Impact of Environmental Conditions on the Energy Sector

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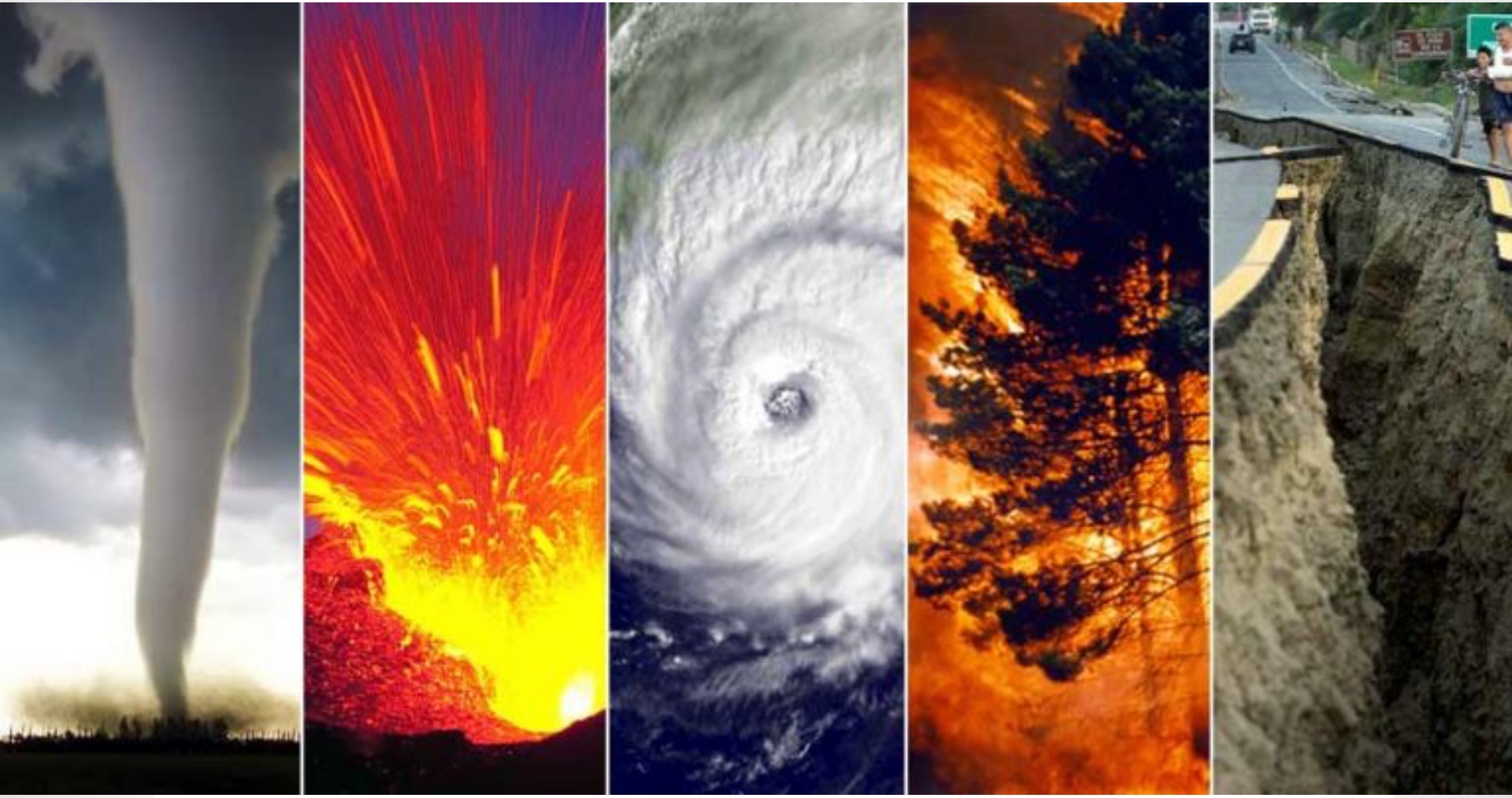
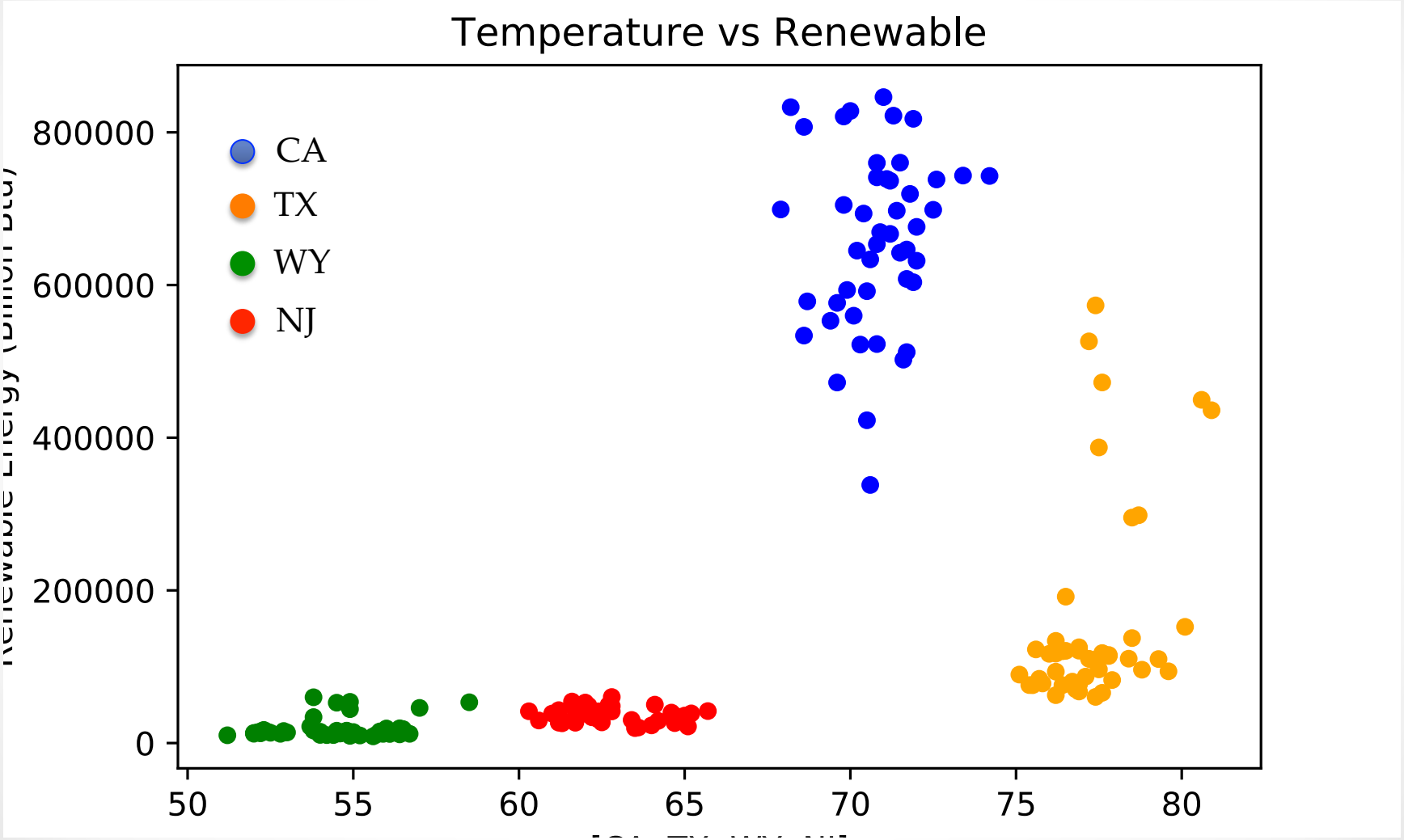
Why?



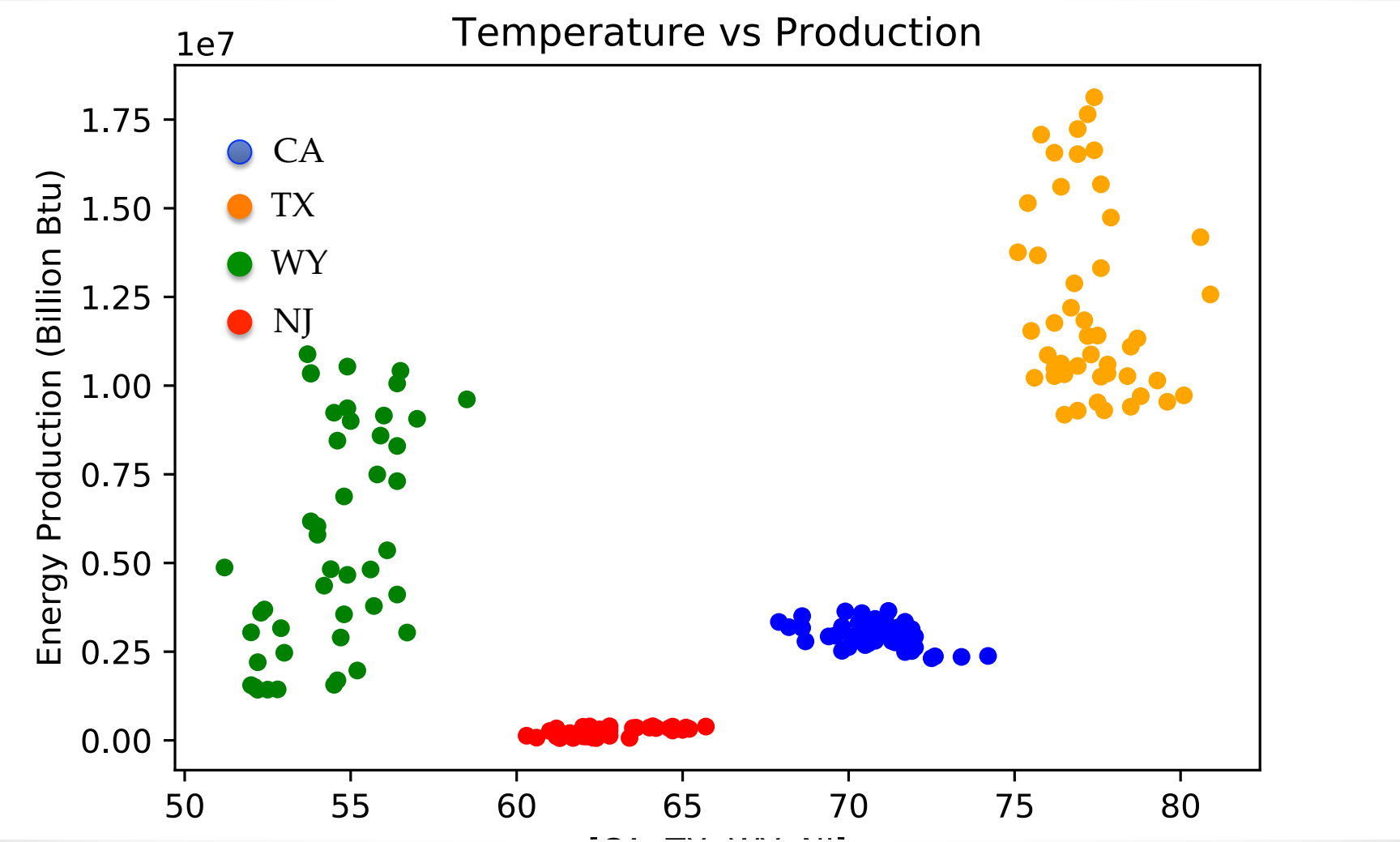
Data

Variables	Detail	Period	Size
Weather: temperature, precipitation, etc.	monthly, 32 km gridded resolutions	1979-2017	23.8 GB
Disaster	USA	1980-2015	1 MB
Energy production	Annual, State level	1960-2015	50 files
Energy consumption	Annual, State level	1960-2015	50 files
Renewable energy production	Annual, State level	1960-2015	50 files
population	Annual, State level	1960-2015	50 files

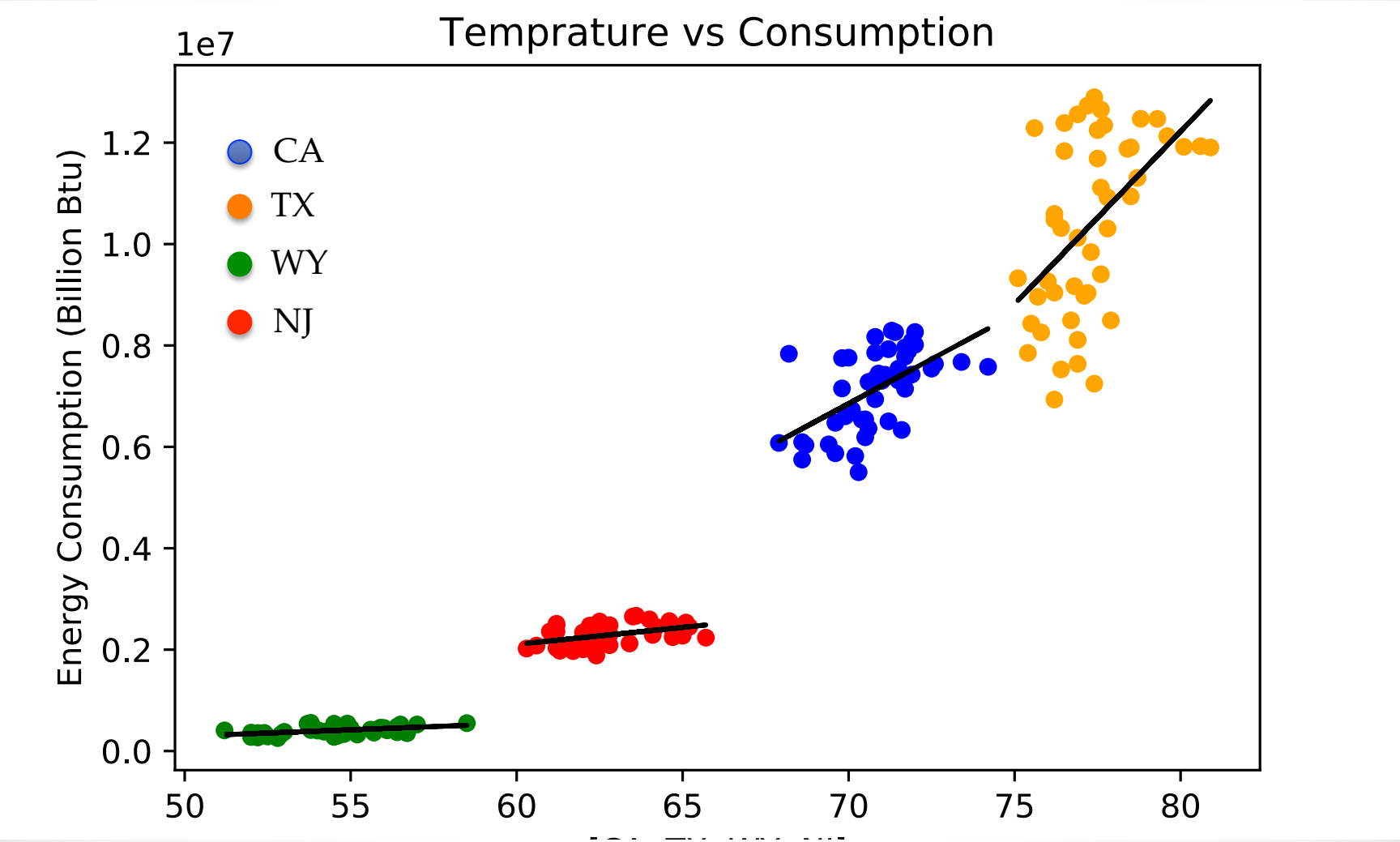
Temperature vs. Renewable



Temperature vs. Production



Temperature vs. Consumption



Take Away Messsage

- Relationship between temperature and renewable energy production is not strong
- Trend in temperature and Total energy production for Wyoming
- Temperature influences energy consumption, but vary depending on state

Statistical Analysis

- P-Value of California 3.88320260334e-05 0.567667117292 352190.816953 77000.5824871
- P-Value of Texas 0.000283545489495 0.511122561706 680394.060875 172488.031717
- P-Value of Wyoming 0.000504013636294 0.492715212979 25415.5436465 6766.9270182
- P-Value of New Jersey 0.00234834736262 0.437727205548 67173.2955681 20800.7291236
- P-Value of California 0.0012351150763 -0.462145383989 -125093.464493 36187.4008904
- P-Value of Texas 0.156121391568 -0.212559238497 -426443.177997