

The Climate Change Policy Regime and Information Networks in the United States Congress

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Midwest Political Science Association, April 2016

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 - ▶ Authority
- ▶ Policy regimes
 - ▶ Governance arrangements that crosscut elements of different policy subsystems
 - ▶ Ideas
 - ▶ Interests
 - ▶ Institutions

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 - ▶ Types of search
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- ▶ Information network
 - ▶ The actors and institutions involved in the provision and processing of information
- ▶ What is the structure of the climate change information network?
 - ▶ Hollow-core or core-periphery
 - ▶ Entropic or expert

Data

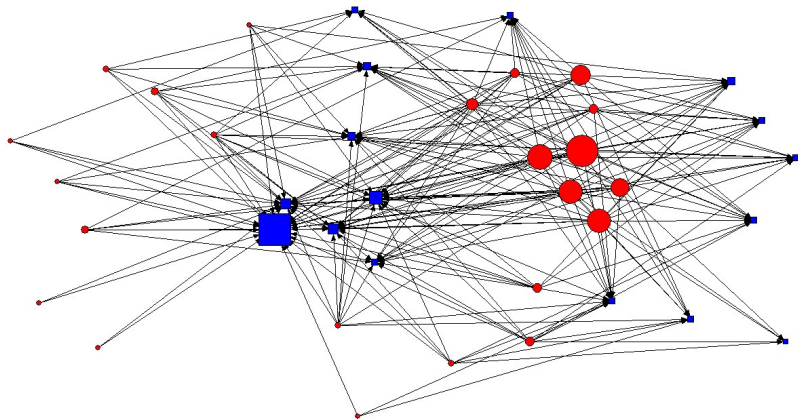
- ▶ *ProQuest Congressional* database
- ▶ Search terms:
 - ▶ *Climate Change*
 - ▶ *Global Warming*
 - ▶ *Greenhouse Gas*
- ▶ Results from 1976-2014
 - ▶ 348 Hearings
 - ▶ 2,364 Witnesses

Coding and Analysis

- ▶ Committee and witness level
- ▶ Witness coding by affiliation
 - ▶ Federal agencies: Executive and legislative
 - ▶ Members of Congress
 - ▶ Intergovernmental: State and local officials
 - ▶ International
 - ▶ Experts: University scientists, National laboratories, National academies, Research institutes, “Think Tanks”
 - ▶ Economic sectors: Based on North American Industry Classification System (NAICS)
 - ▶ Environmental interest groups
- ▶ Network analysis: Centrality measures

Information Network

Figure: Complete Information Network



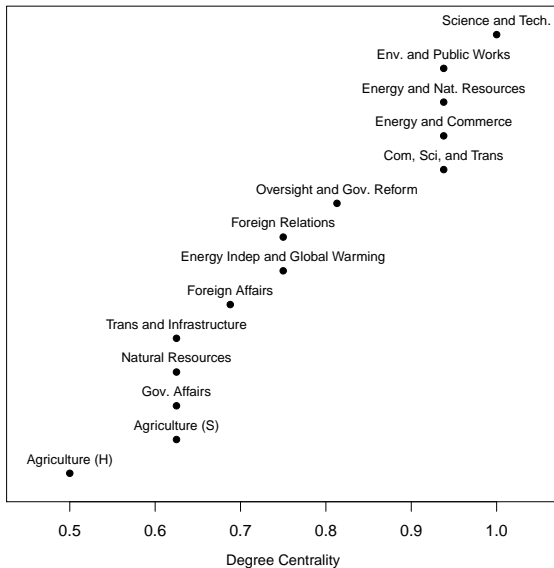
Hearings by Committee

Table: Climate Change Hearings by Committee: 1976-2014

Committee	Chamber	Number	Percent
Agriculture	House	5	1.44
Agriculture, Nutrition, and Forestry	Senate	9	2.59
Commerce, Science, and Transportation	Senate	31	8.91
Energy and Commerce	House	59	16.95
Energy and Natural Resources	Senate	43	12.36
Energy Independence and Global Warming	House	34	9.77
Environment and Public Works	Senate	45	12.93
Finance	Senate	8	2.30
Foreign Affairs	House	9	2.59
Foreign Relations	Senate	11	3.16
Homeland Security and Governmental Affairs	Senate	4	1.15
Natural Resources	House	10	2.87
Oversight and Government Reform	House	15	4.31
Science and Technology	House	42	12.07
Small Business	House	7	2.01
Transportation and Infrastructure	House	3	< 1
Ways and Means	House	5	1.44

$\chi^2 = 448.012$, significant at $p < .001$

Committee Degree Centrality



Witnesses by Affiliation

Table: Climate Change Hearings and Witness Affiliation: 1976-2014

Witness	Number	Percent
<i>Government</i>		
Federal Agencies	512	21.66
Members of Congress	66	2.79
State and Local	153	6.47
Total Government	731	30.92
<i>Private Sector</i>		
Agriculture	61	2.58
Manufacturing	83	3.51
Mining	48	2.03
Transportation	46	1.96
Utilities	233	9.86
Other Industries	69	2.92
Total Private Sector	540	22.86
<i>Interest Groups</i>		
Environmental	166	7.02
Other Interest Groups	69	2.92
Total Interest Groups	235	9.94
Experts	761	32.19

$\chi^2 = 4228.6$, significant at $p < .001$

Experts and Federal Agencies

Table: Federal Agencies

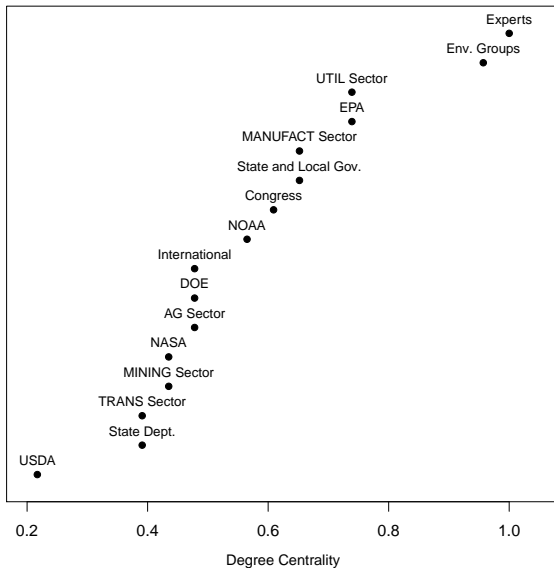
Agency	Number	Percent
DOE	74	13.19
EPA	93	18.16
NASA	44	8.59
NOAA	65	12.70
State Dept.	42	8.20
USDA	14	2.73
Other Agency	181	32.26

Experts and Federal Agencies

Table: Experts by Affiliation

Affiliation	Number	Percent
National Academy	80	10.51
National Laboratory	46	6.04
Professional Association	23	3.02
Research Institute	176	23.13
Think Tank	97	12.75
University	319	41.92
Other Affiliation	20	2.63

Witness Degree Centrality



Core-Periphery

Table: Core-Periphery Structure of the Climate Change Information Network

	Density	Committees	Witnesses
Core	65.33	EPW, ENR, EC	Experts, Utilities, ENV
Periphery	1.752	AG, Economic	AG Sector, USDA

The fit measure is 0.819

Conclusion

- ▶ The network had a core-periphery structure rather than a hollow-core
 - ▶ The core committees
 - ▶ Environment and Public Works
 - ▶ Energy and Natural Resources
 - ▶ Energy and Commerce
 - ▶ The core witnesses
 - ▶ Experts
 - ▶ Environmental groups
 - ▶ Utility sector
- ▶ Next steps
 - ▶ Content of testimonies
 - ▶ Network dynamics over time