#### A Survey of "In House" Data Sets

Muri Kickoff Meeting 11/18/2008 Carter Butts, Lorien Jasny, Chris Marcum, Ryan Acton, Miruna Petrescu-Prahova, Emma Spiro, Zack Almquist

		Data Types	
	Dynamic: Spell	Dynamic: Event	Static
Attributes	-Katrina	-Radio Transmissions (WTC) -Improv Micro Events (WTC, OKC)	-WTC EMONs -International Trade
No Attributes	-Political Blogs	-WTC Police Aid, Communication	

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### Katrina Materials

- Complete archive
  - Approximately 17,000 files and online documents from public sources
  - Collected daily between 09/03/05 and 11/01/05; additional pass on 11/28/05
    - Pre-09/03/05 documents were available from most applicable sources
  - 63 sources in 14 states
    - 13 state gov, 20 county/parish gov, 5 city gov, 4 state agencies, 16 federal entities, 5 other orgs
    - All online material from each source collected over indicated period

- Primary archive
  - 187 SITREPs from first 7 days after LA landfall (up through 09/05/05)
  - 21 sources in 10 states+DC



## What is a SITREP?

- Primary source: situation reports (SITREPs)
  - Regularly issued updates on organizational status, activities
  - Issued by many governmental and non-governmental entities
- Typical content (see excerpt)
  - Time/source information
  - Weather report
  - Current situation description
  - Current activities
  - Planned activities
  - Likely resource requirements and/or currently available resources

#### \*Colorado Division of Emergency Management SITUATION REPORT 2005-6 (Hurricane Katrina) August 30, 2005\*

\*Event Type:\* Hurricane Response

\*Situation:\* On August 29, Hurricane Katrina hit the gulf coast east of New Orleans. It was considered a Category 5 Hurricane, which brings winds of over 155 mph and storm surge of 18 feet above normal. Massive property damage has occurred and undetermined number of deaths and injuries.

\*Closed 8/2/2005 14:00 **St. Pauls Apiscaple Church** Foley Baldwin

Colorado response to date include two deployments:

- Two members from the Division of Emergency Management to the Louisiana EOC, departed on August 29.

\*Weather Report:\* Katrina is moving toward the north-northeast near 18 mph. A turn toward the northeast and a faster forward speed is expected during the next 24 hours. This motion should bring the cent

\*Agencies Involved:\* Colorado Department of Military and Veteran Affairs, Department of Local Affairs, Division of Emergency Management, Governor's Office.\* \*

\*Additional Assistance Requested:\* Type III teams, consisting of Operations, Plans, and Logistics personnel (two individuals for each area). These teams could deploy to Alabama, Louisiana, and/or Mississippi. Teams will be at either working the State or Parish/County EOCs.

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The State Operations Center (SOC) is fully activated and from OHS-GEMA, Georgia State Patrol, Georgia Division of Family and Children Services (DFCS), Georgia Depart American Red Cross (ARC), Department of Corrections, and the Georgia Bureau of Investigation. Federal repres	staffed with representatives of Public Health, Department tment of Human Resources, Department of Transportation, entatives to the SOC include				
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Federal representatives to the SOC : O	Georgia Forward Operations Center : C				
Georgia Department of Human Resources Emergency Operations Center : O	Georgia Governor's Office of Consumer Affairs : 🔿				
Georgia Department of Family and Childrens Services : C	Columbia County Georgia Citizen Emergency Response Team : 🔿				
Douglas County School System :	Georgia Forestry Commission Incident Management Team : O				
Douglas County DFCS : 〇	Dobbins Air Force Reserve Base Field Staff : O				
Cobb Civic Center : O	Georgia Emergency Management Assistance Compac: O				
Georgia Forestry Commission District 2 : C	State Climatologist : C				
Georgia Department of Agriculture Equine Section : C Civil Air Patrol Aircraft : C					
Civil Air Patrol Ground Teams : O Holy Ground Baptist Church : O					
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99070830	OE staff have deployed as follows:	-			
99070902	one to the Alabama EOC, two to the Regional Response Coordination Center (RRCC) in				
99070903	Atlanta, GA and one to the BBCC in Denton, TX.				
99070904					
99085500	ß As of 8:00 AM 8/27/05 Katrina is a Category Three hurricane with maximum sustained				
99085501	winds near 115 mph and higher gusts. Katrina is moving toward the west near 7 mph. A				
99085503	gradual turn toward the west-northwest is expected during the next 24 hours as is some				
99085504	strengthening of the storm. Current forecasts show the center of the Hurricane striking the				
99085506	Louisiana Gulf Coast mid-day Monday. The latest advisory is available at:				
99085507	http://www.nhc.noaa.gov/				
99085508					
99085510	ELECTRICITY INFORMATION				
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99085513	STATE OUTAGE DATA (8/27/05 7:00 AM)	_			
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99085515	Customers				
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99085518	Current Organizations:				
99085520					
99085521 Alaba	ma SEOC -				
99085523 FEM	h, Region IV Regional Response Coordination Center, Atlanta, GA				
99085524	enartment of Energy Office of Electricity. Delivery and Energy Reliability				
99085525	epartment of Energy, office of Electricity, belivery and Energy Kenability US Department				
99085527	FEMA, Region IV FEMA, Region VI of Energy, Regional Regional Official				
99085528	Alabama SEOC Response Response Electricity,				
99085529	Center, Atlanta, Center, Denton, Energy				
99085531	GA IX Reliability				
	Finished				
	AY Approximately 883,000 customers, 10 percent of customers in the state, are without power.				
	The largest number of outages is in the Florida Power & Light (FPL) service area.				
	Municipals and Cooperatives are reporting 12,900 customer outages combined.	•			
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#### What Have We Got?

- 1,577 extracted organizations
- Networks of org x org interactions by:
  - Date (August 24 through September 6, 2006), yielding 13 time points
  - Document (187 documents)
  - Source (21 sources)
  - All dates from all documents combined (union rule)

#### Vertex Attributes in the katrina Package

Vertex Attribute Vectors	Туре	Description
FEMA Region	Categorical	The FEMA region codes for the headquarters location of each vertex
HQ City	Character	The headquarters location (city only) for each vertex
HQ State	Character	The headquarters location (two letter U.S. state abbreviation only) for each vertex
Organization's Scale of Operations	Ordinal	The scale of operations code for each vertex
Source Organization Indicator	Categorical	Indicator for each vertex whether it is also a source organization. If so, its unique source ID code.
Organization Type	Categorical	A vector containing the organization type code for each vertex
Vertex Name	Character	The names of the vertices in the graph



#### Network Dynamics (Daily Snapshots)

Date	Organization Count	Number of Ties	Mean Degree	Percent Isolates	Non-isolate Components	Largest Component Size
August 24	13	1	0.15	84.62	1	2
August 25	169	47	0.56	69.23	11	21
August 26	118	42	0.71	63.56	6	26
August 27	124	50	0.81	58.06	7	15
August 28	154	40	0.52	68.83	8	11
August 29	265	77	0.58	70.19	9	42
August 30	275	63	0.46	76.36	11	22
August 31	332	122	0.73	70.18	13	47
September 1	489	224	0.92	62.17	19	121
September 2	533	225	0.84	60.6	22	98
September 3	673	288	0.86	62.26	29	133
September 4	775	312	0.81	63.48	20	219
September 5	719	264	0.73	65.92	28	163



#### Responder Radio Communications at the WTC

- 17 radio transcripts from WTC, PA, Newark responders
  - Divided into partitions
  - Partitions contain transcribed transmissions
  - Transmissions contain identifiers, text
    - Some missing data due to inaudibility, redaction
- Used to construct multigraphs of interpersonal communication during WTC event
  - (*i*,*j*) edge corresponds to a transmission from *i* to *j*

•MALE A: (Inaudible), escort unit, is that marked? (PAUSE)

•MALE B: Eighty-three, Central. (PAUSE) Eight-three, Central.

•MALE O: Eighty-three, go.

•MALE B: We've got an explosion in Tower Two, looks like, uh, at least the 96th floor. Uh, tell personnel follow directions of support personnel. They can come down West Broadway, and right to the facility. But make it as nice and clear as possible.

•MALE O: Okay, copy. (PAUSE)

•MALE C: CPD from eight-five, eight-one, Kenny.

•MALE O: Eight-five, eight-one, Kenny, go.

•MALE C: We're, uh, headed towards the Trade Center. Could you advise us if the Battery Tower is providing emergency access for us?

### **Responder Heterogeneity**

- Not all responders are alike
  - "Specialist" responders are trained and equipped to respond to crisis situations as part of their standard duties
    - Fire, EMS, police, security, etc.
  - "Non-specialist" responders lack special training/equipment
    - Bystanders, civilian volunteers, victims, etc.
- Does specialization affect communication network structure?
  - Coded WTC networks by responder type
    - 9 "specialist" networks, 8 "non-specialist" networks

#### The WTC Networks: A First Look



Specialist Responder Networks

Non-specialist Responder Networks

#### **Additional Properties**

- Local structure
  - Reciprocal communication in 50-75% of cases
  - Avoidance of local clustering
- Global structure
  - Highly centralized
  - Fragmented (results from reciprocity and degree dist)
- Few systematic differences by responder type or task

- Some surprises
  - Lack of clustered, "team" structure
  - Weak role of responder type
    - General aspects of disaster context may be more important than responder training, initial organization
  - Uniformity of degree distribution
    - E.g., roughly constant mean degree, despite order of magnitude size differences

## Improv Micro Events

- World Trade Center and Oklahoma City Bombing
- Police and Firefighter reports
- 2x2 set of 30 documents for each category
- lots more documents, radio, still unanalyzed

WTC Police	WTC Fire
(168 docs,	(30 docs,
9,740 events)	3,866 events)
OKC Police (30 docs, 1,730 events)	OKC Fire (17)

#### Micro Events

- Description: an Event is the smallest building block of information passed in the report. If an event can be divided into different events, each of these are their own base events and should be recoded as the events.
- Events divided into
  - Movement
  - Communication
  - Aid
  - Cognitive Reasoning
  - Cognitive Memory
  - Other

PA 2265 11-72	The Cauthority of New York and New Jers NAND WRITTEN MEMORANDUM
fo:	Lt. Ed Gutch Page 2
From: _	Sgt. QD DeMarco  244
Date:	11 / 4 / 01
Subject:	NEMO#64-01 RESPONSE TO WORLD TRADE CENTER ON 9/11/01
	eventually enveloped in the dust, ash and smoke, making it difficult to
	see or breathe. Approximately four blocks from the WTC, I observed a NYC
	Policeman and Fireman jump from a moving van and fall to the curb. Both
	were choking on ash and were having difficulty breathing. P.O. Dan
	McCarthy obtained bottles of water and we assisted both individuals in
	clearing their airways and exiting the area. P.O. McCarthy and I began
	to respond towards the WTC to assist victims and 1 WTC collapsed sending
	dust, smoke and debris, again forcing us to flee from the area. Captain
	Albin informed me to form up all PAPD Officers in the auditorium of St.

Responder reports from the 9/11 and OKC disasters are split by sentence and saved into tab-delimited files.

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	A	В
1	< <u>li</u> >	File No.
2	< <u>li</u> >	9110242
3	< <u>li</u> >	WORLD TRADE CENTER TASK FORCE INTERVIEW
4	< <u>li</u> >	FIREFIGHTER MIKE ZECHEWYTZ
5	< <u>li</u> >	Interview Date: December 5, 2001
6	< <u>li</u> >	Transcribed by Nancy Francis
7	< <u>li</u> >	CHIEF LAKIOTES: Today is December 5th, 2001.
8	< <u>li</u> >	The time is approximately 1820.
9	< <u>li</u> >	My name is Battalion Chief Art <u>Lakiotes</u> , Safety Command, New York City Fire Department.
10	< <u>li</u> >	I'm conducting an interview with
11	< <u>li</u> >	FIREFIGHTER ZECHEWYTZ: Michael Zechewytz, engine 278, firefighter.
12	< <u>li</u> >	CHIEF LAKIOTES: This is in regard to the events of September 11th, 2001.
13	< <u>li</u> >	Q.
14	< <u>i</u> >	Mike, do me a favor and just tell me in your own words from probably the time you started responding with the company to the events that unfolded for you that day.
15	< <u>i</u> >	A
16	< <u>i</u> >	Well, I remember we were drinking coffee in the kitchen and we saw on the news breaking story on Channel 5 that a plane just hit.
17	< <u>i</u> >	I remember I was right by the TV set and I said, 'That must have been a drunk pilot.' I mean, it was clear outside.
18	< <u>i</u> >	So we were like, 'Wow, the guy must have had a few last night or something.'
19	< <u>i</u> >	So then Roger Jackson and myself went out to the front to see the smoke.
20	< <u>i</u> >	If you were in front of the firehouse and you looked over to the right, you saw the smoke.
21	< <u>i</u> >	Then he called and he goes, 'Zech.'
22	< <u>i</u> >	That's my nickname.

#### Events in each document are then tagged using the html "<b></b>"

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23 <li></li>	If you were in front of the firehouse and you looked over to the right, you saw the smoke
24 <li>24 <li>24</li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li>	<a name="l21fcsmFD30a00004"></a> Then he called and he goes, 'Zech.'
25 <li>25 <li>25</li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li></li>	That's my nickname.

The uniquely identified events in each document are iteratively coded for event type using Charybdis.

#### **Coding Document csmFD7**

Coder Name: csm

- 20. We both looked at each other, and we were like, 'Oh, what was that?' It seemed like right after that the alarm came in and we were on our way downtown.
- 21. We took the FDR Drive down, and you could actually see the building pretty much the whole way down.
- 22. The whole three-quarters of the way up was engulfed in fire.

Please select the action to which the highlighted text We both looked at each other refers:

If this does not refer to an eligible action, check here: 🔿

If this is a **new** action, enter its name here:

To abandon this tag and return to the previous code, check here: 🗆

actionaid : O	actioncommunication : O	actionmovement : O	cognitiver
othe : O	otherabandoned : C	otheracquired : C	otherassig
			: 0
otherattempted aid :	otherattempted clean gear	otherattempted communication : C	otheratte
0	: •		: 0

Charybdis produces tab-delimited flat files containing the anchored events, their event types, the coder, and the user-time.

These flat files are then reconciled and fed into another coding tool, charon(), for further coding.

New Op	en Save Print	Undo Redo Cut Copy Paste	Find R	eplace			
csmFD	30.tab 🗶						
1 "116	fcsmFD30a00000"	"NA" "" "Mon, 17	7 Dec 07	08:45:07	-0800"		
2 <sup>"</sup> 117	fcsmFD30a00001"	"actioncommunication"		"Mon, 17	Dec 07	08:45:12	-0800"
3 " <mark>1</mark> 18	fcsmFD30a00002"	"cognitivereasoning"		"Mon, 17	Dec 07	08:45:17	-0800"
4 " <mark>l</mark> 19	fcsmFD30a00003"	"actionmovement"		"Mon, 17	Dec 07	08:45:27	-0800"
5 "121	fcsmFD30a00004"	"actioncommunication"		"Mon, 17	Dec 07	08:45:33	-0800"

<u>File Edit View Terminal Tabs H</u>elp

cmarcum@pegmatite: ~/svn\_workspace/charon

cmarcum@pegmatite:~/svn\_workspace/charon\$ R

R version 2.8.0 (2008-10-20) Copyright (C) 2008 The R Foundation for Statistical Computing ISBN 3-900051-07-0

R is free software and comes with ABSOLUTELY NO WARRANTY. You are welcome to redistribute it under certain conditions. Type 'license()' or 'licence()' for distribution d<u>etails.</u>

Natural language support but running in an English locale

R is a collaborative project with many contributors. Type 'contributors()' for more information and 'citation()' on how to cite R or R packages in publications.

Fype 'demo()' for some demos, 'help()' for on-line help, or 'help.start()' for an HTML browser interface to help. Type 'q()' to quit R.

> source("charon.R")
> charon("csm")

x cmarcum@pegmatite: ~/svn workspace/charon

We use an R+tk/tcl program, "charon," to add event covariates to the dataset.

charon() only requires that the coder of the files be specified.

x



You are coding the second s	e event located at anchor: l17fcsmFD30a00001:	
Informant is Sender Informant is Receiver Informant is Reporting Event Not Applicable	You are coding the event located at anchor: l17fcsmFD30a00001: : <li>I remember I was right by the TV set and <b><a name<br="">a00001"&gt;</a>I said, 'That must have been a drunk pilot.'</b> I mea ar outside.</li>	s="117fcsmFD30 an, it was cle
OK Cancel	Informant Involvement Coding Pass 2	

All events are iteratively coded on these screens.

×

М

csmNYFD30 finalized - OpenOffice.org Calc File Edit View Insert Format Tools Data Window Help 🛅 🕶 🔔 | Ж 5 P 9  $\Leftrightarrow$ .  $\square$ Ő - A - A - , 6 A AA J. 0 .000 % \$% ----10 • Bitstream Vera Sans •  $f(x) \Sigma =$ anchor Α1 -С D G н Α В Е F н anchor line tag eventstate informantrole 1 event 2 117fcsmFD30a00001 action--communication 17 1 Realized Informant is Sender 3 118fcsmFD30a00002 cognitive--reasoning 18 2 Hypothetical Reporting Δ 19fcsmFD30a00003 action--movement 19 3 Realized Acting 5 l21fcsmFD30a00004 action--communication 21 4 Realized Informant is Reporting 6 24fcsmFD30a00005 action--movement 24 5 Realized Acting 7 6 Realized Informant is Reporting l24fcsmFD30a00006 action--communication 24 8 l27fcsmFD30a00007 other 27 7 Realized Reporting 9 l27fcsmFD30a00008 27 8 Hypothetical Informant is Reporting action--communication 9 Realized 10 l27fcsmFD30a00009 27 Acting action--movement 11 l28fcsmFD30a00010 28 10 Realized Acting action--movement 12 l29fcsmFD30a00011 action--movement 29 11 Realized Acting Informant is Reporting 13 l31fcsmFD30a00012 31 12 Realized action--communication 14 l32fcsmFD30a00013 action--movement 32 13 Realized Reporting 15 60fcsmFD30a00014 14 Hypothetical Reporting cognitive--reasoning 60 16 l61fcsmFD30a00015 15 Realized Actina action--movement 61 17 l63fcsmFD30a00016 action--communication 63 16 Hypothetical Informant is Reporting l64fcsmFD30a00017 17 Realized 18 action--movement 64 Actina 19 170fcsmFD30a00018 70 18 Realized other Actina 20 180fcsmFD30a00021 other 21 Realized 80 Acting 21 l82fcsmFD30a00022 action--movement 82 22 Realized Acting 22 l83fcsmFD30a00023 action--movement 83 23 Realized Acting 23 l83fcsmFD30a00024 24 Realized other 83 Acting 24 l87fcsmFD30a00025 25 Realized action--movement 87 Acting 25 l88fcsmFD30a00026 Informant is Reporting action--communication 88 26 Realized 26 189fcsmFD30a00027 action--movement 89 27 Realized Acting 27 190fcsmFD30a00028 other 90 28 Realized Acting 28 l91fcsmFD30a00029 29 Realized other 91 Acting

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96

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137

138

30 Realized

31 Realized

32 Realized

33 Realized

35 Realized

36 Realized

37 Realized

38 Realized

39 Realized

40 Realized

41 Realized

Acting

Acting

Acting

Acting

Reporting

Reporting

Reporting

Reporting

Reporting

Acting

Informant is Reporting

Once all events in a file have had both Event State and Informant Involvement coded, charon()'s output files are aggregated using the cas() function in R and printed to a tab-delimited flat file.

**a** ଦ୍ଧ 0

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к

100% 🔻

Sheet 1 / 1

III) Sheet1/

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30

31

32

33

34

35

36

37

38

39

96fcsmFD30a00030

l96fcsmFD30a00031

l96fcsmFD30a00032

96fcsmFD30a00033

104fcsmFD30a00035

106fcsmFD30a00036

1112fcsmFD30a00037

120fcsmFD30a00038

1127fcsmFD30a00039

other

other

other

other

other

1137fcsmFD30a00040 action--movement

1138fcsmFD30a00041 action--movement

action--movement

action--movement

action--movement

action--communication

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Default

100%

STD

Sum=0

#### What Have We Got?

- In 168 documents, ~9,000 events
- Comparing 3 30 document samples

Event Type	WTC.PD	WTC.FD	OKC.PD
Action-Movement	578	1645	589
Action-Communicatio	n 513	763	389
Action-Aid	112	122	137
Action-Other	393	1044	455
Cognitive-Reasoning	49	287	117
Cognitive-Memory	9	4	4

#### Attributes

- Event Type
- Informant identity, rank, etc
- Sender/receiver
- order in document

# WTC Emergent Multi-Organizational Networks

- 717 Organizations
- 42 different relationships due to EMON type
  - Damage and Situation Assessment, Fire Suppression, Evacuation, Law enforcement, Public Information, Telecommunications, etc.
- Attributes: organizational type, organizational type, scale, level

#### **International Trade**

- 24 Countries
- Multiple Relations:
  - Basic manufactured goods
  - Food and live animals
  - Crude Materials
  - Mineral fuels, etc
- Attributes
  - 1980 Population
  - GNP per capita
  - secondary school enrollment ratio
  - 1980 energy consumption per capita

# **Political Blogs**

- 6 samples selected
  - 3 networks from independently recommended blogs- DNC, RNC, blogstreet.com
  - 2 link-trace samples
  - 1 of political weblogs, one of arbitrary weblogs a random sample
- Each URL was queried at six hour intervals (starting at midnight, Pacific time) for the period from 7/22/04 through 11/19/04, for a total of 484 time points
- 1,834 unique weblogs among the six samples, 887,656 queries were made in all
- Potential attributes can be drawn from text of all blogs queried



Figure 1: Aggregate Citation Networks, All Samples

#### **Political Blogs: Dynamics**

Table 1: Epochs in the 2004 Election Cycle

Epoch	Description	Start Time	End Time	Time Points
PreCon	Start of window to DNC Convention	7/22, 00:00	7/25, 18:00	16
DNCCon	DNC Convention	7/26, 00:00	7/29, 18:00	16
InterCon	End of DNC Convention to start of RNC Convention	7/30, 00:00	8/29, 18:00	124
RNCCon	RNC Convention	8/30, 00:00	9/2, 18:00	16
PreDeb	End of RNC Convention to first presidential debate	9/3, 00:00	9/20, 12:00	71
Deb	First presidential debate to last presidential debate	9/20, 18:00	10/14, 18:00	93
PreElec	Post last presidential debate to Election Day	10/14, 00:00	11/1, 18:00	76
Elec	Election Day	11/2, 00:00	11/2, 18:00	4
PostElec	Post election to end of window	11/3,00:00	11/19,  18:00	67

#### WTC Police Reports

- Another source of communication data
  - 161 police reports filed by PAPD officers participating in WTC response
  - Reports summarize activities in immediate post-impact period
  - Reports filed 3-12 months after event
- Network coding
  - For all pairs of individuals named in each report, coded "worked with" and "communicated with" relations
    - Unnamed persons coded as idiosyncratic by report
  - Here, consider union of worked with/communicated with

mat150.DePietro

mat81.Innace

mat2.Scott

mat41.Fitzgerald

mat158.Sulewski

![](_page_33_Picture_5.jpeg)

![](_page_33_Figure_6.jpeg)

![](_page_33_Figure_7.jpeg)

![](_page_33_Figure_8.jpeg)

![](_page_33_Picture_9.jpeg)

mat21.0Donnell

![](_page_33_Picture_11.jpeg)

mat101.Jilling

mat126.Borawski

mat111.Mancini

mat131.Kohimann

![](_page_33_Picture_13.jpeg)

![](_page_33_Picture_15.jpeg)

mat118.Maggett

mat136.Ward

mat37.Miller

![](_page_33_Picture_17.jpeg)

mat33.Caccamo

mat123.Middleton

mat112.Modungo

![](_page_33_Picture_19.jpeg)

![](_page_33_Picture_21.jpeg)

mat154.Capozzi

![](_page_33_Picture_23.jpeg)

mat4.Hall

![](_page_33_Picture_25.jpeg)

mat59.Russo

mat73.Gysin

Sample Police Coordination Networks, WTC Data

![](_page_34_Picture_2.jpeg)

![](_page_34_Picture_3.jpeg)

Integrated Police Coordination Networks, WTC Data

		Data Types	
	Dynamic: Spell	Dynamic: Event	Static
Attributes	-Katrina	-Radio Transmissions (WTC) -Improv Micro Events (WTC, OKC)	-WTC EMONs -International Trade
No Attributes	-Political Blogs	-WTC Police Aid, Communication	

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