

# Deadly Dates

## The Effect of Holy Days on Terrorism

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# Question

How do Islamic holy days affect the incidence of terror attacks?

# Evidence for an Increase

“Jihad fighters... [t]his month of Jihad (Ramadan) has come with all its blessings and with the double reward [for Jihad fighters] in its course. Come closer to Allah through the blood of infidels, do not relent in spilling [their blood]!”

*-Saud Bin Hamoud al-Utaybi  
Senior Member of AQAP*

# Evidence for a Decrease

- Ashura commemoration in Karbala, Iraq (2012)
  - 2 million+ pilgrims gathered in Karbala for the holiday
  - No attacks occurred



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- The relationship between religion and terrorism

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  - Increased likelihood during **long holidays** (e.g. Ramadan)

# Theory

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- I apply this argument to holidays (temporal targets), not physical sites

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  - Challenges government legitimacy



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  - Leads to heterogeneous holiday effect

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- Muharram & Ashura in Pakistan



# Hypotheses

Day Type	Expectation
Non-holiday	Baseline

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H1:	Short Islamic Holiday	↓

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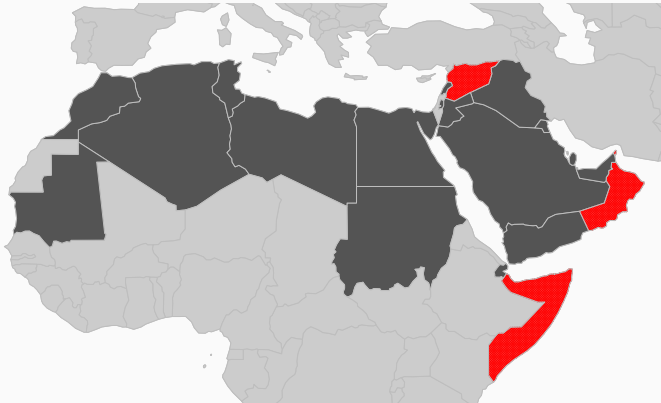
Day Type		Expectation
Non-holiday		Baseline
H1:	Short Islamic Holiday	↓
H2:	Long Islamic Holiday	↑

# Data

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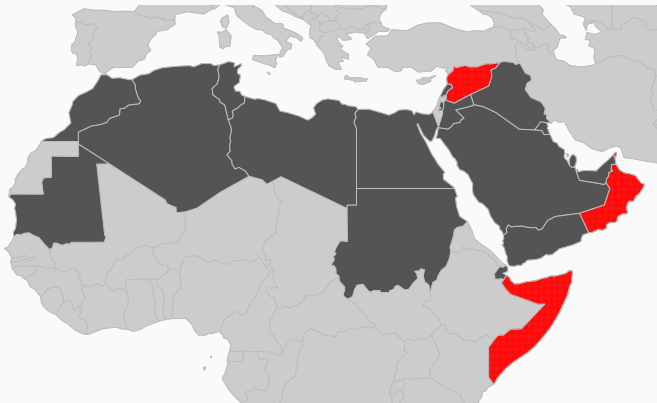
# Data

- All available (18) Arab League countries (2001-2016)



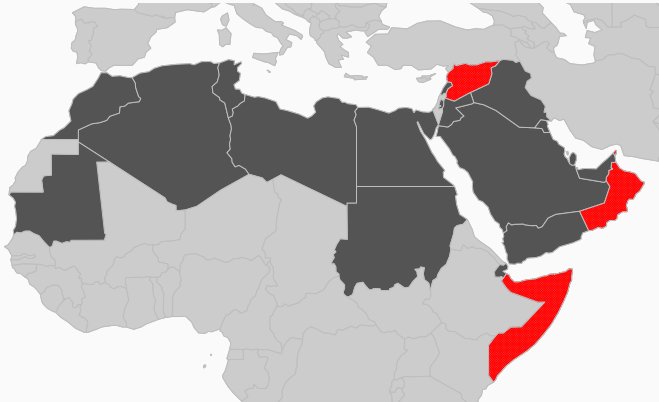
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- All available (18) Arab League countries (2001-2016)
  - Conflict-prone region (Sørli, Gleditsch, & Strand 2005)
  - Counter-terrorism is salient security concern





# Data

- Unit: Country-days
- 100,000 observations
- Controls
  - Geography: Land Area (km<sup>2</sup>)
  - Conflict: Battlefield violence<sub>t-1</sub>, Lagged<sub>t-1</sub> DV
  - Social/Economic: GDP, Population (km<sup>2</sup>), Secular Holidays

# Dependent Variable

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  - 97% of days experience 3 attacks or fewer

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  - 97% of days experience 3 attacks or fewer
  - 15% of observations experience a terror attack

# Key Independent Variable

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  - Short Holidays: 18%

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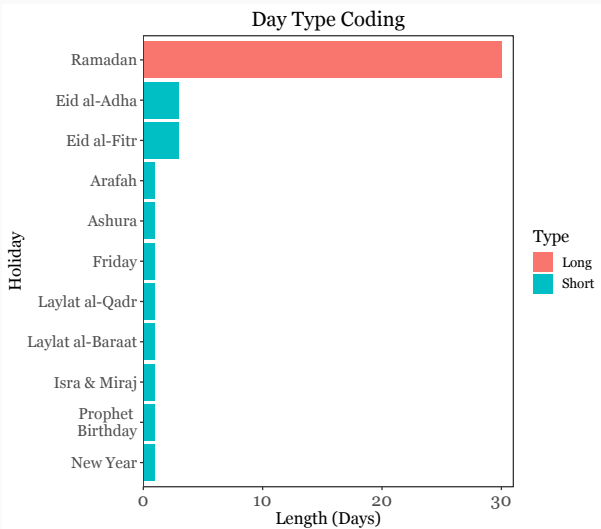
- Categorical variable with three levels
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# Key Independent Variable

- Categorical variable with three levels
  - Non-holidays: 48% (baseline)
  - Short Holidays: 18%
  - Long Holidays: 33%
- Timing of holidays relies on Saudi Arabia's Umm al-Qura calendar

# Key Independent Variable



# Model

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# Multilevel Model

- Data exhibit a clear hierarchical structure

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- Data exhibit a clear hierarchical structure
- Predictors at different levels: population and temperature

$$p(y_{ijk} = 1) = \text{logit}^{-1}(\beta_0 + \beta_1 \cdot X_{1ijk} + \beta_2 \cdot X_{2jk} + \beta_3 \cdot X_{3k} + \text{countryyear}_{jk} + \text{country}_k)$$

# Results

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# Logistic Regression Results

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Expectation	Day Type
H1: ↓	Short Holiday

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Baseline: Nonholiday, \* $p < .01$

# Logistic Regression Results

Expectation	Day Type	Coef (SE)
H1: ↓	Short Holiday	-0.197* (0.04)

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Expectation	Day Type	Coef (SE)	$\Delta\%$
H1: ↓	Short Holiday	-0.197* (0.04)	-7.6

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Expectation	Day Type	Coef (SE)	$\Delta\%$
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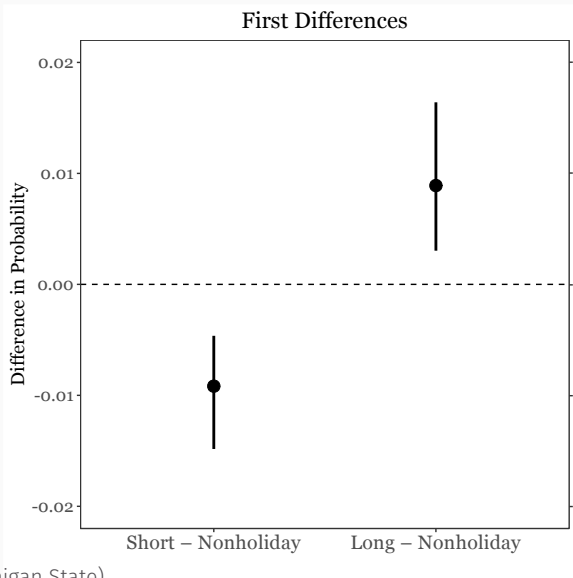
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H1: ↓	Short Holiday	-0.197* (0.04)	-7.6
H2: ↑	Long Holiday	0.18* (0.057)	+7.3

Baseline: Nonholiday, \*p < .01

# First Differences



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