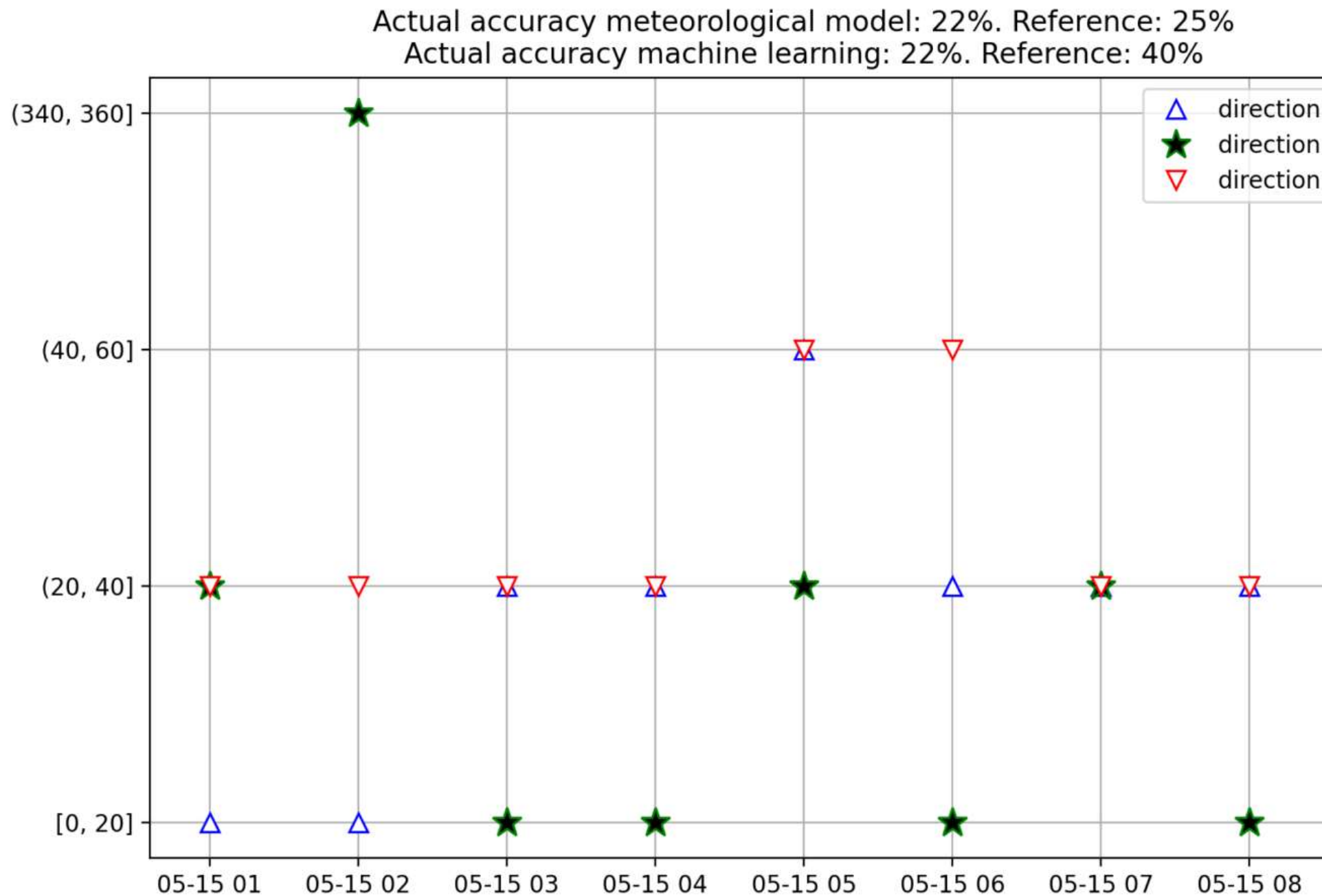
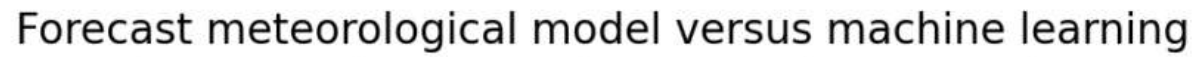


Metars

metar_o	dir_o	spd_o	gust_o	visibility_o	wxcodes_o	skyc
LEST 150000Z 01004KT 340V040 9999 SCT009 11/10 Q1024 NOSIG	10	4	M	9994	M	SCT
LEST 150030Z 02004KT 340V050 9999 SCT009 11/10 Q1024 NOSIG	20	4	M	9994	M	SCT
LEST 150100Z 03003KT 350V070 9999 SCT009 SCT012 11/10 Q1024 NOSIG	30	3	M	9994	M	SCT
LEST 150130Z 36004KT 9999 SCT009 SCT012 11/10 Q1023 NOSIG	360	4	M	9994	M	SCT
LEST 150200Z 35007KT 310V020 9000 BKN008 11/10 Q1024 NOSIG	350	7	M	8996	M	BKN
LEST 150230Z 36005KT 330V030 8000 BKN007 BKN017 11/11 Q1023 NOSIG	360	5	M	7998	M	BKN
LEST 150300Z 01006KT 330V040 9000 BKN008 BKN017 11/10 Q1023 NOSIG	10	6	M	8996	M	BKN
LEST 150330Z 02004KT 340V070 9999 SCT008 BKN018 11/10 Q1023 NOSIG	20	4	M	9994	M	SCT
LEST 150400Z 02004KT 340V070 9999 SCT008 BKN018 11/10 Q1023 NOSIG	20	4	M	9994	M	SCT
LEST 150430Z 02006KT 340V070 9999 SCT008 BKN022 11/10 Q1023 NOSIG	20	6	M	9994	M	SCT
LEST 150500Z 03004KT 350V080 9999 SCT008 BKN022 11/10 Q1023 NOSIG	30	4	M	9994	M	SCT
LEST 150530Z 02004KT 340V060 9999 SCT008 SCT022 11/10 Q1023 NOSIG	20	4	M	9994	M	SCT
LEST 150600Z 01004KT 330V050 9000 SCT008 11/10 Q1023 NOSIG	10	4	M	8996	M	SCT

Wind direction





Probabilities wind direction more than 5%

May 15 01:00 Z	11%	44%	12%	19%	3%	1%	7%
May 15 03:00 Z	23%	30%	18%	10%	4%	1%	12%
May 15 05:00 Z	21%	27%	29%	16%	2%	1%	4%
May 15 07:00 Z	16%	16%	39%	21%	3%	1%	2%
May 15 09:00 Z	12%	16%	24%	25%	17%	3%	1%
May 15 11:00 Z	14%	14%	24%	21%	20%	2%	3%
May 15 13:00 Z	6%	11%	59%	19%	3%	1%	1%
May 15 15:00 Z	6%	9%	67%	14%	1%	1%	1%
May 15 17:00 Z	2%	33%	60%	2%	0%	0%	2%
May 15 19:00 Z	2%	47%	41%	2%	0%	0%	7%
May 15 21:00 Z	2%	43%	39%	4%	1%	0%	11%
May 15 23:00 Z	2%	49%	10%	1%	0%	0%	37%
May 16 01:00 Z	1%	54%	33%	4%	0%	0%	7%
May 16 03:00 Z	2%	47%	44%	3%	0%	0%	4%
May 16 05:00 Z	1%	58%	32%	4%	0%	0%	5%
May 16 07:00 Z	1%	43%	48%	2%	0%	0%	5%
May 16 09:00 Z	0%	35%	58%	4%	0%	0%	2%
May 16 11:00 Z	0%	34%	53%	4%	0%	0%	8%
May 16 13:00 Z	3%	48%	10%	4%	0%	0%	29%
May 16 15:00 Z	1%	31%	60%	4%	0%	0%	3%
May 16 17:00 Z	2%	9%	42%	35%	9%	1%	1%
May 16 19:00 Z	6%	5%	16%	64%	5%	2%	1%
May 16 21:00 Z	9%	6%	30%	42%	8%	3%	1%
May 16 23:00 Z	2%	4%	30%	58%	5%	0%	0%
May 17 01:00 Z	7%	6%	20%	53%	10%	1%	1%
May 17 03:00 Z	15%	14%	45%	16%	2%	2%	4%
May 17 05:00 Z	8%	9%	59%	18%	2%	1%	1%
May 17 07:00 Z	7%	13%	50%	23%	4%	1%	1%
May 17 09:00 Z	3%	5%	34%	42%	13%	2%	0%
May 17 11:00 Z	3%	2%	9%	45%	31%	8%	0%
May 17 13:00 Z	4%	4%	22%	39%	24%	6%	0%
May 17 15:00 Z	3%	5%	15%	41%	19%	12%	0%
May 17 17:00 Z	3%	4%	14%	27%	43%	7%	0%
May 17 19:00 Z	4%	6%	13%	28%	34%	10%	1%
May 17 21:00 Z	4%	3%	11%	21%	55%	4%	1%
May 17 23:00 Z	3%	4%	10%	15%	62%	3%	1%
May 18 01:00 Z	14%	5%	13%	38%	25%	2%	1%
May 18 03:00 Z	7%	19%	20%	40%	9%	1%	2%
May 18 05:00 Z	5%	20%	24%	42%	5%	0%	1%
May 18 07:00 Z	4%	11%	33%	25%	20%	3%	1%
May 18 09:00 Z	3%	10%	17%	49%	17%	2%	1%
May 18 11:00 Z	3%	13%	17%	50%	10%	2%	3%
May 18 13:00 Z	7%	15%	8%	41%	20%	3%	3%
May 18 15:00 Z	5%	18%	9%	32%	30%	1%	4%
May 18 17:00 Z	8%	13%	9%	25%	20%	5%	18%
May 18 19:00 Z	7%	10%	25%	16%	31%	3%	6%
May 18 21:00 Z	8%	9%	27%	23%	28%	1%	2%
May 18 23:00 Z	12%	11%	12%	24%	31%	6%	1%

Wind intensity knots

VRB

[0, 20]

(20, 40]

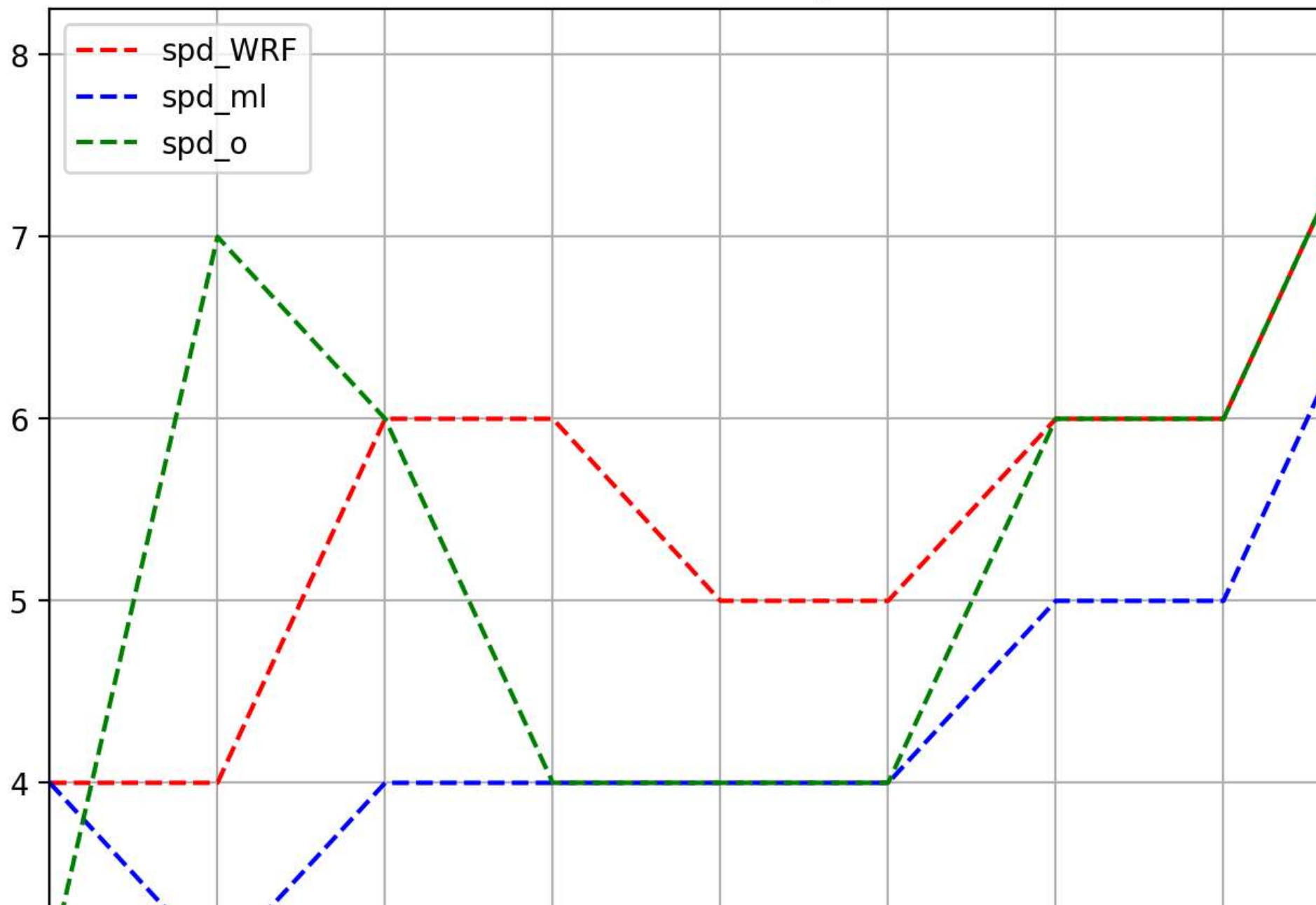
(40, 60]

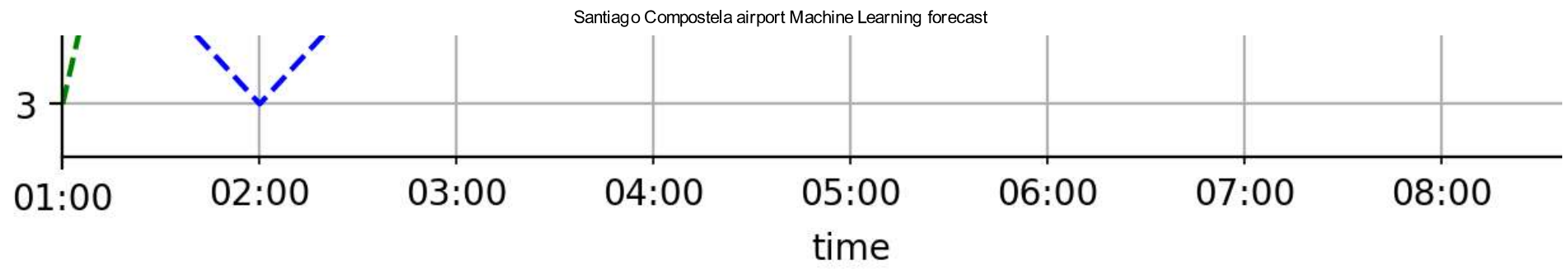
(60, 80]

(80, 100]

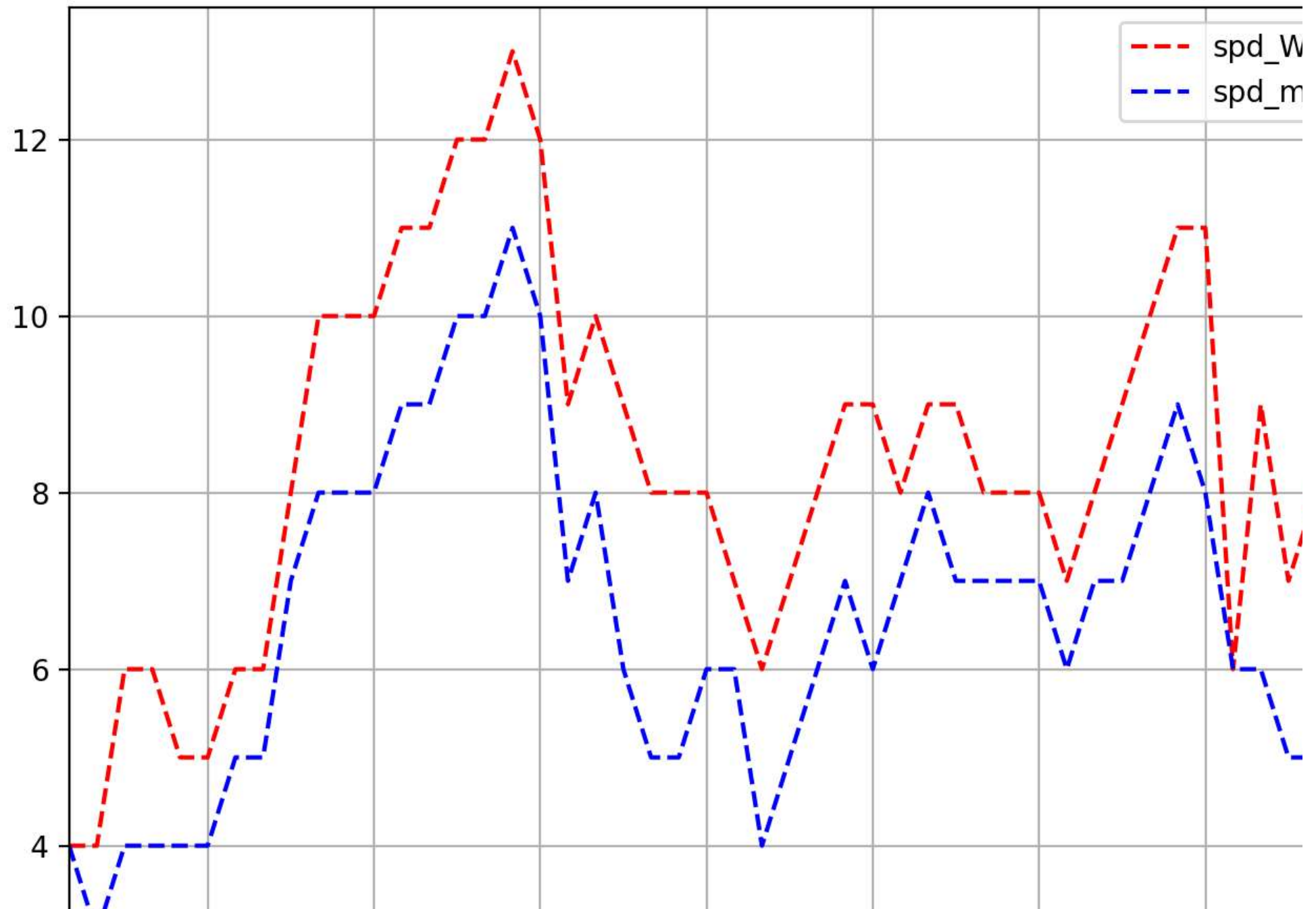
(340, 360]

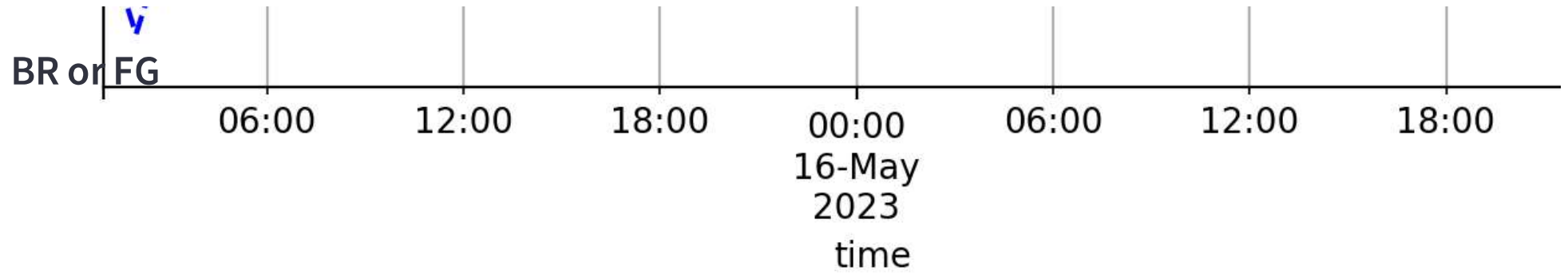
Actual mean absolute error meteorological model (kt): 0.89. Reference (m
Actual mean absolute error machine learning (kt): 1.11. Reference (m/s)





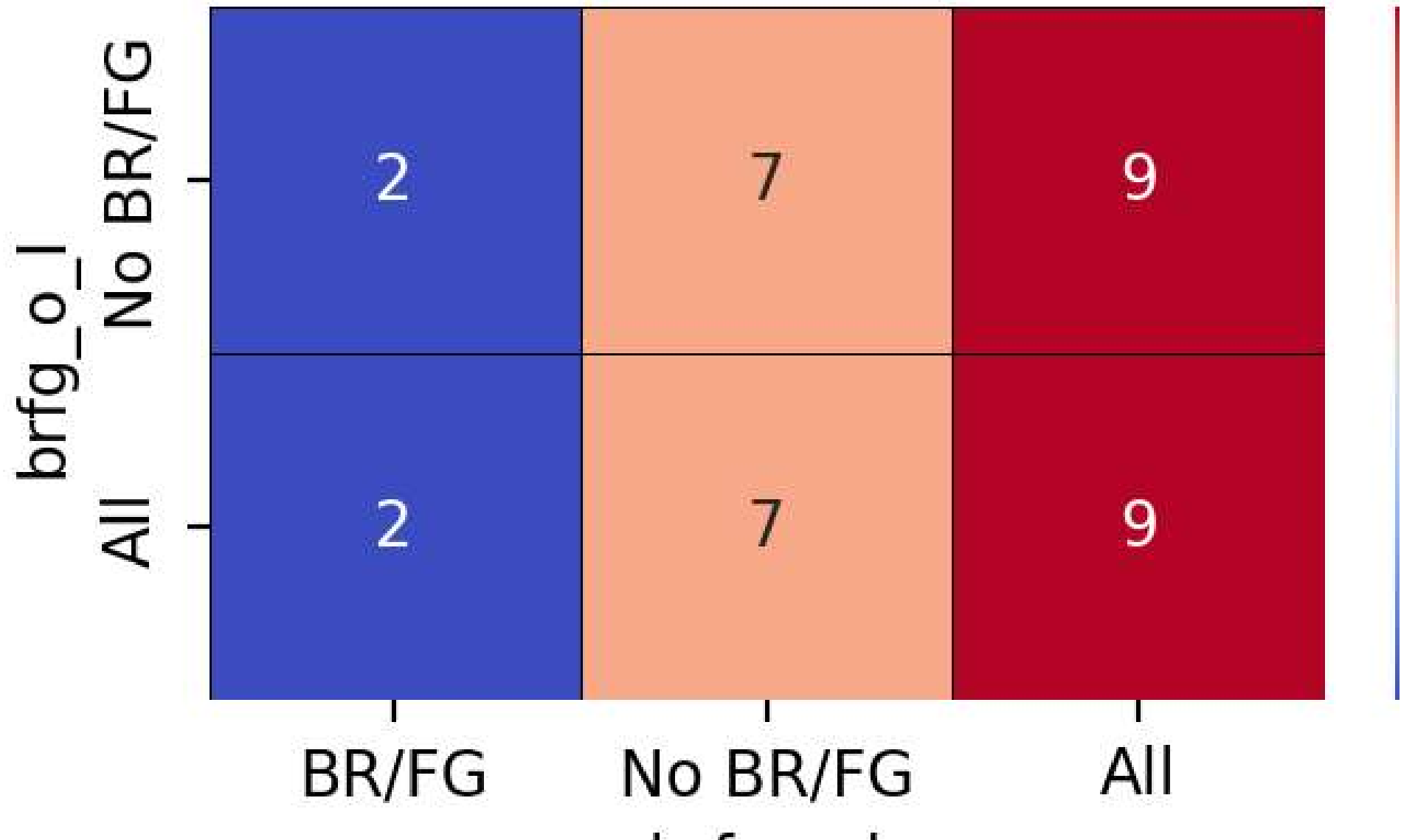
Forecast meteorological model versus machine learning





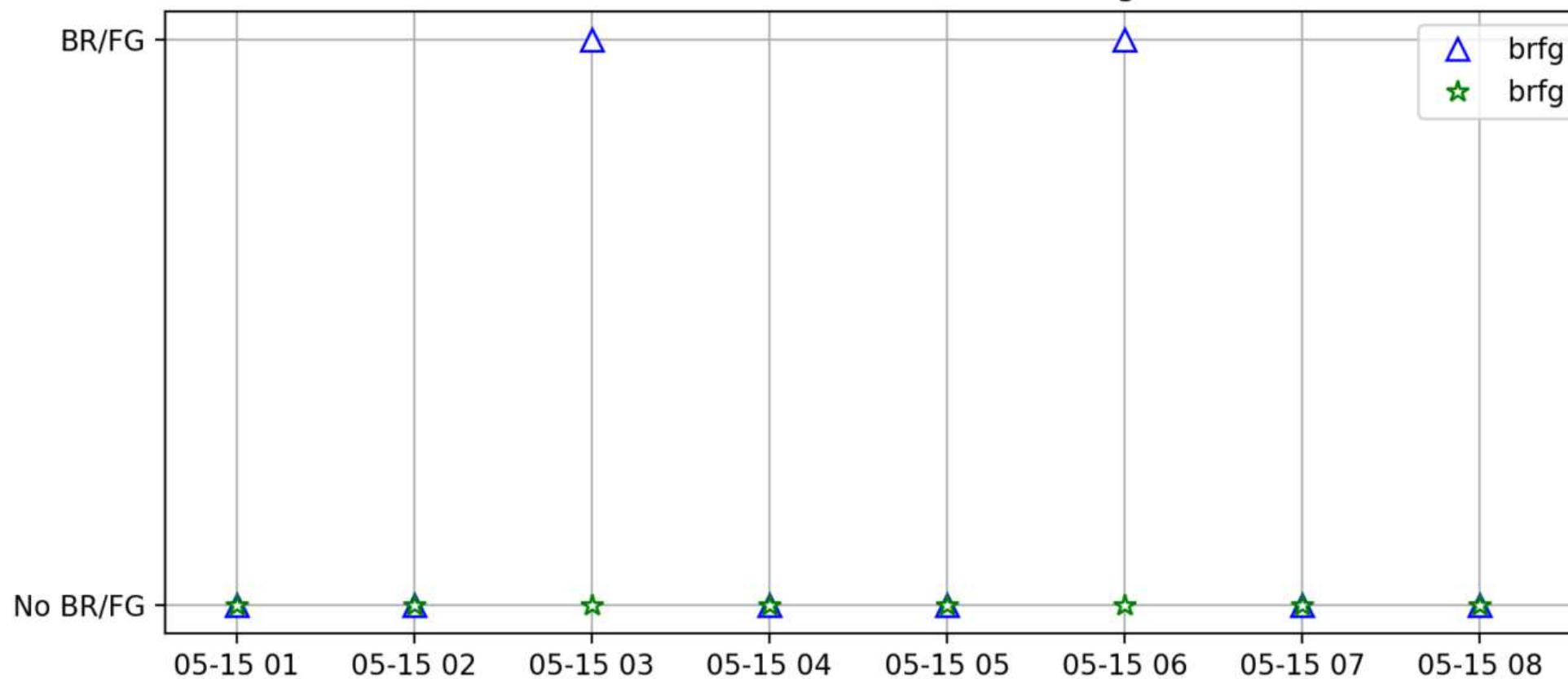
Confusion matrix

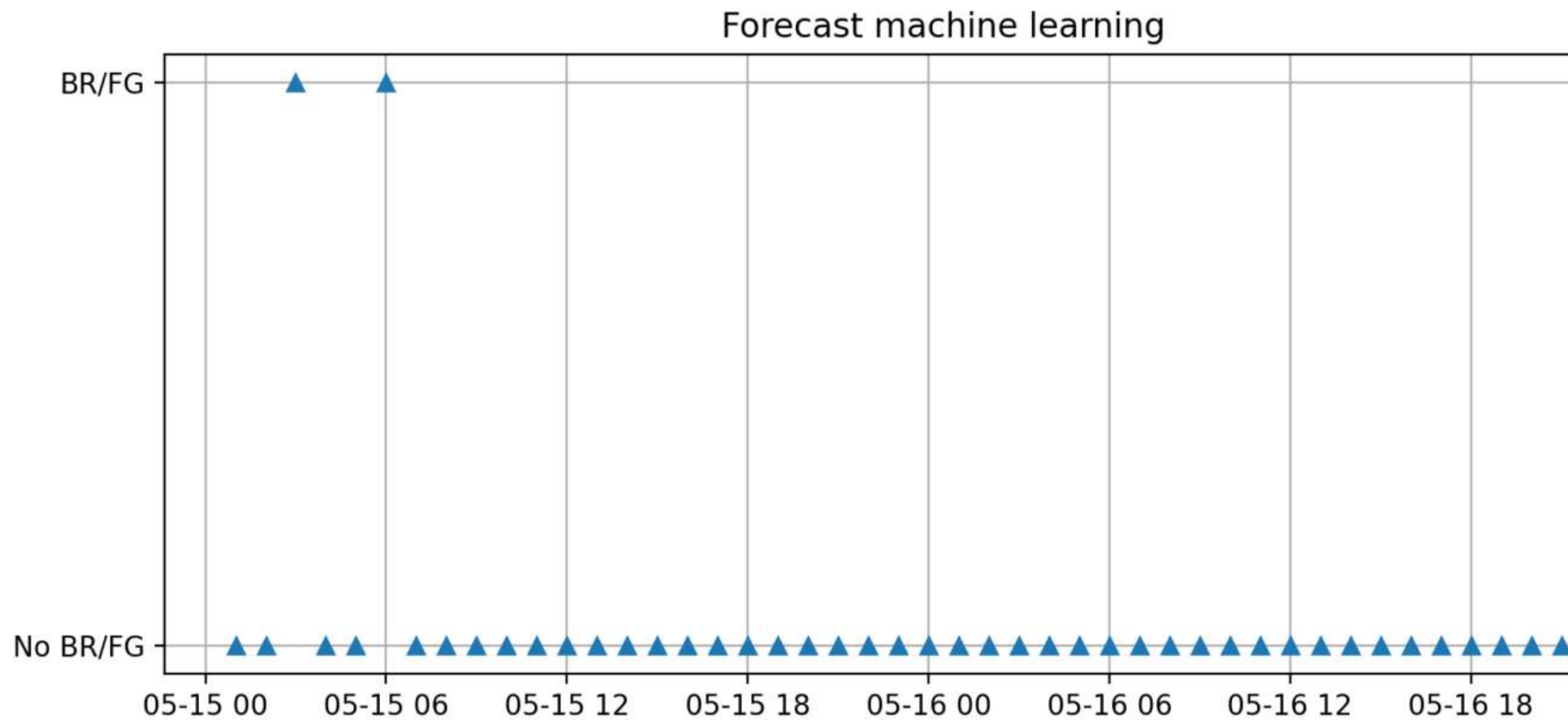
Accuracy machine learning: 78%

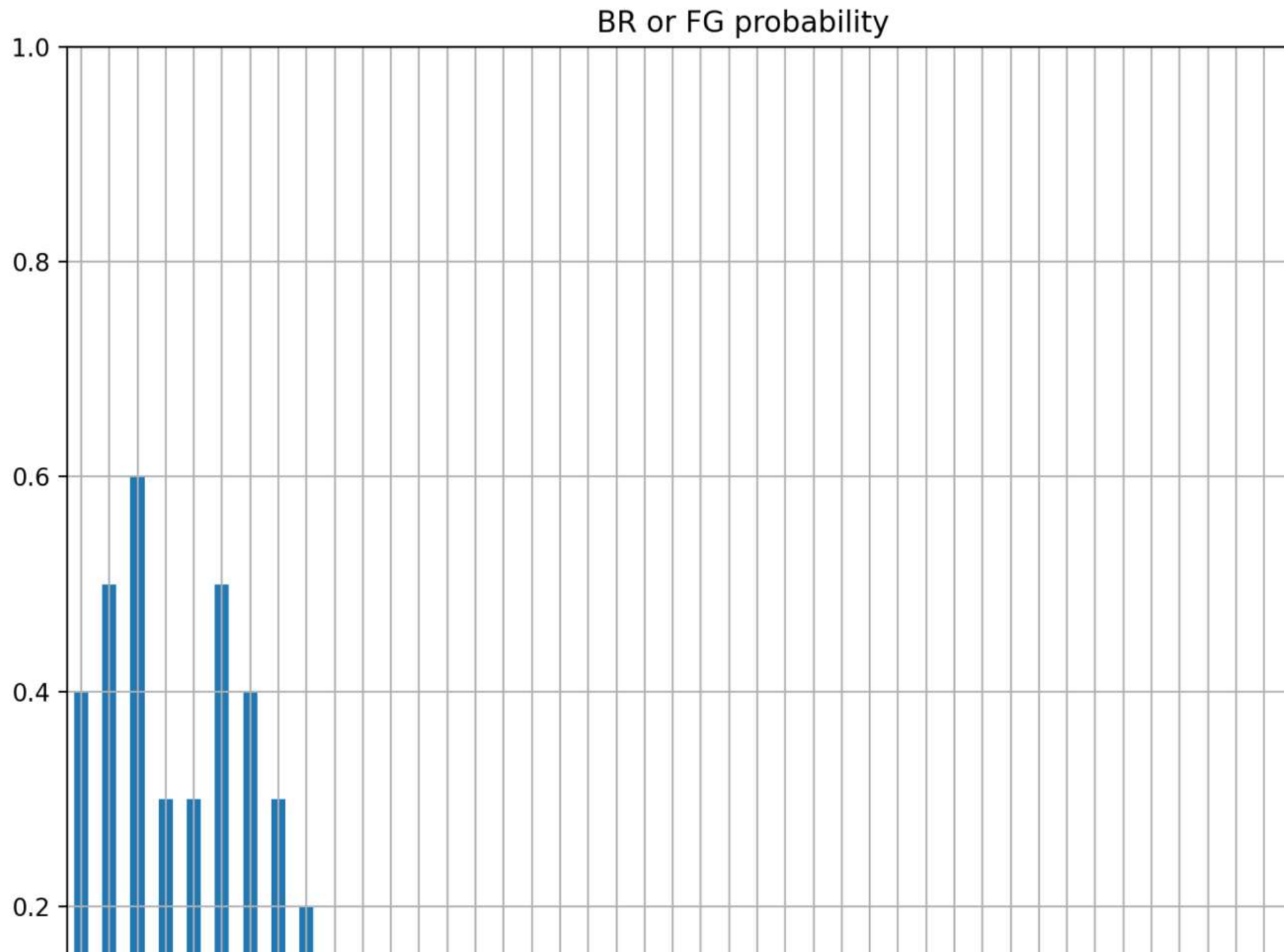


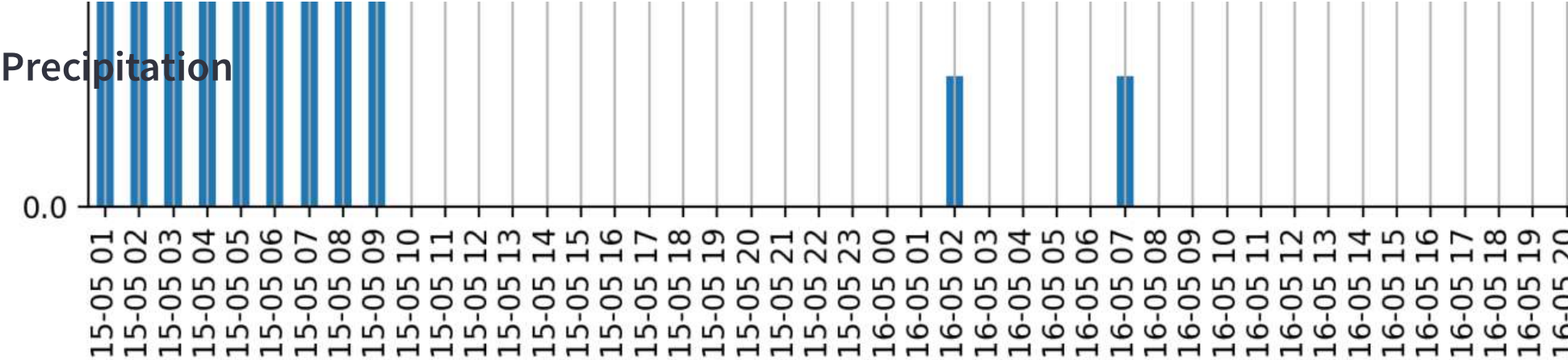
brta ml

Actual Heidke skill score machine learning: 0. Reference: 0.64



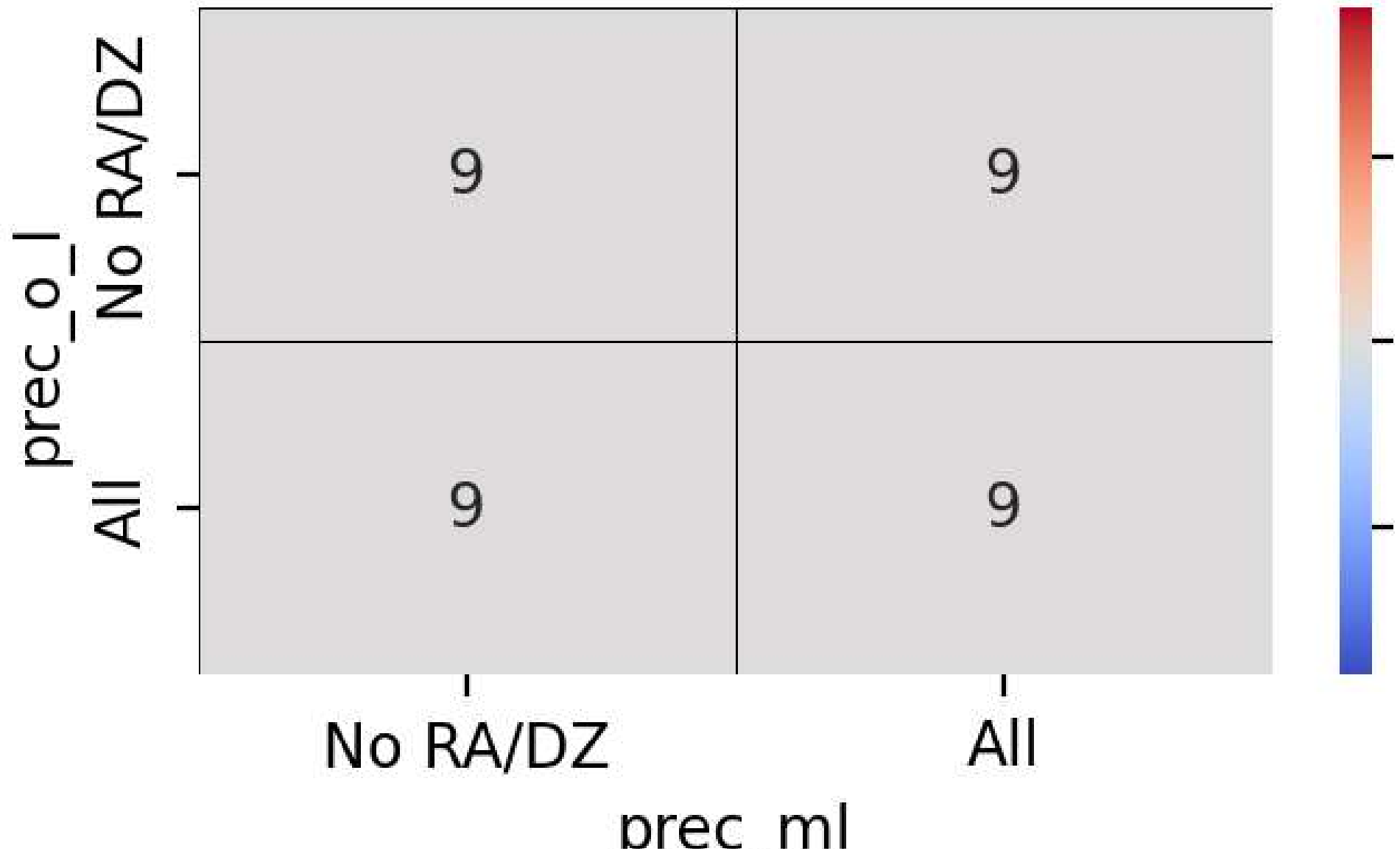






Confusion matrix

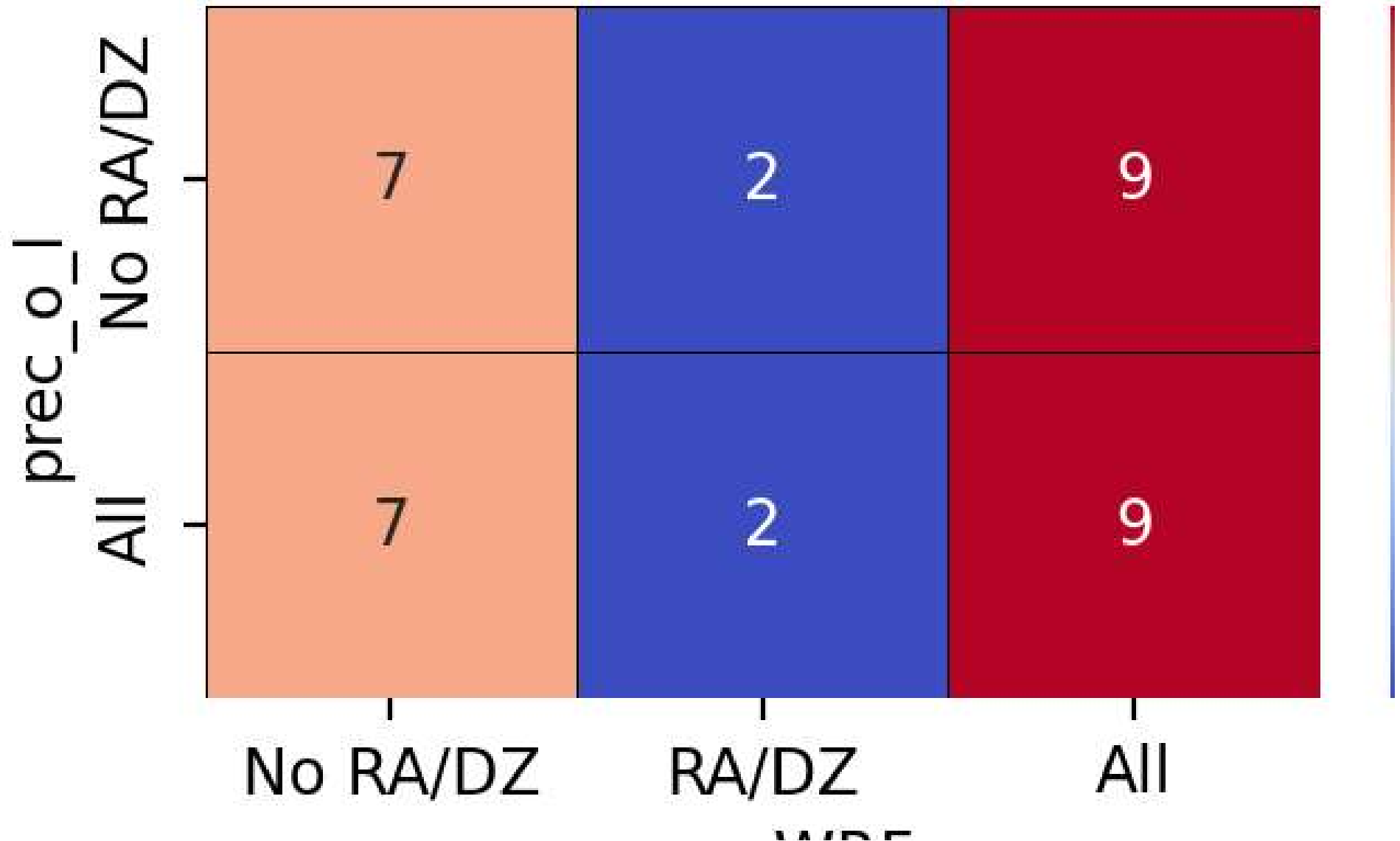
Accuracy machine learning: 100%





Confusion matrix

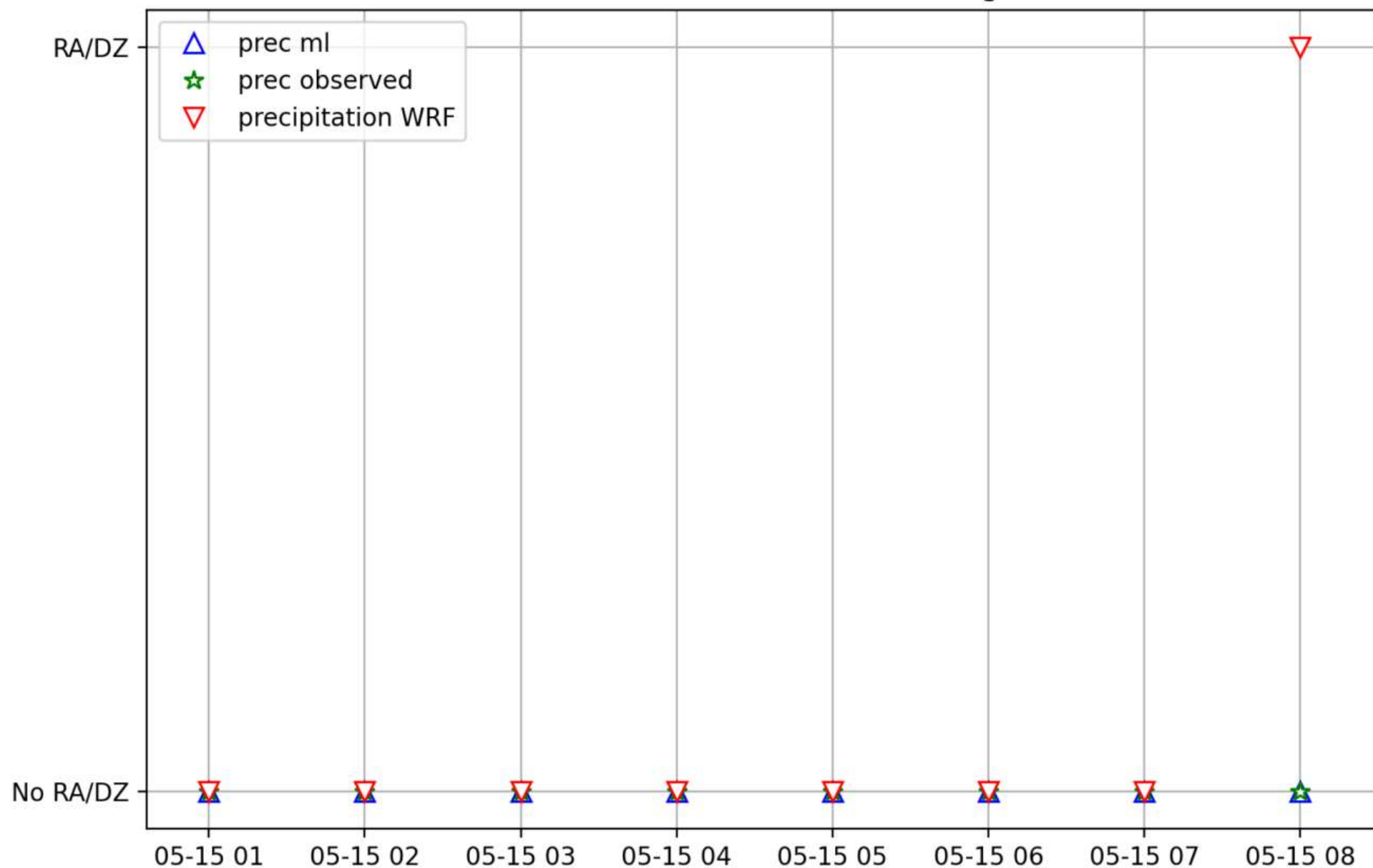
Accuracy meteorologic model: 78%

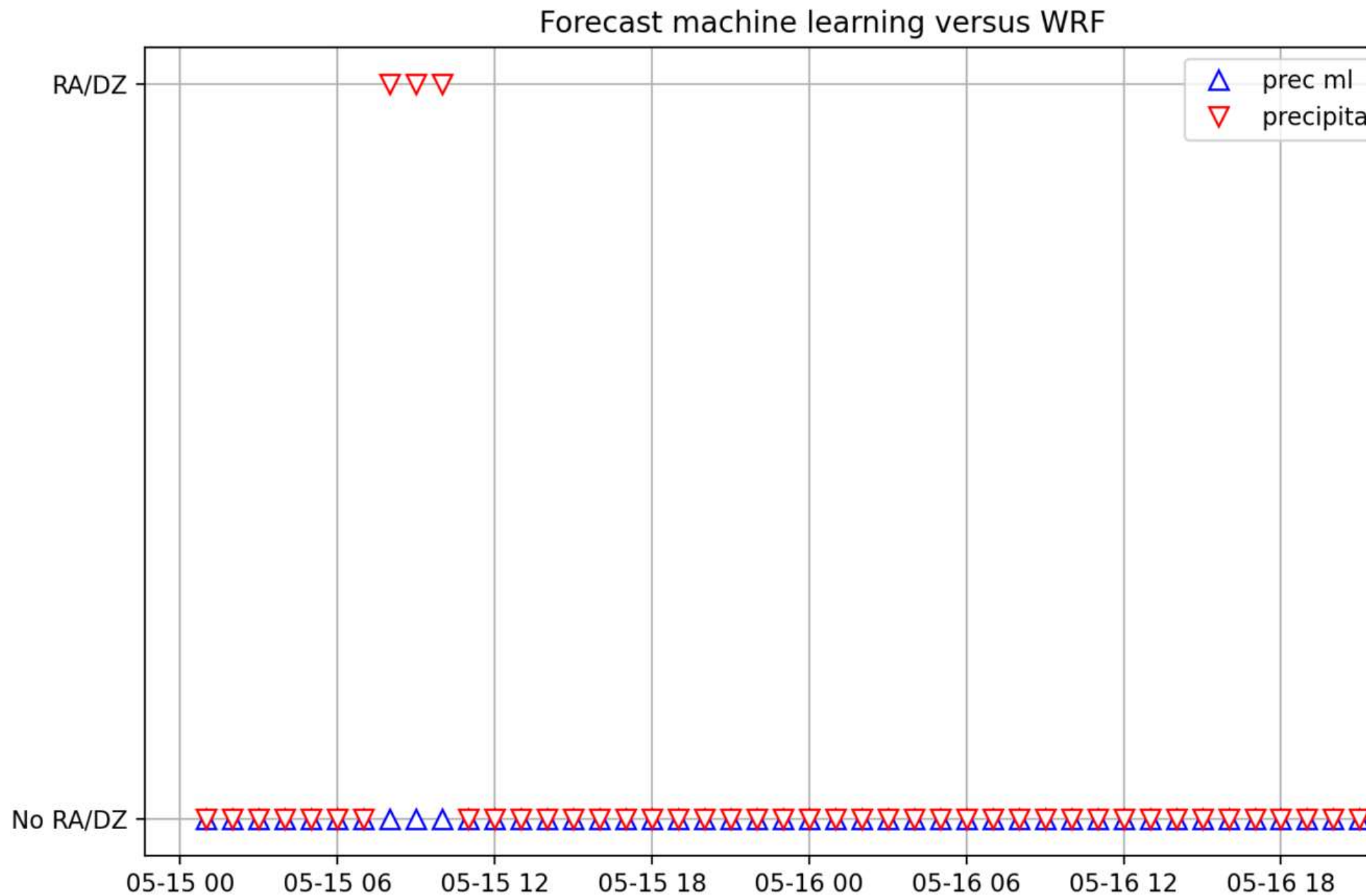


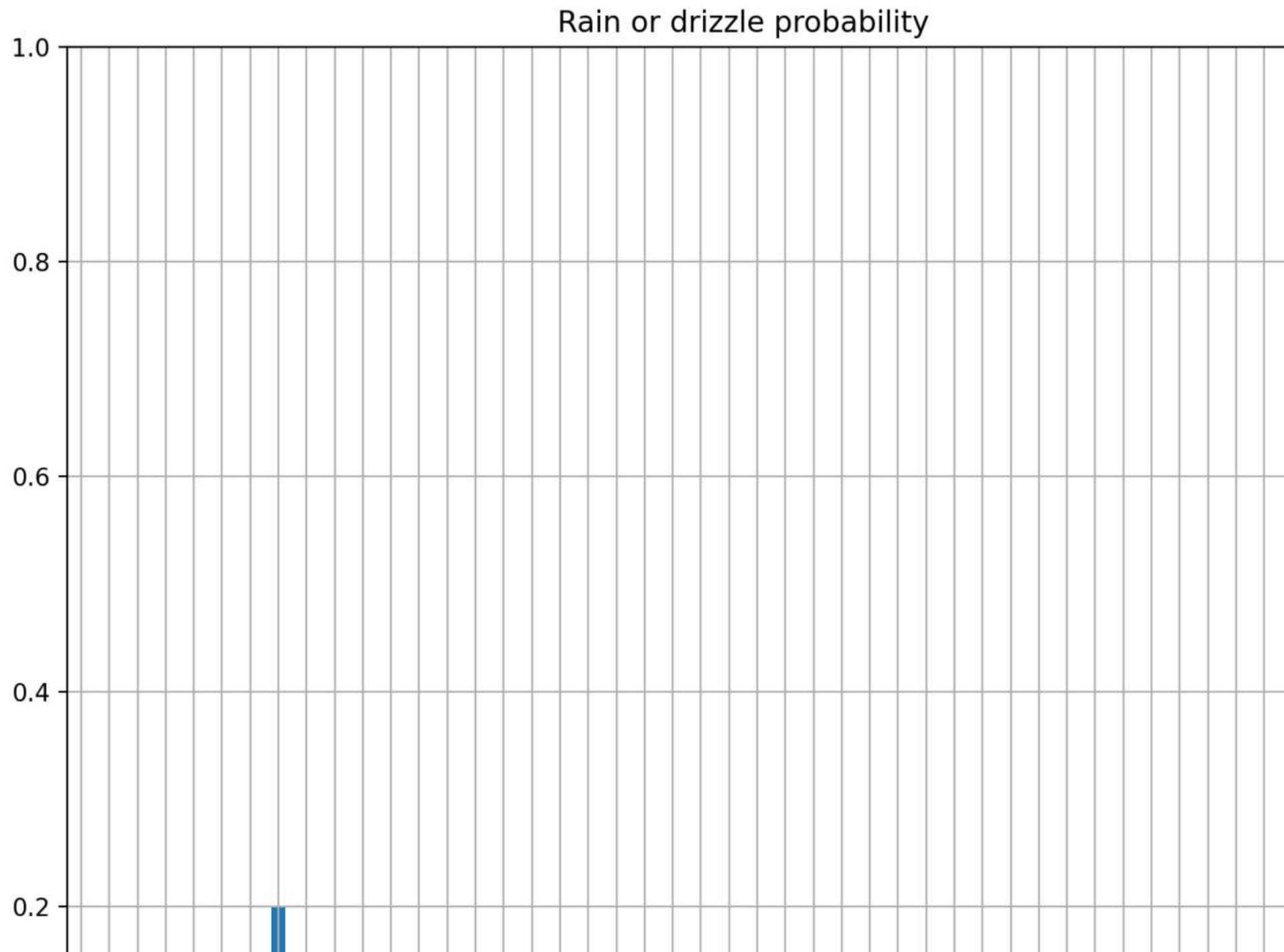
prec WRF

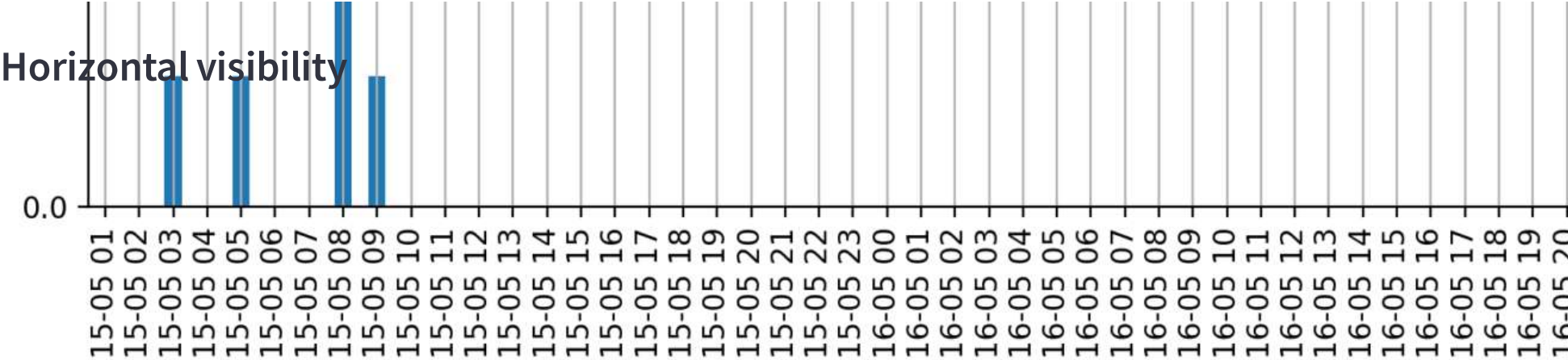
Actual Heidke skill score meteorological model: 0. Reference: 0.40

Actual Heidke skill score machine learning: 0. Reference: 0.57



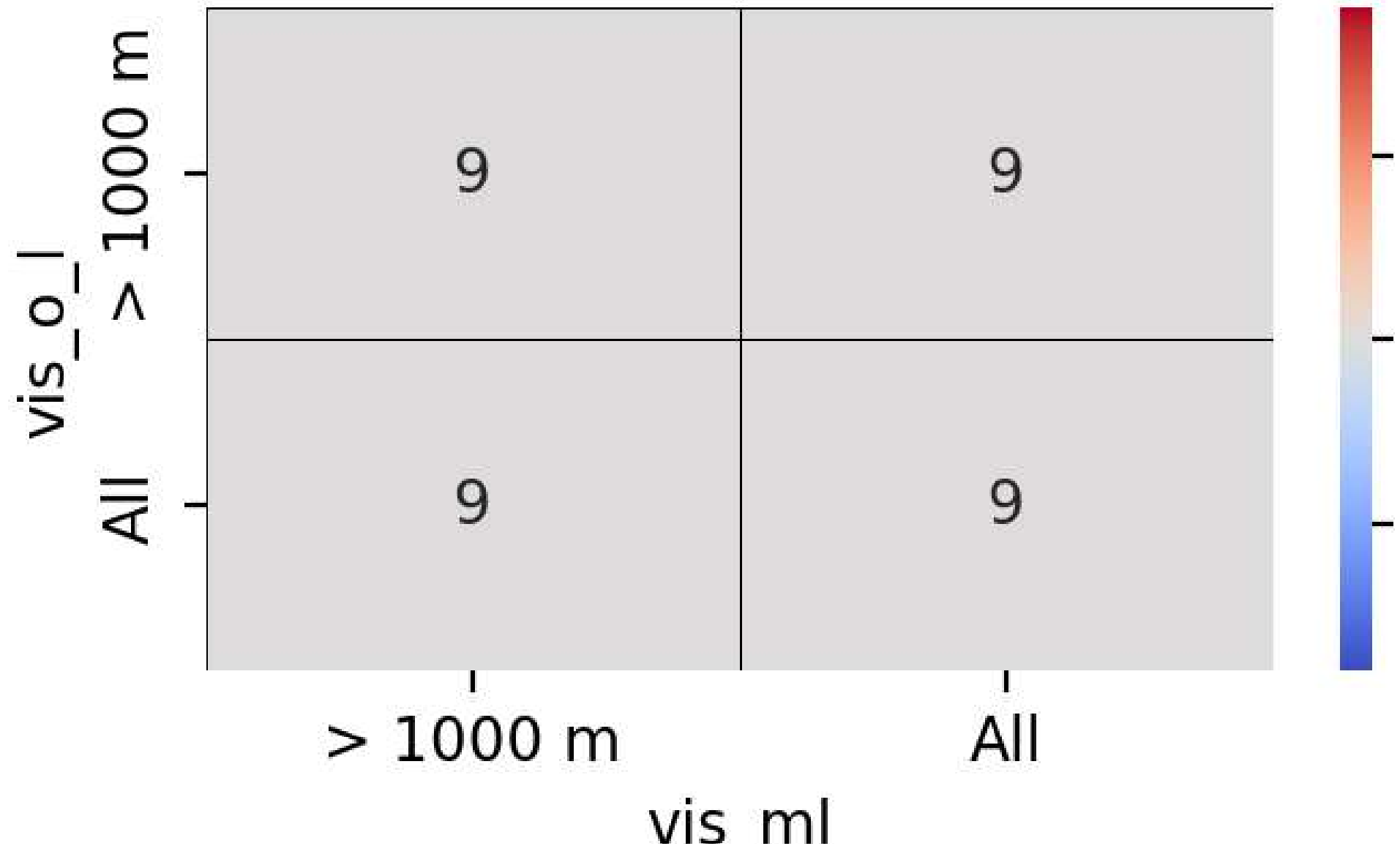






Confusion matrix

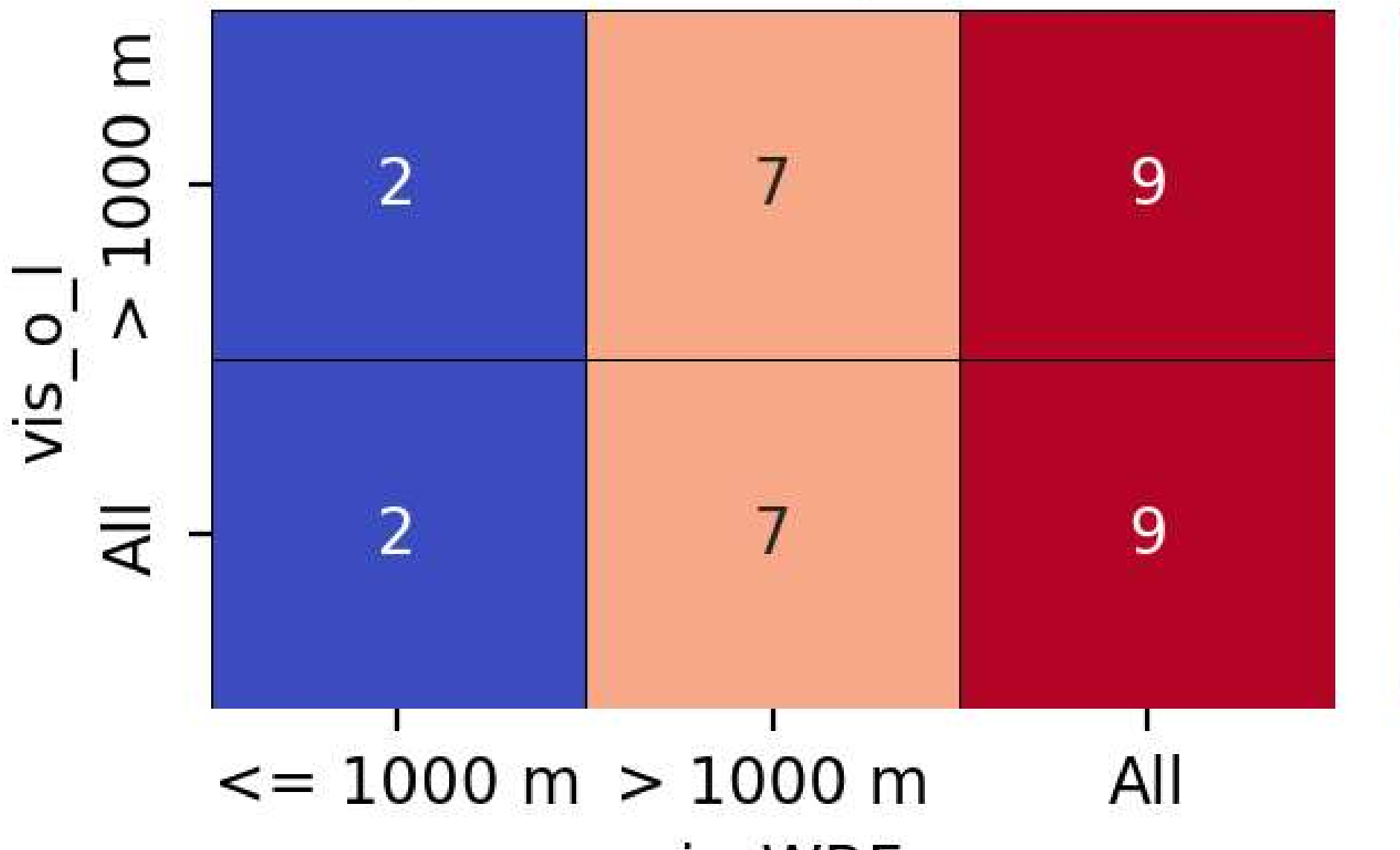
Accuracy machine learning: 100%





Confusion matrix

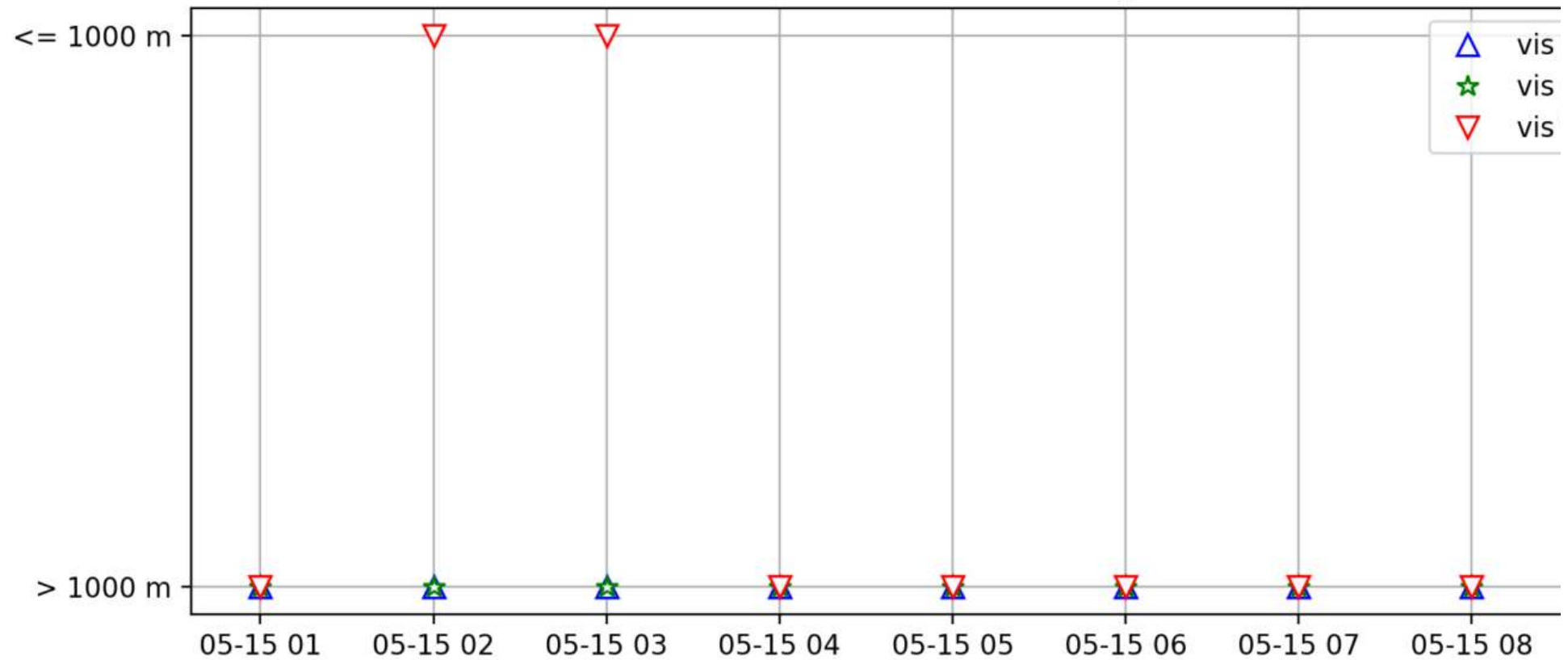
Accuracy meteorologic model: 78%

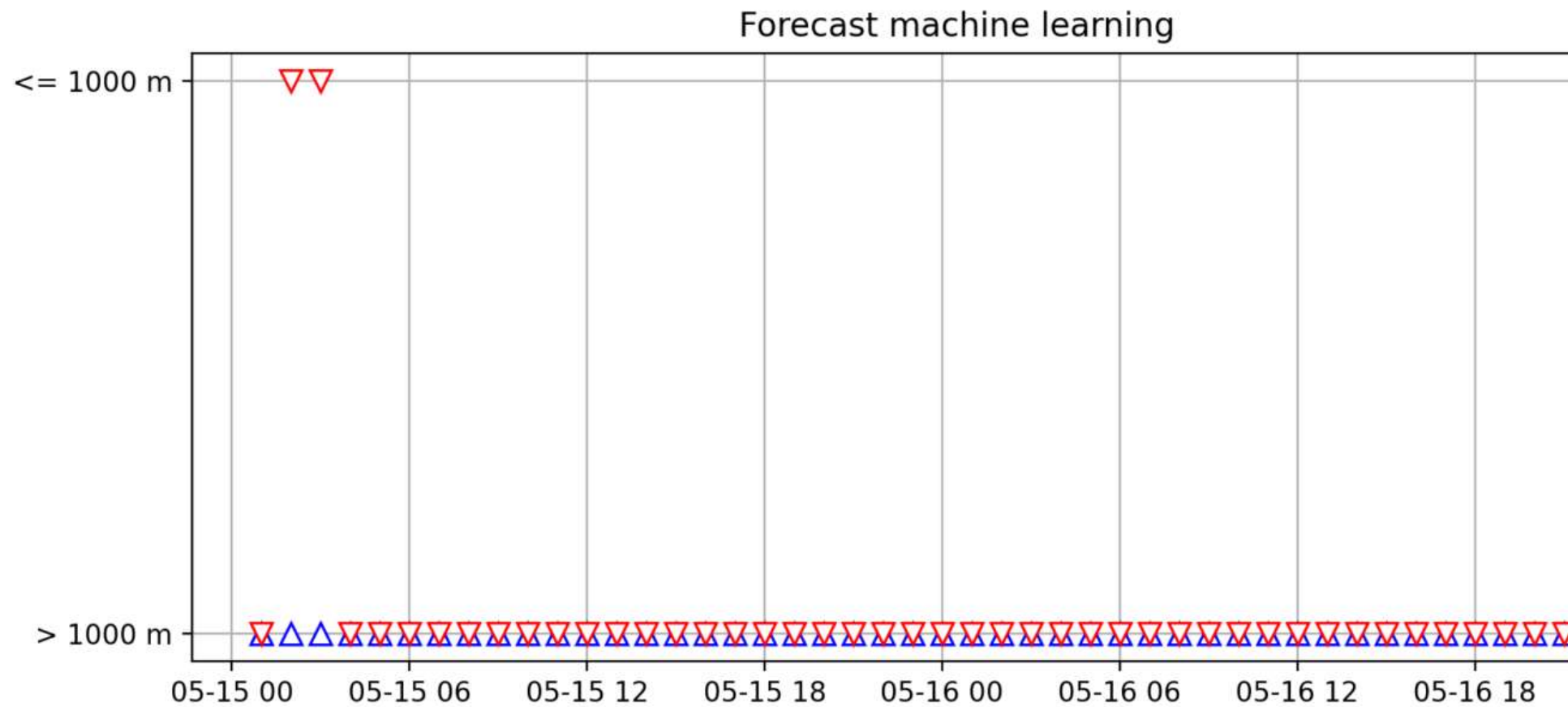


vis WRF

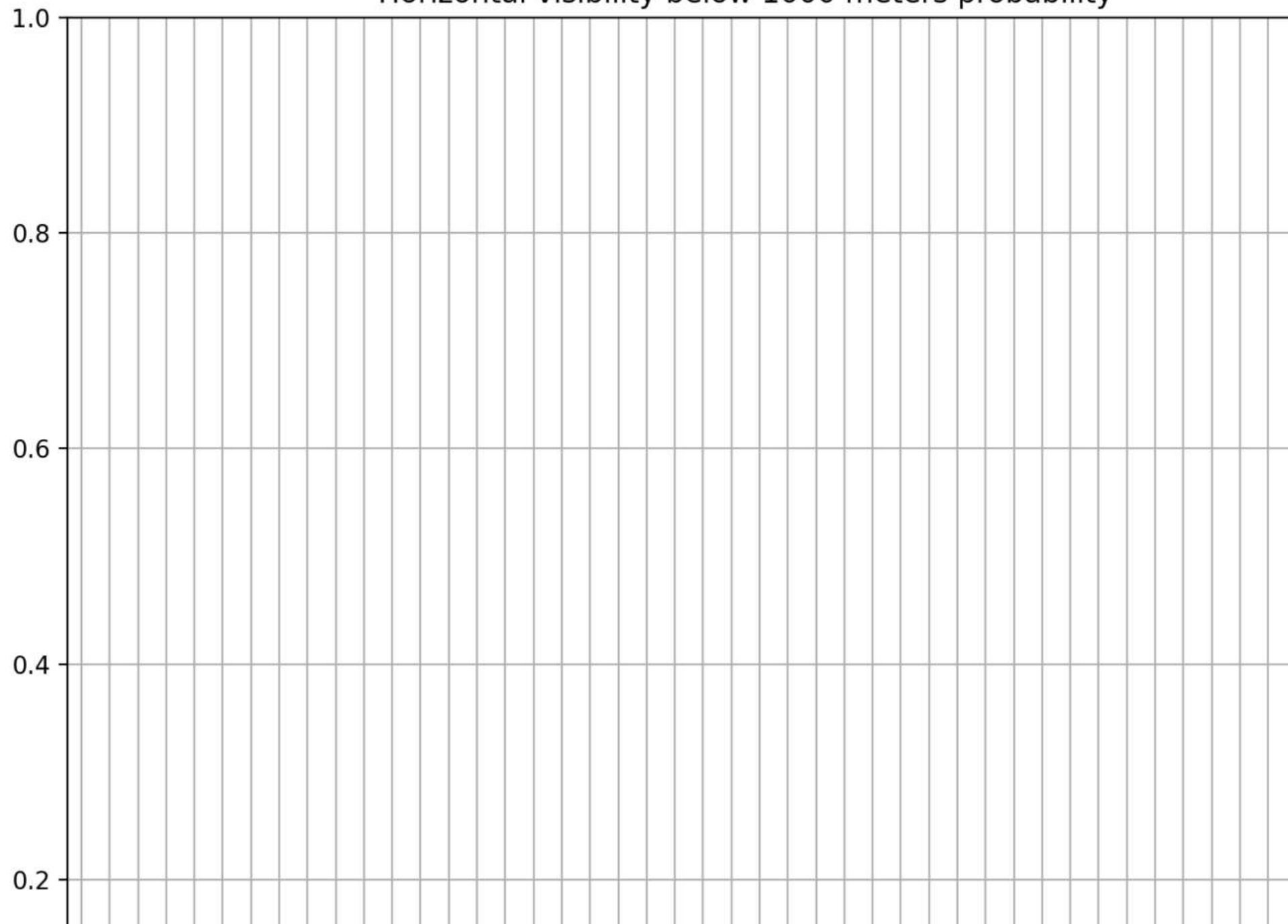
Actual Heidke skill score meteorological model: 0. Reference: 0.17

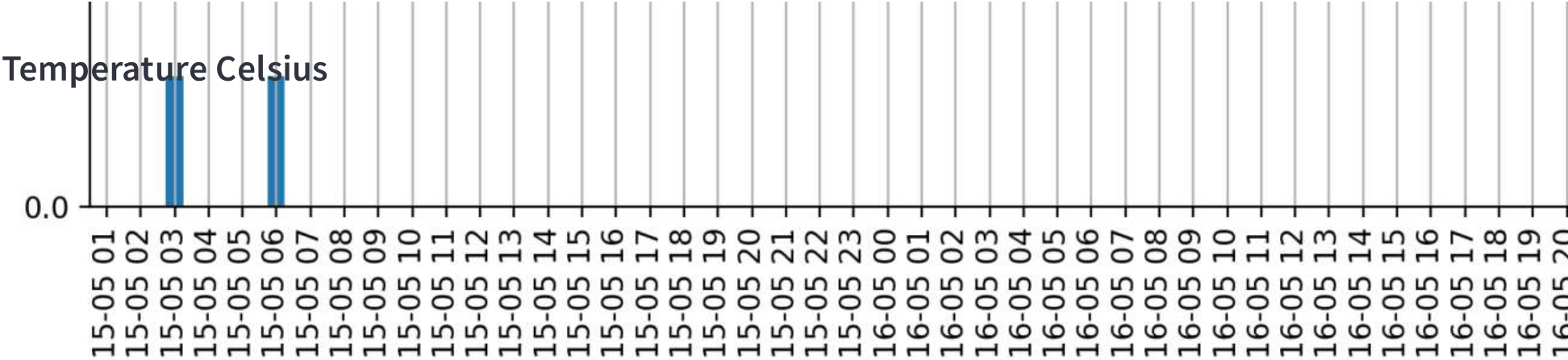
Actual Heidke skill score machine learning: 0. Reference: 0.41



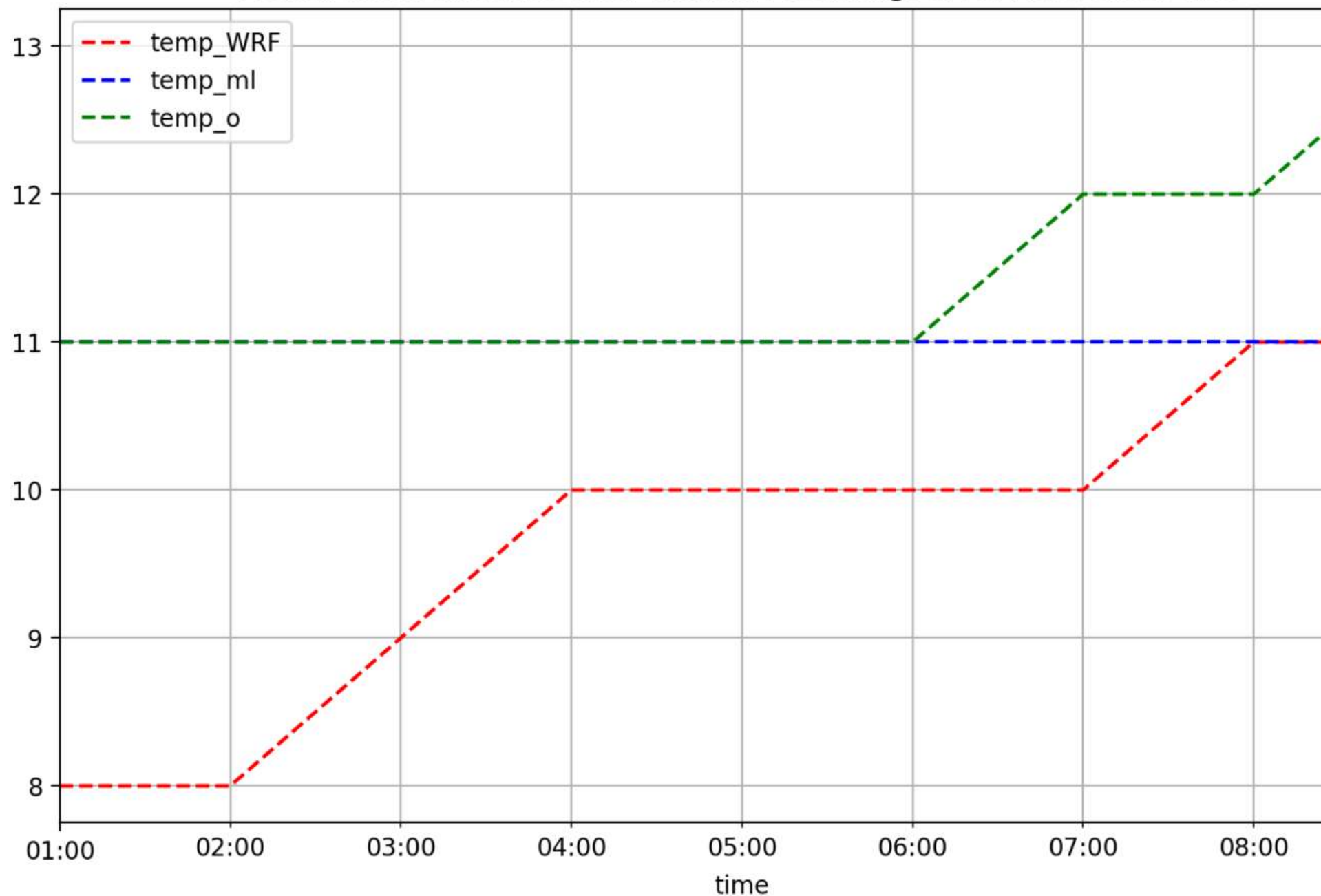


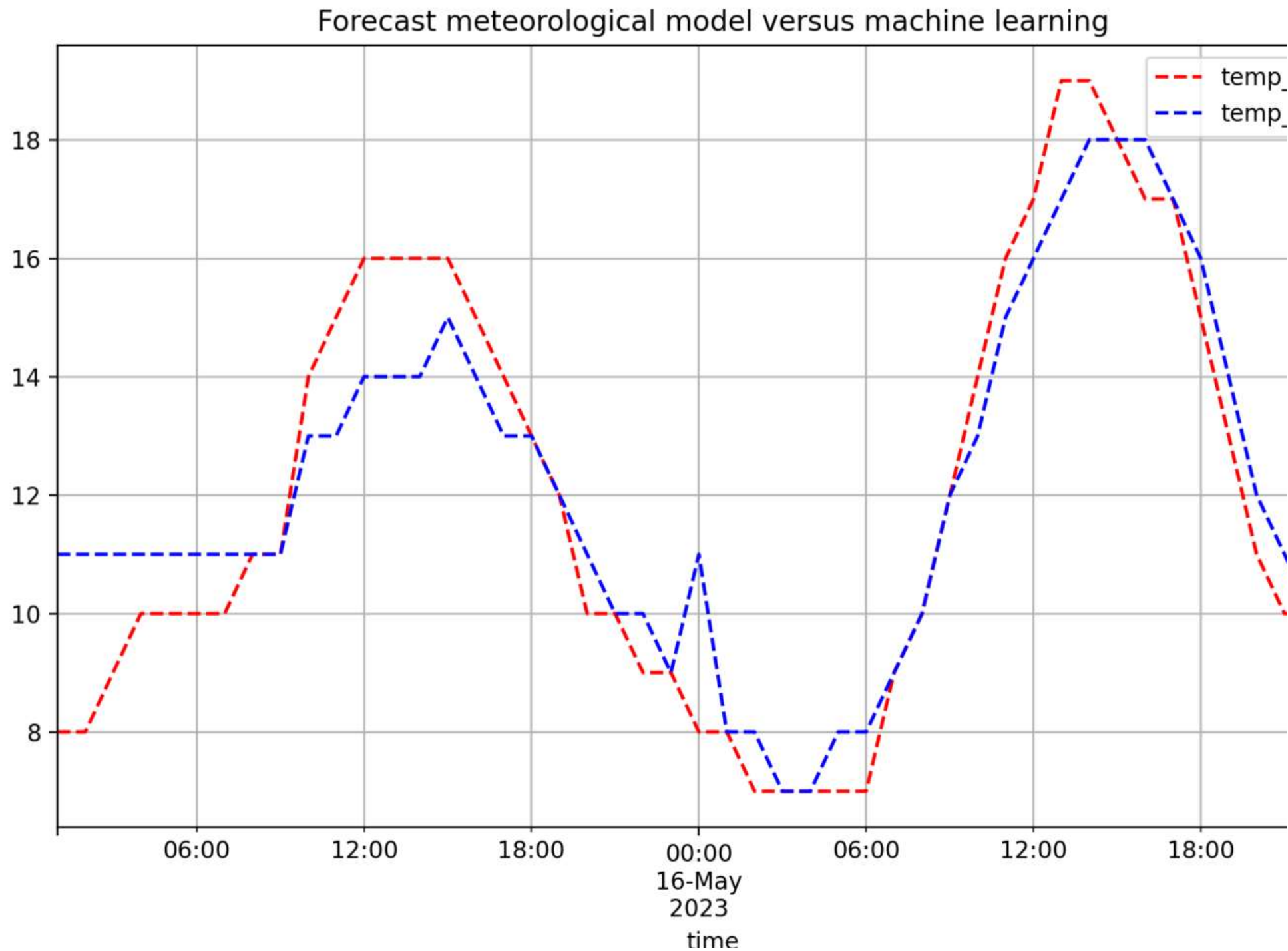
Horizontal visibility below 1000 meters probability





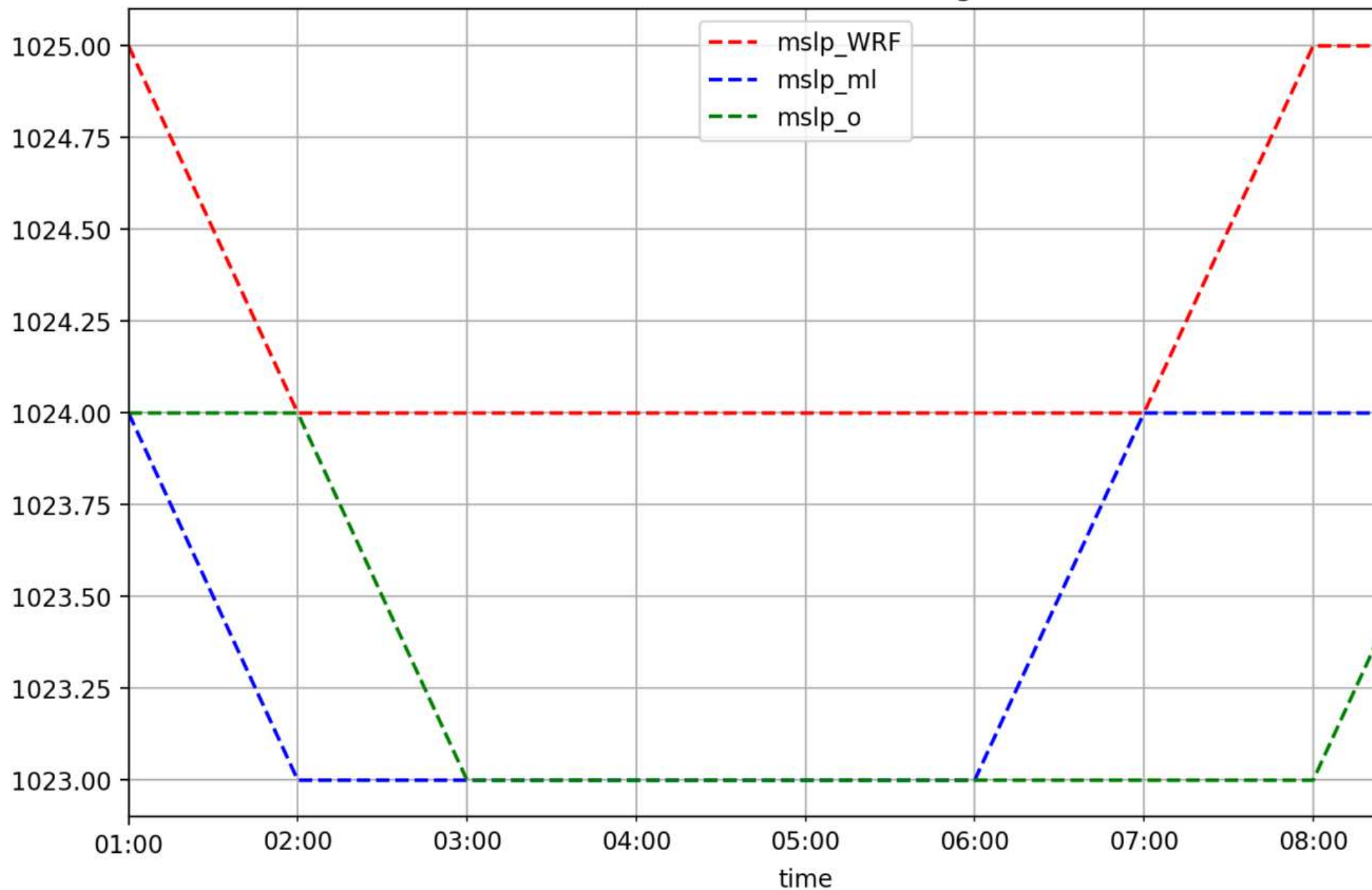
Actual mean absolute error meteorological model: 1.78. Reference: 1.29
Actual mean absolute error machine learning: 0.44. Reference: 0.85





Pressure hectopascals

Actual mean absolute error meteorological model: 1.0. Reference:0.6
Actual mean absolute error machine learning: 0.33. Reference: 0.4





Global results

Better meteorological model outcome: 1

```
▼ [  
  0 : "wind speed"  
]
```

Better machine learning outcome: 4

```
▼ [  
  0 : "precipitation"  
  1 : "visibility"  
  2 : "temperature"  
  3 : "pressure"  
]
```

Project [link](#)

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