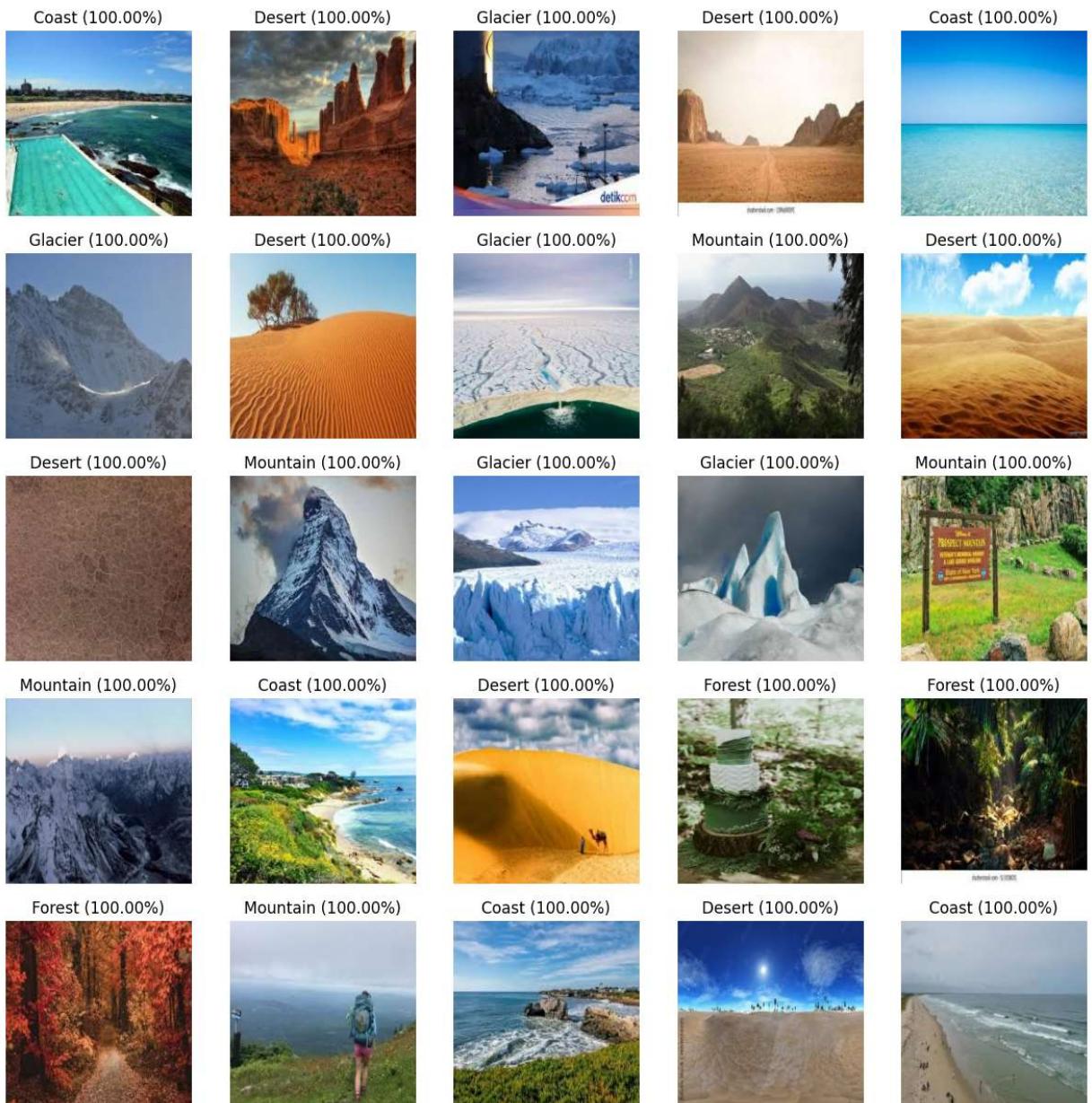


Visualize Dataset



Conditional Variational AutoEncoder (CVAE)

Model: "CVAE"

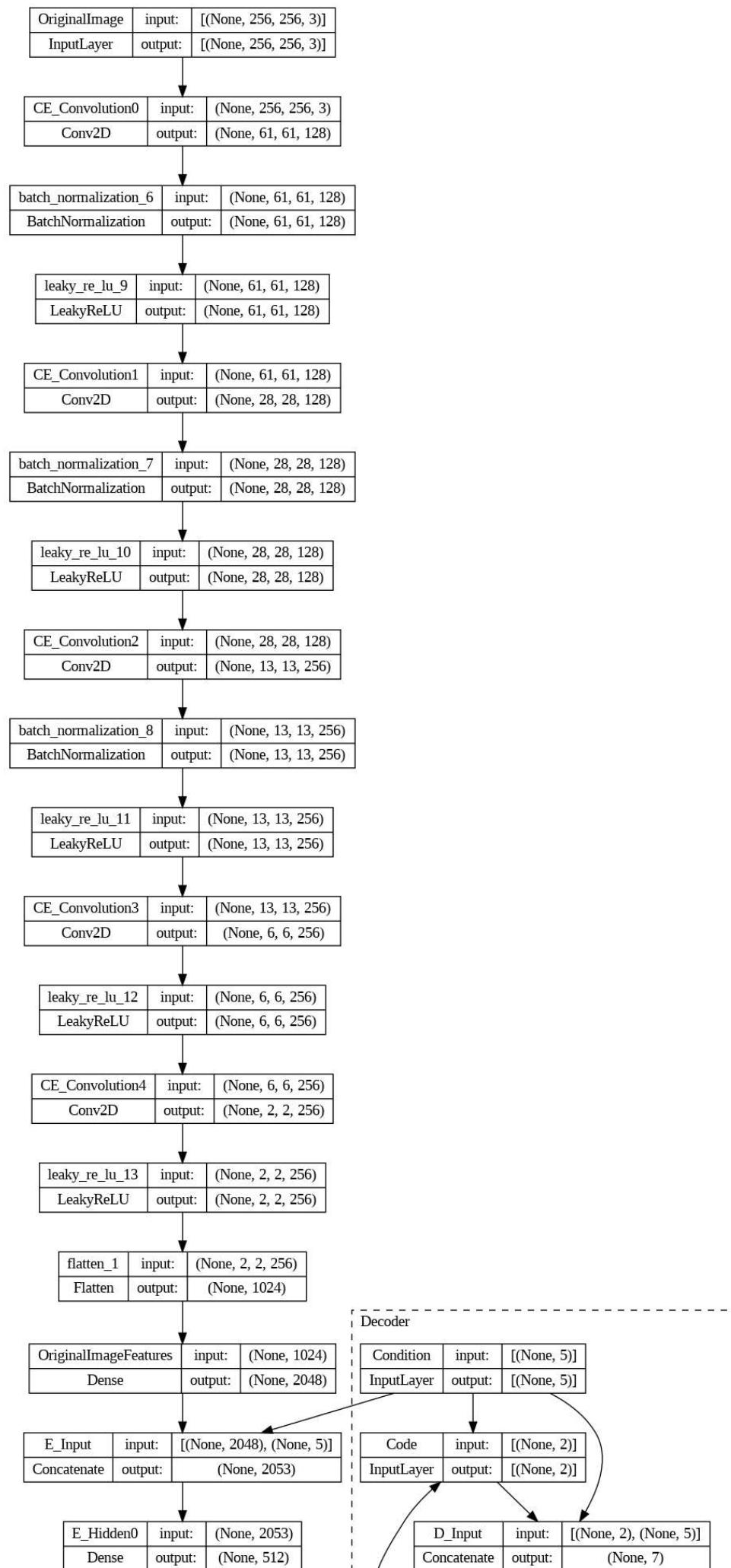
Layer (type)	Output Shape	Param #	Connected to
<hr/>			
OriginalImage (InputLayer)	[None, 256, 256, 3]	0	[]
CE_Convolution0 (Conv2D)	(None, 61, 61, 128)	98432	['OriginalImage[0][0]']
batch_normalization_6 (BatchNormalization)	(None, 61, 61, 128)	512	['CE_Convolution0[0][0]']
leaky_re_lu_9 (LeakyReLU)	(None, 61, 61, 128)	0	['batch_normalization_6[0][0]']
CE_Convolution1 (Conv2D)	(None, 28, 28, 128)	802944	['leaky_re_lu_9[0][0]']
batch_normalization_7 (BatchNormalization)	(None, 28, 28, 128)	512	['CE_Convolution1[0][0]']
leaky_re_lu_10 (LeakyReLU)	(None, 28, 28, 128)	0	['batch_normalization_7[0][0]']
CE_Convolution2 (Conv2D)	(None, 13, 13, 256)	524544	['leaky_re_lu_10[0][0]']
batch_normalization_8 (BatchNormalization)	(None, 13, 13, 256)	1024	['CE_Convolution2[0][0]']
leaky_re_lu_11 (LeakyReLU)	(None, 13, 13, 256)	0	['batch_normalization_8[0][0]']
CE_Convolution3 (Conv2D)	(None, 6, 6, 256)	590080	['leaky_re_lu_11[0][0]']
leaky_re_lu_12 (LeakyReLU)	(None, 6, 6, 256)	0	['CE_Convolution3[0][0]']
CE_Convolution4 (Conv2D)	(None, 2, 2, 256)	1048832	['leaky_re_lu_12[0][0]']
leaky_re_lu_13 (LeakyReLU)	(None, 2, 2, 256)	0	['CE_Convolution4[0][0]']
flatten_1 (Flatten)	(None, 1024)	0	['leaky_re_lu_13[0][0]']
OriginalImageFeatures (Dense)	(None, 2048)	2099200	['flatten_1[0][0]']
Condition (InputLayer)	[None, 5]	0	[]
E_Input (Concatenate)	(None, 2053)	0	['OriginalImageFeatures[0][0]', 'Condition[0][0]']
E_Hidden0 (Dense)	(None, 512)	1051648	['E_Input[0][0]']
E_Hidden1 (Dense)	(None, 512)	262656	['E_Hidden0[0][0]']
E_Hidden2 (Dense)	(None, 512)	262656	['E_Hidden1[0][0]']
Mean (Dense)	(None, 2)	1026	['E_Hidden2[0][0]']
LogVariance (Dense)	(None, 2)	1026	['E_Hidden2[0][0]']
Sampling (Lambda)	(None, 2)	0	['Mean[0][0]', 'LogVariance[0][0]']
Decoder (Functional)	(None, 256, 256, 3)	6745347	['Sampling[0][0]', 'Condition[0][0]']

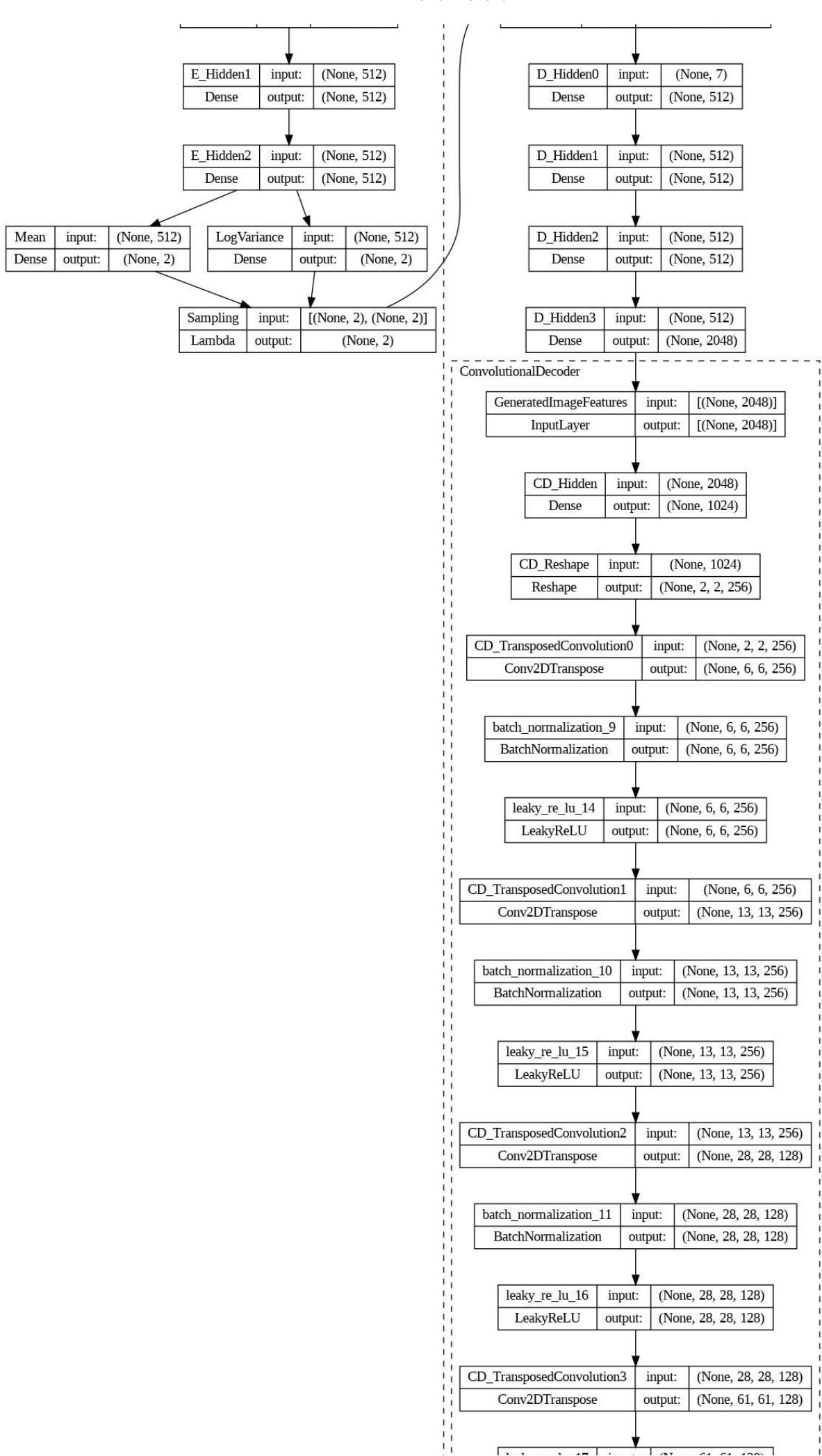
Total params: 13490439 (51.46 MB)

Trainable params: 13488135 (51.45 MB)

Non-trainable params: 2304 (9.00 KB)

Out[85]:





Training

Epoch 1/100

5/Unknown - 7s 332ms/step - loss: 594.7313

WARNING:tensorflow:Callback method `on_train_batch_end` is slow compared to the batch time (batch time: 0.0491s vs `on_train_batch_end` time: 0.1850s). Check your callbacks.

525/Unknown - 31s 48ms/step - loss: 513.1570[2023-12-07 09:53:45.802173]: Generating images for epoch 1 ...

Coast (100.00%)



Desert (100.00%)



Forest (100.00%)



Glacier (100.00%)



Mountain (100.00%)



525/525 [=====] - 34s 54ms/step - loss: 513.1570 - val_loss: 463.9082

Epoch 2/100

525/525 [=====] - ETA: 0s - loss: 485.6661[2023-12-07 09:54:16.084534]: Generating images for epoch 2 ...

Coast (100.00%)



Desert (100.00%)



Forest (100.00%)



Glacier (100.00%)



Mountain (100.00%)



525/525 [=====] - 30s 56ms/step - loss: 485.6661 - val_loss: 500.8789

Epoch 3/100

524/525 [=====>.] - ETA: 0s - loss: 472.8021[2023-12-07 09:54:45.266988]: Generating images for epoch 3 ...

Coast (100.00%)



Desert (100.00%)



Forest (100.00%)



Glacier (100.00%)



Mountain (100.00%)



525/525 [=====] - 30s 58ms/step - loss: 472.7476 - val_loss: 464.5276

Epoch 4/100

525/525 [=====] - ETA: 0s - loss: 468.6296[2023-12-07 09:55:13.844459]: Generating images for epoch 4 ...

Coast (100.00%)



Desert (100.00%)



Forest (100.00%)



Glacier (100.00%)



Mountain (100.00%)



525/525 [=====] - 27s 52ms/step - loss: 468.6296 - val_loss: 466.5718

Epoch 5/100

524/525 [=====>.] - ETA: 0s - loss: 468.0054[2023-12-07 09:55:42.671177]: Generating images for epoch 5 ...

Coast (100.00%)



Desert (100.00%)



Forest (100.00%)



Glacier (100.00%)



Mountain (100.00%)



525/525 [=====] - 30s 56ms/step - loss: 468.0158 - val_loss: 481.1823

Epoch 6/100

524/525 [=====>.] - ETA: 0s - loss: 470.7180[2023-12-07 09:56:12.402392]: Generating images for epoch 6 ...



525/525 [=====] - 29s 55ms/step - loss: 470.6596 - val_loss: 480.6368

Epoch 7/100

524/525 [=====>.] - ETA: 0s - loss: 464.8579[2023-12-07 09:56:41.583142]: Generating images for epoch 7 ...



525/525 [=====] - 29s 56ms/step - loss: 464.8512 - val_loss: 484.0149

Epoch 8/100

524/525 [=====>.] - ETA: 0s - loss: 464.5721[2023-12-07 09:57:11.268157]: Generating images for epoch 8 ...



525/525 [=====] - 30s 57ms/step - loss: 464.5598 - val_loss: 456.6422

Epoch 9/100

524/525 [=====>.] - ETA: 0s - loss: 480.5584[2023-12-07 09:57:43.494689]: Generating images for epoch 9 ...



525/525 [=====] - 32s 61ms/step - loss: 480.4541 - val_loss: 465.3072

Epoch 10/100

524/525 [=====>.] - ETA: 0s - loss: 469.0666[2023-12-07 09:58:11.504461]: Generating images for epoch 10 ...



525/525 [=====] - 28s 53ms/step - loss: 469.0666 - val_loss: 454.7431

Epoch 11/100

524/525 [=====>.] - ETA: 0s - loss: 455.4283[2023-12-07 09:58:42.563325]: Generating images for epoch 11 ...



525/525 [=====] - 31s 59ms/step - loss: 455.4283 - val_loss: 448.5397
 Epoch 12/100
 525/525 [=====] - ETA: 0s - loss: 451.6483[2023-12-07 09:59:11.481997]: Generating images for epoch 12 ...



525/525 [=====] - 29s 55ms/step - loss: 451.6483 - val_loss: 458.8609
 Epoch 13/100
 524/525 [=====] - ETA: 0s - loss: 456.8227[2023-12-07 09:59:43.636725]: Generating images for epoch 13 ...



525/525 [=====] - 33s 63ms/step - loss: 456.7689 - val_loss: 449.2483
 Epoch 14/100
 525/525 [=====] - ETA: 0s - loss: 464.4040[2023-12-07 10:00:12.156864]: Generating images for epoch 14 ...



525/525 [=====] - 28s 53ms/step - loss: 464.4040 - val_loss: 467.7591
 Epoch 15/100
 525/525 [=====] - ETA: 0s - loss: 466.2702[2023-12-07 10:00:39.497524]: Generating images for epoch 15 ...



525/525 [=====] - 27s 52ms/step - loss: 466.2702 - val_loss: 456.8325
 Epoch 16/100
 524/525 [=====] - ETA: 0s - loss: 486.0299[2023-12-07 10:01:10.197443]: Generating images for epoch 16 ...



525/525 [=====] - 31s 59ms/step - loss: 486.2549 - val_loss: 484.5195
 Epoch 17/100
 525/525 [=====] - ETA: 0s - loss: 471.9818[2023-12-07 10:01:39.960723]: Generating images for epoch 17 ...



525/525 [=====] - 30s 57ms/step - loss: 471.9818 - val_loss: 466.8236
 Epoch 18/100
 524/525 [=====] - ETA: 0s - loss: 469.4183[2023-12-07 10:02:10.623183]: Generating images for epoch 18 ...



525/525 [=====] - 31s 58ms/step - loss: 469.3214 - val_loss: 464.2310
 Epoch 19/100
 524/525 [=====] - ETA: 0s - loss: 459.1647[2023-12-07 10:02:41.178016]: Generating images for epoch 19 ...



525/525 [=====] - 30s 57ms/step - loss: 459.1662 - val_loss: 468.8596
 Epoch 20/100
 524/525 [=====] - ETA: 0s - loss: 466.5387[2023-12-07 10:03:10.353191]: Generating images for epoch 20 ...



525/525 [=====] - 29s 55ms/step - loss: 466.4749 - val_loss: 466.7878
 Epoch 21/100
 525/525 [=====] - ETA: 0s - loss: 462.1653[2023-12-07 10:03:39.658506]: Generating images for epoch 21 ...



525/525 [=====] - 29s 56ms/step - loss: 462.1653 - val_loss: 451.8205
 Epoch 22/100
 525/525 [=====] - ETA: 0s - loss: 452.8354[2023-12-07 10:04:14.074200]: Generating images for epoch 22 ...



525/525 [=====] - 34s 65ms/step - loss: 452.8354 - val_loss: 450.9833
 Epoch 23/100
 524/525 [=====] - ETA: 0s - loss: 450.9761[2023-12-07 10:04:43.265314]: Generating images for epoch 23 ...



525/525 [=====] - 29s 56ms/step - loss: 450.9292 - val_loss: 449.8290
 Epoch 24/100
 525/525 [=====] - ETA: 0s - loss: 450.6762[2023-12-07 10:05:24.079580]: Generating images for epoch 24 ...



525/525 [=====] - 29s 55ms/step - loss: 450.6762 - val_loss: 446.8470
 Epoch 25/100
 524/525 [=====] - ETA: 0s - loss: 443.8910[2023-12-07 10:05:52.092138]: Generating images for epoch 25 ...



525/525 [=====] - 28s 53ms/step - loss: 443.7936 - val_loss: 451.0659
 Epoch 26/100
 524/525 [=====] - ETA: 0s - loss: 451.8208[2023-12-07 10:06:19.197030]: Generating images for epoch 26 ...



525/525 [=====] - 27s 51ms/step - loss: 451.8919 - val_loss: 437.5882
 Epoch 27/100
 525/525 [=====] - ETA: 0s - loss: 440.3010[2023-12-07 10:06:48.490836]: Generating images for epoch 27 ...



525/525 [=====] - 29s 56ms/step - loss: 440.3010 - val_loss: 437.8914
 Epoch 28/100
 524/525 [=====]. - ETA: 0s - loss: 438.6317[2023-12-07 10:07:26.317405]: Generating images for epoch 28 ...



525/525 [=====] - 26s 49ms/step - loss: 438.6526 - val_loss: 436.8709
 Epoch 29/100
 525/525 [=====] - ETA: 0s - loss: 441.5818[2023-12-07 10:07:54.602697]: Generating images for epoch 29 ...



525/525 [=====] - 29s 55ms/step - loss: 441.5818 - val_loss: 463.9415
 Epoch 30/100
 524/525 [=====]. - ETA: 0s - loss: 454.4854[2023-12-07 10:08:22.482505]: Generating images for epoch 30 ...



525/525 [=====] - 27s 52ms/step - loss: 454.2978 - val_loss: 433.9240
 Epoch 31/100
 524/525 [=====]. - ETA: 0s - loss: 434.4733[2023-12-07 10:08:52.051177]: Generating images for epoch 31 ...



525/525 [=====] - 30s 57ms/step - loss: 434.4928 - val_loss: 428.5204
 Epoch 32/100
 525/525 [=====>.] - ETA: 0s - loss: 427.9404[2023-12-07 10:09:24.014424]: Generating images for epoch 32 ...



525/525 [=====] - 31s 60ms/step - loss: 427.9676 - val_loss: 426.8526
 Epoch 33/100
 525/525 [=====] - ETA: 0s - loss: 429.9787[2023-12-07 10:09:55.744693]: Generating images for epoch 33 ...



525/525 [=====] - 32s 60ms/step - loss: 429.9787 - val_loss: 428.7181
 Epoch 34/100
 525/525 [=====] - ETA: 0s - loss: 443.9484[2023-12-07 10:10:21.647037]: Generating images for epoch 34 ...



525/525 [=====] - 26s 49ms/step - loss: 443.9484 - val_loss: 448.0041
 Epoch 35/100
 525/525 [=====] - ETA: 0s - loss: 448.2554[2023-12-07 10:10:51.936697]: Generating images for epoch 35 ...



525/525 [=====] - 31s 58ms/step - loss: 448.2554 - val_loss: 444.5583
 Epoch 36/100
 525/525 [=====] - ETA: 0s - loss: 455.9421[2023-12-07 10:11:19.730750]: Generating images for epoch 36 ...



525/525 [=====] - 28s 53ms/step - loss: 455.9421 - val_loss: 535.5229
 Epoch 37/100
 524/525 [=====>.] - ETA: 0s - loss: 491.2847[2023-12-07 10:11:49.441801]: Generating images for epoch 37 ...



525/525 [=====] - 29s 55ms/step - loss: 491.2269 - val_loss: 489.7059
 Epoch 38/100
 525/525 [=====] - ETA: 0s - loss: 481.2831[2023-12-07 10:12:21.223097]: Generating images for epoch 38 ...



525/525 [=====] - 32s 61ms/step - loss: 481.2831 - val_loss: 489.8691
 Epoch 39/100
 525/525 [=====] - ETA: 0s - loss: 451.7923[2023-12-07 10:12:45.472071]: Generating images for epoch 39 ...



525/525 [=====] - 24s 46ms/step - loss: 451.7923 - val_loss: 459.5678
 Epoch 40/100
 525/525 [=====] - ETA: 0s - loss: 444.6067[2023-12-07 10:13:15.107138]: Generating images for epoch 40 ...



525/525 [=====] - 30s 56ms/step - loss: 444.6067 - val_loss: 452.5360
 Epoch 41/100
 524/525 [=====>.] - ETA: 0s - loss: 443.3881[2023-12-07 10:13:45.896341]: Generating images for epoch 41 ...



525/525 [=====] - 31s 59ms/step - loss: 443.2907 - val_loss: 452.4594
 Epoch 42/100
 524/525 [=====>.] - ETA: 0s - loss: 438.7159[2023-12-07 10:14:19.182582]: Generating images for epoch 42 ...



525/525 [=====] - 33s 63ms/step - loss: 438.6366 - val_loss: 442.0882
 Epoch 43/100
 525/525 [=====] - ETA: 0s - loss: 437.5842[2023-12-07 10:14:49.304442]: Generating images for epoch 43 ...



525/525 [=====] - 30s 57ms/step - loss: 437.5842 - val_loss: 441.2007
 Epoch 44/100
 525/525 [=====] - ETA: 0s - loss: 450.1136[2023-12-07 10:15:22.884785]: Generating images for epoch 44 ...



525/525 [=====] - 33s 64ms/step - loss: 450.1136 - val_loss: 465.8085
 Epoch 45/100
 524/525 [=====>.] - ETA: 0s - loss: 456.6572[2023-12-07 10:15:53.630498]: Generating images for epoch 45 ...



525/525 [=====] - 31s 59ms/step - loss: 456.6741 - val_loss: 457.8488
 Epoch 46/100
 525/525 [=====] - ETA: 0s - loss: 451.0931[2023-12-07 10:16:25.115347]: Generating images for epoch 46 ...



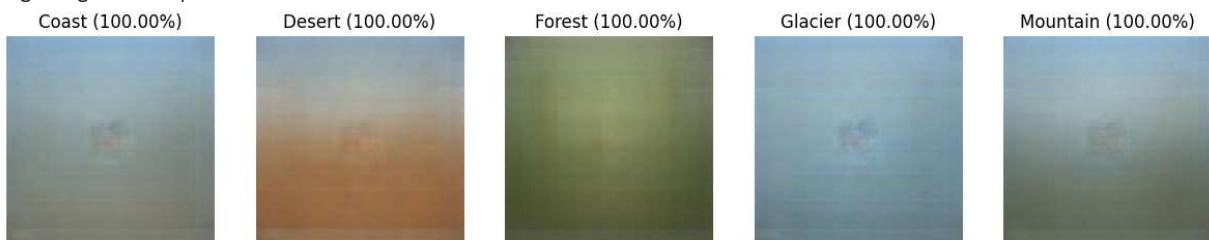
525/525 [=====] - 31s 60ms/step - loss: 451.0931 - val_loss: 458.7493
 Epoch 47/100
 525/525 [=====] - ETA: 0s - loss: 454.6451[2023-12-07 10:16:56.626613]: Generating images for epoch 47 ...



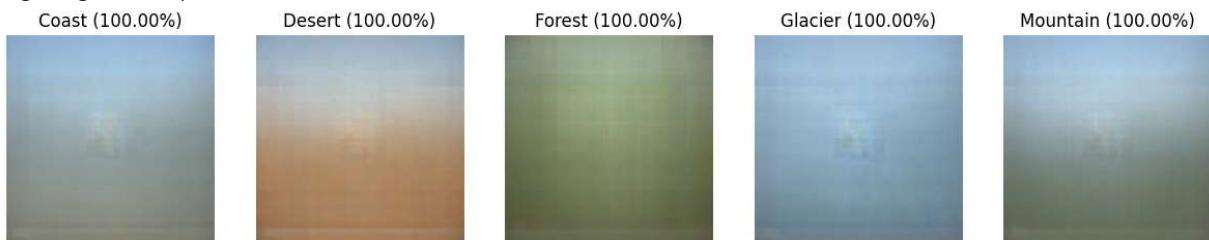
525/525 [=====] - 32s 61ms/step - loss: 454.6451 - val_loss: 516.1607
 Epoch 48/100
 525/525 [=====] - ETA: 0s - loss: 481.6944[2023-12-07 10:17:27.398634]: Generating images for epoch 48 ...



525/525 [=====] - 30s 57ms/step - loss: 481.6944 - val_loss: 500.2168
 Epoch 49/100
 525/525 [=====] - ETA: 0s - loss: 463.6360[2023-12-07 10:17:55.219644]: Generating images for epoch 49 ...



525/525 [=====] - 28s 54ms/step - loss: 463.6360 - val_loss: 471.0419
 Epoch 50/100
 525/525 [=====] - ETA: 0s - loss: 455.9945[2023-12-07 10:18:24.466679]: Generating images for epoch 50 ...



525/525 [=====] - 29s 55ms/step - loss: 455.9945 - val_loss: 460.3397
 Epoch 51/100
 525/525 [=====] - ETA: 0s - loss: 454.7636[2023-12-07 10:18:53.046818]: Generating images for epoch 51 ...



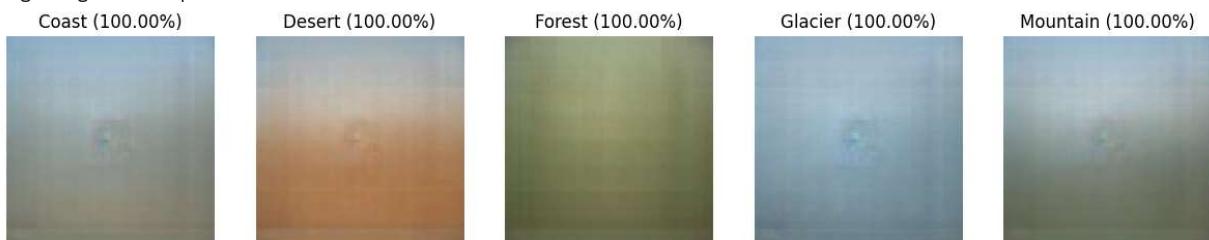
525/525 [=====] - 28s 54ms/step - loss: 454.7636 - val_loss: 474.1193
Epoch 52/100
525/525 [=====] - ETA: 0s - loss: 455.8270[2023-12-07 10:19:21.376887]: Generating images for epoch 52 ...



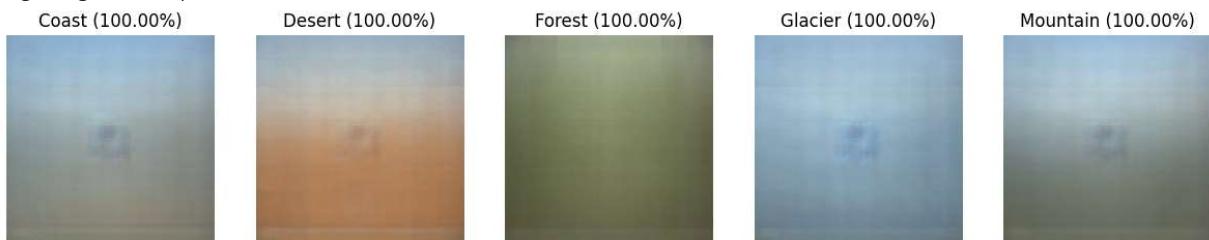
525/525 [=====] - 28s 54ms/step - loss: 455.8270 - val_loss: 463.1538
Epoch 53/100
524/525 [=====>.] - ETA: 0s - loss: 452.1105[2023-12-07 10:19:51.545341]: Generating images for epoch 53 ...



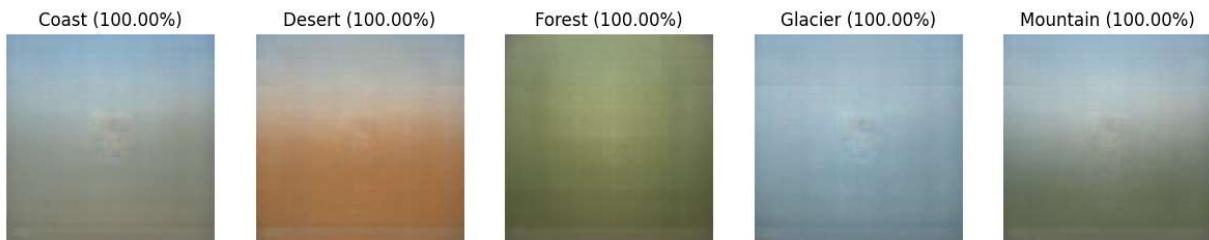
525/525 [=====] - 30s 58ms/step - loss: 452.0354 - val_loss: 457.7328
Epoch 54/100
525/525 [=====] - ETA: 0s - loss: 453.1492[2023-12-07 10:20:21.955282]: Generating images for epoch 54 ...



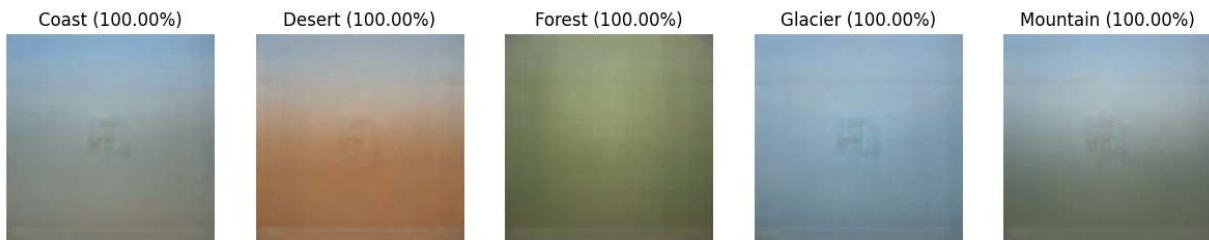
525/525 [=====] - 30s 58ms/step - loss: 453.1492 - val_loss: 462.6516
Epoch 55/100
525/525 [=====] - ETA: 0s - loss: 451.6175[2023-12-07 10:20:52.349365]: Generating images for epoch 55 ...



525/525 [=====] - 30s 58ms/step - loss: 451.6175 - val_loss: 456.5750
Epoch 56/100
524/525 [=====>.] - ETA: 0s - loss: 453.4839[2023-12-07 10:21:33.724108]: Generating images for epoch 56 ...



525/525 [=====] - 31s 57ms/step - loss: 453.4962 - val_loss: 470.1201
Epoch 57/100
524/525 [=====>.] - ETA: 0s - loss: 452.0489[2023-12-07 10:22:02.829578]: Generating images for epoch 57 ...



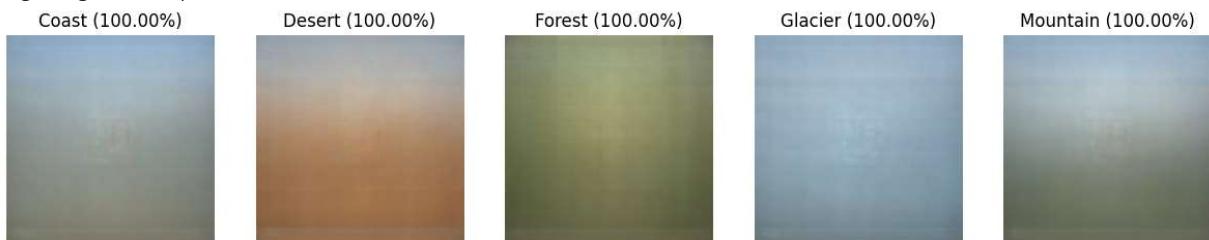
525/525 [=====] - 29s 55ms/step - loss: 451.9935 - val_loss: 457.0695
Epoch 58/100
524/525 [=====>.] - ETA: 0s - loss: 450.7728[2023-12-07 10:22:32.096061]: Generating images for epoch 58 ...



525/525 [=====] - 29s 56ms/step - loss: 450.8031 - val_loss: 453.4534
Epoch 59/100
524/525 [=====] - ETA: 0s - loss: 450.9163[2023-12-07 10:22:59.774238]: Generating images for epoch 59 ...



525/525 [=====] - 28s 53ms/step - loss: 450.9163 - val_loss: 456.3322
Epoch 60/100
524/525 [=====>.] - ETA: 0s - loss: 448.2490[2023-12-07 10:23:31.086904]: Generating images for epoch 60 ...



525/525 [=====] - 32s 61ms/step - loss: 448.2780 - val_loss: 475.0010
Epoch 61/100
524/525 [=====] - ETA: 0s - loss: 448.9304[2023-12-07 10:24:00.187578]: Generating images for epoch 61 ...



525/525 [=====] - 29s 55ms/step - loss: 448.9304 - val_loss: 456.5446
 Epoch 62/100
 525/525 [=====] - ETA: 0s - loss: 453.0996[2023-12-07 10:24:28.289454]: Generating images for epoch 62 ...



525/525 [=====] - 28s 53ms/step - loss: 453.0996 - val_loss: 474.5181
 Epoch 63/100
 524/525 [=====]. - ETA: 0s - loss: 451.6270[2023-12-07 10:24:56.482472]: Generating images for epoch 63 ...



525/525 [=====] - 28s 54ms/step - loss: 451.6592 - val_loss: 472.8991
 Epoch 64/100
 524/525 [=====]. - ETA: 0s - loss: 455.1979[2023-12-07 10:25:25.686951]: Generating images for epoch 64 ...



525/525 [=====] - 30s 57ms/step - loss: 455.1908 - val_loss: 473.6134
 Epoch 65/100
 525/525 [=====] - ETA: 0s - loss: 457.8864[2023-12-07 10:25:56.272689]: Generating images for epoch 65 ...



525/525 [=====] - 30s 57ms/step - loss: 457.8864 - val_loss: 463.6771
 Epoch 66/100
 525/525 [=====] - ETA: 0s - loss: 460.5209[2023-12-07 10:26:35.613855]: Generating images for epoch 66 ...



525/525 [=====] - 28s 53ms/step - loss: 460.5209 - val_loss: 472.7047
 Epoch 67/100
 524/525 [=====>.] - ETA: 0s - loss: 446.9861[2023-12-07 10:27:05.696845]: Generating images for epoch 67 ...



525/525 [=====] - 30s 57ms/step - loss: 447.1068 - val_loss: 454.7227
 Epoch 68/100
 524/525 [=====>.] - ETA: 0s - loss: 445.5776[2023-12-07 10:27:34.793482]: Generating images for epoch 68 ...



525/525 [=====] - 29s 55ms/step - loss: 445.7120 - val_loss: 454.3092
 Epoch 69/100
 524/525 [=====>.] - ETA: 0s - loss: 451.7117[2023-12-07 10:28:00.403973]: Generating images for epoch 69 ...



525/525 [=====] - 26s 49ms/step - loss: 451.5553 - val_loss: 463.4632
 Epoch 70/100
 524/525 [=====>.] - ETA: 0s - loss: 457.6654[2023-12-07 10:28:47.739274]: Generating images for epoch 70 ...



525/525 [=====] - 32s 59ms/step - loss: 457.6654 - val_loss: 459.7820
 Epoch 71/100
 524/525 [=====>.] - ETA: 0s - loss: 456.2159[2023-12-07 10:29:15.299802]: Generating images for epoch 71 ...



525/525 [=====] - 28s 53ms/step - loss: 456.3239 - val_loss: 488.1155
 Epoch 72/100
 525/525 [=====] - ETA: 0s - loss: 468.3844[2023-12-07 10:29:44.345791]: Generating images for epoch 72 ...



525/525 [=====] - 29s 55ms/step - loss: 468.3844 - val_loss: 479.7502
 Epoch 73/100
 525/525 [=====] - ETA: 0s - loss: 470.0570[2023-12-07 10:30:13.927666]: Generating images for epoch 73 ...



525/525 [=====] - 30s 57ms/step - loss: 470.0570 - val_loss: 486.5051
 Epoch 74/100
 525/525 [=====] - ETA: 0s - loss: 470.4436[2023-12-07 10:30:42.849849]: Generating images for epoch 74 ...



525/525 [=====] - 28s 54ms/step - loss: 470.4436 - val_loss: 482.7704
 Epoch 75/100
 525/525 [=====] - ETA: 0s - loss: 468.8138[2023-12-07 10:31:07.289482]: Generating images for epoch 75 ...



525/525 [=====] - 25s 47ms/step - loss: 468.8138 - val_loss: 477.5832
 Epoch 76/100
 524/525 [=====>.] - ETA: 0s - loss: 475.9643[2023-12-07 10:31:36.280610]: Generating images for epoch 76 ...



525/525 [=====] - 29s 55ms/step - loss: 476.4862 - val_loss: 526.8580
 Epoch 77/100
 525/525 [=====] - ETA: 0s - loss: 500.2939[2023-12-07 10:32:02.230118]: Generating images for epoch 77 ...



525/525 [=====] - 26s 50ms/step - loss: 500.2939 - val_loss: 505.7613
 Epoch 78/100
 524/525 [=====]. - ETA: 0s - loss: 498.0002[2023-12-07 10:32:37.115319]: Generating images for epoch 78 ...



525/525 [=====] - 35s 66ms/step - loss: 497.8473 - val_loss: 508.3047
 Epoch 79/100
 524/525 [=====]. - ETA: 0s - loss: 495.6590[2023-12-07 10:33:03.790732]: Generating images for epoch 79 ...



525/525 [=====] - 27s 51ms/step - loss: 495.5367 - val_loss: 501.9368
 Epoch 80/100
 525/525 [=====] - ETA: 0s - loss: 492.9293[2023-12-07 10:33:32.546748]: Generating images for epoch 80 ...



525/525 [=====] - 28s 53ms/step - loss: 492.9293 - val_loss: 501.7478
 Epoch 81/100
 524/525 [=====]. - ETA: 0s - loss: 493.0814[2023-12-07 10:34:01.694766]: Generating images for epoch 81 ...



525/525 [=====] - 29s 55ms/step - loss: 493.1907 - val_loss: 498.2372
 Epoch 82/100
 525/525 [=====] - ETA: 0s - loss: 494.0215[2023-12-07 10:34:30.064596]: Generating images for epoch 82 ...



525/525 [=====] - 29s 55ms/step - loss: 494.0215 - val_loss: 509.7430
 Epoch 83/100
 524/525 [=====] - ETA: 0s - loss: 492.0504[2023-12-07 10:34:56.588581]: Generating images for epoch 83 ...



525/525 [=====] - 26s 50ms/step - loss: 491.9603 - val_loss: 517.2580
 Epoch 84/100
 525/525 [=====] - ETA: 0s - loss: 482.6730[2023-12-07 10:35:25.136312]: Generating images for epoch 84 ...



525/525 [=====] - 29s 54ms/step - loss: 482.6730 - val_loss: 488.0632
 Epoch 85/100
 525/525 [=====] - ETA: 0s - loss: 478.5906[2023-12-07 10:35:53.434324]: Generating images for epoch 85 ...



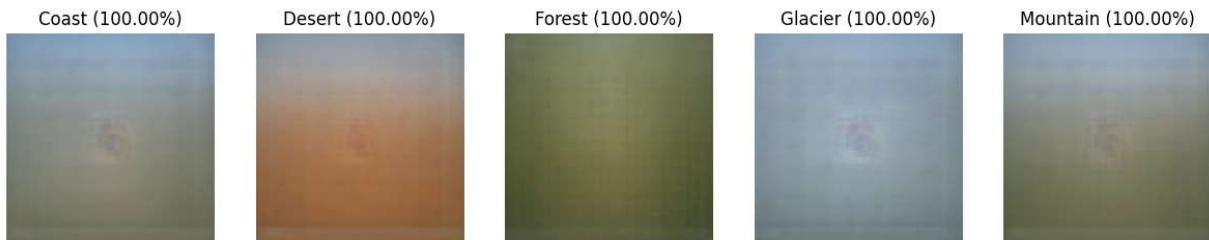
525/525 [=====] - 28s 54ms/step - loss: 478.5906 - val_loss: 492.7174
 Epoch 86/100
 525/525 [=====] - ETA: 0s - loss: 478.2039[2023-12-07 10:36:20.925698]: Generating images for epoch 86 ...



525/525 [=====] - 27s 52ms/step - loss: 478.2039 - val_loss: 491.5956
 Epoch 87/100
 525/525 [=====] - ETA: 0s - loss: 477.4200[2023-12-07 10:37:02.956450]: Generating images for epoch 87 ...



525/525 [=====] - 29s 54ms/step - loss: 477.4200 - val_loss: 485.8261
 Epoch 88/100
 525/525 [=====] - ETA: 0s - loss: 478.2083[2023-12-07 10:37:31.066590]: Generating images for epoch 88 ...



525/525 [=====] - 28s 54ms/step - loss: 478.2083 - val_loss: 482.9886
 Epoch 89/100
 525/525 [=====] - ETA: 0s - loss: 477.4030[2023-12-07 10:38:05.414411]: Generating images for epoch 89 ...



525/525 [=====] - 34s 65ms/step - loss: 477.4030 - val_loss: 486.5951
 Epoch 90/100
 525/525 [=====] - ETA: 0s - loss: 477.2720[2023-12-07 10:38:32.752079]: Generating images for epoch 90 ...



525/525 [=====] - 28s 53ms/step - loss: 477.2720 - val_loss: 484.0583
 Epoch 91/100
 525/525 [=====] - ETA: 0s - loss: 475.5759[2023-12-07 10:39:04.694230]: Generating images for epoch 91 ...



525/525 [=====] - 32s 61ms/step - loss: 475.5759 - val_loss: 487.8936
 Epoch 92/100
 524/525 [=====>.] - ETA: 0s - loss: 473.7806[2023-12-07 10:39:35.752086]: Generating images for epoch 92 ...



525/525 [=====] - 30s 58ms/step - loss: 473.8222 - val_loss: 484.6729
 Epoch 93/100
 524/525 [=====>.] - ETA: 0s - loss: 474.7940[2023-12-07 10:40:02.047092]: Generating images for epoch 93 ...



525/525 [=====] - 27s 51ms/step - loss: 474.7940 - val_loss: 489.1312
 Epoch 94/100
 524/525 [=====>.] - ETA: 0s - loss: 479.0224[2023-12-07 10:40:32.934090]: Generating images for epoch 94 ...



525/525 [=====] - 30s 58ms/step - loss: 479.0169 - val_loss: 492.8374
 Epoch 95/100
 524/525 [=====>.] - ETA: 0s - loss: 486.0475[2023-12-07 10:41:04.388898]: Generating images for epoch 95 ...



525/525 [=====] - 31s 60ms/step - loss: 486.0839 - val_loss: 497.0448
 Epoch 96/100
 524/525 [=====>.] - ETA: 0s - loss: 483.3140[2023-12-07 10:41:32.864141]: Generating images for epoch 96 ...



525/525 [=====] - 29s 55ms/step - loss: 483.4067 - val_loss: 492.8315
 Epoch 97/100
 524/525 [=====>.] - ETA: 0s - loss: 484.2668[2023-12-07 10:42:03.906197]: Generating images for epoch 97 ...



525/525 [=====] - 30s 58ms/step - loss: 484.1813 - val_loss: 495.7877
 Epoch 98/100
 525/525 [=====] - ETA: 0s - loss: 483.5811[2023-12-07 10:42:32.167323]: Generating images for epoch 98 ...



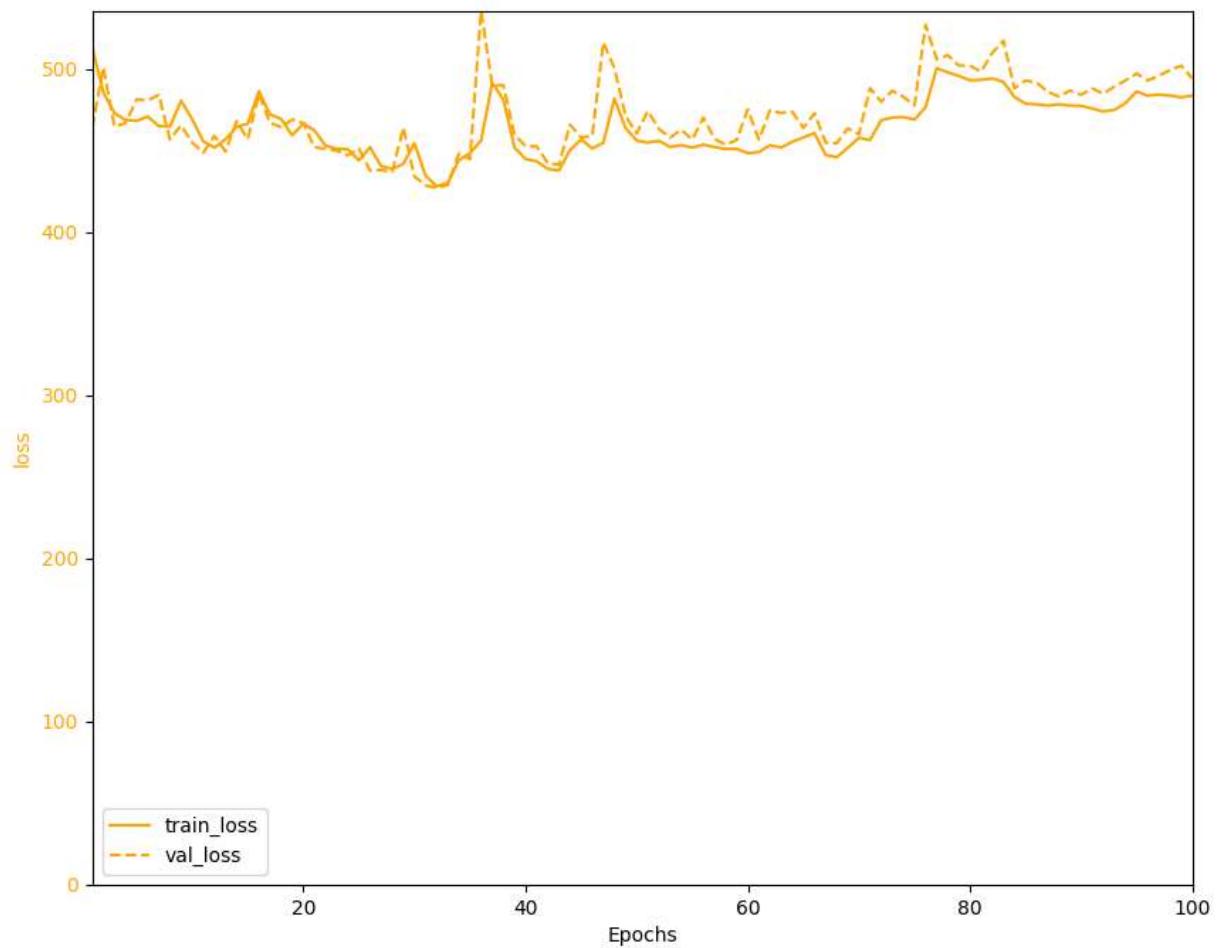
525/525 [=====] - 28s 54ms/step - loss: 483.5811 - val_loss: 499.1612
 Epoch 99/100
 525/525 [=====] - ETA: 0s - loss: 482.4241[2023-12-07 10:43:01.847998]: Generating images for epoch 99 ...



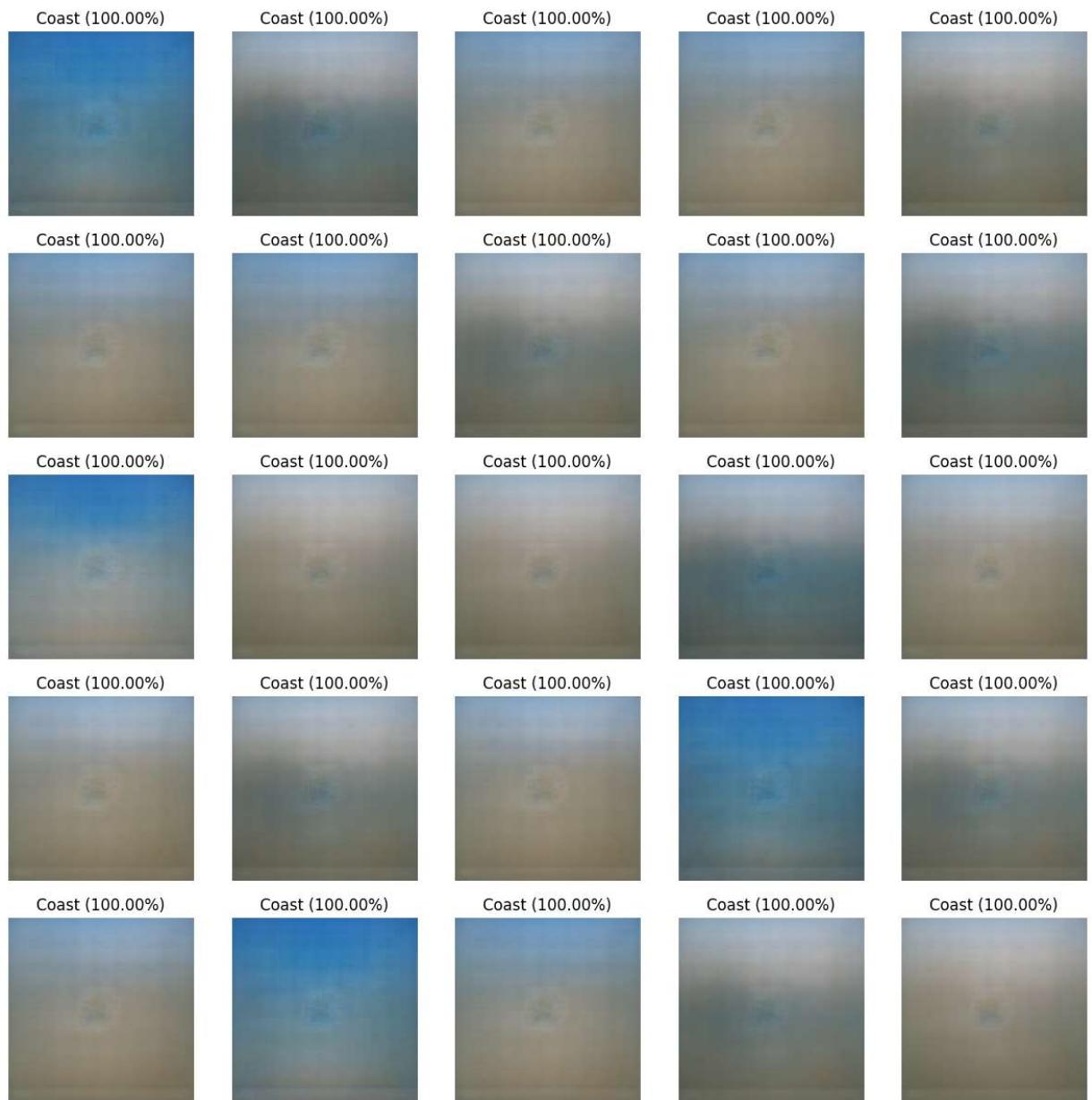
525/525 [=====] - 30s 57ms/step - loss: 482.4241 - val_loss: 501.9152
 Epoch 100/100
 524/525 [=====>.] - ETA: 0s - loss: 483.5318[2023-12-07 10:43:31.207763]: Generating images for epoch 100 ...



525/525 [=====] - 29s 55ms/step - loss: 483.5225 - val_loss: 494.1462

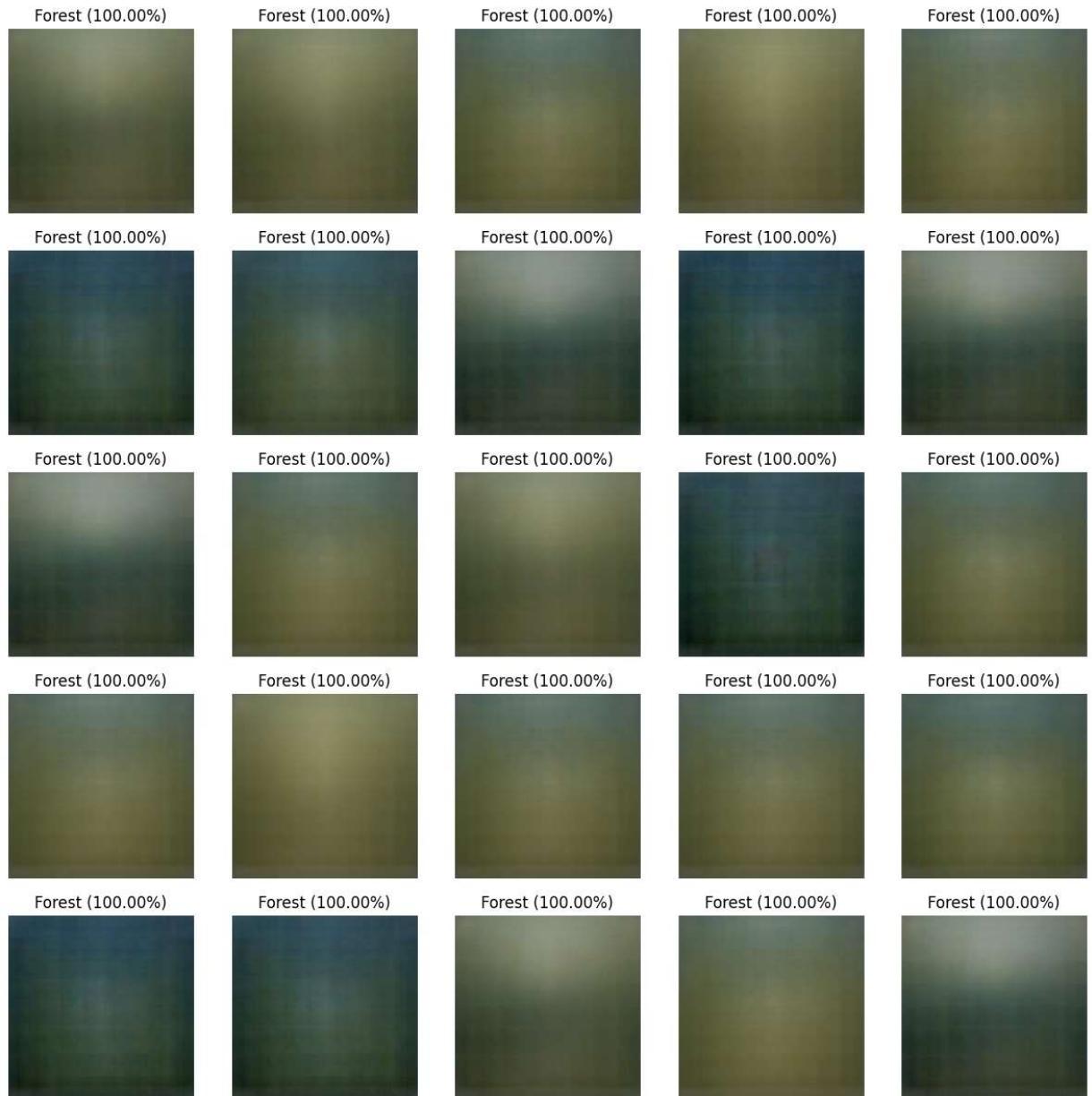


Coasts

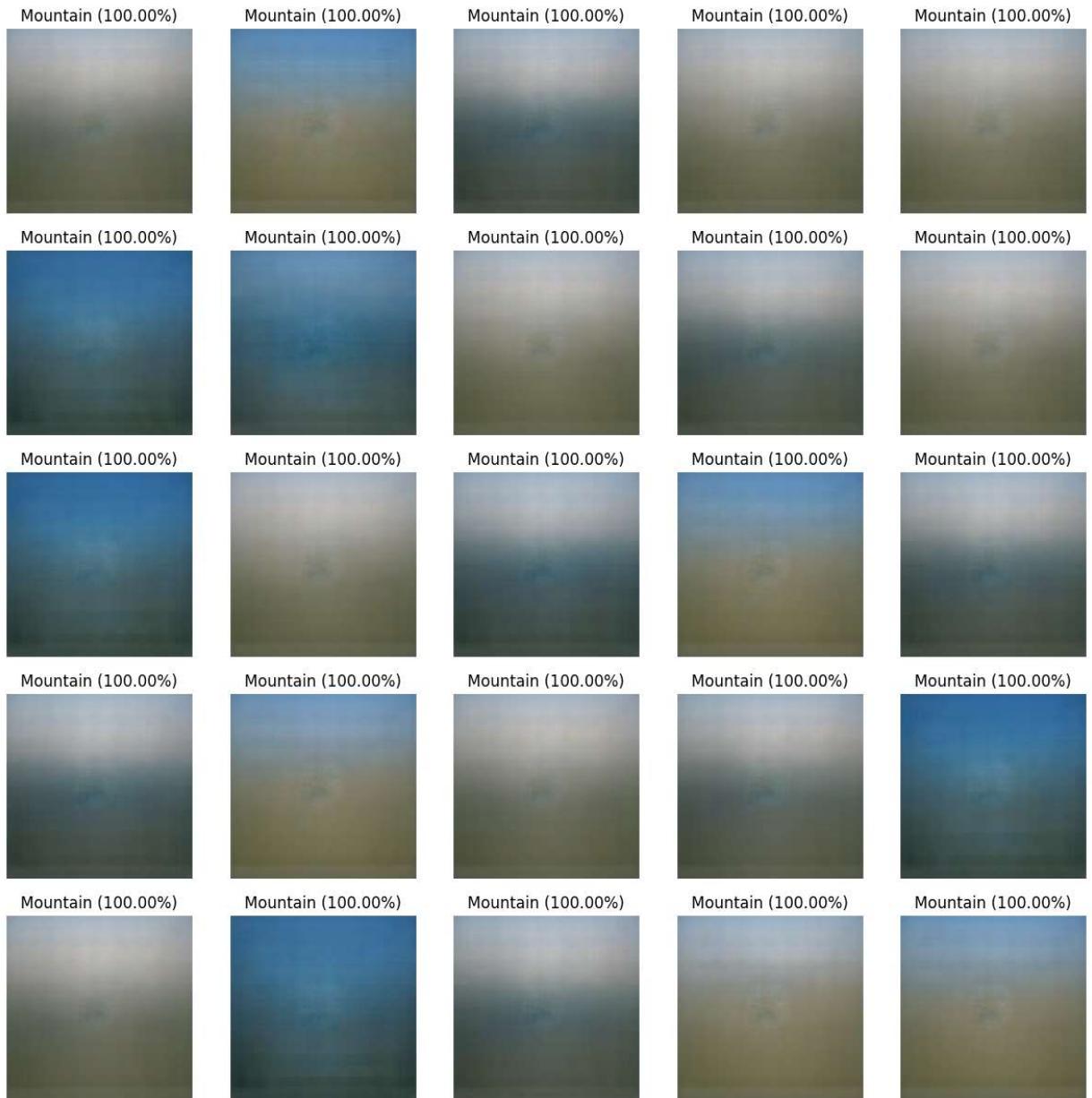
**Deserts**



Forests

**Glaciers**

**Mountains**



Performance Summary

[2023-12-07 10:45:00.261400]: Reconstruction & Regularization

[2023-12-07 10:45:00.261544]: Training loss: 479.987

[2023-12-07 10:45:00.261645]: Validation loss: 494.624

[2023-12-07 10:45:00.261714]: Test loss: 482.738

[2023-12-07 10:45:00.261824]: Image Quality

[2023-12-07 10:45:00.261904]: Coast	accuracy:	0.00%	loss:	7.090
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[2023-12-07 10:45:00.261989]: Desert	accuracy:	99.80%	loss:	0.003
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[2023-12-07 10:45:00.262405]: Forest	accuracy:	74.02%	loss:	0.749
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[2023-12-07 10:45:00.262492]: Glacier	accuracy:	0.00%	loss:	17.003
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[2023-12-07 10:45:00.262737]: Mountain	accuracy:	0.00%	loss:	7.462
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[2023-12-07 10:45:00.262979]: -----

[2023-12-07 10:45:00.263042]: Average	accuracy:	34.77%	loss:	6.461
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