

Results manual clustering

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Data source: WRF

Type of Clustering: Conventional clustering

Chosen hours: from 1 to 10

Chosen days: from 21/07/2018 to 15/09/2018

The coordinates chosen are: []

The date filters chosen are: ['20180721', '20180722', '20180723', '20180724', '20180807', '20180808', '20180810', '20180905', '20180728', '20180811', '20180904']

Elapsed time to load 4290 files: 7.811 s

Dataset has 330 elements

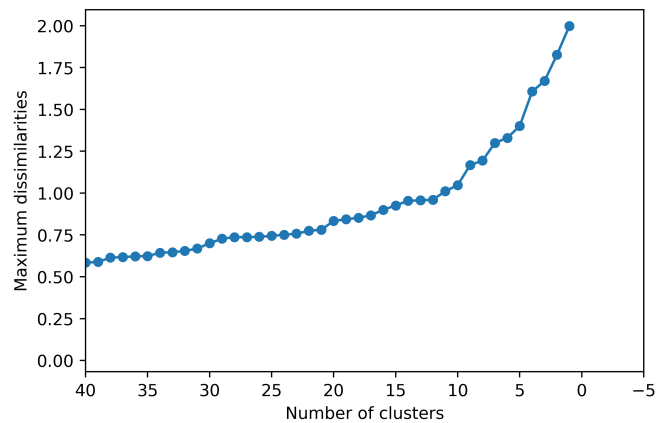
Elapsed time to normalize data with time average speed was: 0.115 s

Elapsed time to normalize data with space average speed was: 2.114 s

1 Manual clustering infos

Generation of complete dendrogram:

The hierarchical clustering algorithm execution time was 168.637 s



Hierarchical clustering for k values chosen:

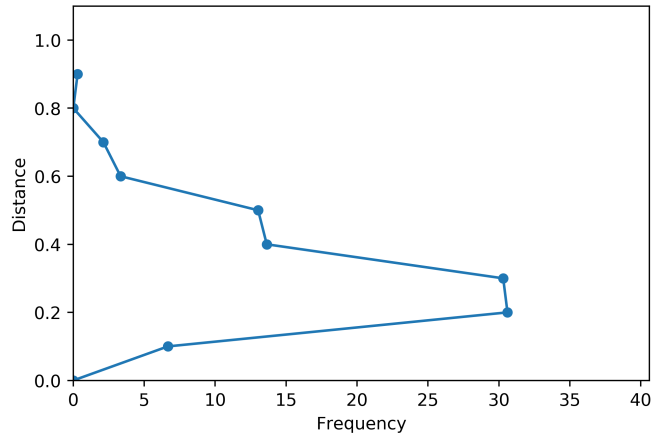
The hierarchical clustering algorithm execution time was 120.565 s

2 K-means infos

The chosen k are: [8]

3 Manual clustering results, k = 8

3.1 Threshold



The threshold chosen is: 0.60

Execution time of k-means: 6.271 s
 Number of iterations in k-means: 10
 Elements that have changed cluster: 103
 Number of outliers with distance greater than threshold: 15
 Number of outliers with their own cluster: 0

Number of clusters: 8

Table 1: Averages of meteorological parameters (1)

| Cluster | TWS | TWD | Pressure | Temp. | Temp. at ground | Humidity | Precipitation |
|---------|-------|--------|----------|-------|-----------------|----------|---------------|
| 1 | 18.11 | 210.17 | 1009.15 | 27.83 | 27.85 | 83.20 | 0.97 |
| 2 | 12.79 | 191.55 | 1008.52 | 27.56 | 28.38 | 86.90 | 1.03 |
| 3 | 9.54 | 160.41 | 1008.45 | 27.85 | 28.87 | 85.69 | 1.07 |
| 4 | 13.00 | 55.29 | 1015.47 | 25.31 | 26.79 | 69.53 | 2.86 |
| 5 | 10.38 | 20.47 | 1017.09 | 24.09 | 26.10 | 77.04 | 4.47 |
| 6 | 9.25 | 132.07 | 1009.93 | 27.03 | 28.13 | 78.62 | 3.17 |
| 7 | 3.08 | 228.31 | 1012.90 | 28.16 | 29.09 | 79.16 | 0.00 |
| 8 | 11.29 | 323.19 | 1008.54 | 28.84 | 28.71 | 80.12 | 0.00 |
| ***g*** | 5.07 | 126.78 | 1012.50 | 27.17 | 28.21 | 77.40 | 0.54 |

Table 2: Averages of meteorological parameters (2)

| Cluster | Low cloud coverage | Medium cc. | High cc. | Total cc. | Gust | Land cover surface |
|---------|--------------------|------------|----------|-----------|-------|--------------------|
| 1 | 0.39 | 3.84 | 7.85 | 11.23 | 22.19 | 0.12 |
| 2 | 1.62 | 2.09 | 6.65 | 7.36 | 14.67 | 0.12 |
| 3 | 0.29 | 0.04 | 8.50 | 9.35 | 10.41 | 0.12 |
| 4 | 21.32 | 14.22 | 12.14 | 38.69 | 14.18 | 0.12 |
| 5 | 27.87 | 27.21 | 17.57 | 51.68 | 11.05 | 0.12 |
| 6 | 2.99 | 0.02 | 11.13 | 13.51 | 10.27 | 0.12 |
| 7 | 0.00 | 0.00 | 0.00 | 0.00 | 3.14 | 0.12 |
| 8 | 3.10 | 6.55 | 3.04 | 7.15 | 13.45 | 0.12 |
| ***g*** | 3.24 | 0.00 | 9.28 | 10.51 | 5.54 | 0.12 |

| Cluster | N° elements | Relative freq | Min temp | Avg temp | Max temp | Min humid. | Avg humid. | Max humid. |
|---------|-------------|---------------|----------|----------|----------|------------|------------|------------|
| 1 | 113 | 34.24 | 24.48 | 27.83 | 35.55 | 40.71 | 83.20 | 99.96 |
| 2 | 60 | 18.18 | 23.81 | 27.56 | 35.23 | 43.38 | 86.90 | 100.00 |
| 3 | 52 | 15.76 | 24.11 | 27.85 | 34.76 | 44.87 | 85.69 | 100.00 |
| 4 | 39 | 11.82 | 20.94 | 25.31 | 31.12 | 39.64 | 69.53 | 95.24 |
| 5 | 29 | 8.79 | 20.18 | 24.09 | 27.80 | 47.38 | 77.04 | 99.56 |
| 6 | 17 | 5.15 | 21.86 | 27.03 | 31.98 | 46.61 | 78.62 | 98.78 |
| 7 | 3 | 0.91 | 26.10 | 28.16 | 33.01 | 49.81 | 79.16 | 93.88 |
| 8 | 2 | 0.61 | 26.50 | 28.84 | 33.58 | 40.56 | 80.12 | 94.61 |
| ***g*** | 15 | 4.55 | 20.39 | 27.17 | 34.35 | 44.27 | 77.40 | 95.59 |

| Cluster | Min precipit | Avg precipit | Max Precipit | Min pressure | Avg pressure | Max pressure |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|
| 1 | 0.000 | 0.971 | 46.400 | 995.705 | 1009.154 | 1015.664 |
| 2 | 0.000 | 1.033 | 46.400 | 995.750 | 1008.516 | 1016.173 |
| 3 | 0.000 | 1.072 | 44.060 | 1002.709 | 1008.454 | 1013.099 |
| 4 | 0.000 | 2.858 | 38.560 | 1005.597 | 1015.469 | 1023.042 |
| 5 | 0.000 | 4.472 | 38.520 | 1011.981 | 1017.091 | 1023.980 |
| 6 | 0.000 | 3.167 | 44.060 | 1004.328 | 1009.926 | 1020.462 |
| 7 | 0.000 | 0.000 | 0.001 | 1011.755 | 1012.901 | 1013.442 |
| 8 | 0.000 | 0.002 | 0.199 | 1004.766 | 1008.536 | 1011.922 |
| ***g*** | 0.000 | 0.538 | 15.960 | 1004.784 | 1012.496 | 1020.128 |

| Cluster | Min Gust | Avg Gust | Max Gust | Min HCC | Avg HCC | Max HCC | Min LCC | Avg LCC | Max LCC |
|---------|----------|----------|----------|---------|---------|---------|---------|---------|---------|
| 1 | 0.527 | 22.187 | 39.614 | 0.000 | 7.852 | 97.760 | 0.000 | 0.389 | 11.200 |
| 2 | 1.650 | 14.666 | 34.169 | 0.000 | 6.654 | 95.700 | 0.000 | 1.623 | 37.800 |
| 3 | 0.585 | 10.413 | 17.298 | 0.000 | 8.503 | 100.000 | 0.000 | 0.285 | 5.730 |
| 4 | 0.994 | 14.180 | 27.899 | 0.000 | 12.138 | 92.300 | 0.000 | 21.324 | 100.000 |
| 5 | 0.365 | 11.046 | 24.478 | 0.000 | 17.575 | 87.300 | 0.000 | 27.866 | 100.000 |
| 6 | 0.327 | 10.267 | 21.416 | 0.000 | 11.132 | 92.100 | 0.000 | 2.987 | 17.200 |
| 7 | 0.209 | 3.140 | 9.249 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| 8 | 0.915 | 13.446 | 27.566 | 0.000 | 3.035 | 9.100 | 0.000 | 3.103 | 12.600 |
| ***g*** | 0.179 | 5.542 | 13.923 | 0.000 | 9.278 | 84.600 | 0.000 | 3.236 | 24.500 |

| Cluster | Min LCS | Avg LCS | Max LCS | Min MCC | Avg MCC | Max MCC |
|---------|---------|---------|---------|---------|---------|---------|
| 1 | 0.000 | 0.120 | 1.000 | 0.000 | 3.837 | 98.500 |
| 2 | 0.000 | 0.120 | 1.000 | 0.000 | 2.086 | 89.600 |
| 3 | 0.000 | 0.120 | 1.000 | 0.000 | 0.041 | 4.310 |
| 4 | 0.000 | 0.120 | 1.000 | 0.000 | 14.219 | 98.880 |
| 5 | 0.000 | 0.120 | 1.000 | 0.000 | 27.212 | 99.910 |
| 6 | 0.000 | 0.120 | 1.000 | 0.000 | 0.020 | 0.312 |
| 7 | 0.000 | 0.120 | 1.000 | 0.000 | 0.000 | 0.000 |
| 8 | 0.000 | 0.120 | 1.000 | 0.000 | 6.551 | 22.700 |
| ***g*** | 0.000 | 0.120 | 1.000 | 0.000 | 0.001 | 0.127 |

| Cluster | Min TG | Avg TG | Max TG | Min TCC | Avg TCC | Max TCC |
|---------|--------|--------|--------|---------|---------|---------|
| 1 | 24.193 | 27.853 | 53.256 | 0.000 | 11.235 | 98.500 |
| 2 | 23.397 | 28.379 | 52.371 | 0.000 | 7.362 | 95.700 |
| 3 | 23.802 | 28.869 | 52.239 | 0.000 | 9.350 | 100.000 |
| 4 | 19.088 | 26.788 | 45.282 | 0.000 | 38.690 | 100.000 |
| 5 | 20.184 | 26.103 | 41.782 | 0.250 | 51.680 | 100.000 |
| 6 | 21.286 | 28.125 | 45.793 | 0.000 | 13.513 | 92.100 |
| 7 | 26.273 | 29.094 | 47.015 | 0.000 | 0.000 | 0.000 |
| 8 | 26.356 | 28.711 | 45.632 | 0.000 | 7.150 | 25.900 |
| ***g*** | 19.228 | 28.209 | 50.020 | 0.000 | 10.514 | 84.600 |

| Cluster | Min speed | Avg speed | Max speed | Min direction | Avg direction | Max direction |
|---------|-----------|-----------|-----------|---------------|---------------|---------------|
| 1 | 0.421 | 18.107 | 31.257 | 3.137 | 210.168 | 356.169 |
| 2 | 1.344 | 12.786 | 27.416 | 52.532 | 191.550 | 358.424 |
| 3 | 0.559 | 9.537 | 15.510 | 1.295 | 160.408 | 248.642 |
| 4 | 0.929 | 13.000 | 26.299 | 0.138 | 55.293 | 359.215 |
| 5 | 0.233 | 10.375 | 22.292 | 0.005 | 20.470 | 359.957 |
| 6 | 0.323 | 9.254 | 18.623 | 0.941 | 132.069 | 355.917 |
| 7 | 0.213 | 3.084 | 8.898 | 1.783 | 228.310 | 359.693 |
| 8 | 0.651 | 11.287 | 23.410 | 2.232 | 323.192 | 353.520 |
| ***g*** | 0.076 | 5.069 | 13.837 | 0.250 | 126.784 | 359.391 |

Table 3: Ranges of TEMPERATURE (in °C):

| Cluster | [20.178, 23.253] | [23.253, 26.328] | [26.328, 29.404] | [29.404, 32.479] | [32.479, 35.554] |
|---------|------------------|------------------|------------------|------------------|------------------|
| 1 | 0.00% | 7.61% | 83.16% | 8.49% | 0.74% |
| 2 | 0.00% | 9.30% | 83.40% | 6.38% | 0.92% |
| 3 | 0.00% | 7.23% | 84.21% | 7.90% | 0.65% |
| 4 | 2.77% | 69.59% | 26.67% | 0.97% | 0.00% |
| 5 | 28.31% | 68.97% | 2.72% | 0.00% | 0.00% |
| 6 | 0.35% | 25.76% | 69.59% | 4.29% | 0.00% |
| 7 | 0.00% | 6.33% | 75.33% | 17.33% | 1.00% |
| 8 | 0.00% | 0.00% | 80.00% | 17.50% | 2.50% |
| ***g*** | 0.87% | 34.40% | 53.53% | 9.87% | 1.33% |

Table 4: Ranges of HUMIDITY (in %):

| Cluster | [39.640, 51.712] | [51.712, 63.784] | [63.784, 75.856] | [75.856, 87.928] | [87.928, 100.000] |
|---------|------------------|------------------|------------------|------------------|-------------------|
| 1 | 0.31% | 2.39% | 10.68% | 58.70% | 27.92% |
| 2 | 0.30% | 2.30% | 5.47% | 38.25% | 53.68% |
| 3 | 0.40% | 2.63% | 6.67% | 42.63% | 47.65% |
| 4 | 2.49% | 24.74% | 48.97% | 22.95% | 0.85% |
| 5 | 0.41% | 6.48% | 40.10% | 39.28% | 13.72% |
| 6 | 0.82% | 4.88% | 42.76% | 27.41% | 24.12% |
| 7 | 0.67% | 7.67% | 19.00% | 61.67% | 11.00% |
| 8 | 2.50% | 2.00% | 12.00% | 74.00% | 9.50% |
| ***g*** | 0.67% | 6.93% | 35.33% | 45.27% | 11.80% |

Table 5: Ranges of PRECIPITATION (in mm/h):

| Cluster | [0.000, 9.280) | [9.280, 18.560) | [18.560, 27.840) | [27.840, 37.120) | [37.120, 46.400] |
|---------|----------------|-----------------|------------------|------------------|------------------|
| 1 | 96.19% | 1.71% | 0.97% | 0.75% | 0.37% |
| 2 | 96.07% | 2.10% | 0.92% | 0.62% | 0.30% |
| 3 | 95.02% | 2.77% | 1.65% | 0.37% | 0.19% |
| 4 | 89.36% | 8.69% | 1.79% | 0.08% | 0.08% |
| 5 | 80.31% | 16.79% | 2.41% | 0.24% | 0.24% |
| 6 | 85.24% | 8.00% | 5.24% | 1.06% | 0.47% |
| 7 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| 8 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| ***g*** | 98.40% | 1.60% | 0.00% | 0.00% | 0.00% |

Table 6: Ranges of PRESSURE (in hPa):

| Cluster | [996, 1001) | [1001, 1007) | [1007, 1013) | [1013, 1018) | [1018, 1024] |
|---------|-------------|--------------|--------------|--------------|--------------|
| 1 | 6.19% | 15.13% | 66.17% | 12.50% | 0.00% |
| 2 | 5.00% | 43.33% | 26.05% | 25.62% | 0.00% |
| 3 | 0.00% | 28.38% | 64.08% | 7.54% | 0.00% |
| 4 | 0.00% | 10.31% | 28.10% | 7.74% | 53.85% |
| 5 | 0.00% | 0.00% | 0.45% | 54.72% | 44.83% |
| 6 | 0.00% | 18.00% | 70.24% | 0.00% | 11.76% |
| 7 | 0.00% | 0.00% | 18.67% | 81.33% | 0.00% |
| 8 | 0.00% | 50.00% | 50.00% | 0.00% | 0.00% |
| ***g*** | 0.00% | 9.00% | 46.07% | 18.27% | 26.67% |

Table 7: Ranges of GUST (in knots):

| Cluster | [0.179, 8.066) | [8.066, 15.953) | [15.953, 23.840) | [23.840, 31.727) | [31.727, 39.614] |
|---------|----------------|-----------------|------------------|------------------|------------------|
| 1 | 5.22% | 15.73% | 31.51% | 39.97% | 7.56% |
| 2 | 13.25% | 48.07% | 29.13% | 9.07% | 0.48% |
| 3 | 22.29% | 77.13% | 0.58% | 0.00% | 0.00% |
| 4 | 18.10% | 38.38% | 43.36% | 0.15% | 0.00% |
| 5 | 34.17% | 44.52% | 21.21% | 0.10% | 0.00% |
| 6 | 28.29% | 66.88% | 4.82% | 0.00% | 0.00% |
| 7 | 98.67% | 1.33% | 0.00% | 0.00% | 0.00% |
| 8 | 38.00% | 20.00% | 30.00% | 12.00% | 0.00% |
| ***g*** | 79.07% | 20.93% | 0.00% | 0.00% | 0.00% |

Table 8: Ranges of HIGH CLOUD COVERAGE (in %):

| Cluster | [0.000, 20.000) | [20.000, 40.000) | [40.000, 60.000) | [60.000, 80.000) | [80.000, 100.000] |
|---------|-----------------|------------------|------------------|------------------|-------------------|
| 1 | 87.18% | 6.96% | 3.73% | 1.18% | 0.95% |
| 2 | 89.05% | 6.20% | 2.47% | 0.57% | 1.72% |
| 3 | 85.69% | 6.81% | 1.79% | 3.98% | 1.73% |
| 4 | 74.85% | 16.69% | 4.38% | 3.72% | 0.36% |
| 5 | 67.86% | 12.76% | 9.69% | 9.31% | 0.38% |
| 6 | 82.65% | 6.47% | 4.18% | 5.12% | 1.59% |
| 7 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| 8 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| ***g*** | 86.47% | 2.47% | 8.20% | 2.73% | 0.13% |

Table 9: Ranges of LOW CLOUD COVERAGE (in %):

| Cluster | [0.000, 20.000) | [20.000, 40.000) | [40.000, 60.000) | [60.000, 80.000) | [80.000, 100.000] |
|---------|-----------------|------------------|------------------|------------------|-------------------|
| 1 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| 2 | 99.13% | 0.87% | 0.00% | 0.00% | 0.00% |
| 3 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| 4 | 63.95% | 12.33% | 11.21% | 9.41% | 3.10% |
| 5 | 67.76% | 9.00% | 2.52% | 0.03% | 20.69% |
| 6 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| 7 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| 8 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| ***g*** | 99.67% | 0.33% | 0.00% | 0.00% | 0.00% |

Table 10: Ranges of LAND COVER SURFACE (in m²):

| Cluster | [0.000, 0.200) | [0.200, 0.400) | [0.400, 0.600) | [0.600, 0.800) | [0.800, 1.000] |
|---------|----------------|----------------|----------------|----------------|----------------|
| 1 | 88.00% | 0.00% | 0.00% | 0.00% | 12.00% |
| 2 | 88.00% | 0.00% | 0.00% | 0.00% | 12.00% |
| 3 | 88.00% | 0.00% | 0.00% | 0.00% | 12.00% |
| 4 | 88.00% | 0.00% | 0.00% | 0.00% | 12.00% |
| 5 | 88.00% | 0.00% | 0.00% | 0.00% | 12.00% |
| 6 | 88.00% | 0.00% | 0.00% | 0.00% | 12.00% |
| 7 | 88.00% | 0.00% | 0.00% | 0.00% | 12.00% |
| 8 | 88.00% | 0.00% | 0.00% | 0.00% | 12.00% |
| ***g*** | 88.00% | 0.00% | 0.00% | 0.00% | 12.00% |

Table 11: Ranges of MEDIUM CLOUD COVERAGE (in %):

| Cluster | [0.000, 19.982) | [19.982, 39.964) | [39.964, 59.946) | [59.946, 79.928) | [79.928, 99.910] |
|---------|-----------------|------------------|------------------|------------------|------------------|
| 1 | 93.99% | 3.79% | 0.42% | 0.70% | 1.10% |
| 2 | 97.18% | 1.10% | 0.05% | 1.02% | 0.65% |
| 3 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| 4 | 77.82% | 3.85% | 6.31% | 6.33% | 5.69% |
| 5 | 67.00% | 1.97% | 3.38% | 13.93% | 13.72% |
| 6 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| 7 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| 8 | 97.50% | 2.50% | 0.00% | 0.00% | 0.00% |
| ***g*** | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |

Table 12: Ranges of TEMPERATURE AT GROUND (in °C):

| Cluster | [19.088, 25.921) | [25.921, 32.755) | [32.755, 39.589) | [39.589, 46.422) | [46.422, 53.256] |
|---------|------------------|------------------|------------------|------------------|------------------|
| 1 | 12.23% | 80.94% | 3.45% | 2.82% | 0.56% |
| 2 | 4.30% | 87.45% | 3.10% | 4.02% | 1.13% |
| 3 | 4.46% | 87.31% | 2.73% | 4.13% | 1.37% |
| 4 | 38.10% | 57.46% | 2.72% | 1.72% | 0.00% |
| 5 | 61.48% | 34.83% | 3.38% | 0.31% | 0.00% |
| 6 | 15.65% | 77.59% | 2.53% | 4.24% | 0.00% |
| 7 | 0.00% | 89.33% | 1.67% | 8.33% | 0.67% |
| 8 | 0.00% | 94.00% | 1.50% | 4.50% | 0.00% |
| ***g*** | 30.27% | 61.00% | 2.60% | 4.27% | 1.87% |

Table 13: Ranges of TOTAL CLOUD COVERAGE (in %):

| Cluster | [0.000, 20.000) | [20.000, 40.000) | [40.000, 60.000) | [60.000, 80.000) | [80.000, 100.000] |
|---------|-----------------|------------------|------------------|------------------|-------------------|
| 1 | 79.60% | 11.52% | 4.96% | 2.61% | 1.30% |
| 2 | 87.90% | 7.30% | 2.52% | 0.57% | 1.72% |
| 3 | 83.27% | 9.08% | 1.94% | 3.98% | 1.73% |
| 4 | 32.97% | 20.23% | 20.08% | 17.59% | 9.13% |
| 5 | 25.83% | 16.10% | 13.79% | 16.17% | 28.10% |
| 6 | 82.65% | 6.47% | 4.18% | 5.12% | 1.59% |
| 7 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| 8 | 95.50% | 4.50% | 0.00% | 0.00% | 0.00% |
| ***9*** | 86.13% | 2.80% | 8.20% | 2.73% | 0.13% |

Table 14: Wind speed ranges (in knots)

| Cluster | [0, 5) | [5, 10) | [10, 15) | [15, 20) | [20, 25) | [25, 30) | [30, 31.26] |
|---------|--------|---------|----------|----------|----------|----------|-------------|
| 1 | 2.04% | 9.17% | 17.42% | 28.33% | 32.35% | 10.38% | 0.32% |
| 2 | 3.65% | 32.68% | 31.80% | 21.13% | 8.37% | 2.37% | 0.00% |
| 3 | 6.29% | 46.96% | 46.56% | 0.19% | 0.00% | 0.00% | 0.00% |
| 4 | 6.77% | 20.69% | 32.26% | 38.49% | 1.77% | 0.03% | 0.00% |
| 5 | 14.59% | 33.03% | 32.76% | 19.10% | 0.52% | 0.00% | 0.00% |
| 6 | 11.88% | 43.88% | 41.24% | 3.00% | 0.00% | 0.00% | 0.00% |
| 7 | 79.67% | 20.33% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| 8 | 24.50% | 24.00% | 15.50% | 20.50% | 15.50% | 0.00% | 0.00% |
| ***9*** | 54.07% | 41.00% | 4.93% | 0.00% | 0.00% | 0.00% | 0.00% |

Table 15: Wind direction ranges

| Cluster | [0-22.5) | [22.5-45) | [45-67.5) | [67.5-90) | [90-112.5) | [112.5-135) | [135-157.5) | [157.5-180) | [180-202.5) | [202.5-225) | [225-247.5) | [247.5-270) | [270-292.5) | [292.5-315) | [315-337.5) | [337.5-360] |
|---------|----------|-----------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| 1 | 0.06% | 0.09% | 0.05% | 0.17% | 0.09% | 0.13% | 0.14% | 1.19% | 20.65% | 67.46% | 9.63% | 0.21% | 0.05% | 0.03% | 0.00% | 0.04% |
| 2 | 0.00% | 0.00% | 0.20% | 0.15% | 0.20% | 0.40% | 0.88% | 16.30% | 61.68% | 18.98% | 0.93% | 0.18% | 0.03% | 0.00% | 0.00% | 0.05% |
| 3 | 0.13% | 0.06% | 0.08% | 0.38% | 1.04% | 9.29% | 32.94% | 39.56% | 13.81% | 2.21% | 0.48% | 0.02% | 0.00% | 0.00% | 0.00% | 0.00% |
| 4 | 4.13% | 28.44% | 40.18% | 23.72% | 2.15% | 0.77% | 0.23% | 0.10% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.05% | 0.23% |
| 5 | 42.59% | 34.62% | 7.31% | 1.45% | 0.31% | 0.41% | 0.28% | 0.03% | 0.03% | 0.21% | 0.14% | 0.14% | 0.14% | 0.59% | 1.86% | 9.90% |
| 6 | 0.24% | 0.47% | 1.35% | 4.41% | 15.12% | 34.59% | 25.29% | 12.82% | 2.53% | 1.00% | 1.06% | 0.47% | 0.18% | 0.18% | 0.06% | 0.24% |
| 7 | 5.33% | 7.33% | 8.67% | 4.33% | 3.67% | 3.67% | 8.00% | 7.67% | 6.00% | 6.00% | 8.67% | 10.33% | 7.00% | 4.67% | 5.33% | 3.33% |
| 8 | 16.00% | 17.50% | 9.00% | 4.50% | 1.00% | 1.50% | 1.00% | 0.00% | 0.50% | 5.50% | 23.50% | 14.00% | 1.50% | 2.00% | 1.50% | 1.00% |
| ***g*** | 4.87% | 8.33% | 7.20% | 9.93% | 7.07% | 12.47% | 12.60% | 7.67% | 8.07% | 7.40% | 5.27% | 4.20% | 0.93% | 0.53% | 1.53% | 1.93% |

Table 16: Transition matrix

| Cluster | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------|-------|-------|-------|-------|-------|-------|-------|------|
| 1 | 91.92 | 7.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.01 |
| 2 | 15.79 | 78.95 | 5.26 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | 0.00 | 4.35 | 93.48 | 0.00 | 0.00 | 2.17 | 0.00 | 0.00 |
| 4 | 0.00 | 0.00 | 0.00 | 96.88 | 0.00 | 3.12 | 0.00 | 0.00 |
| 5 | 0.00 | 0.00 | 0.00 | 11.11 | 88.89 | 0.00 | 0.00 | 0.00 |
| 6 | 0.00 | 0.00 | 21.43 | 0.00 | 0.00 | 78.57 | 0.00 | 0.00 |
| 7 | 66.67 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 33.33 | 0.00 |
| 8 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Table 17: Ranges of DIFF. TEMPERATURE (in °C):

| Transition | [-0.666, -0.390) | [-0.390, -0.115) | [-0.115, 0.161) | [0.161, 0.437) | [0.437, 0.713] |
|------------|------------------|------------------|-----------------|----------------|----------------|
| 1-1 | 0.00% | 30.77% | 58.24% | 9.89% | 1.10% |
| 1-2 | 0.00% | 42.86% | 42.86% | 14.29% | 0.00% |
| 1-8 | 0.00% | 100.00% | 0.00% | 0.00% | 0.00% |
| 2-1 | 0.00% | 0.00% | 77.78% | 11.11% | 11.11% |
| 2-2 | 0.00% | 11.11% | 75.56% | 11.11% | 2.22% |
| 2-3 | 0.00% | 66.67% | 33.33% | 0.00% | 0.00% |
| 3-2 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |
| 3-3 | 0.00% | 39.53% | 58.14% | 2.33% | 0.00% |
| 3-6 | 0.00% | 100.00% | 0.00% | 0.00% | 0.00% |
| 4-4 | 16.13% | 22.58% | 25.81% | 25.81% | 9.68% |
| 4-6 | 0.00% | 0.00% | 0.00% | 100.00% | 0.00% |
| 5-4 | 0.00% | 0.00% | 66.67% | 0.00% | 33.33% |
| 5-5 | 0.00% | 4.17% | 29.17% | 41.67% | 25.00% |
| 6-3 | 0.00% | 0.00% | 66.67% | 33.33% | 0.00% |
| 6-6 | 0.00% | 45.45% | 45.45% | 9.09% | 0.00% |
| 7-1 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |
| 7-7 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |

Table 18: Ranges of DIFF. HUMIDITY (in %):

| Transition | [-3.797, -1.987) | [-1.987, -0.176) | [-0.176, 1.635) | [1.635, 3.445) | [3.445, 5.256] |
|------------|------------------|------------------|-----------------|----------------|----------------|
| 1-1 | 5.49% | 35.16% | 50.55% | 8.79% | 0.00% |
| 1-2 | 0.00% | 0.00% | 71.43% | 28.57% | 0.00% |
| 1-8 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |
| 2-1 | 11.11% | 33.33% | 55.56% | 0.00% | 0.00% |
| 2-2 | 6.67% | 26.67% | 60.00% | 4.44% | 2.22% |
| 2-3 | 0.00% | 0.00% | 66.67% | 33.33% | 0.00% |
| 3-2 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |
| 3-3 | 0.00% | 6.98% | 65.12% | 27.91% | 0.00% |
| 3-6 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |
| 4-4 | 9.68% | 38.71% | 29.03% | 16.13% | 6.45% |
| 4-6 | 0.00% | 100.00% | 0.00% | 0.00% | 0.00% |
| 5-4 | 33.33% | 66.67% | 0.00% | 0.00% | 0.00% |
| 5-5 | 16.67% | 62.50% | 12.50% | 8.33% | 0.00% |
| 6-3 | 33.33% | 0.00% | 66.67% | 0.00% | 0.00% |
| 6-6 | 9.09% | 36.36% | 54.55% | 0.00% | 0.00% |
| 7-1 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |
| 7-7 | 0.00% | 100.00% | 0.00% | 0.00% | 0.00% |

Table 19: Ranges of DIFF. PRECIPITATION (in mm/h):

| Transition | [0.000, 0.333) | [0.333, 0.666) | [0.666, 0.998) | [0.998, 1.331) | [1.331, 1.664] |
|------------|----------------|----------------|----------------|----------------|----------------|
| 1-1 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| 1-2 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| 1-8 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| 2-1 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| 2-2 | 91.11% | 2.22% | 4.44% | 0.00% | 2.22% |
| 2-3 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| 3-2 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| 3-3 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| 3-6 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| 4-4 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| 4-6 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| 5-4 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| 5-5 | 95.83% | 0.00% | 4.17% | 0.00% | 0.00% |
| 6-3 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| 6-6 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| 7-1 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| 7-7 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |

Table 20: Ranges of DIFF. PRESSURE (in hPa):

| Transition | [-1, -0) | [-0, 0) | [0, 0) | [0, 1) | [1, 1] |
|------------|----------|---------|---------|--------|---------|
| 1-1 | 15.38% | 53.85% | 24.18% | 5.49% | 1.10% |
| 1-2 | 0.00% | 85.71% | 14.29% | 0.00% | 0.00% |
| 1-8 | 0.00% | 0.00% | 0.00% | 0.00% | 100.00% |
| 2-1 | 11.11% | 44.44% | 33.33% | 11.11% | 0.00% |
| 2-2 | 22.22% | 62.22% | 15.56% | 0.00% | 0.00% |
| 2-3 | 0.00% | 66.67% | 0.00% | 33.33% | 0.00% |
| 3-2 | 50.00% | 50.00% | 0.00% | 0.00% | 0.00% |
| 3-3 | 4.65% | 58.14% | 34.88% | 2.33% | 0.00% |
| 3-6 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |
| 4-4 | 16.13% | 51.61% | 25.81% | 6.45% | 0.00% |
| 4-6 | 0.00% | 100.00% | 0.00% | 0.00% | 0.00% |
| 5-4 | 33.33% | 33.33% | 33.33% | 0.00% | 0.00% |
| 5-5 | 20.83% | 66.67% | 12.50% | 0.00% | 0.00% |
| 6-3 | 33.33% | 33.33% | 33.33% | 0.00% | 0.00% |
| 6-6 | 9.09% | 45.45% | 45.45% | 0.00% | 0.00% |
| 7-1 | 0.00% | 100.00% | 0.00% | 0.00% | 0.00% |
| 7-7 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |

Table 21: Ranges of DIFF. GUST (in knots):

| Transition | [-2.997, -1.434) | [-1.434, 0.128) | [0.128, 1.691) | [1.691, 3.254) | [3.254, 4.817] |
|------------|------------------|-----------------|----------------|----------------|----------------|
| 1-1 | 3.30% | 29.67% | 50.55% | 14.29% | 2.20% |
| 1-2 | 0.00% | 28.57% | 42.86% | 28.57% | 0.00% |
| 1-8 | 0.00% | 100.00% | 0.00% | 0.00% | 0.00% |
| 2-1 | 11.11% | 22.22% | 22.22% | 33.33% | 11.11% |
| 2-2 | 0.00% | 22.22% | 55.56% | 20.00% | 2.22% |
| 2-3 | 33.33% | 0.00% | 33.33% | 33.33% | 0.00% |
| 3-2 | 50.00% | 0.00% | 50.00% | 0.00% | 0.00% |
| 3-3 | 4.65% | 32.56% | 44.19% | 18.60% | 0.00% |
| 3-6 | 0.00% | 100.00% | 0.00% | 0.00% | 0.00% |
| 4-4 | 9.68% | 35.48% | 54.84% | 0.00% | 0.00% |
| 4-6 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |
| 5-4 | 0.00% | 66.67% | 33.33% | 0.00% | 0.00% |
| 5-5 | 41.67% | 50.00% | 8.33% | 0.00% | 0.00% |
| 6-3 | 0.00% | 66.67% | 0.00% | 33.33% | 0.00% |
| 6-6 | 0.00% | 54.55% | 45.45% | 0.00% | 0.00% |
| 7-1 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |
| 7-7 | 0.00% | 100.00% | 0.00% | 0.00% | 0.00% |

Table 22: Ranges of DIFF. HIGH CLOUD COVERAGE (in %):

| Transition | [-65.145, -36.380) | [-36.380, -7.615) | [-7.615, 21.151) | [21.151, 49.916) | [49.916, 78.681] |
|------------|--------------------|-------------------|------------------|------------------|------------------|
| 1-1 | 0.00% | 7.69% | 87.91% | 4.40% | 0.00% |
| 1-2 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |
| 1-8 | 0.00% | 100.00% | 0.00% | 0.00% | 0.00% |
| 2-1 | 0.00% | 0.00% | 88.89% | 11.11% | 0.00% |
| 2-2 | 0.00% | 15.56% | 84.44% | 0.00% | 0.00% |
| 2-3 | 0.00% | 33.33% | 66.67% | 0.00% | 0.00% |
| 3-2 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |
| 3-3 | 4.65% | 6.98% | 79.07% | 6.98% | 2.33% |
| 3-6 | 0.00% | 0.00% | 0.00% | 0.00% | 100.00% |
| 4-4 | 6.45% | 9.68% | 67.74% | 12.90% | 3.23% |
| 4-6 | 0.00% | 100.00% | 0.00% | 0.00% | 0.00% |
| 5-4 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |
| 5-5 | 0.00% | 20.83% | 75.00% | 4.17% | 0.00% |
| 6-3 | 0.00% | 33.33% | 66.67% | 0.00% | 0.00% |
| 6-6 | 0.00% | 18.18% | 81.82% | 0.00% | 0.00% |
| 7-1 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |
| 7-7 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |

Table 23: Ranges of DIFF. LOW CLOUD COVERAGE (in %):

| Transition | [-64.652, -48.713) | [-48.713, -32.773) | [-32.773, -16.834) | [-16.834, -0.894) | [-0.894, 15.045] |
|------------|--------------------|--------------------|--------------------|-------------------|------------------|
| 1-1 | 0.00% | 0.00% | 0.00% | 4.40% | 95.60% |
| 1-2 | 0.00% | 0.00% | 0.00% | 0.00% | 100.00% |
| 1-8 | 0.00% | 0.00% | 0.00% | 0.00% | 100.00% |
| 2-1 | 0.00% | 0.00% | 11.11% | 0.00% | 88.89% |
| 2-2 | 0.00% | 0.00% | 0.00% | 11.11% | 88.89% |
| 2-3 | 0.00% | 0.00% | 0.00% | 33.33% | 66.67% |
| 3-2 | 0.00% | 0.00% | 0.00% | 0.00% | 100.00% |
| 3-3 | 0.00% | 0.00% | 0.00% | 4.65% | 95.35% |
| 3-6 | 0.00% | 0.00% | 0.00% | 0.00% | 100.00% |
| 4-4 | 3.23% | 0.00% | 3.23% | 38.71% | 54.84% |
| 4-6 | 0.00% | 0.00% | 0.00% | 0.00% | 100.00% |
| 5-4 | 0.00% | 0.00% | 0.00% | 0.00% | 100.00% |
| 5-5 | 0.00% | 0.00% | 8.33% | 70.83% | 20.83% |
| 6-3 | 0.00% | 0.00% | 0.00% | 33.33% | 66.67% |
| 6-6 | 0.00% | 0.00% | 0.00% | 18.18% | 81.82% |
| 7-1 | 0.00% | 0.00% | 0.00% | 0.00% | 100.00% |
| 7-7 | 0.00% | 0.00% | 0.00% | 0.00% | 100.00% |

Table 24: Ranges of DIFF. MEDIUM CLOUD COVERAGE (in %):

| Transition | [-64.843, -41.247) | [-41.247, -17.650) | [-17.650, 5.946) | [5.946, 29.542) | [29.542, 53.138] |
|------------|--------------------|--------------------|------------------|-----------------|------------------|
| 1-1 | 0.00% | 0.00% | 93.41% | 5.49% | 1.10% |
| 1-2 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |
| 1-8 | 0.00% | 0.00% | 0.00% | 100.00% | 0.00% |
| 2-1 | 0.00% | 11.11% | 77.78% | 11.11% | 0.00% |
| 2-2 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |
| 2-3 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |
| 3-2 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |
| 3-3 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |
| 3-6 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |
| 4-4 | 3.23% | 3.23% | 83.87% | 3.23% | 6.45% |
| 4-6 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |
| 5-4 | 0.00% | 0.00% | 66.67% | 33.33% | 0.00% |
| 5-5 | 8.33% | 4.17% | 62.50% | 16.67% | 8.33% |
| 6-3 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |
| 6-6 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |
| 7-1 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |
| 7-7 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |

Table 25: Ranges of DIFF. TEMPERATURE AT GROUND (in °C):

| Transition | [-0.420, -0.158) | [-0.158, 0.104) | [0.104, 0.367) | [0.367, 0.629) | [0.629, 0.891] |
|------------|------------------|-----------------|----------------|----------------|----------------|
| 1-1 | 49.45% | 40.66% | 9.89% | 0.00% | 0.00% |
| 1-2 | 0.00% | 71.43% | 28.57% | 0.00% | 0.00% |
| 1-8 | 0.00% | 100.00% | 0.00% | 0.00% | 0.00% |
| 2-1 | 77.78% | 11.11% | 0.00% | 0.00% | 11.11% |
| 2-2 | 48.89% | 35.56% | 15.56% | 0.00% | 0.00% |
| 2-3 | 66.67% | 33.33% | 0.00% | 0.00% | 0.00% |
| 3-2 | 0.00% | 100.00% | 0.00% | 0.00% | 0.00% |
| 3-3 | 69.77% | 25.58% | 4.65% | 0.00% | 0.00% |
| 3-6 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| 4-4 | 38.71% | 48.39% | 12.90% | 0.00% | 0.00% |
| 4-6 | 0.00% | 0.00% | 0.00% | 100.00% | 0.00% |
| 5-4 | 0.00% | 66.67% | 33.33% | 0.00% | 0.00% |
| 5-5 | 20.83% | 41.67% | 25.00% | 12.50% | 0.00% |
| 6-3 | 0.00% | 66.67% | 33.33% | 0.00% | 0.00% |
| 6-6 | 45.45% | 27.27% | 27.27% | 0.00% | 0.00% |
| 7-1 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |
| 7-7 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |

Table 26: Ranges of DIFF. TOTAL CLOUD COVERAGE (in %):

| Transition | [-65.272, -36.481) | [-36.481, -7.691) | [-7.691, 21.100) | [21.100, 49.890) | [49.890, 78.681] |
|------------|--------------------|-------------------|------------------|------------------|------------------|
| 1-1 | 1.10% | 8.79% | 84.62% | 5.49% | 0.00% |
| 1-2 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |
| 1-8 | 0.00% | 100.00% | 0.00% | 0.00% | 0.00% |
| 2-1 | 0.00% | 11.11% | 77.78% | 11.11% | 0.00% |
| 2-2 | 0.00% | 13.33% | 86.67% | 0.00% | 0.00% |
| 2-3 | 0.00% | 33.33% | 66.67% | 0.00% | 0.00% |
| 3-2 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |
| 3-3 | 4.65% | 6.98% | 79.07% | 6.98% | 2.33% |
| 3-6 | 0.00% | 0.00% | 0.00% | 0.00% | 100.00% |
| 4-4 | 9.68% | 22.58% | 51.61% | 16.13% | 0.00% |
| 4-6 | 0.00% | 100.00% | 0.00% | 0.00% | 0.00% |
| 5-4 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |
| 5-5 | 4.17% | 25.00% | 54.17% | 16.67% | 0.00% |
| 6-3 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |
| 6-6 | 0.00% | 18.18% | 81.82% | 0.00% | 0.00% |
| 7-1 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |
| 7-7 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |

Table 27: Ranges of DIFF. TWS (in knots):

| Transition | [-2.767, -1.451) | [-1.451, -0.134) | [-0.134, 1.182) | [1.182, 2.499) | [2.499, 3.816] |
|------------|------------------|------------------|-----------------|----------------|----------------|
| 1-1 | 3.30% | 29.67% | 43.96% | 20.88% | 2.20% |
| 1-2 | 0.00% | 28.57% | 42.86% | 28.57% | 0.00% |
| 1-8 | 0.00% | 100.00% | 0.00% | 0.00% | 0.00% |
| 2-1 | 11.11% | 22.22% | 33.33% | 22.22% | 11.11% |
| 2-2 | 0.00% | 15.56% | 57.78% | 22.22% | 4.44% |
| 2-3 | 33.33% | 0.00% | 0.00% | 66.67% | 0.00% |
| 3-2 | 50.00% | 0.00% | 50.00% | 0.00% | 0.00% |
| 3-3 | 4.65% | 25.58% | 41.86% | 23.26% | 4.65% |
| 3-6 | 0.00% | 100.00% | 0.00% | 0.00% | 0.00% |
| 4-4 | 6.45% | 38.71% | 51.61% | 3.23% | 0.00% |
| 4-6 | 0.00% | 0.00% | 0.00% | 100.00% | 0.00% |
| 5-4 | 0.00% | 66.67% | 0.00% | 33.33% | 0.00% |
| 5-5 | 37.50% | 54.17% | 8.33% | 0.00% | 0.00% |
| 6-3 | 0.00% | 66.67% | 0.00% | 33.33% | 0.00% |
| 6-6 | 0.00% | 36.36% | 54.55% | 9.09% | 0.00% |
| 7-1 | 0.00% | 0.00% | 0.00% | 100.00% | 0.00% |
| 7-7 | 0.00% | 0.00% | 100.00% | 0.00% | 0.00% |

Table 28: Ranges of DIFF. TWD (in degrees):

| Transition | [-21.484, -6.000) | [-6.000, 9.484) | [9.484, 24.968) | [24.968, 40.452) | [40.452, 55.935] |
|------------|-------------------|-----------------|-----------------|------------------|------------------|
| 1-1 | 0.00% | 98.90% | 1.10% | 0.00% | 0.00% |
| 1-2 | 42.86% | 57.14% | 0.00% | 0.00% | 0.00% |
| 1-8 | 0.00% | 0.00% | 0.00% | 0.00% | 100.00% |
| 2-1 | 0.00% | 77.78% | 22.22% | 0.00% | 0.00% |
| 2-2 | 6.67% | 91.11% | 2.22% | 0.00% | 0.00% |
| 2-3 | 66.67% | 33.33% | 0.00% | 0.00% | 0.00% |
| 3-2 | 0.00% | 50.00% | 50.00% | 0.00% | 0.00% |
| 3-3 | 9.30% | 88.37% | 2.33% | 0.00% | 0.00% |
| 3-6 | 100.00% | 0.00% | 0.00% | 0.00% | 0.00% |
| 4-4 | 0.00% | 90.32% | 9.68% | 0.00% | 0.00% |
| 4-6 | 0.00% | 0.00% | 0.00% | 100.00% | 0.00% |
| 5-4 | 0.00% | 66.67% | 33.33% | 0.00% | 0.00% |
| 5-5 | 16.67% | 75.00% | 8.33% | 0.00% | 0.00% |
| 6-3 | 0.00% | 33.33% | 33.33% | 33.33% | 0.00% |
| 6-6 | 9.09% | 72.73% | 18.18% | 0.00% | 0.00% |
| 7-1 | 0.00% | 50.00% | 50.00% | 0.00% | 0.00% |
| 7-7 | 0.00% | 100.00% | 0.00% | 0.00% | 0.00% |

20

Transition's meteorological parameters' average values:

Table 29: Transition 1-1: Changes of TWD

| TWD Range | [0-22.5) | [22.5-45) | [45-67.5) | [67.5-90) | [90-112.5) | [112.5-135) | [135-157.5) | [157.5-180) | [180-202.5) | [202.5-225) | [225-247.5) | [247.5-270) | [270-292.5) | [292.5-315) | [315-337.5) | [337.5-360] |
|-------------|----------|-----------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| [0-22.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [22.5-45) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [45-67.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [67.5-90) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [90-112.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [112.5-135) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [135-157.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [157.5-180) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [180-202.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 16.67% (1) | 83.33% (5) | 0% | 0% | 0% | 0% | 0% | 0% |
| [202.5-225) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 3.66% (3) | 93.90% (77) | 2.44% (2) | 0% | 0% | 0% | 0% | 0% |
| [225-247.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100.00% (3) | 0% | 0% | 0% | 0% | 0% |
| [247.5-270) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [270-292.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [292.5-315) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [315-337.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [337.5-360] | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

Transition 1-1 ([180-202.5) - [180-202.5)): Range level average differences
diff_temp: 0.1336053466796875

diff_humidity: -1.9231999999999994
diff_precipitation: 0.0
diff_pressure: -0.46049713134765624
diff_gust: 1.6871014648437501
diff_high_cloud_coverage: 0.0
diff_low_cloud_coverage: 0.0
diff_medium_cloud_coverage: 0.0
diff_temperature_at_ground: -0.22624000000000025
diff_total_cloud_coverage: 0.0
diff_tws: 1.337962444905714
diff_twd: -0.6957774842025259

Transition 1-1 ([180-202.5] - [202.5-225]): Range level average differences

diff_temp: 0.09443309394565029
diff_humidity: -1.06832
diff_precipitation: 0.0
diff_pressure: -0.056044677736250395
diff_gust: 1.2589235253874036
diff_high_cloud_coverage: 0.0
diff_low_cloud_coverage: 0.019192
diff_medium_cloud_coverage: 0.0
diff_temperature_at_ground: -0.1462610419921876
diff_total_cloud_coverage: 0.019192
diff_tws: 1.0226604574811562
diff_twd: 4.21305759529351

Transition 1-1 ([202.5-225] - [180-202.5]): Range level average differences

diff_temp: -0.02510451204287552
diff_humidity: 0.5399666666666668
diff_precipitation: 0.0
diff_pressure: -0.277173665361042
diff_gust: 1.0162805827059902
diff_high_cloud_coverage: 0.0
diff_low_cloud_coverage: 0.0
diff_medium_cloud_coverage: 0.0
diff_temperature_at_ground: -0.06719666666666663
diff_total_cloud_coverage: -1.3863333333333336
diff_tws: 0.8621524731684881
diff_twd: -3.112379438881615

Transition 1-1 ([202.5-225) - [202.5-225)): Range level average differences

diff_temp: -0.018740086039226462
diff_humidity: 0.031106525213068267
diff_precipitation: 0.0009714285714285717
diff_pressure: -0.04444198013955352
diff_gust: 0.6325868231886064
diff_high_cloud_coverage: 1.8796428571428574
diff_low_cloud_coverage: 0.039153571428571426
diff_medium_cloud_coverage: 0.9573142857142857
diff_temperature_at_ground: -0.12612289708037336
diff_total_cloud_coverage: 1.991796428571429
diff_tws: 0.41199854027719096
diff_twd: 1.412919044074924

Transition 1-1 ([202.5-225) - [225-247.5)): Range level average differences

diff_temp: -0.18828709667968688
diff_humidity: 0.5276499999999996
diff_precipitation: 0.0
diff_pressure: -0.0243914794921875
diff_gust: 0.3037795715332031
diff_high_cloud_coverage: 5.300000000000001
diff_low_cloud_coverage: 0.0
diff_medium_cloud_coverage: 0.0
diff_temperature_at_ground: -0.27631349853515647
diff_total_cloud_coverage: 13.295000000000002
diff_tws: -0.11574417815861356
diff_twd: 4.5485078966512615

Transition 1-1 ([225-247.5) - [225-247.5)): Range level average differences

diff_temp: -0.1953870000000001
diff_humidity: 0.7573333333333337
diff_precipitation: 0.0
diff_pressure: 0.33985453287760414
diff_gust: -0.8430186971028649
diff_high_cloud_coverage: 4.305266666666667
diff_low_cloud_coverage: 0.0
diff_medium_cloud_coverage: 0.0
diff_temperature_at_ground: -0.1774760009765619
diff_total_cloud_coverage: 4.839666666666669
diff_tws: -0.873719228321742

diff_twd: 4.482390879991551

Transition 1-1: Overall level average differences
 diff_temp: -0.020607302616489007
 diff_humidity: 0.0008527740813874011
 diff_precipitation: 0.0008219780219780222
 diff_pressure: -0.044214212606694704
 diff_gust: 0.6353653766722994
 diff_high_cloud_coverage: 1.8488824175824177
 diff_low_cloud_coverage: 0.03418445054945053
 diff_medium_cloud_coverage: 0.8100351648351648
 diff_temperature_at_ground: -0.13138080533131524
 diff_total_cloud_coverage: 2.092464670329671
 diff_tws: 0.41658201881184836
 diff_twd: 1.5645200769523788

Table 30: Transition 1-2: Changes of TWD

| TWD Range | [0-22.5) | [22.5-45) | [45-67.5) | [67.5-90) | [90-112.5) | [112.5-135) | [135-157.5) | [157.5-180) | [180-202.5) | [202.5-225) | [225-247.5) | [247.5-270) | [270-292.5) | [292.5-315) | [315-337.5) | [337.5-360] |
|-------------|----------|-----------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| [0-22.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [22.5-45) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [45-67.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [67.5-90) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [90-112.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [112.5-135) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [135-157.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [157.5-180) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [180-202.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100.00% (4) | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [202.5-225) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100.00% (3) | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [225-247.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [247.5-270) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [270-292.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [292.5-315) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [315-337.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [337.5-360] | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

Transition 1-2 ([180-202.5) - [180-202.5)): Range level average differences
 diff_temp: -0.015830380125921875
 diff_humidity: 0.3607750000000001
 diff_precipitation: 0.0
 diff_pressure: -0.07294273375949217
 diff_gust: 0.40715982665195294
 diff_high_cloud_coverage: 0.0

diff_low_cloud_coverage: -0.08195000000000001
diff_medium_cloud_coverage: 0.0
diff_temperature_at_ground: 0.058507500000000002
diff_total_cloud_coverage: 0.14717499999999994
diff_tws: 0.3161894966275872
diff_twd: -3.140670591954141

Transition 1-2 ([202.5-225] - [180-202.5]): Range level average differences

diff_temp: -0.10355063313802082
diff_humidity: 1.5305
diff_precipitation: 0.016966666666666675
diff_pressure: -0.06894490559895834
diff_gust: 1.4828130289713544
diff_high_cloud_coverage: -0.95293333333333323
diff_low_cloud_coverage: 1.7539333333333336
diff_medium_cloud_coverage: -4.4170000000000001
diff_temperature_at_ground: -0.04541633333333337
diff_total_cloud_coverage: -1.2391666666666667
diff_tws: 1.070447075029594
diff_twd: -8.953976250797092

Transition 1-2: Overall level average differences

diff_temp: -0.05342477427396429
diff_humidity: 0.8620857142857145
diff_precipitation: 0.007271428571428575
diff_pressure: -0.07122937883354909
diff_gust: 0.8681540562174107
diff_high_cloud_coverage: -0.40839999999999954
diff_low_cloud_coverage: 0.704857142857143
diff_medium_cloud_coverage: -1.8930000000000002
diff_temperature_at_ground: 0.01396871428571427
diff_total_cloud_coverage: -0.4469714285714286
diff_tws: 0.6394427445141615
diff_twd: -5.632087302886835

Table 31: Transition 1-8: Changes of TWD

| TWD Range | [0-22.5) | [22.5-45) | [45-67.5) | [67.5-90) | [90-112.5) | [112.5-135) | [135-157.5) | [157.5-180) | [180-202.5) | [202.5-225) | [225-247.5) | [247.5-270) | [270-292.5) | [292.5-315) | [315-337.5) | [337.5-360] |
|-------------|----------|-----------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| [0-22.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [22.5-45) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [45-67.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [67.5-90) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [90-112.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [112.5-135) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [135-157.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [157.5-180) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [180-202.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [202.5-225) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100.00% (1) | 0% |
| [225-247.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [247.5-270) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [270-292.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [292.5-315) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [315-337.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [337.5-360] | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

Transition 1-8 ([202.5-225) - [315-337.5)): Range level average differences

diff_temp: -0.2666750000000001
diff_humidity: 0.6982999999999998
diff_precipitation: 0.0045935
diff_pressure: 1.168125
diff_gust: -0.9463840026855473
diff_high_cloud_coverage: -8.812000000000001
diff_low_cloud_coverage: 0.8740000000000001
diff_medium_cloud_coverage: 8.301
diff_temperature_at_ground: -0.1528570556640625
diff_total_cloud_coverage: -11.72
diff_tws: -0.9667270810338706
diff_twd: 55.93540155204387

Transition 1-8: Overall level average differences

diff_temp: -0.2666750000000001
diff_humidity: 0.6982999999999998
diff_precipitation: 0.0045935
diff_pressure: 1.168125
diff_gust: -0.9463840026855473
diff_high_cloud_coverage: -8.812000000000001
diff_low_cloud_coverage: 0.8740000000000001
diff_medium_cloud_coverage: 8.301
diff_temperature_at_ground: -0.1528570556640625

diff_total_cloud_coverage: -11.72
diff_tws: -0.9667270810338706
diff_twd: 55.93540155204387

Table 32: Transition 2-1: Changes of TWD

| TWD Range | [0-22.5) | [22.5-45) | [45-67.5) | [67.5-90) | [90-112.5) | [112.5-135) | [135-157.5) | [157.5-180) | [180-202.5) | [202.5-225) | [225-247.5) | [247.5-270) | [270-292.5) | [292.5-315) | [315-337.5) | [337.5-360] |
|-------------|----------|-----------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| [0-22.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [22.5-45) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [45-67.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [67.5-90) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [90-112.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [112.5-135) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [135-157.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [157.5-180) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [180-202.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 44.44% (4) | 55.56% (5) | 0% | 0% | 0% | 0% | 0% | 0% |
| [202.5-225) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [225-247.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [247.5-270) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [270-292.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [292.5-315) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [315-337.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [337.5-360] | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

Transition 2-1 ([180-202.5) - [180-202.5)): Range level average differences

diff_temp: 0.20008303735351562
diff_humidity: -0.8650000000000002
diff_precipitation: 0.000675000000000005
diff_pressure: -0.15607658386488424
diff_gust: 2.0055662872410083
diff_high_cloud_coverage: -0.3898
diff_low_cloud_coverage: -4.8977499999999999
diff_medium_cloud_coverage: -6.0130000000000001
diff_temperature_at_ground: -0.006627342529297017
diff_total_cloud_coverage: -6.4043000000000001
diff_tws: 1.4763082940030534
diff_twd: 7.802695974152577

Transition 2-1 ([180-202.5) - [202.5-225)): Range level average differences

diff_temp: -0.04646515116959984
diff_humidity: 0.30395999999999998
diff_precipitation: 0.00586
diff_pressure: 0.17000006104821888

diff_gust: -0.15476556152968737
diff_high_cloud_coverage: 6.596068
diff_low_cloud_coverage: 0.7599799999999999
diff_medium_cloud_coverage: 4.5339399999999999
diff_temperature_at_ground: -0.2576432722656249
diff_total_cloud_coverage: 7.5992599999999999
diff_tws: -0.3277088712680218
diff_twd: 3.623478683040601

Transition 2-1: Overall level average differences
diff_temp: 0.06311182150734036
diff_humidity: -0.21557777777777798
diff_precipitation: 0.003555555555555557
diff_pressure: 0.02507710775350639
diff_gust: 0.8053819268128442
diff_high_cloud_coverage: 3.491237777777778
diff_low_cloud_coverage: -1.7545666666666664
diff_medium_cloud_coverage: -0.15358888888888936
diff_temperature_at_ground: -0.14608063682725694
diff_total_cloud_coverage: 1.3754555555555555
diff_tws: 0.47407653551912277
diff_twd: 5.480908590201479

Table 33: Transition 2-2: Changes of TWD

| TWD Range | [0-22.5) | [22.5-45) | [45-67.5) | [67.5-90) | [90-112.5) | [112.5-135) | [135-157.5) | [157.5-180) | [180-202.5) | [202.5-225) | [225-247.5) | [247.5-270) | [270-292.5) | [292.5-315) | [315-337.5) | [337.5-360] |
|-------------|----------|-----------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| [0-22.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [22.5-45) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [45-67.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [67.5-90) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [90-112.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [112.5-135) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [135-157.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [157.5-180) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100.00% (2) | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [180-202.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 2.33% (1) | 97.67% (42) | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [202.5-225) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [225-247.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [247.5-270) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [270-292.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [292.5-315) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [315-337.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [337.5-360] | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

Transition 2-2 ([157.5-180) - [180-202.5)): Range level average differences

diff_temp: 0.2912974999999998
diff_humidity: -1.7781500000000001
diff_precipitation: 0.08529500000000001
diff_pressure: -0.5711862182617188
diff_gust: 2.677907269287109
diff_high_cloud_coverage: -13.91
diff_low_cloud_coverage: 2.0818
diff_medium_cloud_coverage: 0.5650999999999999
diff_temperature_at_ground: -0.007794999999999934
diff_total_cloud_coverage: -13.907
diff_tws: 1.964173580454433
diff_twd: 7.675587982116996

Transition 2-2 ([180-202.5) - [157.5-180)): Range level average differences

diff_temp: 0.16634400000000021
diff_humidity: 0.5397999999999998
diff_precipitation: 0.0
diff_pressure: -0.37221435546875
diff_gust: 2.000823742675782
diff_high_cloud_coverage: -4.5729999999999995
diff_low_cloud_coverage: 0.0
diff_medium_cloud_coverage: -0.7868999999999999
diff_temperature_at_ground: -0.010320000000000142
diff_total_cloud_coverage: -4.5729999999999995
diff_tws: 1.1316602122865658
diff_twd: -6.595962065244955

Transition 2-2 ([180-202.5) - [180-202.5)): Range level average differences

diff_temp: 0.017353992001465753
diff_humidity: 0.02125952380952379
diff_precipitation: 0.12759190476190477
diff_pressure: -0.17562049502622767
diff_gust: 0.895930634125986
diff_high_cloud_coverage: -2.08492619047619
diff_low_cloud_coverage: -0.09258714285714281
diff_medium_cloud_coverage: 0.05188095238095235
diff_temperature_at_ground: -0.1309896793619792
diff_total_cloud_coverage: -2.1167371428571427
diff_tws: 0.7195617669817017

diff_twd: 0.6204743961797065

Transition 2-2: Overall level average differences
 diff_temp: 0.032840148090256926
 diff_humidity: -0.047191111111111114
 diff_precipitation: 0.12287666666666668
 diff_pressure: -0.19756994629097224
 diff_gust: 0.9996827758786981
 diff_high_cloud_coverage: -2.6657755555555553
 diff_low_cloud_coverage: 0.006109777777777792
 diff_medium_cloud_coverage: 0.056051111111111108
 diff_temperature_at_ground: -0.12283281184895836
 diff_total_cloud_coverage: -2.6953324444444444
 diff_tws: 0.7840355908094867
 diff_twd: 0.7736697453008158

Table 34: Transition 2-3: Changes of TWD

| TWD Range | [0-22.5) | [22.5-45) | [45-67.5) | [67.5-90) | [90-112.5) | [112.5-135) | [135-157.5) | [157.5-180) | [180-202.5) | [202.5-225) | [225-247.5) | [247.5-270) | [270-292.5) | [292.5-315) | [315-337.5) | [337.5-360] |
|-------------|----------|-----------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| [0-22.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [22.5-45) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [45-67.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [67.5-90) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [90-112.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [112.5-135) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [135-157.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [157.5-180) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100.00% (1) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [180-202.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100.00% (2) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [202.5-225) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [225-247.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [247.5-270) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [270-292.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [292.5-315) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [315-337.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [337.5-360] | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

Transition 2-3 ([157.5-180) - [157.5-180)): Range level average differences
 diff_temp: -0.09318600000000021
 diff_humidity: 1.0788999999999999
 diff_precipitation: 0.0005
 diff_pressure: -0.1741326904296875
 diff_gust: 1.149101593017578
 diff_high_cloud_coverage: -9.587

diff_low_cloud_coverage: -1.5635
diff_medium_cloud_coverage: 0.0
diff_temperature_at_ground: -0.11427999999999998
diff_total_cloud_coverage: -9.587
diff_tws: 1.184722809784002
diff_twd: 1.1498402035332338

Transition 2-3 ([180-202.5] - [157.5-180]): Range level average differences

diff_temp: -0.17519316259765624
diff_humidity: 1.2533999999999996
diff_precipitation: 2.8950000000000004e-07
diff_pressure: 0.27309173583984375
diff_gust: -0.35657155151367204
diff_high_cloud_coverage: 3.0510000000000006
diff_low_cloud_coverage: 0.21405000000000002
diff_medium_cloud_coverage: 0.9836999999999999
diff_temperature_at_ground: -0.2515
diff_total_cloud_coverage: 3.2650500000000005
diff_tws: -0.32176033845353547
diff_twd: -16.034402179289046

Transition 2-3: Overall level average differences

diff_temp: -0.1478574417317709
diff_humidity: 1.1952333333333327
diff_precipitation: 0.00016685966666666666
diff_pressure: 0.12401692708333333
diff_gust: 0.14531949666341135
diff_high_cloud_coverage: -1.1616666666666662
diff_low_cloud_coverage: -0.37846666666666656
diff_medium_cloud_coverage: 0.6557999999999999
diff_temperature_at_ground: -0.20576000000000003
diff_total_cloud_coverage: -1.0189666666666661
diff_tws: 0.180400710958977
diff_twd: -10.306321385014954

Table 35: Transition 3-2: Changes of TWD

| TWD Range | [0-22.5) | [22.5-45) | [45-67.5) | [67.5-90) | [90-112.5) | [112.5-135) | [135-157.5) | [157.5-180) | [180-202.5) | [202.5-225) | [225-247.5) | [247.5-270) | [270-292.5) | [292.5-315) | [315-337.5) | [337.5-360] |
|-------------|----------|-----------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| [0-22.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [22.5-45) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [45-67.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [67.5-90) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [90-112.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [112.5-135) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [135-157.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [157.5-180) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100.00% (2) | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [180-202.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [202.5-225) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [225-247.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [247.5-270) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [270-292.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [292.5-315) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [315-337.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [337.5-360] | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

Transition 3-2 ([157.5-180) - [180-202.5)): Range level average differences

diff_temp: -0.03252700000000006

diff_humidity: 0.53895000000000008

diff_precipitation: 0.0

diff_pressure: -0.16642089843750002

diff_gust: -0.6488088378906252

diff_high_cloud_coverage: 0.0

diff_low_cloud_coverage: -0.0010850000000000007

diff_medium_cloud_coverage: 0.0

diff_temperature_at_ground: -0.11803640869140619

diff_total_cloud_coverage: -0.0010850000000000007

diff_tws: -0.5341876380315926

diff_twd: 10.726474323410171

Transition 3-2: Overall level average differences

diff_temp: -0.03252700000000006

diff_humidity: 0.53895000000000008

diff_precipitation: 0.0

diff_pressure: -0.16642089843750002

diff_gust: -0.6488088378906252

diff_high_cloud_coverage: 0.0

diff_low_cloud_coverage: -0.0010850000000000007

diff_medium_cloud_coverage: 0.0

diff_temperature_at_ground: -0.11803640869140619

diff_total_cloud_coverage: -0.0010850000000000007
diff_tws: -0.5341876380315926
diff_twd: 10.726474323410171

Table 36: Transition 3-3: Changes of TWD

| TWD Range | [0-22.5) | [22.5-45) | [45-67.5) | [67.5-90) | [90-112.5) | [112.5-135) | [135-157.5) | [157.5-180) | [180-202.5) | [202.5-225) | [225-247.5) | [247.5-270) | [270-292.5) | [292.5-315) | [315-337.5) | [337.5-360] |
|-------------|----------|-----------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| [0-22.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [22.5-45) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [45-67.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [67.5-90) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [90-112.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [112.5-135) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [135-157.5) | 0% | 0% | 0% | 0% | 0% | 0% | 84.62% (11) | 15.38% (2) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [157.5-180) | 0% | 0% | 0% | 0% | 0% | 0% | 3.33% (1) | 96.67% (29) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [180-202.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [202.5-225) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [225-247.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [247.5-270) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [270-292.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [292.5-315) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [315-337.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [337.5-360] | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

Transition 3-3 ([135-157.5) - [135-157.5)): Range level average differences

diff_temp: -0.007977223011363417
diff_humidity: 0.1464090909090909
diff_precipitation: 0.005445454545454542
diff_pressure: 0.0888283192027699
diff_gust: 0.03243311823064627
diff_high_cloud_coverage: 2.1156090909090897
diff_low_cloud_coverage: -0.15250454545454548
diff_medium_cloud_coverage: -0.01144
diff_temperature_at_ground: -0.183422450284091
diff_total_cloud_coverage: 0.18290909090909127
diff_tws: -0.035140867758445486
diff_twd: 0.9293714285950891

Transition 3-3 ([135-157.5) - [157.5-180)): Range level average differences

diff_temp: 0.1460365
diff_humidity: 0.14700000000000046
diff_precipitation: 0.0
diff_pressure: -0.2422021484375

diff_gust: 2.016037747192383
diff_high_cloud_coverage: 0.0
diff_low_cloud_coverage: 0.0
diff_medium_cloud_coverage: 0.0
diff_temperature_at_ground: 0.09247000000000002
diff_total_cloud_coverage: 0.0
diff_tws: 1.8504316404253758
diff_twd: 9.055650356123978

Transition 3-3 ([157.5-180] - [135-157.5]): Range level average differences

diff_temp: -0.16454099999999997
diff_humidity: 1.5095000000000001
diff_precipitation: 0.0
diff_pressure: 0.3177252197265625
diff_gust: -0.21836953125000005
diff_high_cloud_coverage: 0.0
diff_low_cloud_coverage: 0.0
diff_medium_cloud_coverage: 0.0
diff_temperature_at_ground: -0.2690539160156256
diff_total_cloud_coverage: 0.0
diff_tws: -0.255606925008566
diff_twd: -4.455593731747188

Transition 3-3 ([157.5-180] - [157.5-180]): Range level average differences

diff_temp: -0.10490330418238138
diff_humidity: 1.4446931034482757
diff_precipitation: 4.972758620689655e-07
diff_pressure: -0.08848003518992457
diff_gust: 0.6680065414954875
diff_high_cloud_coverage: -0.6084827586206897
diff_low_cloud_coverage: 0.037476896551724134
diff_medium_cloud_coverage: 0.0
diff_temperature_at_ground: -0.23082629226158413
diff_total_cloud_coverage: -0.5235955172413794
diff_tws: 0.5547978486970493
diff_twd: -0.12191631065927204

Transition 3-3: Overall level average differences

diff_temp: -0.06982356452125714

diff_humidity: 1.0537232558139535
 diff_precipitation: 0.001393358627906976
 diff_pressure: -0.04082531596339026
 diff_gust: 0.5475037201637445
 diff_high_cloud_coverage: 0.13083023255813922
 diff_low_cloud_coverage: -0.013737674418604646
 diff_medium_cloud_coverage: -0.002926511627906977
 diff_temperature_at_ground: -0.2045517056913155
 diff_total_cloud_coverage: -0.3063318604651166
 diff_tws: 0.4452987075049701
 diff_twd: 0.47309813223088065

Table 37: Transition 3-6: Changes of TWD

| TWD Range | [0-22.5) | [22.5-45) | [45-67.5) | [67.5-90) | [90-112.5) | [112.5-135) | [135-157.5) | [157.5-180) | [180-202.5) | [202.5-225) | [225-247.5) | [247.5-270) | [270-292.5) | [292.5-315) | [315-337.5) | [337.5-360] |
|-------------|----------|-----------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| [0-22.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [22.5-45) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [45-67.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [67.5-90) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [90-112.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [112.5-135) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [135-157.5) | 0% | 0% | 0% | 0% | 0% | 0% | 100.00% (1) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [157.5-180) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [180-202.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [202.5-225) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [225-247.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [247.5-270) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [270-292.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [292.5-315) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [315-337.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [337.5-360] | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

Transition 3-6 ([135-157.5) - [135-157.5)): Range level average differences

diff_temp: -0.14867599999999998
 diff_humidity: 0.85750000000000002
 diff_precipitation: 0.00030000000000001136
 diff_pressure: 0.36490570068359374
 diff_gust: -0.860457421875
 diff_high_cloud_coverage: 52.29
 diff_low_cloud_coverage: 0.3102
 diff_medium_cloud_coverage: 0.0
 diff_temperature_at_ground: -0.37860999999999999
 diff_total_cloud_coverage: 52.284
 diff_tws: -0.9420390447252764

diff_twd: -6.44675154872147

Transition 3-6: Overall level average differences

diff_temp: -0.1486759999999998
 diff_humidity: 0.8575000000000002
 diff_precipitation: 0.0003000000000001136
 diff_pressure: 0.36490570068359374
 diff_gust: -0.860457421875
 diff_high_cloud_coverage: 52.29
 diff_low_cloud_coverage: 0.3102
 diff_medium_cloud_coverage: 0.0
 diff_temperature_at_ground: -0.37860999999999999
 diff_total_cloud_coverage: 52.284
 diff_tws: -0.9420390447252764
 diff_twd: -6.44675154872147

Table 38: Transition 4-4: Changes of TWD

| TWD Range | [0-22.5) | [22.5-45) | [45-67.5) | [67.5-90) | [90-112.5) | [112.5-135) | [135-157.5) | [157.5-180) | [180-202.5) | [202.5-225) | [225-247.5) | [247.5-270) | [270-292.5) | [292.5-315) | [315-337.5) | [337.5-360] |
|-------------|----------|------------|-------------|------------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| [0-22.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [22.5-45) | 0% | 58.33% (7) | 41.67% (5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [45-67.5) | 0% | 0% | 84.62% (11) | 15.38% (2) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [67.5-90) | 0% | 0% | 16.67% (1) | 83.33% (5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [90-112.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [112.5-135) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [135-157.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [157.5-180) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [180-202.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [202.5-225) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [225-247.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [247.5-270) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [270-292.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [292.5-315) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [315-337.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [337.5-360] | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

Transition 4-4 ([22.5-45) - [22.5-45)): Range level average differences

diff_temp: 0.19274071428571427
 diff_humidity: -1.1825428571428573
 diff_precipitation: 0.04592885714285715
 diff_pressure: -0.10204709734235491
 diff_gust: -0.520661102294922
 diff_high_cloud_coverage: 5.212285714285715

diff_low_cloud_coverage: -2.7274000000000007
diff_medium_cloud_coverage: -0.15238714285714283
diff_temperature_at_ground: 0.0014033775111606886
diff_total_cloud_coverage: -1.076342857142858
diff_tws: -0.3620110204404344
diff_twd: 1.9059575068423114

Transition 4-4 ([22.5-45] - [45-67.5]): Range level average differences

diff_temp: 0.09073860000000003
diff_humidity: -0.60788
diff_precipitation: 0.009448400000000008
diff_pressure: -0.13110949707031253
diff_gust: -0.2915826367187499
diff_high_cloud_coverage: -3.2474399999999997
diff_low_cloud_coverage: -4.96558
diff_medium_cloud_coverage: 3.78254200000000007
diff_temperature_at_ground: -0.09401783789062503
diff_total_cloud_coverage: -5.832499999999998
diff_tws: -0.2803052359151739
diff_twd: 7.0537675884292765

Transition 4-4 ([45-67.5] - [45-67.5]): Range level average differences

diff_temp: 0.04152309090909096
diff_humidity: -0.059963858309659133
diff_precipitation: 0.008074999999999995
diff_pressure: 0.021325045498934655
diff_gust: -0.10583191528320315
diff_high_cloud_coverage: -1.9531636363636364
diff_low_cloud_coverage: -8.310027272727273
diff_medium_cloud_coverage: -0.7076363636363636
diff_temperature_at_ground: -0.04884723899147736
diff_total_cloud_coverage: -9.63199090909091
diff_tws: -0.16412037110244468
diff_twd: 4.518476143191829

Transition 4-4 ([45-67.5] - [67.5-90]): Range level average differences

diff_temp: 0.0041194999999998524
diff_humidity: -0.05579877929687513
diff_precipitation: 0.000996500000000002

diff_pressure: 0.00810134887695313
diff_gust: 0.324181787109375
diff_high_cloud_coverage: 29.906734999999994
diff_low_cloud_coverage: -6.518
diff_medium_cloud_coverage: 13.988
diff_temperature_at_ground: -0.18144000000000005
diff_total_cloud_coverage: 14.018735
diff_tws: 0.42111087568152494
diff_twd: 8.485128358825103

Transition 4-4 ([67.5-90] - [45-67.5]): Range level average differences

diff_temp: -0.571599
diff_humidity: 3.8482000000000003
diff_precipitation: 0.0
diff_pressure: -0.21012939453125
diff_gust: 1.1299689453125006
diff_high_cloud_coverage: -57.994000000000001
diff_low_cloud_coverage: 0.0
diff_medium_cloud_coverage: 0.0
diff_temperature_at_ground: -0.36353056152343804
diff_total_cloud_coverage: -57.994000000000001
diff_tws: 0.36756424429255063
diff_twd: -4.930094975074474

Transition 4-4 ([67.5-90] - [67.5-90]): Range level average differences

diff_temp: -0.37194280000000001
diff_humidity: 3.1866600000000003
diff_precipitation: 0.0
diff_pressure: -0.09636300659179689
diff_gust: 0.56887921875
diff_high_cloud_coverage: 8.450706
diff_low_cloud_coverage: -0.9004
diff_medium_cloud_coverage: -1.02680000000000015
diff_temperature_at_ground: -0.2538918730468752
diff_total_cloud_coverage: 12.4831060000000001
diff_tws: 0.3357670662213098
diff_twd: -0.356698489791804

Transition 4-4: Overall level average differences

diff_temp: -0.0052723225806451555
 diff_humidity: 0.24816451612903212
 diff_precipitation: 0.014824580645161295
 diff_pressure: -0.05842075470955143
 diff_gust: -0.053031075951360855
 diff_high_cloud_coverage: 1.3818387096774185
 diff_low_cloud_coverage: -4.931225806451613
 diff_medium_cloud_coverage: 1.0614193548387092
 diff_temperature_at_ground: -0.09656306782384082
 diff_total_cloud_coverage: -3.5545096774193556
 diff_tws: -0.09200987348463391
 diff_twd: 3.5022724954441737

Table 39: Transition 4-6: Changes of TWD

| TWD Range | [0-22.5) | [22.5-45) | [45-67.5) | [67.5-90) | [90-112.5) | [112.5-135) | [135-157.5) | [157.5-180) | [180-202.5) | [202.5-225) | [225-247.5) | [247.5-270) | [270-292.5) | [292.5-315) | [315-337.5) | [337.5-360] |
|-------------|----------|-----------|-----------|-----------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| [0-22.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [22.5-45) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [45-67.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [67.5-90) | 0% | 0% | 0% | 0% | 100.00% (1) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [90-112.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [112.5-135) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [135-157.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [157.5-180) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [180-202.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [202.5-225) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [225-247.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [247.5-270) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [270-292.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [292.5-315) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [315-337.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [337.5-360] | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

Transition 4-6 ([67.5-90) - [90-112.5)): Range level average differences

diff_temp: 0.3244280000000002
 diff_humidity: -0.7656000000000005
 diff_precipitation: 0.0
 diff_pressure: -0.077310791015625
 diff_gust: 1.5852664123535158
 diff_high_cloud_coverage: -22.2681
 diff_low_cloud_coverage: 0.054488
 diff_medium_cloud_coverage: -3.2920000000000003
 diff_temperature_at_ground: 0.37127999999999983
 diff_total_cloud_coverage: -22.374399999999994

diff_tws: 1.369069509629147
diff_twd: 35.17651858800255

Transition 4-6: Overall level average differences
diff_temp: 0.3244280000000002
diff_humidity: -0.7656000000000005
diff_precipitation: 0.0
diff_pressure: -0.077310791015625
diff_gust: 1.5852664123535158
diff_high_cloud_coverage: -22.2681
diff_low_cloud_coverage: 0.054488
diff_medium_cloud_coverage: -3.2920000000000003
diff_temperature_at_ground: 0.37127999999999983
diff_total_cloud_coverage: -22.374399999999994
diff_tws: 1.369069509629147
diff_twd: 35.17651858800255

Table 40: Transition 5-4: Changes of TWD

| TWD Range | [0-22.5) | [22.5-45) | [45-67.5) | [67.5-90) | [90-112.5) | [112.5-135) | [135-157.5) | [157.5-180) | [180-202.5) | [202.5-225) | [225-247.5) | [247.5-270) | [270-292.5) | [292.5-315) | [315-337.5) | [337.5-360] |
|-------------|----------|-------------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| [0-22.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [22.5-45) | 0% | 100.00% (3) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [45-67.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [67.5-90) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [90-112.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [112.5-135) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [135-157.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [157.5-180) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [180-202.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [202.5-225) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [225-247.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [247.5-270) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [270-292.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [292.5-315) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [315-337.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [337.5-360] | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

Transition 5-4 ([22.5-45) - [22.5-45)): Range level average differences
diff_temp: 0.2336066666666666
diff_humidity: -1.1828666666666663
diff_precipitation: 0.00233566666666665
diff_pressure: -0.1674360656738281
diff_gust: -0.0211448994954427

diff_high_cloud_coverage: 1.7579000000000005
diff_low_cloud_coverage: 5.3391999999999999
diff_medium_cloud_coverage: 2.0193333333333325
diff_temperature_at_ground: -0.01425000000000027
diff_total_cloud_coverage: 3.9719999999999999
diff_tws: -0.1138029457262143
diff_twd: 8.380499103654165

Transition 5-4: Overall level average differences
diff_temp: 0.2336066666666666
diff_humidity: -1.1828666666666663
diff_precipitation: 0.00233566666666665
diff_pressure: -0.1674360656738281
diff_gust: -0.0211448994954427
diff_high_cloud_coverage: 1.7579000000000005
diff_low_cloud_coverage: 5.3391999999999999
diff_medium_cloud_coverage: 2.0193333333333325
diff_temperature_at_ground: -0.01425000000000027
diff_total_cloud_coverage: 3.9719999999999999
diff_tws: -0.1138029457262143
diff_twd: 8.380499103654165

Table 41: Transition 5-5: Changes of TWD

| TWD Range | [0-22.5) | [22.5-45) | [45-67.5) | [67.5-90) | [90-112.5) | [112.5-135) | [135-157.5) | [157.5-180) | [180-202.5) | [202.5-225) | [225-247.5) | [247.5-270) | [270-292.5) | [292.5-315) | [315-337.5) | [337.5-360] |
|-------------|------------|--------------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| [0-22.5) | 80.00% (8) | 10.00% (1) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 10.00% |
| [22.5-45) | 0% | 100.00% (11) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [45-67.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [67.5-90) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [90-112.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [112.5-135) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [135-157.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [157.5-180) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [180-202.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [202.5-225) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [225-247.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [247.5-270) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [270-292.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [292.5-315) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [315-337.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [337.5-360] | 33.33% (1) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 66.67% |

Transition 5-5 ([0-22.5) - [0-22.5)): Range level average differences

diff_temp: 0.14794912500000001
diff_humidity: -0.49553750000000001
diff_precipitation: 0.13713750000000002
diff_pressure: -0.11133533477783203
diff_gust: -1.2741552264213563
diff_high_cloud_coverage: 5.721
diff_low_cloud_coverage: -3.7377
diff_medium_cloud_coverage: 0.083175
diff_temperature_at_ground: 0.05039249999999995
diff_total_cloud_coverage: 3.8705625000000006
diff_tws: -1.0642723615940426
diff_twd: 1.8361178395581317

Transition 5-5 ([0-22.5] - [22.5-45]): Range level average differences

diff_temp: 0.13199300000000005
diff_humidity: -1.4200999999999997
diff_precipitation: 0.00199999999999984
diff_pressure: -0.492650146484375
diff_gust: -2.676443933105469
diff_high_cloud_coverage: 0.0
diff_low_cloud_coverage: -2.227000000000001
diff_medium_cloud_coverage: -64.84300000000002
diff_temperature_at_ground: 0.10797000000000011
diff_total_cloud_coverage: -2.227000000000001
diff_tws: -2.2228585274620216
diff_twd: 3.0752200617767174

Transition 5-5 ([0-22.5] - [337.5-360]): Range level average differences

diff_temp: -0.029458999999999947
diff_humidity: 1.1834999999999996
diff_precipitation: 0.00080000000000003
diff_pressure: -0.04950927734375
diff_gust: -2.0387040161132814
diff_high_cloud_coverage: -12.159
diff_low_cloud_coverage: -1.5862
diff_medium_cloud_coverage: -8.5623
diff_temperature_at_ground: -0.13634999999999994
diff_total_cloud_coverage: -12.159
diff_tws: -1.9049465153259877

diff_twd: -17.105845594506516

Transition 5-5 ([22.5-45] - [22.5-45]): Range level average differences

diff_temp: 0.37251727272727275
diff_humidity: -1.4432090909090909
diff_precipitation: 0.0110390909090909
diff_pressure: -0.287295414317738
diff_gust: -1.1036748407537287
diff_high_cloud_coverage: -3.2281545454545455
diff_low_cloud_coverage: -5.345454545454546
diff_medium_cloud_coverage: 0.9509999999999999
diff_temperature_at_ground: 0.1337109090909091
diff_total_cloud_coverage: -1.2501636363636353
diff_tws: -1.0161186449315303
diff_twd: 2.9053483361407157

Transition 5-5 ([337.5-360] - [0-22.5]): Range level average differences

diff_temp: 0.13339100000000007
diff_humidity: -0.39090000000000125
diff_precipitation: 0.0
diff_pressure: -0.17342987060546874
diff_gust: -0.6574502719879151
diff_high_cloud_coverage: 6.967000000000005
diff_low_cloud_coverage: -4.241000000000005
diff_medium_cloud_coverage: -9.416000000000002
diff_temperature_at_ground: -0.09281398925781299
diff_total_cloud_coverage: 6.574
diff_tws: -0.8465652864988047
diff_twd: 13.348181453984067

Transition 5-5 ([337.5-360] - [337.5-360]): Range level average differences

diff_temp: 0.22642599999999996
diff_humidity: -0.4879999999999993
diff_precipitation: 0.0
diff_pressure: 0.11031280517578125
diff_gust: -1.3367324310302733
diff_high_cloud_coverage: -15.634500000000003
diff_low_cloud_coverage: 0.8961500000000002
diff_medium_cloud_coverage: 4.173150000000001

diff_temperature_at_ground: -0.27454
diff_total_cloud_coverage: -15.437999999999999
diff_tws: -1.2344493333165023
diff_twd: -3.778615682404305

Transition 5-5: Overall level average differences
diff_temp: 0.24875250000000002
diff_humidity: -0.8934625
diff_precipitation: 0.05088875
diff_pressure: -0.1894123299916585
diff_gust: -1.2658220059553782
diff_high_cloud_coverage: -1.0917791666666672
diff_low_cloud_coverage: -3.9568125
diff_medium_cloud_coverage: -2.6395250000000002
diff_temperature_at_ground: 0.05015358378092446
diff_total_cloud_coverage: -0.89480416666666656
diff_tws: -1.1306147076216246
diff_twd: 1.600337457102441

Table 42: Transition 6-3: Changes of TWD

| TWD Range | [0-22.5) | [22.5-45) | [45-67.5) | [67.5-90) | [90-112.5) | [112.5-135) | [135-157.5) | [157.5-180) | [180-202.5) | [202.5-225) | [225-247.5) | [247.5-270) | [270-292.5) | [292.5-315) | [315-337.5) | [337.5-360] |
|-------------|----------|-----------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| [0-22.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [22.5-45) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [45-67.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [67.5-90) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [90-112.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [112.5-135) | 0% | 0% | 0% | 0% | 0% | 0% | 50.00% (1) | 50.00% (1) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [135-157.5) | 0% | 0% | 0% | 0% | 0% | 0% | 100.00% (1) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [157.5-180) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [180-202.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [202.5-225) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [225-247.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [247.5-270) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [270-292.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [292.5-315) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [315-337.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [337.5-360] | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

Transition 6-3 ([112.5-135) - [135-157.5)): Range level average differences
diff_temp: 0.23516599999999998
diff_humidity: -2.1948000000000003
diff_precipitation: 0.0

diff_pressure: -0.7253408813476563
diff_gust: -1.0245033290863037
diff_high_cloud_coverage: 0.0
diff_low_cloud_coverage: -0.04452
diff_medium_cloud_coverage: 0.0
diff_temperature_at_ground: 0.0719700000000001
diff_total_cloud_coverage: -0.04452
diff_tws: -0.9272239948663296
diff_twd: 16.611812880278322

Transition 6-3 ([112.5-135) - [157.5-180)): Range level average differences

diff_temp: 0.03249599999999976
diff_humidity: 0.6744000000000004
diff_precipitation: 0.0
diff_pressure: -0.03629974365234375
diff_gust: 1.9095838596343992
diff_high_cloud_coverage: 0.0
diff_low_cloud_coverage: 0.0
diff_medium_cloud_coverage: 0.0
diff_temperature_at_ground: 0.2505899999999998
diff_total_cloud_coverage: 0.0
diff_tws: 1.7662401347426089
diff_twd: 26.989606598555948

Transition 6-3 ([135-157.5) - [135-157.5)): Range level average differences

diff_temp: 0.005334469726561224
diff_humidity: 0.36880000000000024
diff_precipitation: 0.03570000000000044
diff_pressure: 0.2320635986328125
diff_gust: -0.7734090576171875
diff_high_cloud_coverage: -7.9057
diff_low_cloud_coverage: -1.6644000000000003
diff_medium_cloud_coverage: 0.03274
diff_temperature_at_ground: 0.0752999999999998
diff_total_cloud_coverage: 13.376000000000001
diff_tws: -0.5059673358363832
diff_twd: 2.861477024021346

Transition 6-3: Overall level average differences

diff_temp: 0.090998823242187
 diff_humidity: -0.3838666666666666
 diff_precipitation: 0.011900000000000015
 diff_pressure: -0.17652567545572917
 diff_gust: 0.03722382431030269
 diff_high_cloud_coverage: -2.6352333333333333
 diff_low_cloud_coverage: -0.56964
 diff_medium_cloud_coverage: 0.010913333333333332
 diff_temperature_at_ground: 0.13261999999999996
 diff_total_cloud_coverage: 4.443826666666667
 diff_tws: 0.11101626801329871
 diff_twd: 15.487632167618537

Table 43: Transition 6-6: Changes of TWD

| TWD Range | [0-22.5) | [22.5-45) | [45-67.5) | [67.5-90) | [90-112.5) | [112.5-135) | [135-157.5) | [157.5-180) | [180-202.5) | [202.5-225) | [225-247.5) | [247.5-270) | [270-292.5) | [292.5-315) | [315-337.5) | [337.5-360] |
|-------------|----------|-----------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| [0-22.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [22.5-45) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [45-67.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [67.5-90) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [90-112.5) | 0% | 0% | 0% | 0% | 0% | 100.00% (1) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [112.5-135) | 0% | 0% | 0% | 0% | 0% | 75.00% (3) | 25.00% (1) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [135-157.5) | 0% | 0% | 0% | 0% | 0% | 50.00% (3) | 50.00% (3) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [157.5-180) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [180-202.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [202.5-225) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [225-247.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [247.5-270) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [270-292.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [292.5-315) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [315-337.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [337.5-360] | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

Transition 6-6 ([90-112.5) - [112.5-135)): Range level average differences

diff_temp: 0.39038100000000014
 diff_humidity: -2.4749
 diff_precipitation: 0.0
 diff_pressure: -0.2066607666015625
 diff_gust: 0.40526485252380373
 diff_high_cloud_coverage: -2.6848999999999994
 diff_low_cloud_coverage: -0.03133
 diff_medium_cloud_coverage: 0.0
 diff_temperature_at_ground: 0.20229999999999999
 diff_total_cloud_coverage: -2.6650799999999997

diff_tws: 0.23463526212795469
diff_twd: 19.002469046429873

Transition 6-6 ([112.5-135) - [112.5-135)): Range level average differences
diff_temp: -0.224102
diff_humidity: 0.3712333333333335
diff_precipitation: 3.33333333332966e-06
diff_pressure: -0.013389689127604168
diff_gust: 0.17464881388346354
diff_high_cloud_coverage: 0.0
diff_low_cloud_coverage: 0.34510000000000013
diff_medium_cloud_coverage: 0.0
diff_temperature_at_ground: -0.23843000000000003
diff_total_cloud_coverage: 0.34510000000000013
diff_tws: 0.08871771184442
diff_twd: 3.264307283087645

Transition 6-6 ([112.5-135) - [135-157.5)): Range level average differences
diff_temp: -0.01134200000000014
diff_humidity: -0.20939999999999961
diff_precipitation: 0.0
diff_pressure: -0.15483062744140624
diff_gust: 1.6324456604003907
diff_high_cloud_coverage: 0.0
diff_low_cloud_coverage: -2.2921000000000005
diff_medium_cloud_coverage: 0.0
diff_temperature_at_ground: -0.03790999999999986
diff_total_cloud_coverage: -2.2921000000000005
diff_tws: 1.8442469327213533
diff_twd: 4.193948730403626

Transition 6-6 ([135-157.5) - [112.5-135)): Range level average differences
diff_temp: -0.10993566666666661
diff_humidity: 0.32259999999999983
diff_precipitation: 0.000700000000000266
diff_pressure: 0.06951436360677084
diff_gust: -0.13194583943684893
diff_high_cloud_coverage: -13.158333333333337
diff_low_cloud_coverage: 1.3969699999999998

diff_medium_cloud_coverage: 0.0
diff_temperature_at_ground: -0.23175568522135426
diff_total_cloud_coverage: -11.591566666666667
diff_tws: -0.16168402978524501
diff_twd: -6.495278215948422

Transition 6-6 ([135-157.5) - [135-157.5)): Range level average differences

diff_temp: 0.0003056666666666115
diff_humidity: -0.11393333333333344
diff_precipitation: 0.08333333333333331
diff_pressure: 0.14880716959635418
diff_gust: 0.34084876302083345
diff_high_cloud_coverage: 2.8214666666666663
diff_low_cloud_coverage: -0.27086666666666664
diff_medium_cloud_coverage: 0.011016666666666675
diff_temperature_at_ground: -0.00438000000000011
diff_total_cloud_coverage: 2.3500666666666663
diff_tws: 0.5223127379600102
diff_twd: 2.995442175789479

Transition 6-6: Overall level average differences

diff_temp: -0.05655972727272726
diff_humidity: -0.08587272727272727
diff_precipitation: 0.022919090909090913
diff_pressure: 0.02302764892578125
diff_gust: 0.28985142957513993
diff_high_cloud_coverage: -3.0632272727272736
diff_low_cloud_coverage: 0.19001636363636362
diff_medium_cloud_coverage: 0.003004545454545457
diff_temperature_at_ground: -0.11448245960582391
diff_total_cloud_coverage: -2.8769436363636367
diff_tws: 0.3115383140824422
diff_twd: 2.0445301368745095

Table 44: Transition 7-1: Changes of TWD

| TWD Range | [0-22.5) | [22.5-45) | [45-67.5) | [67.5-90) | [90-112.5) | [112.5-135) | [135-157.5) | [157.5-180) | [180-202.5) | [202.5-225) | [225-247.5) | [247.5-270) | [270-292.5) | [292.5-315) | [315-337.5) | [337.5-360] |
|-------------|----------|-----------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| [0-22.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [22.5-45) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [45-67.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [67.5-90) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [90-112.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [112.5-135) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [135-157.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100.00% (1) | 0% | 0% | 0% | 0% | 0% | 0% |
| [157.5-180) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [180-202.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [202.5-225) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100.00% (1) | 0% | 0% | 0% | 0% | 0% | 0% |
| [225-247.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [247.5-270) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [270-292.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [292.5-315) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [315-337.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [337.5-360] | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

Transition 7-1 ([135-157.5) - [202.5-225)): Range level average differences

diff_temp: -0.03246799999999979
diff_humidity: 1.0841999999999996
diff_precipitation: 0.0
diff_pressure: -0.24240966796875
diff_gust: 1.458122259902954
diff_high_cloud_coverage: 0.0
diff_low_cloud_coverage: 0.009415
diff_medium_cloud_coverage: 0.0
diff_temperature_at_ground: 0.22655000000000008
diff_total_cloud_coverage: 0.009415
diff_tws: 1.3590625092121165
diff_twd: 18.82907794186922

Transition 7-1 ([202.5-225) - [202.5-225)): Range level average differences

diff_temp: -0.085716552734375
diff_humidity: 0.37889999999999974
diff_precipitation: 0.0
diff_pressure: -0.041217041015625
diff_gust: 1.3413366641998288
diff_high_cloud_coverage: 0.0
diff_low_cloud_coverage: 0.0
diff_medium_cloud_coverage: 0.0
diff_temperature_at_ground: 0.16605000000000001

diff_total_cloud_coverage: 0.0
diff_tws: 1.332088666165979
diff_twd: -2.125930118768021

Transition 7-1: Overall level average differences
diff_temp: -0.0590922763671874
diff_humidity: 0.7315499999999997
diff_precipitation: 0.0
diff_pressure: -0.1418133544921875
diff_gust: 1.3997294620513914
diff_high_cloud_coverage: 0.0
diff_low_cloud_coverage: 0.0047075
diff_medium_cloud_coverage: 0.0
diff_temperature_at_ground: 0.19630000000000009
diff_total_cloud_coverage: 0.0047075
diff_tws: 1.3455755876890478
diff_twd: 8.351573911550599

Table 45: Transition 7-7: Changes of TWD

| TWD Range | [0-22.5) | [22.5-45) | [45-67.5) | [67.5-90) | [90-112.5) | [112.5-135) | [135-157.5) | [157.5-180) | [180-202.5) | [202.5-225) | [225-247.5) | [247.5-270) | [270-292.5) | [292.5-315) | [315-337.5) | [337.5-360] |
|-------------|----------|-----------|-----------|-----------|------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| [0-22.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 100.00% (1) | 0% | 0% | 0% | 0% | 0% | 0% |
| [22.5-45) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [45-67.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [67.5-90) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [90-112.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [112.5-135) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [135-157.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [157.5-180) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [180-202.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [202.5-225) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [225-247.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [247.5-270) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [270-292.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [292.5-315) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [315-337.5) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |
| [337.5-360] | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

Transition 7-7 ([0-22.5) - [202.5-225)): Range level average differences
diff_temp: 0.07425485351562365
diff_humidity: -0.36789999999999934
diff_precipitation: 0.0
diff_pressure: 0.05222686767578125

diff_gust: -0.10991520080566407
diff_high_cloud_coverage: 0.0
diff_low_cloud_coverage: 0.0
diff_medium_cloud_coverage: 0.0
diff_temperature_at_ground: 0.31297000000000014
diff_total_cloud_coverage: 0.0
diff_tws: 0.011427851490956726
diff_twd: 1.2183362838745866

Transition 7-7: Overall level average differences

diff_temp: 0.07425485351562365
diff_humidity: -0.36789999999999934
diff_precipitation: 0.0
diff_pressure: 0.05222686767578125
diff_gust: -0.10991520080566407
diff_high_cloud_coverage: 0.0
diff_low_cloud_coverage: 0.0
diff_medium_cloud_coverage: 0.0
diff_temperature_at_ground: 0.31297000000000014
diff_total_cloud_coverage: 0.0
diff_tws: 0.011427851490956726
diff_twd: 1.2183362838745866

