



A satellite image of a large hurricane over the Gulf of Mexico. The hurricane has a well-defined eye and a dense, swirling cloud structure. The surrounding ocean is dark blue, and the landmasses of North and Central America are visible in shades of green and brown. The image is framed by a thin red border.

**Research  
Opportunities  
for  
Integrated  
Operations  
after a  
Hurricane**

Eric Rasmussen, MD, MDM, FACP  
Commander, Medical Corps, US Navy  
18 April 2006

In disasters...

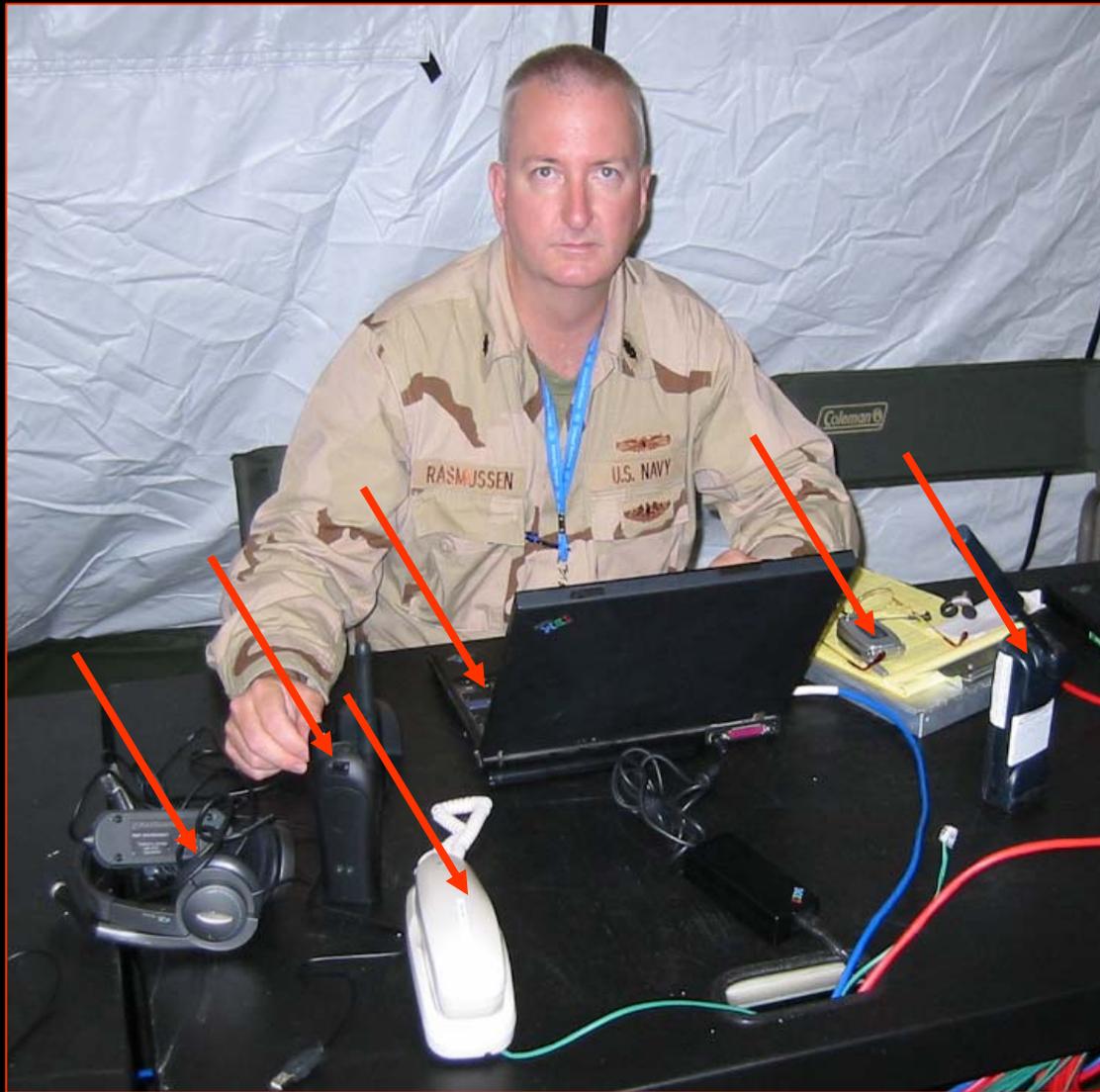
Critical  
infrastructure  
vanishes...



WARNING  
Looters  
to be  
SHOT!

LITTLE SISTERS  
OF THE POOR  
MARY JOSEPH RESIDENCE

...Social behaviors change



Six-fold  
communication  
redundancy  
proves  
inadequate

Navy Theater Surgeon (Forward)  
Belle Chasse, New Orleans  
Joint Task Force Katrina

Eric VM - 360-621-3992 - 00 #3146#



FDPMU-757-362-4994 <sup>CPH</sup> MAA (out) - LCPA <sup>STH</sup> 757-362-4601  
Rita - Eric's Oper Jeffries 202-316-0921

Merris ADM Turcott  
Lt Soireau

Favre Ed. ERIC Home 360-692-7922 | 800 FedEx

Robert  
ERIC GAY 908-995-8327

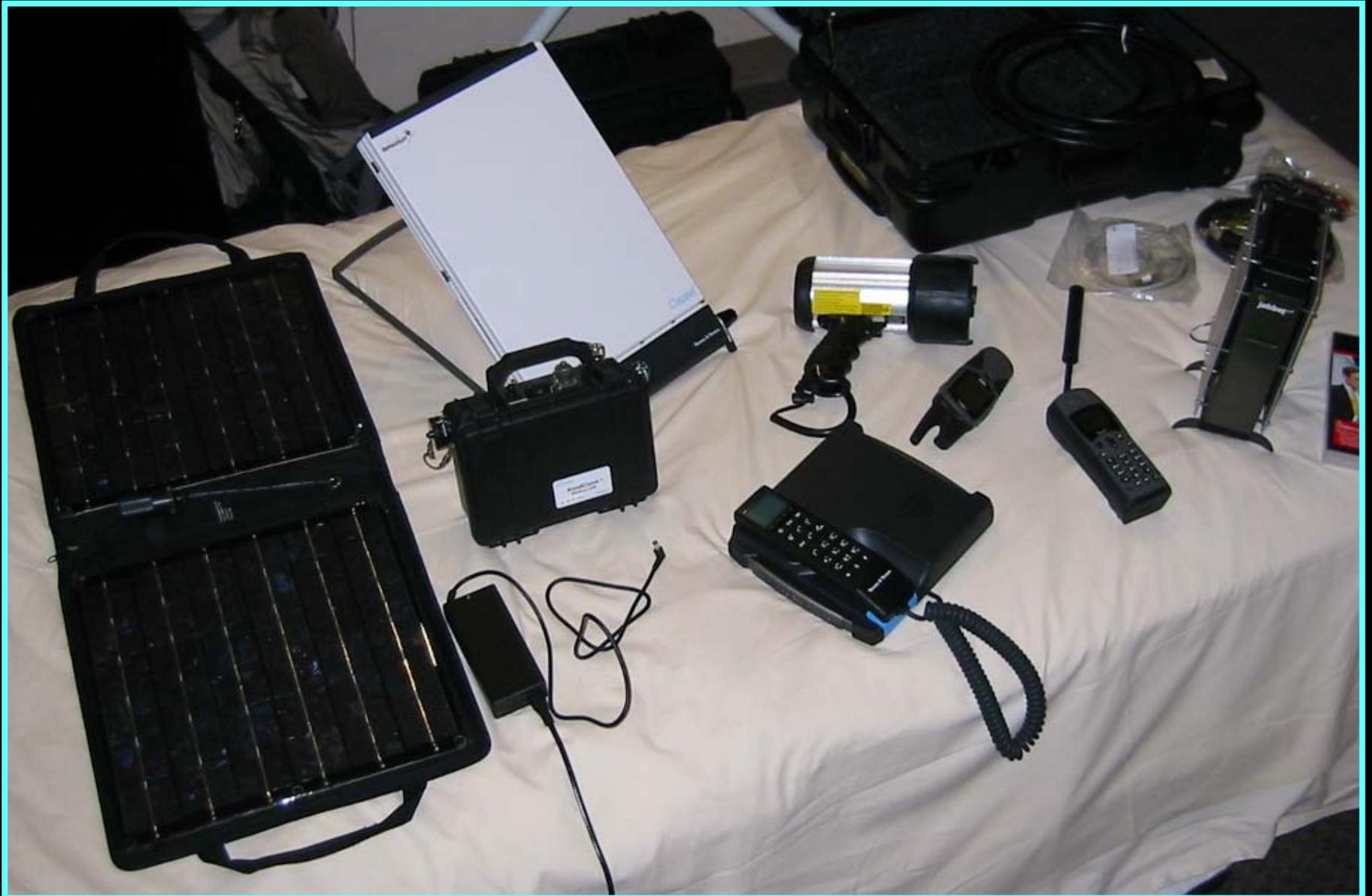
Demi 1-360-621-3298  
Cathy 617-947-9810  
CORINNE 1-619-889-2432  
Shadowbox 703-684-2545  
Marty Snyder - cell 757-691-0631  
JENCE Medical 1-850-452-3100 x1311  
2nd Fleet Surg. 757-692-1946  
MS EOC  
AL EOC 251-461-1393 Seas - 703-262-5399  
Carl TAYLOR 954-461-4338  
BRIAN STECKER 831-402-1584  
Pete G. 703-819-7822  
Dale W. 858-699-8908 Bird File 703-390-0993  
Bob Green 610-246-0965 Lin Wells 703-390-6221  
Nigel 646-266-5243  
Ted 202-297-9547  
Brooks Tony 404-992-7170  
Robin Murphy 813-977-9201  
Paul Emigh 619-992-8757

CPPT #1512 JFMCC  
BRILEY TUNLOCK  
COS  
CAPT #1513 JFMCC  
TUNLOCK

Lessons are re-learned

pic

301



Comms, lift, and power must be self-contained



GoogleEarth and  
aeromedical evacuation



Image of small UAV being launched 8/31/05

CRASAR launch of  
imaging UAV

New resources appear...



# Department of Defense DIRECTIVE

NUMBER 3000.05  
November 28, 2005

USD(P)

SUBJECT: Military Support for Stability, Security, Transition, and Reconstruction (SSTR)  
Operations

It is DoD policy that:

4.1. Stability operations are a core U.S. military mission that the Department of Defense shall be prepared to conduct and support. They shall be given priority comparable to combat operations and be explicitly addressed and integrated across all DoD activities including doctrine, organizations, training, education, exercises, materiel, leadership, personnel, facilities, and planning.

Core requirements are developed

4.4. Integrated civilian and military efforts are key to successful stability operations.

Whether conducting or supporting stability operations, the Department of Defense shall be prepared to work closely with relevant U.S. Departments and Agencies, foreign governments and security forces, global and regional international organizations (hereafter referred to as “International Organizations”), U.S. and foreign nongovernmental organizations (hereafter referred to as “NGOs”), and private sector individuals and for-profit companies (hereafter referred to as “Private Sector”).

# A subset of recognized response needs:

Ref: DoDD 3000.05

1. Language support
2. Independent and sustainable power
3. Tracking of people, processes, and things
4. Visualized information distributed broadly
5. Sustainable transition plans with milestones
6. Cooperation between agencies and organizations
7. Communication one-to-one, one-to-many, many-to-one
8. Operational guidelines and organizational charter accessibility
9. Objective indicators (and assessors) so we know we're progressing
10. Information collection, analysis, and dissemination, forward and back

# Research Directions

**The  
Economist**

SEPTEMBER 10TH-16TH 2005

[www.economist.com](http://www.economist.com)

**The car industry's crumbling giants**

PAGES 63-65

**High times in American real estate**

PAGES 62 AND 69

**Corruption at the UN**

PAGES 12 AND 30-32

**THE BRAINS BUSINESS**

A SURVEY OF HIGHER EDUCATION, AFTER PAGE 52

# The shaming of America



**Fust  
Fragility  
Indicators**



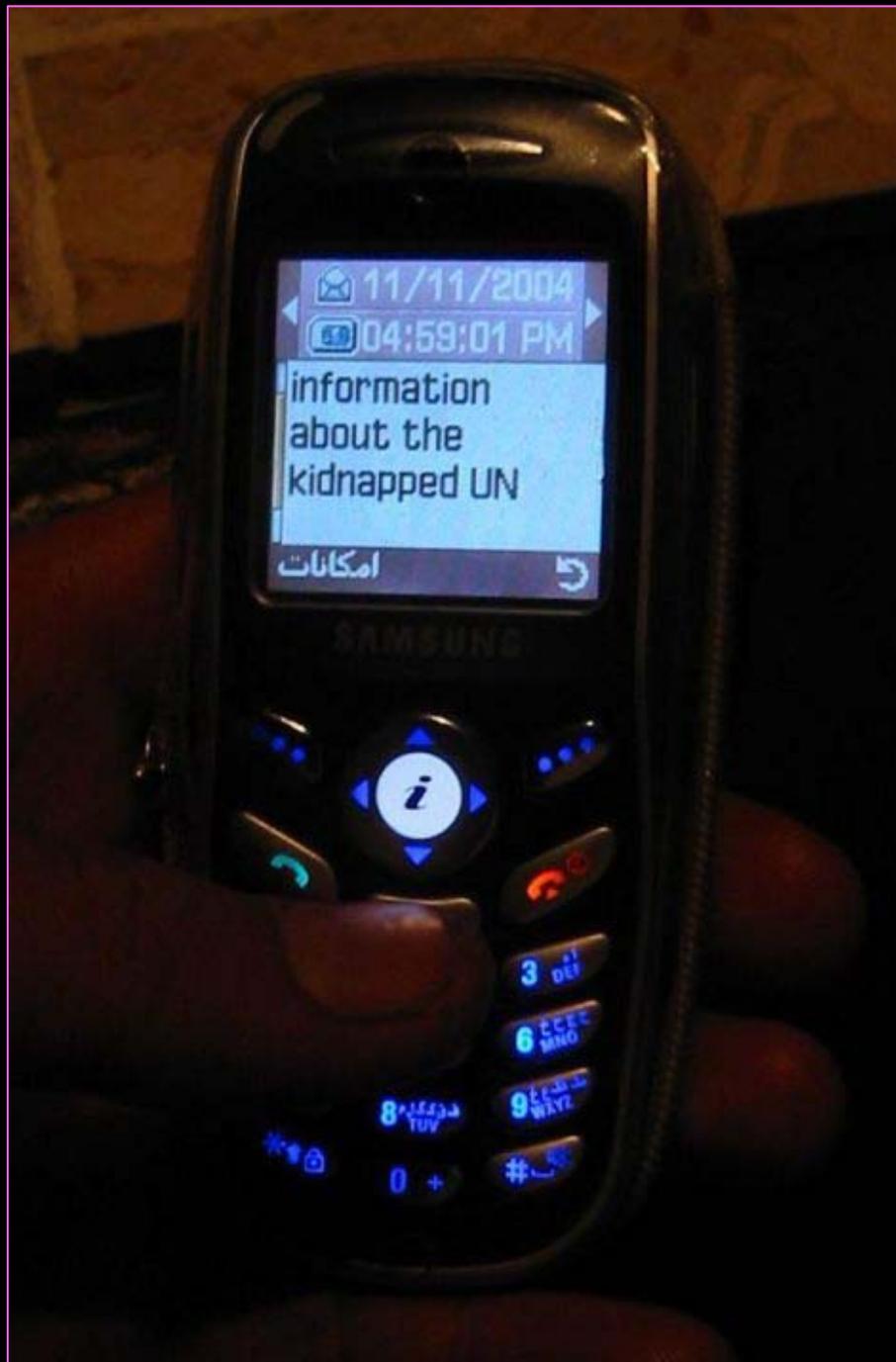
**Ghani-Lockhart Reconstruction Standards**

# Medical Reconstruction Task Force

Ochsner Medical Center, New Orleans, 12 September 2005



**Mapping  
and  
cultivating  
response  
relationships**



## Rich messaging

one – to - one

one – to - many

many – to - one

# Touro Infirmary

Orleans Parish

14 September 2005

- CDC
- US Navy
- Air National Guard
- Touro Infirmary staff
- International Medical Corps



**Virtual Team Management  
and the  
Swift Trust Initiative**



**Crisis leadership metrics**



**Resilient power**

BabylonChat for StrongAngel2004 - Babylon Chat - Groove

File Edit View Options Help Workspaces

Babylon Chat

Workspace Members

In Workspace

- Deb Ercolini
- BabylonChatTranslation
- Ted Okada/Groove

Online

Offline

Invite to Workspace: Mor

Enter name or email Go

Chat

Common Tasks

- Add Tools
- Set Alerts
- View Workspace Properties
- Send Message to Members

Deb Ercolini: 7/21/2004 3:57:53 PM

إسرائيل تتمسك بمواصلة بناء الجدار رغم القرار

Deb Ercolini: 7/21/2004 3:57:54 PM

Israel maintains the continuation of building the wall, despite the resolution

Deb Ercolini: 7/21/2004 3:59:19 PM

السعودية تعثر على رأس جونسون وتقتل مطلوبين

Deb Ercolini: 7/21/2004 3:59:20 PM

Saudi Arabia faltering head for Johnson and kill wanted

Deb Ercolini: 7/21/2004 3:59:52 PM

التشريعي الفلسطيني يطالب بتشكيل حكومة جديدة

Deb Ercolini: 7/21/2004 3:59:52 PM

The Palestinian legislative claim to form a new government

Deb Ercolini: 7/21/2004 4:00:36 PM

Those are the 3 top headlines at <http://www.aljazeera.net/> translated via the machine translation

Deb Ercolini: 7/21/2004 4:00:39 PM

تلك هي 3 رأس والعناوين الرئيسية في ترجمة الترجمة [http://www.aljazeera.net](http://www.aljazeera.net/) بواسطة آلة الترجمة

Deb Ercolini: 7/21/2004 4:01:16 PM

Those are the three top news headlines at <http://www.aljazeera.net/> translated using the machine translation.

Deb Ercolini: 7/21/2004 4:01:17 PM

تلك هي ثلاثة عناوين الأخبار كبار في ترجمة الترجمة [http://www.aljazeera.net](http://www.aljazeera.net/) باستخدام آلة الترجمة.

B I U My Language Options Private Chat

Send

Files Discussion Babylon Chat

Machine-based language translation

# STRONG ANGEL III

INTEGRATED DISASTER RESPONSE DEMONSTRATION

SAN DIEGO STATE UNIVERSITY 20-26 AUG 2006

SAN DIEGO 20-26 AUG 2006



ANTICIPATING COMPLEXITY | EXPLORING RESPONSES | CULTIVATING RESILIENCE

## Integrated Disaster Response Demonstration 20-26 August 2006 San Diego



SAN DIEGO STATE  
UNIVERSITY

# Strong Angel III areas of exploration

- mesh networking
  - shared alerting tools
  - community informatics
  - day-zero cyber security
  - urgent satellite services
  - mobile worker presence
  - crisis leadership metrics
  - self-contained infrastructure
  - social network development
  - geospatial hazard integration
  - rapid assessment techniques
  - austere network management
  - societal indicator assessments
  - cross-organizational collaboration
  - machine-based multi-lingual translation
- Anticipating complexity
  - Exploring responses
  - Cultivating resilience



**STRONG ANGEL III**  
INTEGRATED DISASTER RESPONSE DEMONSTRATION

SDSU Center, NTC Satellite, and WiFi clouds



International participation toward a common goal

NSF LAMBDA RAIL