Economic Output and Risk Factors

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What is the relationship between health risk concentrations and economic output?

Calculate correlations between environmental exposures and farm sales (and/or other econvariables) to understand economic linkages.

The values used as variables of economic output are listed below. Variables ending in "operation" denote "dollar speroperation".

```
## [[1]]
   [1] "commodity_totals_sales_measured_in_$"
   [2] "commodity_totals_sales_measured_in_$_operation"
##
   [3] "crop_totals_sales_measured_in_$"
   [4] "animal_totals_incl_products_sales_measured_in_$"
   [5] "commodity_totals_operations_with_sales"
    [6] "farm_sales_(less_than_2500_$)"
##
   [7] "farm_sales_(2500_to_4999_$)"
   [8] "farm_sales_(5000_to_9999_$)"
   [9] "farm_sales_(10000_to_24999_$)"
## [10] "farm_sales_(25000_to_49999_$)"
## [11] "farm_sales_(50000_to_99999_$)"
## [12] "farm_sales_(100000_or_more_$)"
## [13] "income_farmrelated_operations_with_receipts"
## [14] "income_farmrelated_receipts_measured_in_$"
## [15] "income_net_cash_farm_of_operations_operations_with_net_income"
## [16] "income_net_cash_farm_of_operations_net_income_measured_in_$"
  [17] "income_net_cash_farm_of_operations_net_income_measured_in_$_operation"
```

Below are a series of correlation plots between variables of economic output and different weather/natural disaster predictors.

Correlation Plot: Drought

Corr

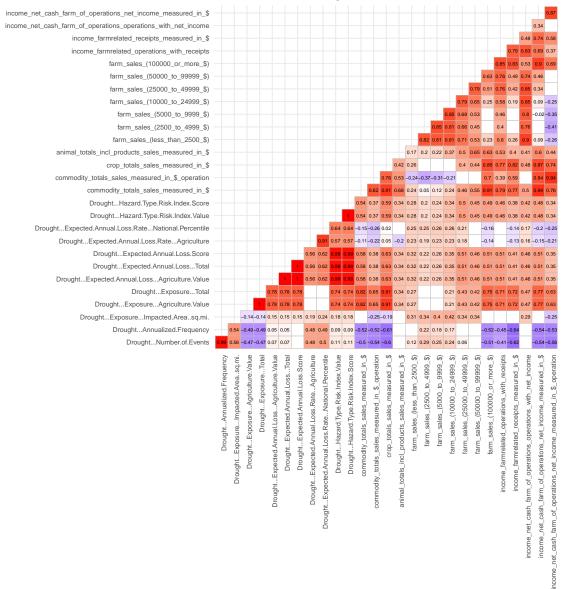
1.0

0.5

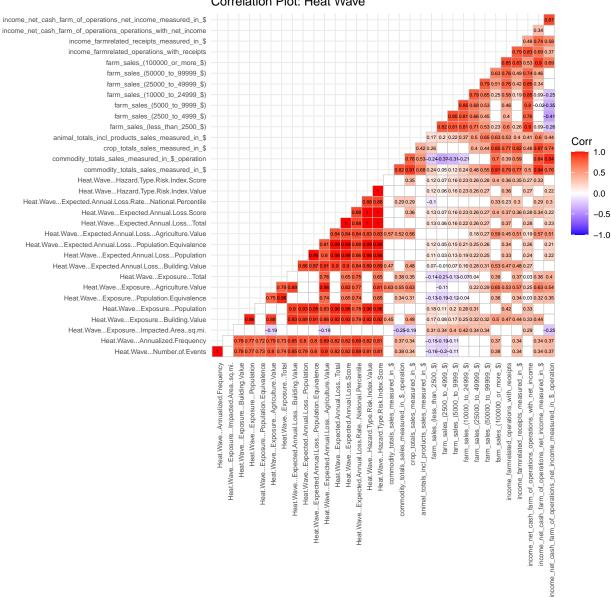
0.0

-0.5

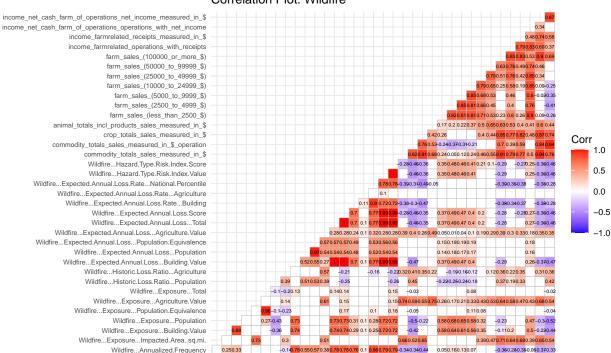
-1.0



Correlation Plot: Heat Wave



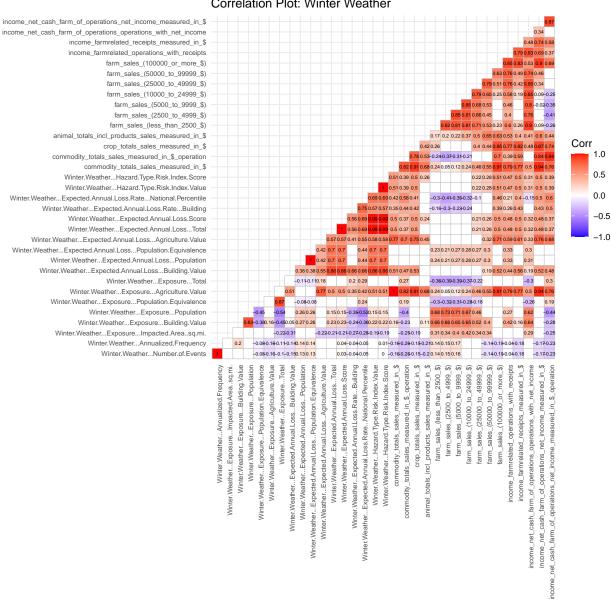
Correlation Plot: Wildfire



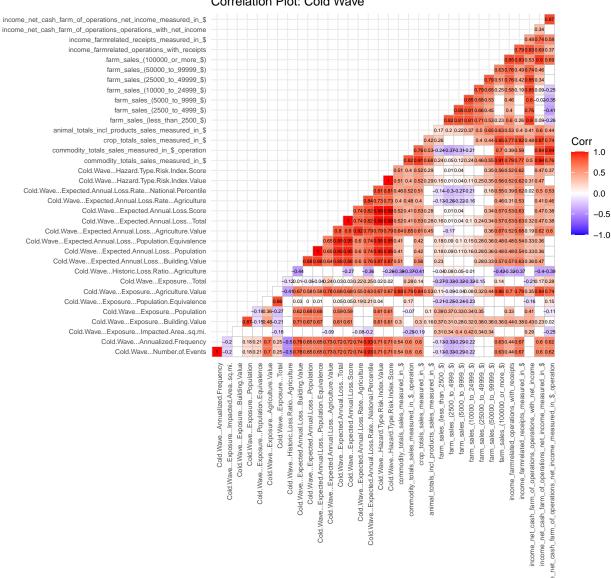
net_cash_farm_of_operations_net_

Wildfire...Exposure...Impacted.Area..sq.mi

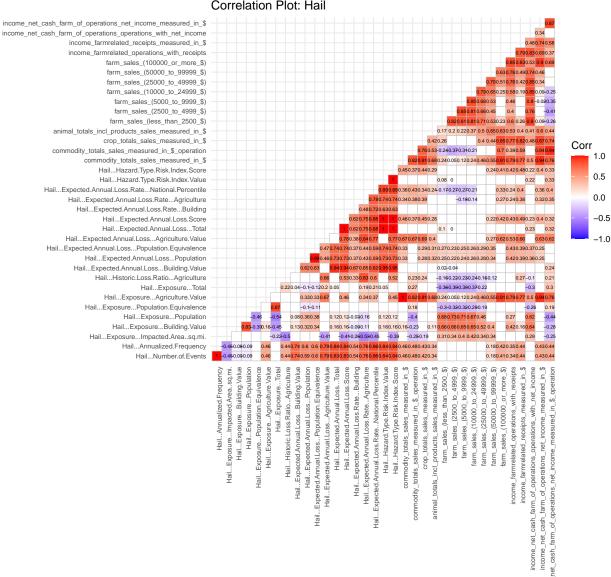
Correlation Plot: Winter Weather



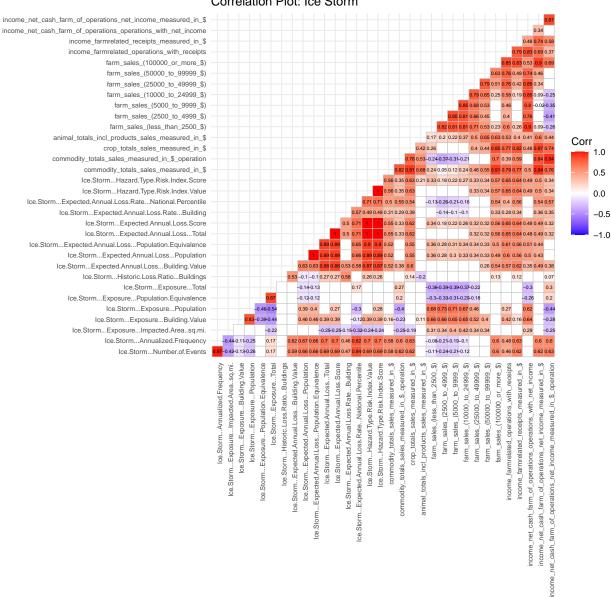
Correlation Plot: Cold Wave



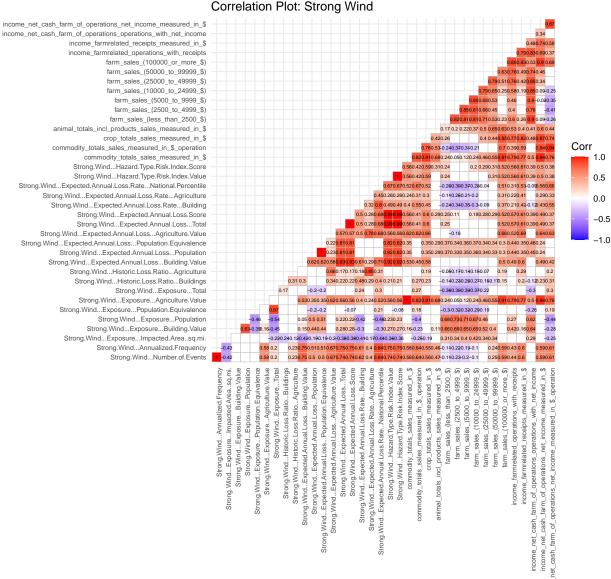
Correlation Plot: Hail



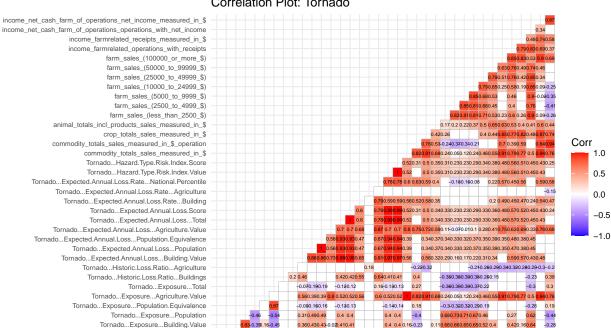
Correlation Plot: Ice Storm



Correlation Plot: Strong Wind



Correlation Plot: Tornado



Tornado...Exposure...Impacted.Area..sq.mi.

Tornado...Annualized.Frequency Tornado...Number.of.Events

> Tornado...Historic.Loss.Ratio...Buildings Fornado...Historic.Loss.Ratio...Agriculture Tornado...Expected.Annual.Loss...Population.Equivalence Tornado...Expected.Annual.Loss...Agriculture.Value commodity_totals_sales_measured_in_\$ Tornado...Expected.Annual.Loss.Rate...Agriculture farm_sales_(less_than_2500_ fornado...Expected.Annual.Loss.. ..Expected.Annual.Loss.Rate...National.Per animal_totals_incl_ commodity_

-0.250.18

income_net_cash_farm_of_operations_net_income_measured_in_\$ net_cash_farm_of_operations_net_income_measured_in_\$_operation

Correlation Plot: Lightning

Corr

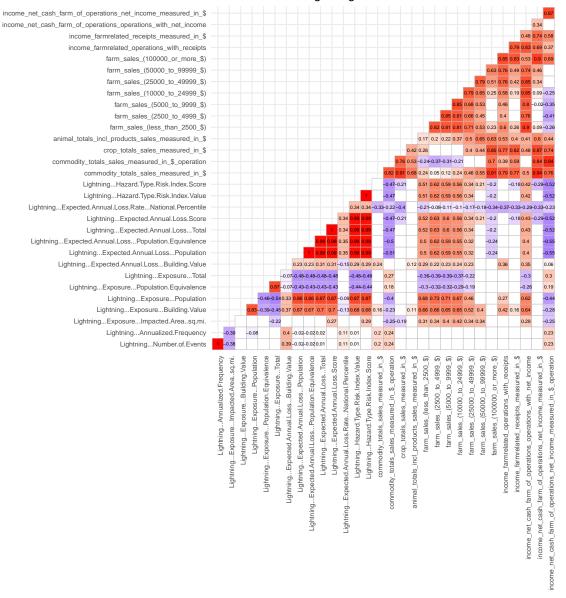
1.0

0.5

0.0

-0.5

-1.0



Correlation Plot: Avalanche

