# Natural Gas Forecasting on the State Level

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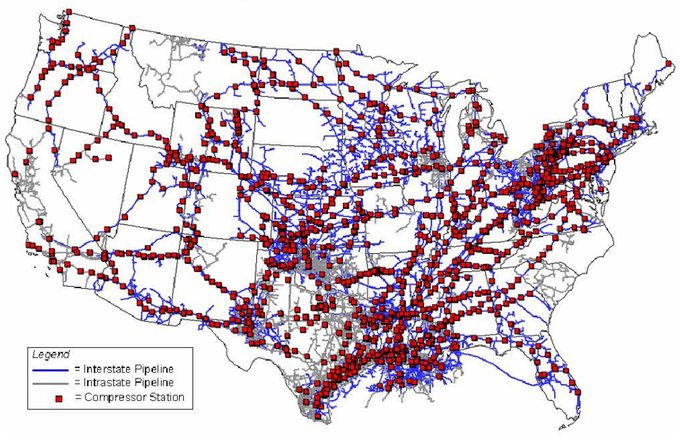
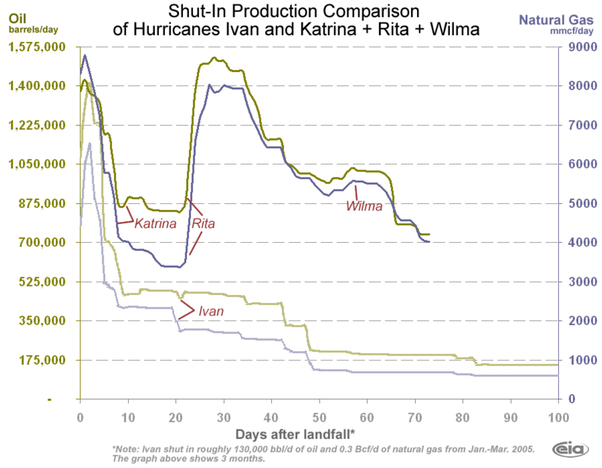
## Problem Statement

- State or multi-region natural gas (NG) forecasting is needed to optimize the use of infrastructure and balance daily supply with demand
- The challenge of accurately forecasting NG load is rooted in the availability, relevancy, and accuracy of information on which we are basing the forecasts
- Forecasting NG consumption has traditionally been done on a small-scale for a particular geographical area
- Large amounts of NG is transported through an extensive U.S. pipeline infrastructure to make small-scale forecasting possible
- The infrastructure supporting this is bulky and complex; optimization is needed to better distribute this non-renewable resource



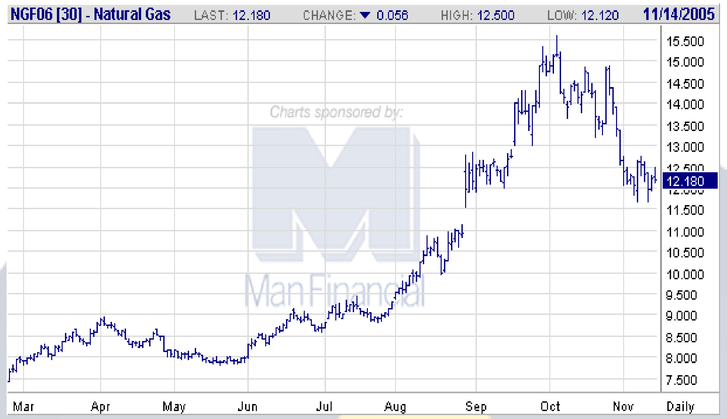

## Relevance

- NG traders base the buying and selling of gas commodity contracts off what they believe the future demand will look like
- NG marketers want to know future projections as they facilitate their own transportation, storage, or transaction of natural gas
- LDCs use demand forecasts to help assure the delivery of gas to the customers they serve




## Objective

- Develop and validate a set of integrated daily models to predict the aggregated natural gas demand for service regions across the United States
- Optimize use of infrastructure to balance daily supply with demand
- Simulate peak day/design day conditions
- Disaster & maintenance planning and response (hurricanes, accidents, terrorism)




## Value of Research

- The forecasts generated from this project can be used by those buying and selling natural gas commodities, natural gas marketers, and Local Distribution Companies (LDCs) to make early and effective business decisions.
- Provides diagnostic feedback to pipeline operators so they are able to maintain a safe and efficient production process

## Forward Thinking

- Helps ensure responsible production of a natural, non-renewable resource
- The state-by-state or multi-region forecasts can help provide valuable insights to both governmental and private sector production, transportation, and storage
- Provides safer working environments for human operators

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