruction_error: 23.9115 - regularization_error: 19.5429 - val_loss: 69.5321 - val_reconstruction_error: 52.7927 - val_regularization_error: 16.7393
Epoch 251/1000
120/120 [=====] - ETA: 0s - loss: 43.0501 - reconstruction_error: 23.6377 - regularization_error: 19.4123
[2023-12-02 11:55:36.613937]: Reconstructing images for epoch 251 ...
```



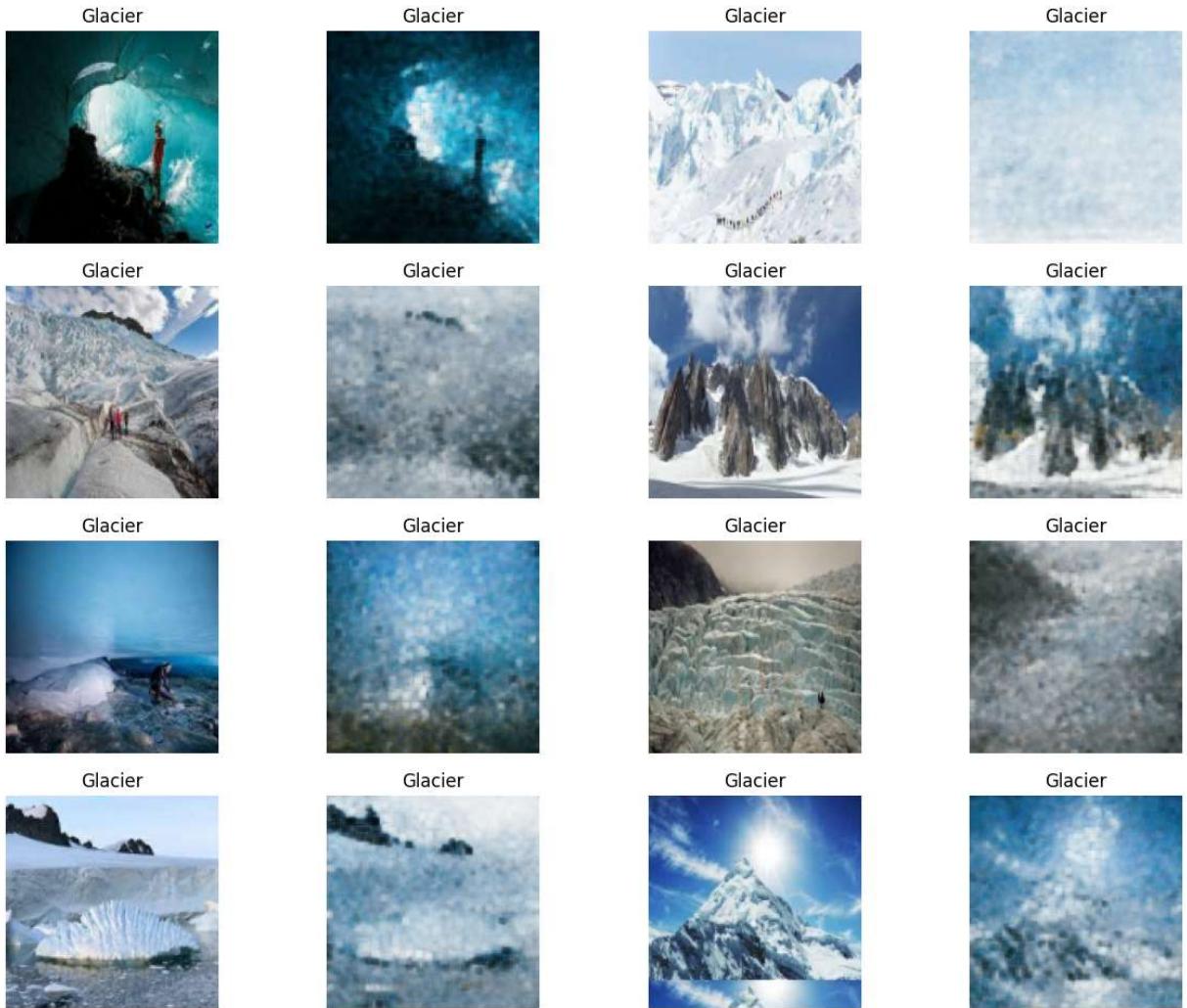
```
120/120 [=====] - 21s 177ms/step - loss: 43.0501 - reconstruction_error: 23.6377 - regularization_error: 19.4123 - val_loss: 69.5066 - val_reconstruction_error: 51.6487 - val_regularization_error: 17.8579
Epoch 252/1000
120/120 [=====] - 25s 210ms/step - loss: 43.2352 - reconstruction_error: 23.7792 - regularization_error: 19.4560 - val_loss: 69.7331 - val_reconstruction_error: 51.7859 - val_regularization_error: 17.9471
Epoch 253/1000
120/120 [=====] - 25s 209ms/step - loss: 43.1134 - reconstruction_error: 23.7268 - regularization_error: 19.3867 - val_loss: 68.9921 - val_reconstruction_error: 51.2767 - val_regularization_error: 17.7154
Epoch 254/1000
120/120 [=====] - 23s 190ms/step - loss: 43.0010 - reconstruction_error: 23.5905 - regularization_error: 19.4105 - val_loss: 68.7919 - val_reconstruction_error: 50.6712 - val_regularization_error: 18.1207
Epoch 255/1000
120/120 [=====] - 24s 199ms/step - loss: 43.0629 - reconstruction_error: 23.5953 - regularization_error: 19.4676 - val_loss: 71.1563 - val_reconstruction_error: 52.5801 - val_regularization_error: 18.5762
Epoch 256/1000
120/120 [=====] - 26s 213ms/step - loss: 43.3113 - reconstruction_error: 23.9143 - regularization_error: 19.3971 - val_loss: 71.1568 - val_reconstruction_error: 52.6130 - val_regularization_error: 18.5438
Epoch 257/1000
120/120 [=====] - 23s 194ms/step - loss: 42.9522 - reconstruction_error: 23.6166 - regularization_error: 19.3356 - val_loss: 69.6807 - val_reconstruction_error: 52.0055 - val_regularization_error: 17.6752
Epoch 258/1000
120/120 [=====] - 20s 166ms/step - loss: 43.0355 - reconstruction_error: 23.5396 - regularization_error: 19.4959 - val_loss: 68.3923 - val_reconstruction_error: 51.2591 - val_regularization_error: 17.1333
Epoch 259/1000
120/120 [=====] - 26s 215ms/step - loss: 42.9914 - reconstruction_error: 23.5674 - regularization_error: 19.4240 - val_loss: 70.2961 - val_reconstruction_error: 51.9626 - val_regularization_error: 18.3335
Epoch 260/1000
120/120 [=====] - 26s 220ms/step - loss: 42.7070 - reconstruction_error: 23.3463 - regularization_error: 19.3607 - val_loss: 69.7967 - val_reconstruction_error: 52.3831 - val_regularization_error: 17.4137
Epoch 261/1000
120/120 [=====] - ETA: 0s - loss: 42.7252 - reconstruction_error: 23.3580 - regularization_error: 19.3672
[2023-12-02 11:59:44.088055]: Reconstructing images for epoch 261 ...
```



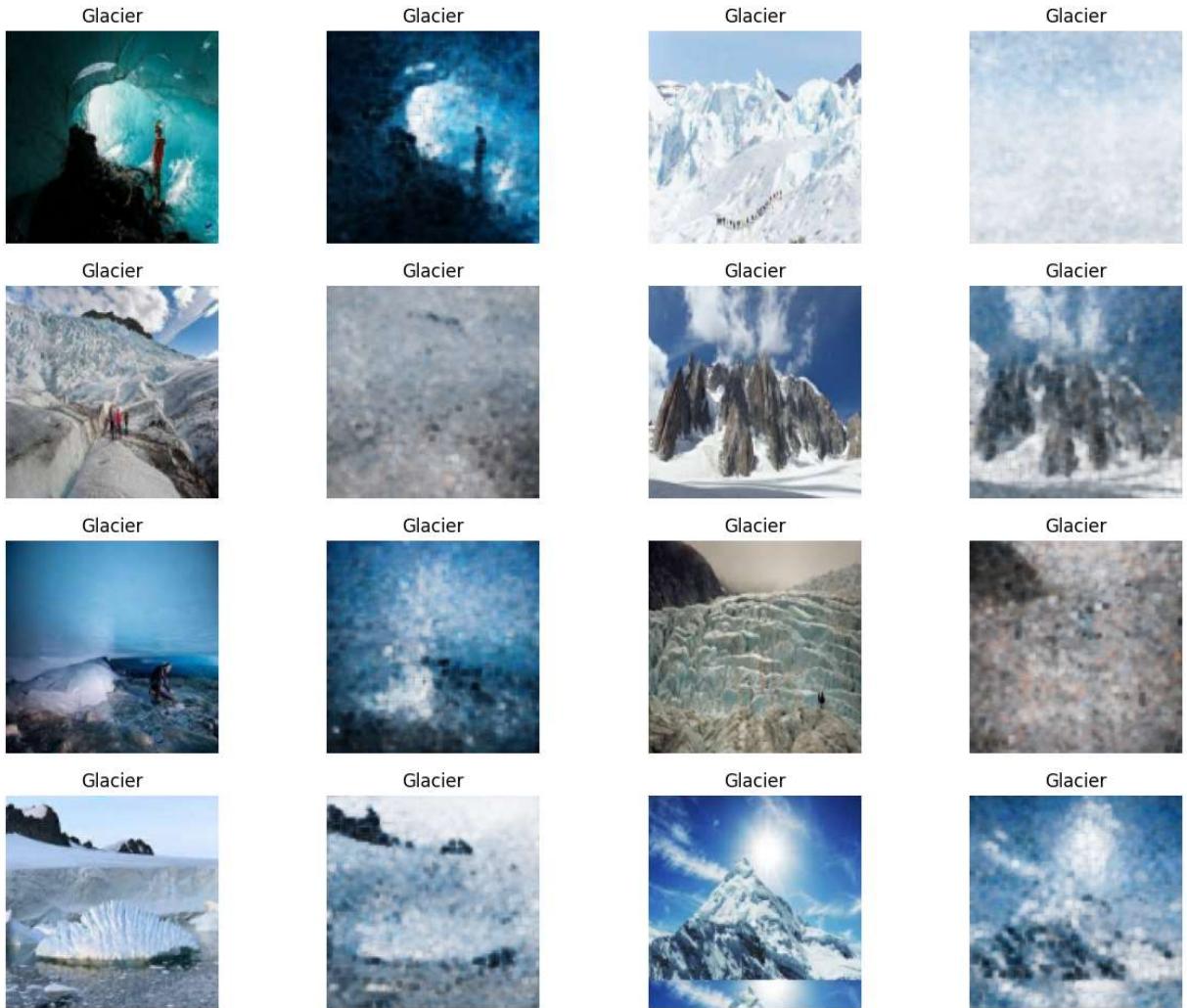
```
120/120 [=====] - 27s 222ms/step - loss: 42.7252 - reconstruction_error: 23.3580 - regularization_error: 19.3672 - val_loss: 70.0431 - val_reconstruction_error: 51.5662 - val_regularization_error: 18.4770
Epoch 262/1000
120/120 [=====] - 24s 199ms/step - loss: 42.6596 - reconstruction_error: 23.2612 - regularization_error: 19.3983 - val_loss: 70.5149 - val_reconstruction_error: 52.4109 - val_regularization_error: 18.1040
Epoch 263/1000
120/120 [=====] - 24s 203ms/step - loss: 42.7877 - reconstruction_error: 23.4123 - regularization_error: 19.3754 - val_loss: 71.8631 - val_reconstruction_error: 53.6830 - val_regularization_error: 18.1801
Epoch 264/1000
120/120 [=====] - 22s 181ms/step - loss: 42.8112 - reconstruction_error: 23.3209 - regularization_error: 19.4904 - val_loss: 69.9149 - val_reconstruction_error: 51.6812 - val_regularization_error: 18.2336
Epoch 265/1000
120/120 [=====] - 24s 198ms/step - loss: 43.0240 - reconstruction_error: 23.5210 - regularization_error: 19.5030 - val_loss: 71.6192 - val_reconstruction_error: 53.0589 - val_regularization_error: 18.5603
Epoch 266/1000
120/120 [=====] - 22s 183ms/step - loss: 43.0536 - reconstruction_error: 23.6204 - regularization_error: 19.4332 - val_loss: 72.1181 - val_reconstruction_error: 52.9415 - val_regularization_error: 19.1766
Epoch 267/1000
120/120 [=====] - 26s 215ms/step - loss: 42.9614 - reconstruction_error: 23.4216 - regularization_error: 19.5398 - val_loss: 69.4069 - val_reconstruction_error: 52.0227 - val_regularization_error: 17.3841
Epoch 268/1000
120/120 [=====] - 23s 195ms/step - loss: 42.9700 - reconstruction_error: 23.4770 - regularization_error: 19.4931 - val_loss: 69.6494 - val_reconstruction_error: 51.1408 - val_regularization_error: 18.5086
Epoch 269/1000
120/120 [=====] - 22s 182ms/step - loss: 42.6501 - reconstruction_error: 23.2812 - regularization_error: 19.3689 - val_loss: 70.1015 - val_reconstruction_error: 52.1799 - val_regularization_error: 17.9216
Epoch 270/1000
120/120 [=====] - 21s 173ms/step - loss: 42.7080 - reconstruction_error: 23.2996 - regularization_error: 19.4084 - val_loss: 69.1180 - val_reconstruction_error: 51.4009 - val_regularization_error: 17.7171
Epoch 271/1000
120/120 [=====] - ETA: 0s - loss: 42.6832 - reconstruction_error: 23.2585 - regularization_error: 19.4247
[2023-12-02 12:03:42.376724]: Reconstructing images for epoch 271 ...
```



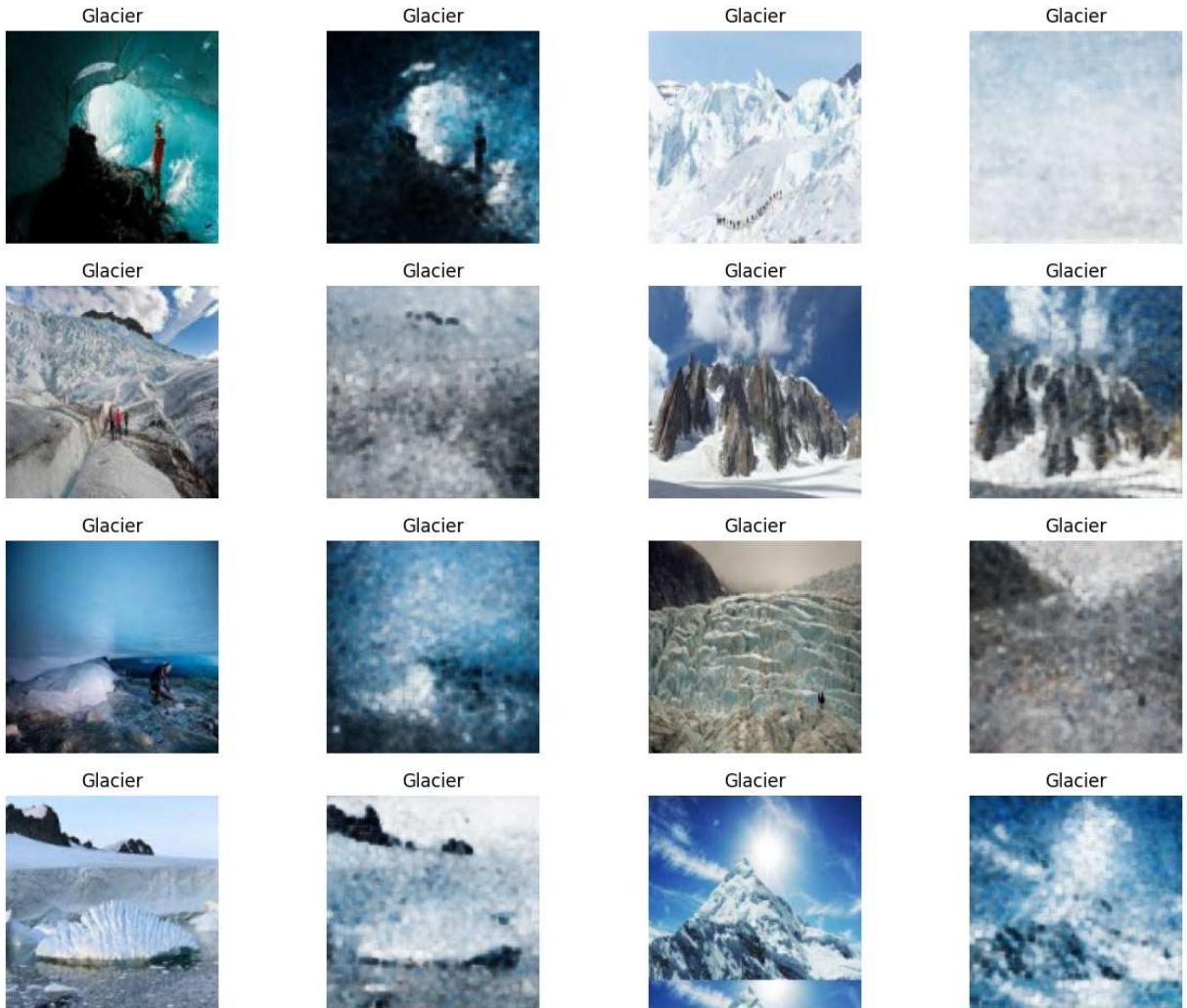
```
120/120 [=====] - 30s 252ms/step - loss: 42.6832 - reconstruction_error: 23.2585 - regularization_error: 19.4247 - val_loss: 71.7790 - val_reconstruction_error: 53.0942 - val_regularization_error: 18.6848
Epoch 272/1000
120/120 [=====] - 25s 211ms/step - loss: 42.8180 - reconstruction_error: 23.3908 - regularization_error: 19.4273 - val_loss: 70.6701 - val_reconstruction_error: 52.2567 - val_regularization_error: 18.4134
Epoch 273/1000
120/120 [=====] - 26s 221ms/step - loss: 42.6900 - reconstruction_error: 23.2217 - regularization_error: 19.4684 - val_loss: 71.5730 - val_reconstruction_error: 53.5256 - val_regularization_error: 18.0474
Epoch 274/1000
120/120 [=====] - 25s 211ms/step - loss: 42.4659 - reconstruction_error: 22.9976 - regularization_error: 19.4683 - val_loss: 70.2198 - val_reconstruction_error: 52.4410 - val_regularization_error: 17.7788
Epoch 275/1000
120/120 [=====] - 20s 168ms/step - loss: 42.4086 - reconstruction_error: 23.0327 - regularization_error: 19.3759 - val_loss: 69.0930 - val_reconstruction_error: 51.3284 - val_regularization_error: 17.7646
Epoch 276/1000
120/120 [=====] - 26s 214ms/step - loss: 42.3514 - reconstruction_error: 22.9950 - regularization_error: 19.3563 - val_loss: 69.1400 - val_reconstruction_error: 52.8354 - val_regularization_error: 16.3047
Epoch 277/1000
120/120 [=====] - 26s 213ms/step - loss: 42.8830 - reconstruction_error: 23.3135 - regularization_error: 19.5694 - val_loss: 71.2318 - val_reconstruction_error: 51.9401 - val_regularization_error: 19.2917
Epoch 278/1000
120/120 [=====] - 20s 168ms/step - loss: 42.4093 - reconstruction_error: 23.0081 - regularization_error: 19.4012 - val_loss: 71.0548 - val_reconstruction_error: 53.4124 - val_regularization_error: 17.6423
Epoch 279/1000
120/120 [=====] - 21s 171ms/step - loss: 42.0415 - reconstruction_error: 22.8437 - regularization_error: 19.1979 - val_loss: 68.9880 - val_reconstruction_error: 52.9357 - val_regularization_error: 16.0522
Epoch 280/1000
120/120 [=====] - 22s 182ms/step - loss: 42.4146 - reconstruction_error: 23.0821 - regularization_error: 19.3325 - val_loss: 70.2556 - val_reconstruction_error: 51.4336 - val_regularization_error: 18.8220
Epoch 281/1000
120/120 [=====] - ETA: 0s - loss: 42.2888 - reconstruction_error: 22.8548 - regularization_error: 19.4340
[2023-12-02 12:07:40.091146]: Reconstructing images for epoch 281 ...
```



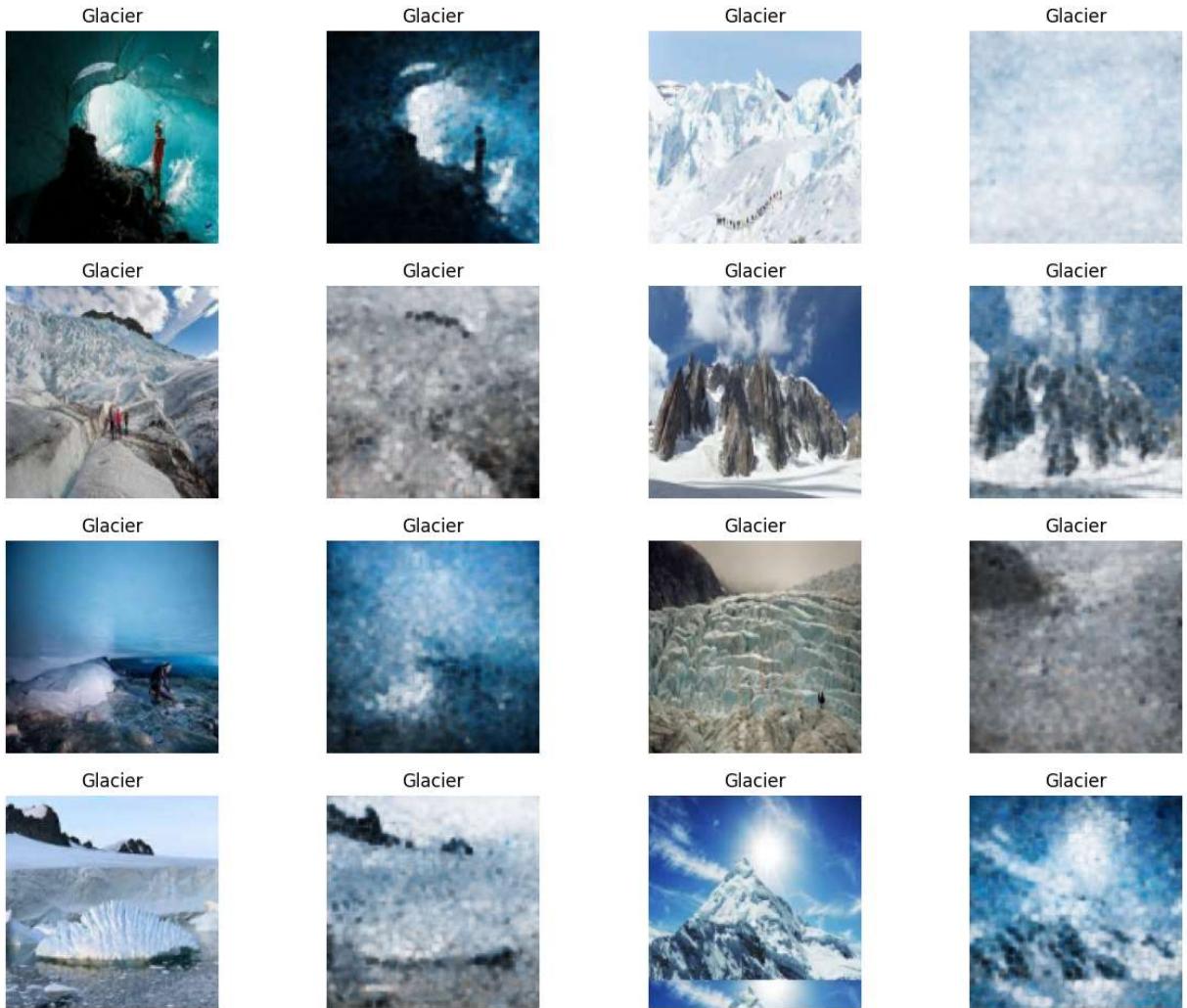
```
120/120 [=====] - 25s 209ms/step - loss: 42.2888 - reconstruction_error: 22.8548 - regularization_error: 19.4340 - val_loss: 68.9436 - val_reconstruction_error: 50.7729 - val_regularization_error: 18.1706
Epoch 282/1000
120/120 [=====] - 22s 183ms/step - loss: 41.9612 - reconstruction_error: 22.6812 - regularization_error: 19.2799 - val_loss: 70.0351 - val_reconstruction_error: 51.4145 - val_regularization_error: 18.6206
Epoch 283/1000
120/120 [=====] - 24s 202ms/step - loss: 42.3959 - reconstruction_error: 23.0217 - regularization_error: 19.3742 - val_loss: 70.2901 - val_reconstruction_error: 52.8704 - val_regularization_error: 17.4198
Epoch 284/1000
120/120 [=====] - 23s 192ms/step - loss: 42.6902 - reconstruction_error: 23.2397 - regularization_error: 19.4505 - val_loss: 68.7365 - val_reconstruction_error: 51.0790 - val_regularization_error: 17.6575
Epoch 285/1000
120/120 [=====] - 25s 205ms/step - loss: 42.3503 - reconstruction_error: 22.8137 - regularization_error: 19.5367 - val_loss: 68.6239 - val_reconstruction_error: 51.4211 - val_regularization_error: 17.2028
Epoch 286/1000
120/120 [=====] - 25s 210ms/step - loss: 42.2139 - reconstruction_error: 22.8439 - regularization_error: 19.3700 - val_loss: 69.9831 - val_reconstruction_error: 51.7062 - val_regularization_error: 18.2769
Epoch 287/1000
120/120 [=====] - 24s 198ms/step - loss: 42.0936 - reconstruction_error: 22.6758 - regularization_error: 19.4178 - val_loss: 68.8793 - val_reconstruction_error: 50.8300 - val_regularization_error: 18.0492
Epoch 288/1000
120/120 [=====] - 23s 194ms/step - loss: 42.2049 - reconstruction_error: 22.7547 - regularization_error: 19.4502 - val_loss: 70.2525 - val_reconstruction_error: 52.5757 - val_regularization_error: 17.6769
Epoch 289/1000
120/120 [=====] - 24s 201ms/step - loss: 42.1725 - reconstruction_error: 22.6805 - regularization_error: 19.4920 - val_loss: 69.3181 - val_reconstruction_error: 52.3028 - val_regularization_error: 17.0153
Epoch 290/1000
120/120 [=====] - 23s 192ms/step - loss: 42.1988 - reconstruction_error: 22.7020 - regularization_error: 19.4968 - val_loss: 72.8925 - val_reconstruction_error: 53.7989 - val_regularization_error: 19.0936
Epoch 291/1000
120/120 [=====] - ETA: 0s - loss: 42.2263 - reconstruction_error: 22.7133 - regularization_error: 19.5130
[2023-12-02 12:11:44.773843]: Reconstructing images for epoch 291 ...
```



```
120/120 [=====] - 30s 247ms/step - loss: 42.2263 - reconstruction_error: 22.7133 - regularization_error: 19.5130 - val_loss: 69.8264 - val_reconstruction_error: 51.4883 - val_regularization_error: 18.3382
Epoch 292/1000
120/120 [=====] - 23s 193ms/step - loss: 42.0901 - reconstruction_error: 22.6310 - regularization_error: 19.4590 - val_loss: 69.4288 - val_reconstruction_error: 51.5814 - val_regularization_error: 17.8474
Epoch 293/1000
120/120 [=====] - 24s 204ms/step - loss: 42.1156 - reconstruction_error: 22.6728 - regularization_error: 19.4428 - val_loss: 71.3937 - val_reconstruction_error: 52.8984 - val_regularization_error: 18.4953
Epoch 294/1000
120/120 [=====] - 23s 190ms/step - loss: 41.9091 - reconstruction_error: 22.5420 - regularization_error: 19.3671 - val_loss: 69.7091 - val_reconstruction_error: 53.6063 - val_regularization_error: 16.1028
Epoch 295/1000
120/120 [=====] - 25s 205ms/step - loss: 41.8784 - reconstruction_error: 22.5547 - regularization_error: 19.3236 - val_loss: 69.8191 - val_reconstruction_error: 51.4754 - val_regularization_error: 18.3437
Epoch 296/1000
120/120 [=====] - 26s 217ms/step - loss: 42.1488 - reconstruction_error: 22.6964 - regularization_error: 19.4524 - val_loss: 69.7100 - val_reconstruction_error: 51.6956 - val_regularization_error: 18.0144
Epoch 297/1000
120/120 [=====] - 22s 184ms/step - loss: 41.7405 - reconstruction_error: 22.4673 - regularization_error: 19.2732 - val_loss: 71.8004 - val_reconstruction_error: 53.8544 - val_regularization_error: 17.9460
Epoch 298/1000
120/120 [=====] - 26s 214ms/step - loss: 41.8672 - reconstruction_error: 22.4298 - regularization_error: 19.4374 - val_loss: 70.2753 - val_reconstruction_error: 52.8634 - val_regularization_error: 17.4118
Epoch 299/1000
120/120 [=====] - 28s 232ms/step - loss: 41.7345 - reconstruction_error: 22.4832 - regularization_error: 19.2512 - val_loss: 69.4572 - val_reconstruction_error: 52.2947 - val_regularization_error: 17.1625
Epoch 300/1000
120/120 [=====] - 27s 224ms/step - loss: 41.9325 - reconstruction_error: 22.4540 - regularization_error: 19.4785 - val_loss: 71.3746 - val_reconstruction_error: 54.0295 - val_regularization_error: 17.3451
Epoch 301/1000
120/120 [=====] - ETA: 0s - loss: 41.8347 - reconstruction_error: 22.4482 - regularization_error: 19.3865
[2023-12-02 12:15:54.985102]: Reconstructing images for epoch 301 ...
```



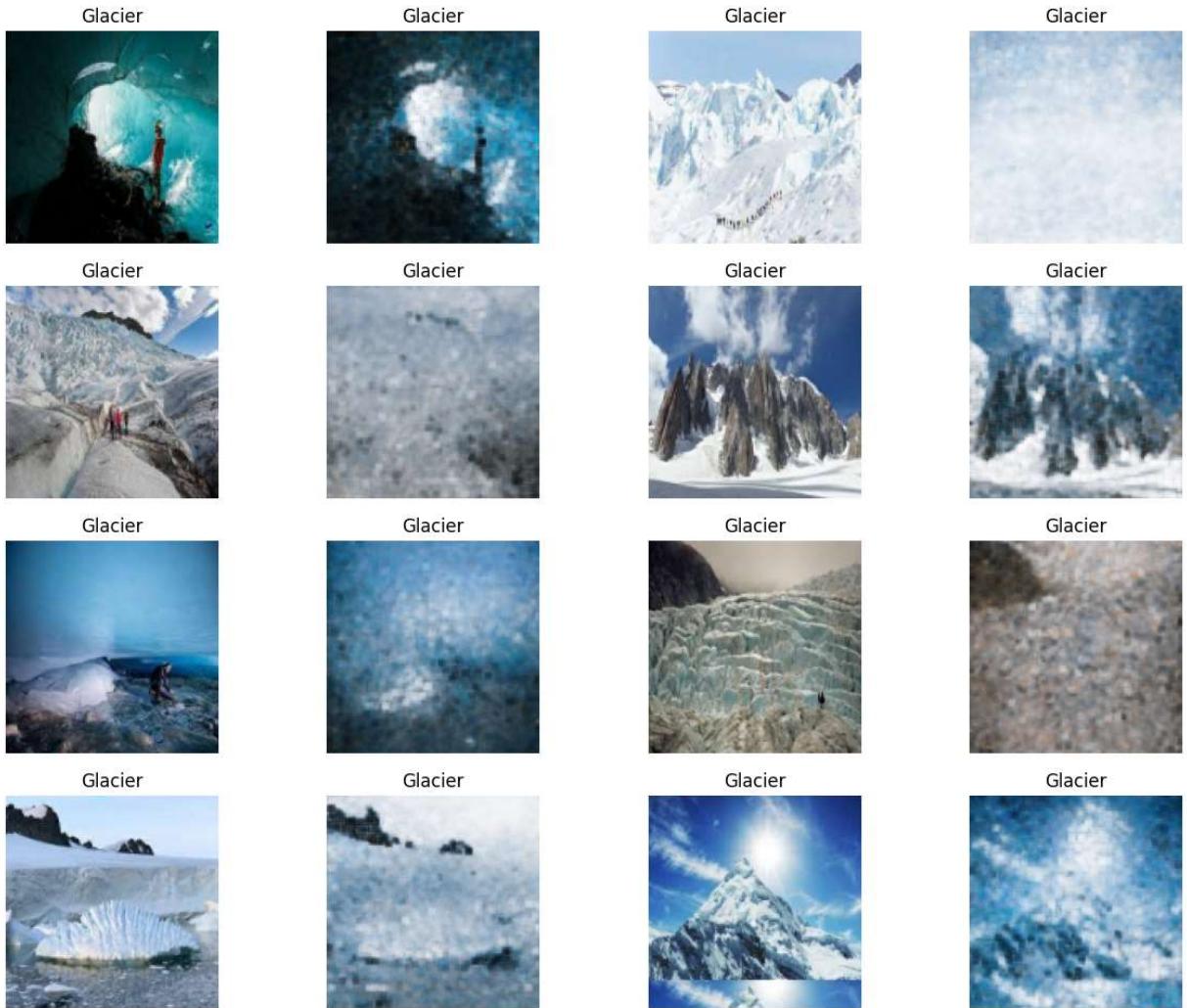
```
120/120 [=====] - 27s 224ms/step - loss: 41.8347 - reconstruction_error: 22.4482 - regularization_error: 19.3865 - val_loss: 70.7478 - val_reconstruction_error: 51.7875 - val_regularization_error: 18.9603
Epoch 302/1000
120/120 [=====] - 27s 224ms/step - loss: 41.6926 - reconstruction_error: 22.4448 - regularization_error: 19.2478 - val_loss: 70.9880 - val_reconstruction_error: 52.6888 - val_regularization_error: 18.2992
Epoch 303/1000
120/120 [=====] - 25s 206ms/step - loss: 41.7090 - reconstruction_error: 22.2425 - regularization_error: 19.4664 - val_loss: 69.8227 - val_reconstruction_error: 51.8027 - val_regularization_error: 18.0200
Epoch 304/1000
120/120 [=====] - 22s 186ms/step - loss: 41.6372 - reconstruction_error: 22.2450 - regularization_error: 19.3922 - val_loss: 68.8800 - val_reconstruction_error: 52.5171 - val_regularization_error: 16.3629
Epoch 305/1000
120/120 [=====] - 24s 203ms/step - loss: 41.8770 - reconstruction_error: 22.3781 - regularization_error: 19.4989 - val_loss: 69.5478 - val_reconstruction_error: 51.5785 - val_regularization_error: 17.9692
Epoch 306/1000
120/120 [=====] - 26s 213ms/step - loss: 42.1392 - reconstruction_error: 22.5686 - regularization_error: 19.5706 - val_loss: 71.0035 - val_reconstruction_error: 52.3622 - val_regularization_error: 18.6414
Epoch 307/1000
120/120 [=====] - 23s 195ms/step - loss: 41.6186 - reconstruction_error: 22.1854 - regularization_error: 19.4332 - val_loss: 70.1866 - val_reconstruction_error: 52.5727 - val_regularization_error: 17.6139
Epoch 308/1000
120/120 [=====] - 14s 118ms/step - loss: 41.7760 - reconstruction_error: 22.3528 - regularization_error: 19.4232 - val_loss: 69.1655 - val_reconstruction_error: 51.8897 - val_regularization_error: 17.2758
Epoch 309/1000
120/120 [=====] - 16s 132ms/step - loss: 41.7278 - reconstruction_error: 22.2762 - regularization_error: 19.4516 - val_loss: 70.5422 - val_reconstruction_error: 52.6135 - val_regularization_error: 17.9287
Epoch 310/1000
120/120 [=====] - 17s 138ms/step - loss: 41.8030 - reconstruction_error: 22.3638 - regularization_error: 19.4392 - val_loss: 69.0931 - val_reconstruction_error: 52.3928 - val_regularization_error: 16.7004
Epoch 311/1000
120/120 [=====] - ETA: 0s - loss: 41.8429 - reconstruction_error: 22.3343 - regularization_error: 19.5086
[2023-12-02 12:19:44.902079]: Reconstructing images for epoch 311 ...
```



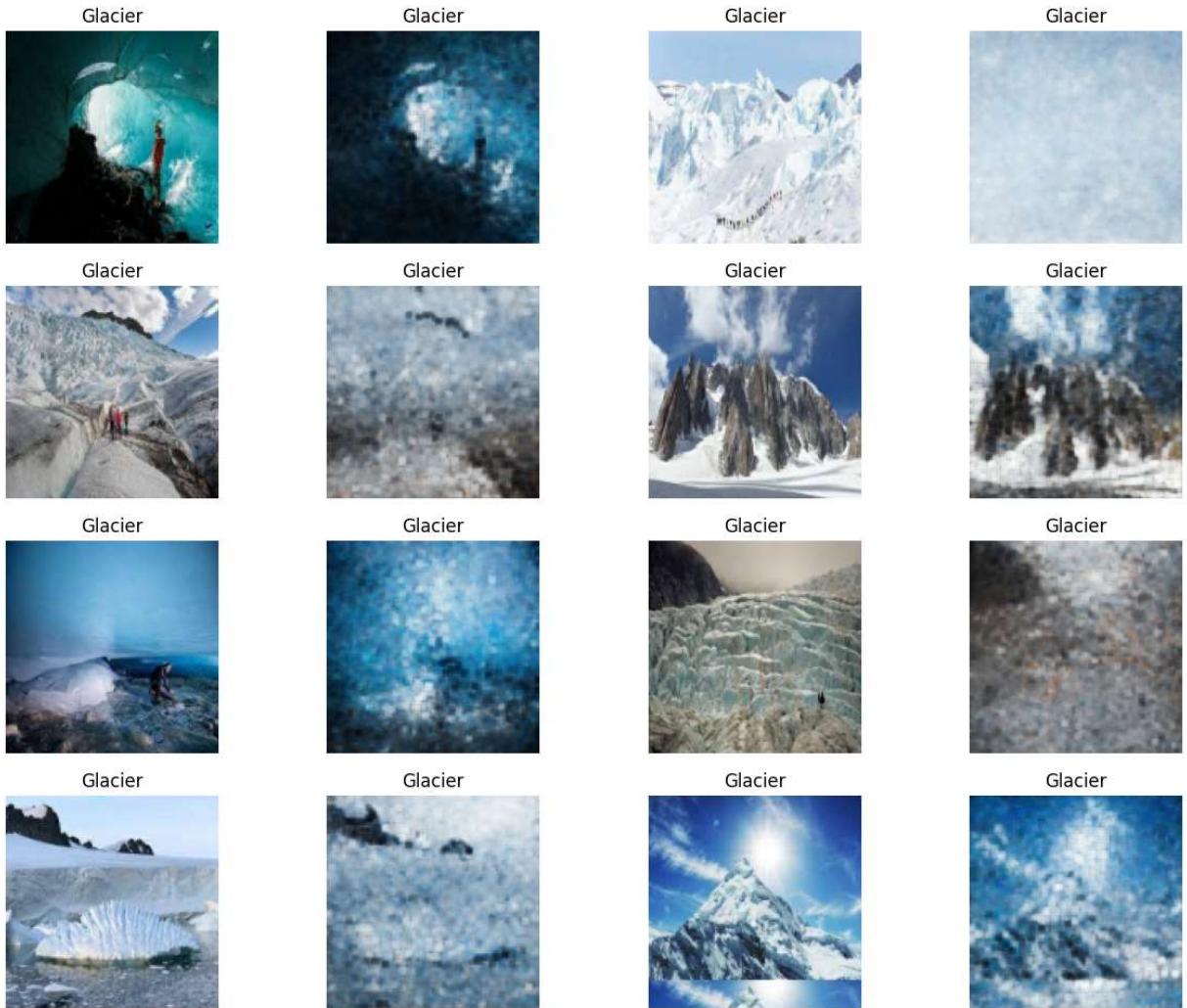
```
120/120 [=====] - 19s 160ms/step - loss: 41.8429 - reconstruction_error: 22.3343 - regularization_error: 19.5086 - val_loss: 70.9080 - val_reconstruction_error: 52.3135 - val_regularization_error: 18.5945
Epoch 312/1000
120/120 [=====] - 16s 137ms/step - loss: 41.4169 - reconstruction_error: 22.0594 - regularization_error: 19.3575 - val_loss: 71.2432 - val_reconstruction_error: 52.4137 - val_regularization_error: 18.8294
Epoch 313/1000
120/120 [=====] - 16s 134ms/step - loss: 41.9628 - reconstruction_error: 22.4301 - regularization_error: 19.5327 - val_loss: 72.1023 - val_reconstruction_error: 52.3806 - val_regularization_error: 19.7217
Epoch 314/1000
120/120 [=====] - 18s 148ms/step - loss: 41.6214 - reconstruction_error: 22.1489 - regularization_error: 19.4724 - val_loss: 68.6965 - val_reconstruction_error: 51.5717 - val_regularization_error: 17.1248
Epoch 315/1000
120/120 [=====] - 14s 116ms/step - loss: 41.6693 - reconstruction_error: 22.2089 - regularization_error: 19.4604 - val_loss: 71.2330 - val_reconstruction_error: 53.5376 - val_regularization_error: 17.6954
Epoch 316/1000
120/120 [=====] - 16s 135ms/step - loss: 41.3959 - reconstruction_error: 22.0268 - regularization_error: 19.3692 - val_loss: 70.7479 - val_reconstruction_error: 52.7065 - val_regularization_error: 18.0414
Epoch 317/1000
120/120 [=====] - 17s 141ms/step - loss: 41.8154 - reconstruction_error: 22.2340 - regularization_error: 19.5814 - val_loss: 68.9697 - val_reconstruction_error: 52.6646 - val_regularization_error: 16.3051
Epoch 318/1000
120/120 [=====] - 15s 125ms/step - loss: 41.3887 - reconstruction_error: 22.0493 - regularization_error: 19.3394 - val_loss: 71.3736 - val_reconstruction_error: 53.1580 - val_regularization_error: 18.2156
Epoch 319/1000
120/120 [=====] - 15s 124ms/step - loss: 41.4962 - reconstruction_error: 22.0100 - regularization_error: 19.4862 - val_loss: 68.9762 - val_reconstruction_error: 51.6474 - val_regularization_error: 17.3287
Epoch 320/1000
120/120 [=====] - 18s 152ms/step - loss: 41.3792 - reconstruction_error: 21.9836 - regularization_error: 19.3956 - val_loss: 70.1771 - val_reconstruction_error: 52.5433 - val_regularization_error: 17.6338
Epoch 321/1000
120/120 [=====] - ETA: 0s - loss: 41.3840 - reconstruction_error: 21.9915 - regularization_error: 19.3925
[2023-12-02 12:22:32.220677]: Reconstructing images for epoch 321 ...
```



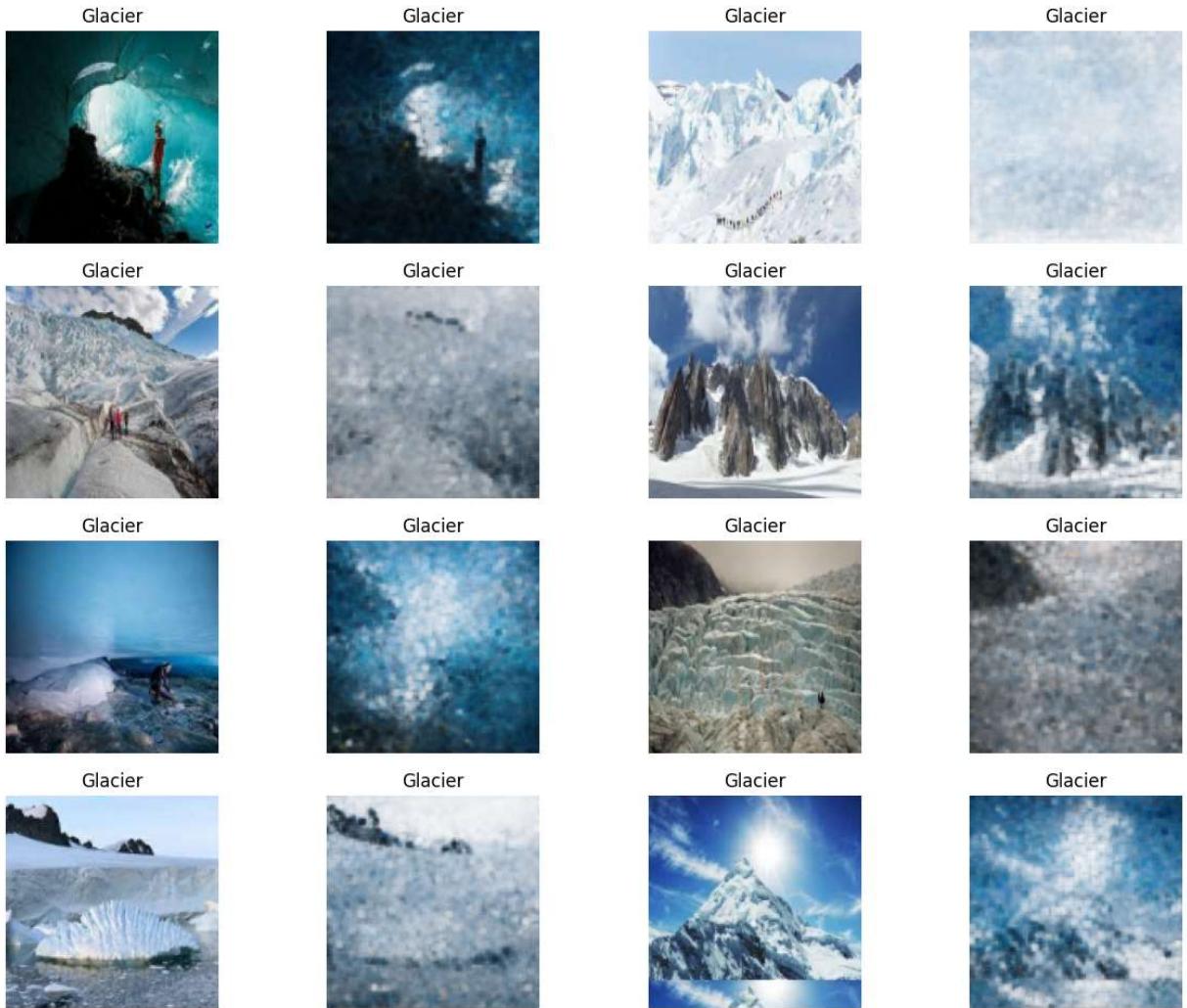
```
120/120 [=====] - 20s 163ms/step - loss: 41.3840 - reconstruction_error: 21.9915 - regularization_error: 19.3925 - val_loss: 70.8574 - val_reconstruction_error: 52.6793 - val_regularization_error: 18.1781
Epoch 322/1000
120/120 [=====] - 16s 131ms/step - loss: 41.5648 - reconstruction_error: 21.9259 - regularization_error: 19.6390 - val_loss: 69.2505 - val_reconstruction_error: 51.6776 - val_regularization_error: 17.5729
Epoch 323/1000
120/120 [=====] - 19s 156ms/step - loss: 41.5311 - reconstruction_error: 22.0624 - regularization_error: 19.4686 - val_loss: 71.3996 - val_reconstruction_error: 52.8574 - val_regularization_error: 18.5422
Epoch 324/1000
120/120 [=====] - 19s 157ms/step - loss: 41.4024 - reconstruction_error: 21.9161 - regularization_error: 19.4863 - val_loss: 70.4247 - val_reconstruction_error: 52.3539 - val_regularization_error: 18.0708
Epoch 325/1000
120/120 [=====] - 17s 140ms/step - loss: 41.0921 - reconstruction_error: 21.6610 - regularization_error: 19.4311 - val_loss: 70.3990 - val_reconstruction_error: 53.1117 - val_regularization_error: 17.2873
Epoch 326/1000
120/120 [=====] - 15s 126ms/step - loss: 41.5012 - reconstruction_error: 21.9984 - regularization_error: 19.5027 - val_loss: 71.3069 - val_reconstruction_error: 52.6025 - val_regularization_error: 18.7044
Epoch 327/1000
120/120 [=====] - 19s 156ms/step - loss: 41.3946 - reconstruction_error: 21.9323 - regularization_error: 19.4624 - val_loss: 69.7204 - val_reconstruction_error: 51.4552 - val_regularization_error: 18.2652
Epoch 328/1000
120/120 [=====] - 17s 132ms/step - loss: 41.1430 - reconstruction_error: 21.7205 - regularization_error: 19.4225 - val_loss: 69.9098 - val_reconstruction_error: 52.4288 - val_regularization_error: 17.4811
Epoch 329/1000
120/120 [=====] - 16s 130ms/step - loss: 41.2978 - reconstruction_error: 21.8270 - regularization_error: 19.4708 - val_loss: 70.4558 - val_reconstruction_error: 52.1664 - val_regularization_error: 18.2894
Epoch 330/1000
120/120 [=====] - 16s 133ms/step - loss: 41.1638 - reconstruction_error: 21.7301 - regularization_error: 19.4337 - val_loss: 70.1217 - val_reconstruction_error: 52.4907 - val_regularization_error: 17.6310
Epoch 331/1000
119/120 [=====.>.] - ETA: 0s - loss: 41.2483 - reconstruction_error: 21.8714 - regularization_error: 19.3769
[2023-12-02 12:25:24.913910]: Reconstructing images for epoch 331 ...
```



```
120/120 [=====] - 17s 141ms/step - loss: 41.2493 - reconstruction_error: 21.8702 - regularization_error: 19.3792 - val_loss: 70.2244 - val_reconstruction_error: 52.0979 - val_regularization_error: 18.1265
Epoch 332/1000
120/120 [=====] - 17s 139ms/step - loss: 41.2557 - reconstruction_error: 21.7506 - regularization_error: 19.5051 - val_loss: 70.4634 - val_reconstruction_error: 52.2829 - val_regularization_error: 18.1805
Epoch 333/1000
120/120 [=====] - 18s 145ms/step - loss: 41.3805 - reconstruction_error: 21.9416 - regularization_error: 19.4389 - val_loss: 70.4295 - val_reconstruction_error: 52.2050 - val_regularization_error: 18.2245
Epoch 334/1000
120/120 [=====] - 16s 129ms/step - loss: 41.5009 - reconstruction_error: 22.0257 - regularization_error: 19.4752 - val_loss: 71.5385 - val_reconstruction_error: 52.1113 - val_regularization_error: 19.4272
Epoch 335/1000
120/120 [=====] - 13s 108ms/step - loss: 41.0847 - reconstruction_error: 21.6992 - regularization_error: 19.3855 - val_loss: 70.2698 - val_reconstruction_error: 52.3188 - val_regularization_error: 17.9510
Epoch 336/1000
120/120 [=====] - 16s 133ms/step - loss: 41.1485 - reconstruction_error: 21.7013 - regularization_error: 19.4472 - val_loss: 72.1112 - val_reconstruction_error: 54.7026 - val_regularization_error: 17.4085
Epoch 337/1000
120/120 [=====] - 18s 149ms/step - loss: 40.9119 - reconstruction_error: 21.5679 - regularization_error: 19.3440 - val_loss: 70.8240 - val_reconstruction_error: 53.2213 - val_regularization_error: 17.6027
Epoch 338/1000
120/120 [=====] - 16s 134ms/step - loss: 41.1960 - reconstruction_error: 21.7507 - regularization_error: 19.4453 - val_loss: 70.7202 - val_reconstruction_error: 52.2334 - val_regularization_error: 18.4867
Epoch 339/1000
120/120 [=====] - 13s 109ms/step - loss: 40.8912 - reconstruction_error: 21.4075 - regularization_error: 19.4837 - val_loss: 70.4918 - val_reconstruction_error: 52.4364 - val_regularization_error: 18.0554
Epoch 340/1000
120/120 [=====] - 17s 137ms/step - loss: 40.9703 - reconstruction_error: 21.5315 - regularization_error: 19.4387 - val_loss: 69.2819 - val_reconstruction_error: 51.8479 - val_regularization_error: 17.4340
Epoch 341/1000
119/120 [=====.>.] - ETA: 0s - loss: 41.2118 - reconstruction_error: 21.7234 - regularization_error: 19.4884
[2023-12-02 12:28:11.267287]: Reconstructing images for epoch 341 ...
```



```
120/120 [=====] - 20s 170ms/step - loss: 41.2084 - reconstruction_error: 21.7165 - regularization_error: 19.4920 - val_loss: 70.5837 - val_reconstruction_error: 52.8951 - val_regularization_error: 17.6886
Epoch 342/1000
120/120 [=====] - 18s 146ms/step - loss: 40.9439 - reconstruction_error: 21.4335 - regularization_error: 19.5104 - val_loss: 70.7912 - val_reconstruction_error: 52.5552 - val_regularization_error: 18.2360
Epoch 343/1000
120/120 [=====] - 14s 120ms/step - loss: 40.9056 - reconstruction_error: 21.4639 - regularization_error: 19.4418 - val_loss: 70.2641 - val_reconstruction_error: 52.3417 - val_regularization_error: 17.9224
Epoch 344/1000
120/120 [=====] - 18s 145ms/step - loss: 41.0713 - reconstruction_error: 21.6207 - regularization_error: 19.4506 - val_loss: 69.9679 - val_reconstruction_error: 52.5007 - val_regularization_error: 17.4673
Epoch 345/1000
120/120 [=====] - 16s 136ms/step - loss: 40.8912 - reconstruction_error: 21.4335 - regularization_error: 19.4577 - val_loss: 70.3304 - val_reconstruction_error: 52.6668 - val_regularization_error: 17.6636
Epoch 346/1000
120/120 [=====] - 18s 145ms/step - loss: 40.7671 - reconstruction_error: 21.3017 - regularization_error: 19.4654 - val_loss: 69.0418 - val_reconstruction_error: 52.5667 - val_regularization_error: 16.4751
Epoch 347/1000
120/120 [=====] - 17s 136ms/step - loss: 40.9195 - reconstruction_error: 21.4230 - regularization_error: 19.4965 - val_loss: 69.6324 - val_reconstruction_error: 51.9644 - val_regularization_error: 17.6680
Epoch 348/1000
120/120 [=====] - 16s 135ms/step - loss: 40.8497 - reconstruction_error: 21.4355 - regularization_error: 19.4142 - val_loss: 71.0320 - val_reconstruction_error: 52.8178 - val_regularization_error: 18.2141
Epoch 349/1000
120/120 [=====] - 18s 152ms/step - loss: 40.7535 - reconstruction_error: 21.2940 - regularization_error: 19.4594 - val_loss: 70.5657 - val_reconstruction_error: 52.4544 - val_regularization_error: 18.1113
Epoch 350/1000
120/120 [=====] - 16s 132ms/step - loss: 40.8795 - reconstruction_error: 21.4644 - regularization_error: 19.4151 - val_loss: 71.2208 - val_reconstruction_error: 53.5640 - val_regularization_error: 17.6568
Epoch 351/1000
120/120 [=====] - ETA: 0s - loss: 40.8494 - reconstruction_error: 21.4576 - regularization_error: 19.3918
[2023-12-02 12:31:01.697072]: Reconstructing images for epoch 351 ...
```



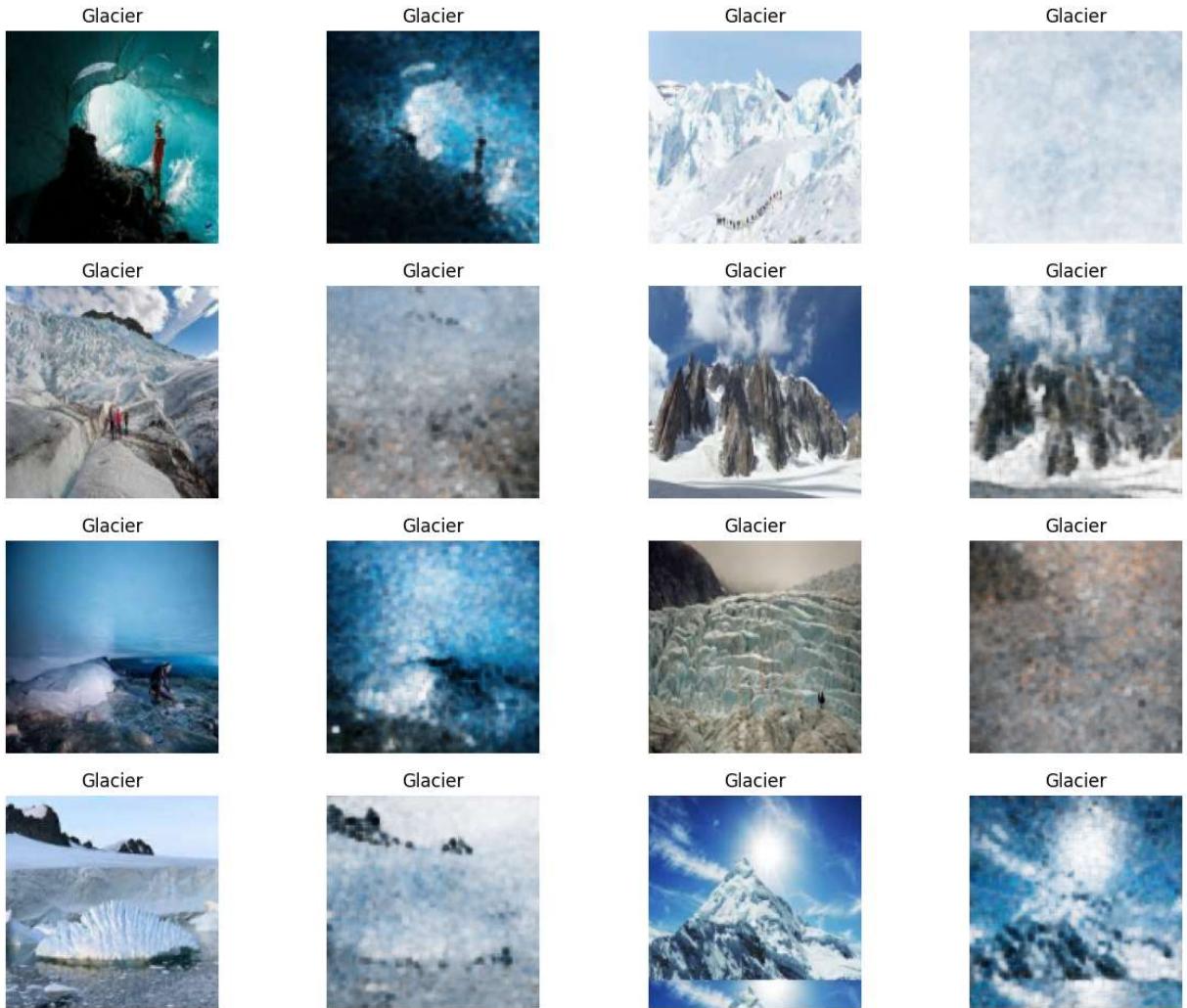
```
120/120 [=====] - 17s 144ms/step - loss: 40.8494 - reconstruction_error: 21.4576 - regularization_error: 19.3918 - val_loss: 68.6571 - val_reconstruction_error: 52.4886 - val_regularization_error: 16.1684
Epoch 352/1000
120/120 [=====] - 15s 121ms/step - loss: 40.7940 - reconstruction_error: 21.3476 - regularization_error: 19.4464 - val_loss: 71.1399 - val_reconstruction_error: 51.9725 - val_regularization_error: 19.1674
Epoch 353/1000
120/120 [=====] - 16s 130ms/step - loss: 40.8233 - reconstruction_error: 21.4090 - regularization_error: 19.4143 - val_loss: 70.1301 - val_reconstruction_error: 52.7938 - val_regularization_error: 17.3363
Epoch 354/1000
120/120 [=====] - 18s 149ms/step - loss: 40.8801 - reconstruction_error: 21.5482 - regularization_error: 19.3319 - val_loss: 72.4885 - val_reconstruction_error: 54.4709 - val_regularization_error: 18.0176
Epoch 355/1000
120/120 [=====] - 16s 129ms/step - loss: 40.9722 - reconstruction_error: 21.4010 - regularization_error: 19.5713 - val_loss: 70.8300 - val_reconstruction_error: 52.6756 - val_regularization_error: 18.1544
Epoch 356/1000
120/120 [=====] - 17s 145ms/step - loss: 40.5049 - reconstruction_error: 21.1672 - regularization_error: 19.3377 - val_loss: 69.8905 - val_reconstruction_error: 51.6678 - val_regularization_error: 18.2227
Epoch 357/1000
120/120 [=====] - 16s 134ms/step - loss: 40.8354 - reconstruction_error: 21.3791 - regularization_error: 19.4563 - val_loss: 70.7177 - val_reconstruction_error: 52.1236 - val_regularization_error: 18.5941
Epoch 358/1000
120/120 [=====] - 16s 132ms/step - loss: 40.7426 - reconstruction_error: 21.0476 - regularization_error: 19.6950 - val_loss: 70.5833 - val_reconstruction_error: 52.3660 - val_regularization_error: 18.2173
Epoch 359/1000
120/120 [=====] - 15s 127ms/step - loss: 40.4822 - reconstruction_error: 21.2190 - regularization_error: 19.2631 - val_loss: 70.0431 - val_reconstruction_error: 53.0078 - val_regularization_error: 17.0353
Epoch 360/1000
120/120 [=====] - 14s 117ms/step - loss: 40.6005 - reconstruction_error: 21.2039 - regularization_error: 19.3965 - val_loss: 69.9627 - val_reconstruction_error: 52.5013 - val_regularization_error: 17.4614
Epoch 361/1000
120/120 [=====] - ETA: 0s - loss: 40.5016 - reconstruction_error: 21.1428 - regularization_error: 19.3588
[2023-12-02 12:33:50.839078]: Reconstructing images for epoch 361 ...
```



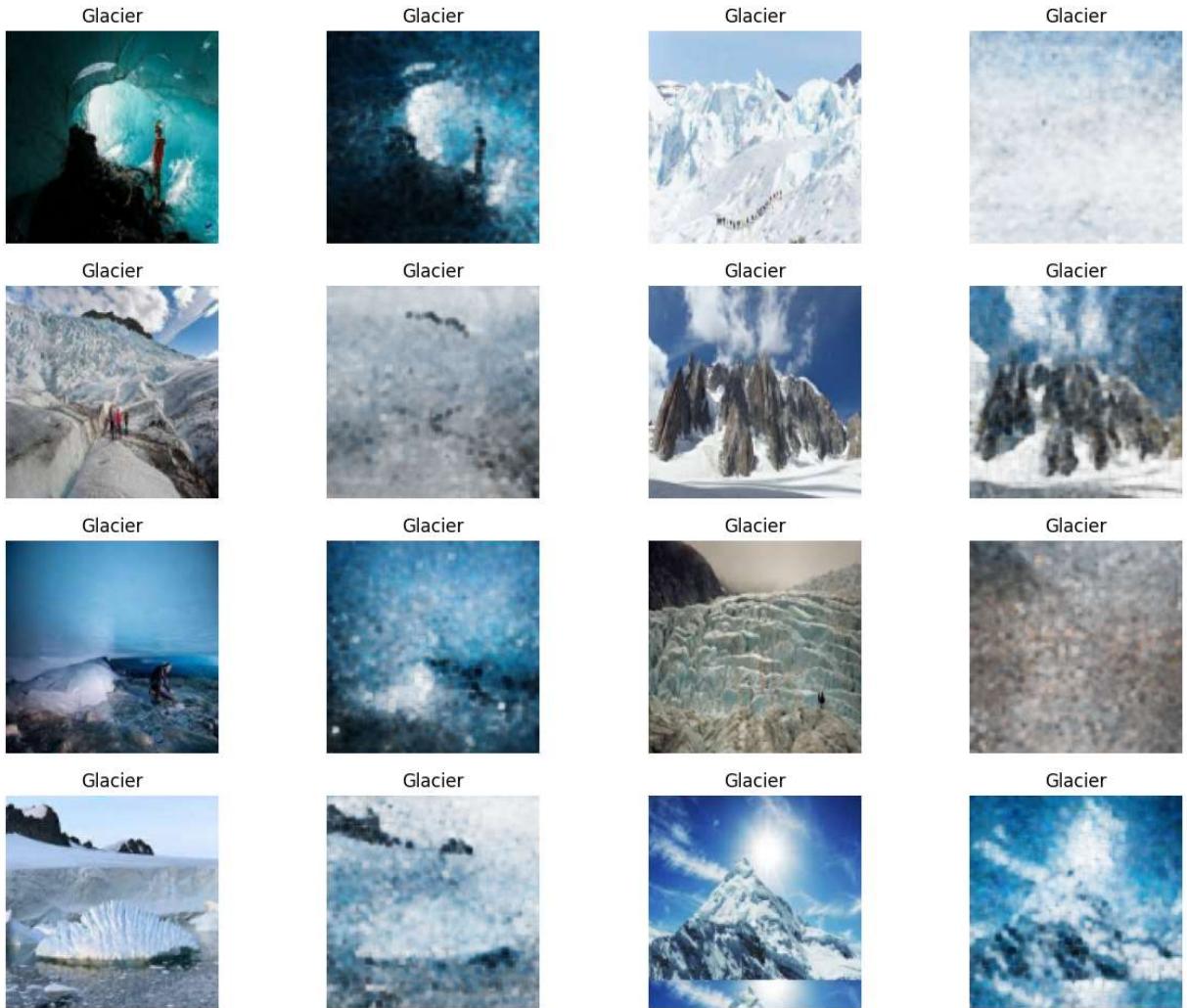
```
120/120 [=====] - 21s 175ms/step - loss: 40.5016 - reconstruction_error: 21.1428 - regularization_error: 19.3588 - val_loss: 70.9132 - val_reconstruction_error: 53.1780 - val_regularization_error: 17.7352
Epoch 362/1000
120/120 [=====] - 17s 146ms/step - loss: 40.3228 - reconstruction_error: 21.0078 - regularization_error: 19.3150 - val_loss: 71.2924 - val_reconstruction_error: 53.2650 - val_regularization_error: 18.0273
Epoch 363/1000
120/120 [=====] - 17s 142ms/step - loss: 40.6237 - reconstruction_error: 21.1549 - regularization_error: 19.4688 - val_loss: 70.2201 - val_reconstruction_error: 52.2273 - val_regularization_error: 17.9928
Epoch 364/1000
120/120 [=====] - 14s 113ms/step - loss: 40.9564 - reconstruction_error: 21.4519 - regularization_error: 19.5045 - val_loss: 70.3130 - val_reconstruction_error: 52.6937 - val_regularization_error: 17.6193
Epoch 365/1000
120/120 [=====] - 15s 127ms/step - loss: 40.6607 - reconstruction_error: 21.1453 - regularization_error: 19.5154 - val_loss: 71.2792 - val_reconstruction_error: 52.8110 - val_regularization_error: 18.4682
Epoch 366/1000
120/120 [=====] - 15s 126ms/step - loss: 41.0690 - reconstruction_error: 21.4932 - regularization_error: 19.5758 - val_loss: 71.5169 - val_reconstruction_error: 53.8276 - val_regularization_error: 17.6893
Epoch 367/1000
120/120 [=====] - 14s 113ms/step - loss: 40.8275 - reconstruction_error: 21.3188 - regularization_error: 19.5087 - val_loss: 70.8027 - val_reconstruction_error: 51.9754 - val_regularization_error: 18.8272
Epoch 368/1000
120/120 [=====] - 17s 143ms/step - loss: 40.4028 - reconstruction_error: 20.8761 - regularization_error: 19.5267 - val_loss: 69.3094 - val_reconstruction_error: 51.9903 - val_regularization_error: 17.3192
Epoch 369/1000
120/120 [=====] - 16s 131ms/step - loss: 40.3703 - reconstruction_error: 20.9998 - regularization_error: 19.3705 - val_loss: 69.1953 - val_reconstruction_error: 52.4227 - val_regularization_error: 16.7726
Epoch 370/1000
120/120 [=====] - 15s 119ms/step - loss: 40.4962 - reconstruction_error: 21.0601 - regularization_error: 19.4360 - val_loss: 69.8906 - val_reconstruction_error: 51.9401 - val_regularization_error: 17.9505
Epoch 371/1000
120/120 [=====] - ETA: 0s - loss: 40.3883 - reconstruction_error: 21.0327 - regularization_error: 19.3556
[2023-12-02 12:36:31.250884]: Reconstructing images for epoch 371 ...
```



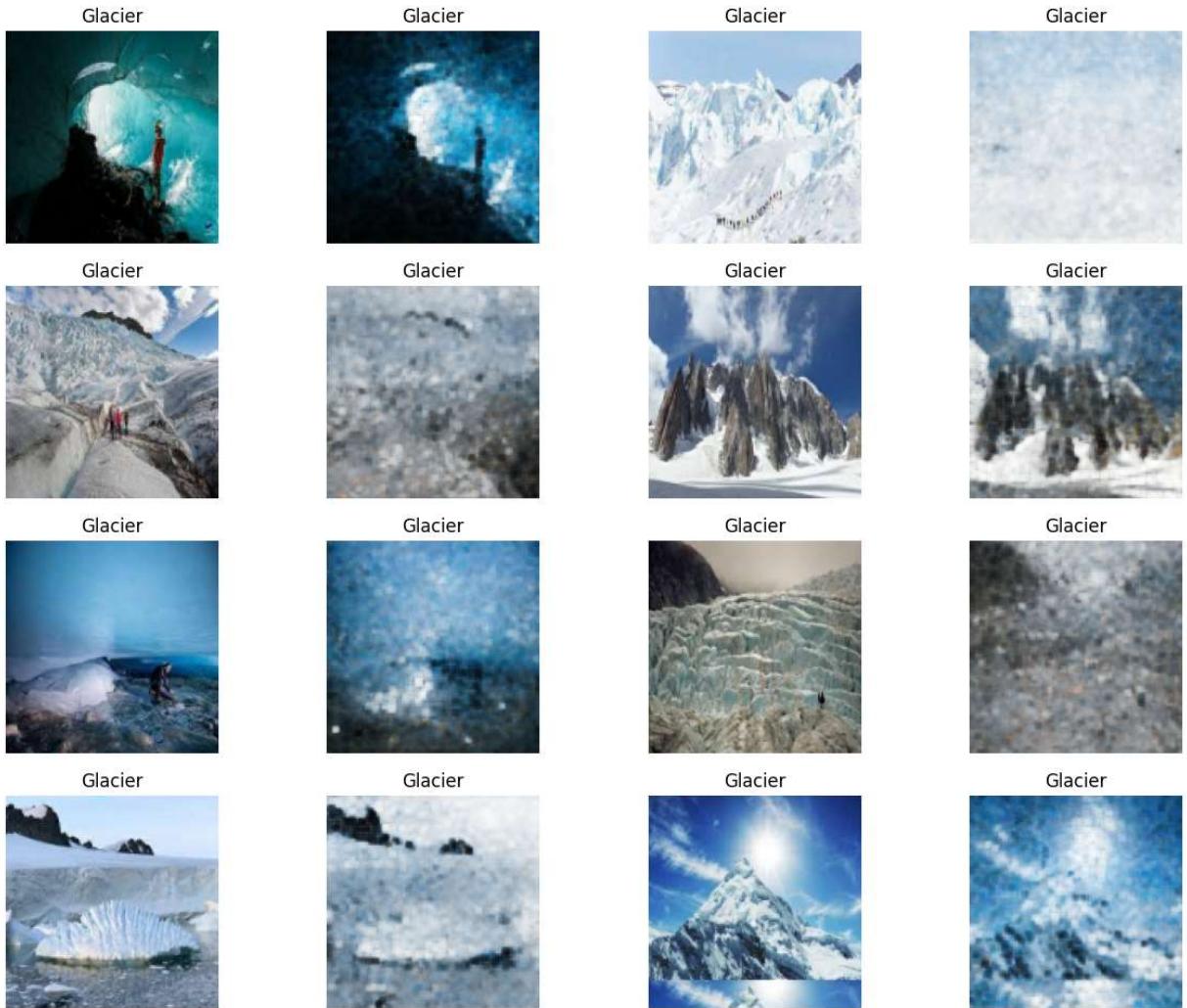
```
120/120 [=====] - 18s 149ms/step - loss: 40.3883 - reconstruction_error: 21.0327 - regularization_error: 19.3556 - val_loss: 70.4400 - val_reconstruction_error: 52.4068 - val_regularization_error: 18.0332
Epoch 372/1000
120/120 [=====] - 18s 150ms/step - loss: 40.6432 - reconstruction_error: 21.0389 - regularization_error: 19.6043 - val_loss: 69.9152 - val_reconstruction_error: 52.1271 - val_regularization_error: 17.7881
Epoch 373/1000
120/120 [=====] - 13s 109ms/step - loss: 40.4722 - reconstruction_error: 21.0913 - regularization_error: 19.3808 - val_loss: 70.7336 - val_reconstruction_error: 51.9638 - val_regularization_error: 18.7698
Epoch 374/1000
120/120 [=====] - 16s 136ms/step - loss: 40.3861 - reconstruction_error: 20.8559 - regularization_error: 19.5302 - val_loss: 70.7059 - val_reconstruction_error: 51.9981 - val_regularization_error: 18.7079
Epoch 375/1000
120/120 [=====] - 19s 158ms/step - loss: 40.3350 - reconstruction_error: 20.9609 - regularization_error: 19.3741 - val_loss: 70.7900 - val_reconstruction_error: 53.4697 - val_regularization_error: 17.3203
Epoch 376/1000
120/120 [=====] - 13s 107ms/step - loss: 40.4519 - reconstruction_error: 21.0059 - regularization_error: 19.4460 - val_loss: 70.2605 - val_reconstruction_error: 52.6167 - val_regularization_error: 17.6438
Epoch 377/1000
120/120 [=====] - 13s 107ms/step - loss: 40.3500 - reconstruction_error: 20.9146 - regularization_error: 19.4353 - val_loss: 69.5253 - val_reconstruction_error: 51.9258 - val_regularization_error: 17.5995
Epoch 378/1000
120/120 [=====] - 17s 138ms/step - loss: 40.1791 - reconstruction_error: 20.7618 - regularization_error: 19.4173 - val_loss: 68.8506 - val_reconstruction_error: 52.4511 - val_regularization_error: 16.3995
Epoch 379/1000
120/120 [=====] - 17s 140ms/step - loss: 40.3119 - reconstruction_error: 20.8332 - regularization_error: 19.4787 - val_loss: 69.5793 - val_reconstruction_error: 52.6174 - val_regularization_error: 16.9619
Epoch 380/1000
120/120 [=====] - 17s 141ms/step - loss: 40.4710 - reconstruction_error: 20.8868 - regularization_error: 19.5842 - val_loss: 69.9318 - val_reconstruction_error: 52.1785 - val_regularization_error: 17.7532
Epoch 381/1000
120/120 [=====] - ETA: 0s - loss: 40.1436 - reconstruction_error: 20.7964 - regularization_error: 19.3472
[2023-12-02 12:39:23.255767]: Reconstructing images for epoch 381 ...
```



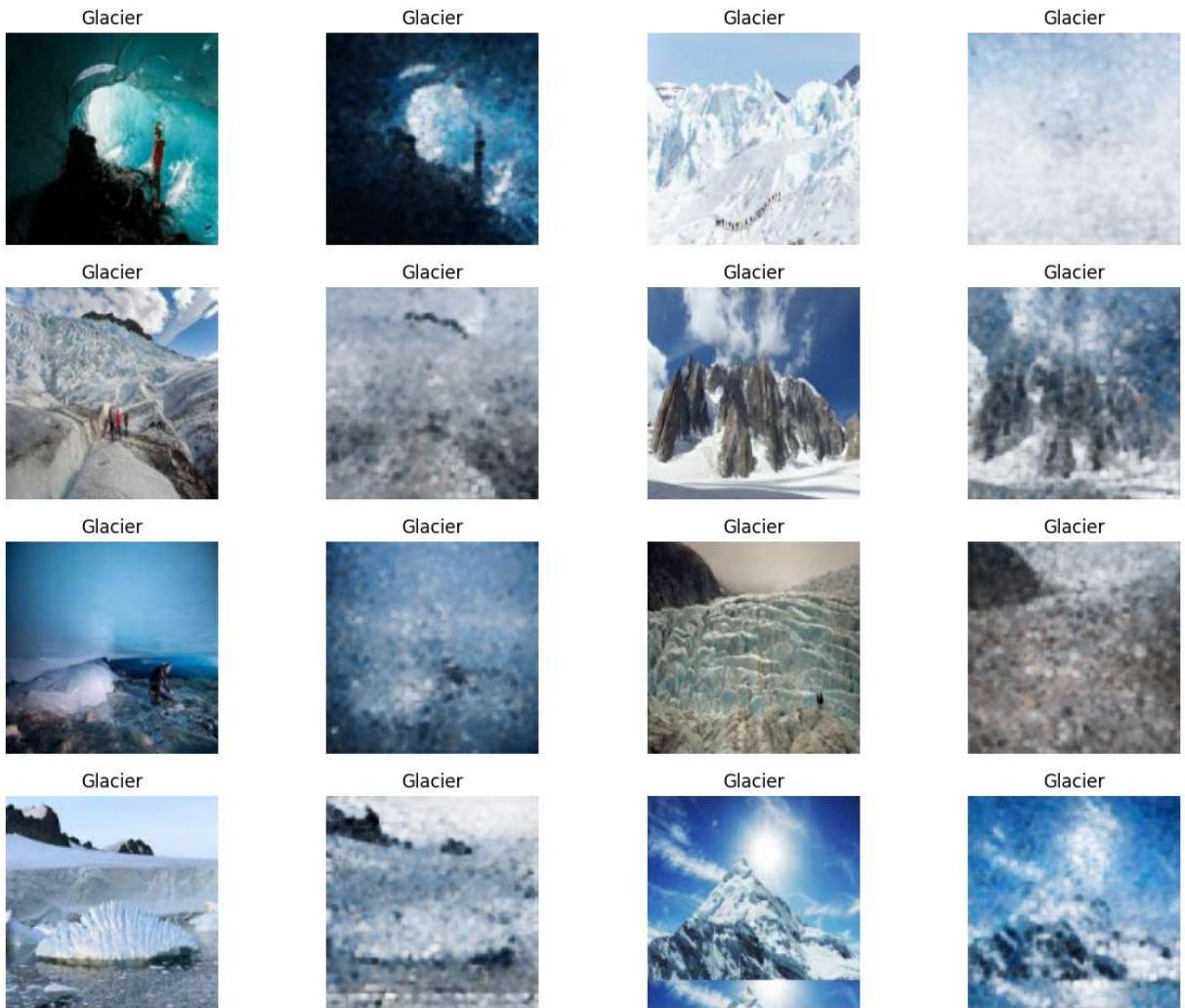
```
120/120 [=====] - 20s 163ms/step - loss: 40.1436 - reconstruction_error: 20.7964 - regularization_error: 19.3472 - val_loss: 71.1597 - val_reconstruction_error: 52.6362 - val_regularization_error: 18.5235
Epoch 382/1000
120/120 [=====] - 18s 147ms/step - loss: 40.2165 - reconstruction_error: 20.7554 - regularization_error: 19.4611 - val_loss: 70.8768 - val_reconstruction_error: 53.6804 - val_regularization_error: 17.1964
Epoch 383/1000
120/120 [=====] - 15s 124ms/step - loss: 40.2517 - reconstruction_error: 20.8420 - regularization_error: 19.4096 - val_loss: 70.2830 - val_reconstruction_error: 52.8770 - val_regularization_error: 17.4059
Epoch 384/1000
120/120 [=====] - 21s 174ms/step - loss: 40.2384 - reconstruction_error: 20.7031 - regularization_error: 19.5352 - val_loss: 69.7973 - val_reconstruction_error: 52.2675 - val_regularization_error: 17.5298
Epoch 385/1000
120/120 [=====] - 18s 148ms/step - loss: 40.1005 - reconstruction_error: 20.7208 - regularization_error: 19.3797 - val_loss: 70.2627 - val_reconstruction_error: 52.3279 - val_regularization_error: 17.9348
Epoch 386/1000
120/120 [=====] - 20s 165ms/step - loss: 40.1578 - reconstruction_error: 20.7316 - regularization_error: 19.4262 - val_loss: 70.3019 - val_reconstruction_error: 53.3330 - val_regularization_error: 16.9689
Epoch 387/1000
120/120 [=====] - 19s 160ms/step - loss: 40.2911 - reconstruction_error: 20.8815 - regularization_error: 19.4096 - val_loss: 70.1795 - val_reconstruction_error: 52.1260 - val_regularization_error: 18.0534
Epoch 388/1000
120/120 [=====] - 19s 151ms/step - loss: 40.1193 - reconstruction_error: 20.6723 - regularization_error: 19.4470 - val_loss: 71.7943 - val_reconstruction_error: 52.2625 - val_regularization_error: 19.5319
Epoch 389/1000
120/120 [=====] - 14s 112ms/step - loss: 40.1697 - reconstruction_error: 20.7760 - regularization_error: 19.3937 - val_loss: 70.0023 - val_reconstruction_error: 52.5969 - val_regularization_error: 17.4054
Epoch 390/1000
120/120 [=====] - 15s 120ms/step - loss: 40.2448 - reconstruction_error: 20.7731 - regularization_error: 19.4717 - val_loss: 70.5746 - val_reconstruction_error: 54.1027 - val_regularization_error: 16.4719
Epoch 391/1000
120/120 [=====] - ETA: 0s - loss: 40.2096 - reconstruction_error: 20.8281 - regularization_error: 19.3815
[2023-12-02 12:42:23.239872]: Reconstructing images for epoch 391 ...
```



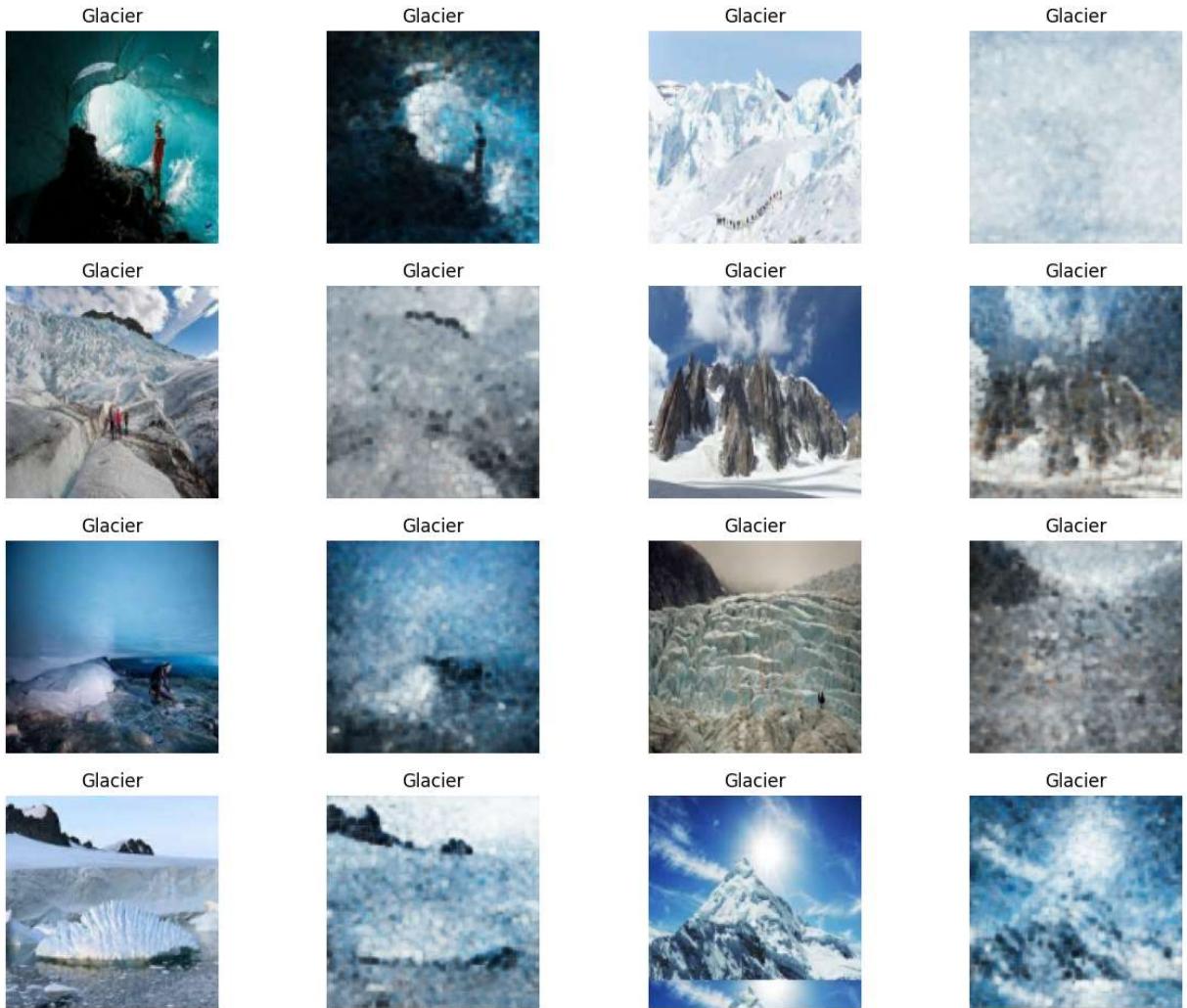
```
120/120 [=====] - 20s 162ms/step - loss: 40.2096 - reconstruction_error: 20.8281 - regularization_error: 19.3815 - val_loss: 70.9692 - val_reconstruction_error: 53.6540 - val_regularization_error: 17.3152
Epoch 392/1000
120/120 [=====] - 13s 105ms/step - loss: 40.1150 - reconstruction_error: 20.5898 - regularization_error: 19.5251 - val_loss: 70.7194 - val_reconstruction_error: 53.3442 - val_regularization_error: 17.3752
Epoch 393/1000
120/120 [=====] - 17s 140ms/step - loss: 40.0562 - reconstruction_error: 20.6451 - regularization_error: 19.4111 - val_loss: 71.6609 - val_reconstruction_error: 53.6052 - val_regularization_error: 18.0557
Epoch 394/1000
120/120 [=====] - 19s 155ms/step - loss: 39.9196 - reconstruction_error: 20.4503 - regularization_error: 19.4693 - val_loss: 69.4397 - val_reconstruction_error: 52.4363 - val_regularization_error: 17.0034
Epoch 395/1000
120/120 [=====] - 16s 130ms/step - loss: 39.7973 - reconstruction_error: 20.5017 - regularization_error: 19.2956 - val_loss: 70.3760 - val_reconstruction_error: 53.0479 - val_regularization_error: 17.3281
Epoch 396/1000
120/120 [=====] - 14s 117ms/step - loss: 40.0544 - reconstruction_error: 20.6525 - regularization_error: 19.4019 - val_loss: 69.5857 - val_reconstruction_error: 52.2016 - val_regularization_error: 17.3841
Epoch 397/1000
120/120 [=====] - 14s 110ms/step - loss: 40.1468 - reconstruction_error: 20.6910 - regularization_error: 19.4559 - val_loss: 70.2579 - val_reconstruction_error: 52.6337 - val_regularization_error: 17.6243
Epoch 398/1000
120/120 [=====] - 16s 131ms/step - loss: 39.9843 - reconstruction_error: 20.6079 - regularization_error: 19.3764 - val_loss: 70.6343 - val_reconstruction_error: 52.5042 - val_regularization_error: 18.1300
Epoch 399/1000
120/120 [=====] - 14s 116ms/step - loss: 39.9342 - reconstruction_error: 20.4230 - regularization_error: 19.5112 - val_loss: 70.0850 - val_reconstruction_error: 52.5576 - val_regularization_error: 17.5274
Epoch 400/1000
120/120 [=====] - 17s 138ms/step - loss: 39.8148 - reconstruction_error: 20.4124 - regularization_error: 19.4023 - val_loss: 70.7105 - val_reconstruction_error: 52.9454 - val_regularization_error: 17.7651
Epoch 401/1000
119/120 [=====.>.] - ETA: 0s - loss: 40.0204 - reconstruction_error: 20.5982 - regularization_error: 19.4223
[2023-12-02 12:45:05.723596]: Reconstructing images for epoch 401 ...
```



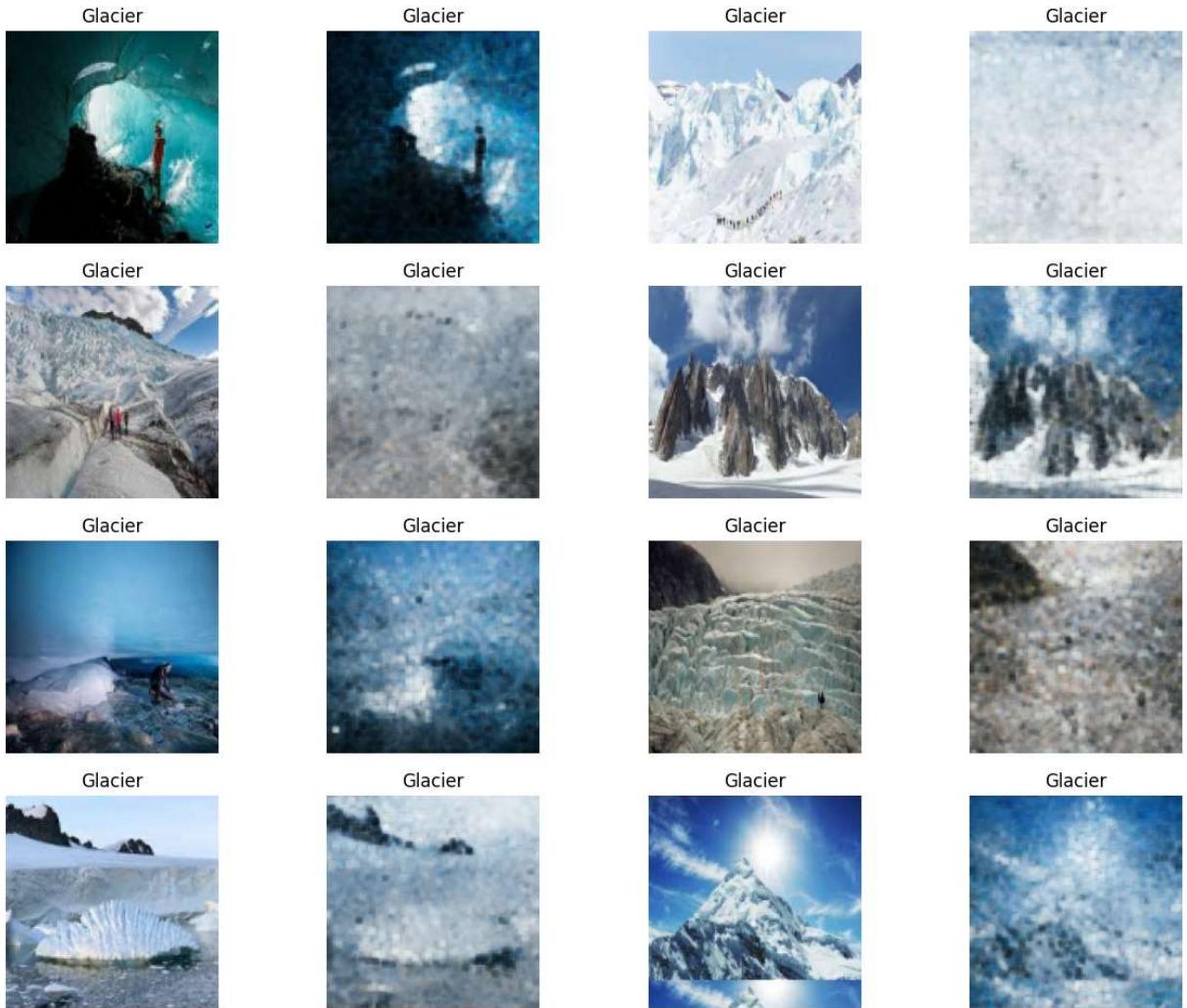
```
120/120 [=====] - 21s 173ms/step - loss: 40.0367 - reconstruction_error: 20.6115 - regularization_error: 19.4253 - val_loss: 71.8717 - val_reconstruction_error: 53.4885 - val_regularization_error: 18.3832
Epoch 402/1000
120/120 [=====] - 14s 119ms/step - loss: 40.1623 - reconstruction_error: 20.6309 - regularization_error: 19.5314 - val_loss: 70.6487 - val_reconstruction_error: 53.6014 - val_regularization_error: 17.0473
Epoch 403/1000
120/120 [=====] - 17s 141ms/step - loss: 39.9620 - reconstruction_error: 20.5965 - regularization_error: 19.3654 - val_loss: 70.1562 - val_reconstruction_error: 52.0680 - val_regularization_error: 18.0883
Epoch 404/1000
120/120 [=====] - 18s 154ms/step - loss: 39.8185 - reconstruction_error: 20.3249 - regularization_error: 19.4936 - val_loss: 70.1802 - val_reconstruction_error: 52.4069 - val_regularization_error: 17.7733
Epoch 405/1000
120/120 [=====] - 14s 114ms/step - loss: 39.8826 - reconstruction_error: 20.5503 - regularization_error: 19.3323 - val_loss: 71.1998 - val_reconstruction_error: 53.8267 - val_regularization_error: 17.3730
Epoch 406/1000
120/120 [=====] - 15s 121ms/step - loss: 40.0151 - reconstruction_error: 20.4551 - regularization_error: 19.5599 - val_loss: 70.3538 - val_reconstruction_error: 52.4840 - val_regularization_error: 17.8698
Epoch 407/1000
120/120 [=====] - 18s 151ms/step - loss: 39.9069 - reconstruction_error: 20.4047 - regularization_error: 19.5023 - val_loss: 70.4400 - val_reconstruction_error: 52.7897 - val_regularization_error: 17.6503
Epoch 408/1000
120/120 [=====] - 18s 146ms/step - loss: 39.8738 - reconstruction_error: 20.4032 - regularization_error: 19.4706 - val_loss: 69.9389 - val_reconstruction_error: 52.8027 - val_regularization_error: 17.1363
Epoch 409/1000
120/120 [=====] - 18s 148ms/step - loss: 40.1283 - reconstruction_error: 20.5878 - regularization_error: 19.5405 - val_loss: 70.2654 - val_reconstruction_error: 52.6464 - val_regularization_error: 17.6190
Epoch 410/1000
120/120 [=====] - 13s 110ms/step - loss: 39.9014 - reconstruction_error: 20.5038 - regularization_error: 19.3976 - val_loss: 71.7015 - val_reconstruction_error: 53.6542 - val_regularization_error: 18.0472
Epoch 411/1000
120/120 [=====] - ETA: 0s - loss: 39.8751 - reconstruction_error: 20.2648 - regularization_error: 19.6103
[2023-12-02 12:47:50.927339]: Reconstructing images for epoch 411 ...
```



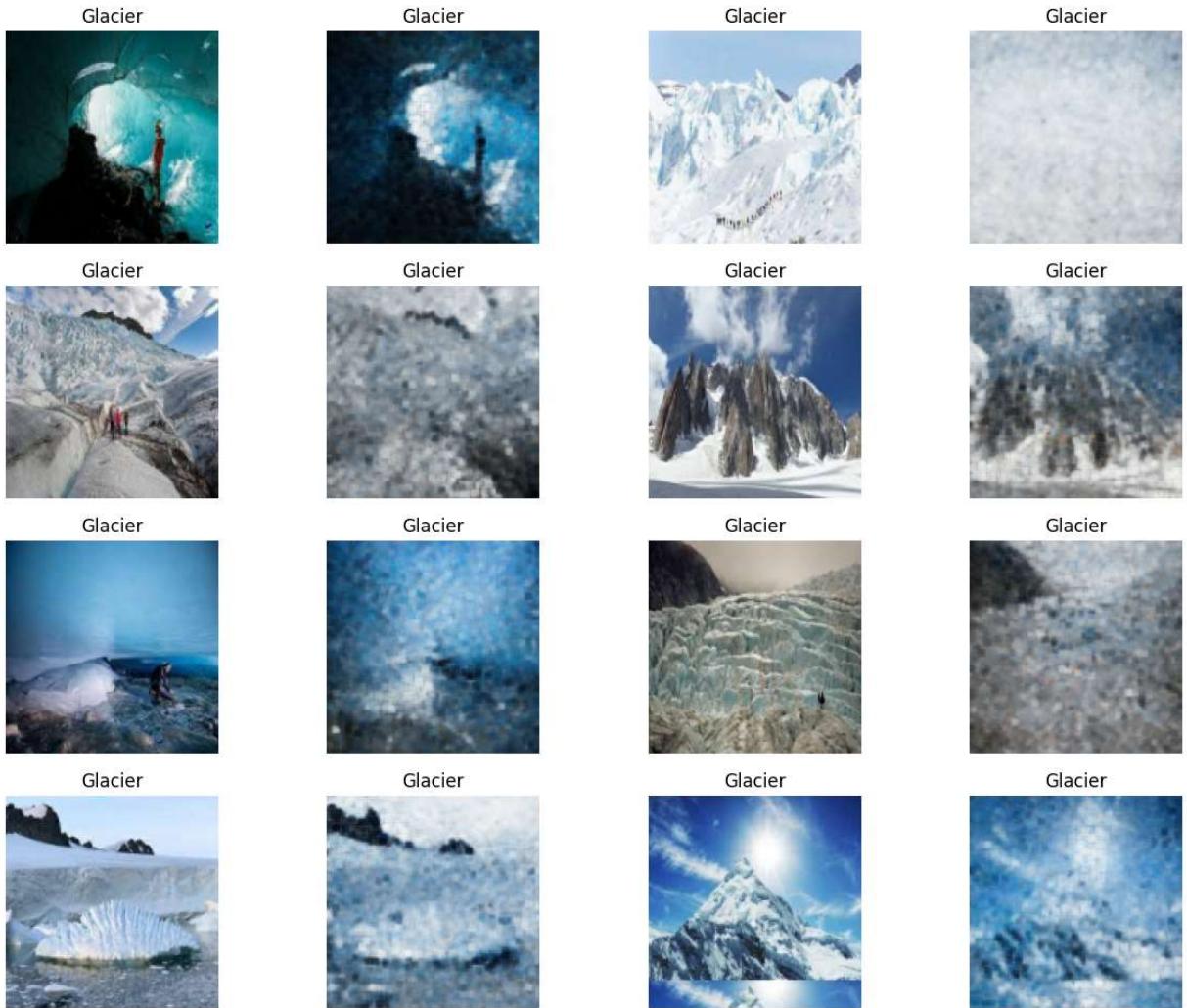
```
120/120 [=====] - 18s 147ms/step - loss: 39.8751 - reconstruction_error: 20.2648 - regularization_error: 19.6103 - val_loss: 71.2897 - val_reconstruction_error: 53.3445 - val_regularization_error: 17.9453
Epoch 412/1000
120/120 [=====] - 15s 125ms/step - loss: 39.7318 - reconstruction_error: 20.3724 - regularization_error: 19.3594 - val_loss: 69.7502 - val_reconstruction_error: 52.3355 - val_regularization_error: 17.4147
Epoch 413/1000
120/120 [=====] - 18s 148ms/step - loss: 39.9541 - reconstruction_error: 20.4681 - regularization_error: 19.4860 - val_loss: 71.5363 - val_reconstruction_error: 53.0097 - val_regularization_error: 18.5266
Epoch 414/1000
120/120 [=====] - 19s 157ms/step - loss: 39.9763 - reconstruction_error: 20.4814 - regularization_error: 19.4949 - val_loss: 70.9337 - val_reconstruction_error: 53.7198 - val_regularization_error: 17.2139
Epoch 415/1000
120/120 [=====] - 16s 135ms/step - loss: 39.8357 - reconstruction_error: 20.3274 - regularization_error: 19.5083 - val_loss: 71.0426 - val_reconstruction_error: 53.8527 - val_regularization_error: 17.1899
Epoch 416/1000
120/120 [=====] - 15s 125ms/step - loss: 39.8354 - reconstruction_error: 20.3727 - regularization_error: 19.4627 - val_loss: 70.5431 - val_reconstruction_error: 52.5207 - val_regularization_error: 18.0224
Epoch 417/1000
120/120 [=====] - 16s 134ms/step - loss: 39.6710 - reconstruction_error: 20.2164 - regularization_error: 19.4546 - val_loss: 69.8371 - val_reconstruction_error: 52.4632 - val_regularization_error: 17.3739
Epoch 418/1000
120/120 [=====] - 19s 157ms/step - loss: 39.8153 - reconstruction_error: 20.2815 - regularization_error: 19.5339 - val_loss: 70.1971 - val_reconstruction_error: 53.0243 - val_regularization_error: 17.1728
Epoch 419/1000
120/120 [=====] - 16s 131ms/step - loss: 39.6999 - reconstruction_error: 20.2701 - regularization_error: 19.4298 - val_loss: 70.1525 - val_reconstruction_error: 52.2075 - val_regularization_error: 17.9450
Epoch 420/1000
120/120 [=====] - 14s 115ms/step - loss: 39.6241 - reconstruction_error: 20.2114 - regularization_error: 19.4127 - val_loss: 70.2245 - val_reconstruction_error: 52.5532 - val_regularization_error: 17.6713
Epoch 421/1000
120/120 [=====] - ETA: 0s - loss: 39.5970 - reconstruction_error: 20.0994 - regularization_error: 19.4976
[2023-12-02 12:50:37.533779]: Reconstructing images for epoch 421 ...
```



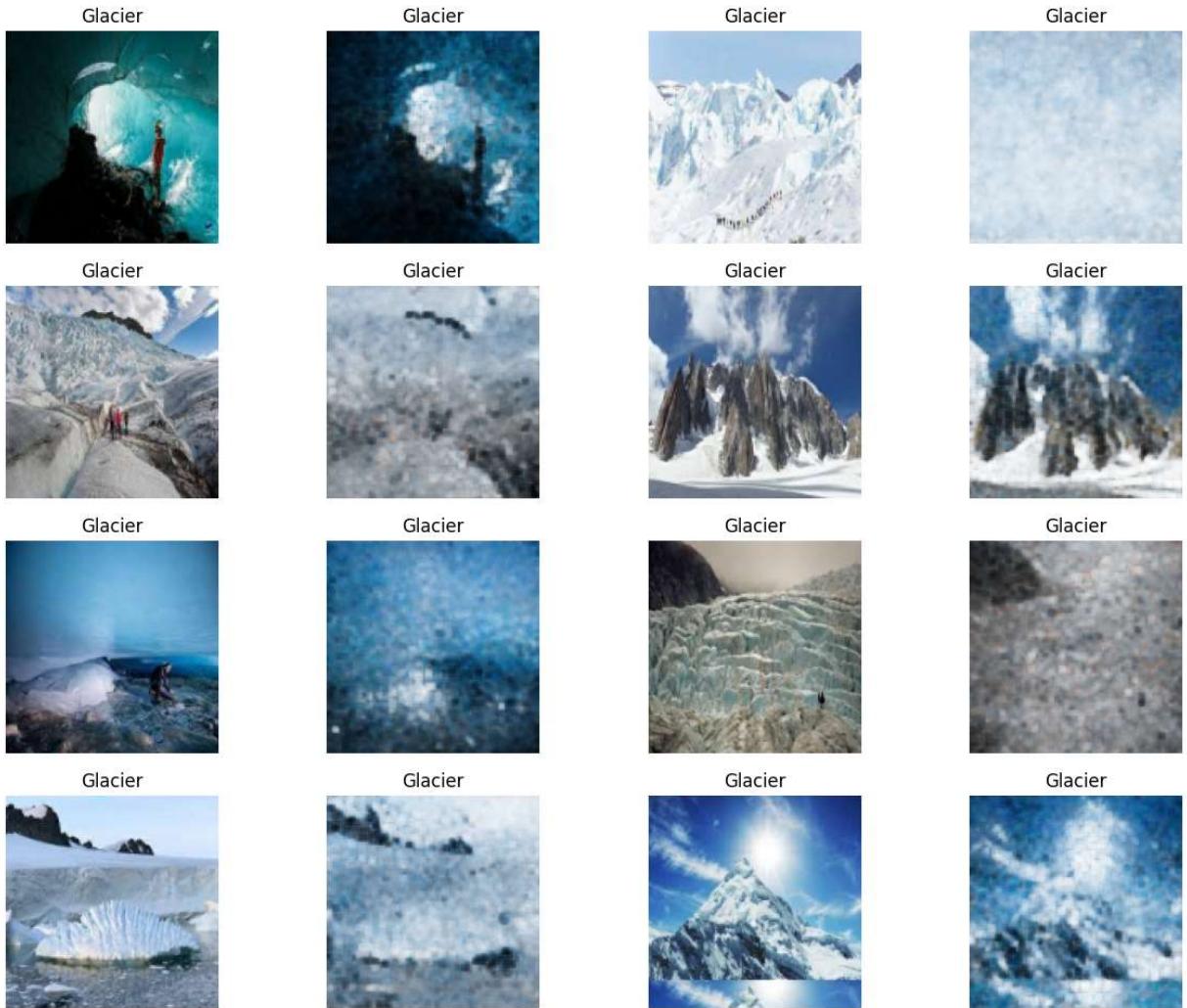
```
120/120 [=====] - 18s 150ms/step - loss: 39.5970 - reconstruction_error: 20.0994 - regularization_error: 19.4976 - val_loss: 70.9824 - val_reconstruction_error: 53.5696 - val_regularization_error: 17.4128
Epoch 422/1000
120/120 [=====] - 16s 130ms/step - loss: 39.6987 - reconstruction_error: 20.2857 - regularization_error: 19.4130 - val_loss: 71.0100 - val_reconstruction_error: 52.7331 - val_regularization_error: 18.2769
Epoch 423/1000
120/120 [=====] - 19s 154ms/step - loss: 39.5002 - reconstruction_error: 20.0708 - regularization_error: 19.4293 - val_loss: 72.2464 - val_reconstruction_error: 53.3885 - val_regularization_error: 18.8578
Epoch 424/1000
120/120 [=====] - 17s 144ms/step - loss: 39.7219 - reconstruction_error: 20.3563 - regularization_error: 19.3656 - val_loss: 71.7048 - val_reconstruction_error: 54.0317 - val_regularization_error: 17.6731
Epoch 425/1000
120/120 [=====] - 16s 131ms/step - loss: 39.3283 - reconstruction_error: 20.0200 - regularization_error: 19.3083 - val_loss: 70.7374 - val_reconstruction_error: 53.3148 - val_regularization_error: 17.4226
Epoch 426/1000
120/120 [=====] - 16s 130ms/step - loss: 39.6199 - reconstruction_error: 20.1850 - regularization_error: 19.4350 - val_loss: 69.6001 - val_reconstruction_error: 52.1756 - val_regularization_error: 17.4245
Epoch 427/1000
120/120 [=====] - 17s 141ms/step - loss: 39.4389 - reconstruction_error: 20.0578 - regularization_error: 19.3811 - val_loss: 71.4294 - val_reconstruction_error: 53.9577 - val_regularization_error: 17.4716
Epoch 428/1000
120/120 [=====] - 17s 138ms/step - loss: 39.4772 - reconstruction_error: 20.0534 - regularization_error: 19.4238 - val_loss: 69.9660 - val_reconstruction_error: 52.5147 - val_regularization_error: 17.4512
Epoch 429/1000
120/120 [=====] - 17s 145ms/step - loss: 39.4566 - reconstruction_error: 20.0600 - regularization_error: 19.3966 - val_loss: 70.1650 - val_reconstruction_error: 52.4753 - val_regularization_error: 17.6897
Epoch 430/1000
120/120 [=====] - 19s 155ms/step - loss: 39.3104 - reconstruction_error: 20.0010 - regularization_error: 19.3094 - val_loss: 71.6698 - val_reconstruction_error: 53.7870 - val_regularization_error: 17.8828
Epoch 431/1000
120/120 [=====] - ETA: 0s - loss: 39.6155 - reconstruction_error: 20.1022 - regularization_error: 19.5133
[2023-12-02 12:53:34.873504]: Reconstructing images for epoch 431 ...
```



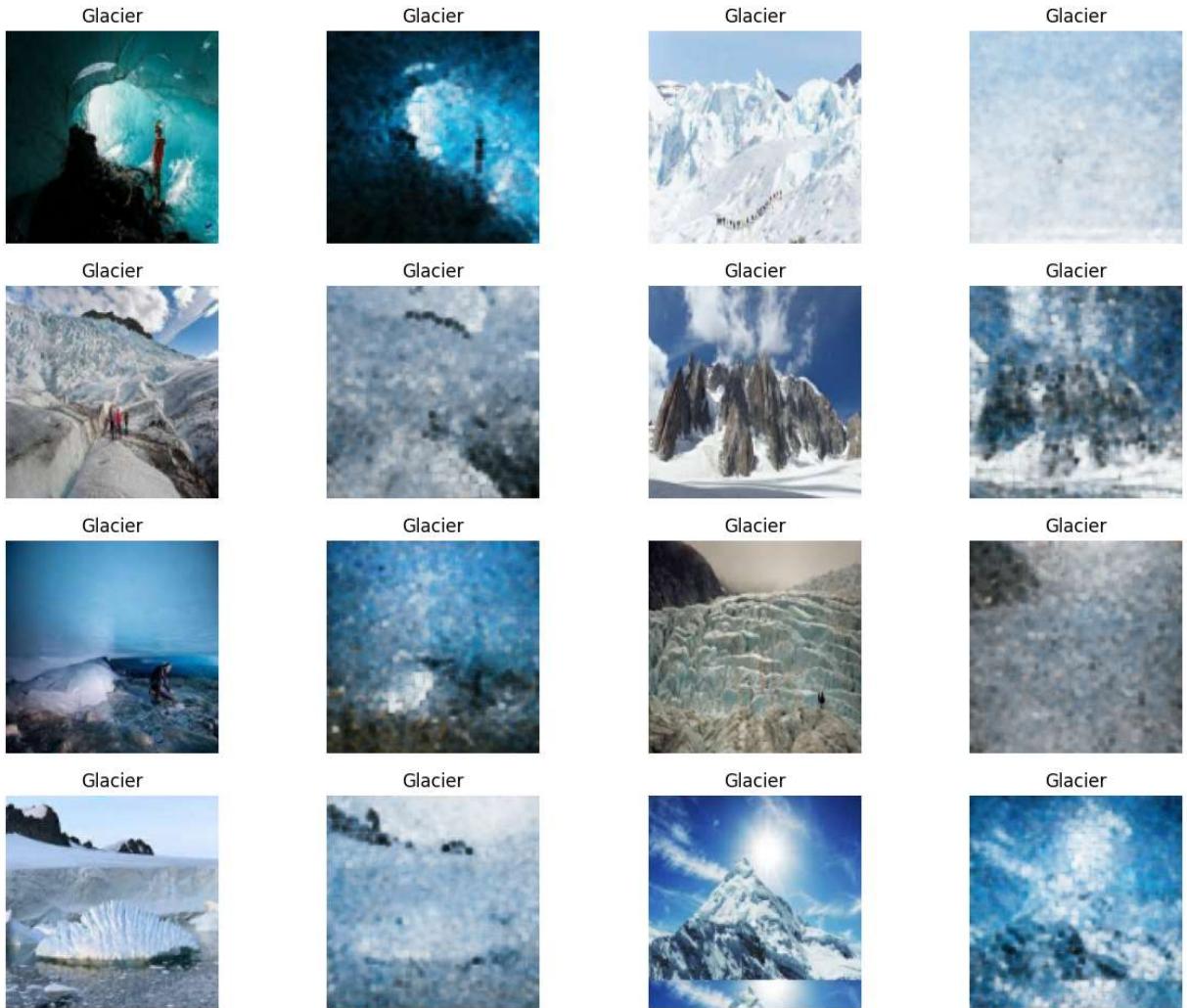
```
120/120 [=====] - 17s 142ms/step - loss: 39.6155 - reconstruction_error: 20.1022 - regularization_error: 19.5133 - val_loss: 70.0618 - val_reconstruction_error: 52.2670 - val_regularization_error: 17.7948
Epoch 432/1000
120/120 [=====] - 17s 142ms/step - loss: 39.6303 - reconstruction_error: 20.2418 - regularization_error: 19.3885 - val_loss: 69.7970 - val_reconstruction_error: 52.5180 - val_regularization_error: 17.2790
Epoch 433/1000
120/120 [=====] - 18s 150ms/step - loss: 39.5015 - reconstruction_error: 19.9918 - regularization_error: 19.5096 - val_loss: 70.8793 - val_reconstruction_error: 52.8113 - val_regularization_error: 18.0680
Epoch 434/1000
120/120 [=====] - 13s 108ms/step - loss: 39.4690 - reconstruction_error: 20.0434 - regularization_error: 19.4256 - val_loss: 70.1796 - val_reconstruction_error: 52.4857 - val_regularization_error: 17.6939
Epoch 435/1000
120/120 [=====] - 16s 130ms/step - loss: 39.4680 - reconstruction_error: 20.0260 - regularization_error: 19.4420 - val_loss: 71.6784 - val_reconstruction_error: 53.0421 - val_regularization_error: 18.6364
Epoch 436/1000
120/120 [=====] - 16s 132ms/step - loss: 39.3883 - reconstruction_error: 19.9528 - regularization_error: 19.4355 - val_loss: 71.3009 - val_reconstruction_error: 53.0309 - val_regularization_error: 18.2700
Epoch 437/1000
120/120 [=====] - 18s 150ms/step - loss: 39.3305 - reconstruction_error: 20.0112 - regularization_error: 19.3193 - val_loss: 70.3998 - val_reconstruction_error: 52.7562 - val_regularization_error: 17.6436
Epoch 438/1000
120/120 [=====] - 18s 149ms/step - loss: 39.3080 - reconstruction_error: 19.9332 - regularization_error: 19.3749 - val_loss: 71.6339 - val_reconstruction_error: 53.5282 - val_regularization_error: 18.1058
Epoch 439/1000
120/120 [=====] - 15s 123ms/step - loss: 39.1536 - reconstruction_error: 19.8125 - regularization_error: 19.3411 - val_loss: 70.2585 - val_reconstruction_error: 53.0169 - val_regularization_error: 17.2416
Epoch 440/1000
120/120 [=====] - 17s 142ms/step - loss: 39.3415 - reconstruction_error: 19.9459 - regularization_error: 19.3956 - val_loss: 71.1233 - val_reconstruction_error: 53.5702 - val_regularization_error: 17.5531
Epoch 441/1000
119/120 [=====.>.] - ETA: 0s - loss: 39.1835 - reconstruction_error: 19.8671 - regularization_error: 19.3164
[2023-12-02 12:56:21.229996]: Reconstructing images for epoch 441 ...
```



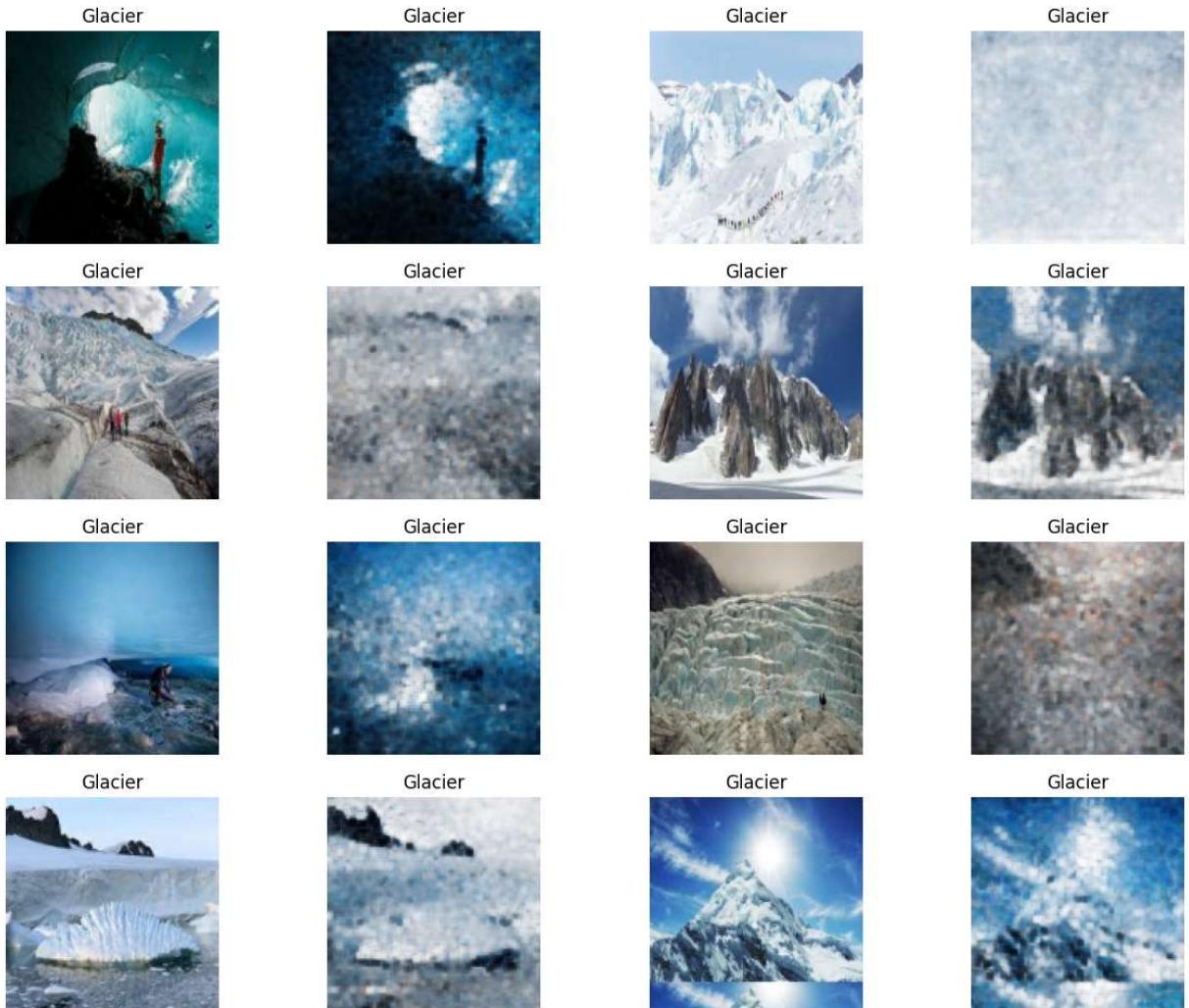
```
120/120 [=====] - 18s 146ms/step - loss: 39.1749 - reconstruction_error: 19.8604 - regularization_error: 19.3145 - val_loss: 70.2108 - val_reconstruction_error: 53.1600 - val_regularization_error: 17.0507
Epoch 442/1000
120/120 [=====] - 14s 116ms/step - loss: 39.4736 - reconstruction_error: 20.1182 - regularization_error: 19.3554 - val_loss: 73.1844 - val_reconstruction_error: 53.5974 - val_regularization_error: 19.5870
Epoch 443/1000
120/120 [=====] - 14s 117ms/step - loss: 39.3304 - reconstruction_error: 19.9564 - regularization_error: 19.3740 - val_loss: 70.8267 - val_reconstruction_error: 53.2793 - val_regularization_error: 17.5474
Epoch 444/1000
120/120 [=====] - 15s 125ms/step - loss: 39.3569 - reconstruction_error: 19.9012 - regularization_error: 19.4557 - val_loss: 70.4359 - val_reconstruction_error: 52.6655 - val_regularization_error: 17.7704
Epoch 445/1000
120/120 [=====] - 19s 155ms/step - loss: 39.2624 - reconstruction_error: 19.8688 - regularization_error: 19.3936 - val_loss: 69.8072 - val_reconstruction_error: 52.8572 - val_regularization_error: 16.9500
Epoch 446/1000
120/120 [=====] - 18s 150ms/step - loss: 38.9753 - reconstruction_error: 19.7237 - regularization_error: 19.2516 - val_loss: 70.5394 - val_reconstruction_error: 53.8881 - val_regularization_error: 16.6513
Epoch 447/1000
120/120 [=====] - 18s 148ms/step - loss: 39.2601 - reconstruction_error: 19.9991 - regularization_error: 19.2610 - val_loss: 72.8533 - val_reconstruction_error: 54.4887 - val_regularization_error: 18.3646
Epoch 448/1000
120/120 [=====] - 17s 144ms/step - loss: 39.1971 - reconstruction_error: 19.7759 - regularization_error: 19.4212 - val_loss: 70.3012 - val_reconstruction_error: 53.4345 - val_regularization_error: 16.8667
Epoch 449/1000
120/120 [=====] - 14s 115ms/step - loss: 39.1592 - reconstruction_error: 19.7997 - regularization_error: 19.3594 - val_loss: 70.9531 - val_reconstruction_error: 53.4539 - val_regularization_error: 17.4992
Epoch 450/1000
120/120 [=====] - 16s 129ms/step - loss: 39.1182 - reconstruction_error: 19.7459 - regularization_error: 19.3722 - val_loss: 71.2284 - val_reconstruction_error: 52.4665 - val_regularization_error: 18.7619
Epoch 451/1000
120/120 [=====] - ETA: 0s - loss: 39.0791 - reconstruction_error: 19.7895 - regularization_error: 19.2896
[2023-12-02 12:59:07.029752]: Reconstructing images for epoch 451 ...
```



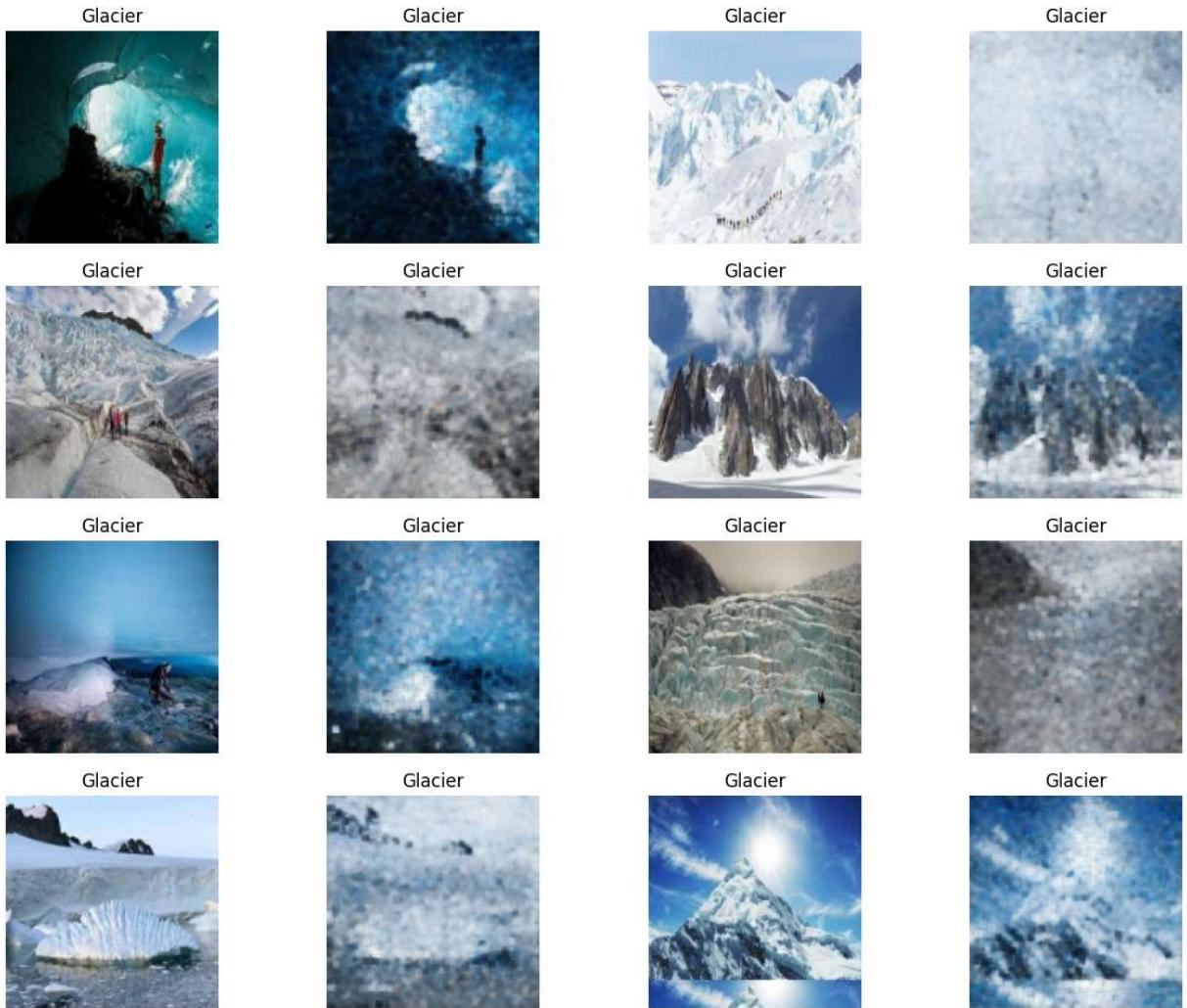
```
120/120 [=====] - 19s 156ms/step - loss: 39.0791 - reconstruction_error: 19.7895 - regularization_error: 19.2896 - val_loss: 71.8243 - val_reconstruction_error: 52.9216 - val_regularization_error: 18.9027
Epoch 452/1000
120/120 [=====] - 14s 120ms/step - loss: 39.2954 - reconstruction_error: 19.7352 - regularization_error: 19.5602 - val_loss: 70.8264 - val_reconstruction_error: 53.4201 - val_regularization_error: 17.4063
Epoch 453/1000
120/120 [=====] - 19s 155ms/step - loss: 39.3306 - reconstruction_error: 19.9240 - regularization_error: 19.4066 - val_loss: 73.3546 - val_reconstruction_error: 54.3393 - val_regularization_error: 19.0153
Epoch 454/1000
120/120 [=====] - 15s 125ms/step - loss: 39.0243 - reconstruction_error: 19.7123 - regularization_error: 19.3120 - val_loss: 71.3448 - val_reconstruction_error: 53.5966 - val_regularization_error: 17.7482
Epoch 455/1000
120/120 [=====] - 18s 151ms/step - loss: 39.2541 - reconstruction_error: 19.8212 - regularization_error: 19.4329 - val_loss: 72.5954 - val_reconstruction_error: 53.7181 - val_regularization_error: 18.8773
Epoch 456/1000
120/120 [=====] - 16s 133ms/step - loss: 39.0476 - reconstruction_error: 19.6243 - regularization_error: 19.4234 - val_loss: 70.0050 - val_reconstruction_error: 52.8548 - val_regularization_error: 17.1502
Epoch 457/1000
120/120 [=====] - 17s 142ms/step - loss: 38.8994 - reconstruction_error: 19.5584 - regularization_error: 19.3410 - val_loss: 69.9708 - val_reconstruction_error: 52.9747 - val_regularization_error: 16.9960
Epoch 458/1000
120/120 [=====] - 16s 136ms/step - loss: 39.1616 - reconstruction_error: 19.7472 - regularization_error: 19.4144 - val_loss: 71.6797 - val_reconstruction_error: 53.0307 - val_regularization_error: 18.6490
Epoch 459/1000
120/120 [=====] - 16s 127ms/step - loss: 39.0001 - reconstruction_error: 19.6716 - regularization_error: 19.3285 - val_loss: 72.0795 - val_reconstruction_error: 53.6833 - val_regularization_error: 18.3962
Epoch 460/1000
120/120 [=====] - 14s 114ms/step - loss: 39.1832 - reconstruction_error: 19.7424 - regularization_error: 19.4408 - val_loss: 71.5290 - val_reconstruction_error: 53.4032 - val_regularization_error: 18.1258
Epoch 461/1000
120/120 [=====] - ETA: 0s - loss: 39.1054 - reconstruction_error: 19.6798 - regularization_error: 19.4255
[2023-12-02 13:01:56.163619]: Reconstructing images for epoch 461 ...
```



```
120/120 [=====] - 20s 168ms/step - loss: 39.1054 - reconstruction_error: 19.6798 - regularization_error: 19.4255 - val_loss: 70.9214 - val_reconstruction_error: 53.4684 - val_regularization_error: 17.4530
Epoch 462/1000
120/120 [=====] - 17s 138ms/step - loss: 38.9785 - reconstruction_error: 19.6535 - regularization_error: 19.3249 - val_loss: 70.9215 - val_reconstruction_error: 55.0693 - val_regularization_error: 15.8523
Epoch 463/1000
120/120 [=====] - 16s 131ms/step - loss: 39.0536 - reconstruction_error: 19.6693 - regularization_error: 19.3844 - val_loss: 71.5050 - val_reconstruction_error: 54.1215 - val_regularization_error: 17.3835
Epoch 464/1000
120/120 [=====] - 16s 136ms/step - loss: 39.1736 - reconstruction_error: 19.7387 - regularization_error: 19.4349 - val_loss: 71.5917 - val_reconstruction_error: 53.7246 - val_regularization_error: 17.8670
Epoch 465/1000
120/120 [=====] - 16s 132ms/step - loss: 38.9880 - reconstruction_error: 19.6261 - regularization_error: 19.3619 - val_loss: 70.3220 - val_reconstruction_error: 52.5095 - val_regularization_error: 17.8125
Epoch 466/1000
120/120 [=====] - 17s 137ms/step - loss: 39.1630 - reconstruction_error: 19.7264 - regularization_error: 19.4366 - val_loss: 70.2650 - val_reconstruction_error: 52.7703 - val_regularization_error: 17.4947
Epoch 467/1000
120/120 [=====] - 17s 139ms/step - loss: 39.1200 - reconstruction_error: 19.6820 - regularization_error: 19.4381 - val_loss: 71.5500 - val_reconstruction_error: 52.9924 - val_regularization_error: 18.5576
Epoch 468/1000
120/120 [=====] - 16s 133ms/step - loss: 38.9399 - reconstruction_error: 19.6379 - regularization_error: 19.3020 - val_loss: 70.8280 - val_reconstruction_error: 52.9561 - val_regularization_error: 17.8719
Epoch 469/1000
120/120 [=====] - 18s 152ms/step - loss: 38.9699 - reconstruction_error: 19.5813 - regularization_error: 19.3886 - val_loss: 71.4715 - val_reconstruction_error: 53.6331 - val_regularization_error: 17.8383
Epoch 470/1000
120/120 [=====] - 15s 119ms/step - loss: 38.8224 - reconstruction_error: 19.5546 - regularization_error: 19.2678 - val_loss: 70.8937 - val_reconstruction_error: 54.1147 - val_regularization_error: 16.7790
Epoch 471/1000
120/120 [=====] - ETA: 0s - loss: 39.2115 - reconstruction_error: 19.7998 - regularization_error: 19.4116
[2023-12-02 13:04:42.493900]: Reconstructing images for epoch 471 ...
```



```
120/120 [=====] - 18s 154ms/step - loss: 39.2115 - reconstruction_error: 19.7998 - regularization_error: 19.4116 - val_loss: 72.5368 - val_reconstruction_error: 54.0164 - val_regularization_error: 18.5204
Epoch 472/1000
120/120 [=====] - 19s 156ms/step - loss: 39.0013 - reconstruction_error: 19.5882 - regularization_error: 19.4131 - val_loss: 70.8564 - val_reconstruction_error: 52.8056 - val_regularization_error: 18.0507
Epoch 473/1000
120/120 [=====] - 17s 142ms/step - loss: 39.1598 - reconstruction_error: 19.7246 - regularization_error: 19.4352 - val_loss: 70.2885 - val_reconstruction_error: 53.6406 - val_regularization_error: 16.6479
Epoch 474/1000
120/120 [=====] - 17s 140ms/step - loss: 38.7291 - reconstruction_error: 19.3635 - regularization_error: 19.3656 - val_loss: 72.0467 - val_reconstruction_error: 54.1957 - val_regularization_error: 17.8510
Epoch 475/1000
120/120 [=====] - 18s 149ms/step - loss: 38.8678 - reconstruction_error: 19.6041 - regularization_error: 19.2637 - val_loss: 71.6257 - val_reconstruction_error: 54.3991 - val_regularization_error: 17.2267
Epoch 476/1000
120/120 [=====] - 18s 146ms/step - loss: 39.2733 - reconstruction_error: 19.8102 - regularization_error: 19.4631 - val_loss: 71.3027 - val_reconstruction_error: 53.8098 - val_regularization_error: 17.4929
Epoch 477/1000
120/120 [=====] - 18s 147ms/step - loss: 38.7117 - reconstruction_error: 19.4642 - regularization_error: 19.2475 - val_loss: 70.0901 - val_reconstruction_error: 52.4515 - val_regularization_error: 17.6386
Epoch 478/1000
120/120 [=====] - 16s 132ms/step - loss: 38.8262 - reconstruction_error: 19.4794 - regularization_error: 19.3469 - val_loss: 70.6669 - val_reconstruction_error: 53.3735 - val_regularization_error: 17.2934
Epoch 479/1000
120/120 [=====] - 19s 155ms/step - loss: 38.9636 - reconstruction_error: 19.6127 - regularization_error: 19.3509 - val_loss: 71.1873 - val_reconstruction_error: 52.8515 - val_regularization_error: 18.3357
Epoch 480/1000
120/120 [=====] - 19s 160ms/step - loss: 38.9159 - reconstruction_error: 19.3911 - regularization_error: 19.5248 - val_loss: 70.1630 - val_reconstruction_error: 53.6684 - val_regularization_error: 16.4946
Epoch 481/1000
119/120 [=====.>.] - ETA: 0s - loss: 39.0415 - reconstruction_error: 19.6867 - regularization_error: 19.3549
[2023-12-02 13:07:42.189629]: Reconstructing images for epoch 481 ...
```



```
120/120 [=====] - 19s 158ms/step - loss: 39.0546 - reconstruction_error: 19.6931 - regularization_error: 19.3615 - val_loss: 72.3731 - val_reconstruction_error: 53.7414 - val_regularization_error: 18.6317
Epoch 482/1000
120/120 [=====] - 17s 142ms/step - loss: 38.7382 - reconstruction_error: 19.4084 - regularization_error: 19.3298 - val_loss: 71.3690 - val_reconstruction_error: 53.3219 - val_regularization_error: 18.0471
Epoch 483/1000
120/120 [=====] - 17s 141ms/step - loss: 38.8271 - reconstruction_error: 19.3965 - regularization_error: 19.4305 - val_loss: 71.9277 - val_reconstruction_error: 53.8893 - val_regularization_error: 18.0385
Epoch 484/1000
120/120 [=====] - 17s 138ms/step - loss: 38.8930 - reconstruction_error: 19.5505 - regularization_error: 19.3425 - val_loss: 70.0074 - val_reconstruction_error: 52.9308 - val_regularization_error: 17.0766
Epoch 485/1000
120/120 [=====] - 17s 138ms/step - loss: 38.6562 - reconstruction_error: 19.3722 - regularization_error: 19.2840 - val_loss: 72.2940 - val_reconstruction_error: 53.7796 - val_regularization_error: 18.5143
Epoch 486/1000
120/120 [=====] - 18s 154ms/step - loss: 38.7380 - reconstruction_error: 19.3420 - regularization_error: 19.3960 - val_loss: 70.0908 - val_reconstruction_error: 53.6597 - val_regularization_error: 16.4312
Epoch 487/1000
120/120 [=====] - 17s 143ms/step - loss: 38.8304 - reconstruction_error: 19.4001 - regularization_error: 19.4304 - val_loss: 71.0386 - val_reconstruction_error: 53.5854 - val_regularization_error: 17.4532
Epoch 488/1000
120/120 [=====] - 20s 162ms/step - loss: 38.6839 - reconstruction_error: 19.3846 - regularization_error: 19.2994 - val_loss: 71.3066 - val_reconstruction_error: 53.3949 - val_regularization_error: 17.9117
Epoch 489/1000
120/120 [=====] - 16s 132ms/step - loss: 38.9071 - reconstruction_error: 19.6058 - regularization_error: 19.3014 - val_loss: 70.2138 - val_reconstruction_error: 53.0668 - val_regularization_error: 17.1470
Epoch 490/1000
120/120 [=====] - 17s 140ms/step - loss: 38.8213 - reconstruction_error: 19.4104 - regularization_error: 19.4109 - val_loss: 70.9347 - val_reconstruction_error: 53.8736 - val_regularization_error: 17.0612
Epoch 491/1000
120/120 [=====] - ETA: 0s - loss: 38.8317 - reconstruction_error: 19.3468 - regularization_error: 19.4849
[2023-12-02 13:10:40.765682]: Reconstructing images for epoch 491 ...
```



```
120/120 [=====] - 16s 132ms/step - loss: 38.8317 - reconstruction_error: 19.3468 - regularization_error: 19.4849 - val_loss: 73.1433 - val_reconstruction_error: 54.9600 - val_regularization_error: 18.1833
Epoch 492/1000
120/120 [=====] - 16s 133ms/step - loss: 38.8560 - reconstruction_error: 19.4735 - regularization_error: 19.3825 - val_loss: 72.0482 - val_reconstruction_error: 53.6315 - val_regularization_error: 18.4167
Epoch 493/1000
120/120 [=====] - 17s 139ms/step - loss: 38.6811 - reconstruction_error: 19.2799 - regularization_error: 19.4012 - val_loss: 71.1879 - val_reconstruction_error: 53.0154 - val_regularization_error: 18.1725
Epoch 494/1000
120/120 [=====] - 16s 135ms/step - loss: 38.5663 - reconstruction_error: 19.2430 - regularization_error: 19.3233 - val_loss: 70.9904 - val_reconstruction_error: 53.5927 - val_regularization_error: 17.3977
Epoch 495/1000
120/120 [=====] - 14s 118ms/step - loss: 38.6280 - reconstruction_error: 19.2890 - regularization_error: 19.3390 - val_loss: 71.2673 - val_reconstruction_error: 53.4501 - val_regularization_error: 17.8172
Epoch 496/1000
120/120 [=====] - 15s 121ms/step - loss: 38.5182 - reconstruction_error: 19.2481 - regularization_error: 19.2700 - val_loss: 70.5246 - val_reconstruction_error: 53.2843 - val_regularization_error: 17.2403
Epoch 497/1000
120/120 [=====] - 16s 130ms/step - loss: 38.7464 - reconstruction_error: 19.3069 - regularization_error: 19.4395 - val_loss: 71.5274 - val_reconstruction_error: 53.7387 - val_regularization_error: 17.7886
Epoch 498/1000
120/120 [=====] - 16s 132ms/step - loss: 38.3666 - reconstruction_error: 19.1717 - regularization_error: 19.1949 - val_loss: 72.6871 - val_reconstruction_error: 54.4180 - val_regularization_error: 18.2691
Epoch 499/1000
120/120 [=====] - 14s 111ms/step - loss: 38.7976 - reconstruction_error: 19.3586 - regularization_error: 19.4391 - val_loss: 71.5572 - val_reconstruction_error: 55.1043 - val_regularization_error: 16.4529
Epoch 500/1000
120/120 [=====] - 18s 154ms/step - loss: 38.6821 - reconstruction_error: 19.2745 - regularization_error: 19.4076 - val_loss: 70.5800 - val_reconstruction_error: 53.4416 - val_regularization_error: 17.1383
Epoch 501/1000
120/120 [=====] - ETA: 0s - loss: 38.6018 - reconstruction_error: 19.1576 - regularization_error: 19.4443
[2023-12-02 13:13:21.863040]: Reconstructing images for epoch 501 ...
```

