Table 13. Hyperparameter configurations for baselines and M2NO on ERA5 benchmark.

| MODEL | HYPERPARAMETER | Configuration |
|------------|--|---|
| UNET | INIT_FEATURE | 64 |
| FNO | LAYERS MODE1 MODE2 WIDTH FC_DIM | [16,24,24,32,32] [32,15,12,9,9,9] [32,15,12,9,9,9] 64 128 |
| MGNO | NUM_LAYER NUM_CHANNEL_U NUM_ITERATION | 5 64 [[1,0], [1,0], [1,0], [2,0], [2,0]] |
| MWT | ALPHA C K NCZ BASE | 12 4 4 4 'LEGENDRE' |
| LSM | WIDTH NUM_TOKEN NUM_BASIS PATCH_SIZE PADDING | 32 4 4 [2,2] [0,0] |
| TRANSOLVER | N_HIDDEN N_LAYERS N_HEAD SLICE_NUM | 64 3 2 16 |
| M2NO | NUM_LAYER K C GRID_LEVEL | 3 4 2 [1, 1, 1, 1, 1] |