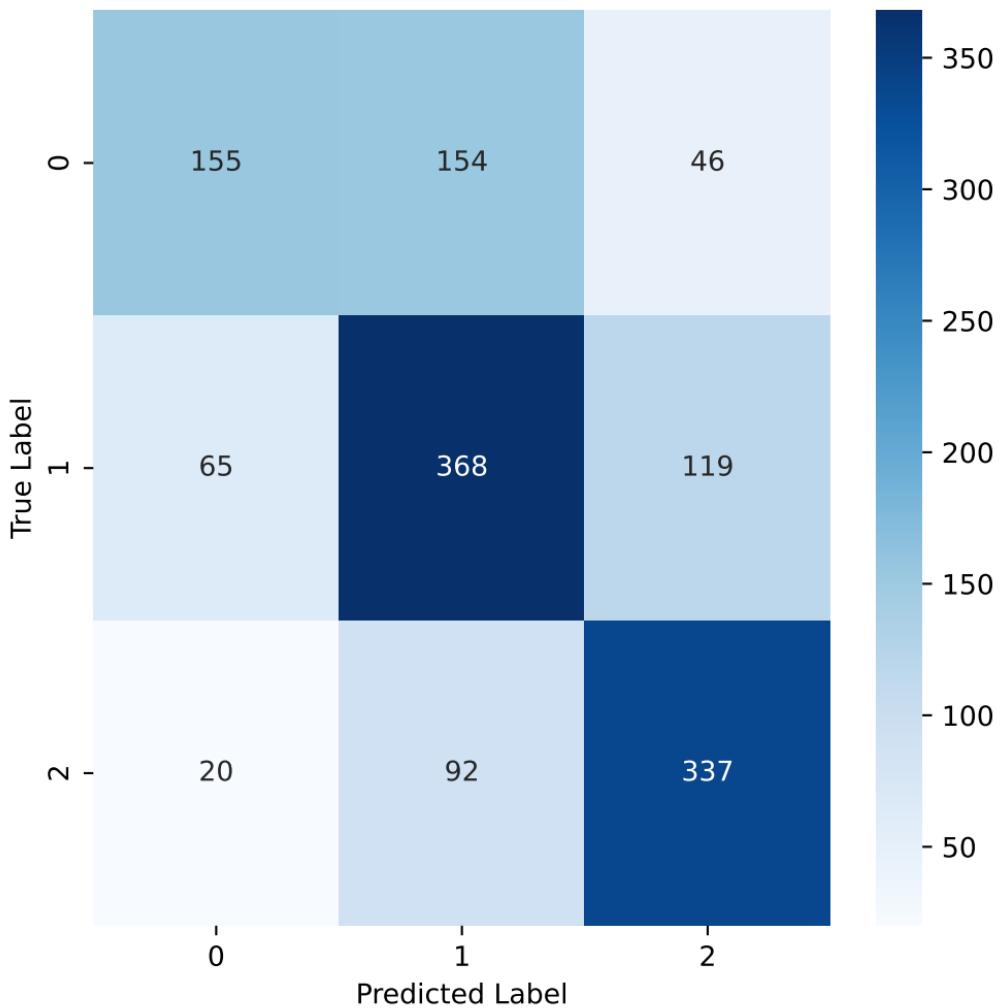


### Confusion Matrix - Sumatra (Test Set)



SHAP Beeswarm Plot for Class 0 - Sumatra (Test Set)

High

Incidence\_Rate\_lag1

Class\_50

Class\_40

ANOM4

DMI\_lag3

Class\_90

Class\_60

Class\_30

Class\_20

ANOM3.4

ANOM3.4\_lag2

Class\_10

ANOM4\_lag1

temperature\_2m\_max\_lag3

DMI\_East\_lag3

DMI\_East

total\_evaporation\_sum

ANOM1+2

Class\_80

temperature\_2m\_min\_ANOM\_lag1

Feature value

Low

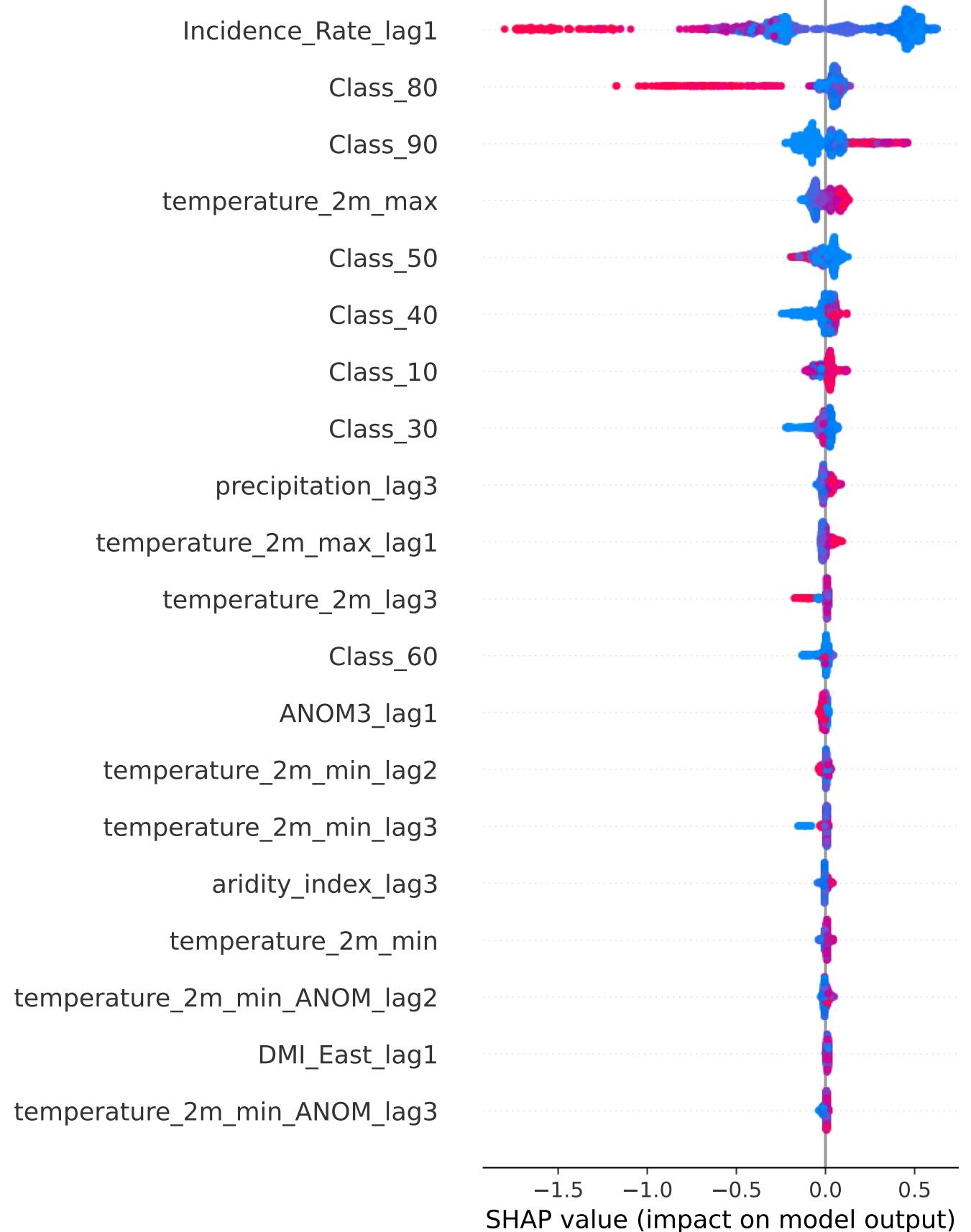
SHAP value (impact on model output)

SHAP Beeswarm Plot for Class 1 - Sumatra (Test Set)

High

Feature value

Low

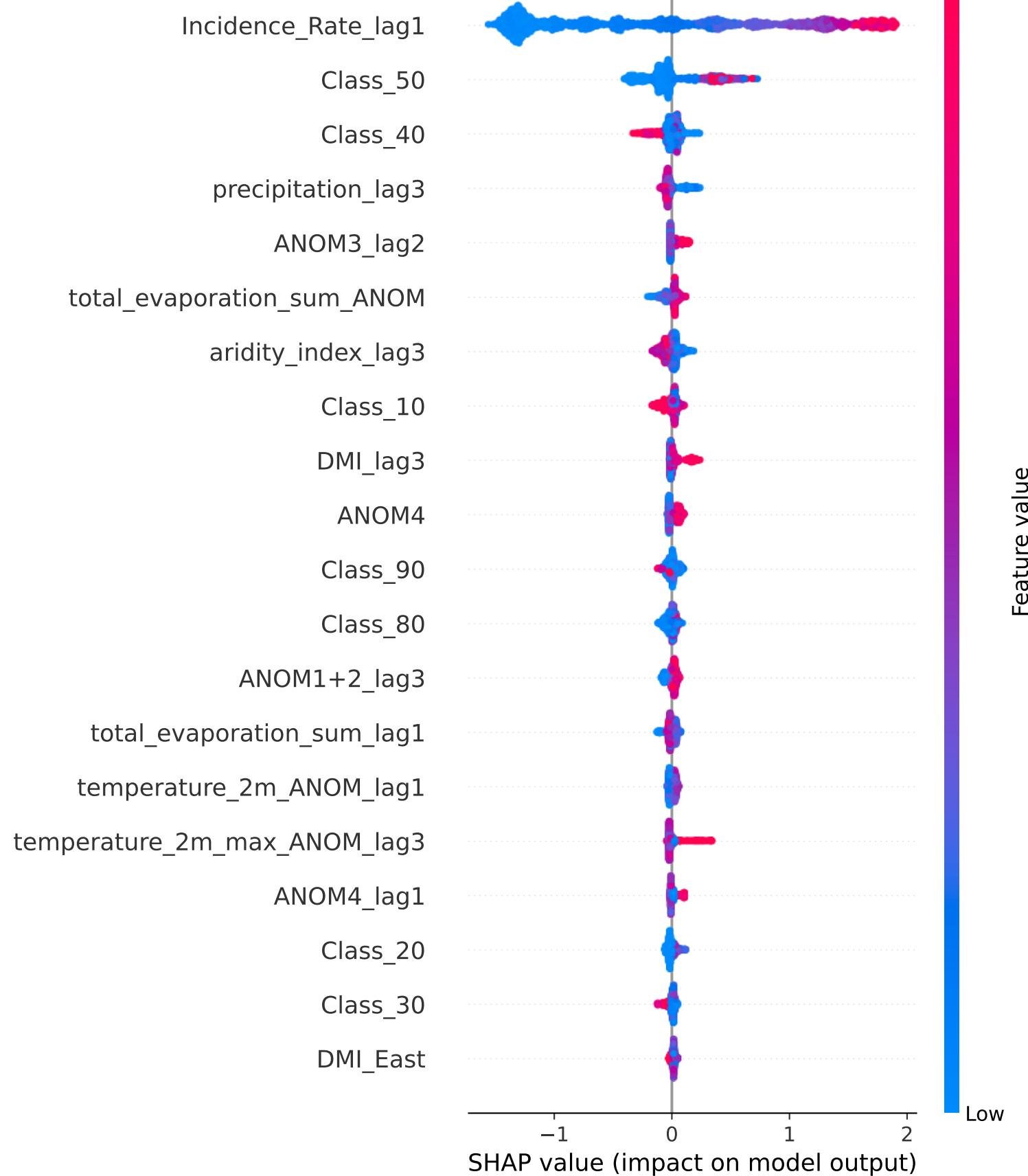


SHAP Beeswarm Plot for Class 2 - Sumatra (Test Set)

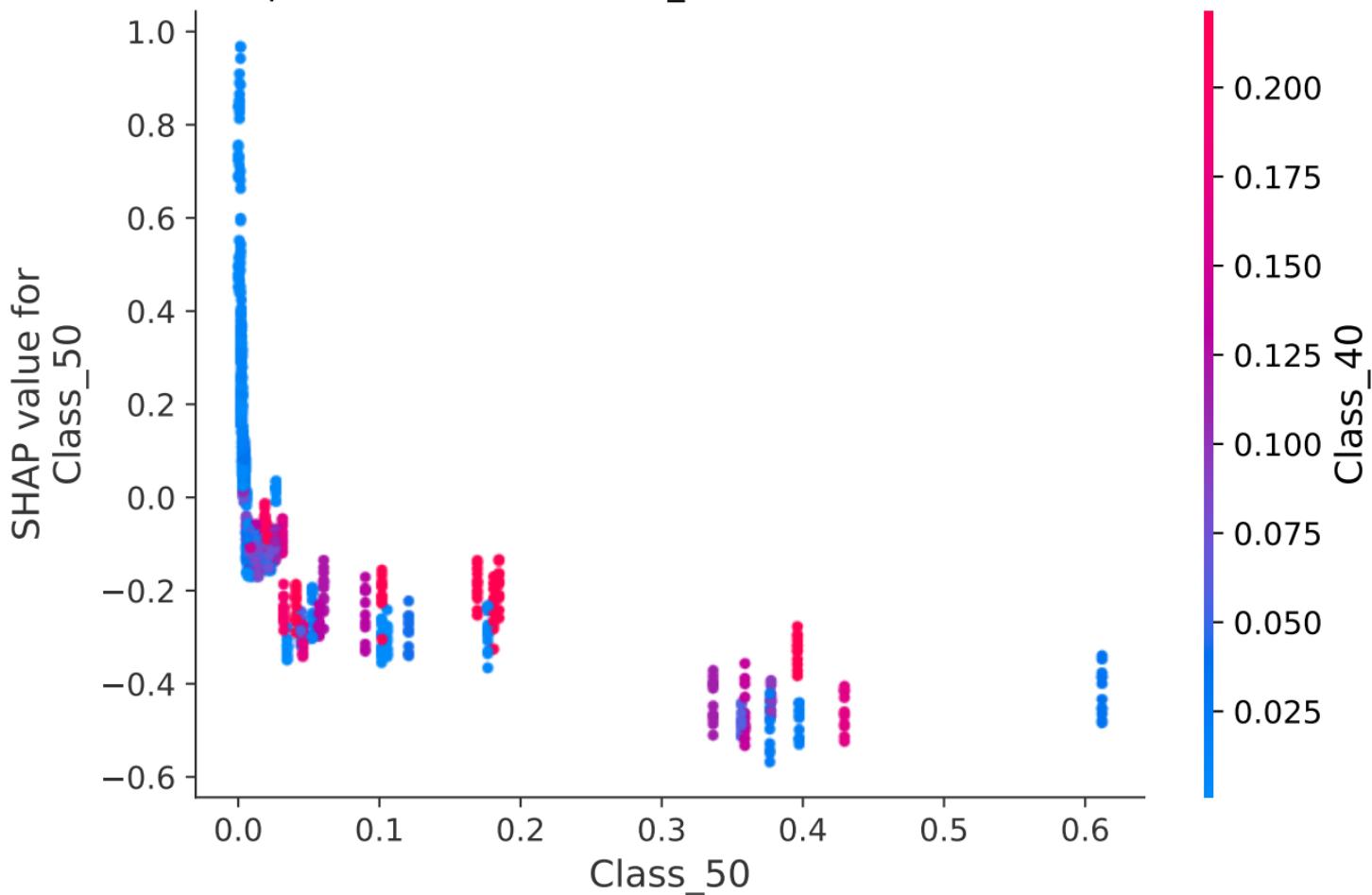
High

Feature value

Low

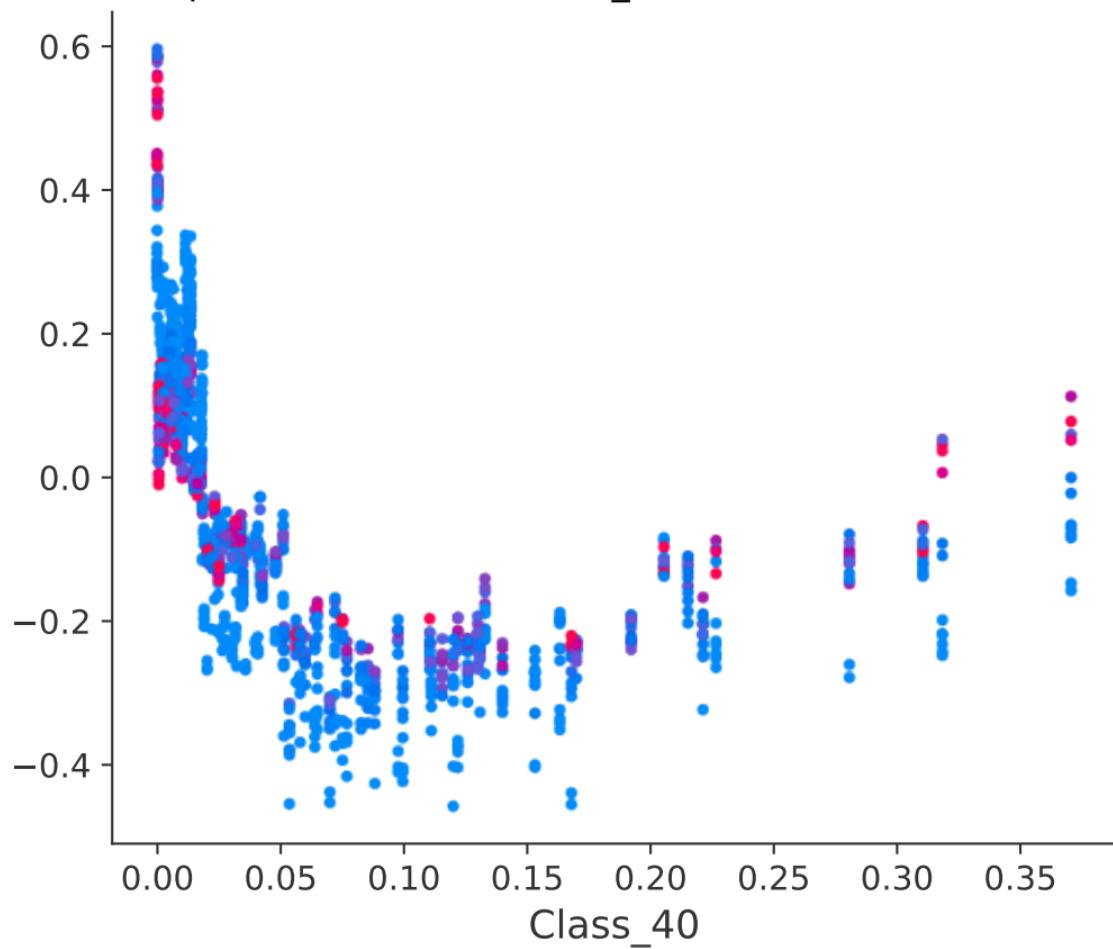


# SHAP Dependence Plot for Class\_50, Class 0 - Sumatra (Test Set)



SHAP Dependence Plot for Class\_40, Class 0 - Sumatra (Test Set)

SHAP value for  
Class\_40



# SHAP Dependence Plot for ANOM4, Class 0 - Sumatra (Test Set)

SHAP value for  
ANOM4

0.05

0.00

-0.05

-0.10

-0.15

-0.20

-0.50 -0.25 0.00 0.25 0.50 0.75 1.00 1.25 1.50

ANOM4

0.9

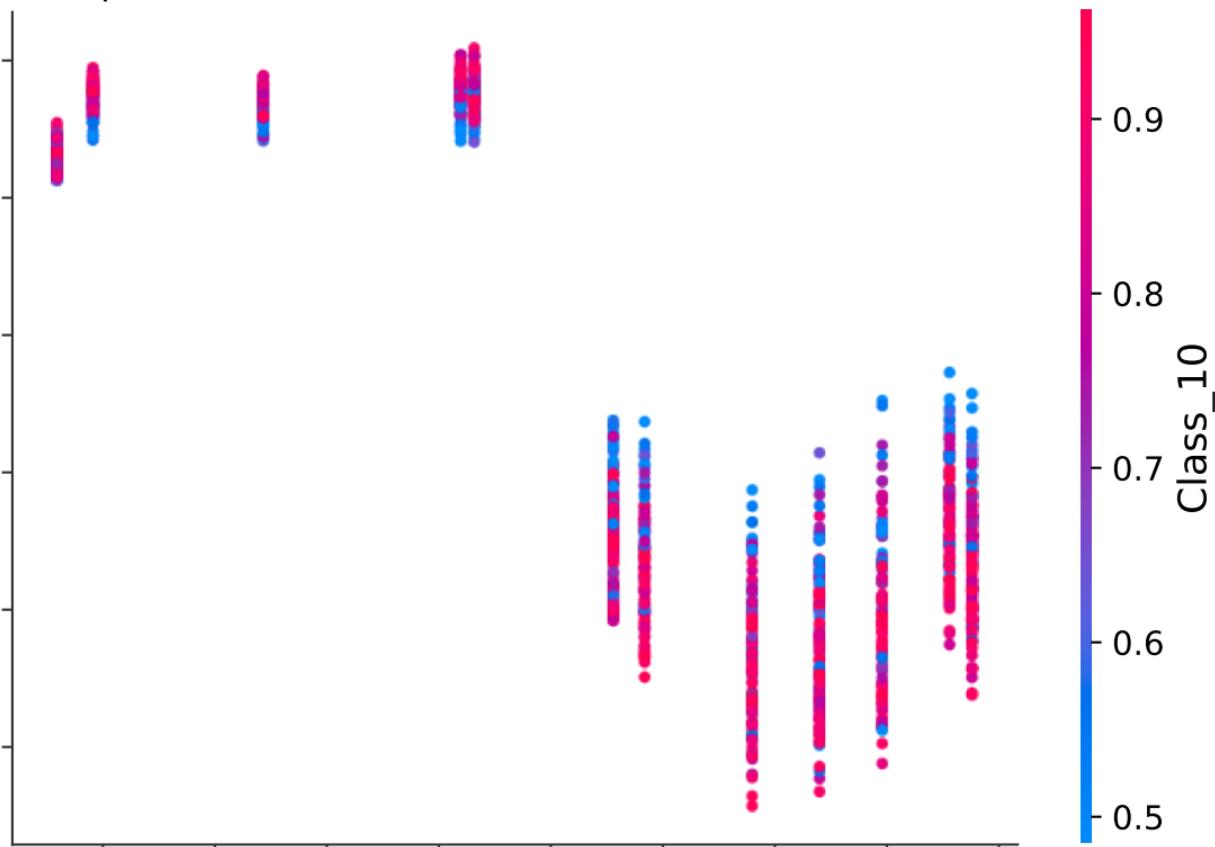
0.8

0.7

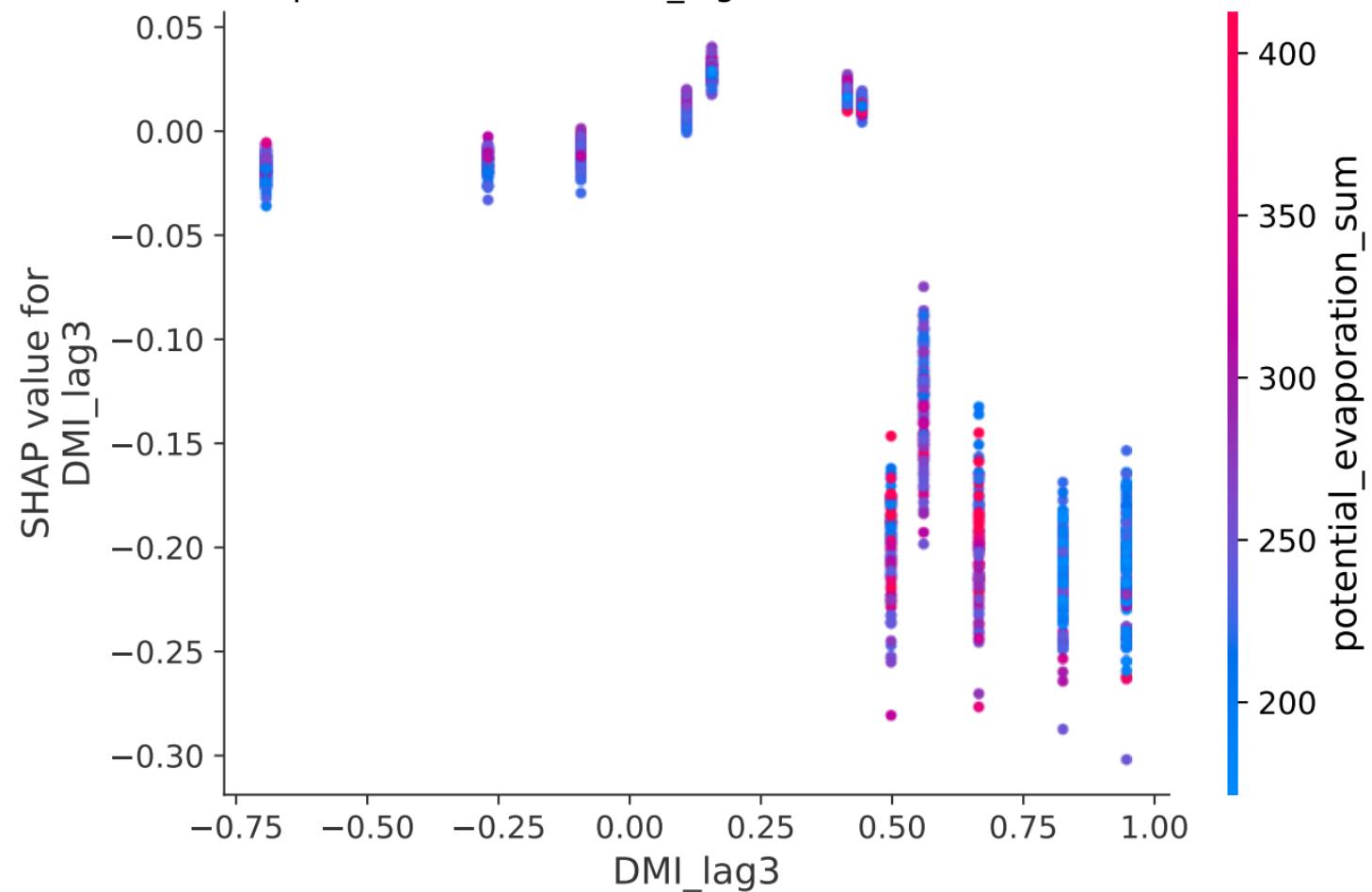
0.6

0.5

Class\_10



# SHAP Dependence Plot for DMI\_lag3, Class 0 - Sumatra (Test Set)



# SHAP Dependence Plot for Class\_90, Class 0 - Sumatra (Test Set)

SHAP value for  
Class\_90

0.20

0.15

0.10

0.05

0.00

-0.05

-0.10

-0.15

-0.20

0.000 0.002 0.004 0.006 0.008 0.010 0.012

Class\_90

0.014

0.012

0.010

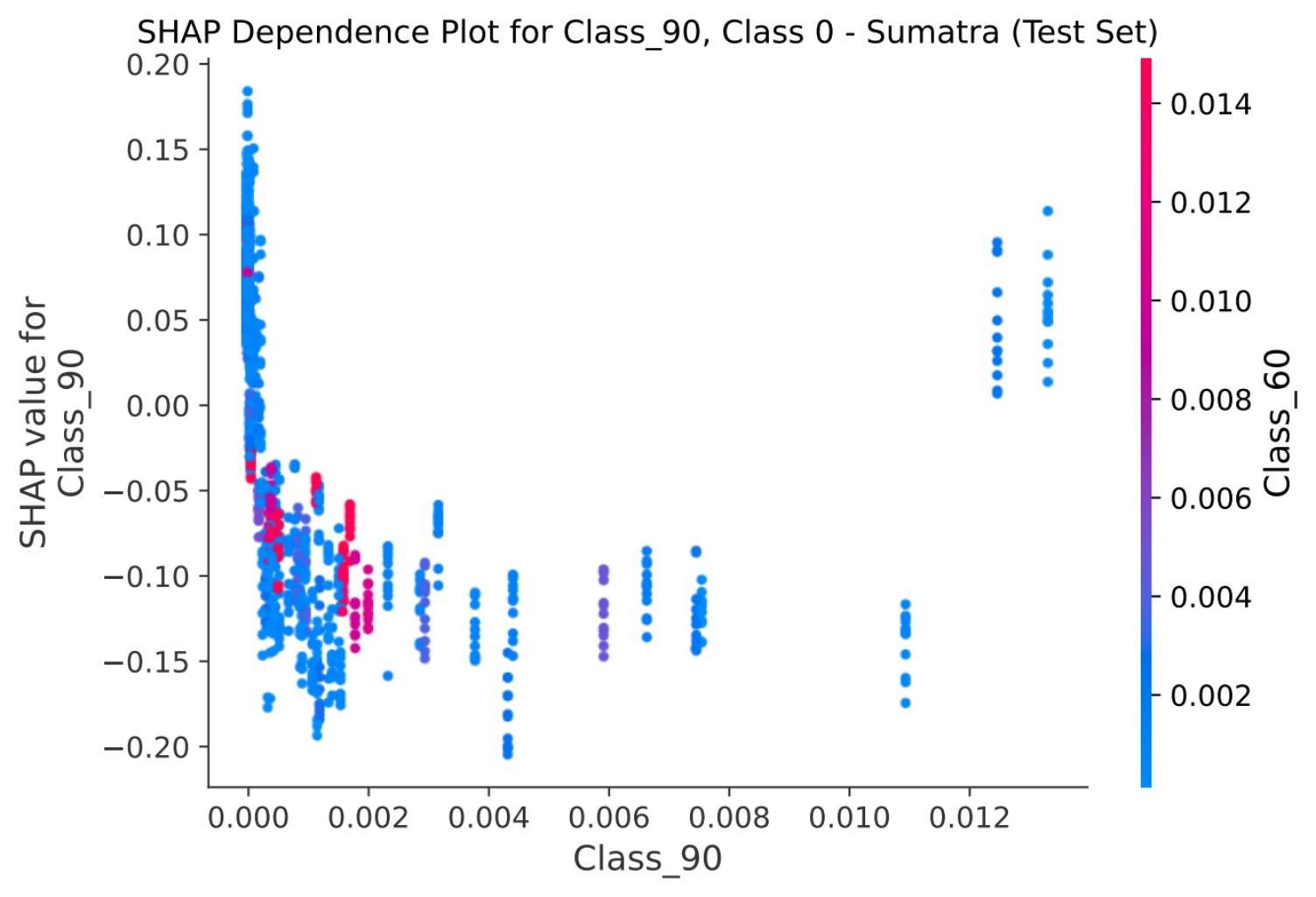
0.008

0.006

0.004

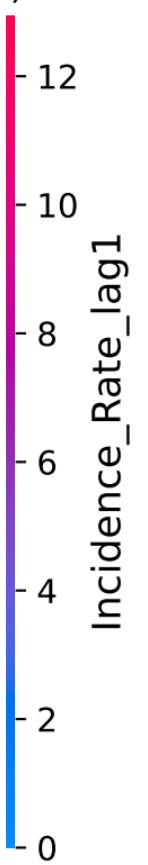
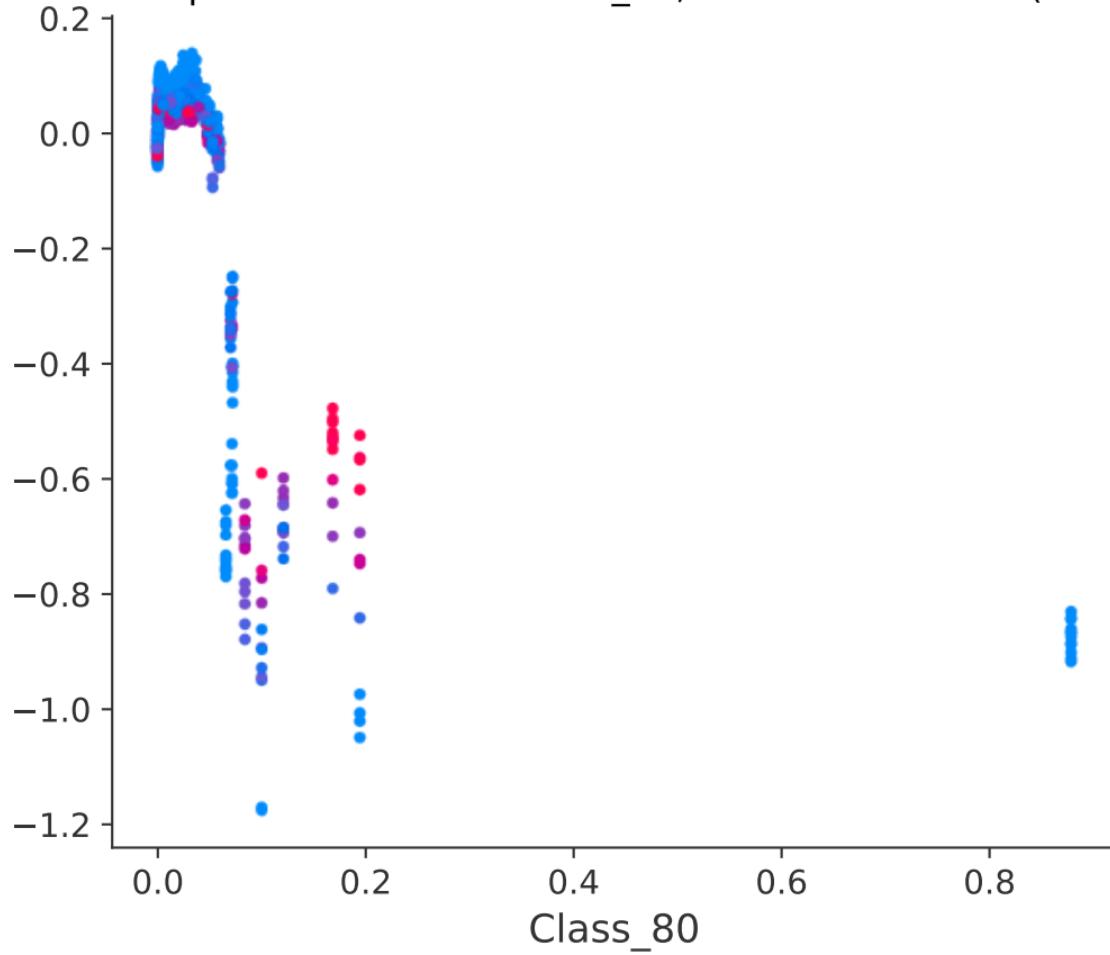
0.002

Class\_60

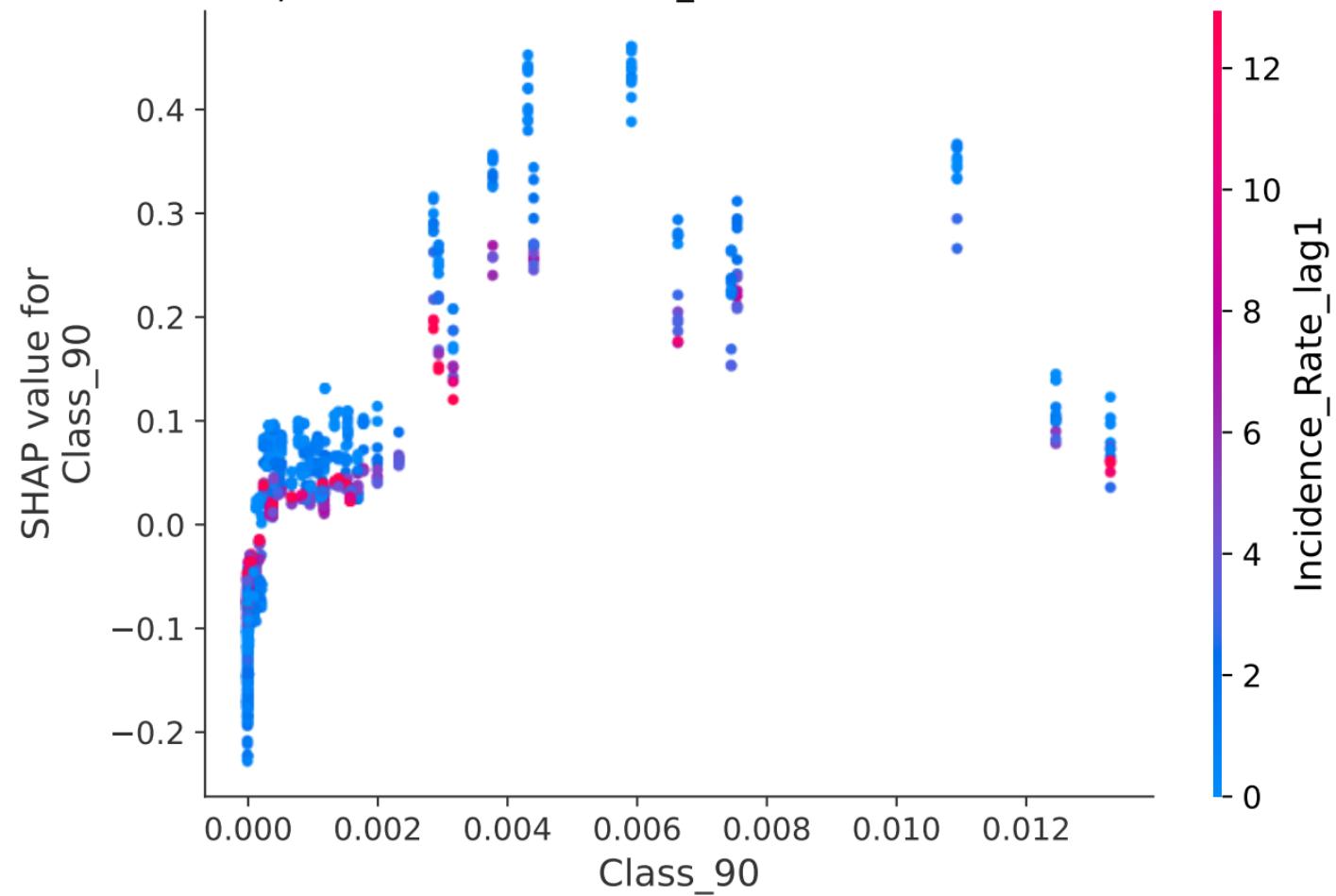


# SHAP Dependence Plot for Class\_80, Class 1 - Sumatra (Test Set)

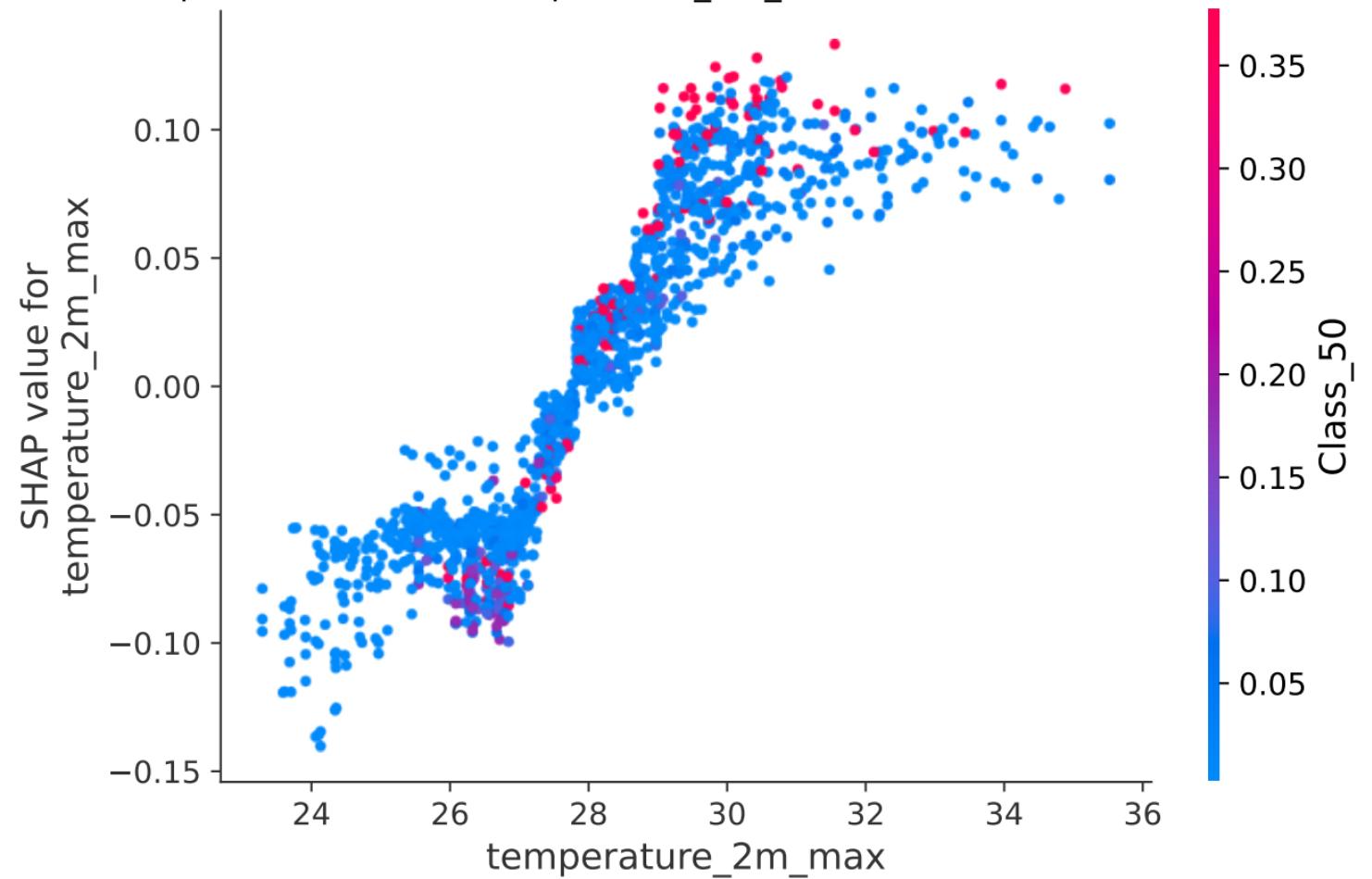
SHAP value for  
Class\_80



# SHAP Dependence Plot for Class\_90, Class 1 - Sumatra (Test Set)



SHAP Dependence Plot for temperature\_2m\_max, Class 1 - Sumatra (Test Set)



SHAP Dependence Plot for Class\_50, Class 1 - Sumatra (Test Set)

SHAP value for  
Class\_50

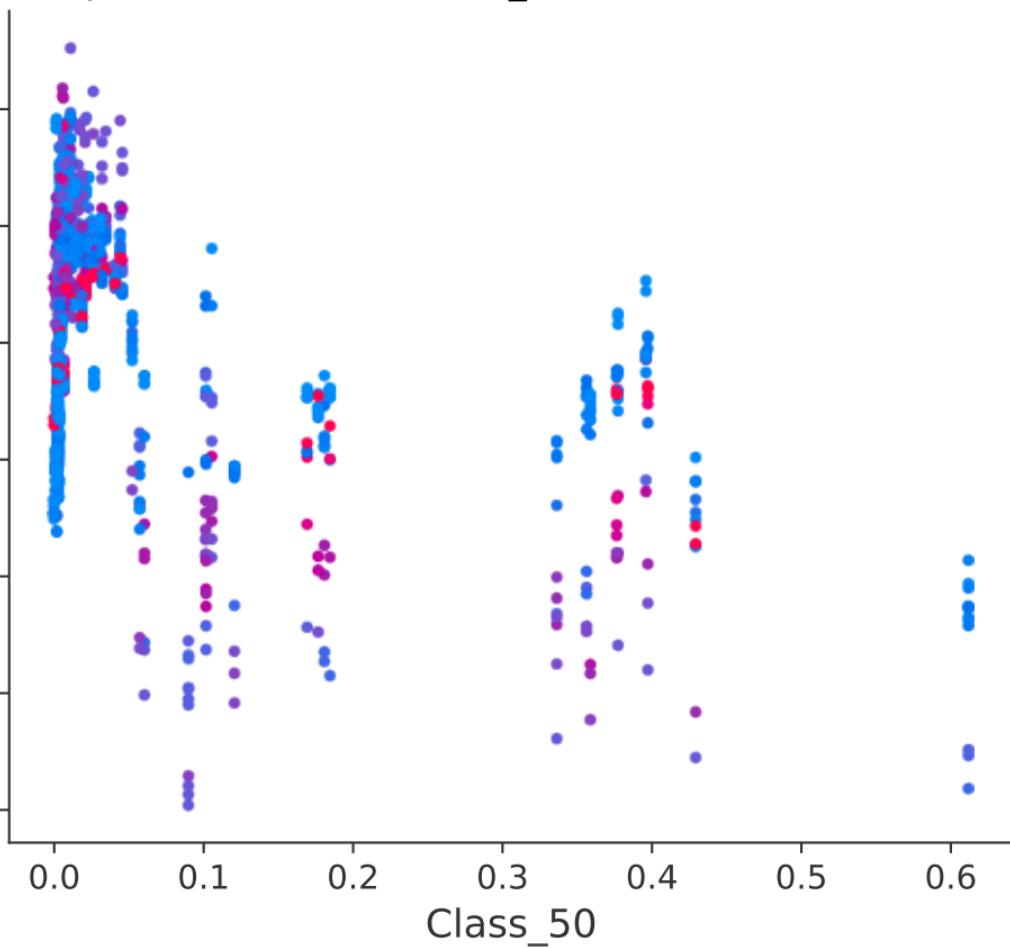
0.10  
0.05  
0.00  
-0.05  
-0.10  
-0.15  
-0.20

0.0 0.1 0.2 0.3 0.4 0.5 0.6

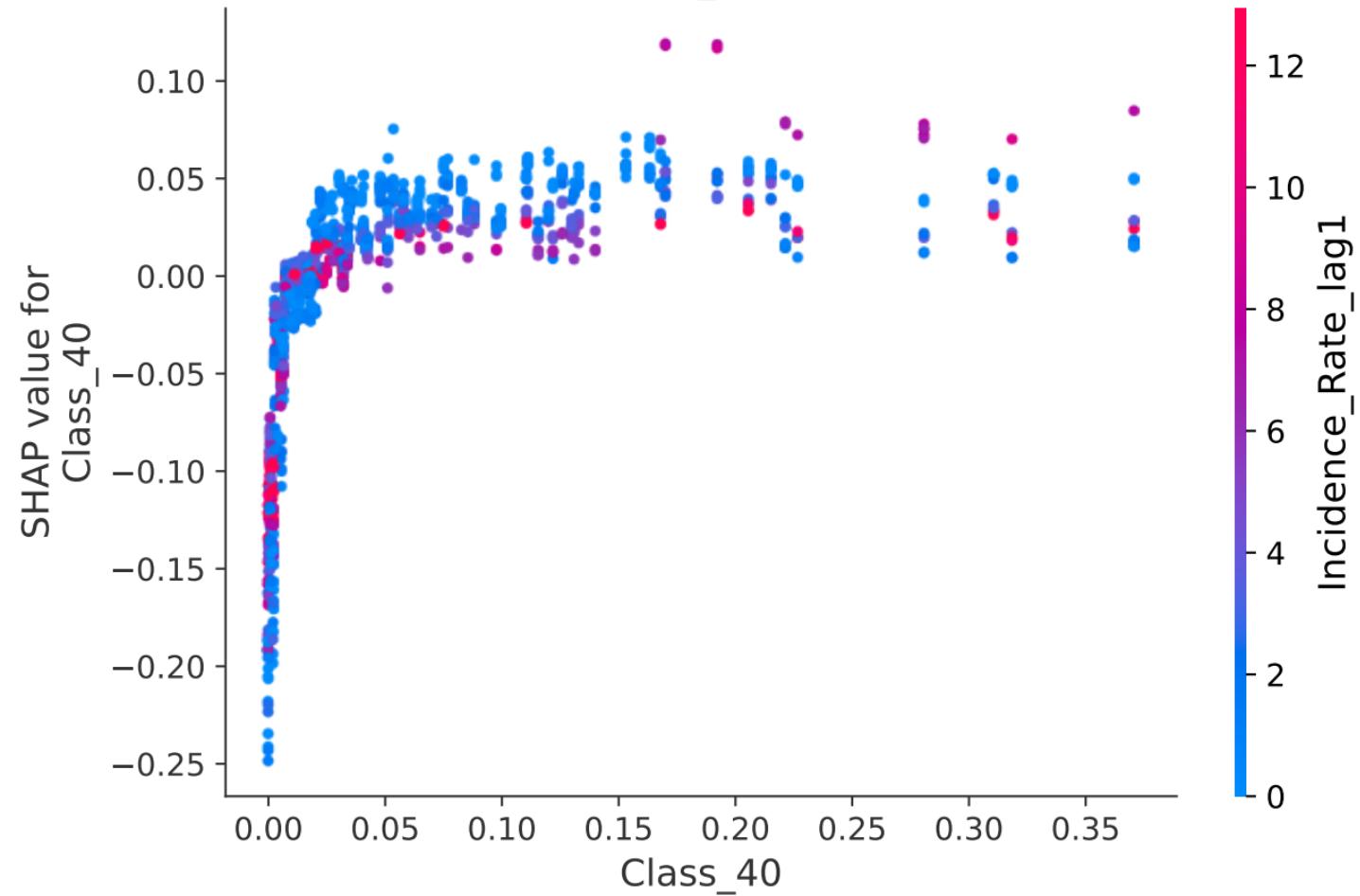
Class\_50

Incidence\_Rate\_lag1

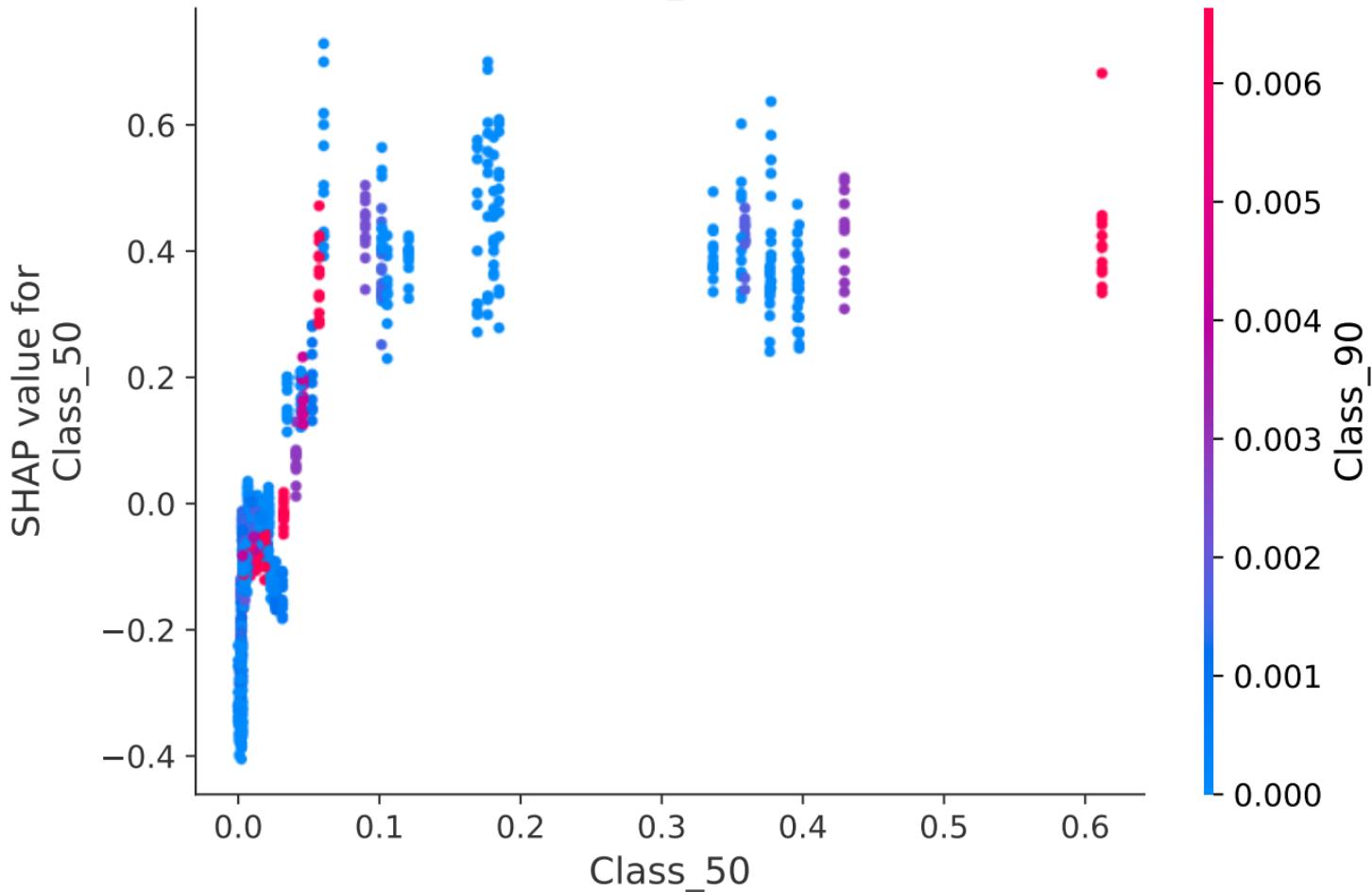
12  
10  
8  
6  
4  
2  
0



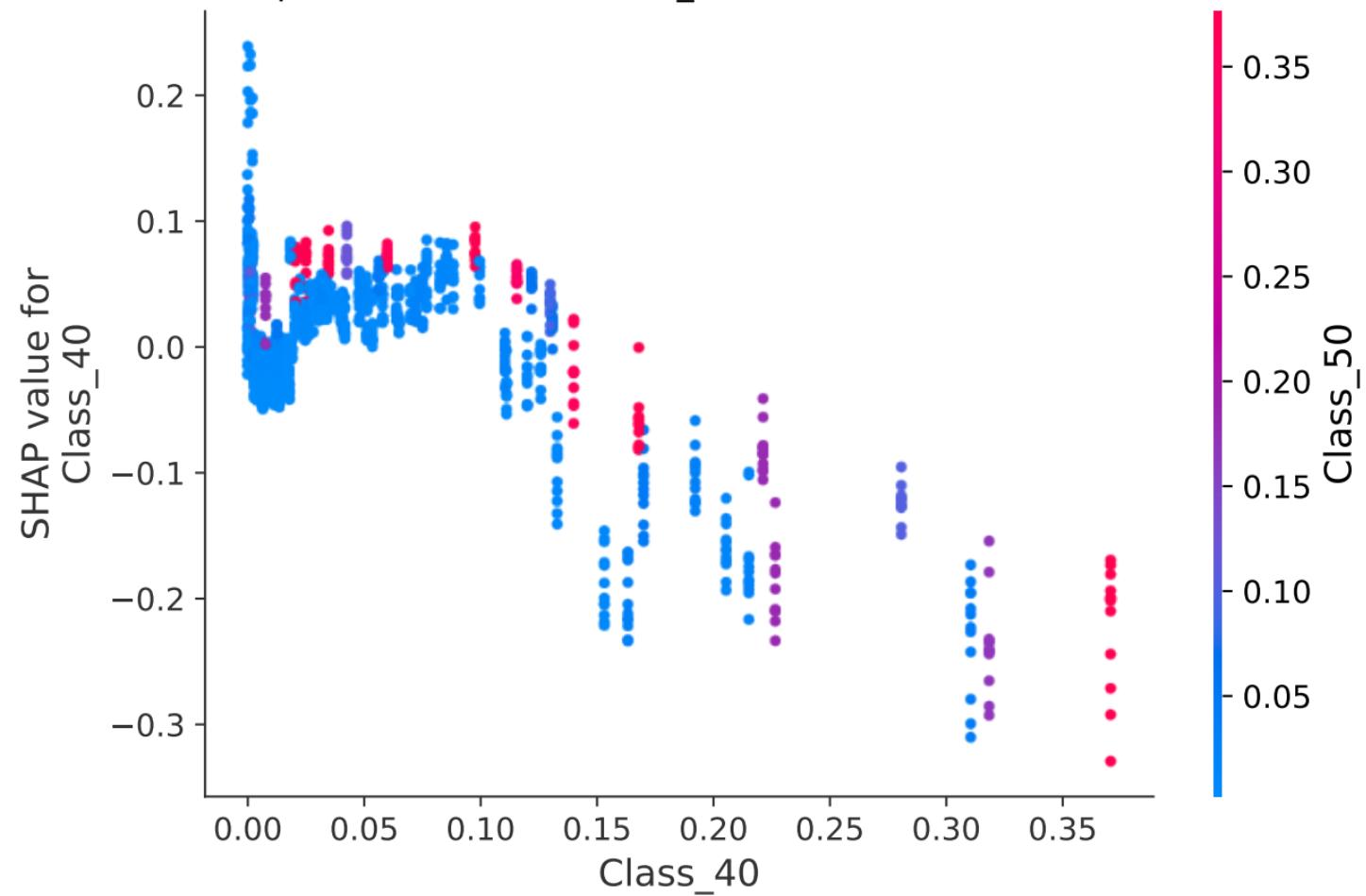
SHAP Dependence Plot for Class\_40, Class 1 - Sumatra (Test Set)



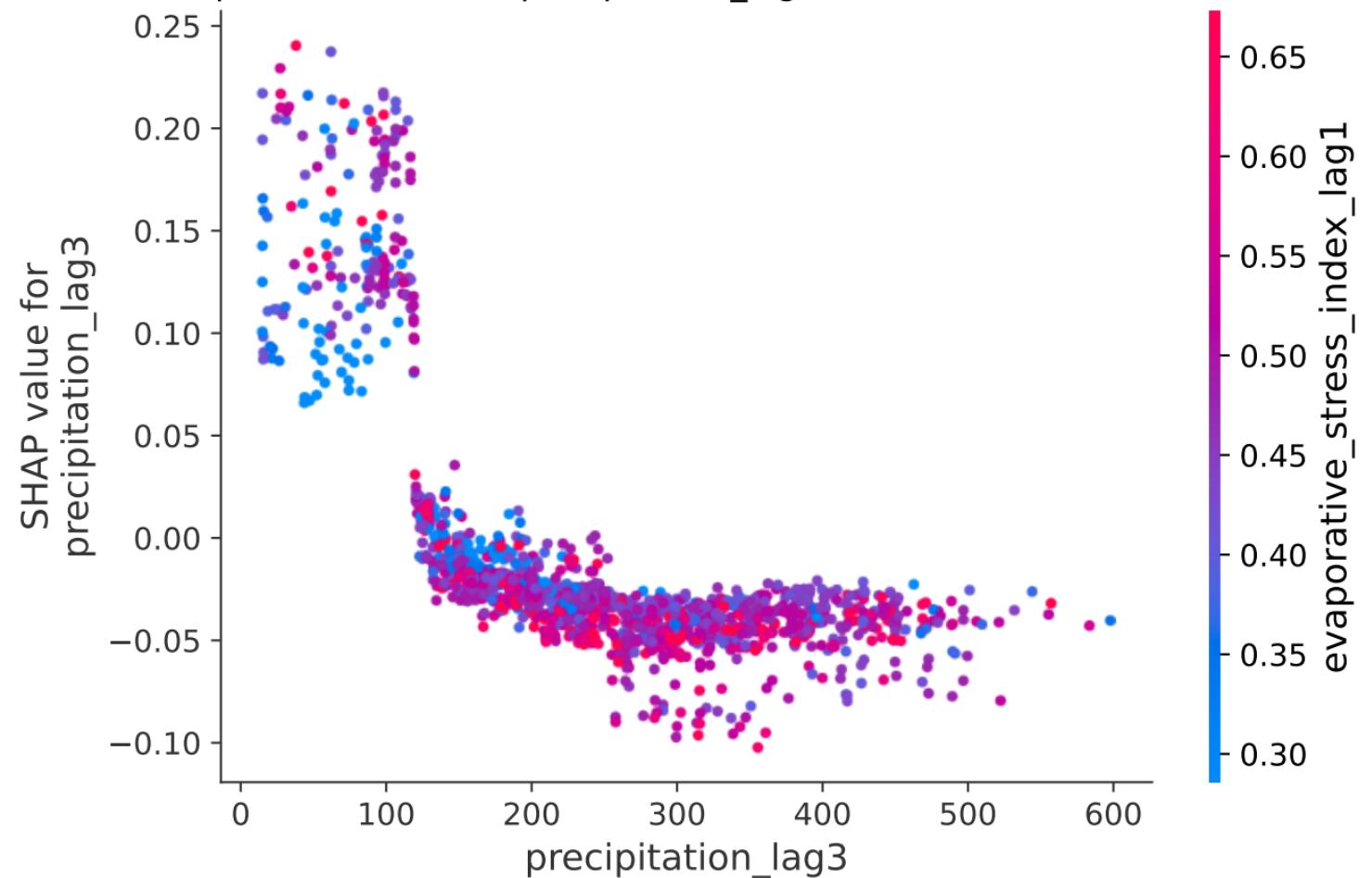
# SHAP Dependence Plot for Class\_50, Class 2 - Sumatra (Test Set)



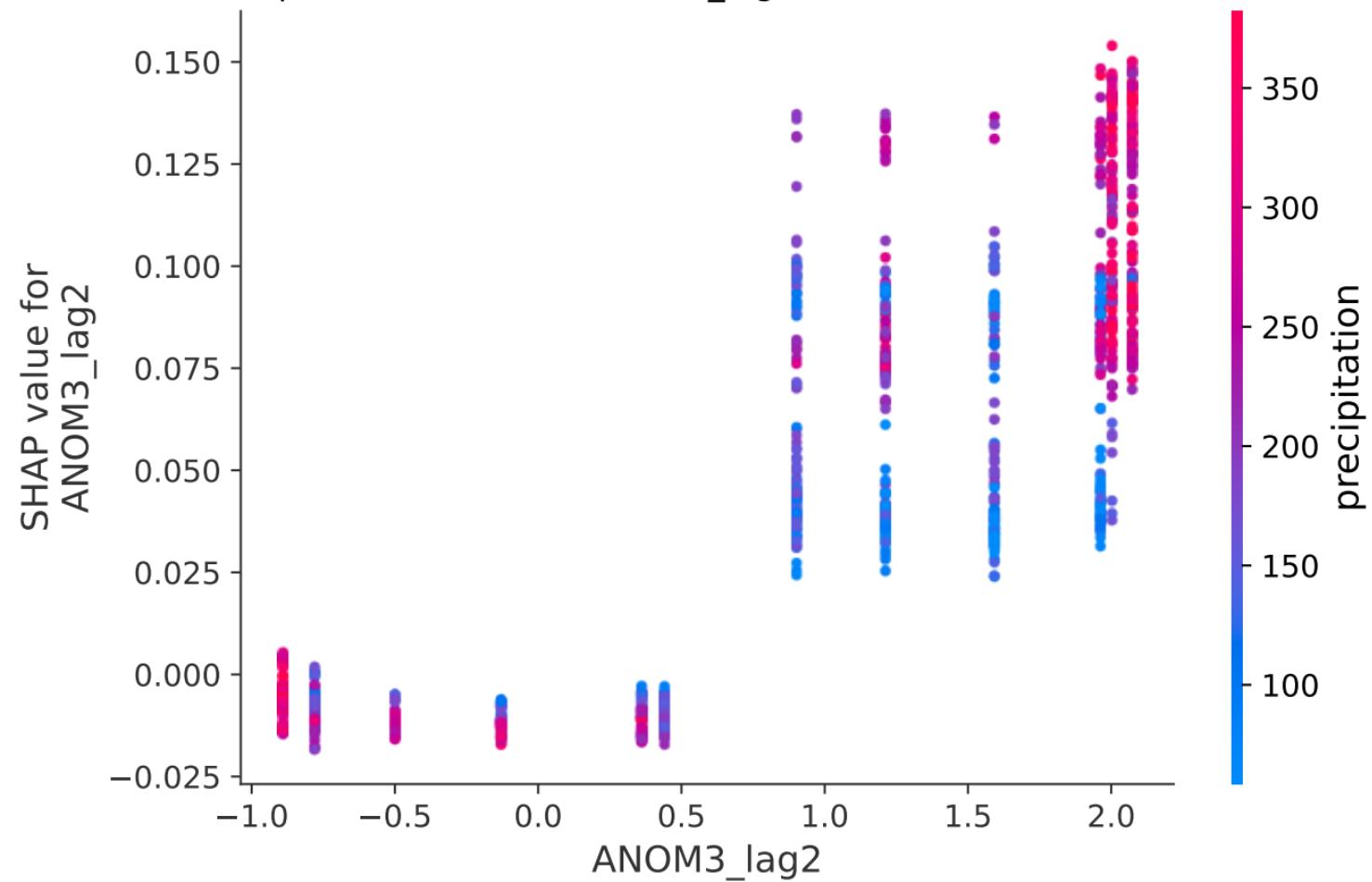
# SHAP Dependence Plot for Class\_40, Class 2 - Sumatra (Test Set)



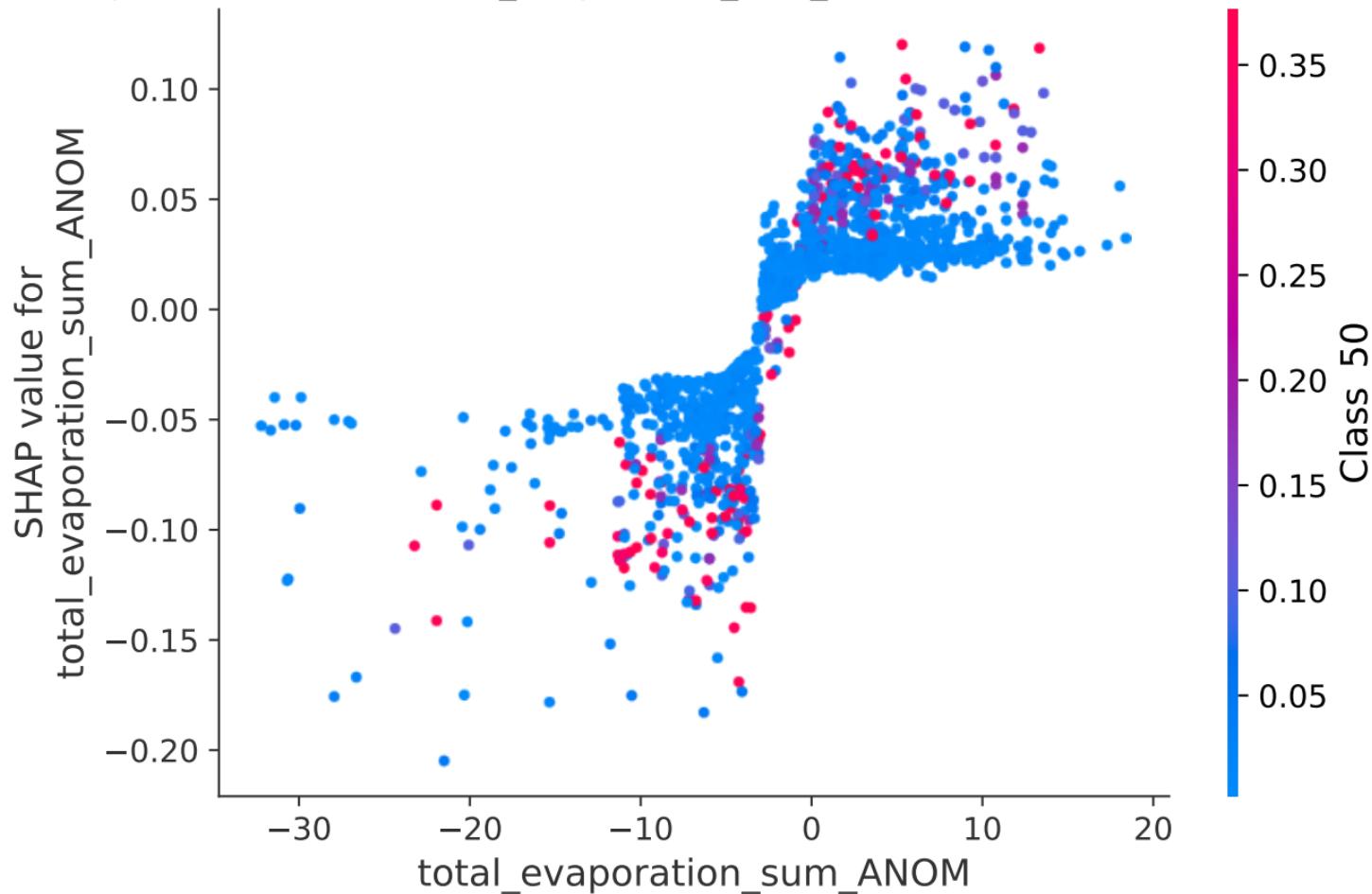
# SHAP Dependence Plot for precipitation\_lag3, Class 2 - Sumatra (Test Set)



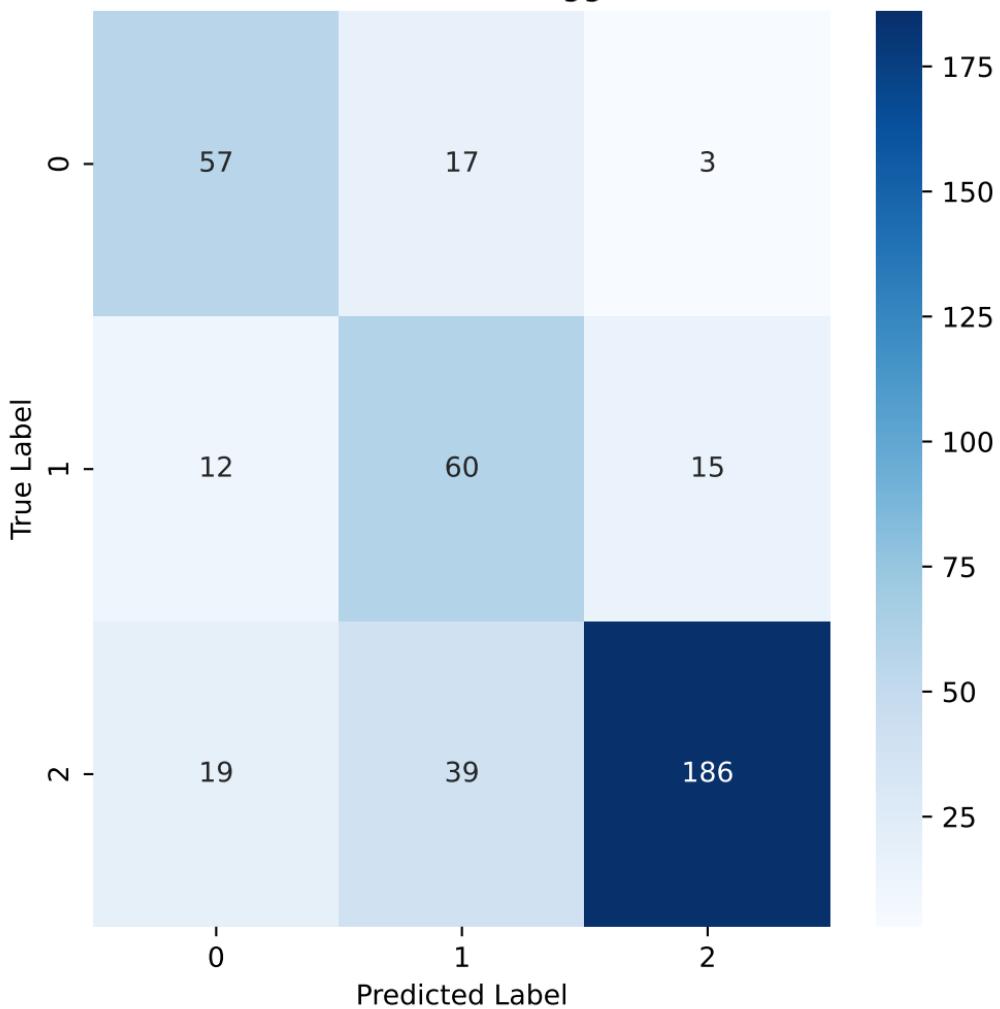
# SHAP Dependence Plot for ANOM3\_lag2, Class 2 - Sumatra (Test Set)



SHAP Dependence Plot for total\_evaporation\_sum\_ANOM, Class 2 - Sumatra (Test Set)



# Confusion Matrix - Nusa Tenggara (Test Set)



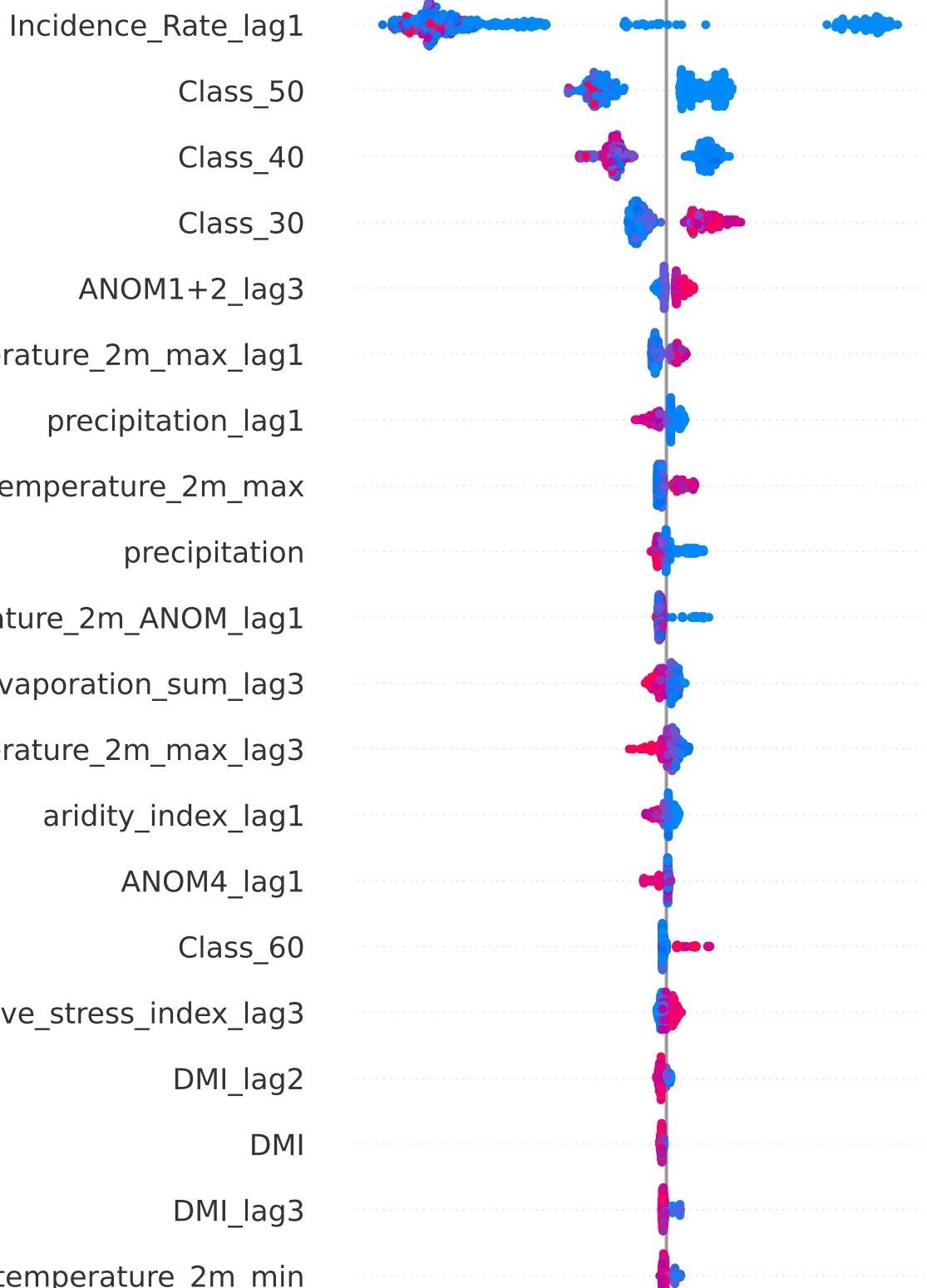
SHAP Beeswarm Plot for Class 0 - Nusa Tenggara (Test Set)

High

Feature value

Low

SHAP value (impact on model output)



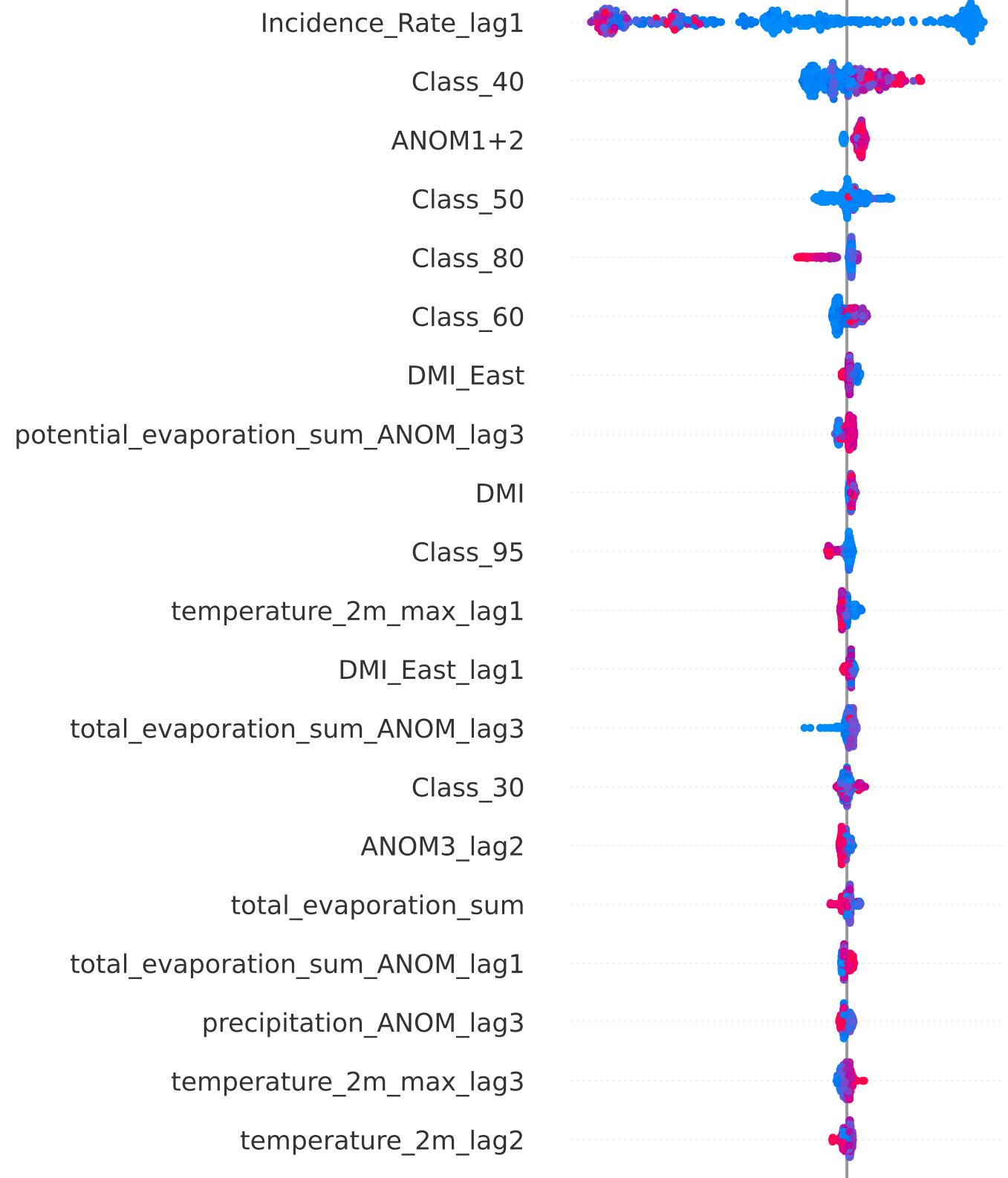
SHAP Beeswarm Plot for Class 1 - Nusa Tenggara (Test Set)

High

Feature value

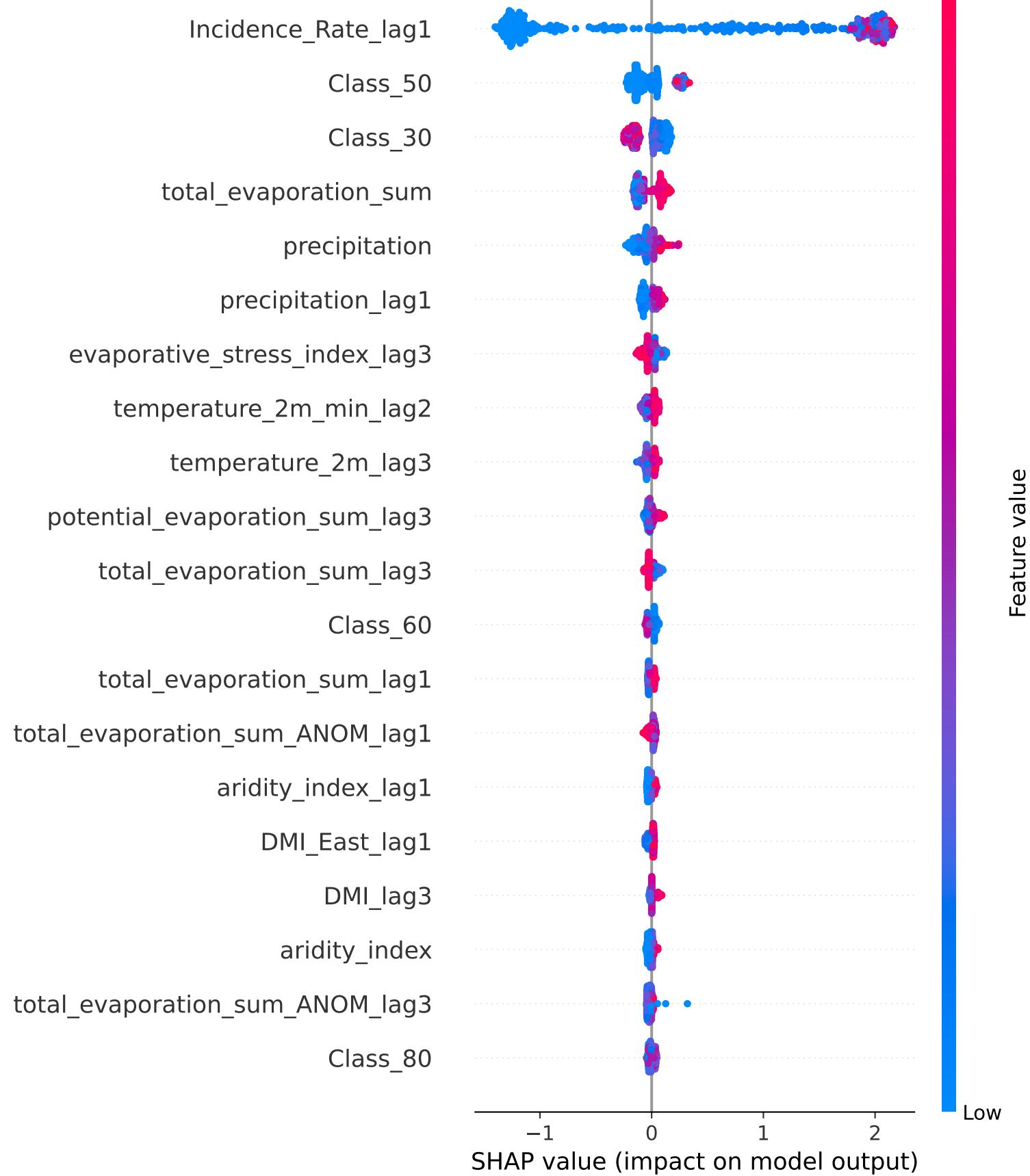
Low

SHAP value (impact on model output)

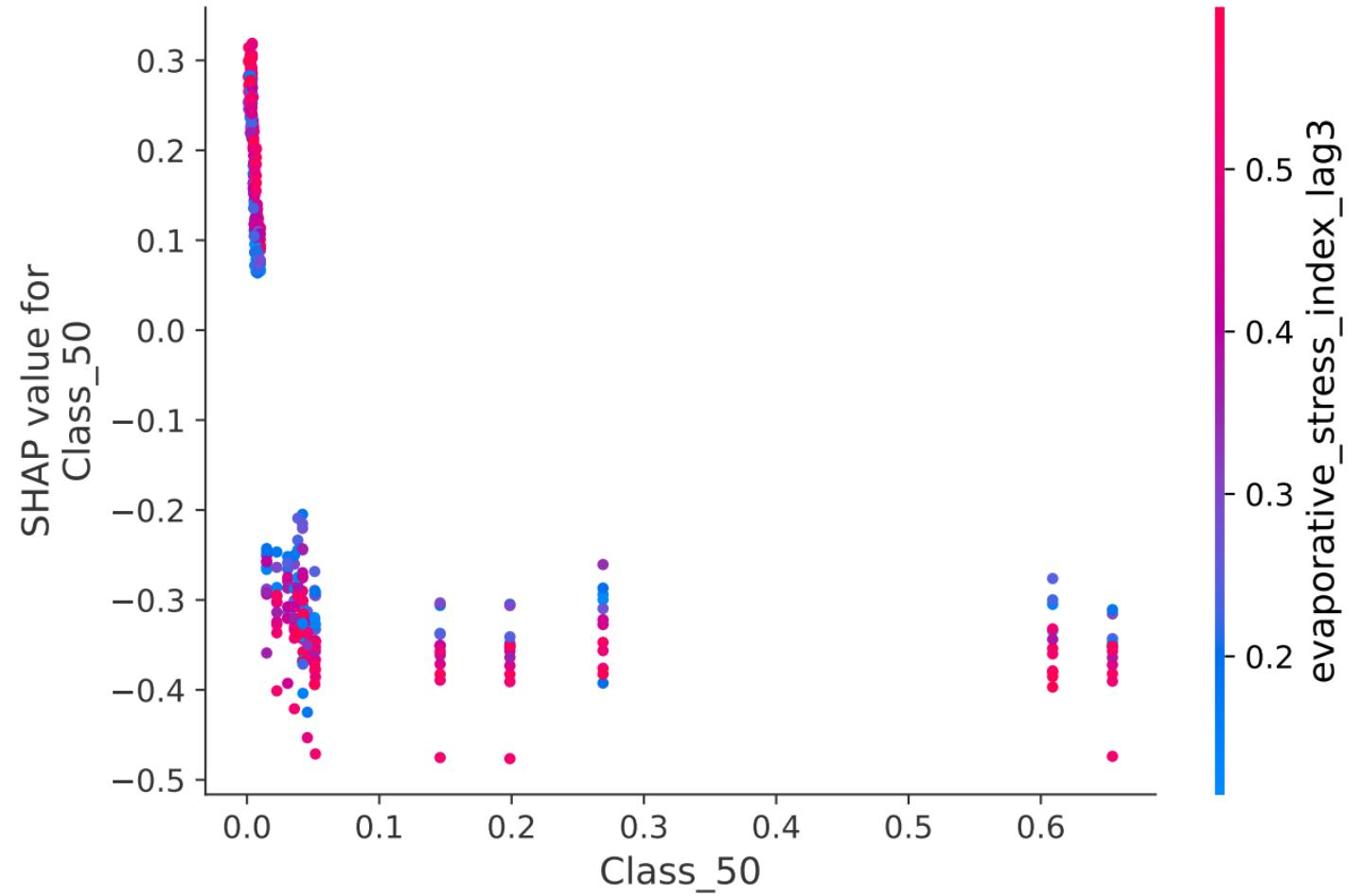


SHAP Beeswarm Plot for Class 2 - Nusa Tenggara (Test Set)

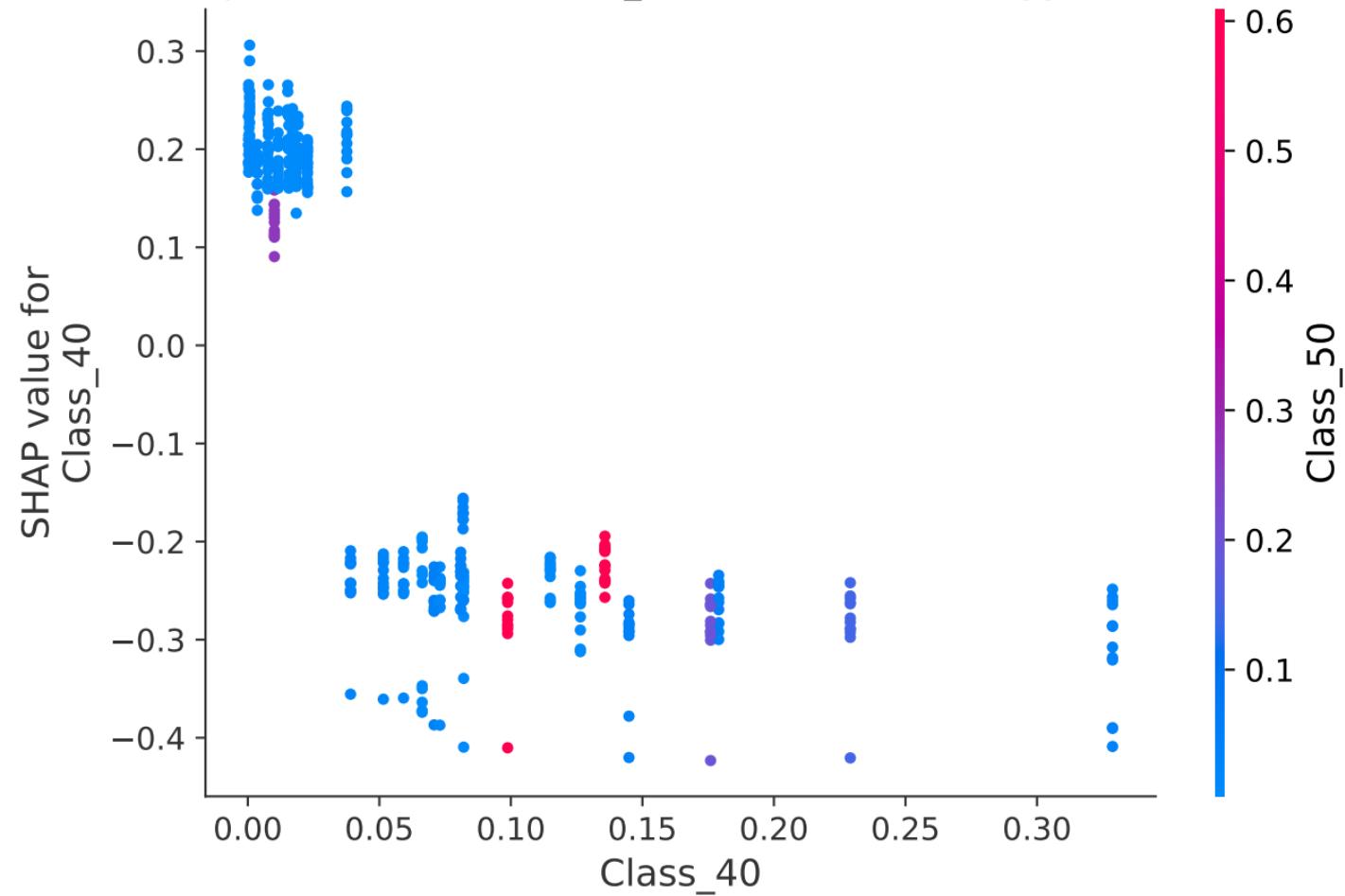
High



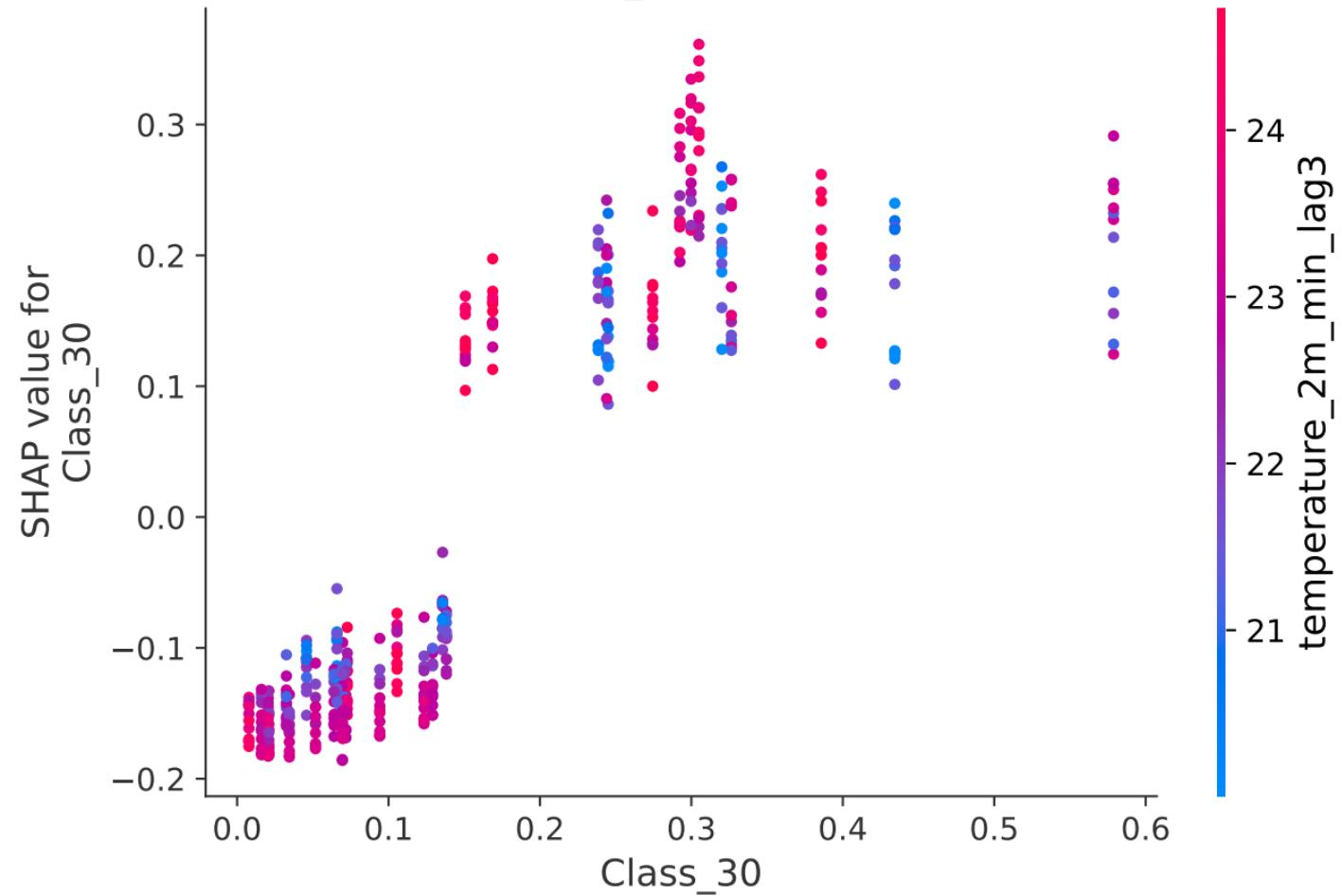
# SHAP Dependence Plot for Class\_50, Class 0 - Nusa Tenggara (Test Set)



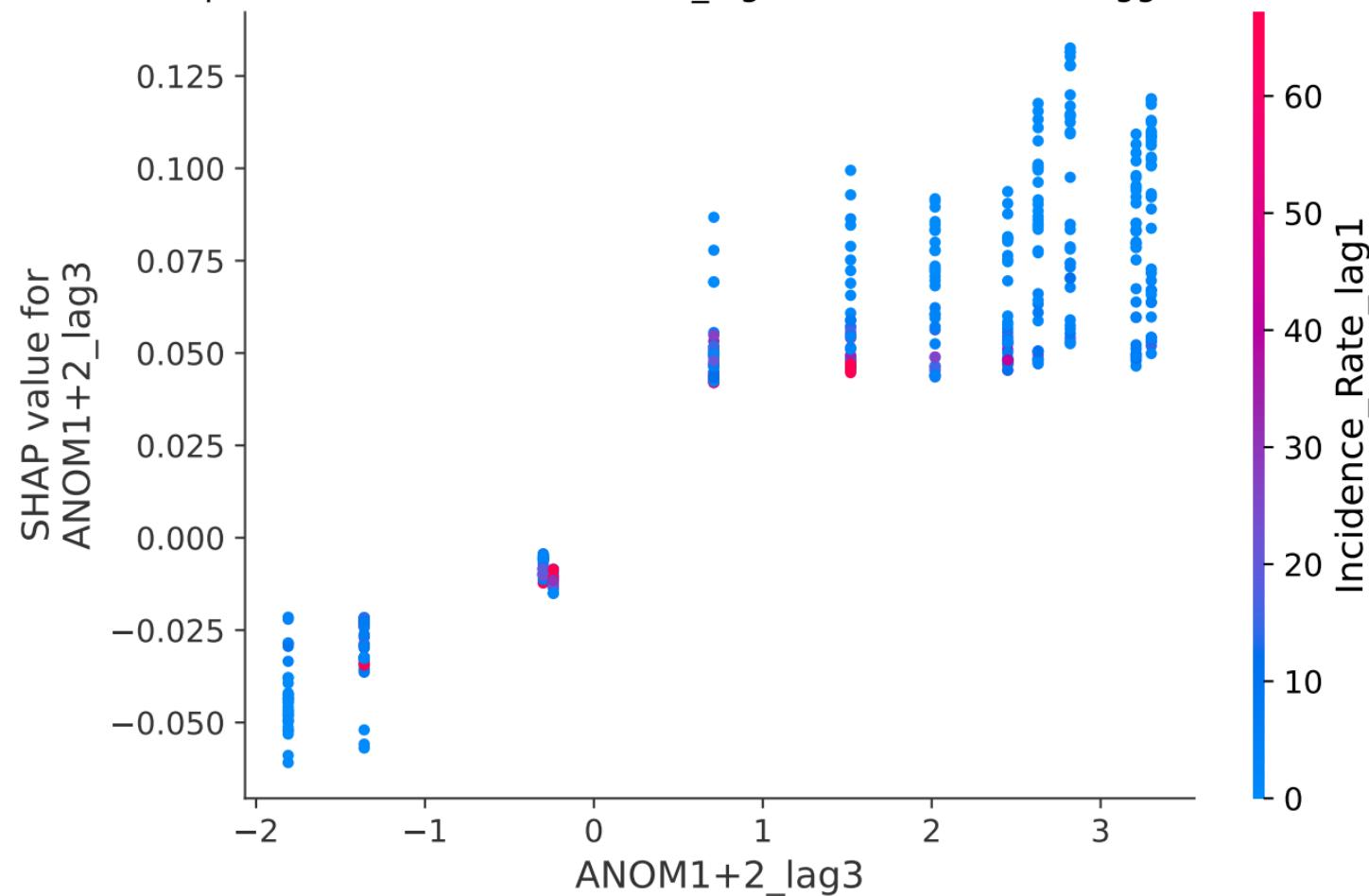
SHAP Dependence Plot for Class\_40, Class 0 - Nusa Tenggara (Test Set)



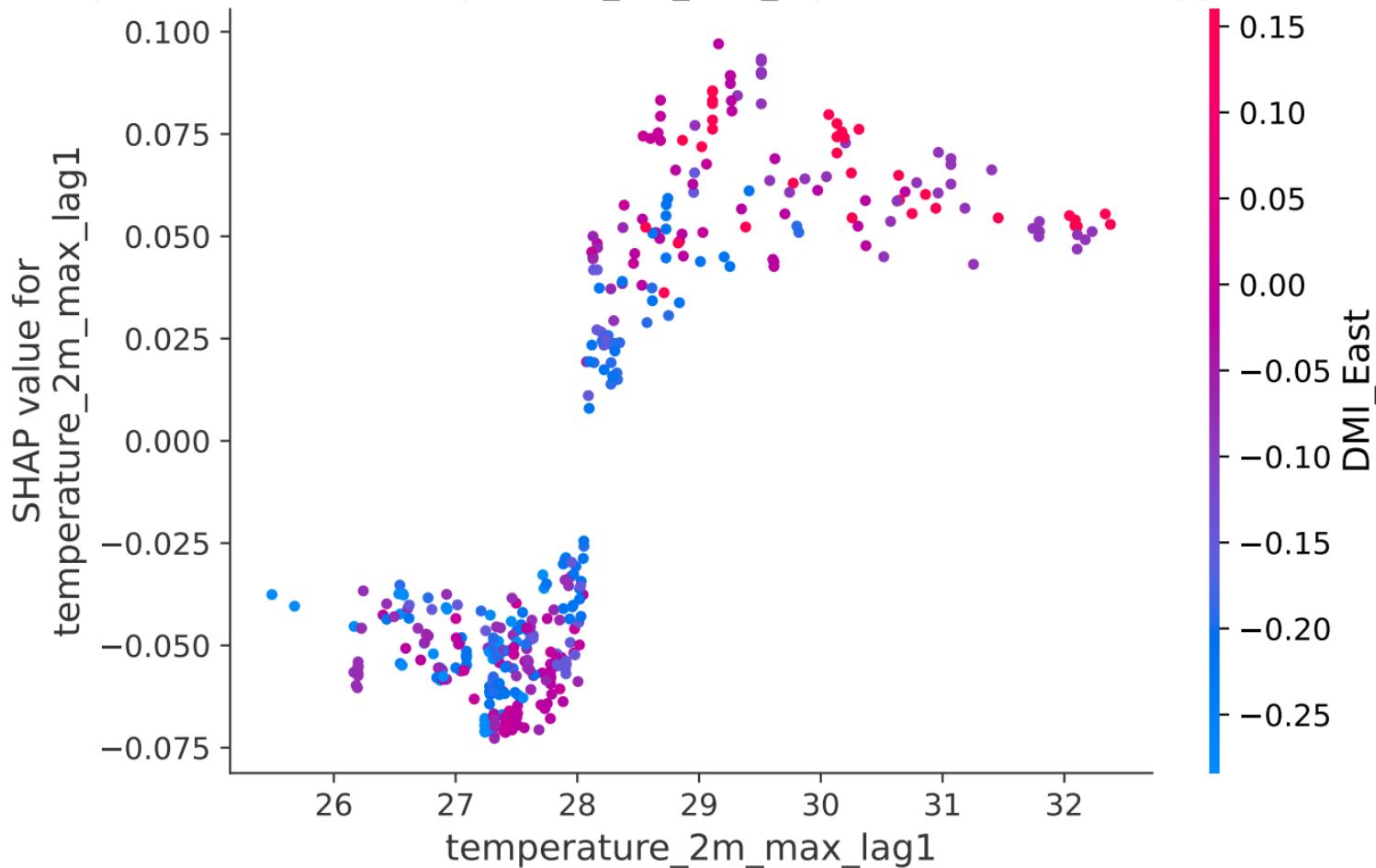
# SHAP Dependence Plot for Class\_30, Class 0 - Nusa Tenggara (Test Set)



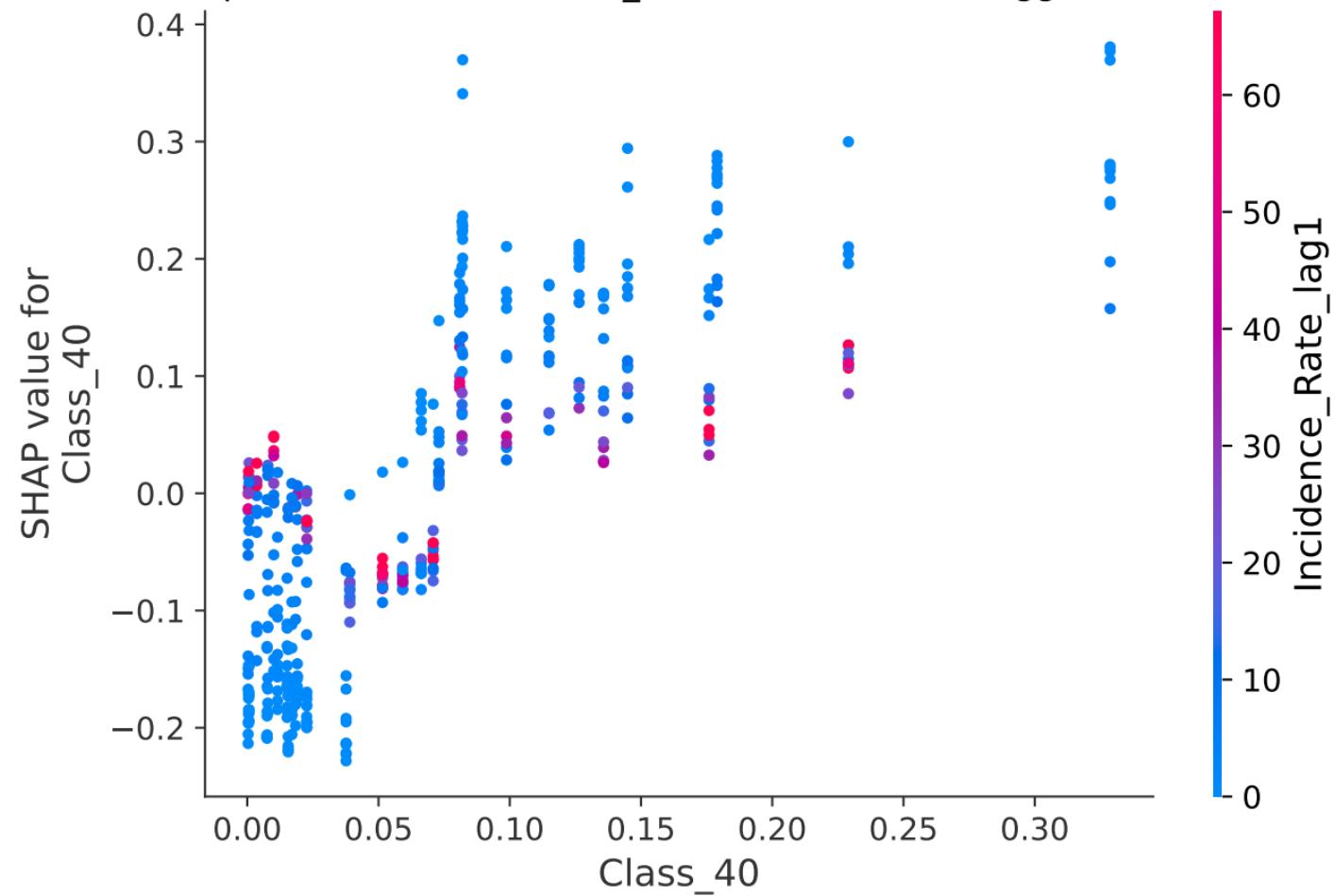
SHAP Dependence Plot for ANOM1+2\_lag3, Class 0 - Nusa Tenggara (Test Set)



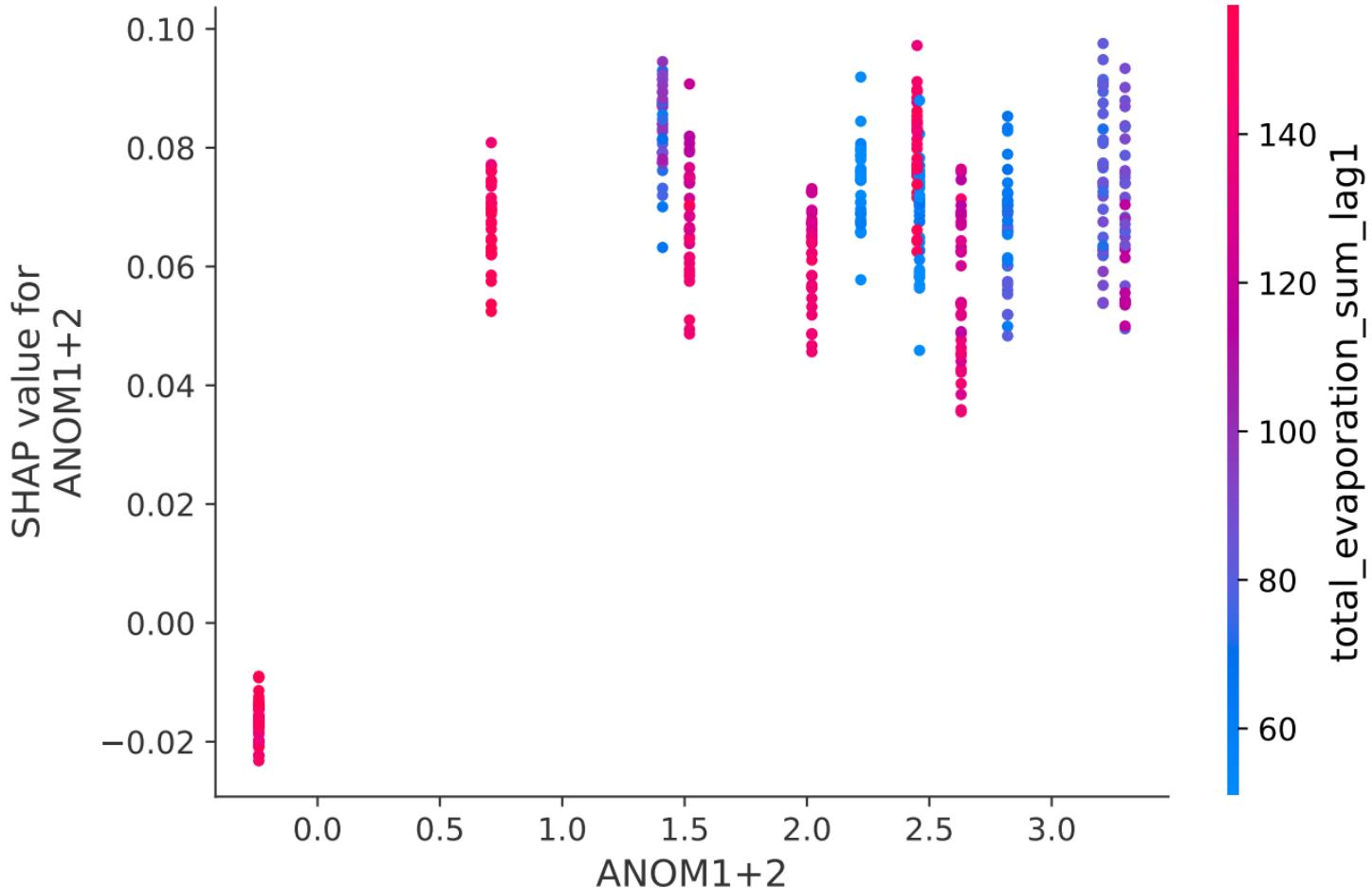
SHAP Dependence Plot for temperature\_2m\_max\_lag1, Class 0 - Nusa Tenggara (Test Set)



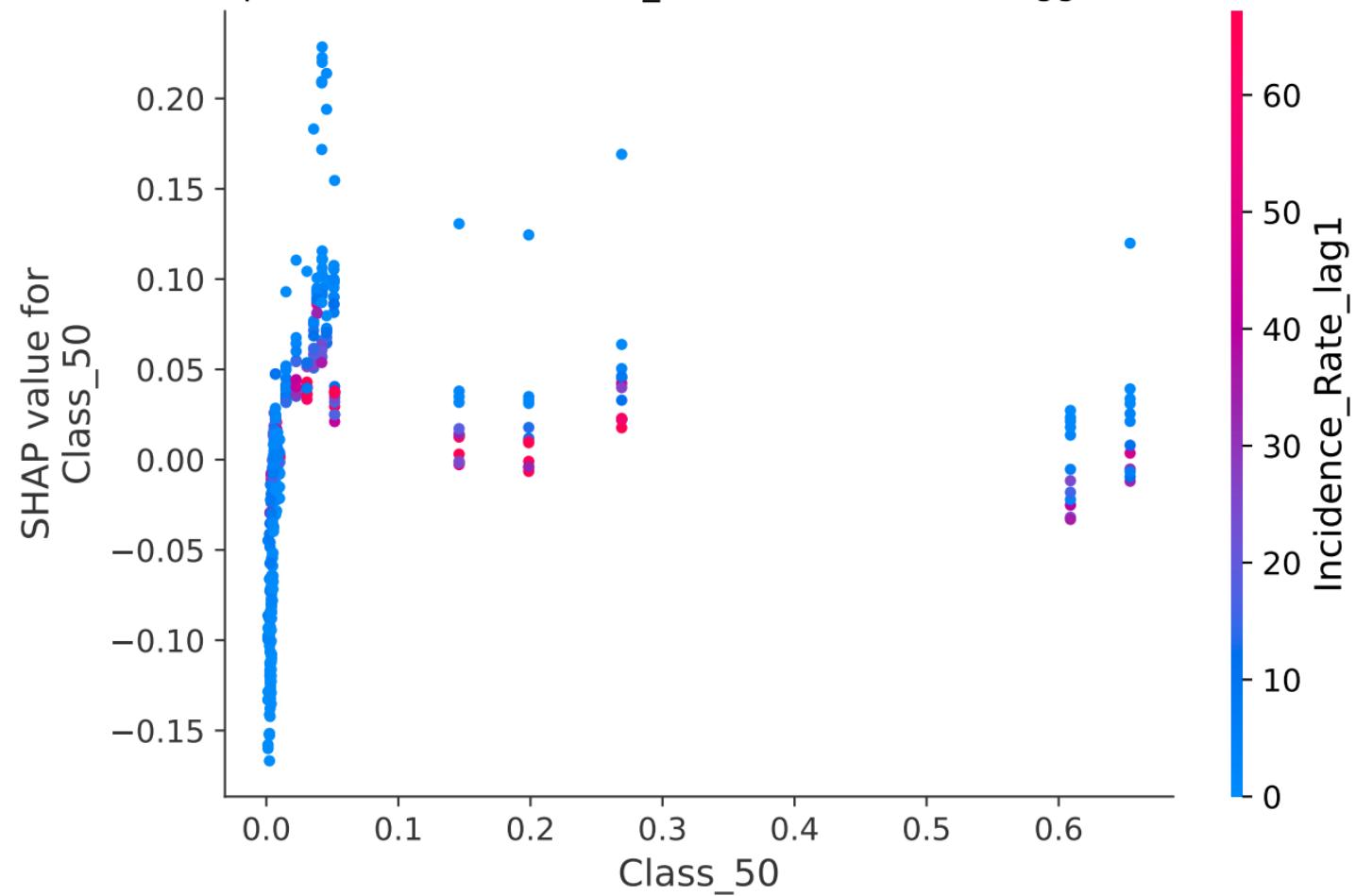
# SHAP Dependence Plot for Class\_40, Class 1 - Nusa Tenggara (Test Set)



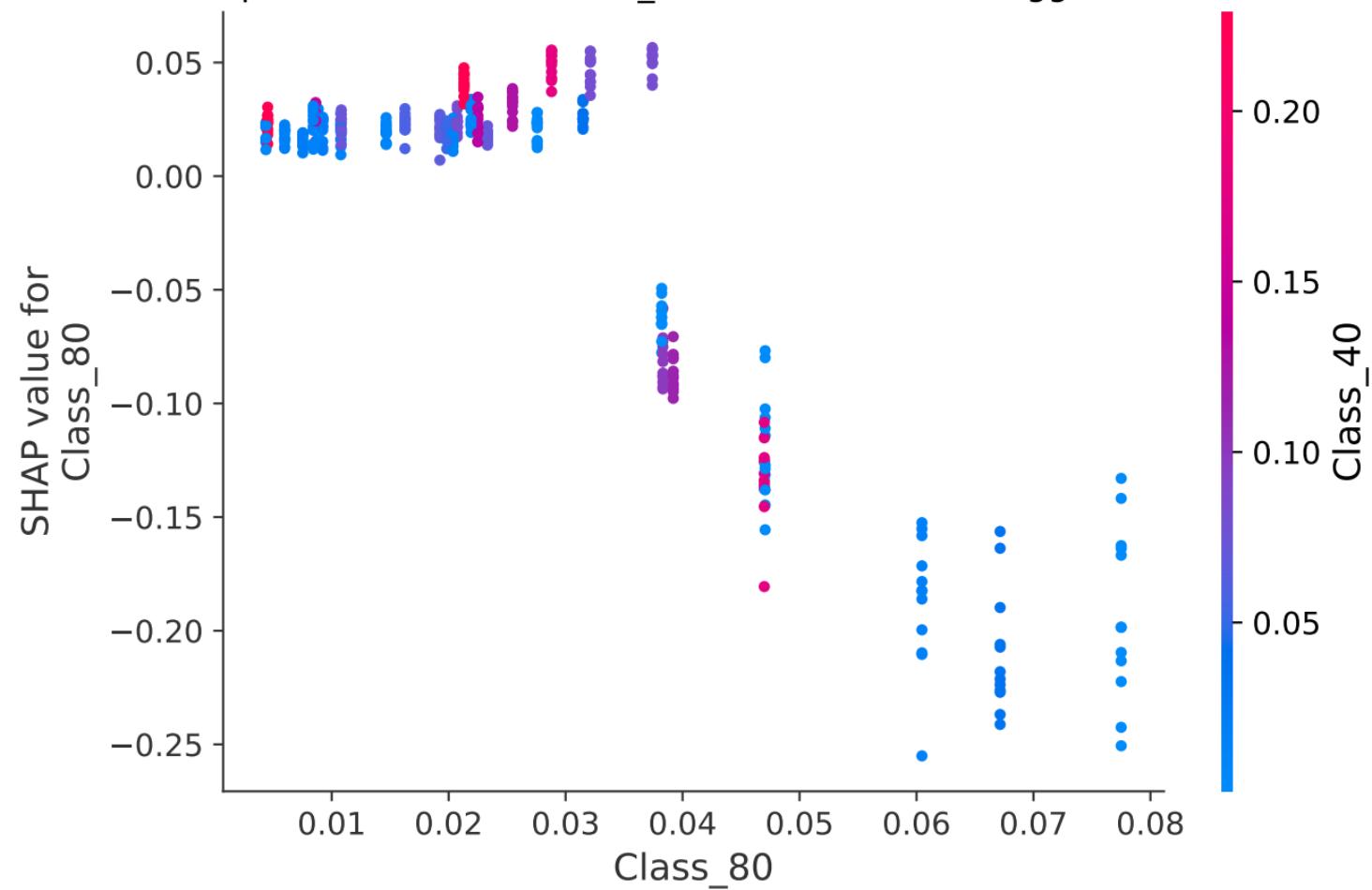
# SHAP Dependence Plot for ANOM1+2, Class 1 - Nusa Tenggara (Test Set)



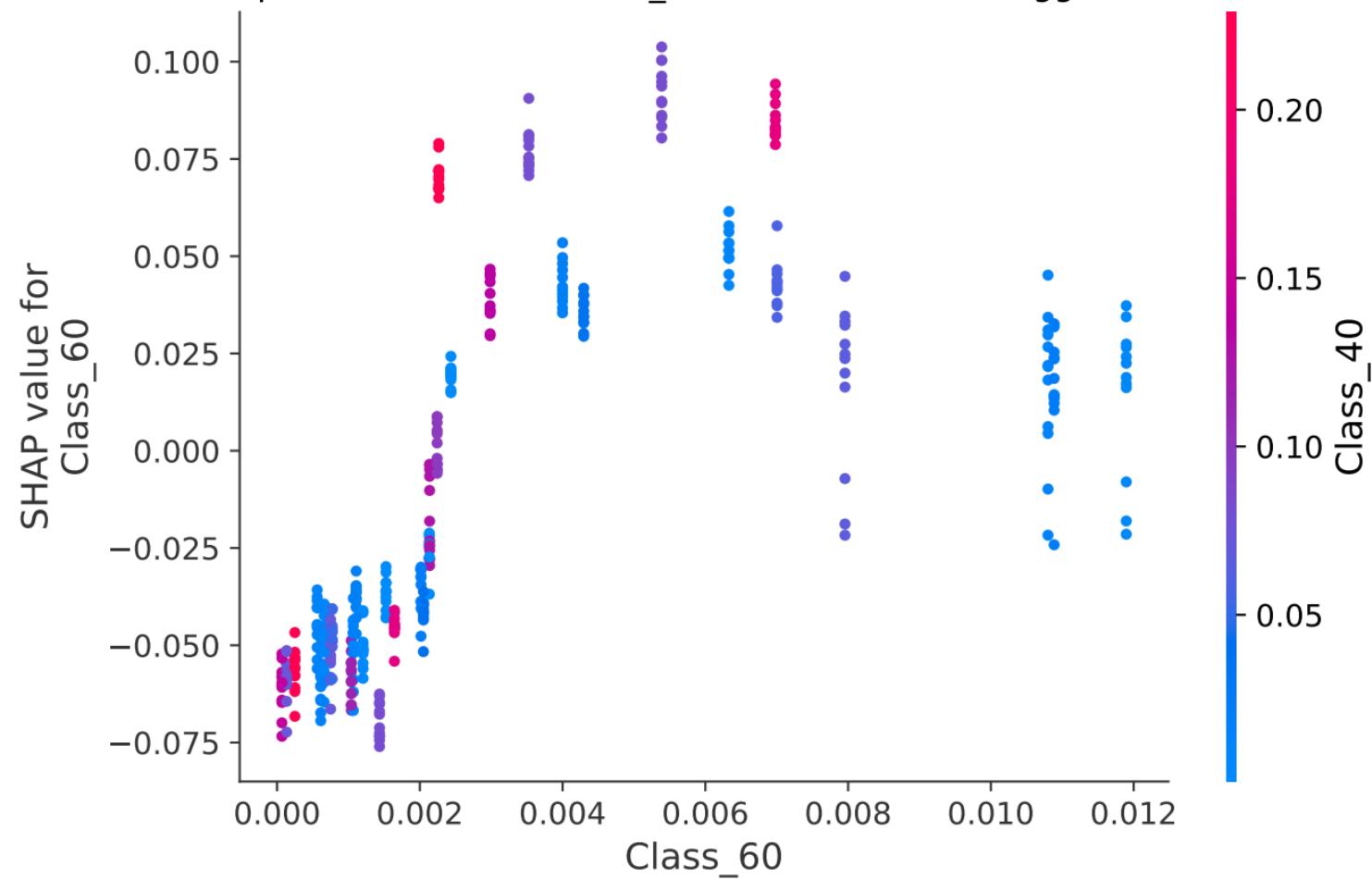
SHAP Dependence Plot for Class\_50, Class 1 - Nusa Tenggara (Test Set)



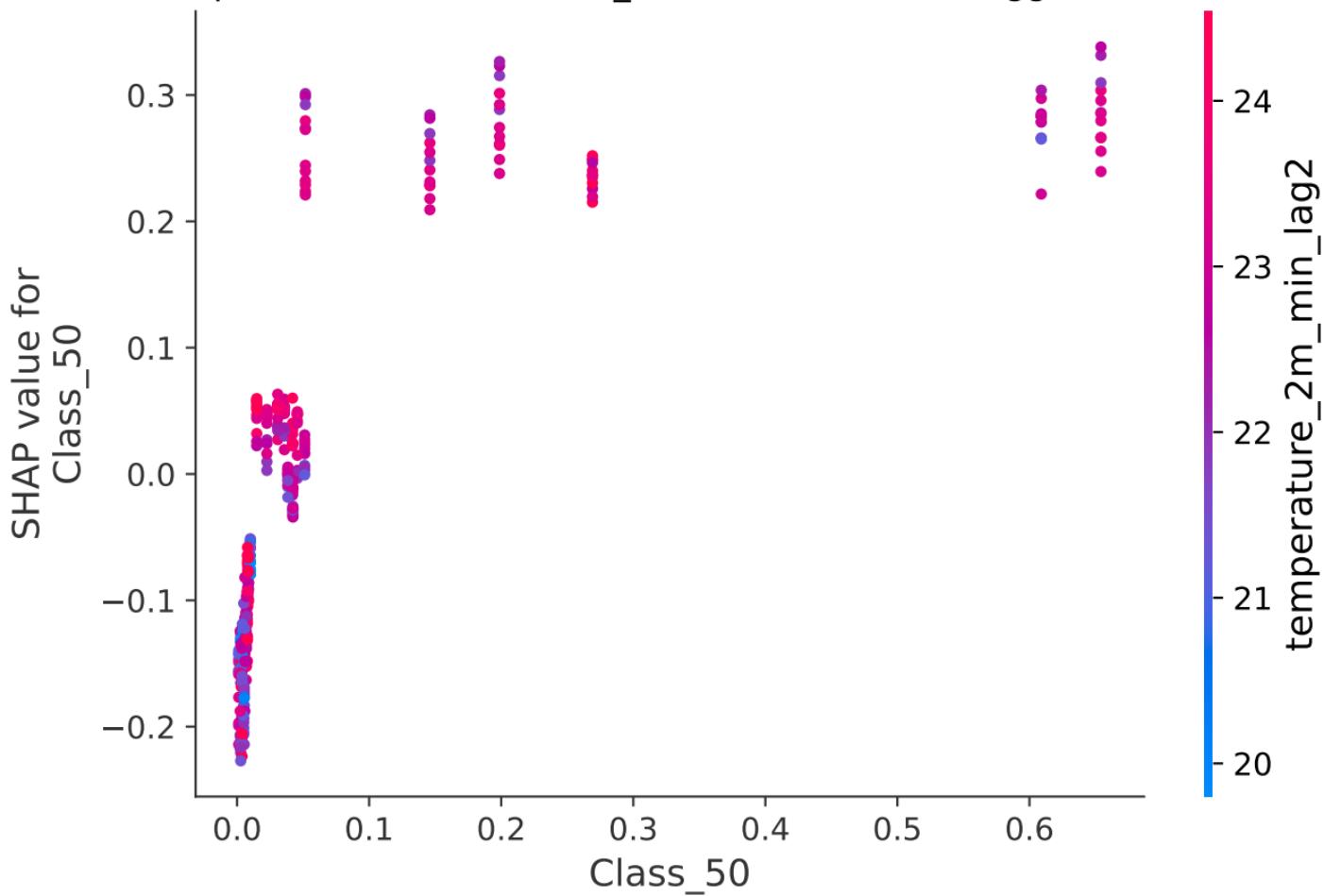
# SHAP Dependence Plot for Class\_80, Class 1 - Nusa Tenggara (Test Set)



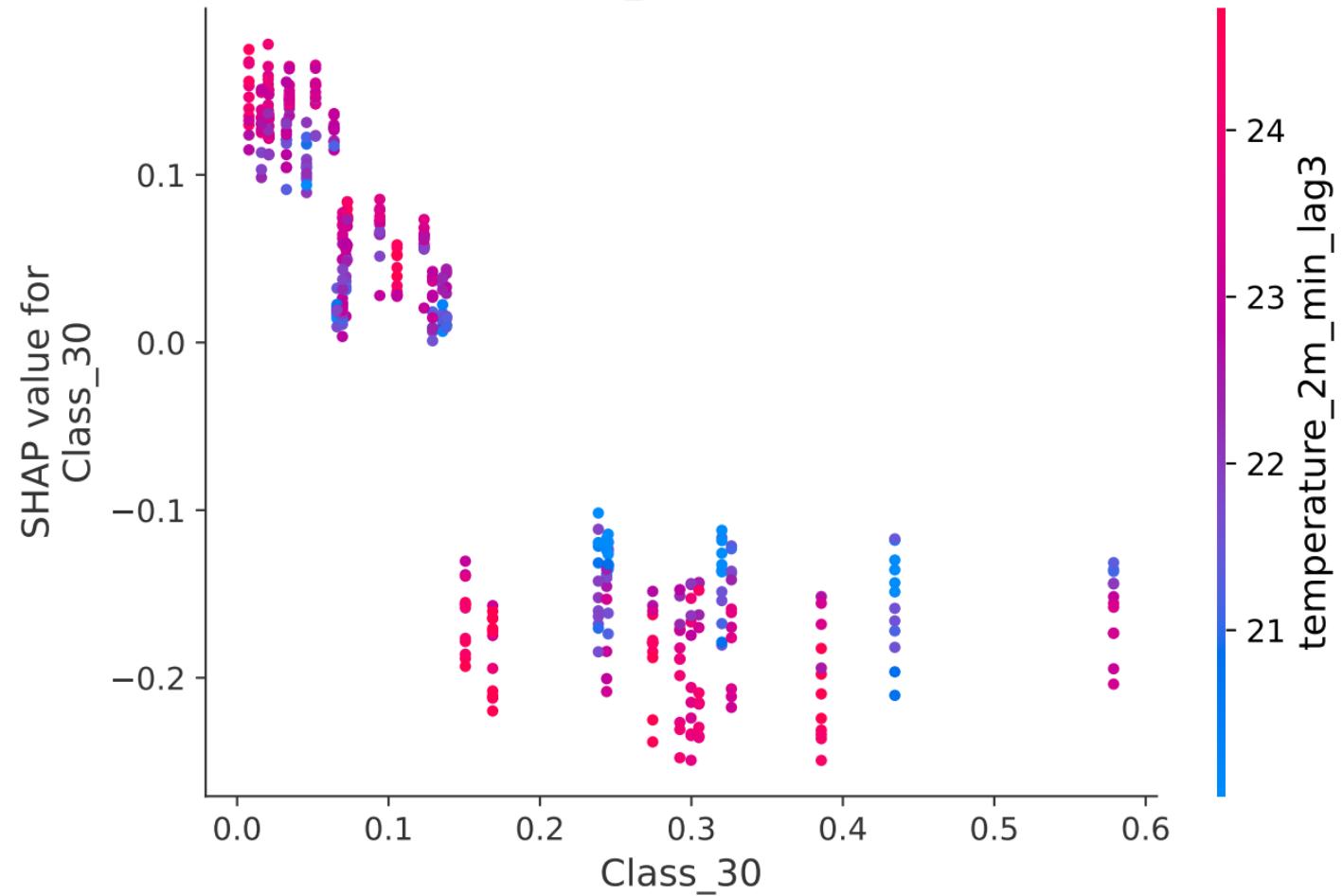
# SHAP Dependence Plot for Class\_60, Class 1 - Nusa Tenggara (Test Set)



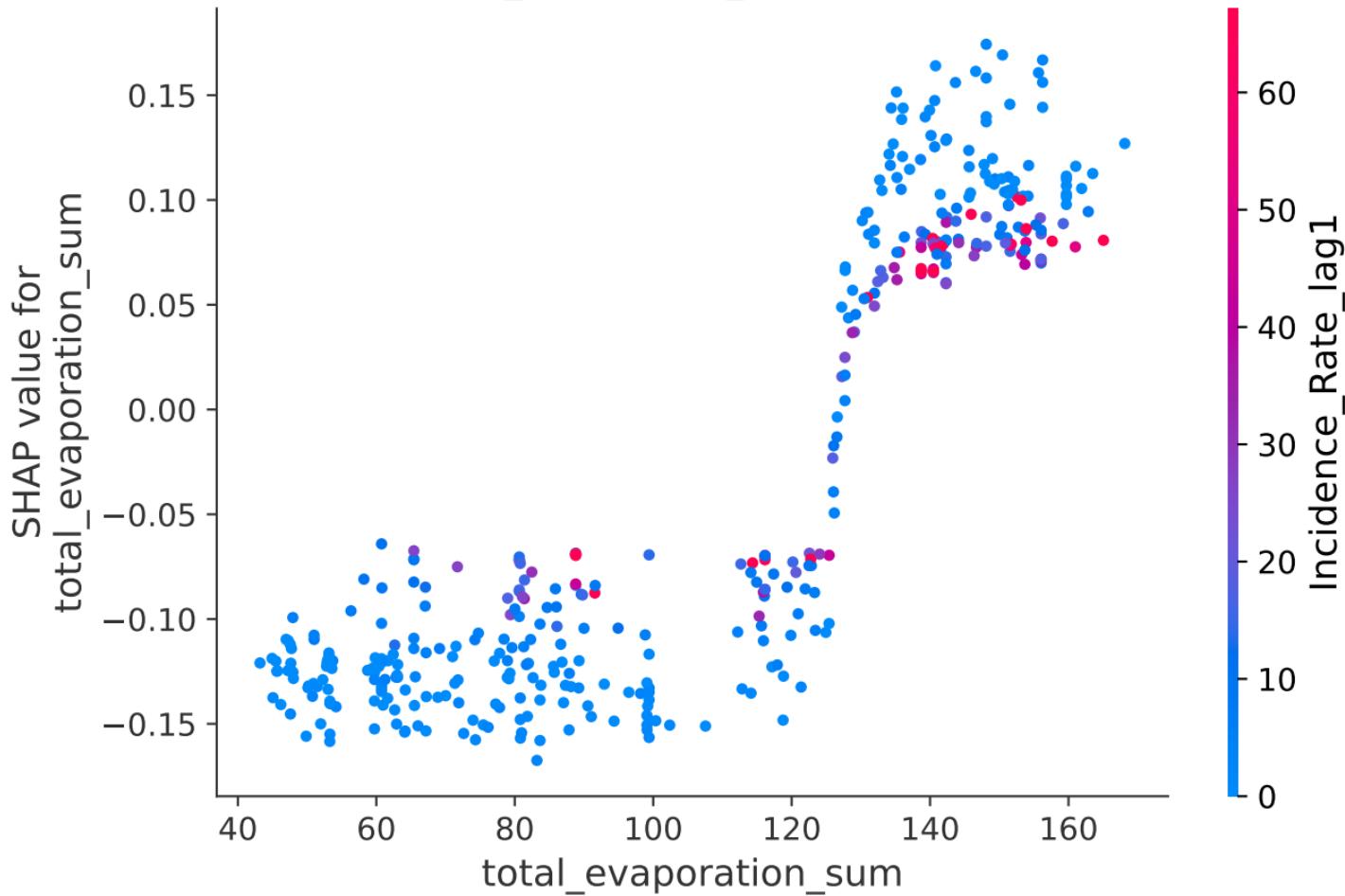
# SHAP Dependence Plot for Class\_50, Class 2 - Nusa Tenggara (Test Set)



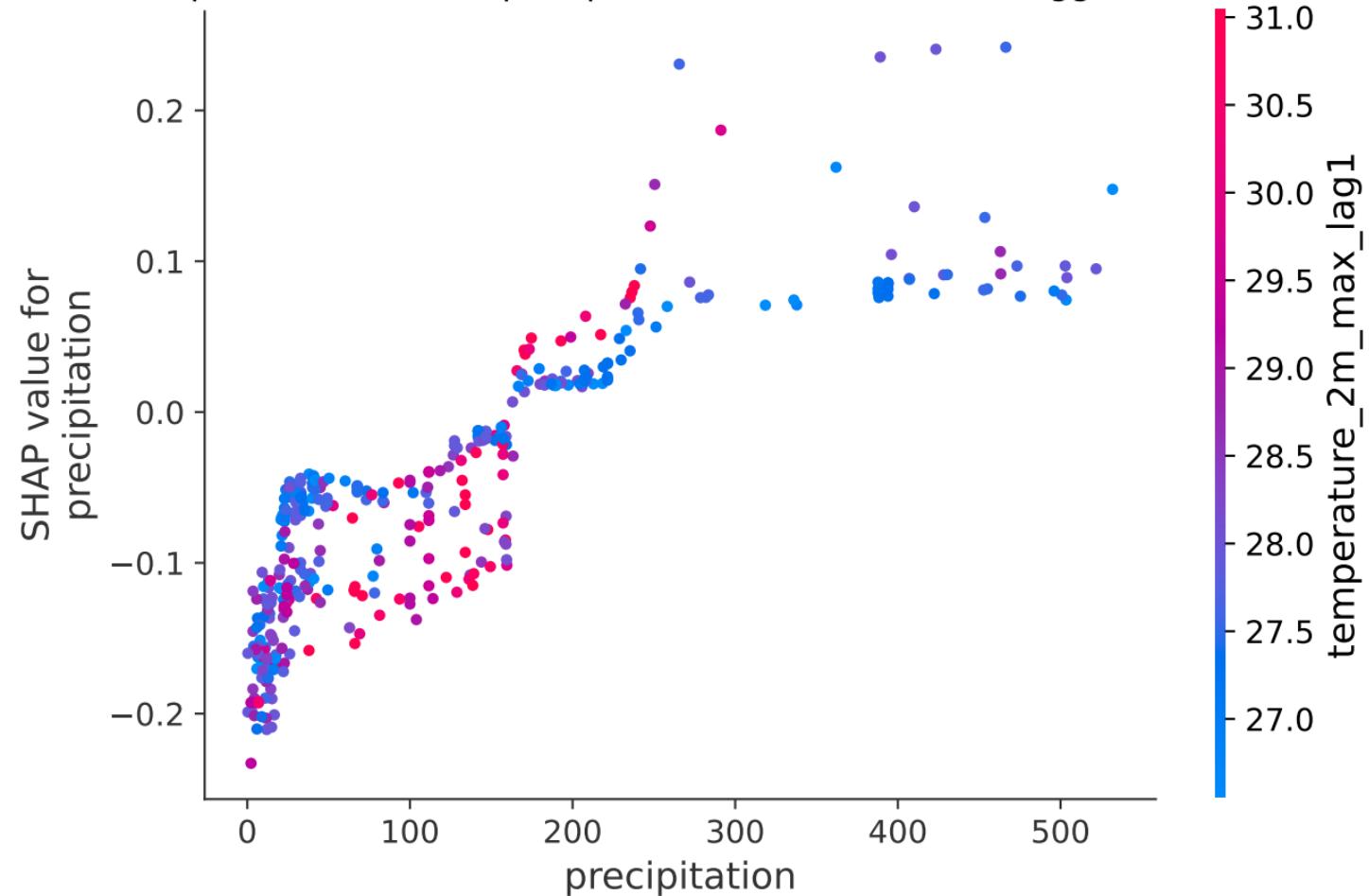
# SHAP Dependence Plot for Class\_30, Class 2 - Nusa Tenggara (Test Set)



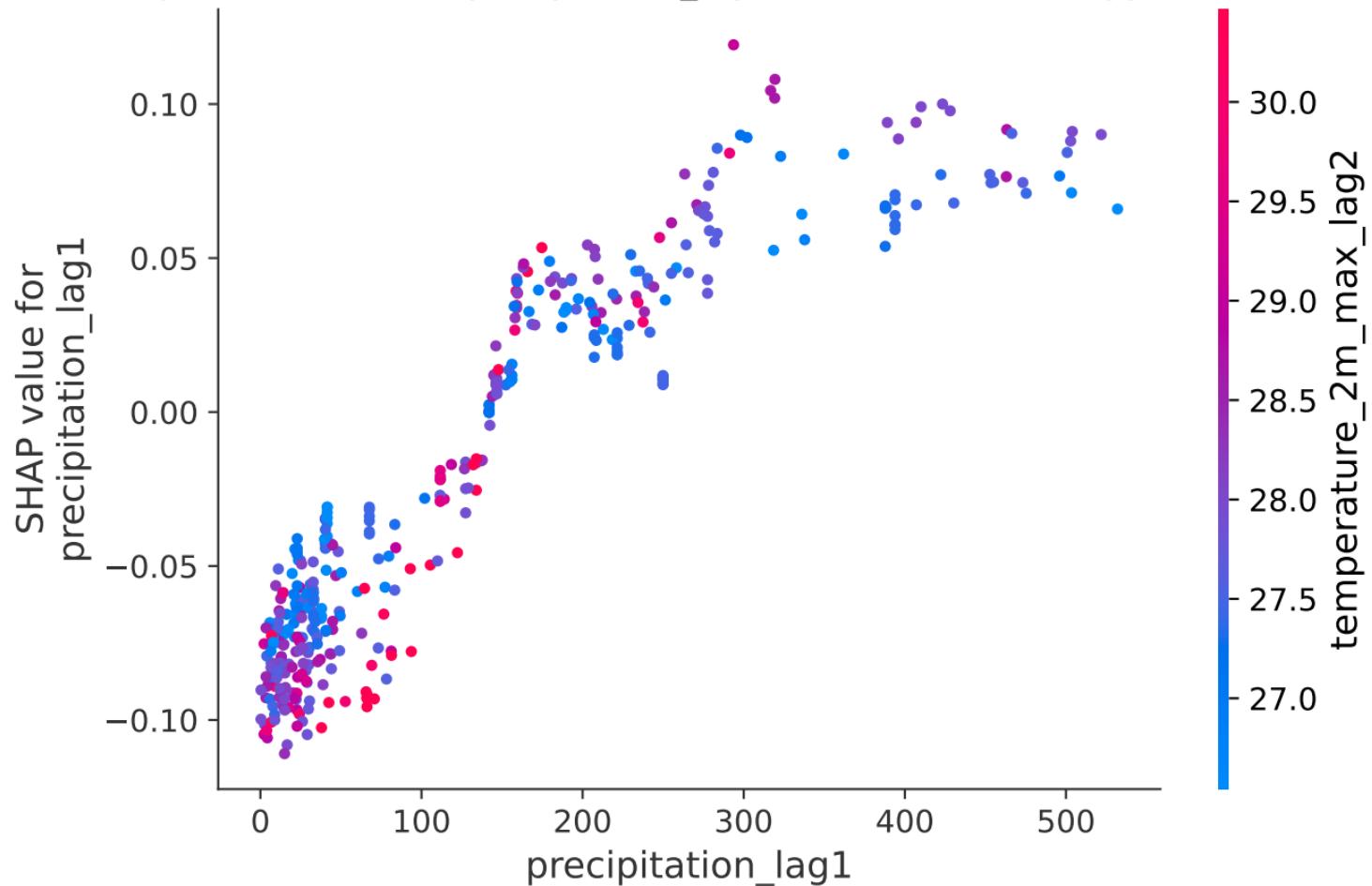
SHAP Dependence Plot for total\_evaporation\_sum, Class 2 - Nusa Tenggara (Test Set)



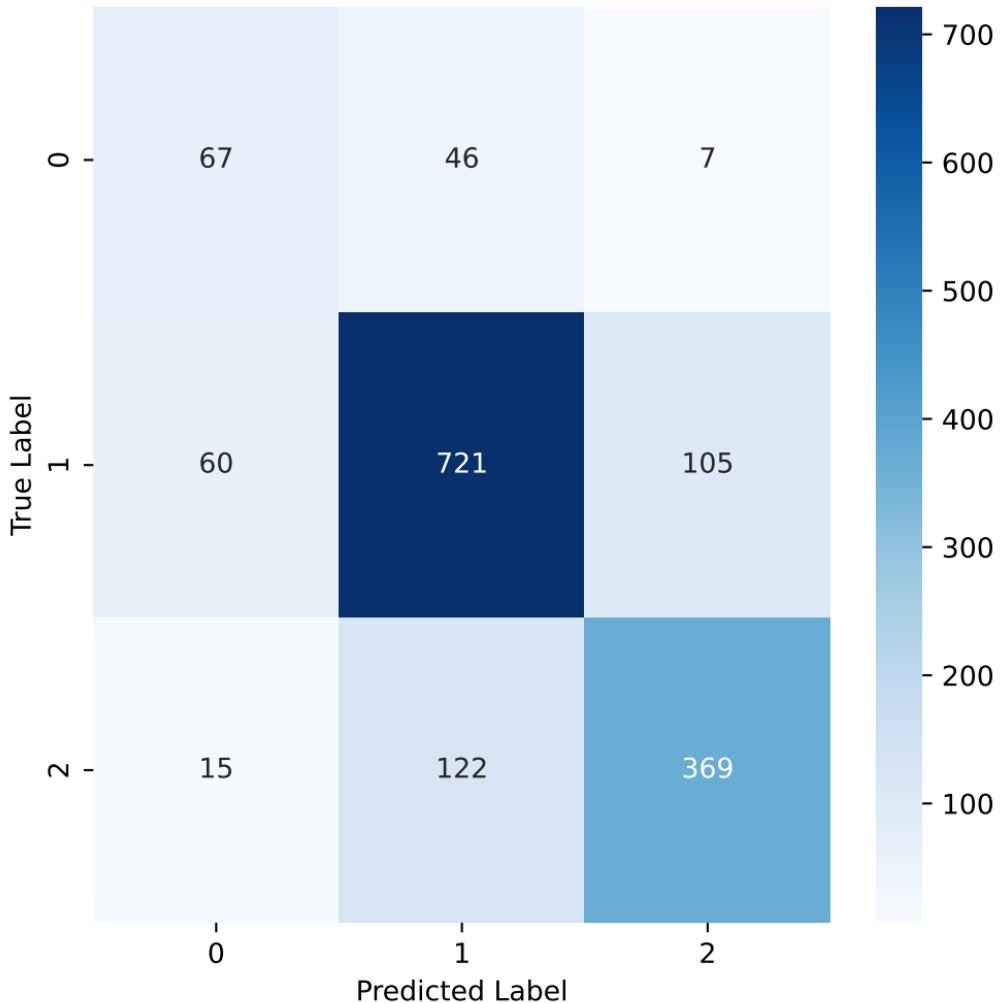
# SHAP Dependence Plot for precipitation, Class 2 - Nusa Tenggara (Test Set)



SHAP Dependence Plot for precipitation\_lag1, Class 2 - Nusa Tenggara (Test Set)



# Confusion Matrix - Java (Test Set)



SHAP Beeswarm Plot for Class 0 - Java (Test Set)

High

Incidence\_Rate\_lag1

Class\_80

total\_evaporation\_sum\_lag1

ANOM1+2\_lag2

Class\_40

Class\_50

Class\_30

Class\_20

Class\_60

precipitation\_lag2

precipitation\_lag3

potential\_evaporation\_sum\_lag3

aridity\_index

Class\_90

temperature\_2m\_min\_lag1

precipitation\_ANOM\_lag2

DMI

DMI\_lag3

ANOM3\_lag2

temperature\_2m\_max\_lag3

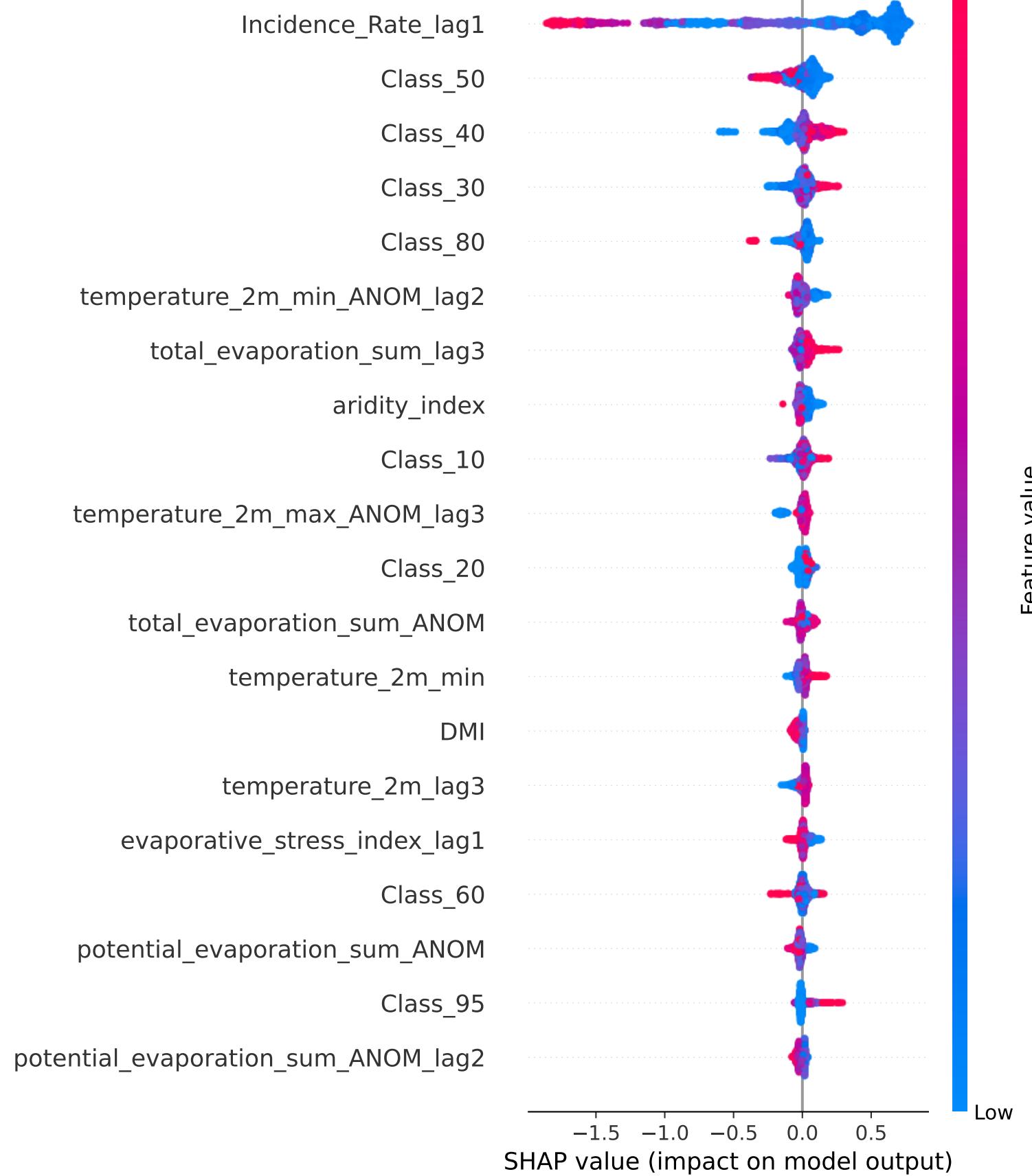
Feature value

Low

SHAP value (impact on model output)

SHAP Beeswarm Plot for Class 1 - Java (Test Set)

High



SHAP Beeswarm Plot for Class 2 - Java (Test Set)

High

Incidence\_Rate\_lag1

ANOM4\_lag1

ANOM3\_lag2

Class\_90

precipitation

precipitation\_lag1

Class\_50

precipitation\_lag2

Class\_20

DMI\_lag3

aridity\_index\_lag1

DMI\_East\_lag1

evaporative\_stress\_index\_lag3

ANOM1+2\_lag2

Class\_80

DMI\_lag2

DMI\_lag1

Class\_40

temperature\_2m\_max\_lag3

ANOM3.4\_lag2

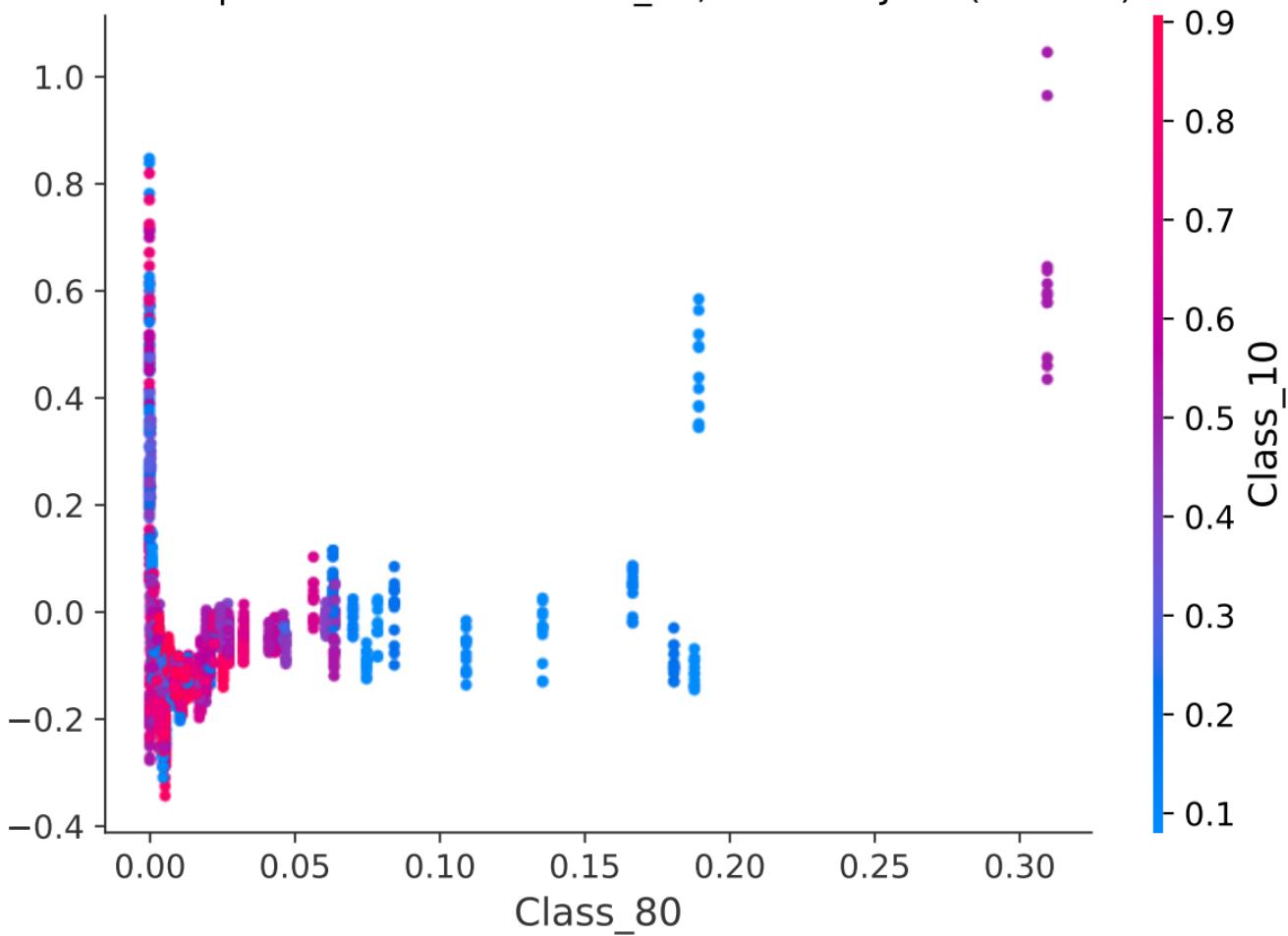
Feature value

Low

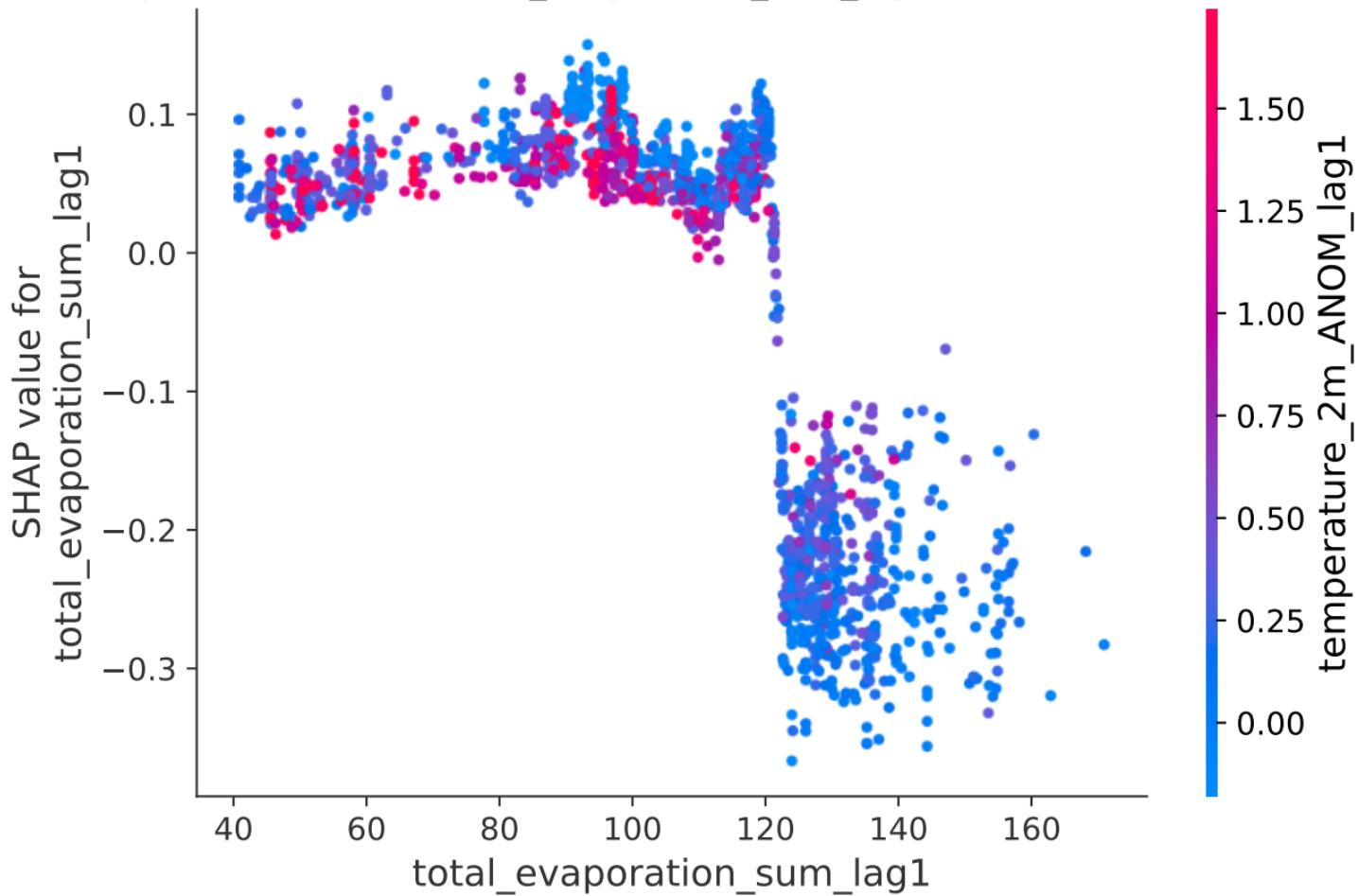
SHAP value (impact on model output)

SHAP Dependence Plot for Class\_80, Class 0 - Java (Test Set)

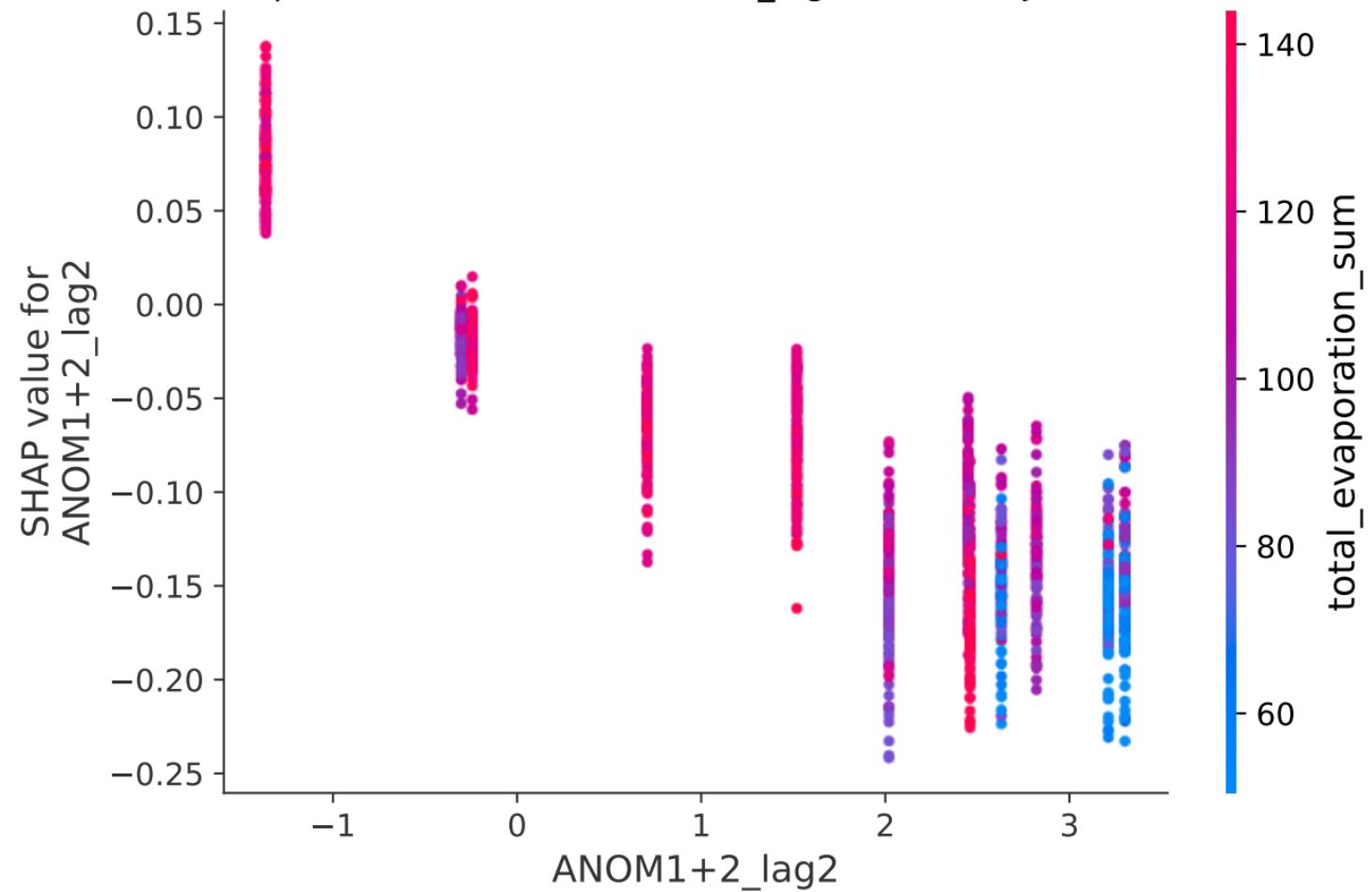
SHAP value for  
Class\_80



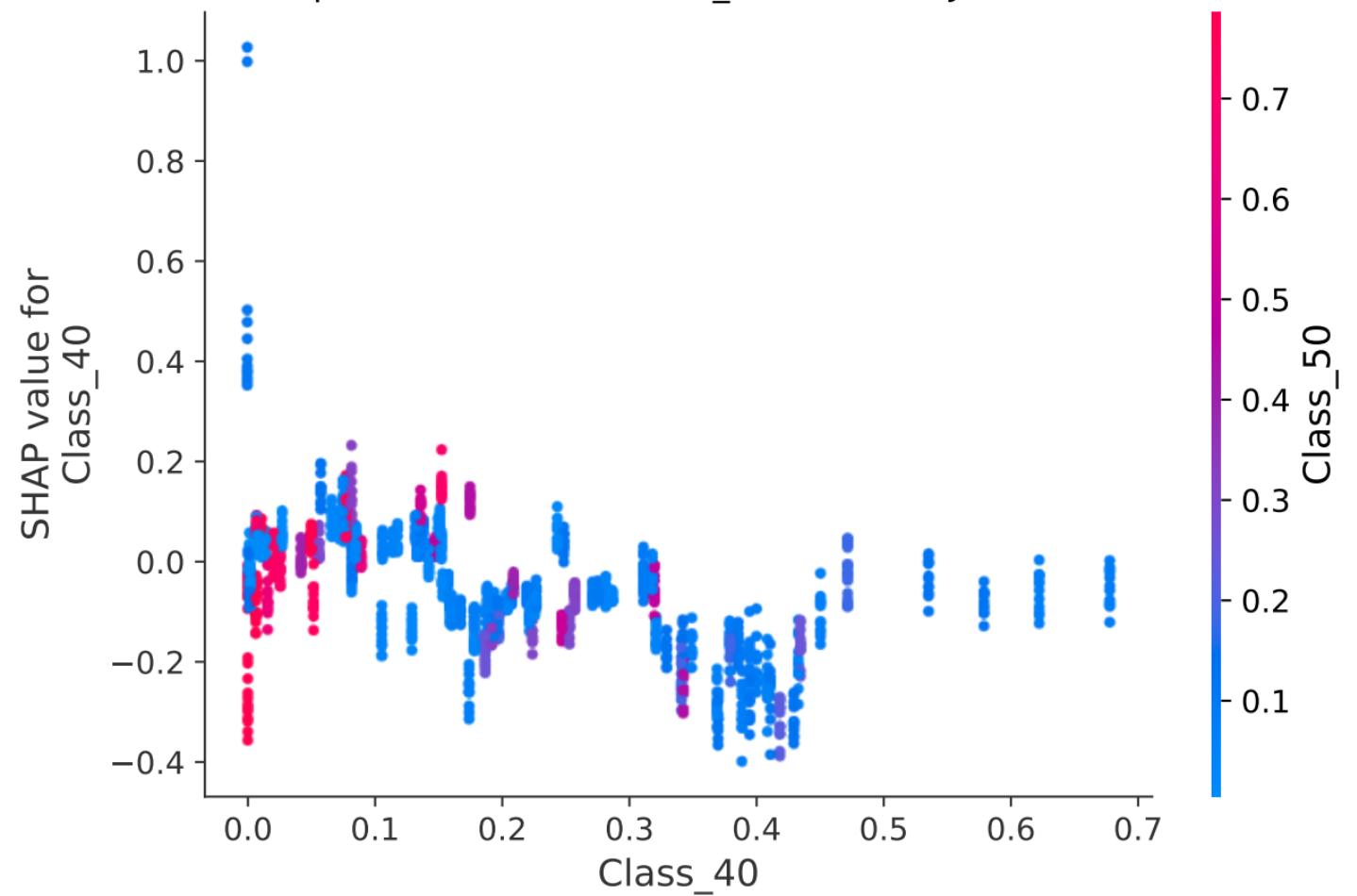
SHAP Dependence Plot for total\_evaporation\_sum\_lag1, Class 0 - Java (Test Set)



SHAP Dependence Plot for ANOM1+2\_lag2, Class 0 - Java (Test Set)



# SHAP Dependence Plot for Class\_40, Class 0 - Java (Test Set)



# SHAP Dependence Plot for Class\_50, Class 0 - Java (Test Set)

SHAP value for  
Class\_50

0.8  
0.6  
0.4  
0.2  
0.0  
-0.2  
-0.4  
-0.6

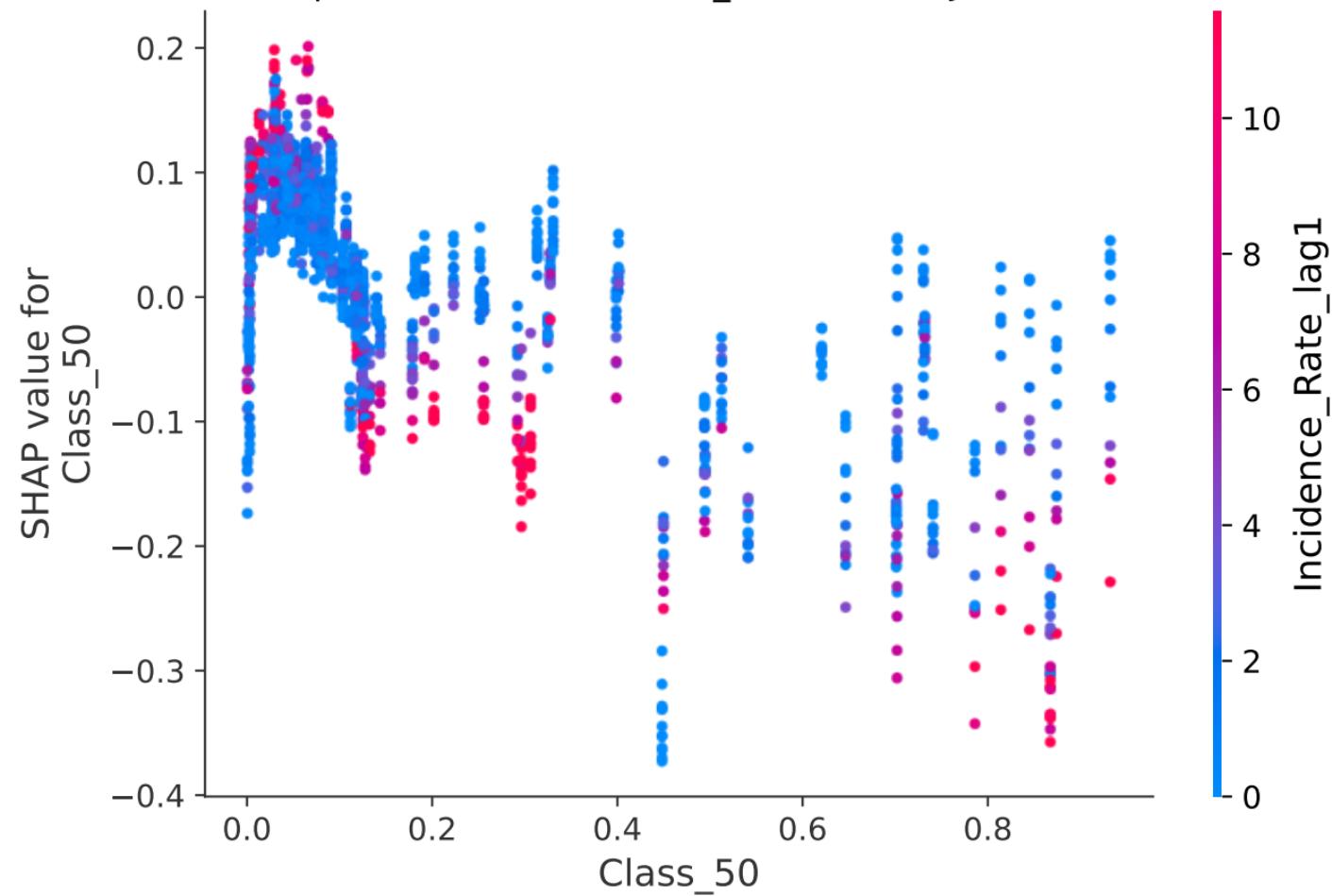
0.0 0.2 0.4 0.6 0.8

Class\_50

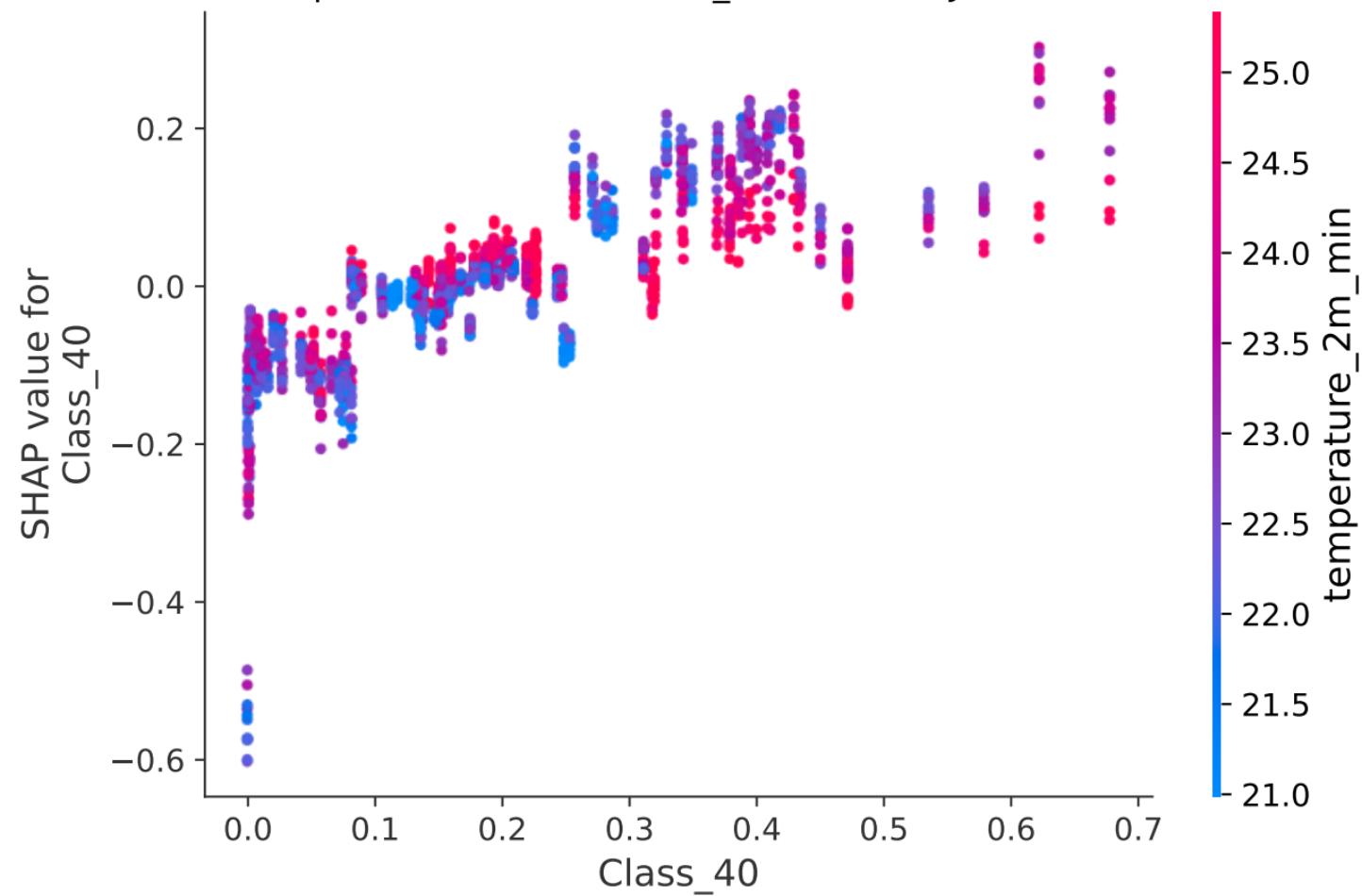
- 28  
- 27  
- 26  
- 25  
- 24

temperature\_2m\_lag1

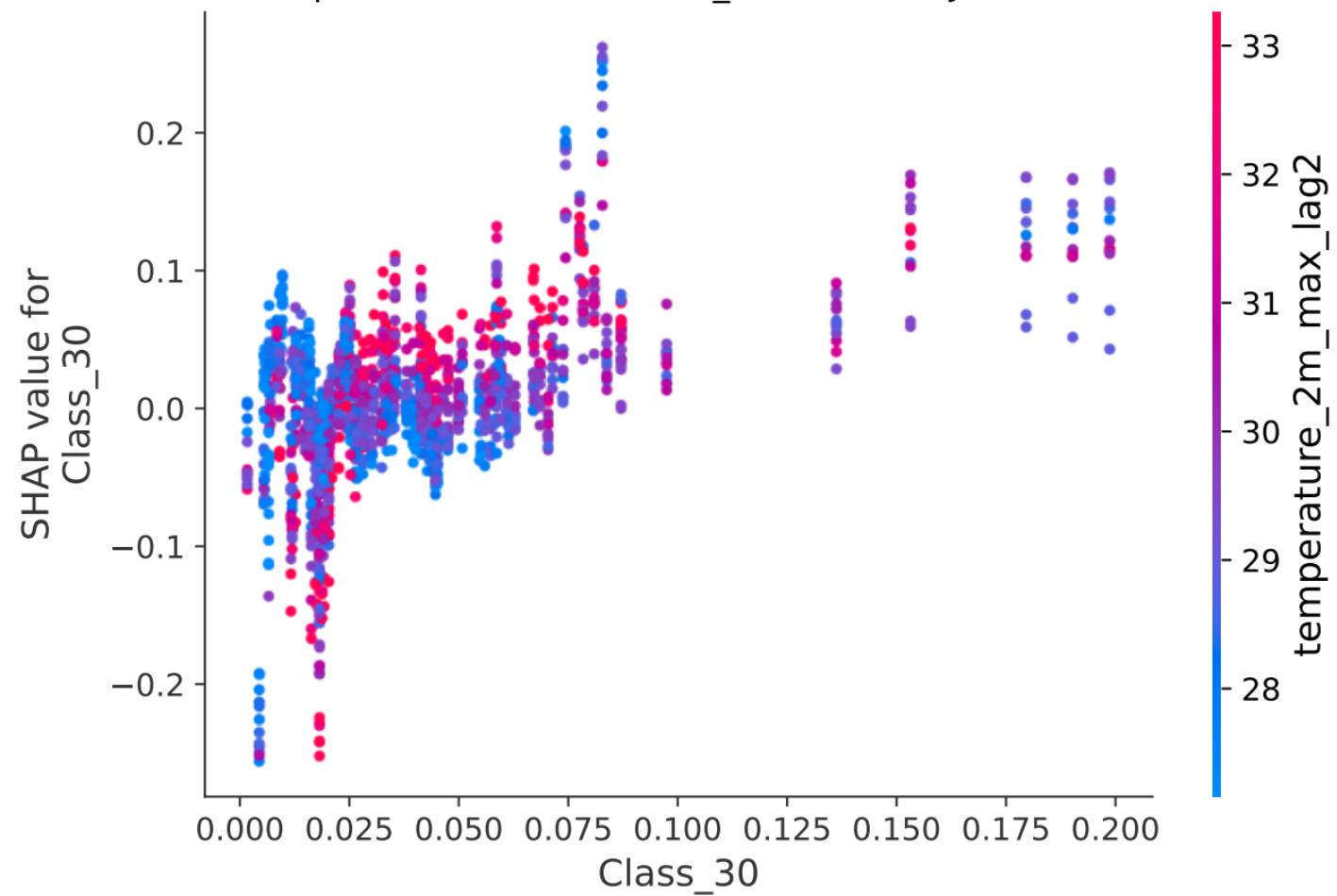
# SHAP Dependence Plot for Class\_50, Class 1 - Java (Test Set)



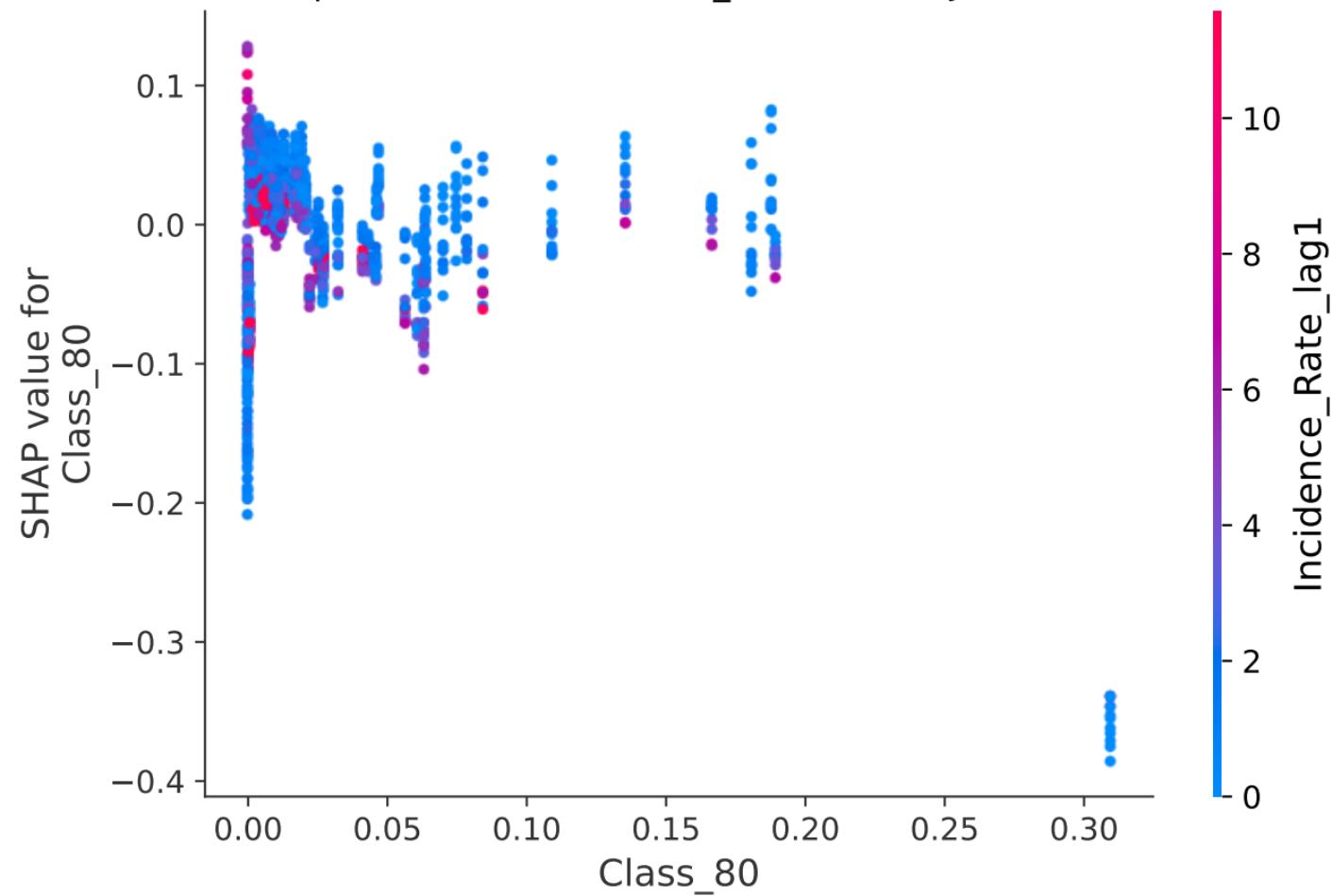
# SHAP Dependence Plot for Class\_40, Class 1 - Java (Test Set)



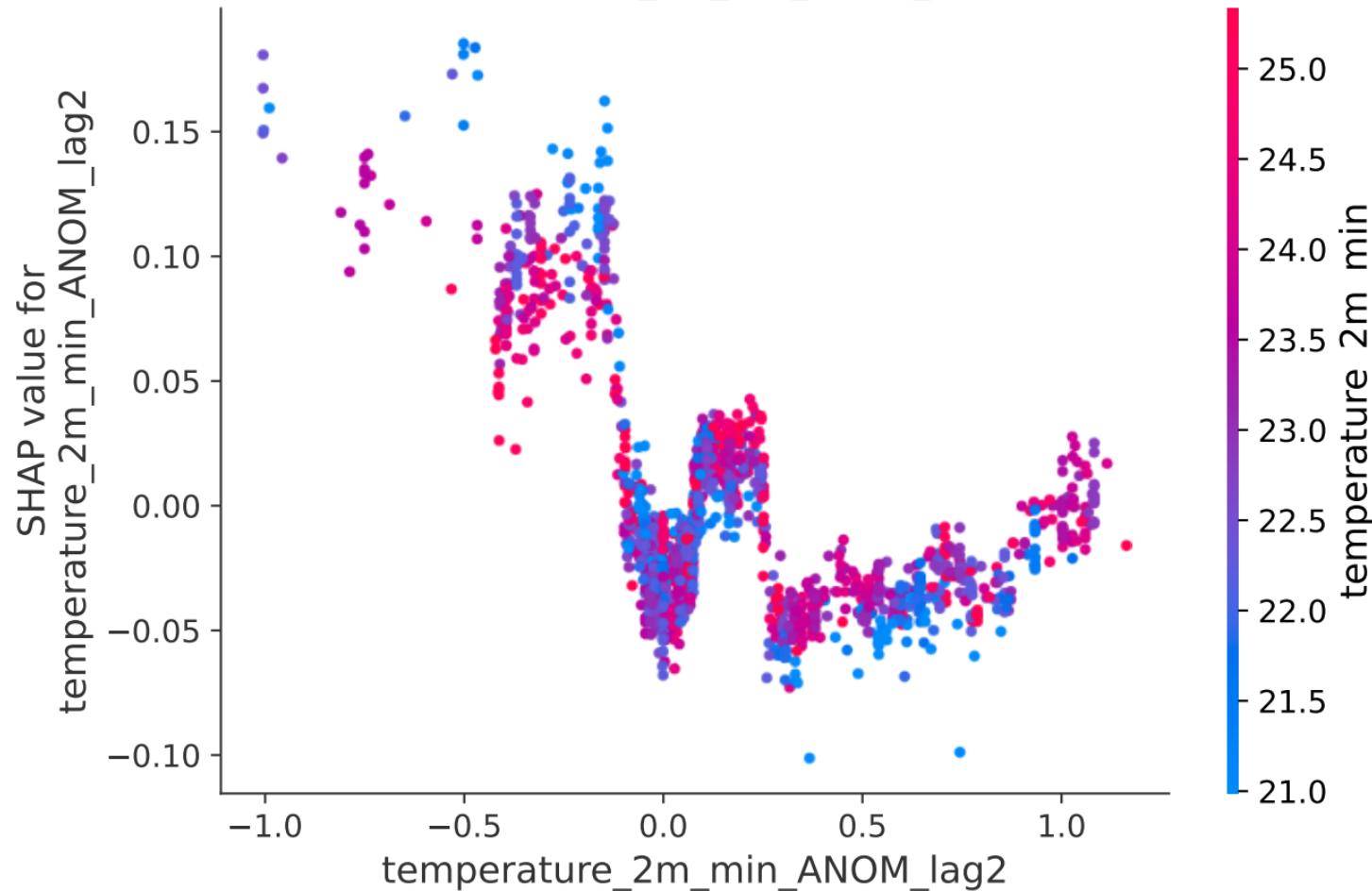
# SHAP Dependence Plot for Class\_30, Class 1 - Java (Test Set)



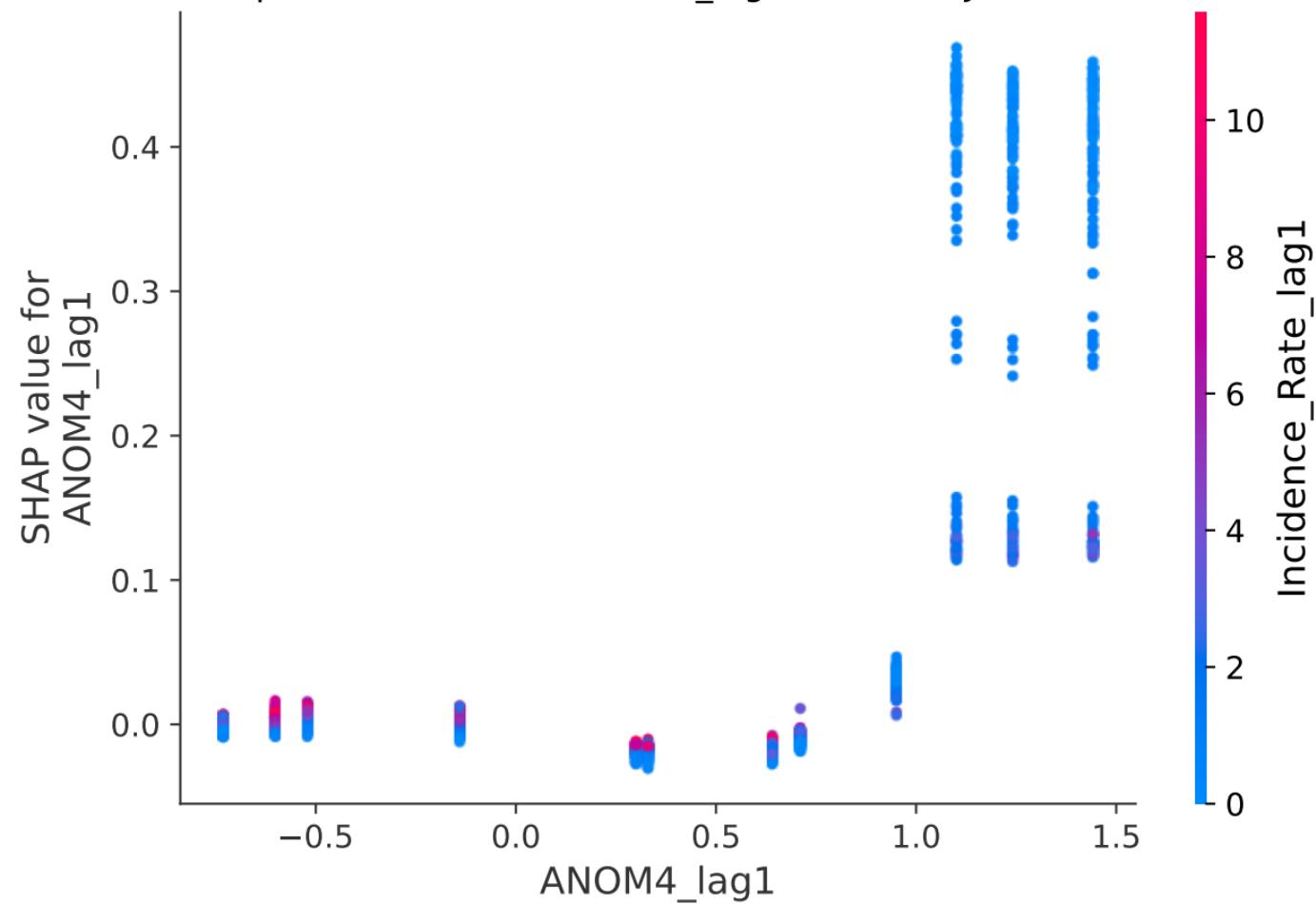
SHAP Dependence Plot for Class\_80, Class 1 - Java (Test Set)



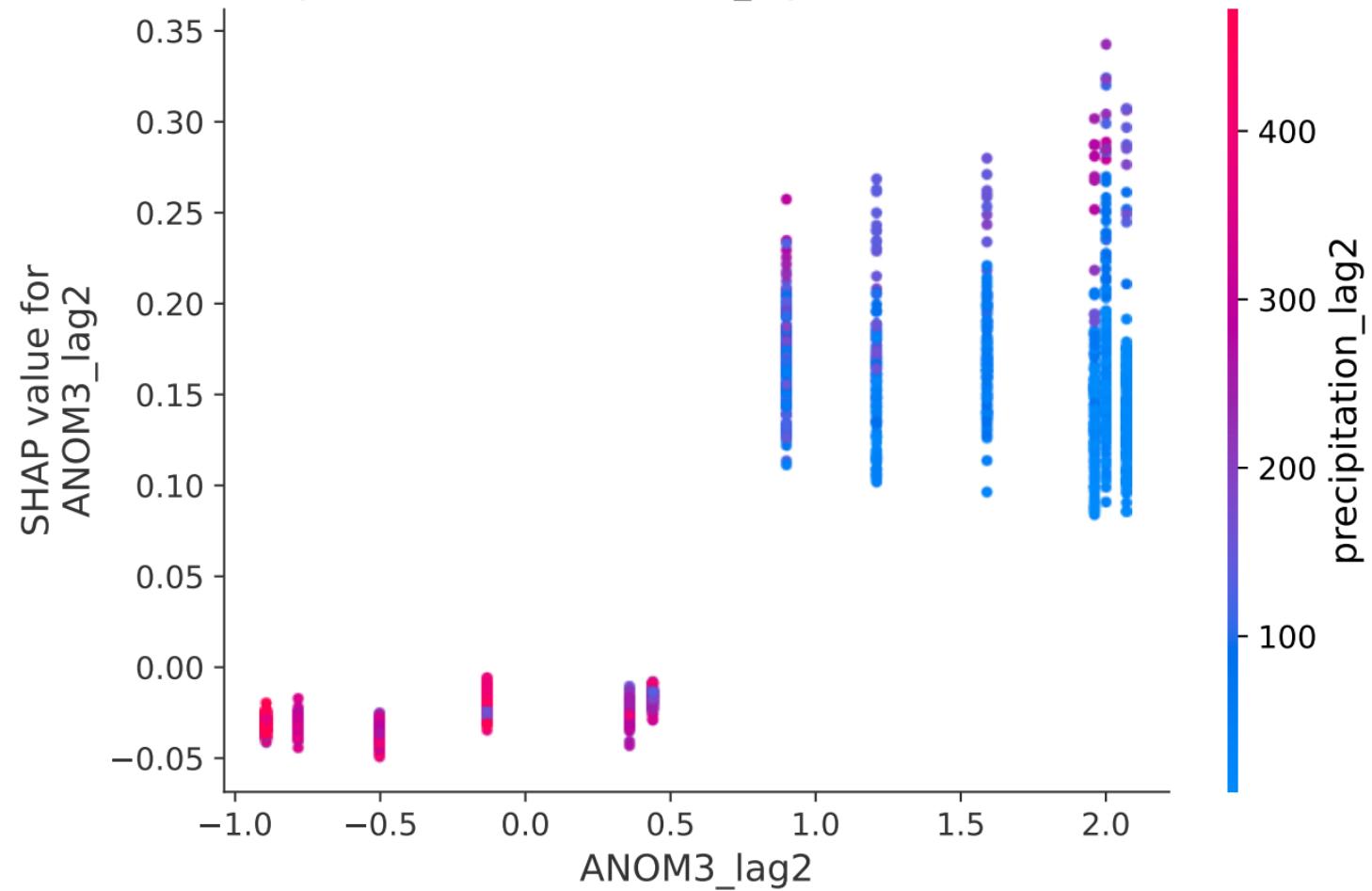
SHAP Dependence Plot for temperature\_2m\_min\_ANOM\_lag2, Class 1 - Java (Test Set)



# SHAP Dependence Plot for ANOM4\_lag1, Class 2 - Java (Test Set)

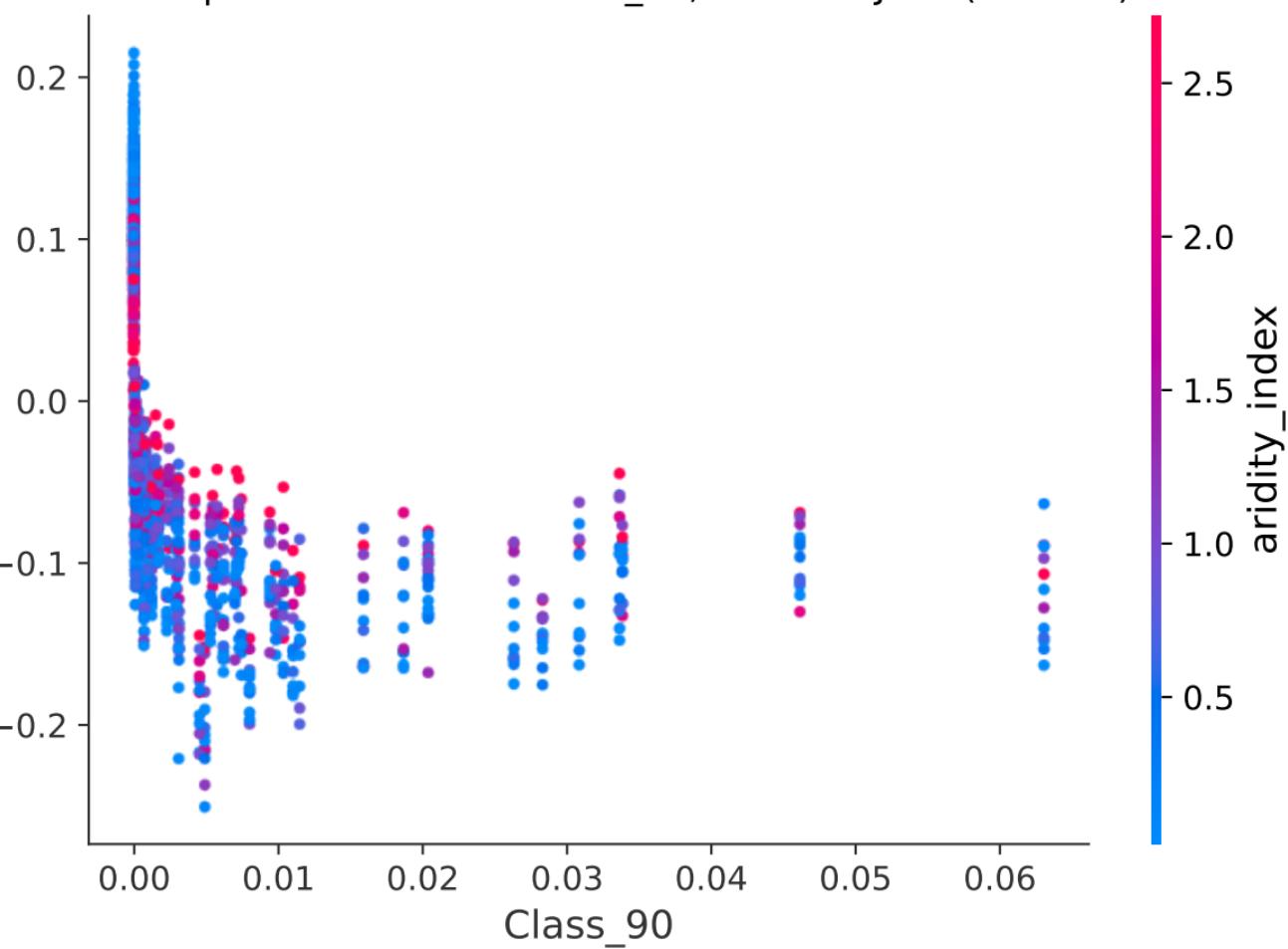


SHAP Dependence Plot for ANOM3\_lag2, Class 2 - Java (Test Set)

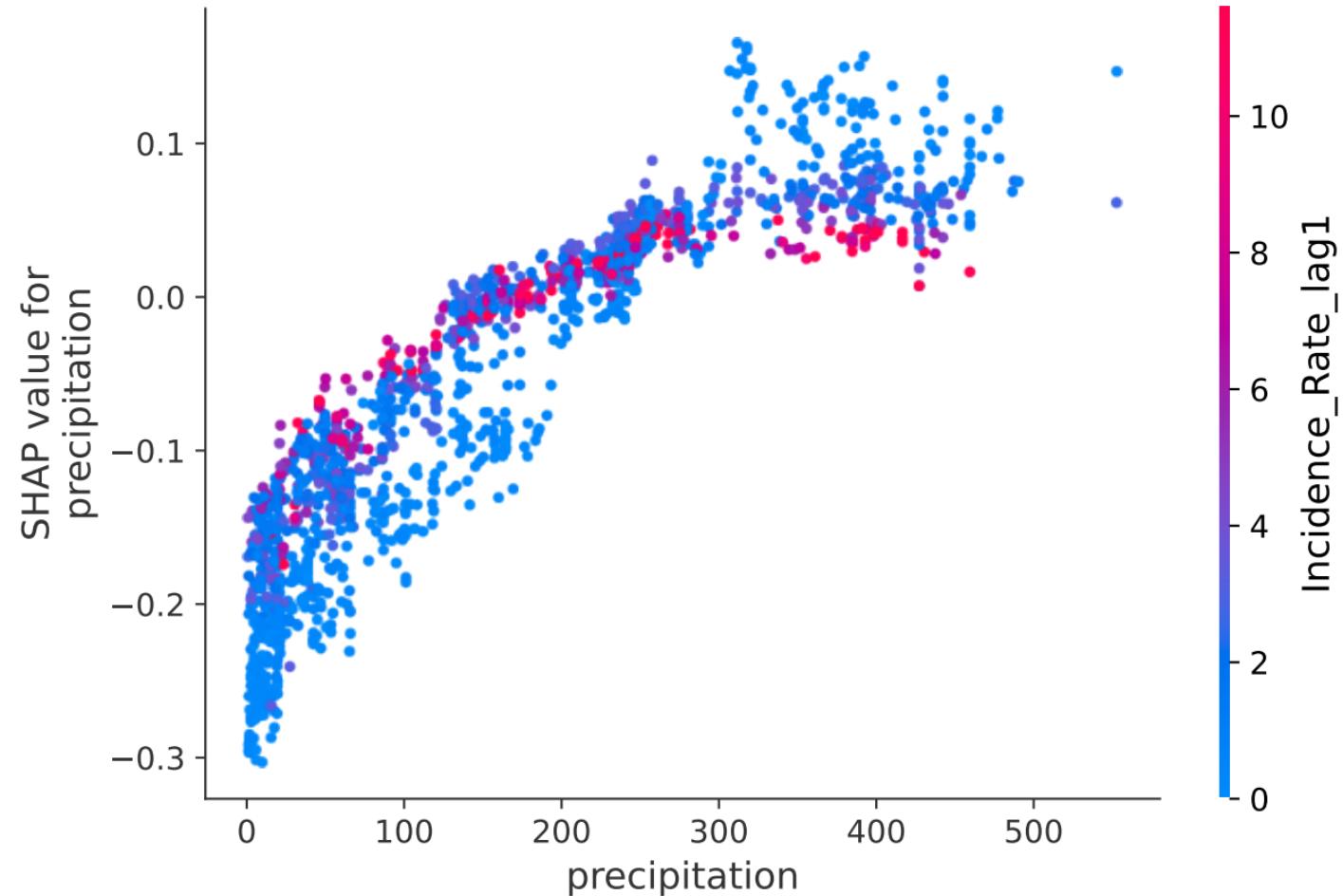


# SHAP Dependence Plot for Class\_90, Class 2 - Java (Test Set)

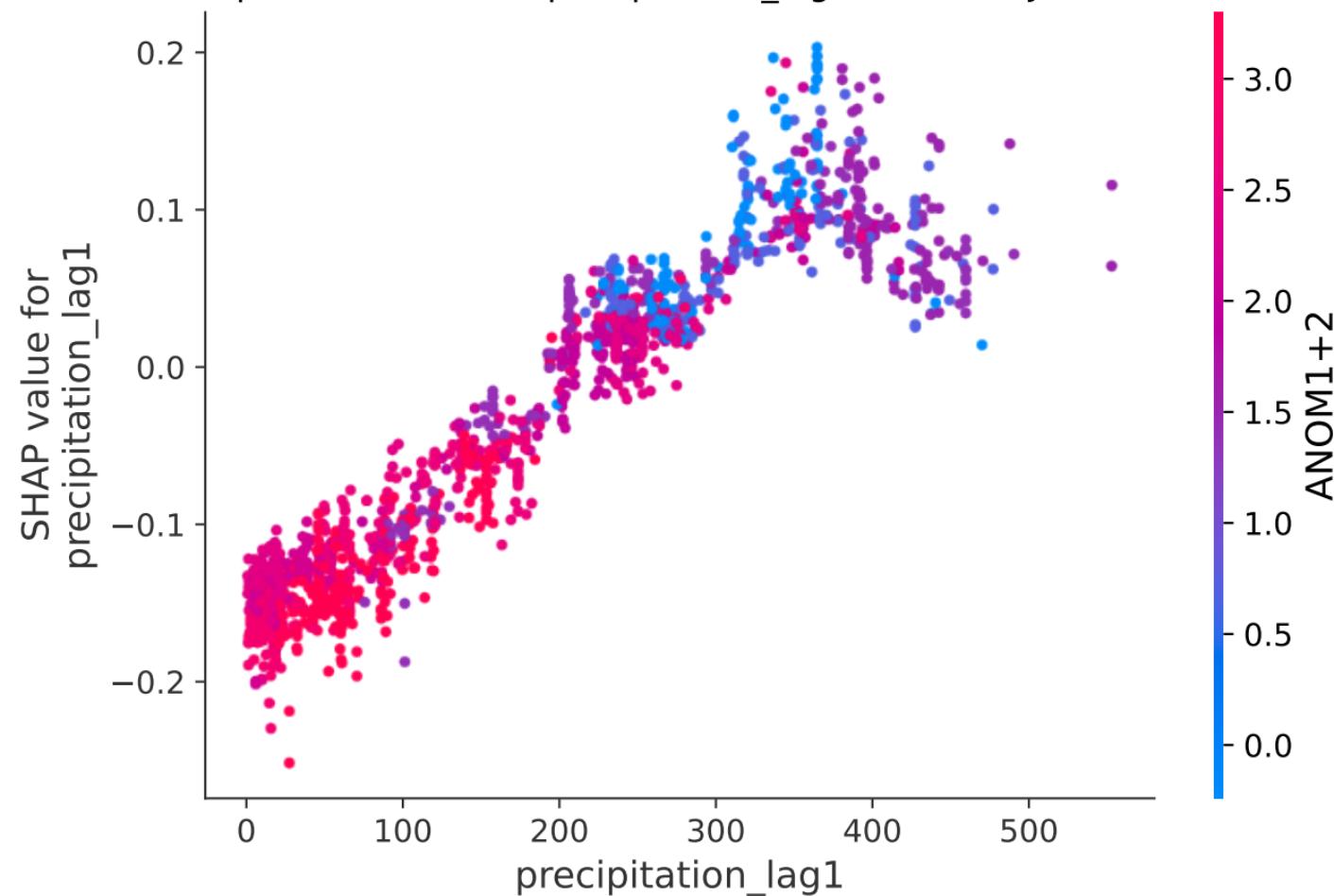
SHAP value for  
Class\_90



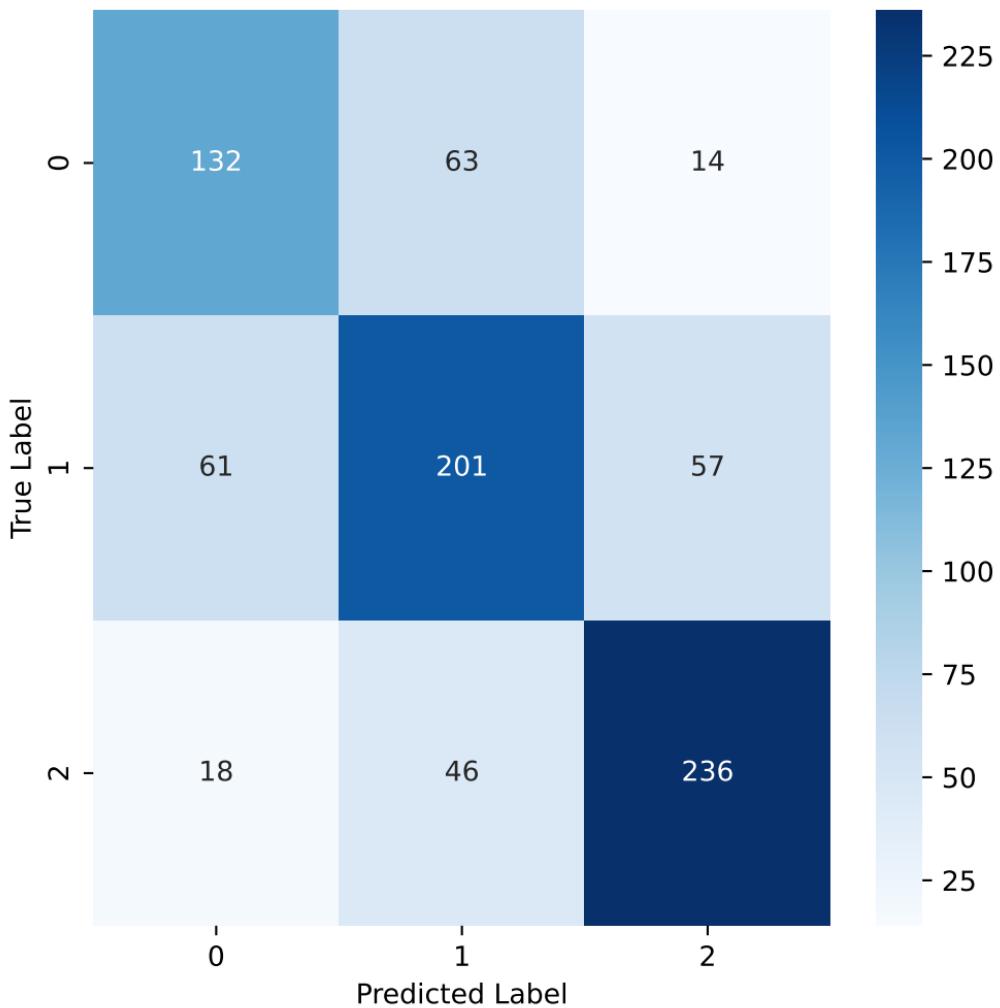
# SHAP Dependence Plot for precipitation, Class 2 - Java (Test Set)



# SHAP Dependence Plot for precipitation\_lag1, Class 2 - Java (Test Set)



# Confusion Matrix - Sulawesi (Test Set)

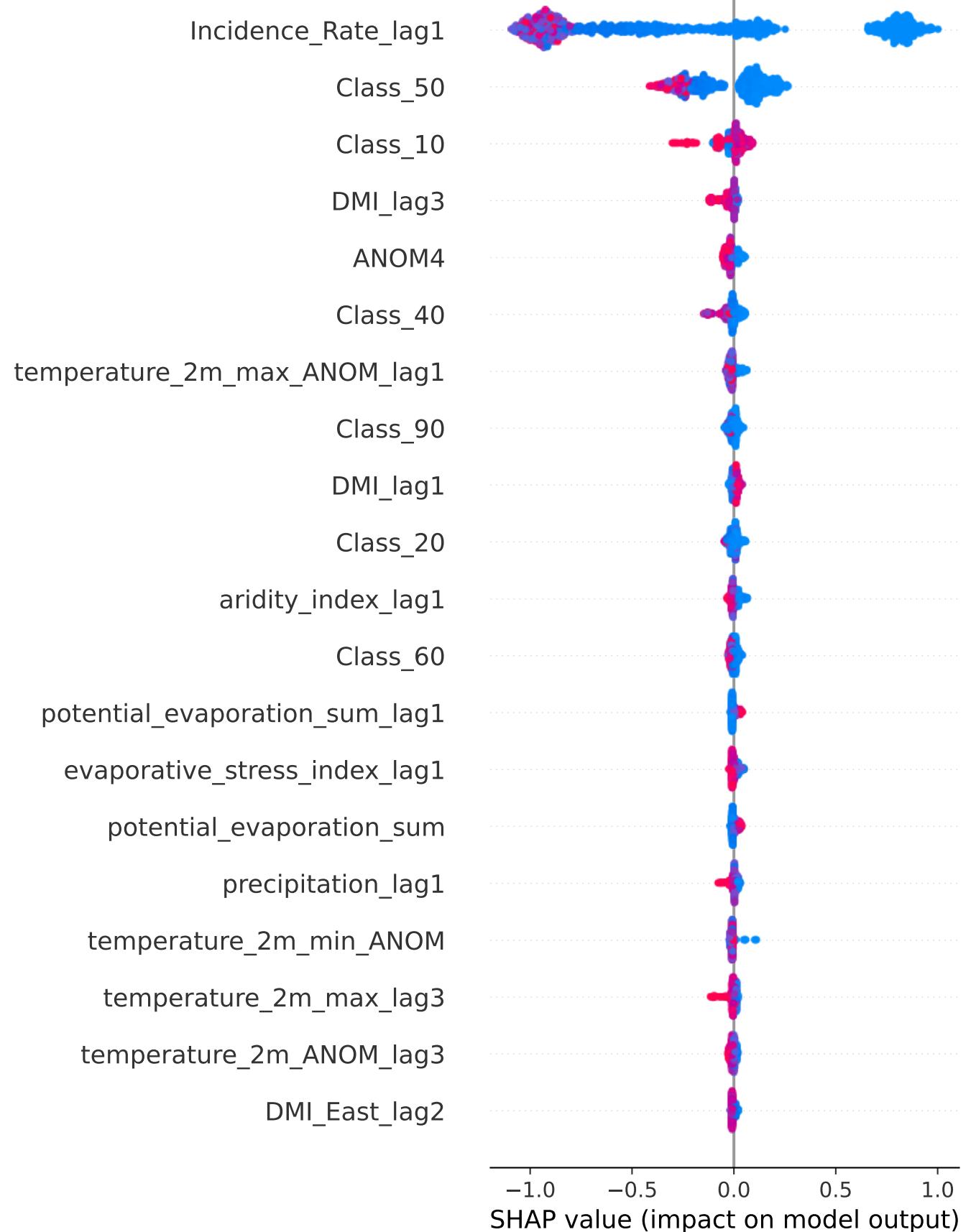


SHAP Beeswarm Plot for Class 0 - Sulawesi (Test Set)

High

Feature value

Low

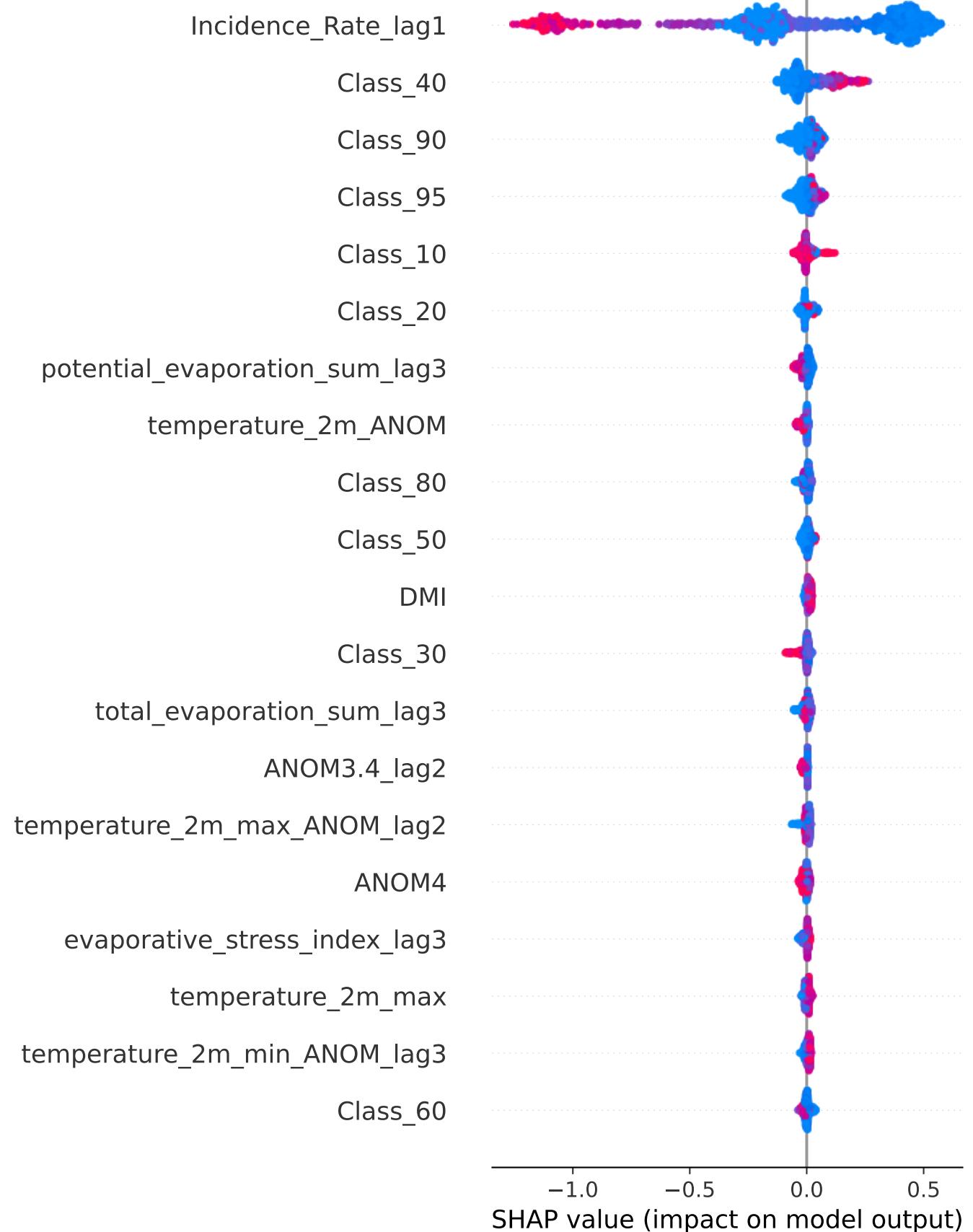


SHAP Beeswarm Plot for Class 1 - Sulawesi (Test Set)

High

Feature value

Low



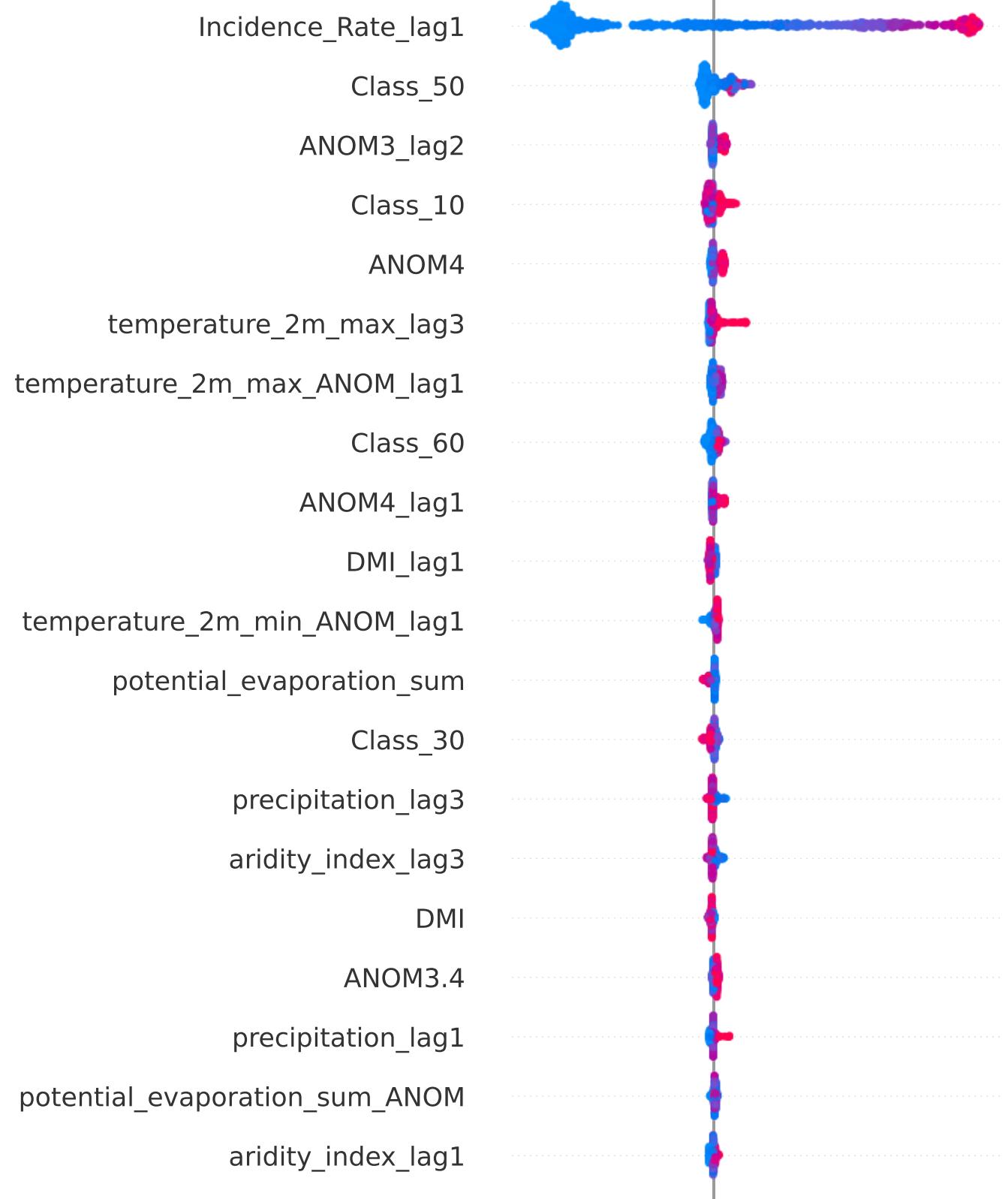
SHAP Beeswarm Plot for Class 2 - Sulawesi (Test Set)

High

Feature value

Low

SHAP value (impact on model output)



SHAP Dependence Plot for Class\_50, Class 0 - Sulawesi (Test Set)

SHAP value for  
Class\_50

0.0 0.1 0.2 0.3 0.4 0.5

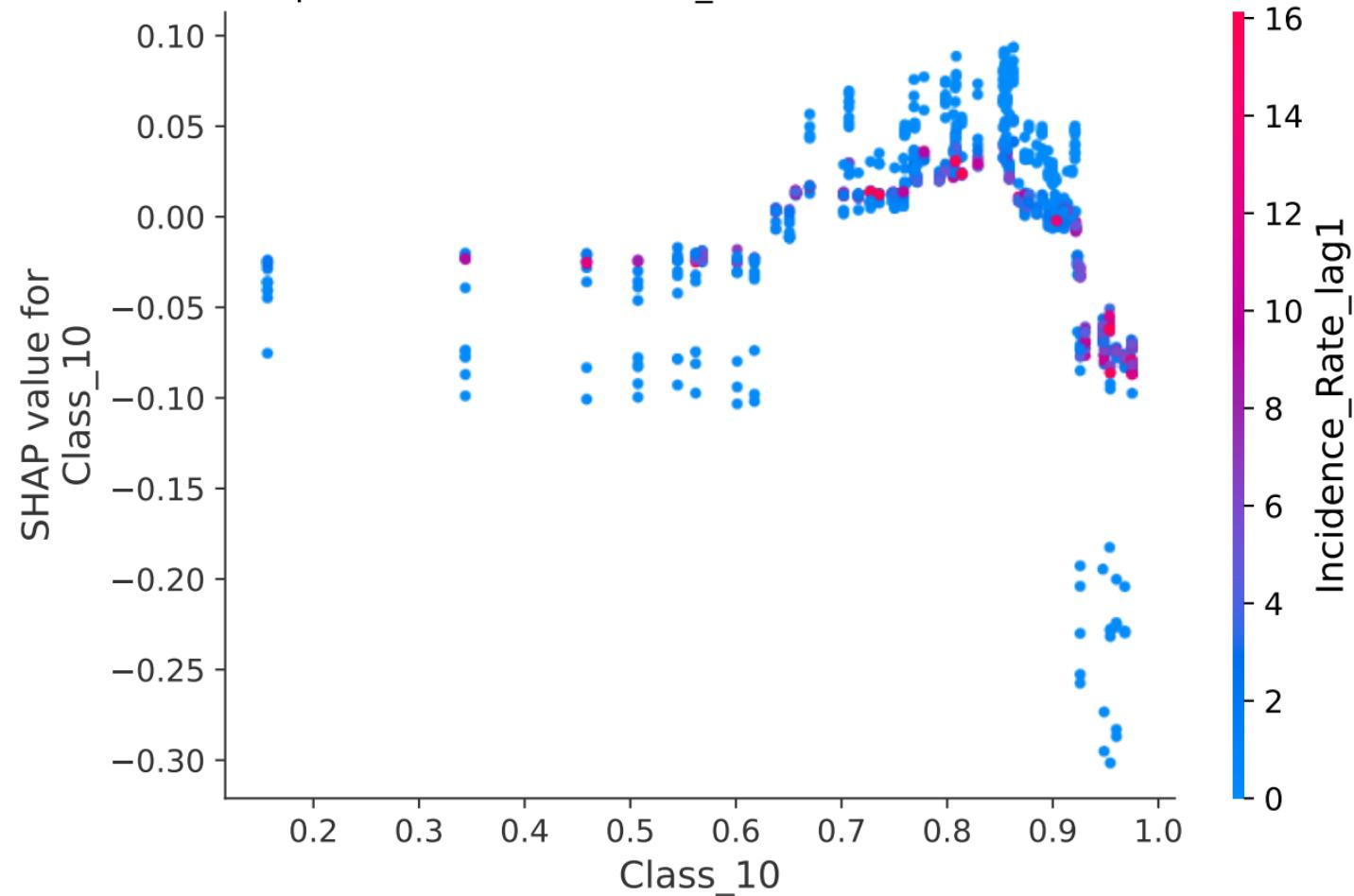
Class\_50

0.3  
0.2  
0.1  
0.0  
-0.1  
-0.2  
-0.3  
-0.4

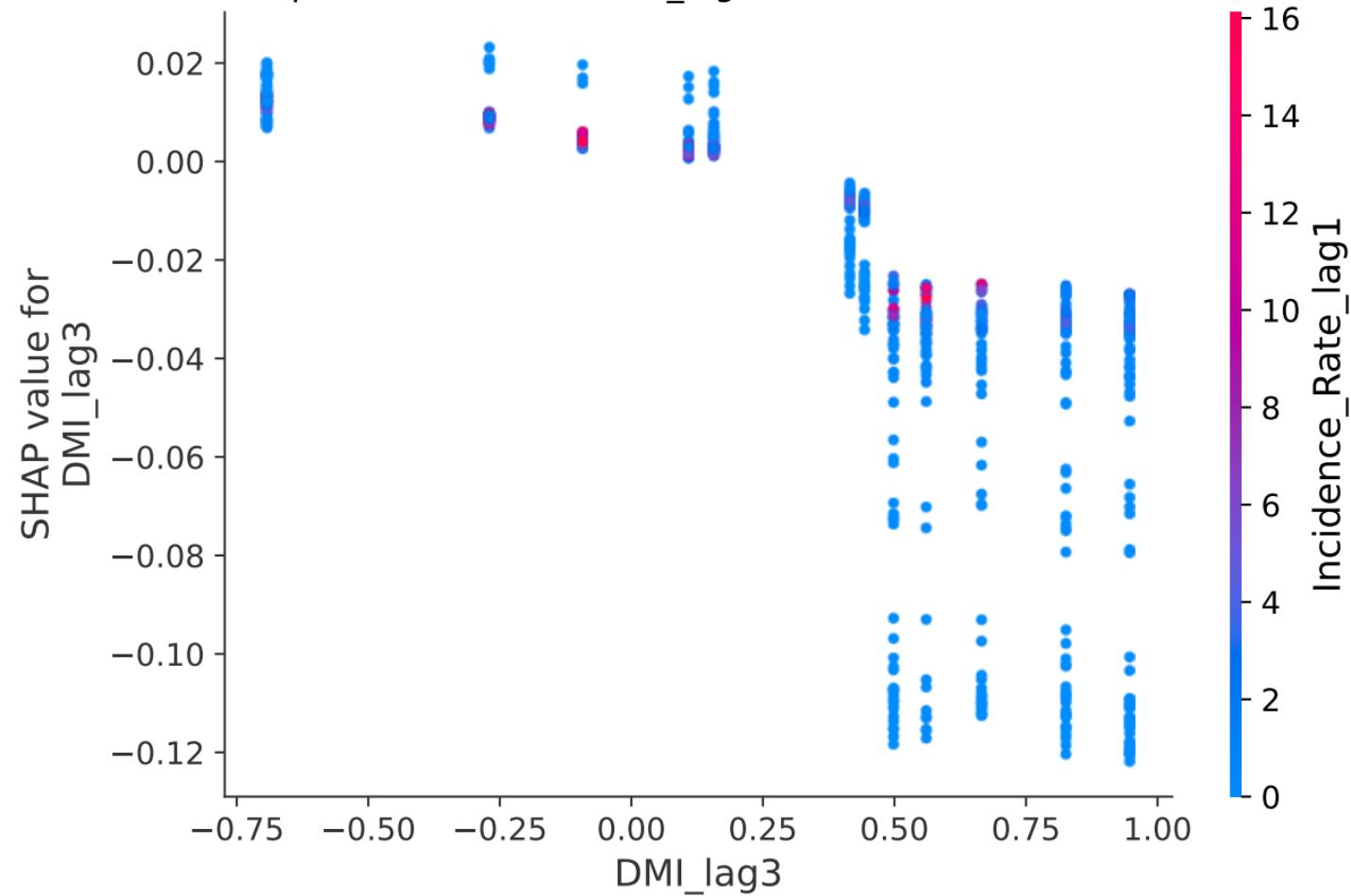
16  
14  
12  
10  
8  
6  
4  
2  
0

Incidence\_Rate\_lag1

SHAP Dependence Plot for Class\_10, Class 0 - Sulawesi (Test Set)

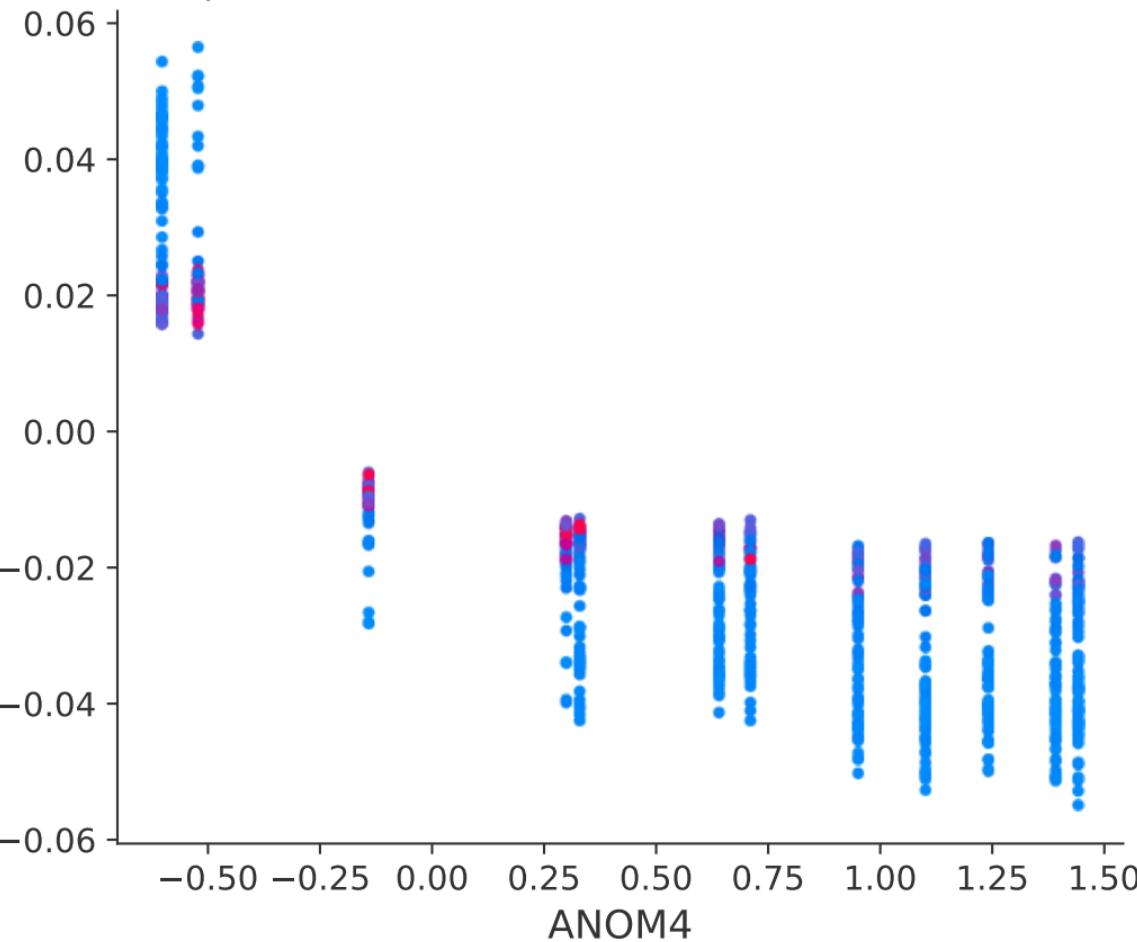


SHAP Dependence Plot for DMI\_lag3, Class 0 - Sulawesi (Test Set)

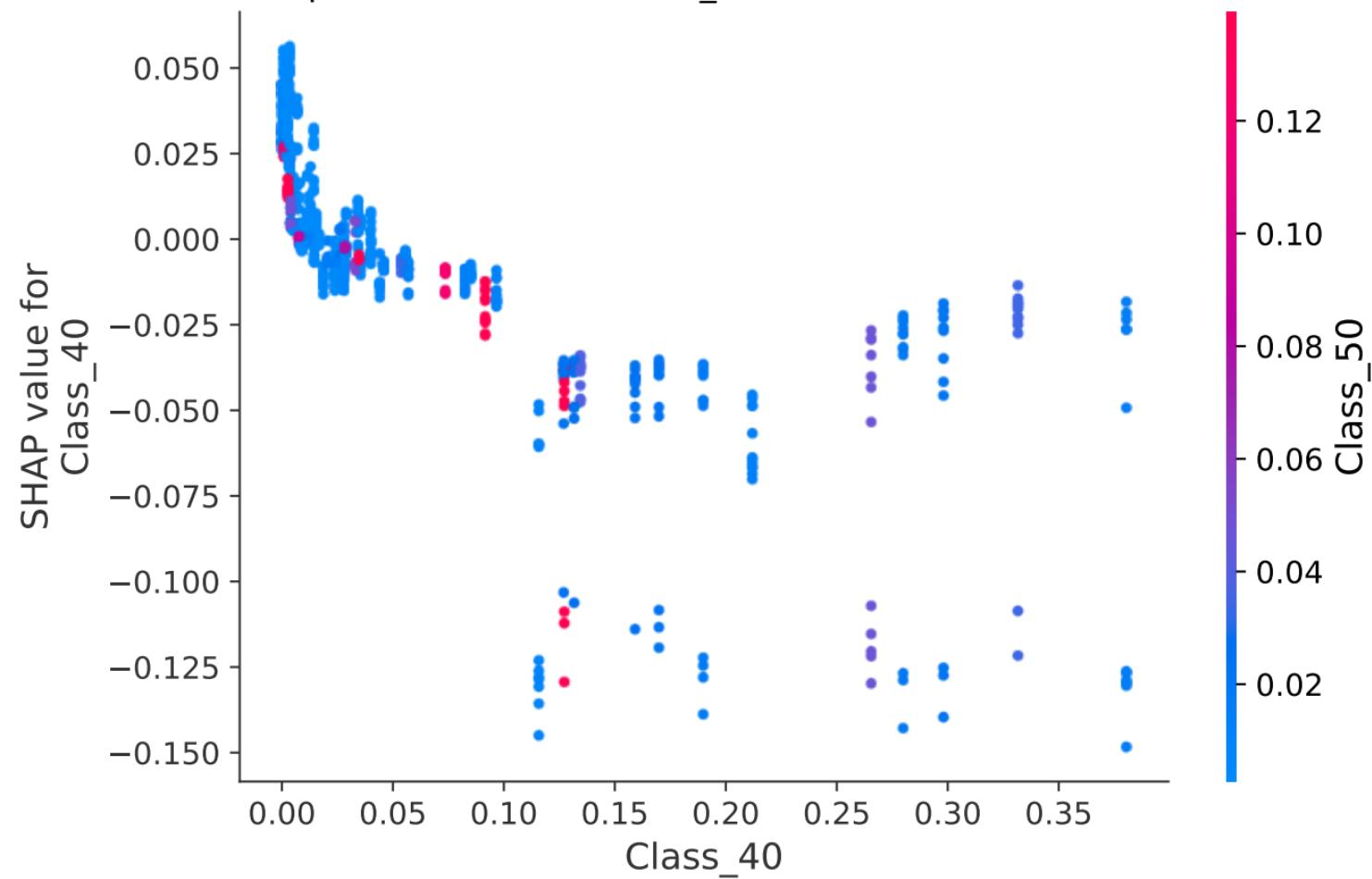


SHAP Dependence Plot for ANOM4, Class 0 - Sulawesi (Test Set)

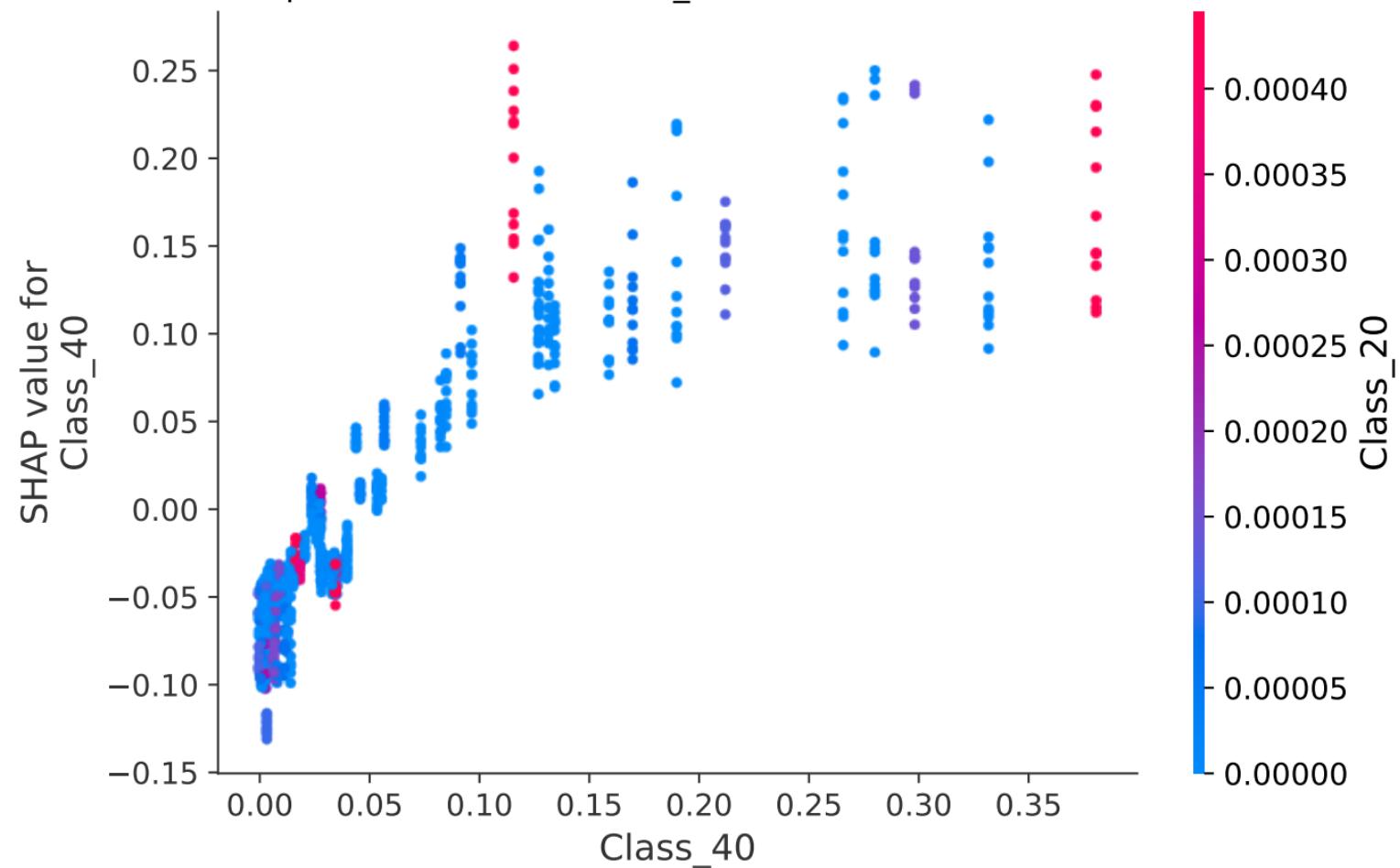
SHAP value for  
ANOM4



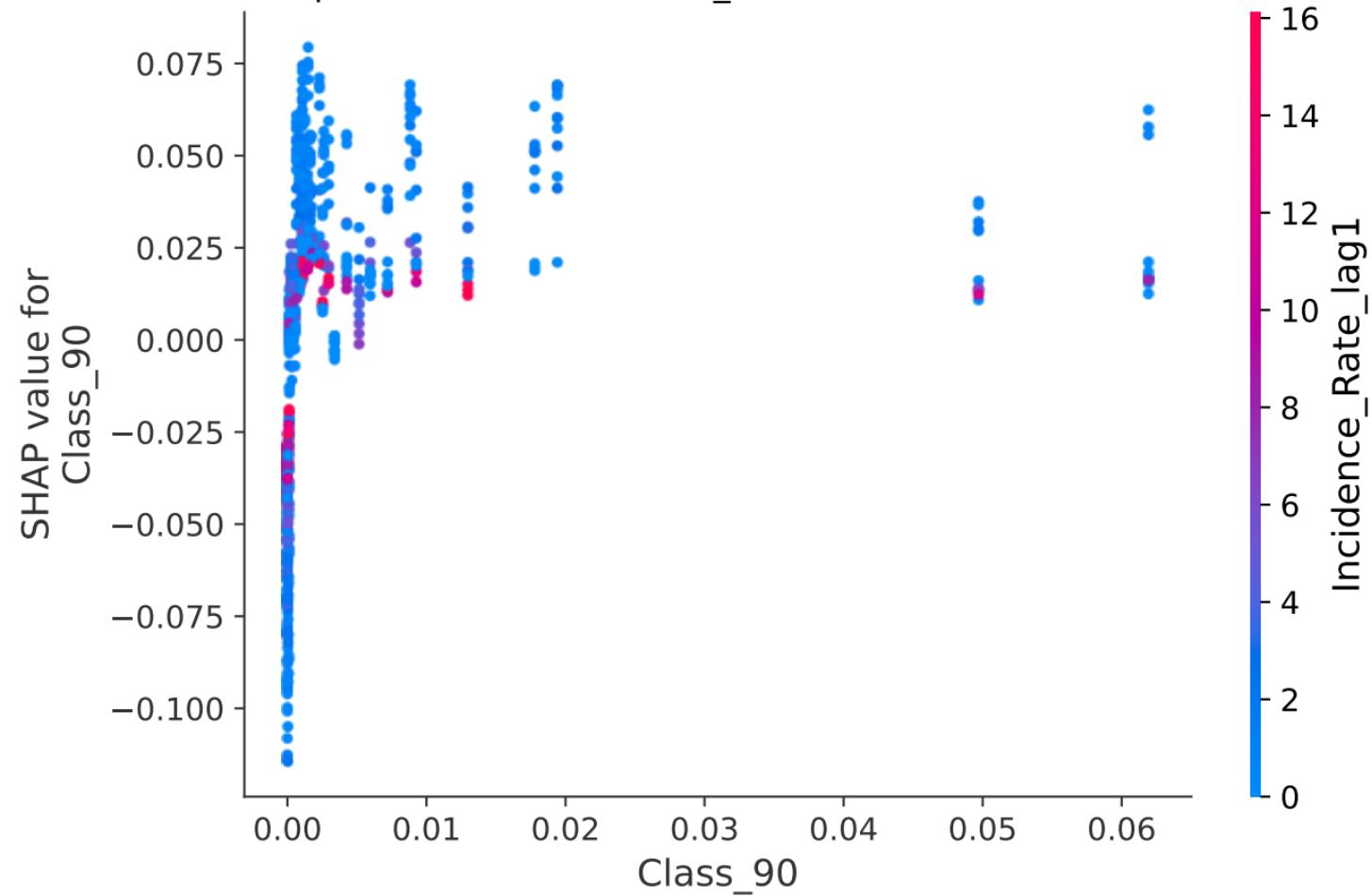
SHAP Dependence Plot for Class\_40, Class 0 - Sulawesi (Test Set)



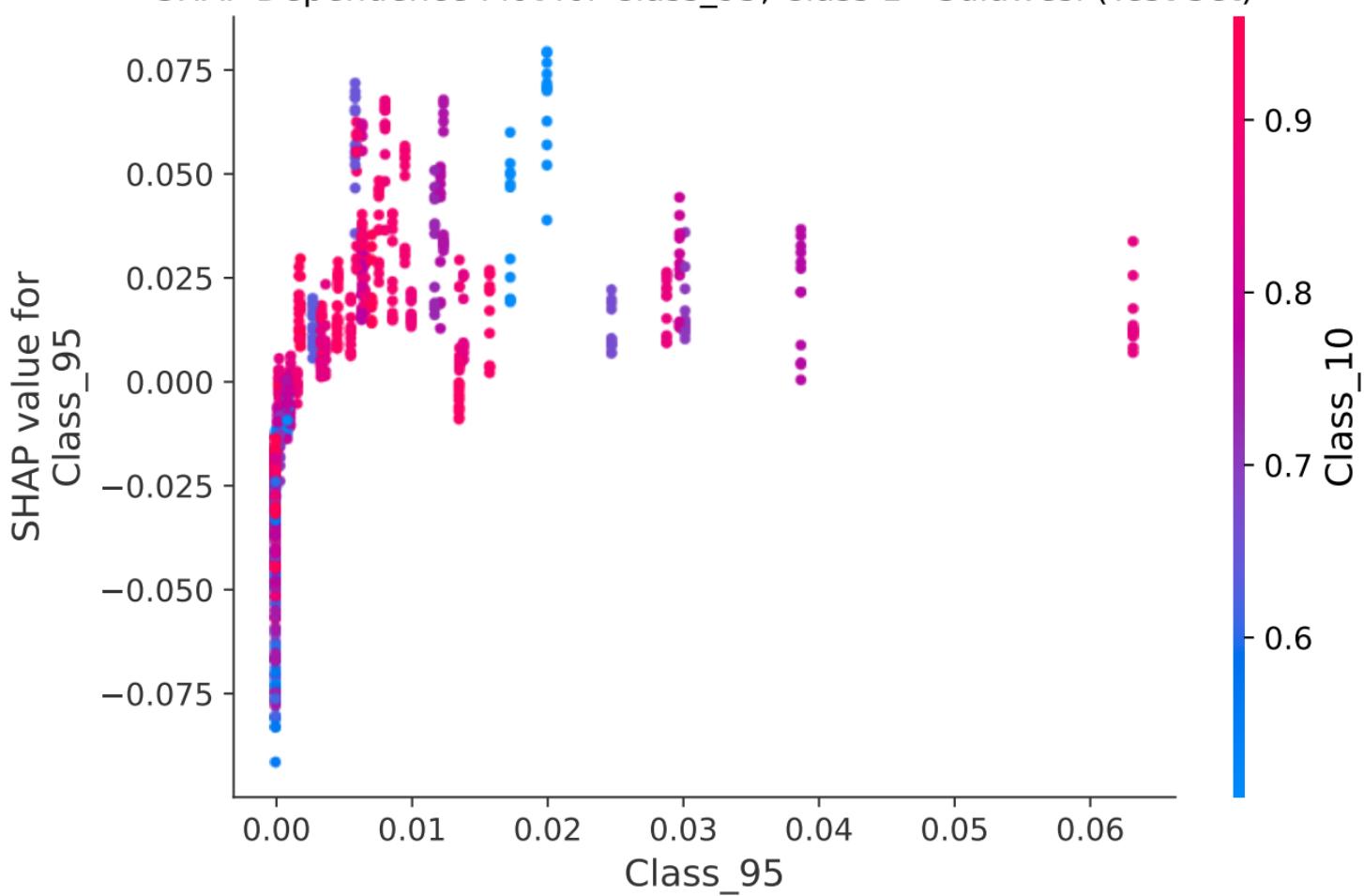
SHAP Dependence Plot for Class\_40, Class 1 - Sulawesi (Test Set)



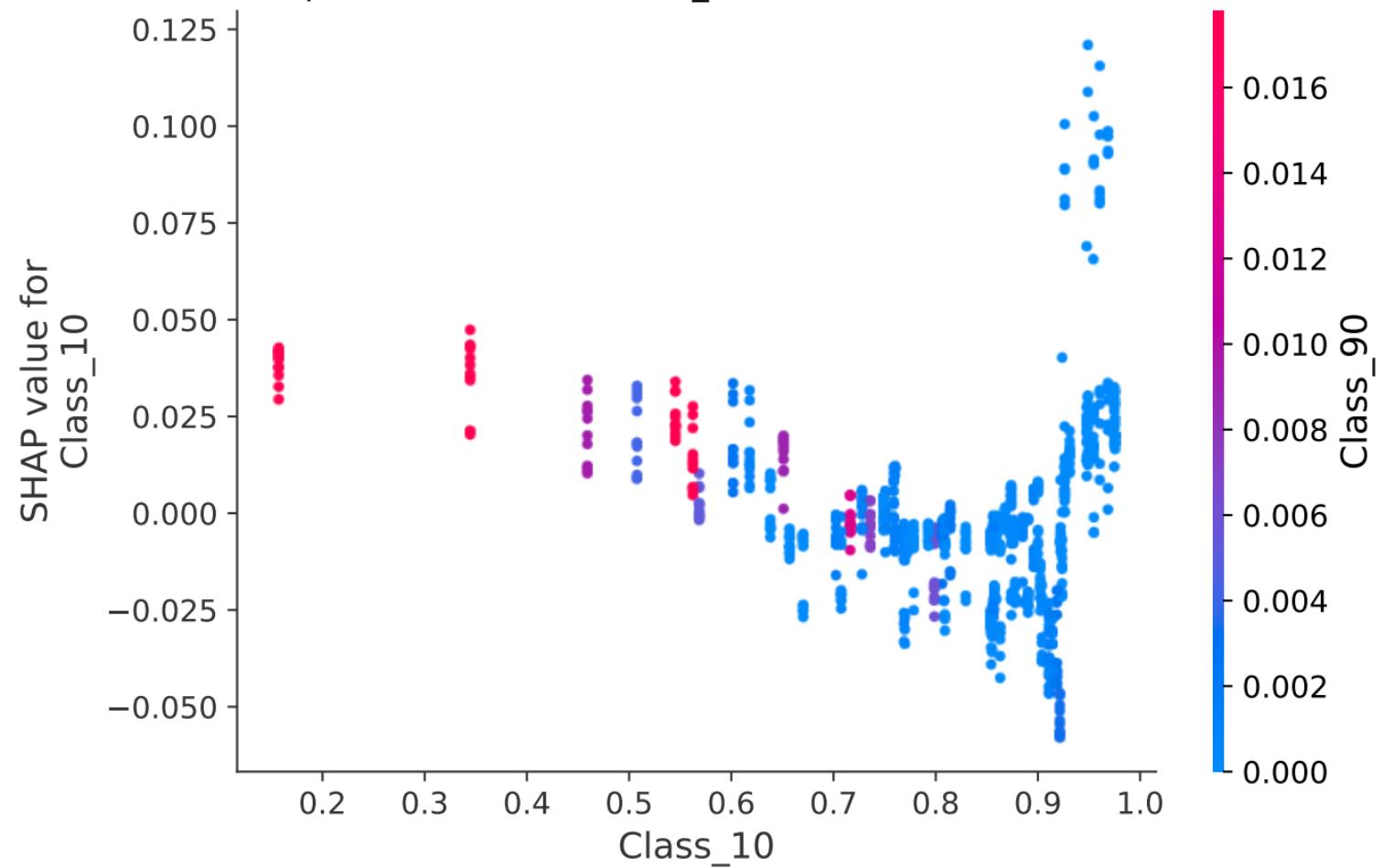
SHAP Dependence Plot for Class\_90, Class 1 - Sulawesi (Test Set)



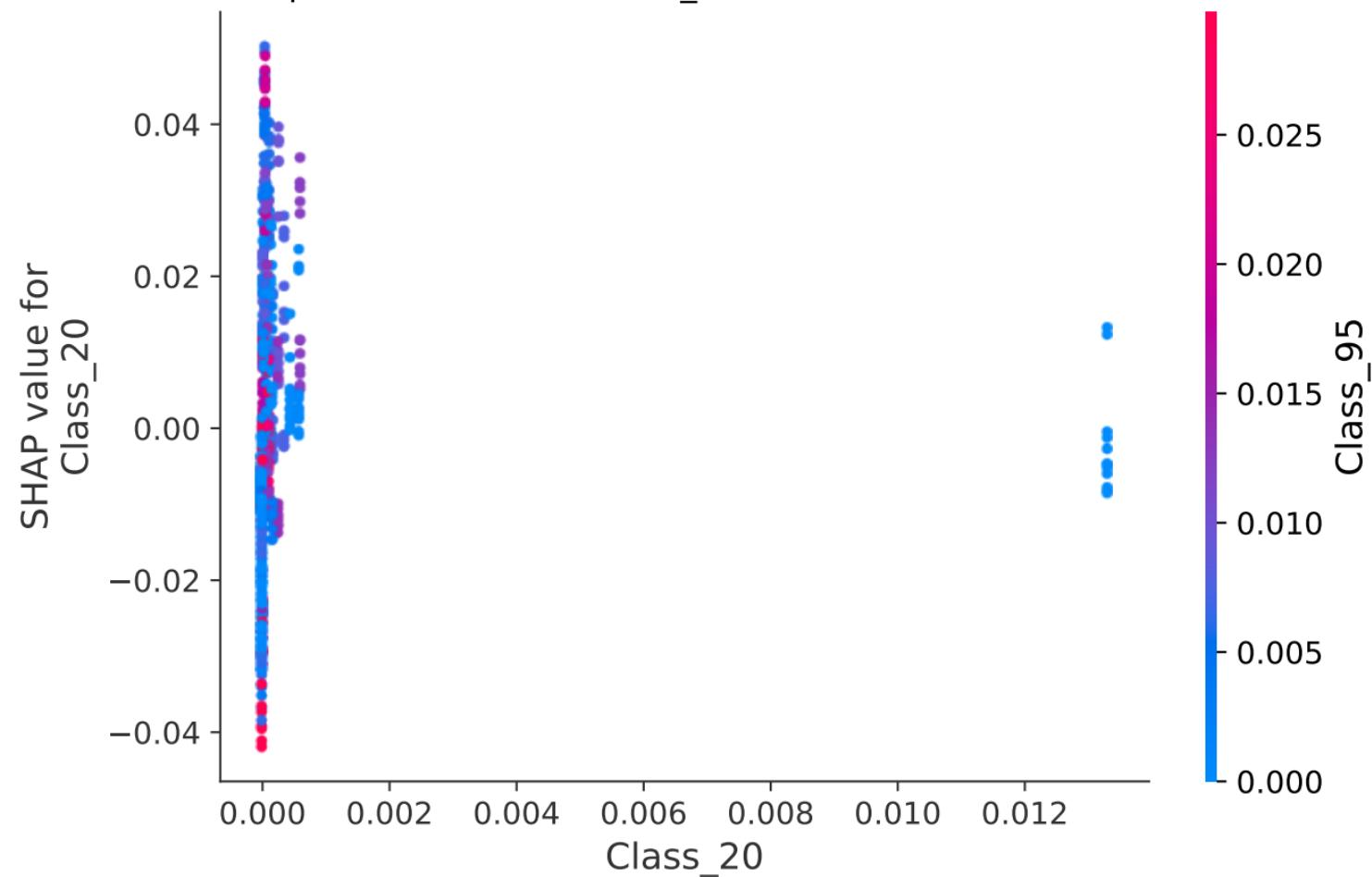
# SHAP Dependence Plot for Class\_95, Class 1 - Sulawesi (Test Set)



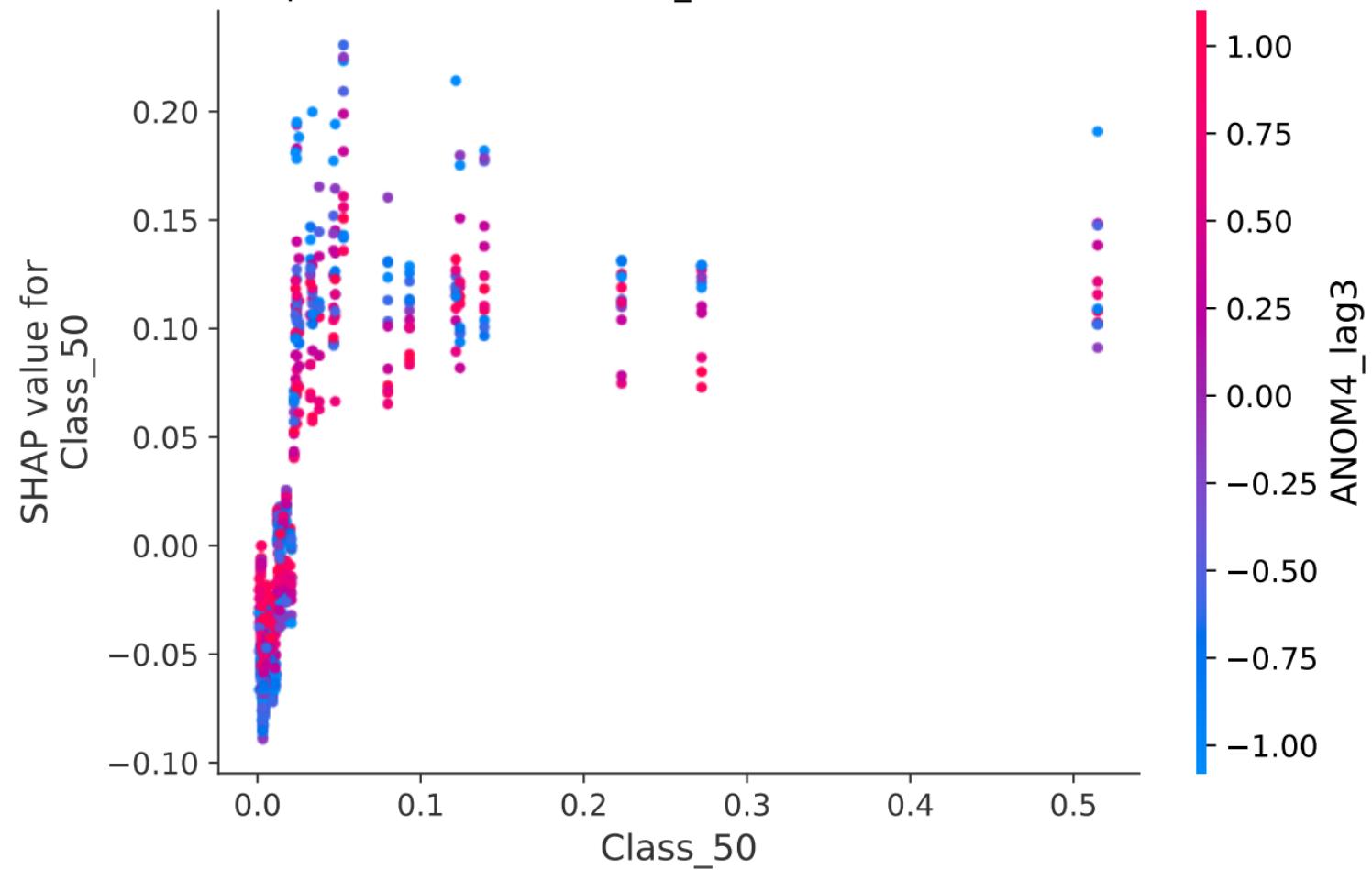
SHAP Dependence Plot for Class\_10, Class 1 - Sulawesi (Test Set)



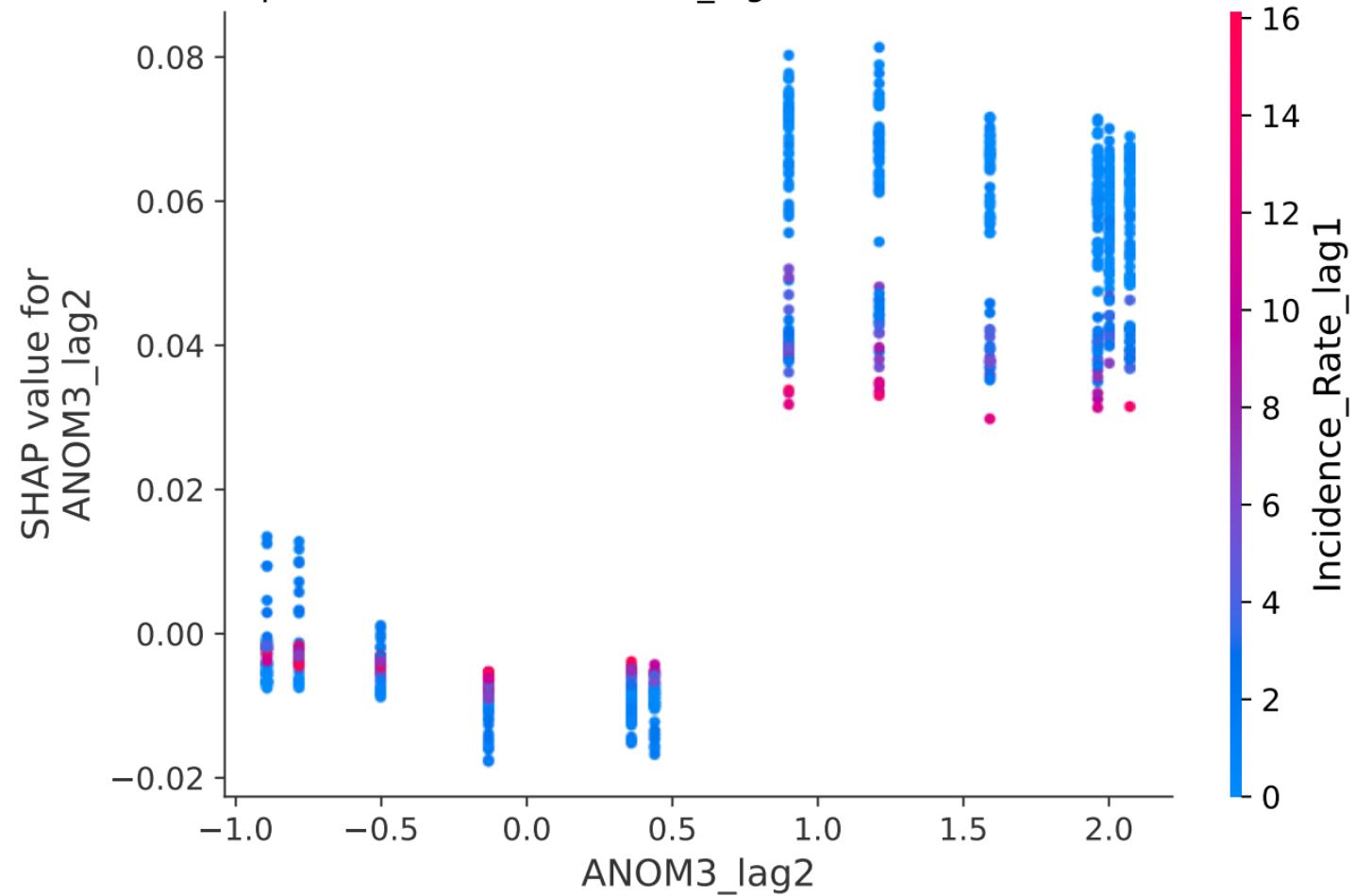
SHAP Dependence Plot for Class\_20, Class 1 - Sulawesi (Test Set)



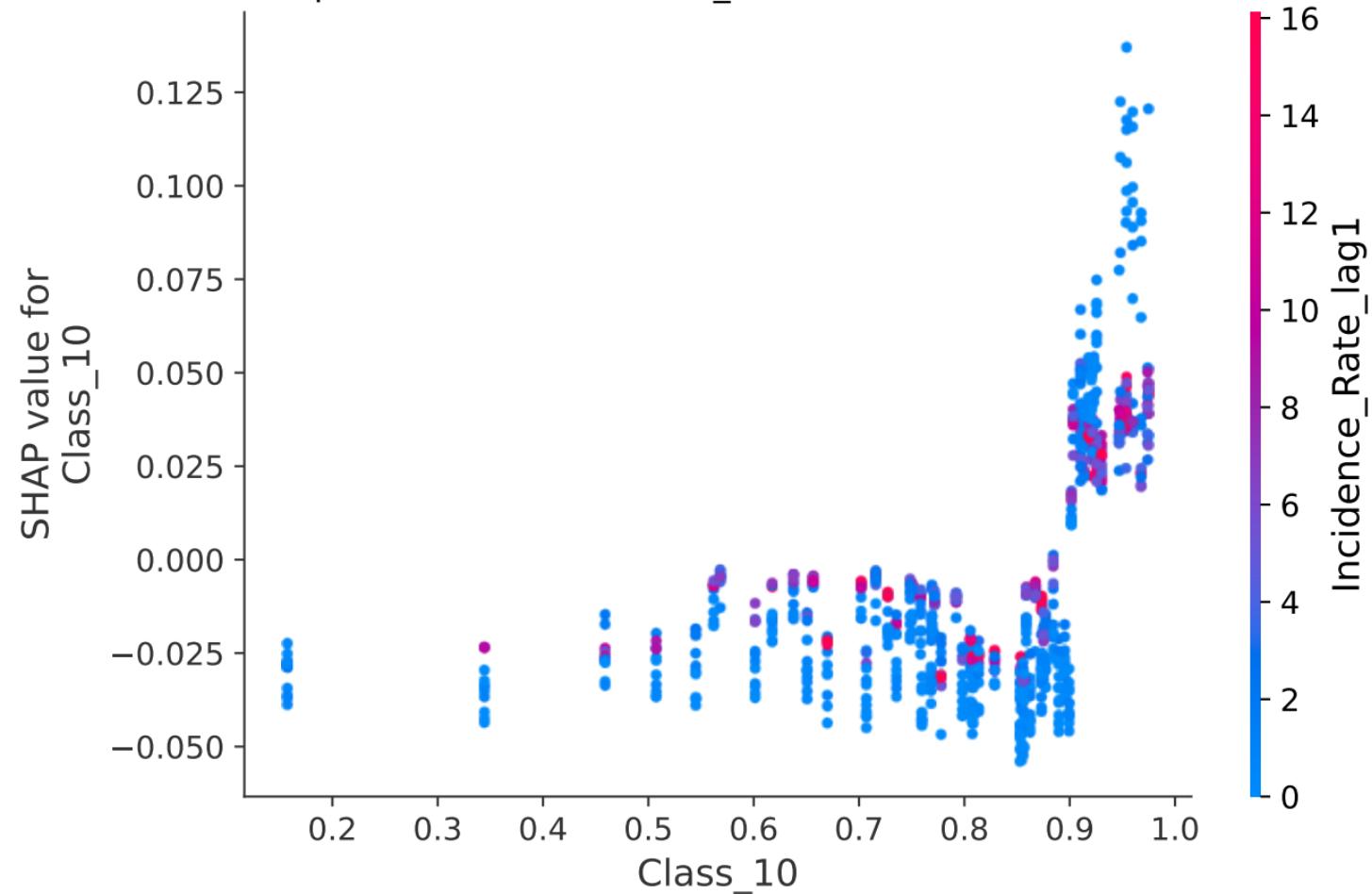
# SHAP Dependence Plot for Class\_50, Class 2 - Sulawesi (Test Set)



SHAP Dependence Plot for ANOM3\_lag2, Class 2 - Sulawesi (Test Set)

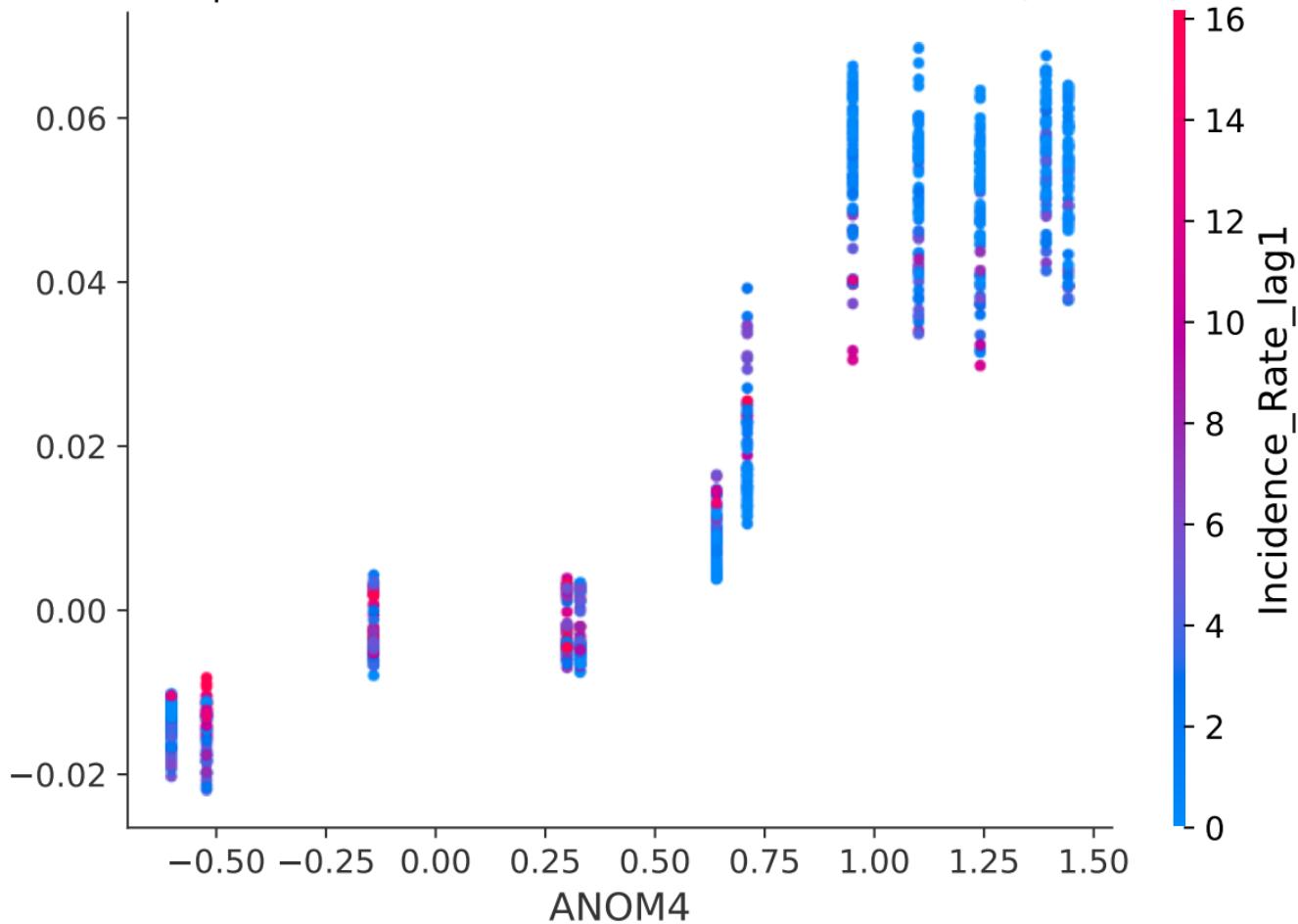


SHAP Dependence Plot for Class\_10, Class 2 - Sulawesi (Test Set)

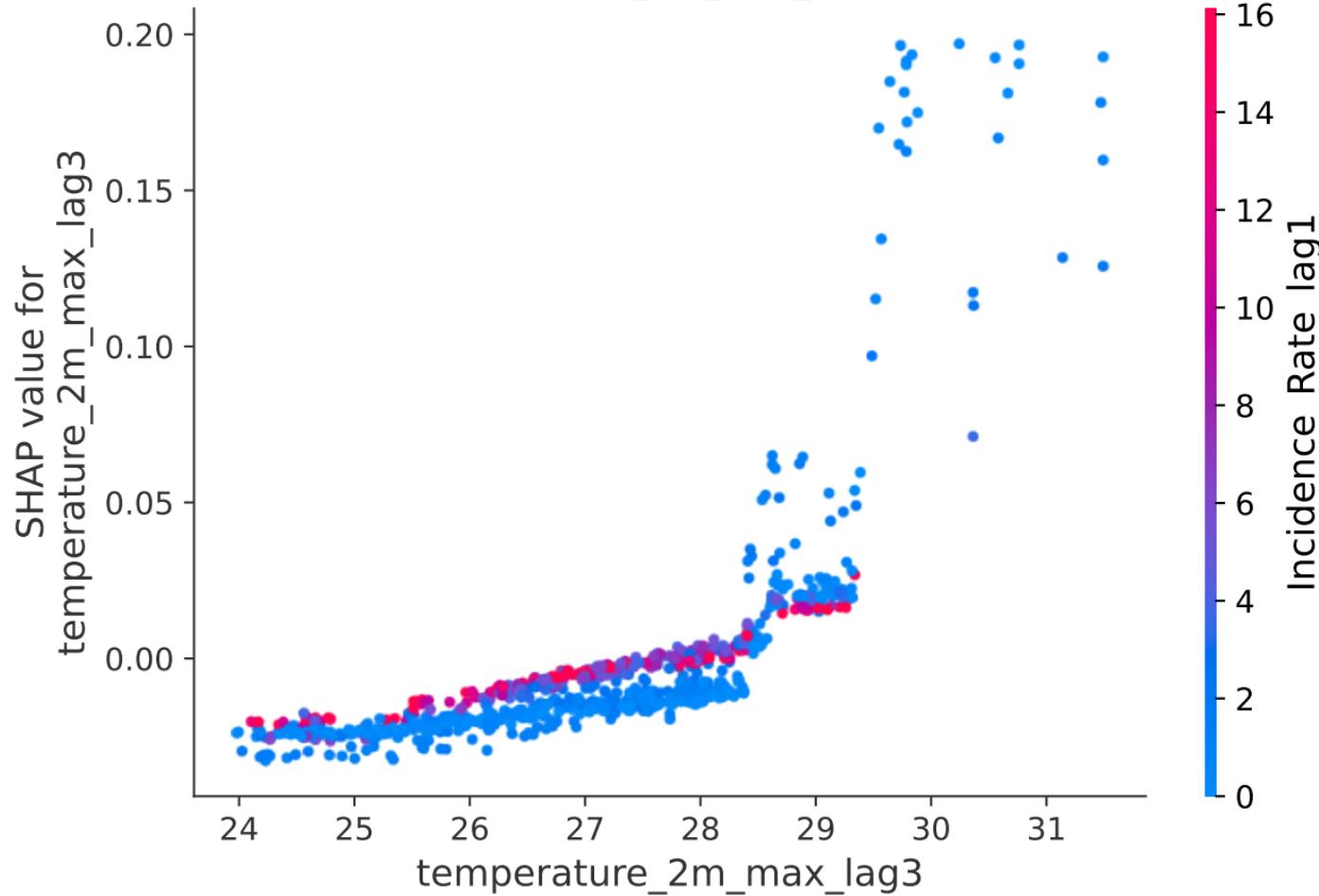


SHAP Dependence Plot for ANOM4, Class 2 - Sulawesi (Test Set)

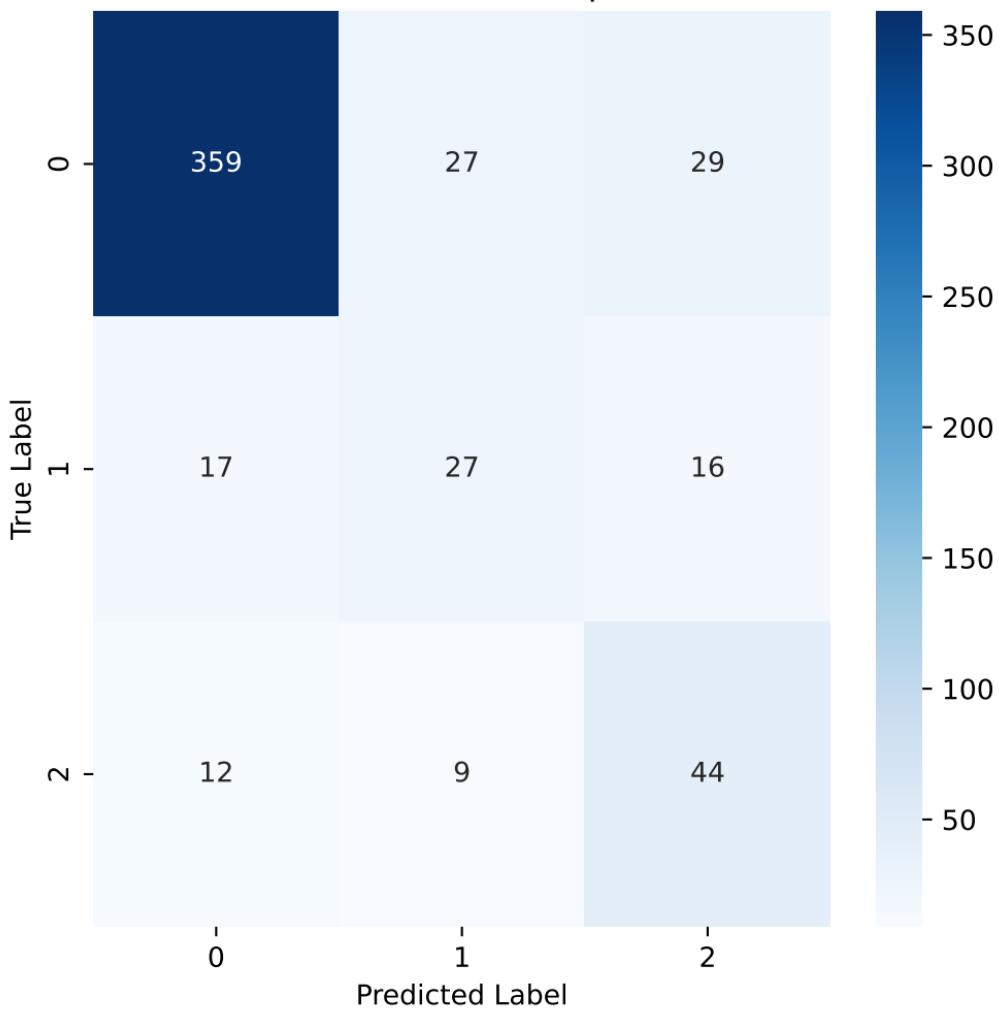
SHAP value for  
ANOM4



SHAP Dependence Plot for temperature\_2m\_max\_lag3, Class 2 - Sulawesi (Test Set)



# Confusion Matrix - Maluku-Papua (Test Set)



SHAP Beeswarm Plot for Class 0 - Maluku-Papua (Test Set)

High

Feature value

Low

SHAP value (impact on model output)

Incidence\_Rate\_lag1

Class\_50

Class\_30

DMI\_lag1

ANOM1+2\_lag1

Class\_40

total\_evaporation\_sum

DMI\_lag3

Class\_60

Class\_90

Class\_20

total\_evaporation\_sum\_ANOM\_lag1

aridity\_index

temperature\_2m\_min\_ANOM\_lag3

Class\_10

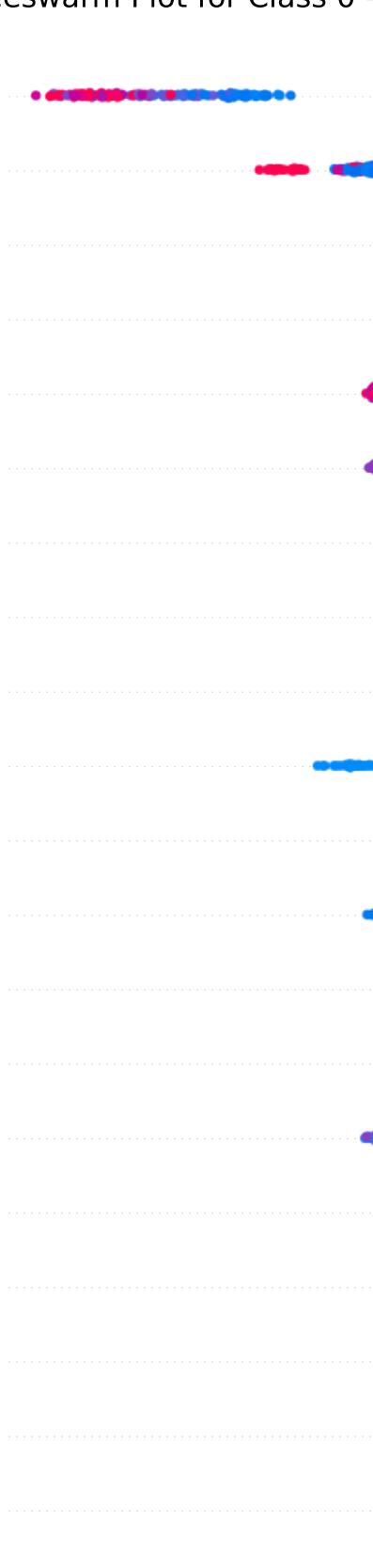
Class\_95

temperature\_2m\_min\_lag2

aridity\_index\_lag2

evaporative\_stress\_index

temperature\_2m\_max\_lag2



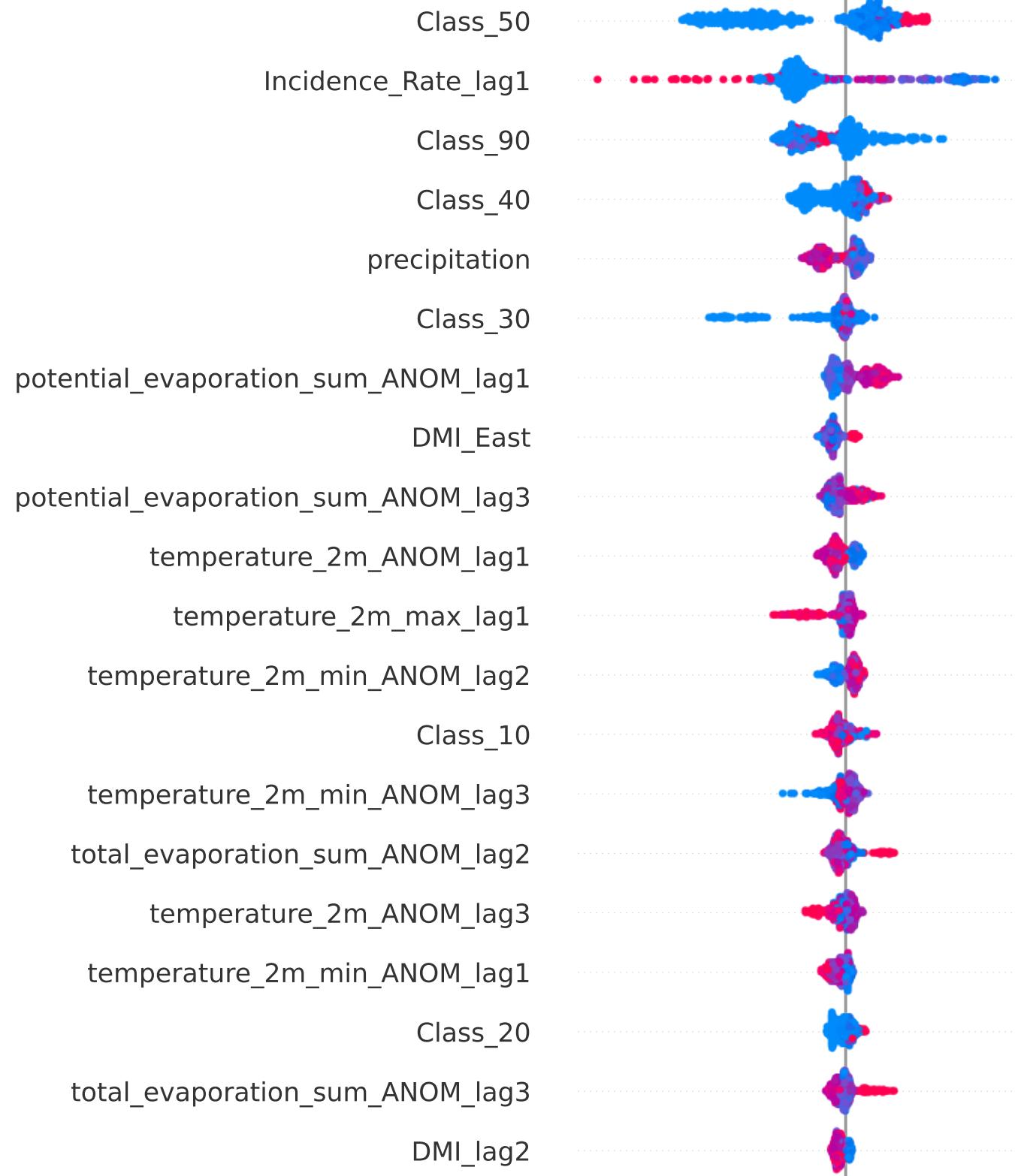
SHAP Beeswarm Plot for Class 1 - Maluku-Papua (Test Set)

High

Feature value

Low

SHAP value (impact on model output)

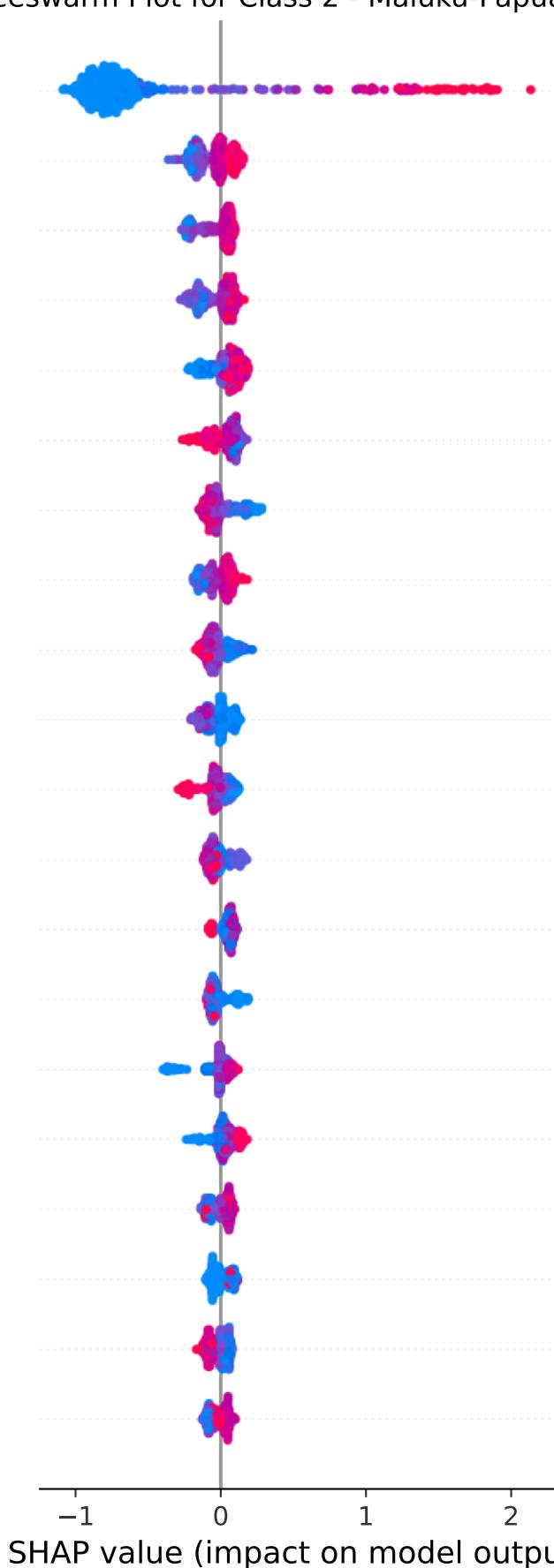


SHAP Beeswarm Plot for Class 2 - Maluku-Papua (Test Set)

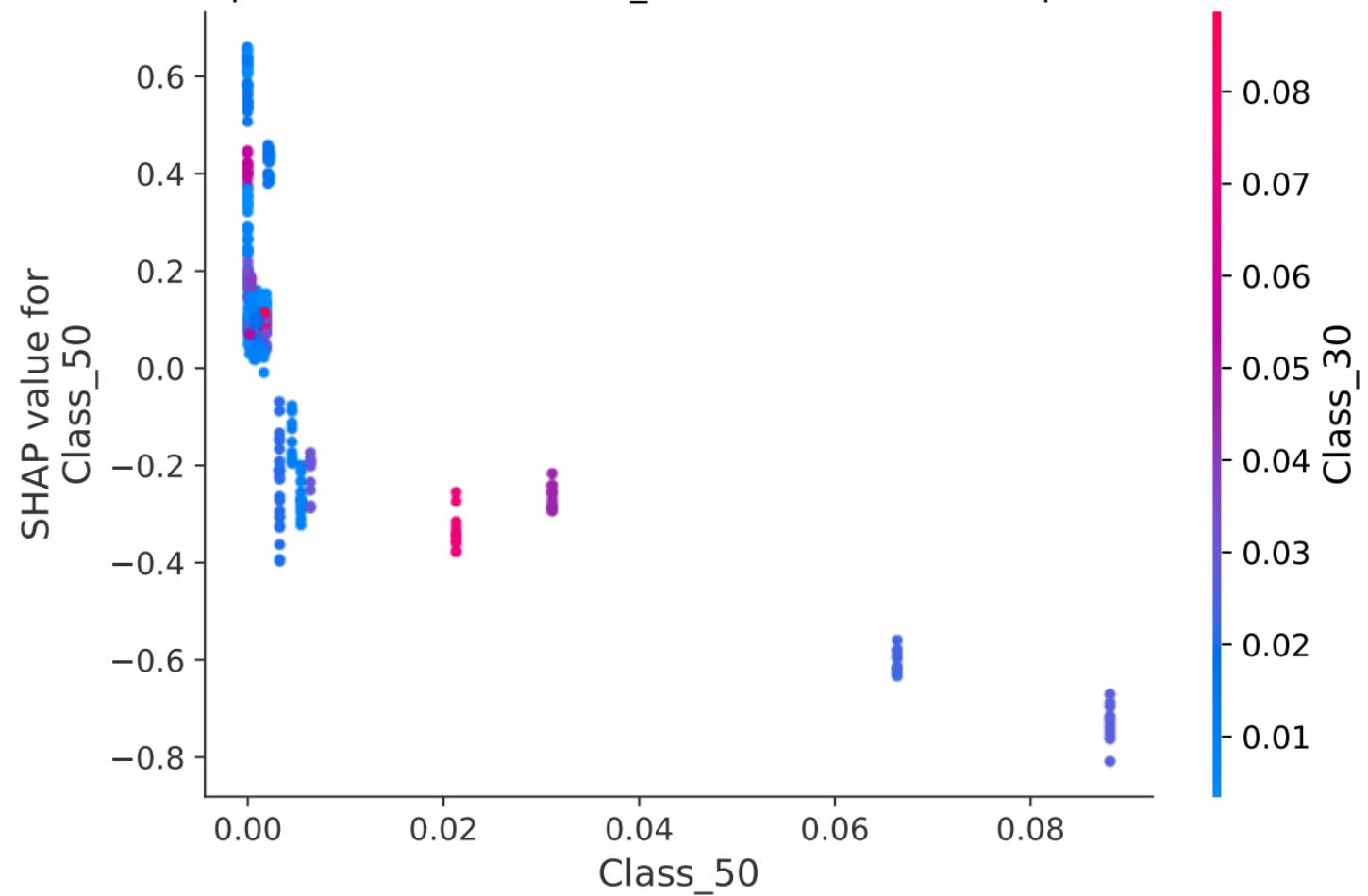
High

Feature value

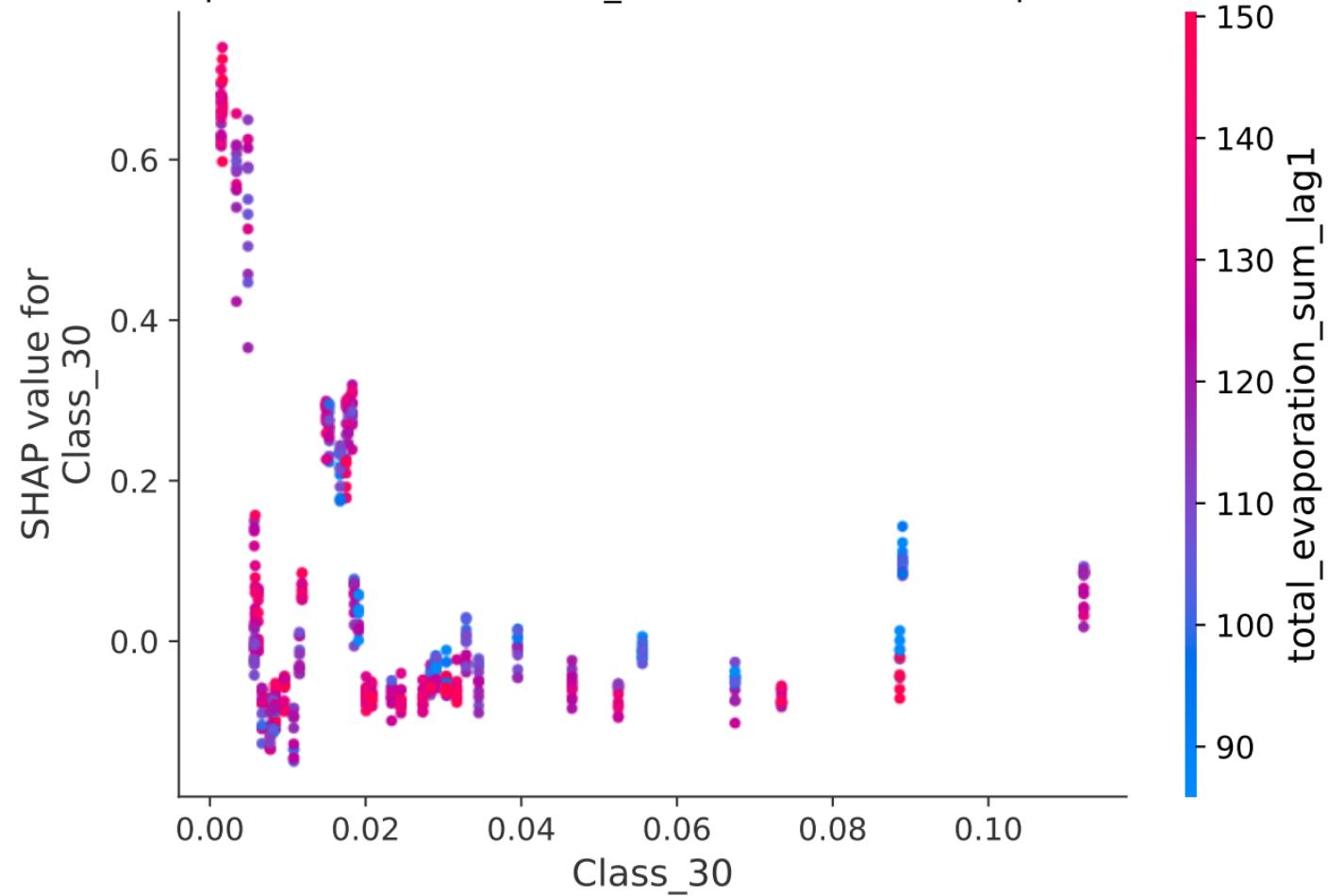
Low



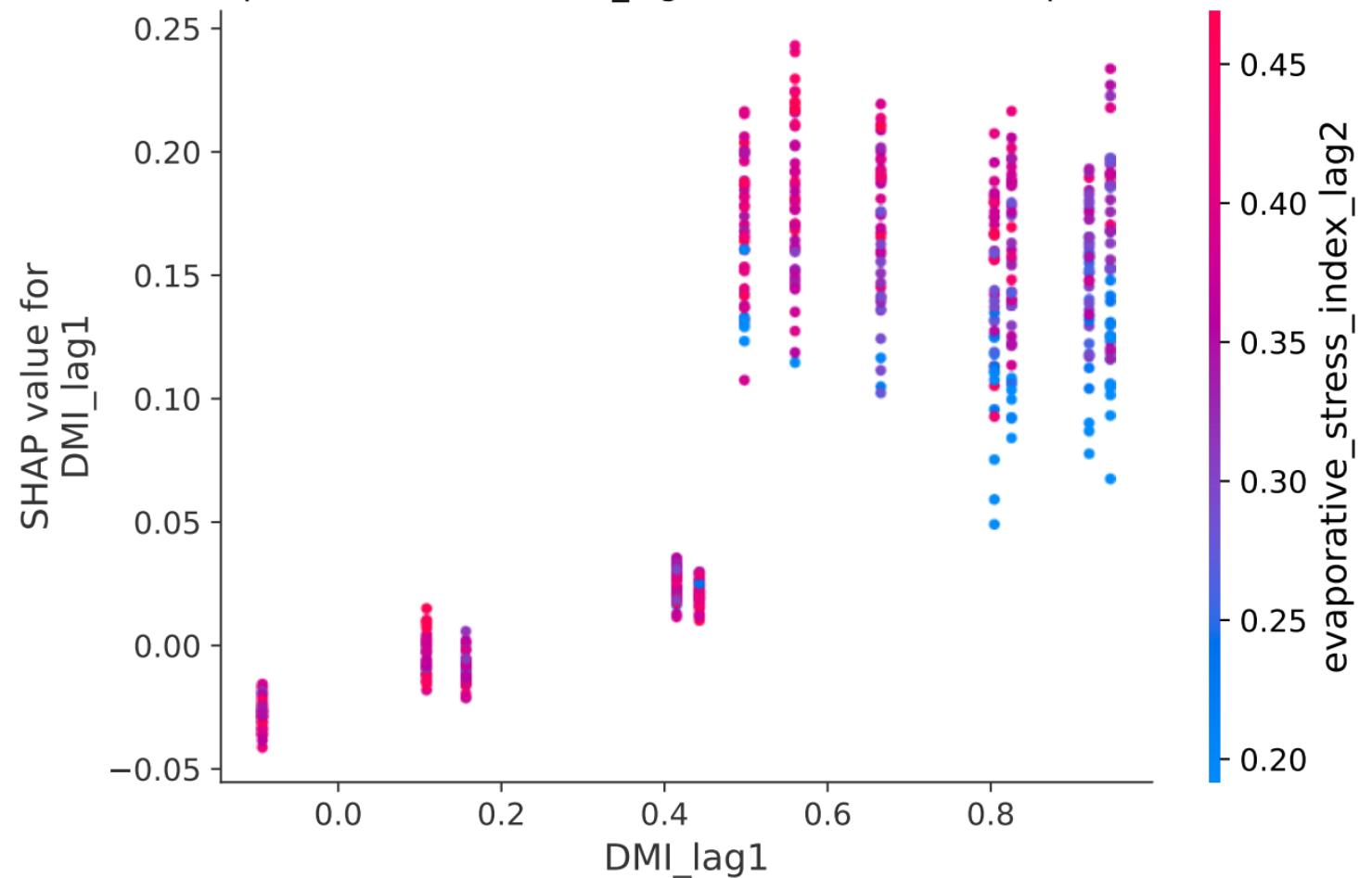
# SHAP Dependence Plot for Class\_50, Class 0 - Maluku-Papua (Test Set)



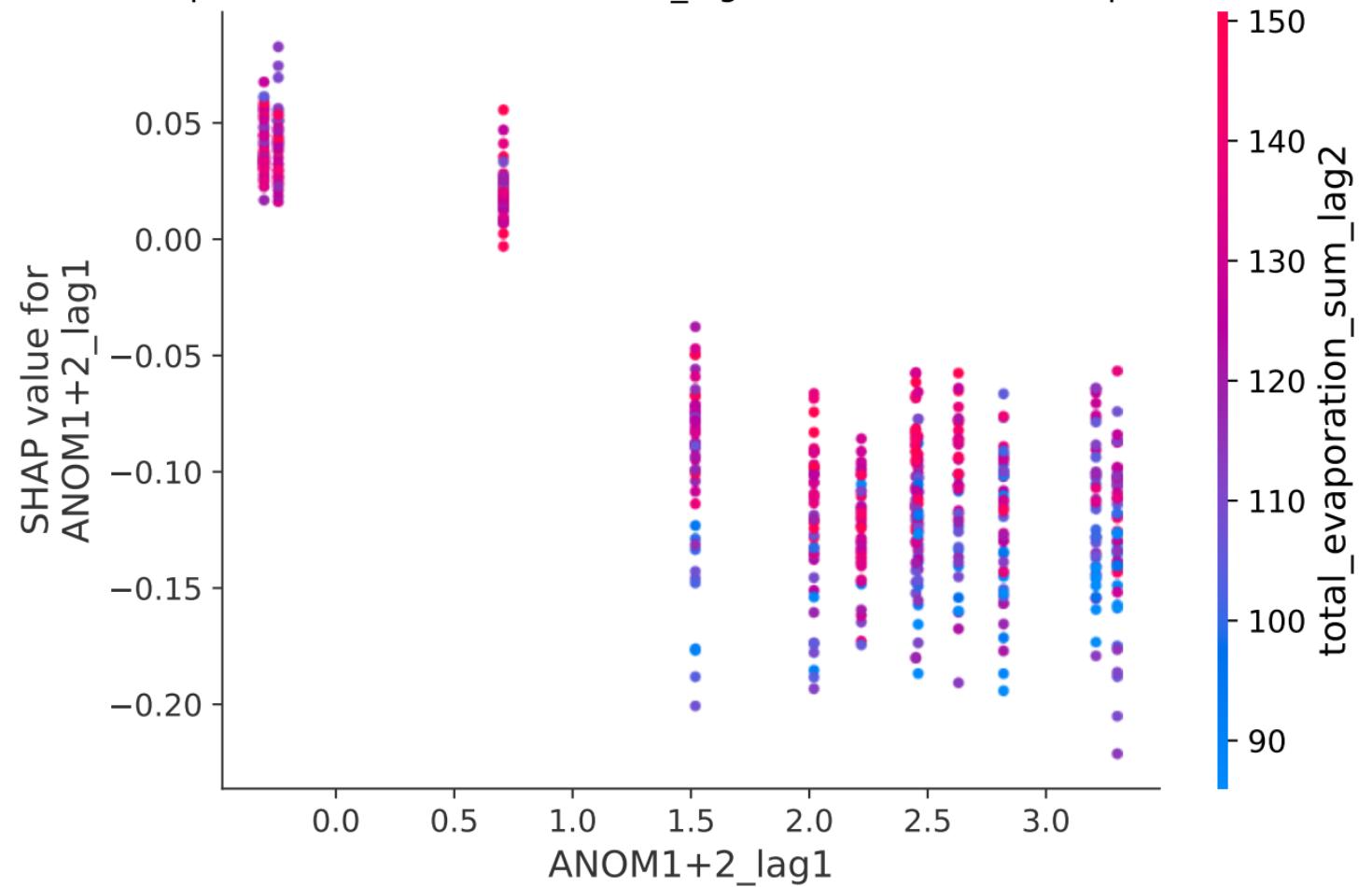
SHAP Dependence Plot for Class\_30, Class 0 - Maluku-Papua (Test Set)



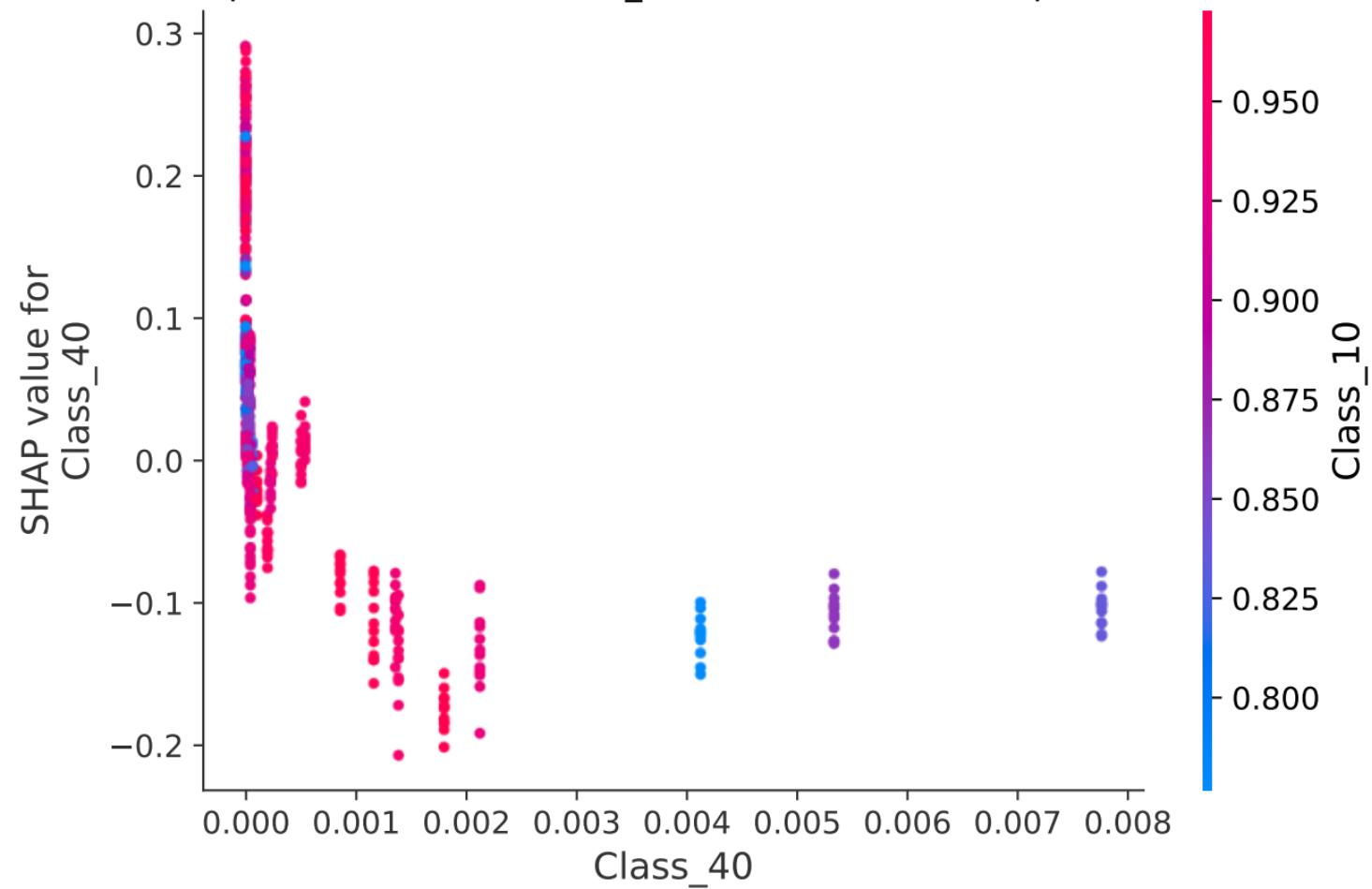
# SHAP Dependence Plot for DMI\_lag1, Class 0 - Maluku-Papua (Test Set)



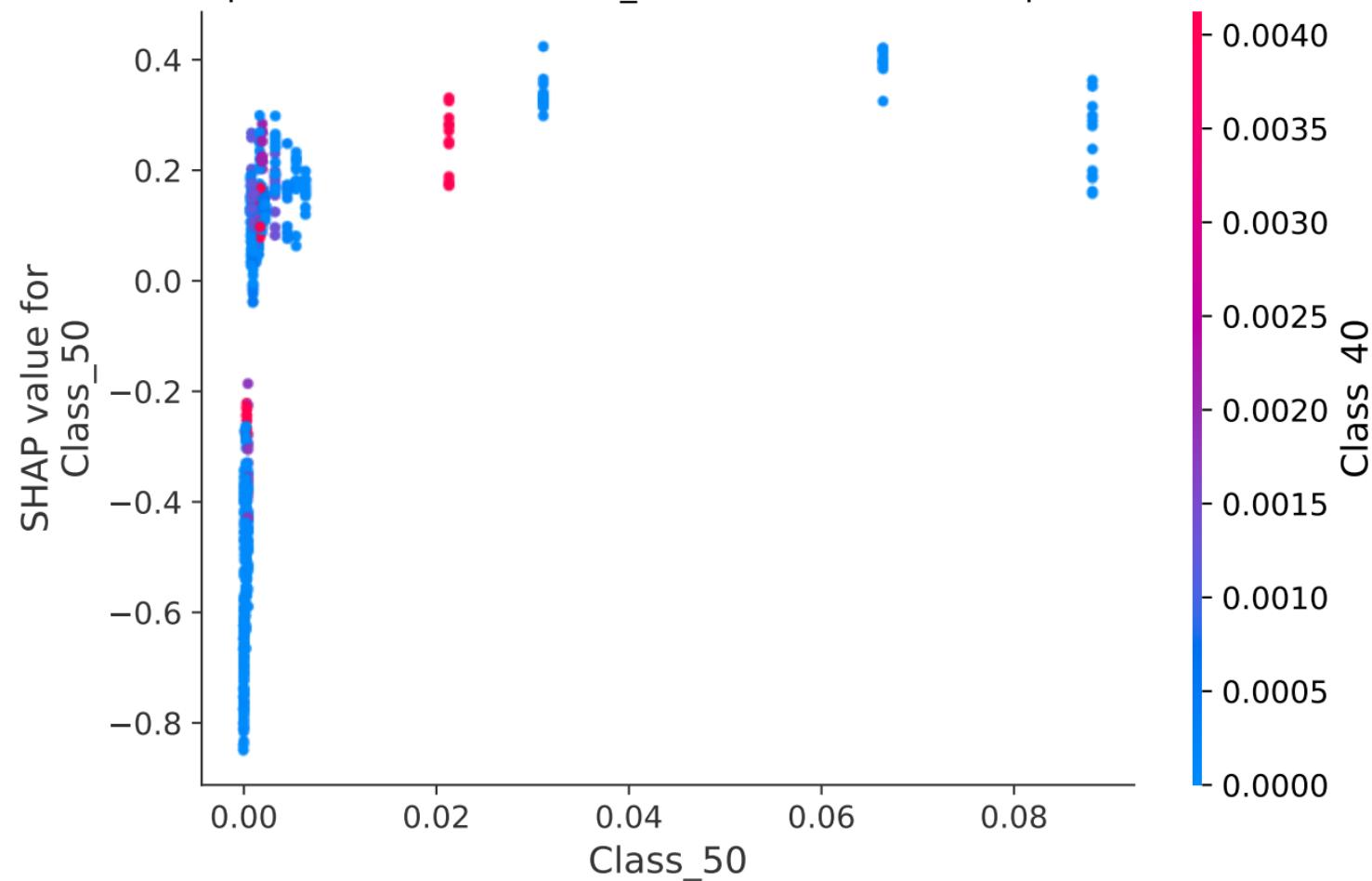
# SHAP Dependence Plot for ANOM1+2\_lag1, Class 0 - Maluku-Papua (Test Set)



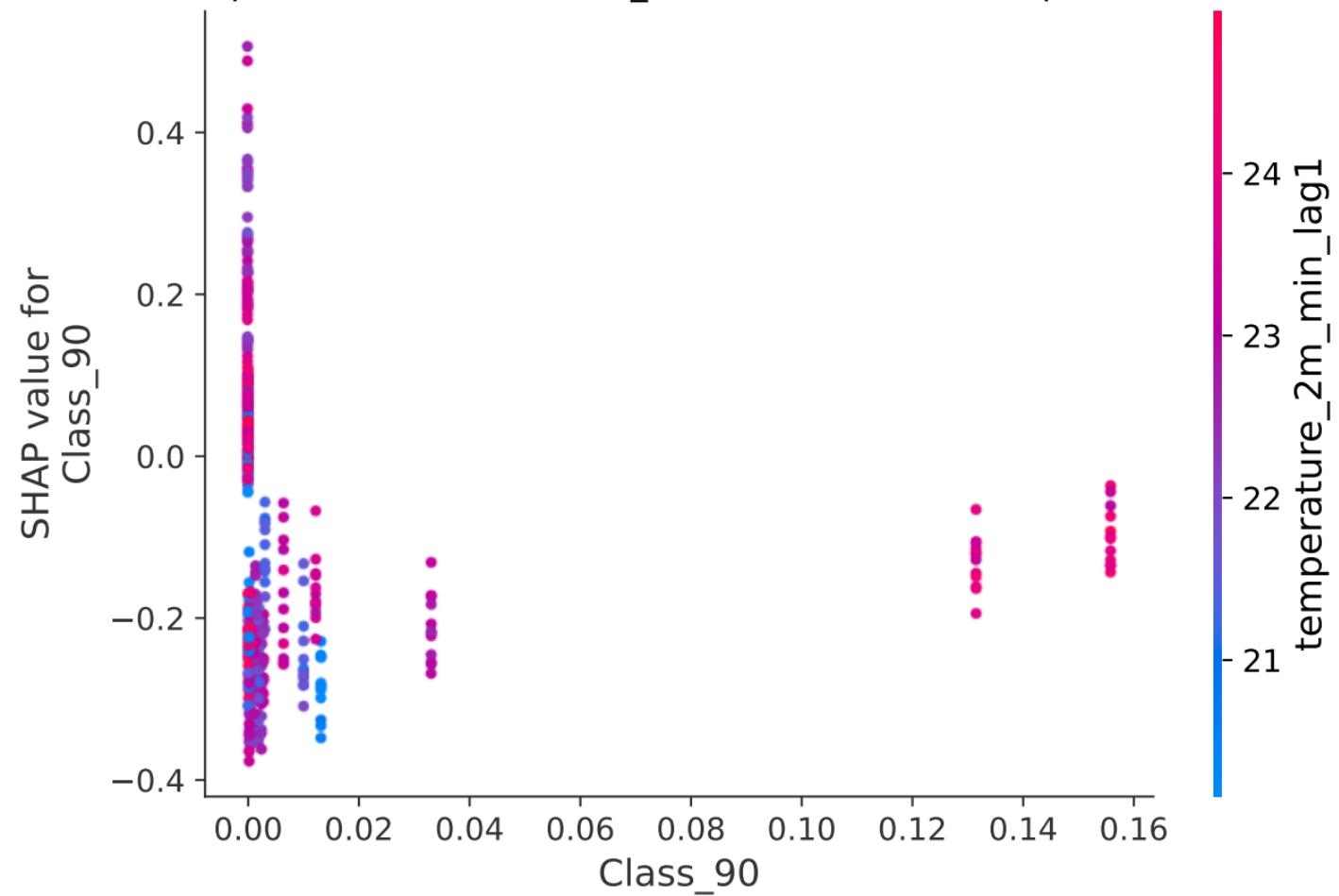
# SHAP Dependence Plot for Class\_40, Class 0 - Maluku-Papua (Test Set)



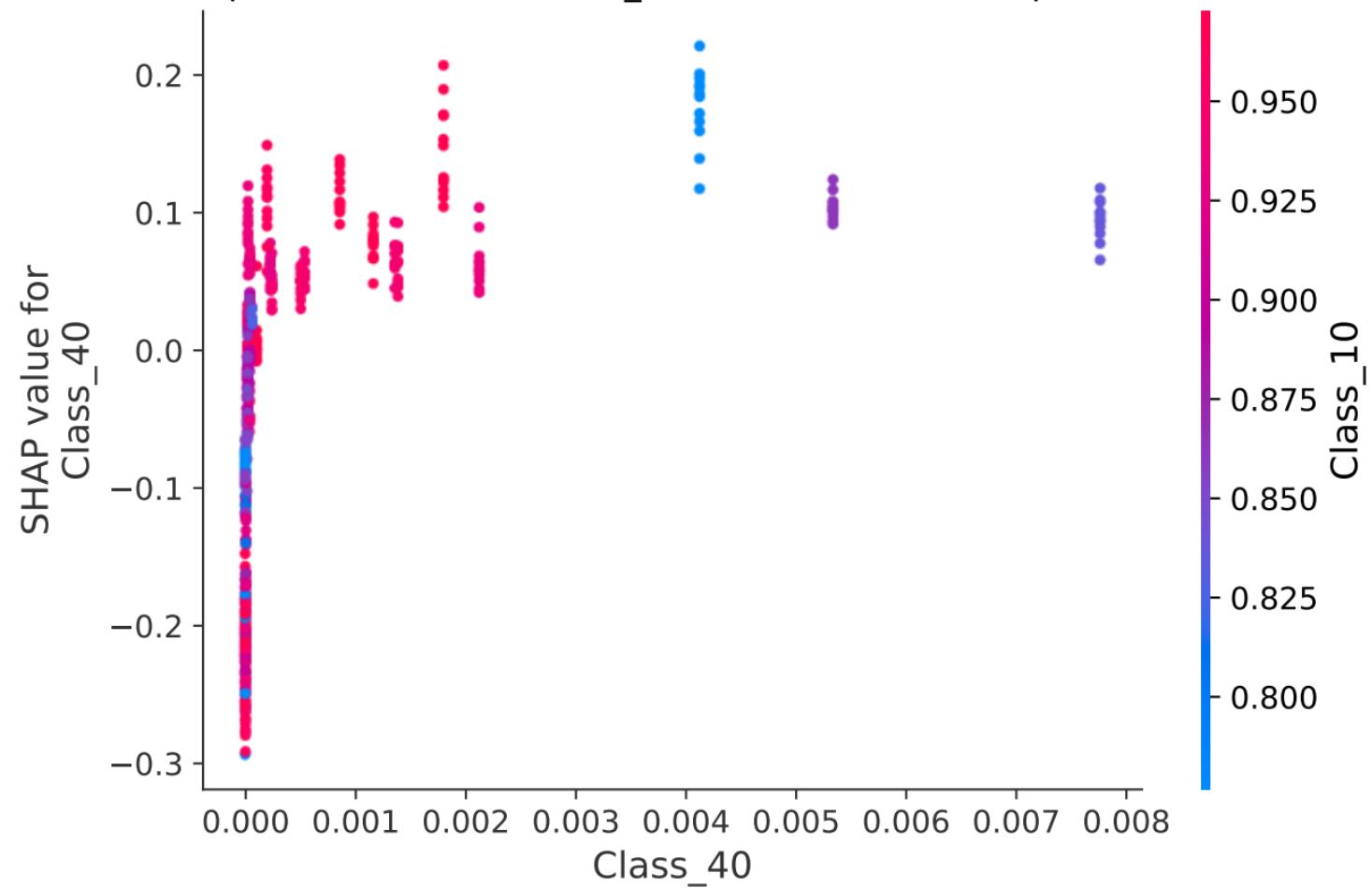
SHAP Dependence Plot for Class\_50, Class 1 - Maluku-Papua (Test Set)



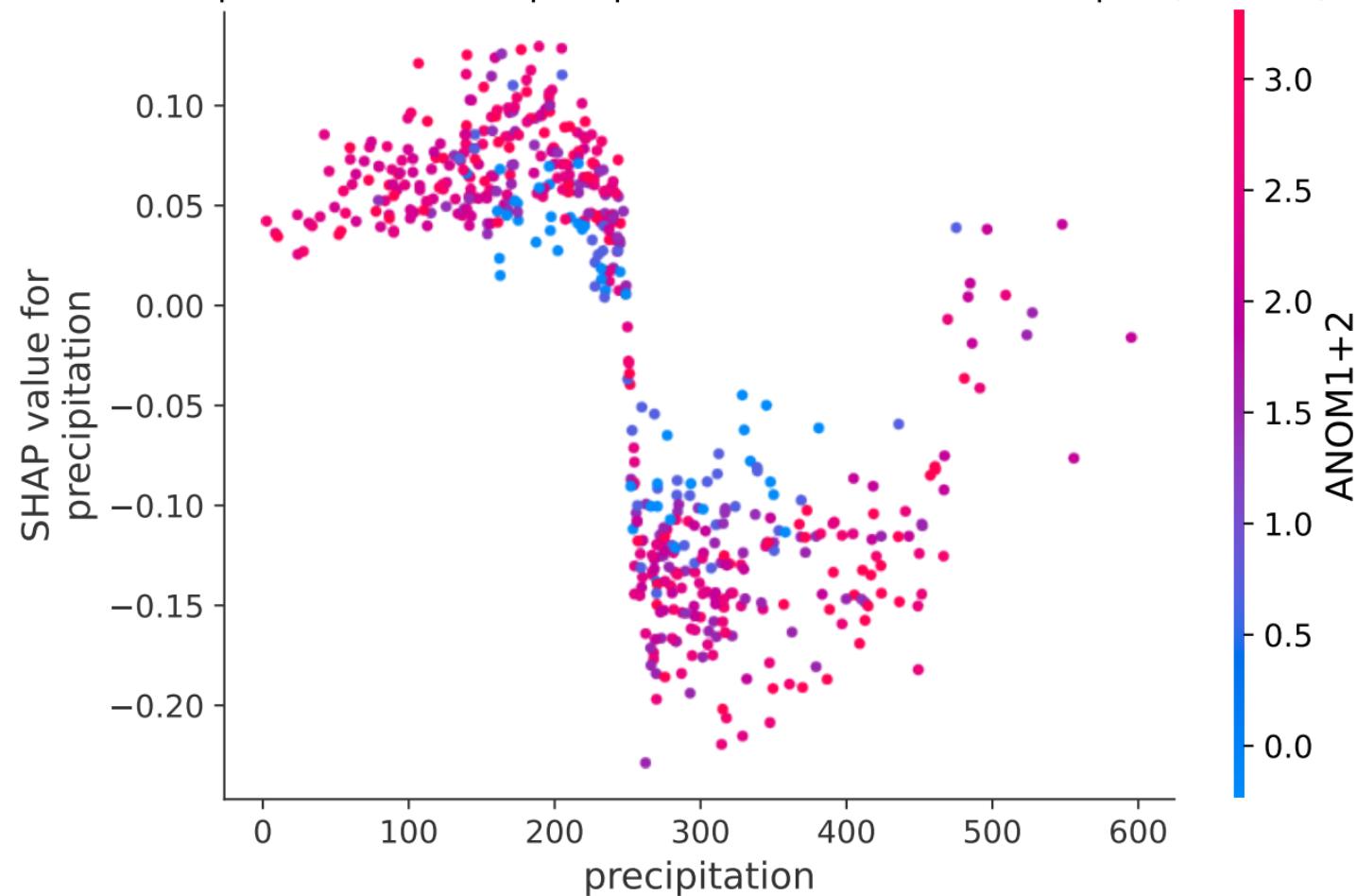
SHAP Dependence Plot for Class\_90, Class 1 - Maluku-Papua (Test Set)



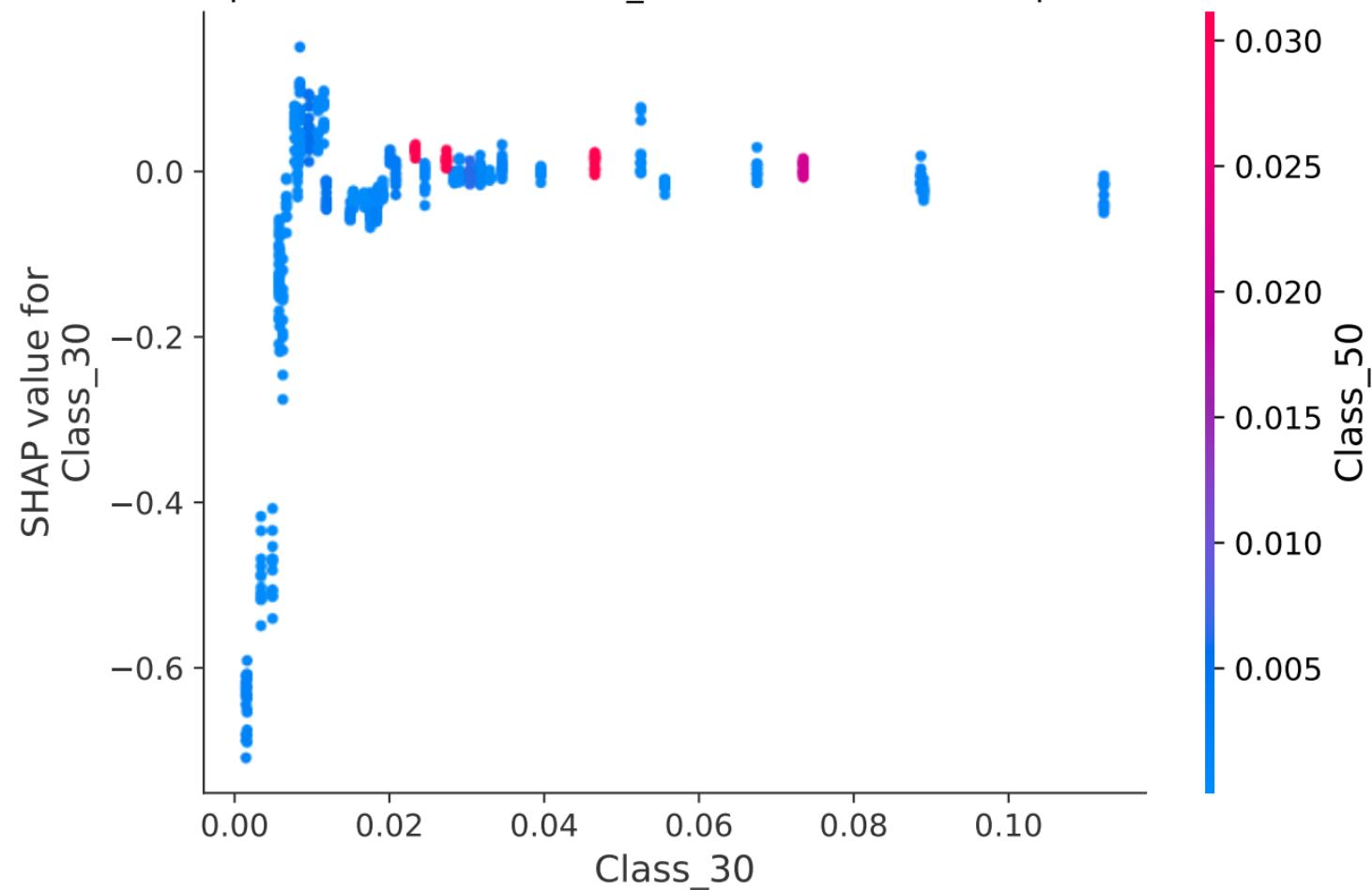
# SHAP Dependence Plot for Class\_40, Class 1 - Maluku-Papua (Test Set)



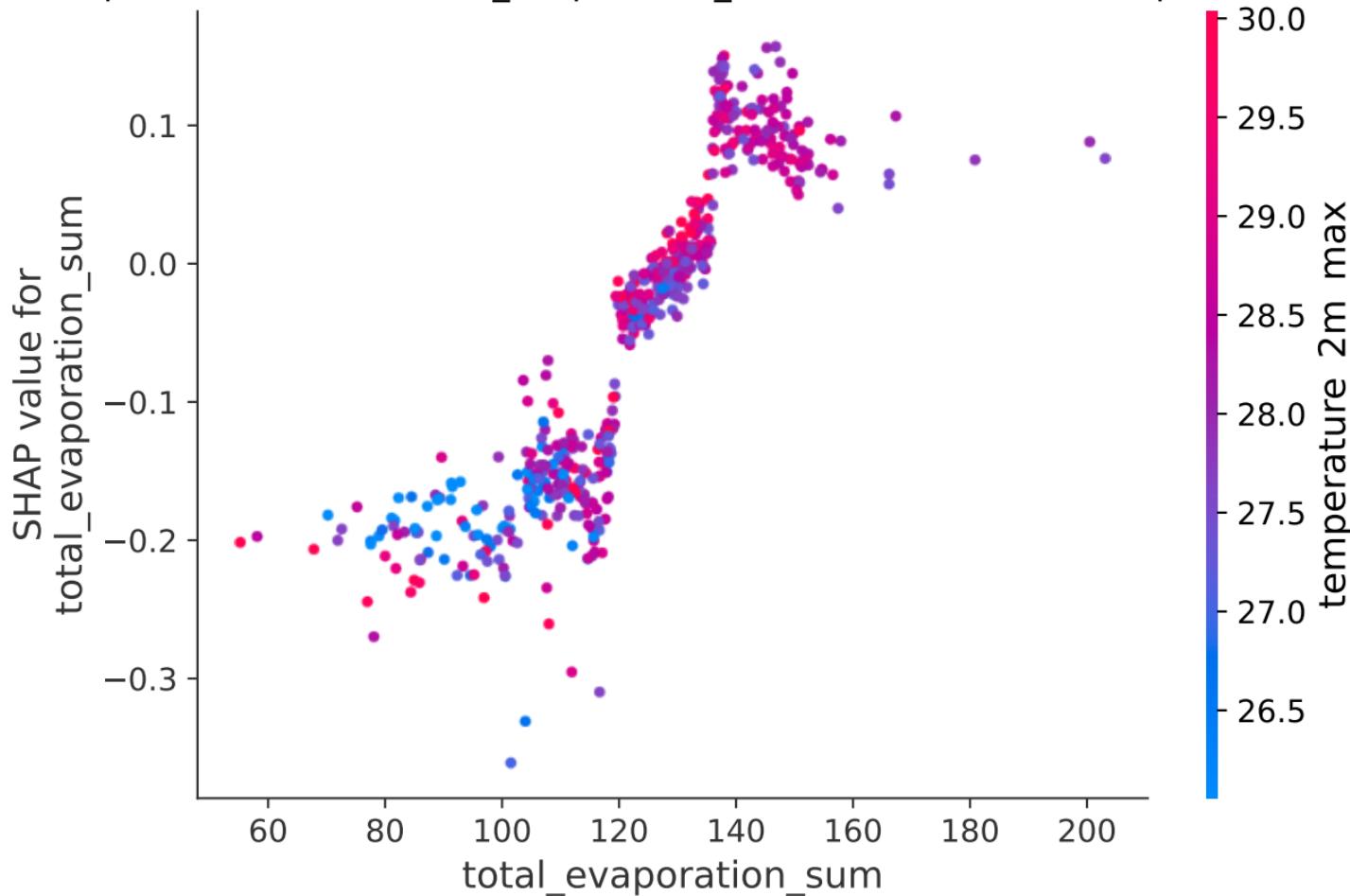
# SHAP Dependence Plot for precipitation, Class 1 - Maluku-Papua (Test Set)



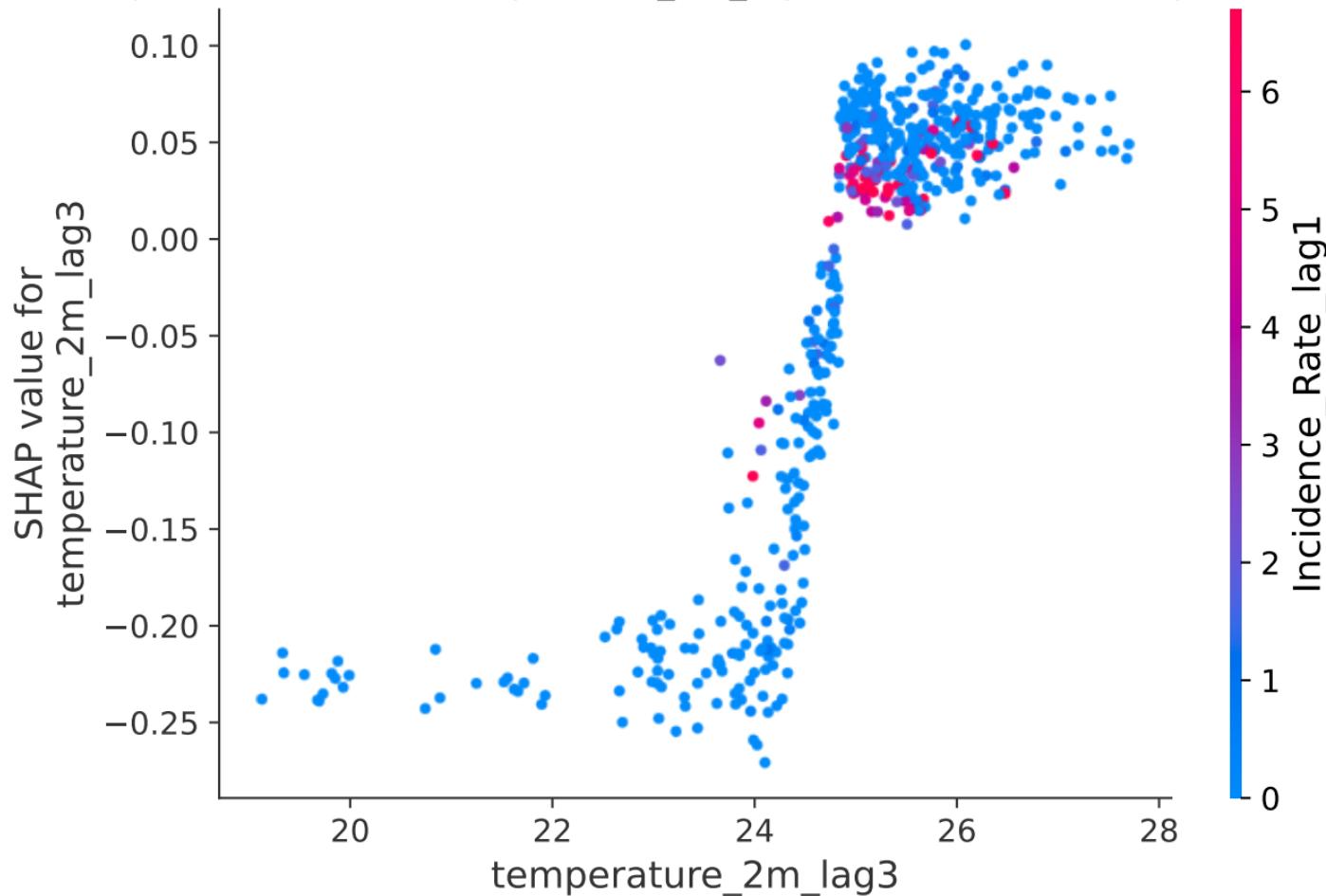
# SHAP Dependence Plot for Class\_30, Class 1 - Maluku-Papua (Test Set)



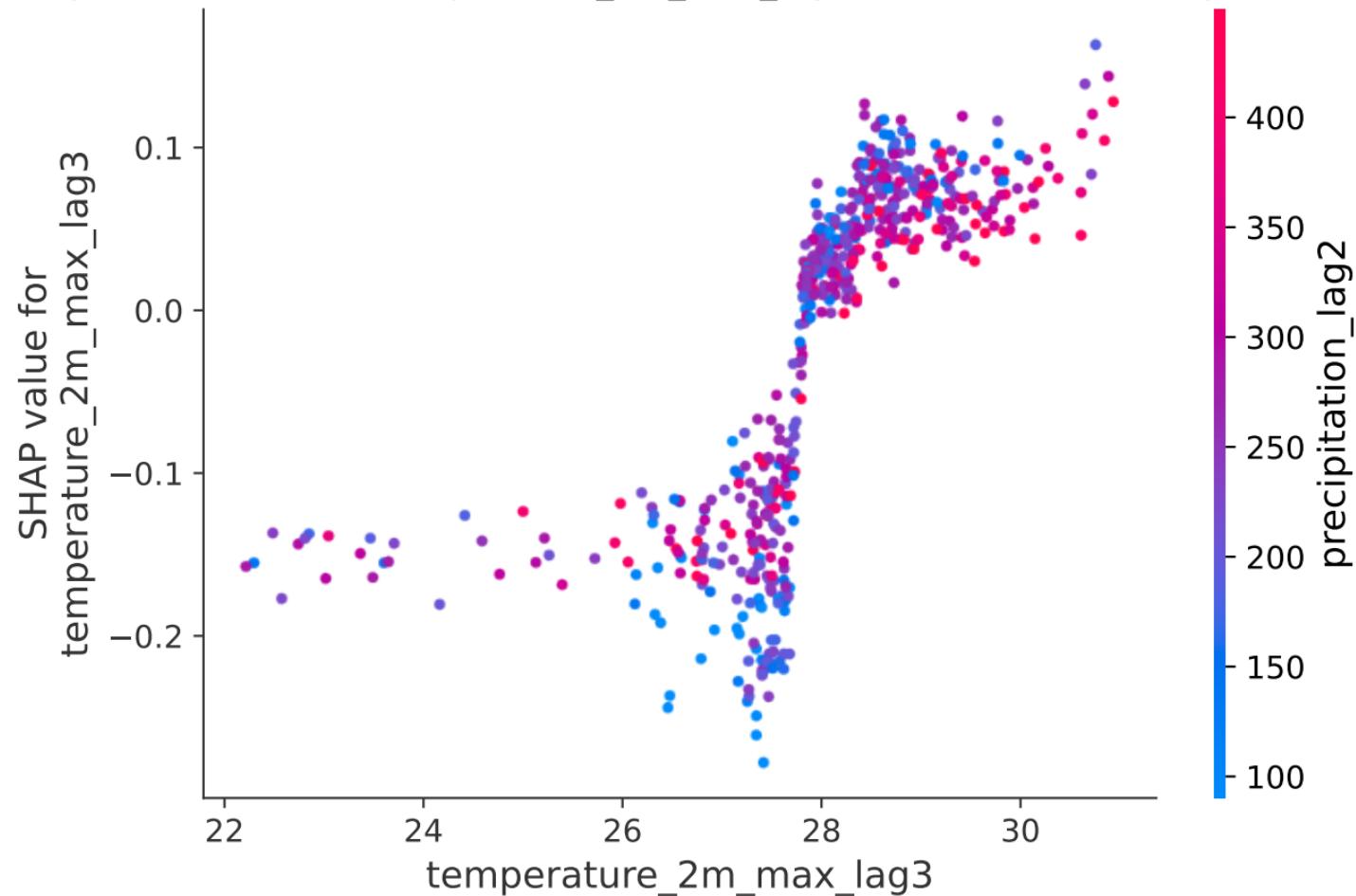
SHAP Dependence Plot for total\_evaporation\_sum, Class 2 - Maluku-Papua (Test Set)



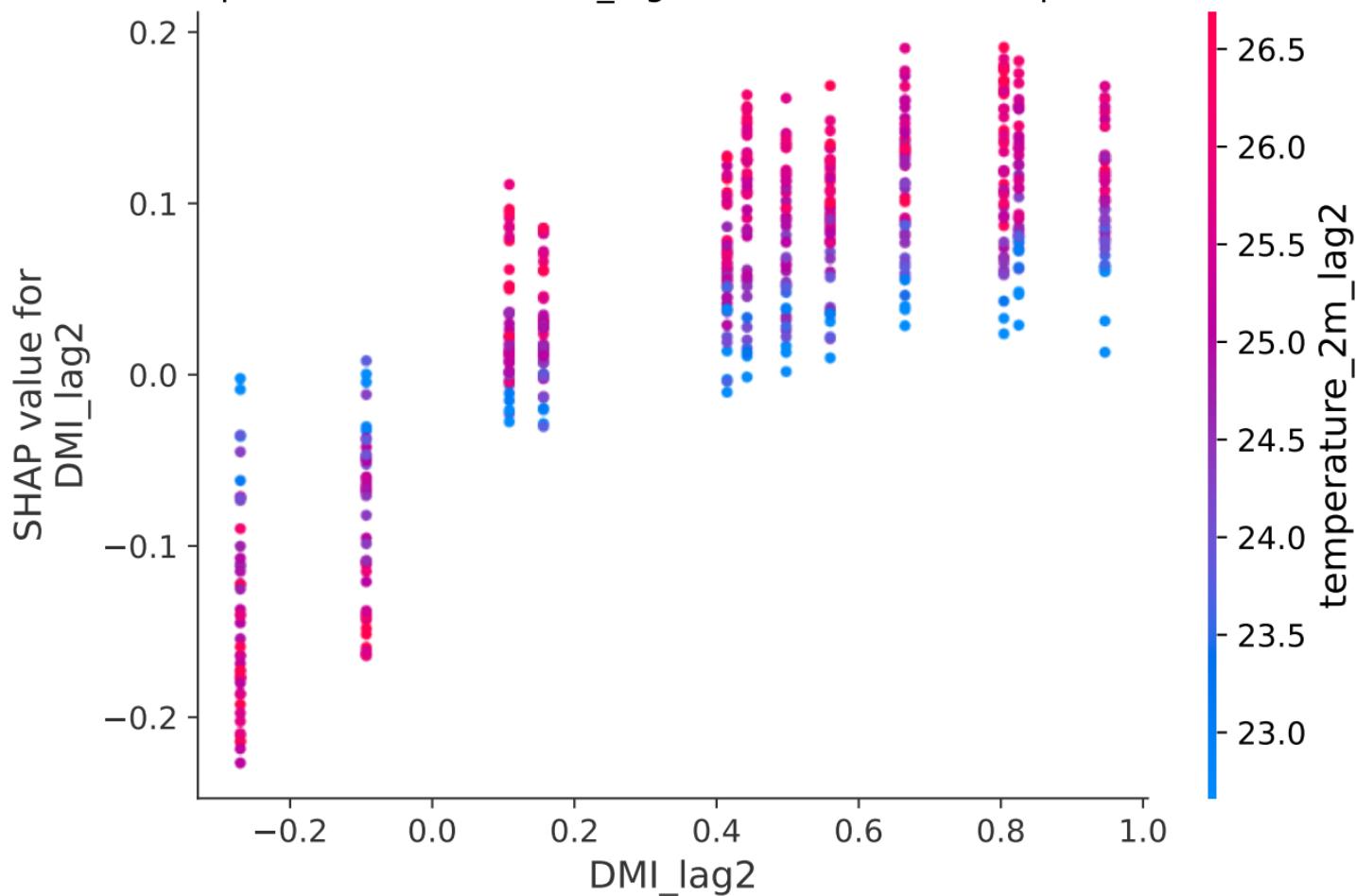
SHAP Dependence Plot for temperature\_2m\_lag3, Class 2 - Maluku-Papua (Test Set)



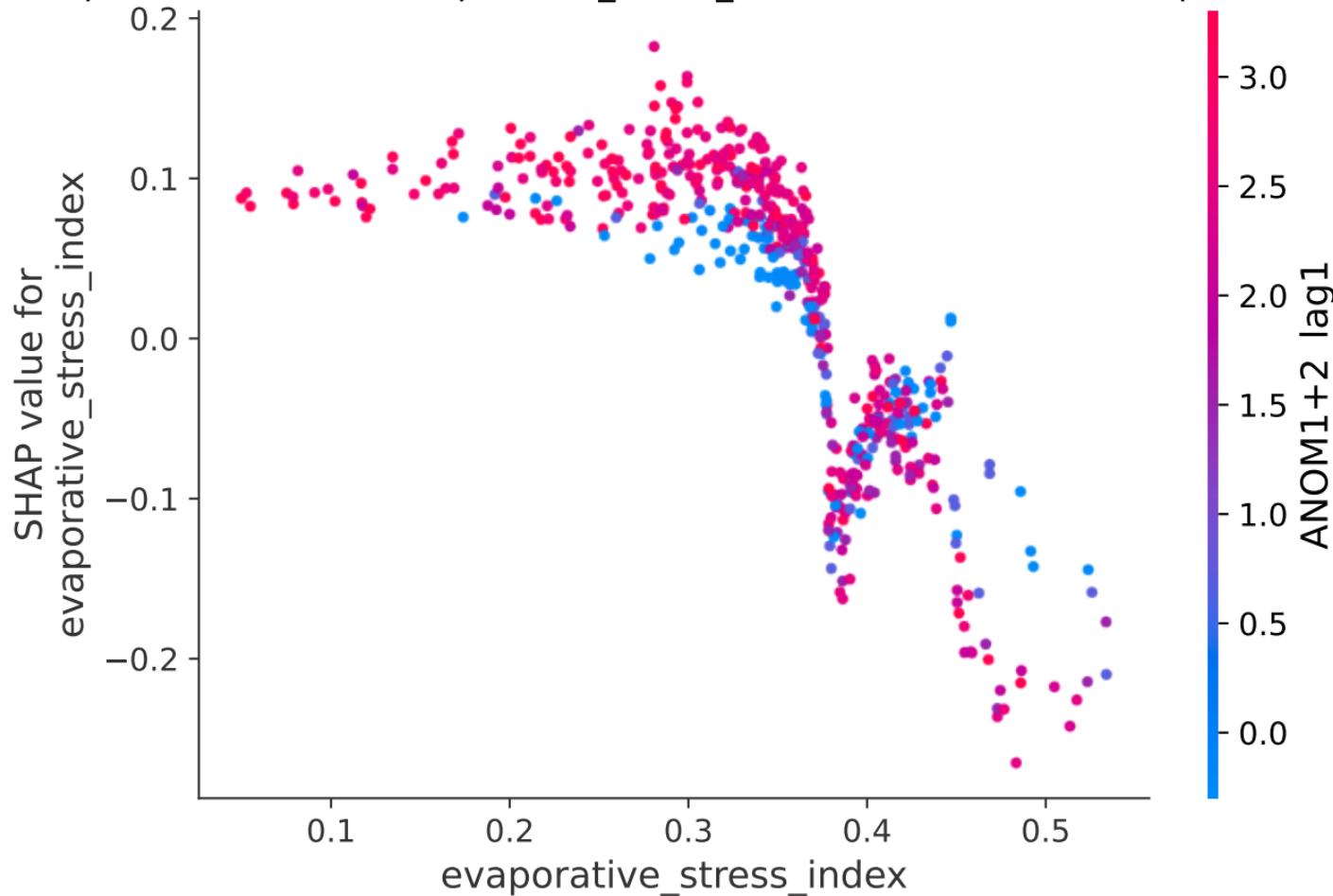
SHAP Dependence Plot for temperature\_2m\_max\_lag3, Class 2 - Maluku-Papua (Test Set)



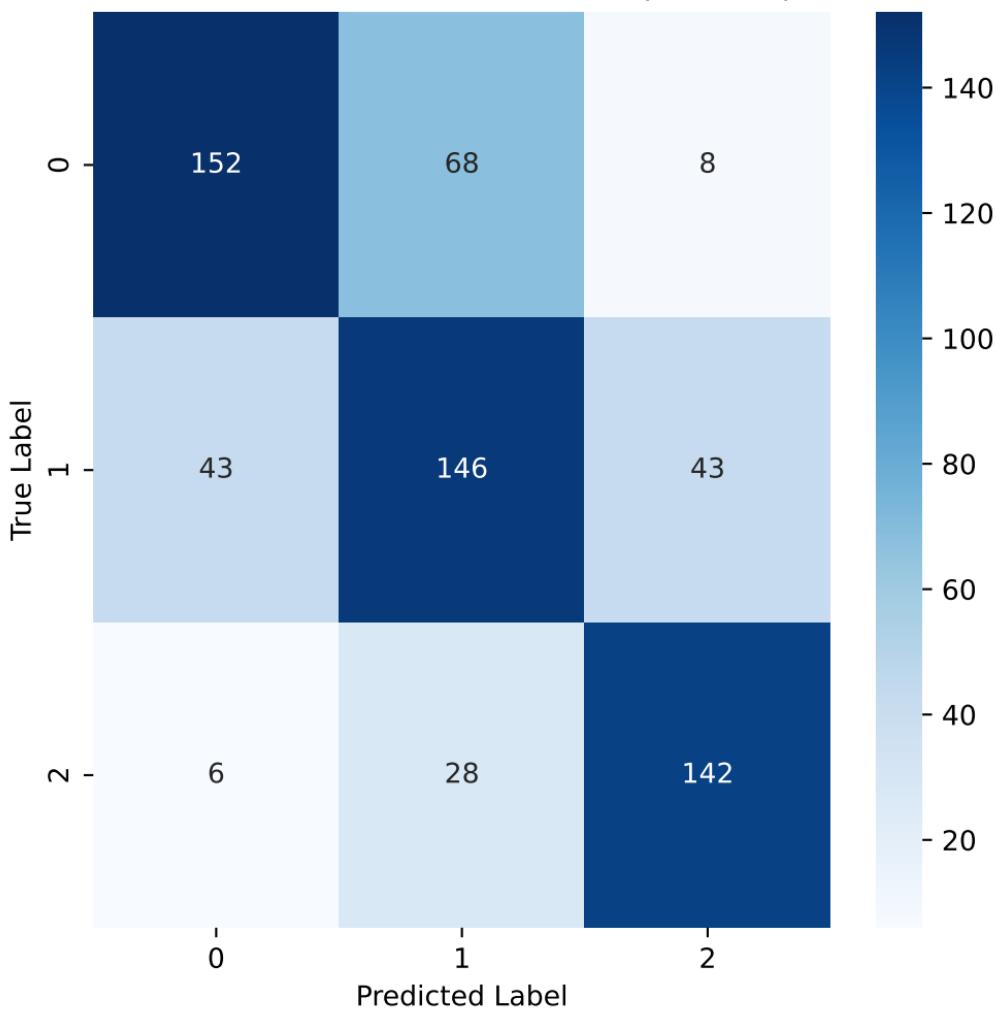
# SHAP Dependence Plot for DMI\_lag2, Class 2 - Maluku-Papua (Test Set)



SHAP Dependence Plot for evaporative\_stress\_index, Class 2 - Maluku-Papua (Test Set)



### Confusion Matrix - Kalimantan (Test Set)



SHAP Beeswarm Plot for Class 0 - Kalimantan (Test Set)

High

Feature value

Low

Incidence\_Rate\_lag1

Class\_60

Class\_90

DMI\_lag3

Class\_80

ANOM3

Class\_95

Class\_20

evaporative\_stress\_index\_lag3

Class\_50

temperature\_2m\_min

ANOM4

ANOM3.4\_lag1

ANOM3.4

total\_evaporation\_sum\_lag2

total\_evaporation\_sum

ANOM3.4\_lag2

Class\_10

ANOM1+2

temperature\_2m\_lag2

SHAP value (impact on model output)

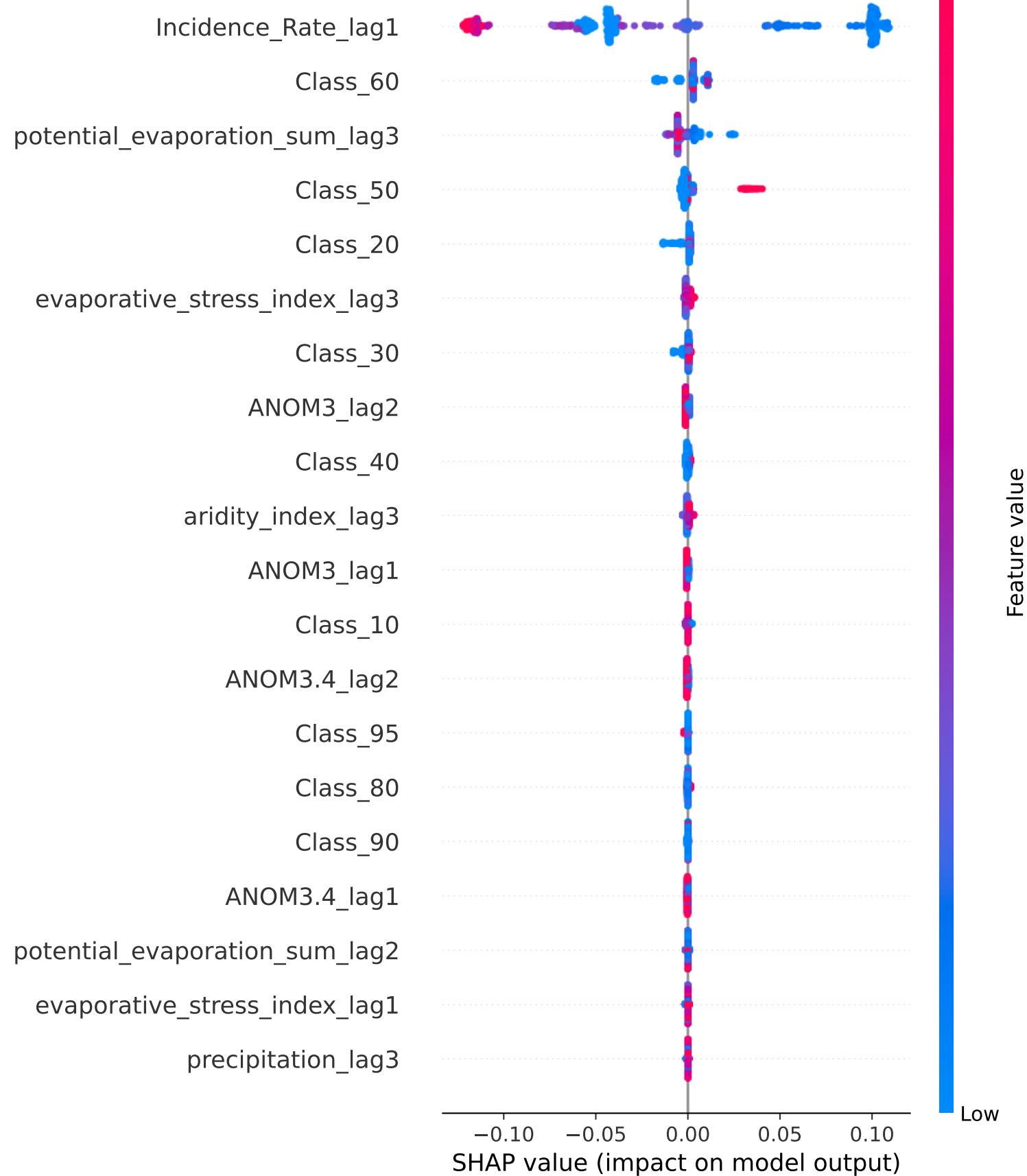
-0.10 -0.05 0.00 0.05 0.10 0.15

SHAP Beeswarm Plot for Class 1 - Kalimantan (Test Set)

High

Feature value

Low



SHAP Beeswarm Plot for Class 2 - Kalimantan (Test Set)

High

Feature value

Low

Incidence\_Rate\_lag1

evaporative\_stress\_index\_lag3

ANOM4\_lag1

aridity\_index\_lag3

potential\_evaporation\_sum\_lag3

ANOM3

ANOM4

DMI\_lag3

Class\_95

Class\_80

ANOM3\_lag2

temperature\_2m\_max\_lag1

Class\_90

Class\_60

Class\_50

ANOM4\_lag2

temperature\_2m\_lag1

precipitation\_lag3

evaporative\_stress\_index\_lag2

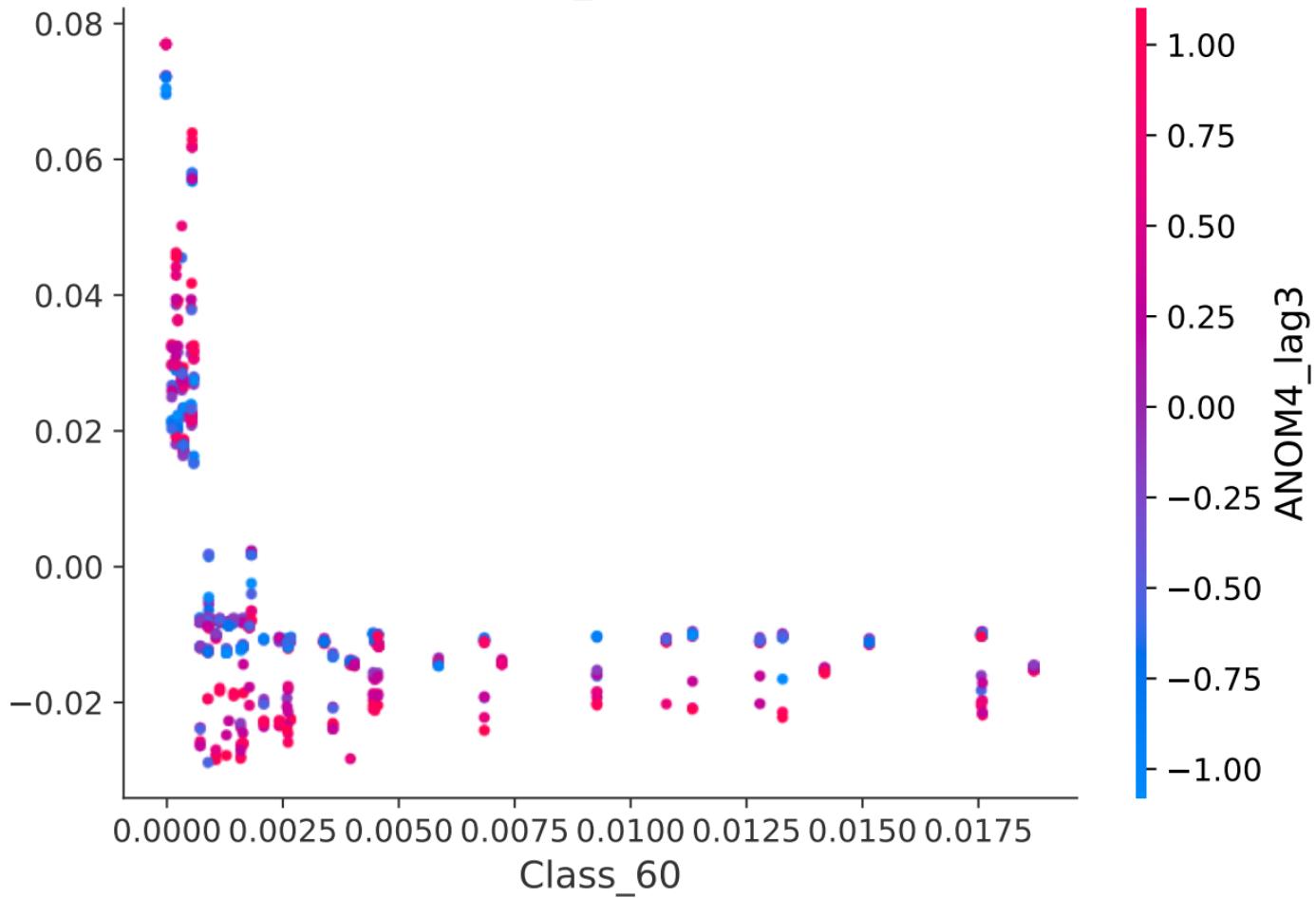
temperature\_2m\_max

SHAP value (impact on model output)

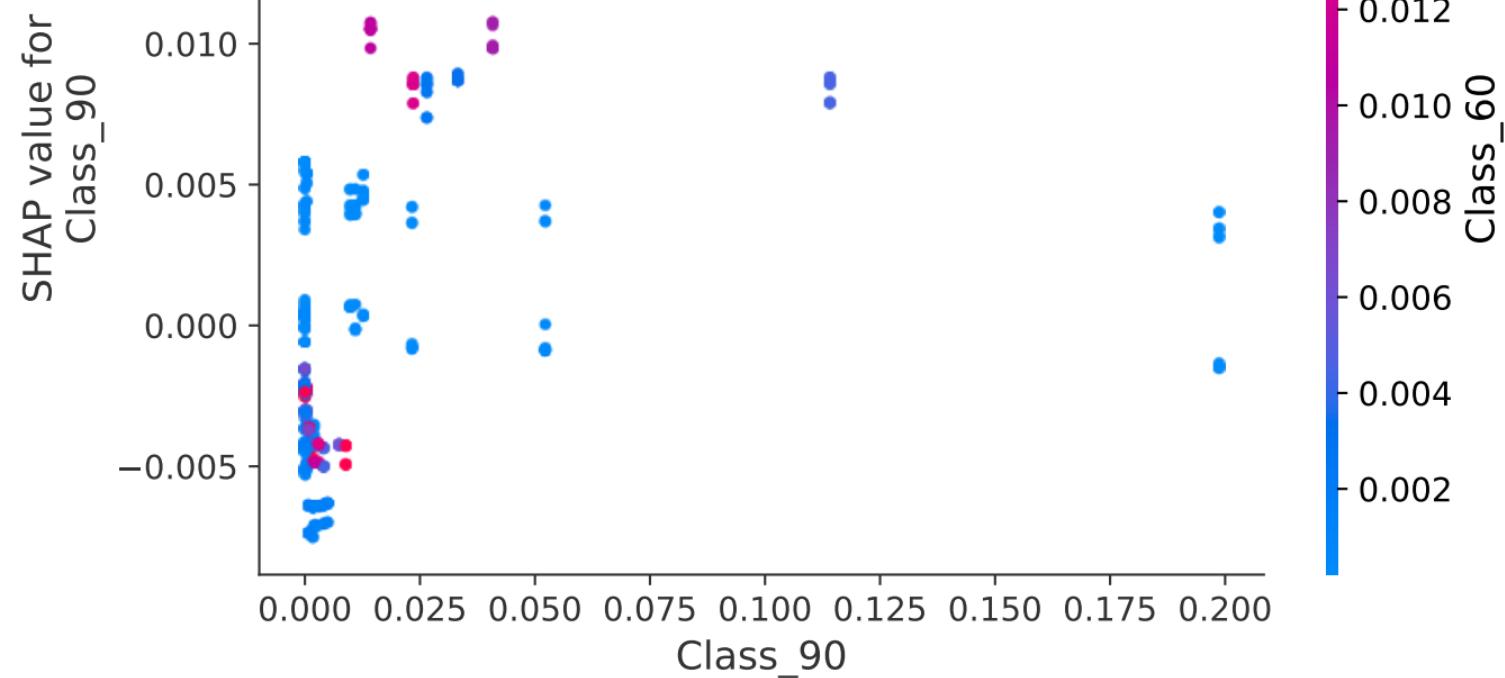
SHAP value (impact on model output)

# SHAP Dependence Plot for Class\_60, Class 0 - Kalimantan (Test Set)

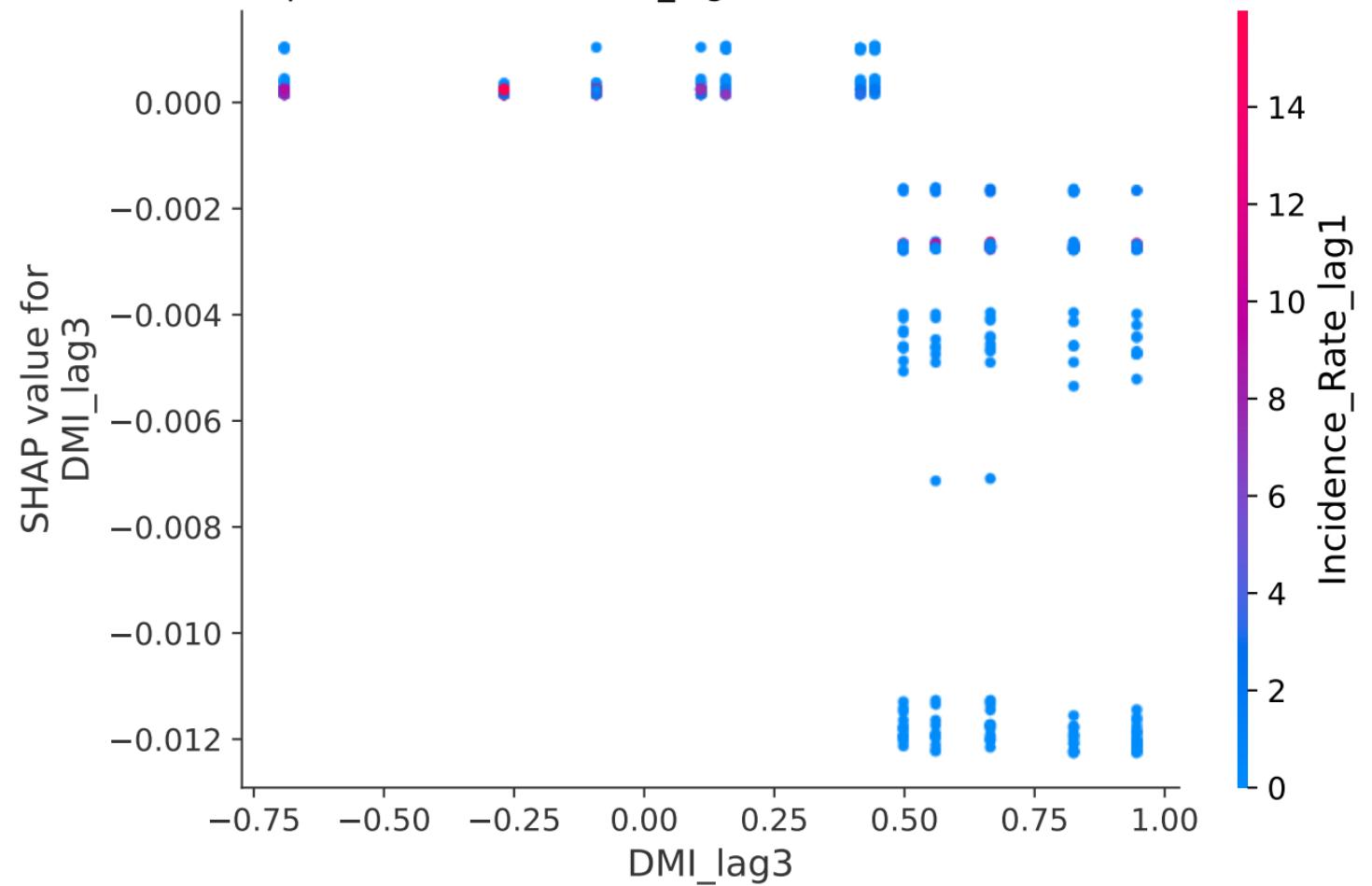
SHAP value for  
Class\_60



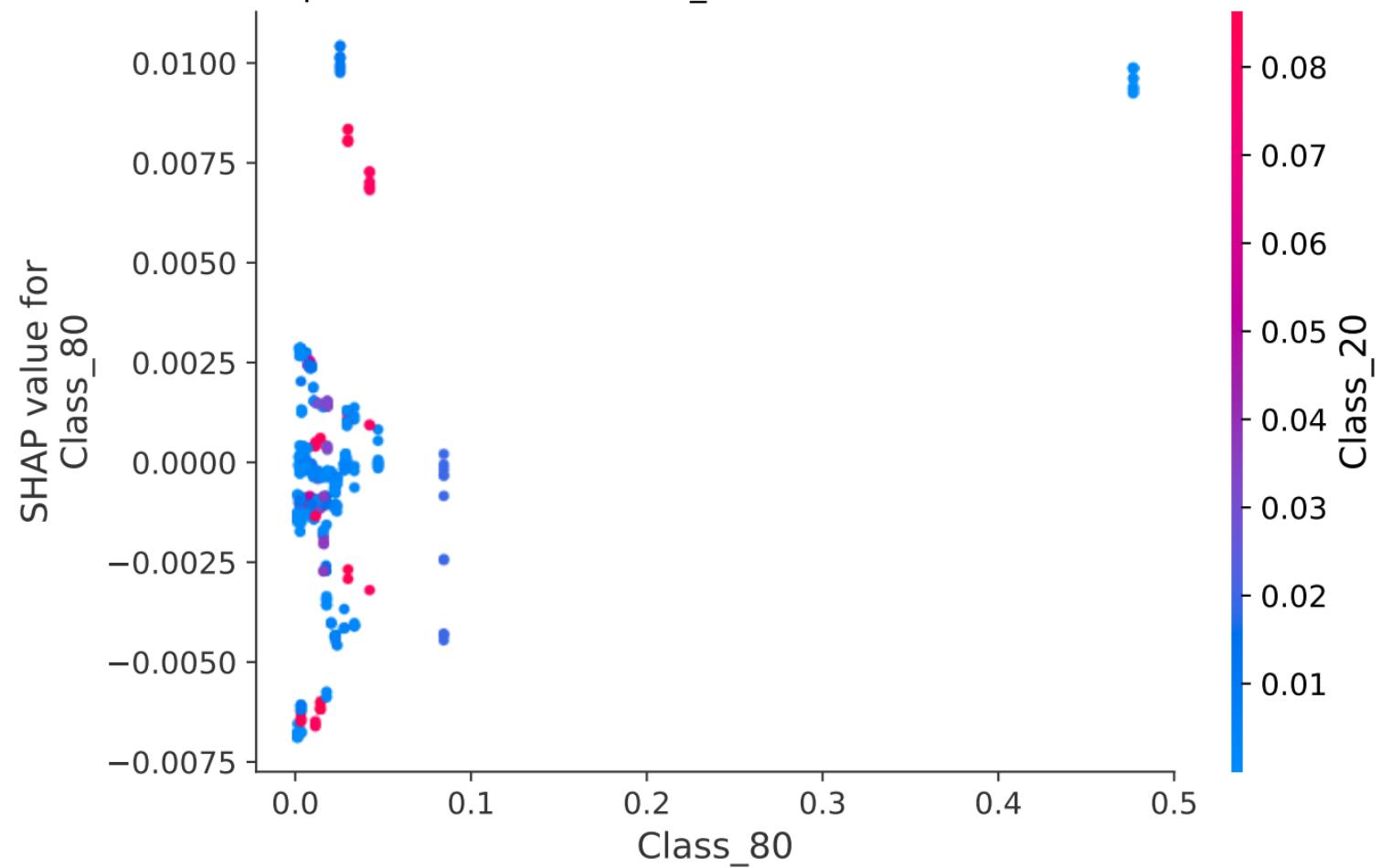
# SHAP Dependence Plot for Class\_90, Class 0 - Kalimantan (Test Set)



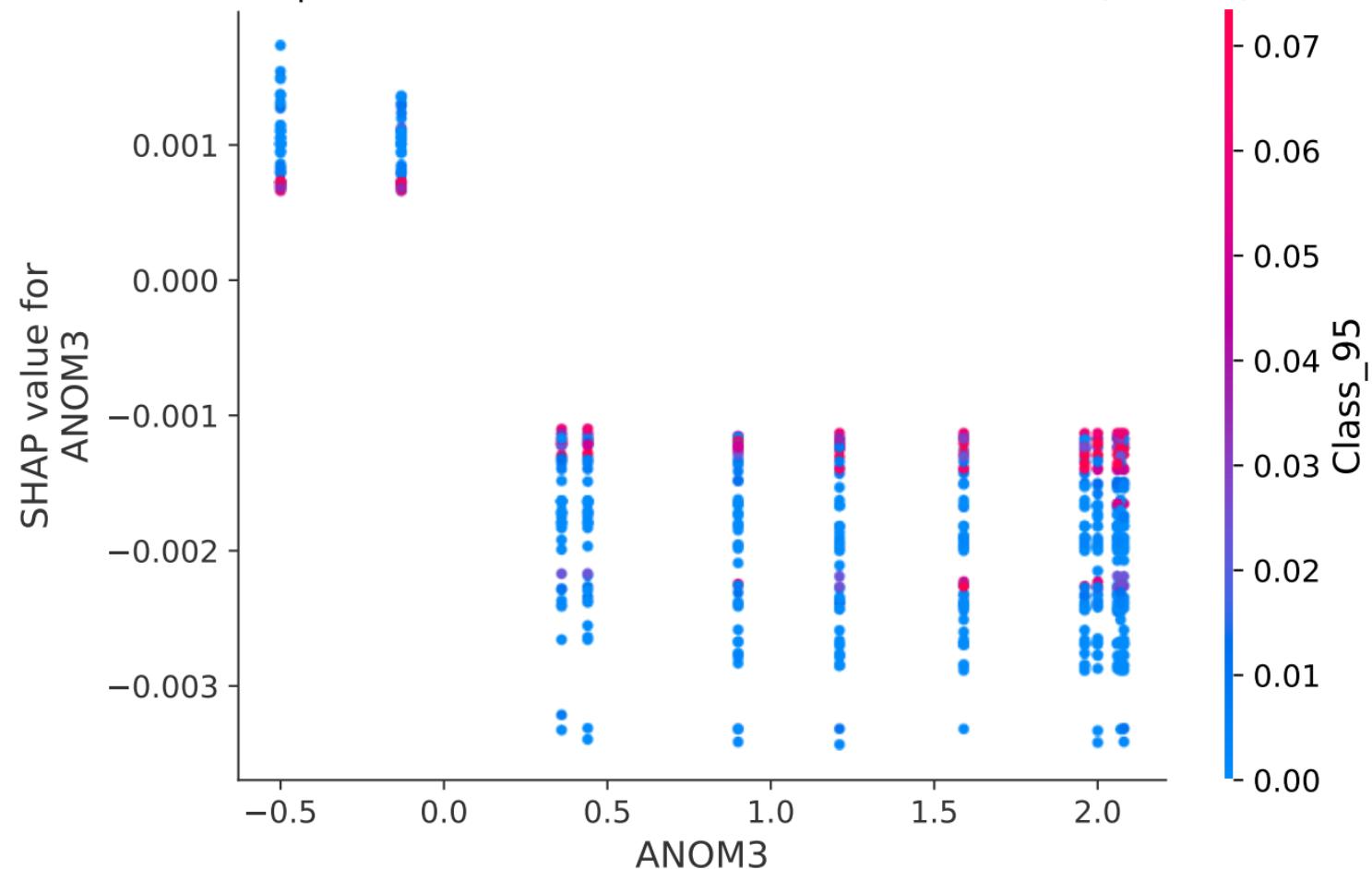
# SHAP Dependence Plot for DMI\_lag3, Class 0 - Kalimantan (Test Set)



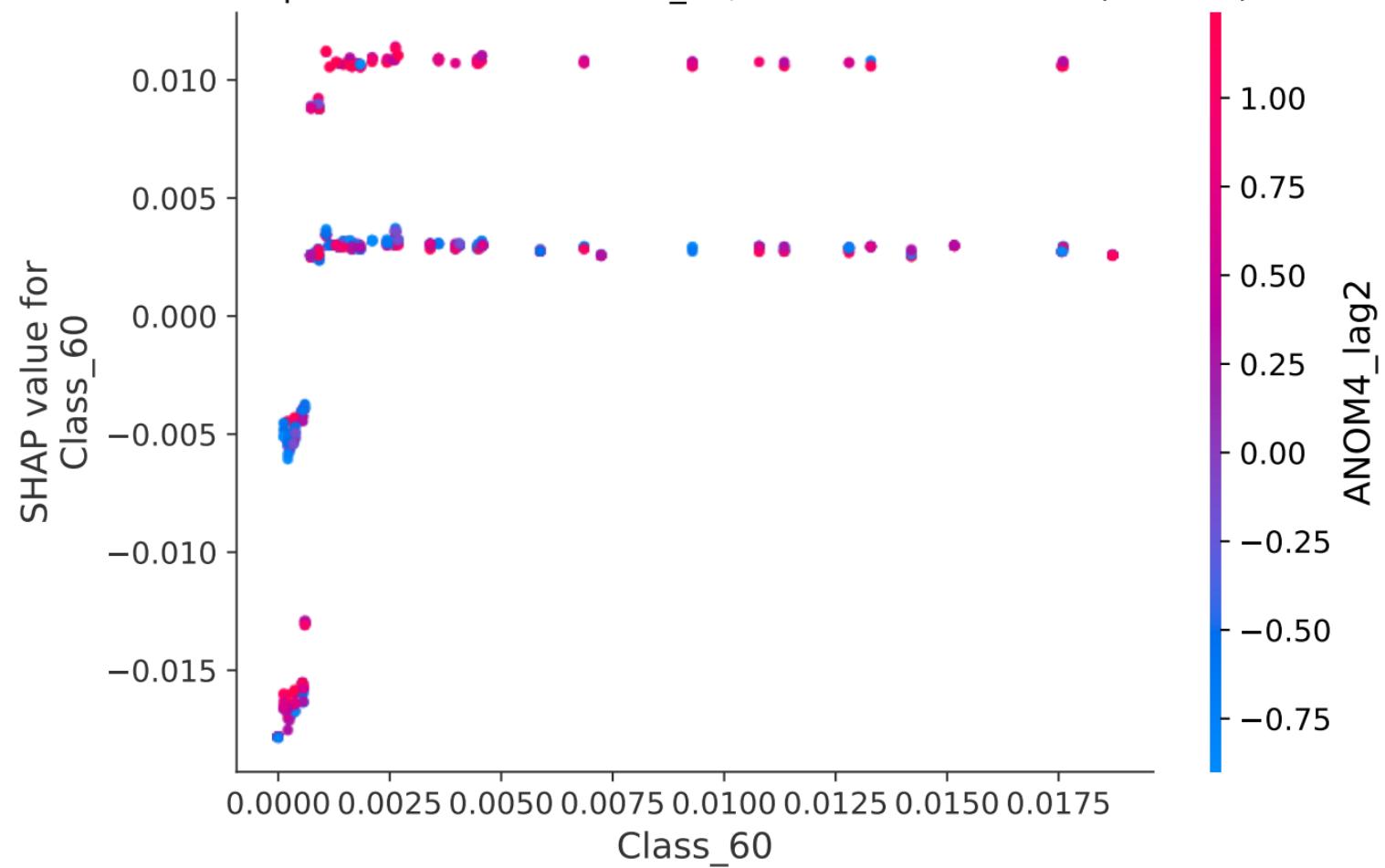
# SHAP Dependence Plot for Class\_80, Class 0 - Kalimantan (Test Set)



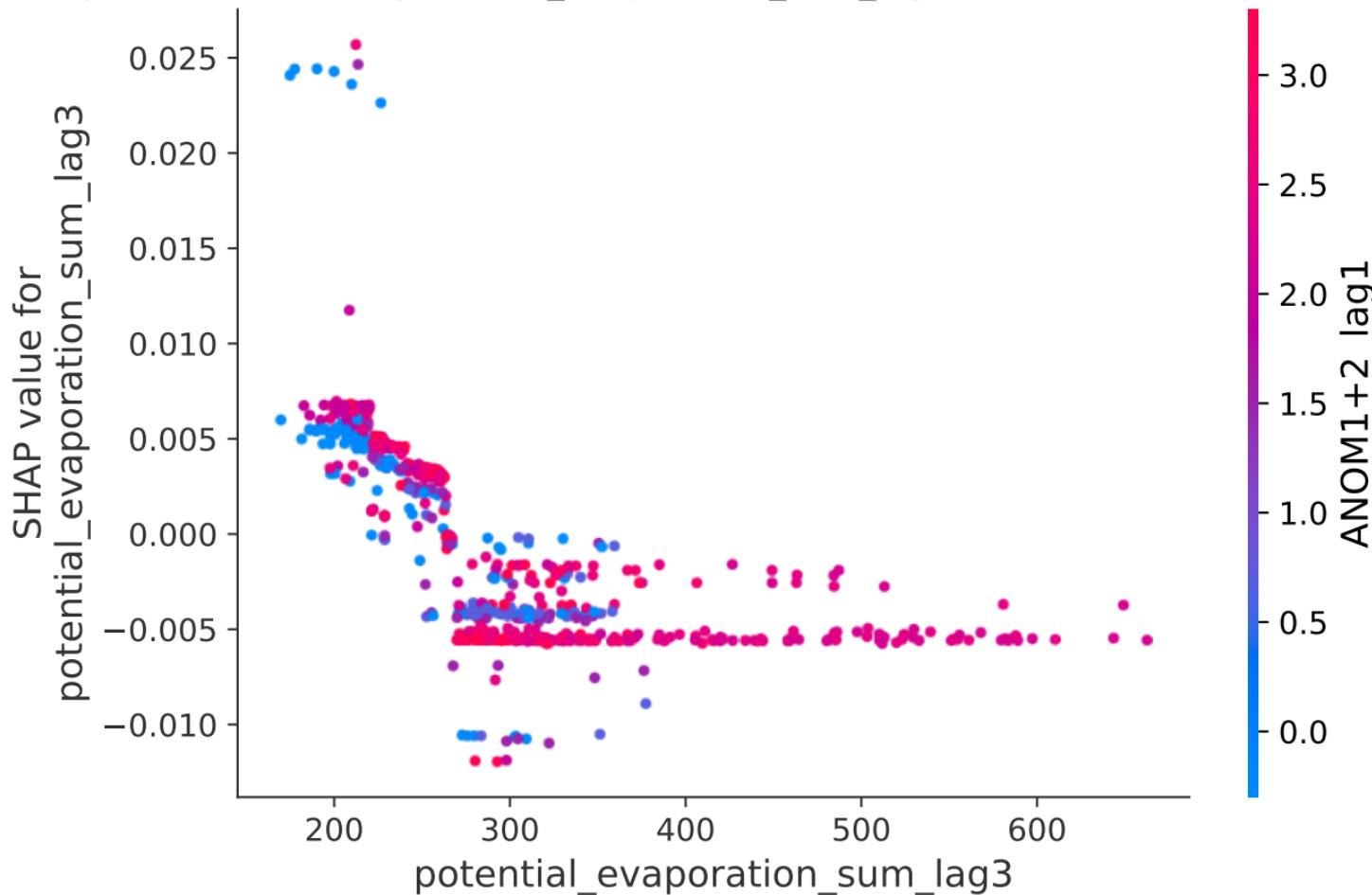
# SHAP Dependence Plot for ANOM3, Class 0 - Kalimantan (Test Set)



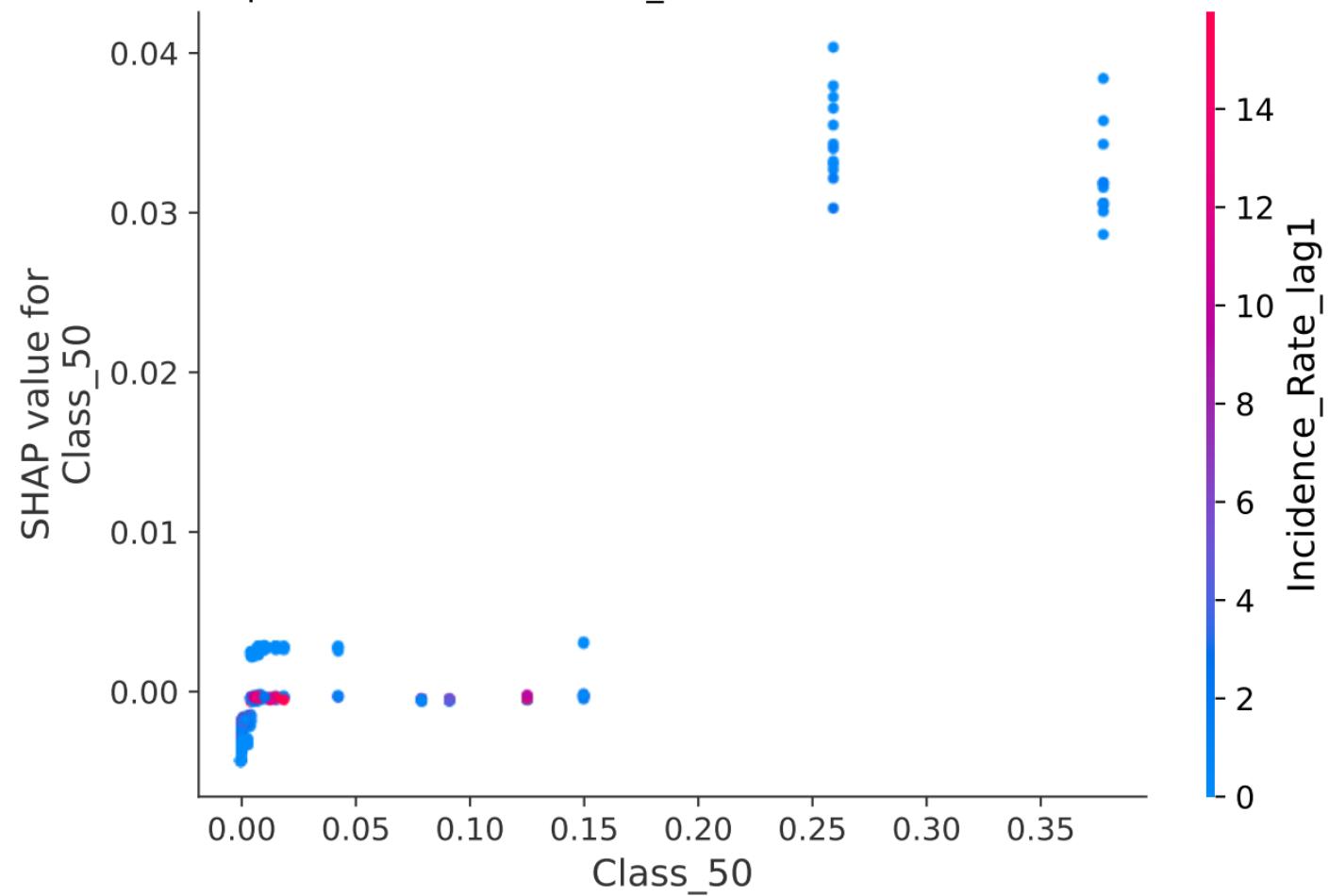
SHAP Dependence Plot for Class\_60, Class 1 - Kalimantan (Test Set)



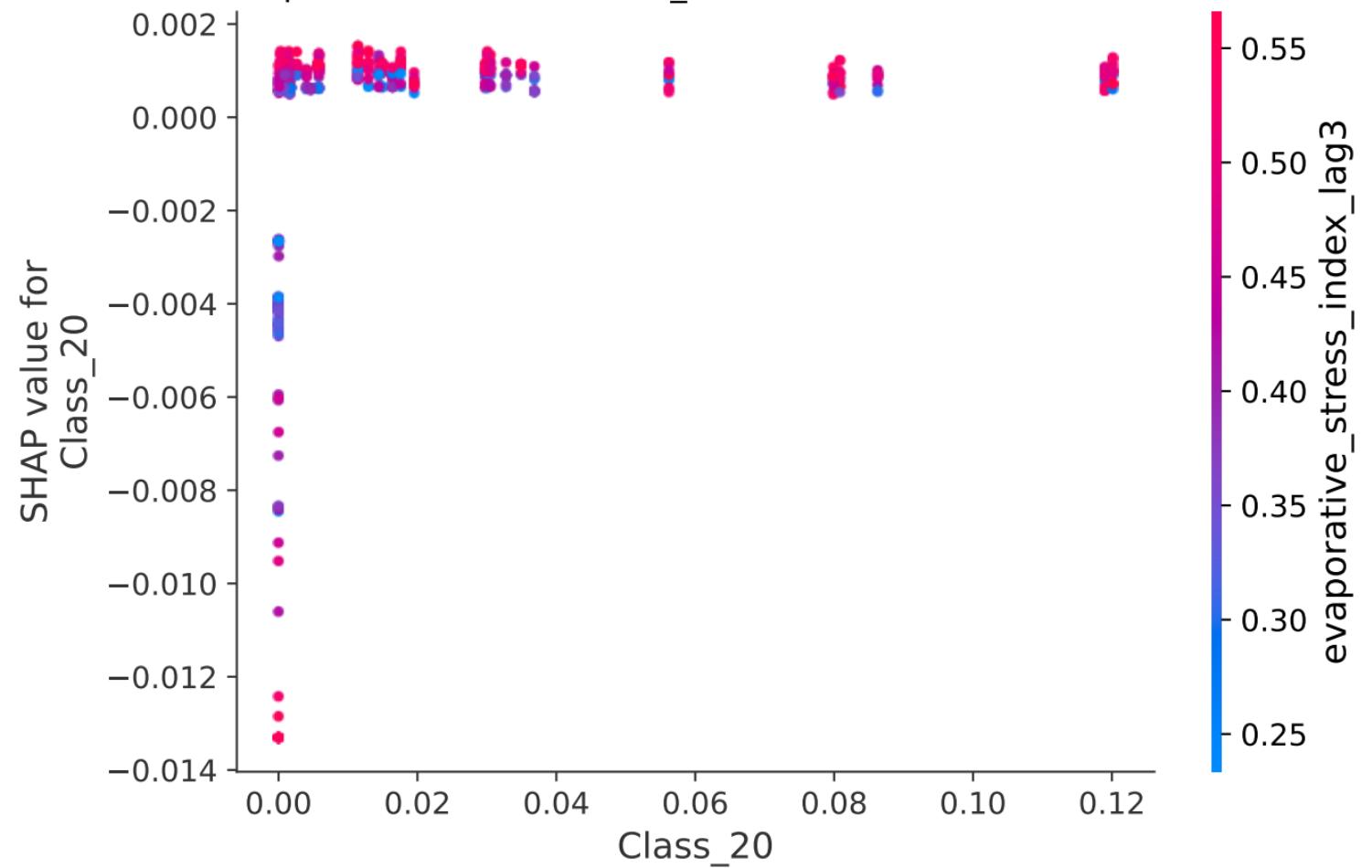
SHAP Dependence Plot for potential\_evaporation\_sum\_lag3, Class 1 - Kalimantan (Test Set)



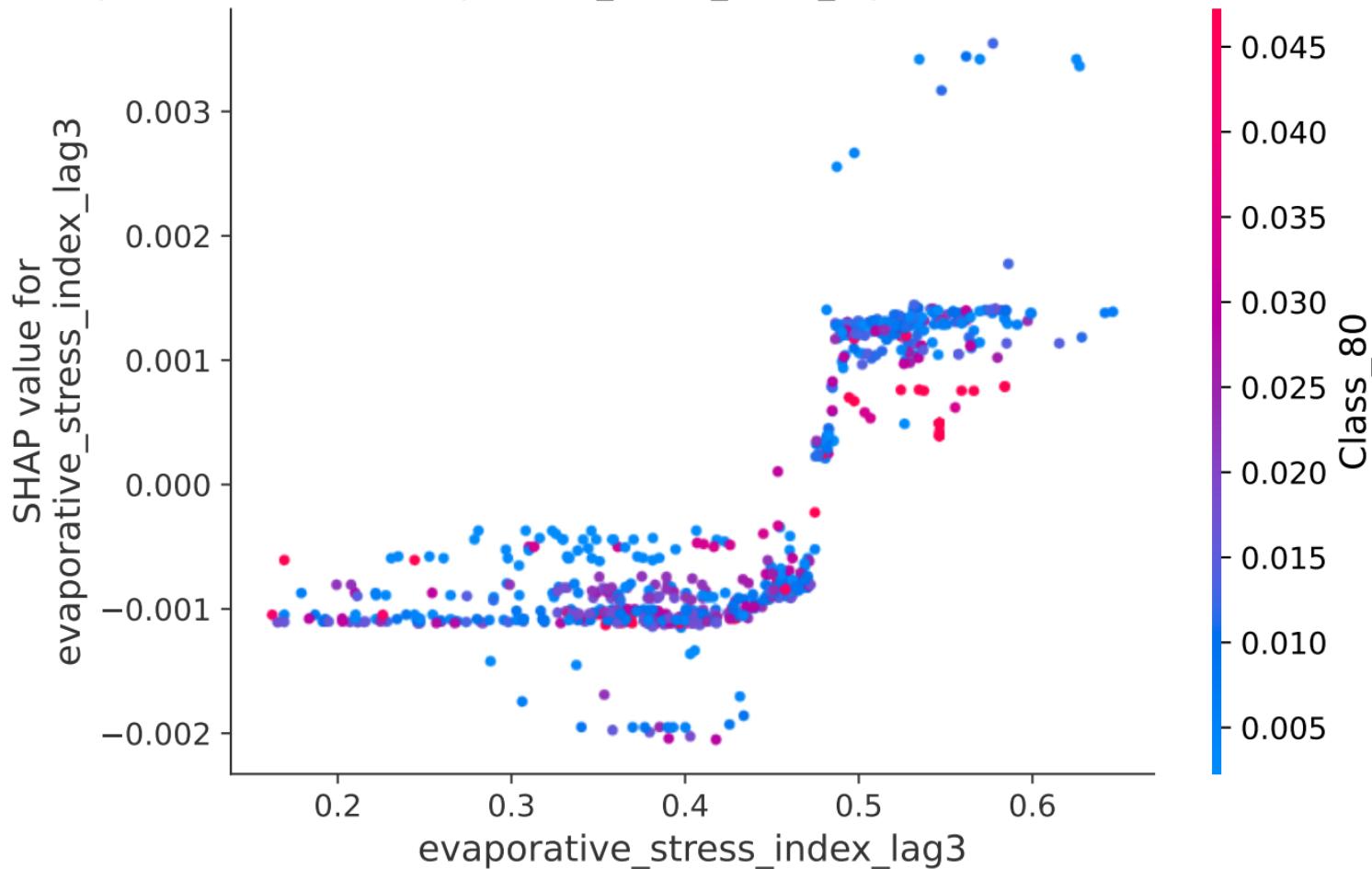
# SHAP Dependence Plot for Class\_50, Class 1 - Kalimantan (Test Set)



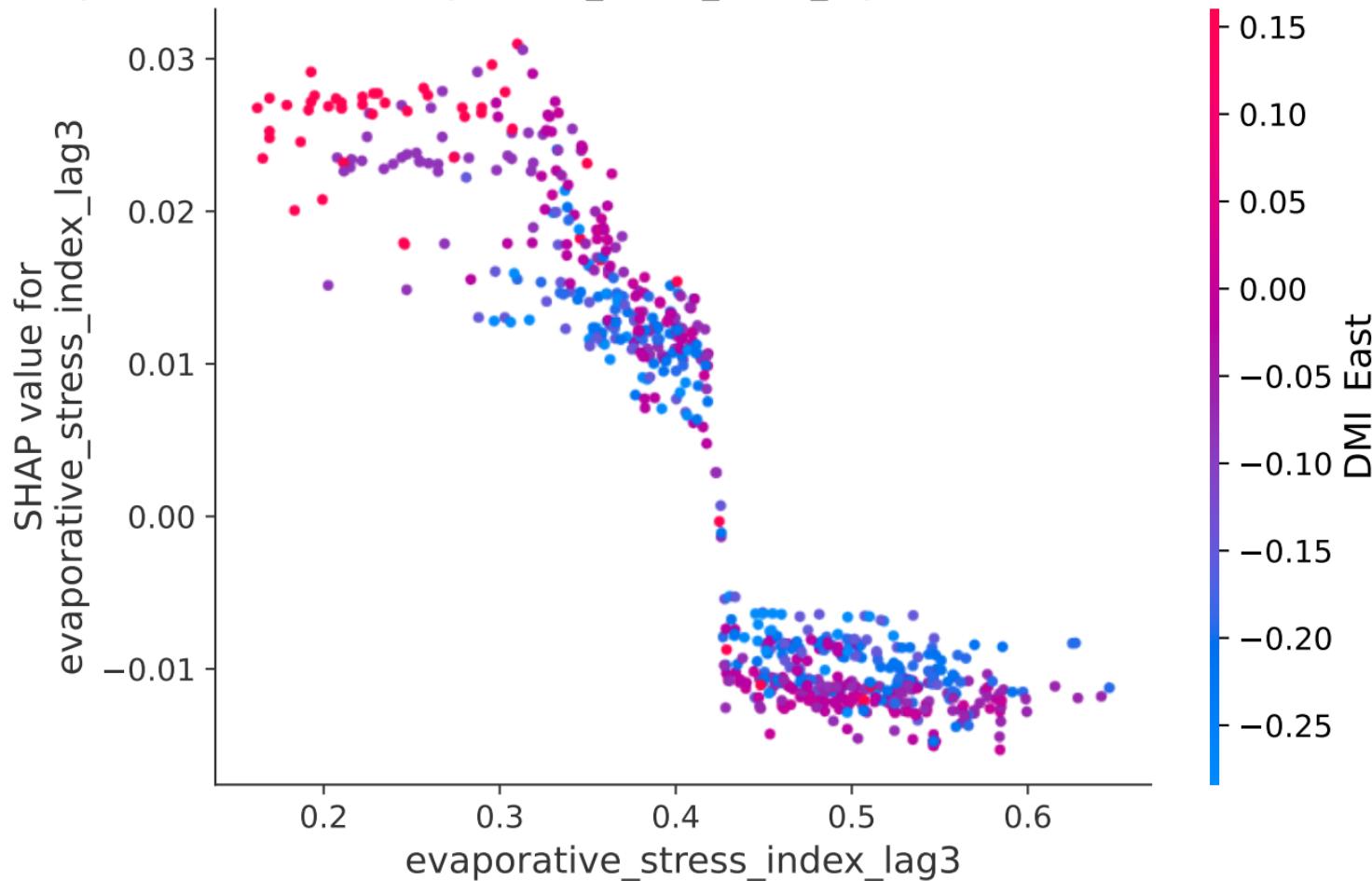
# SHAP Dependence Plot for Class\_20, Class 1 - Kalimantan (Test Set)



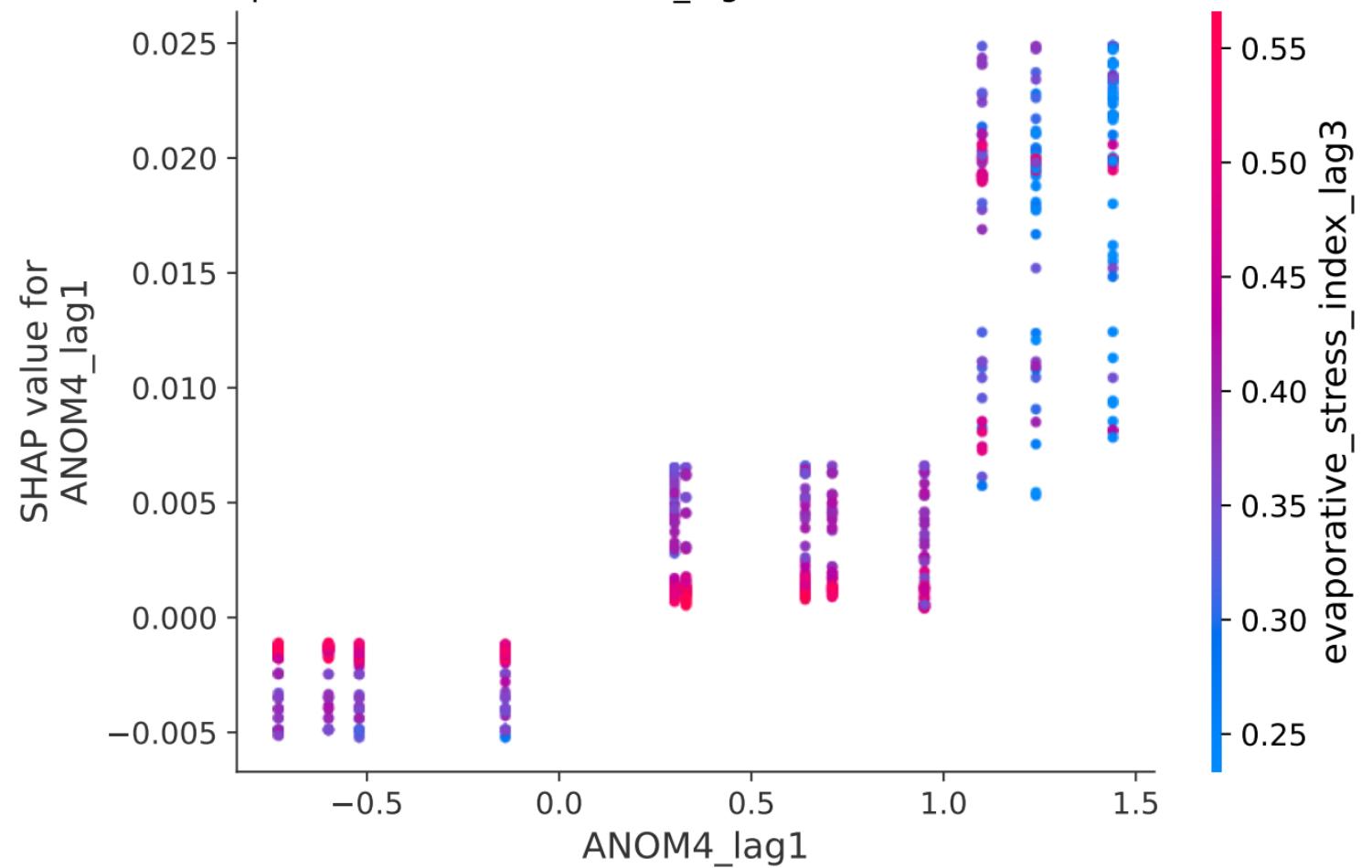
SHAP Dependence Plot for evaporative\_stress\_index\_lag3, Class 1 - Kalimantan (Test Set)



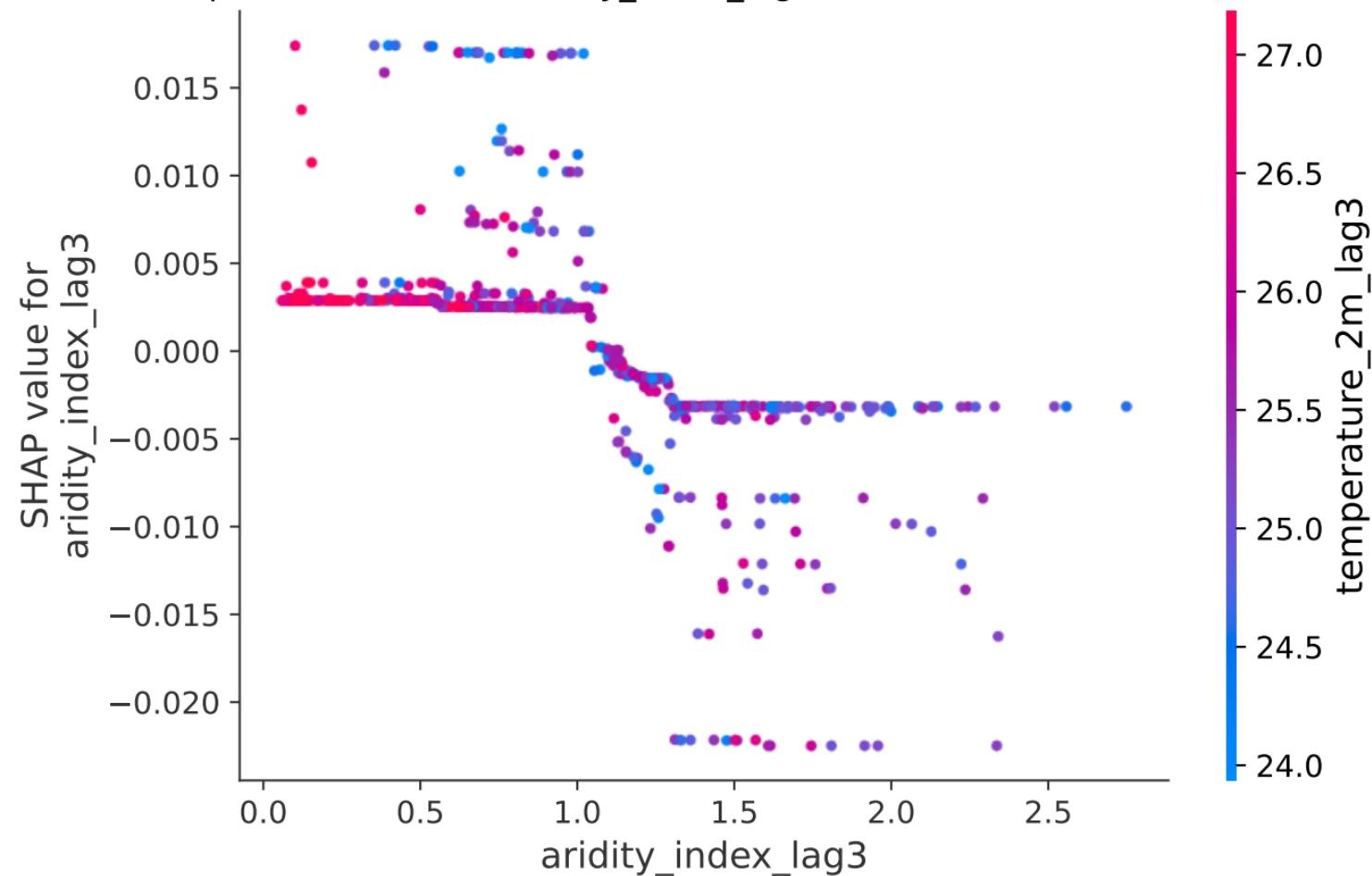
SHAP Dependence Plot for evaporative\_stress\_index\_lag3, Class 2 - Kalimantan (Test Set)



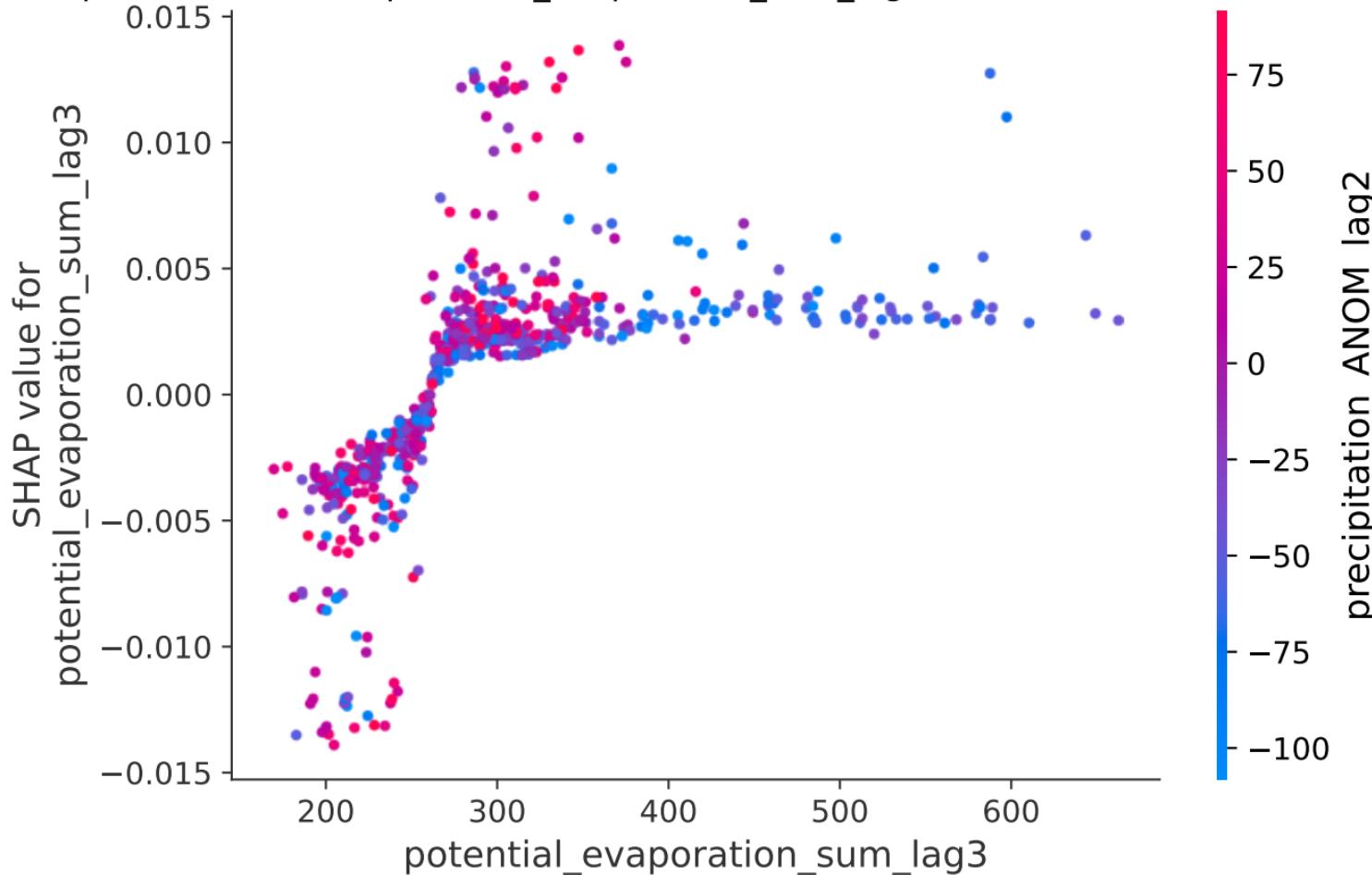
# SHAP Dependence Plot for ANOM4\_lag1, Class 2 - Kalimantan (Test Set)



# SHAP Dependence Plot for aridity\_index\_lag3, Class 2 - Kalimantan (Test Set)



SHAP Dependence Plot for potential\_evaporation\_sum\_lag3, Class 2 - Kalimantan (Test Set)



# SHAP Dependence Plot for ANOM3, Class 2 - Kalimantan (Test Set)

SHAP value for  
ANOM3

