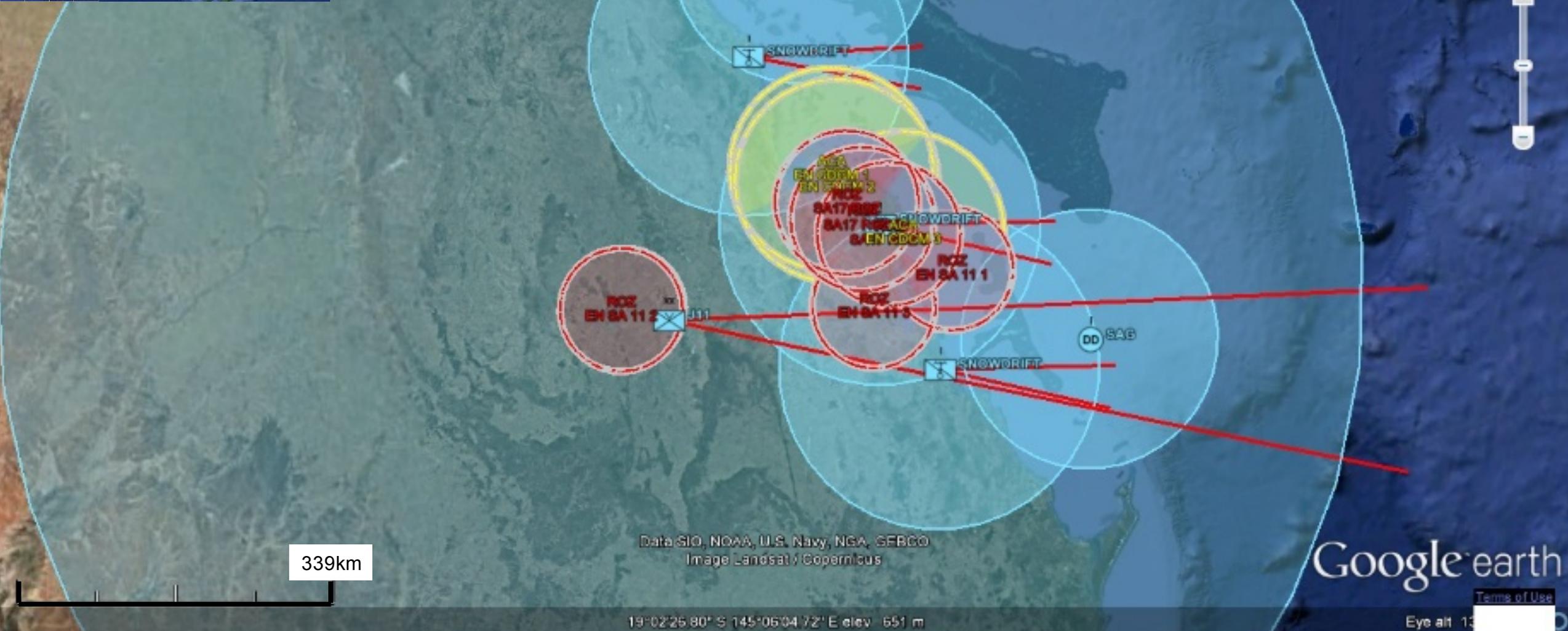
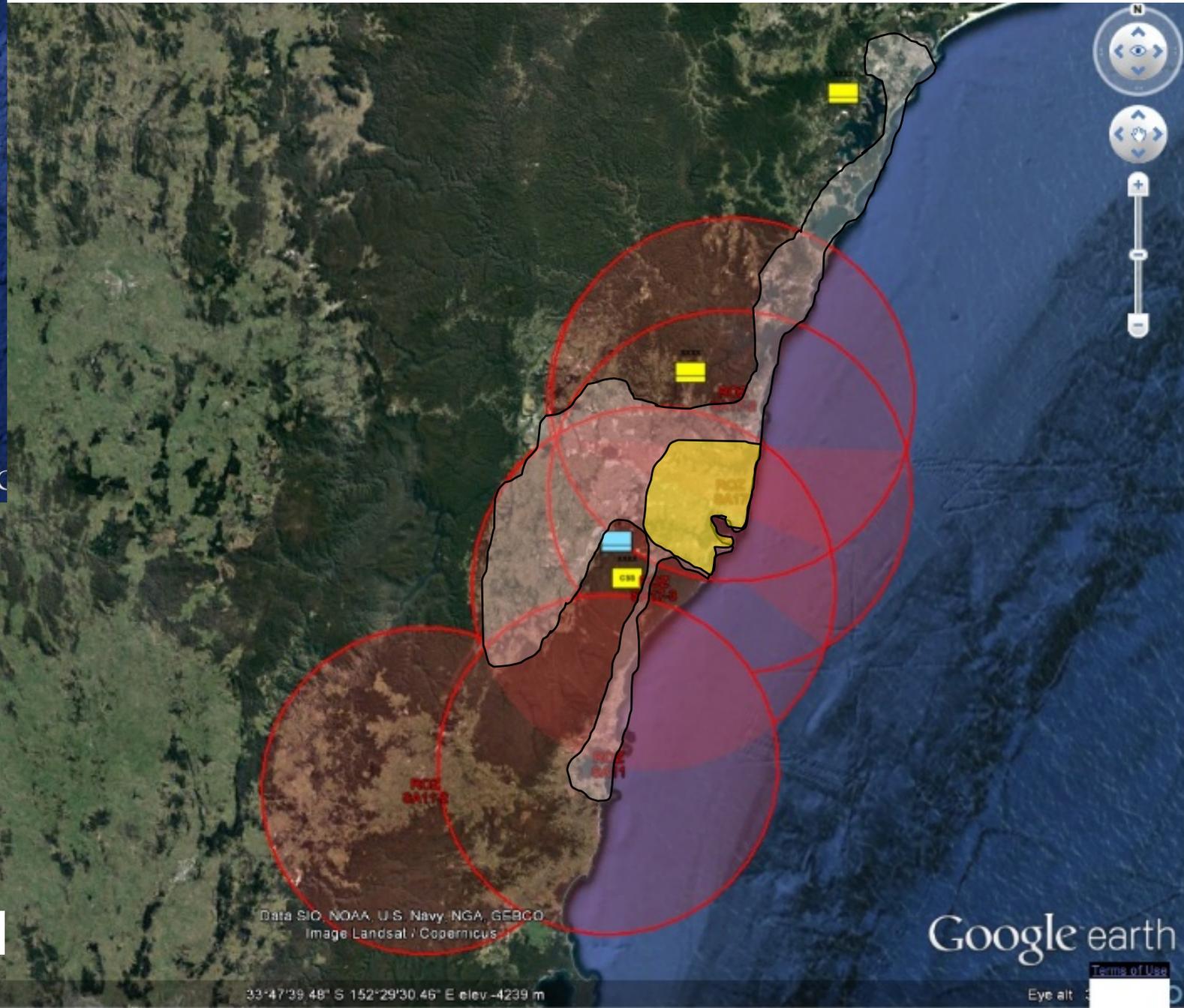
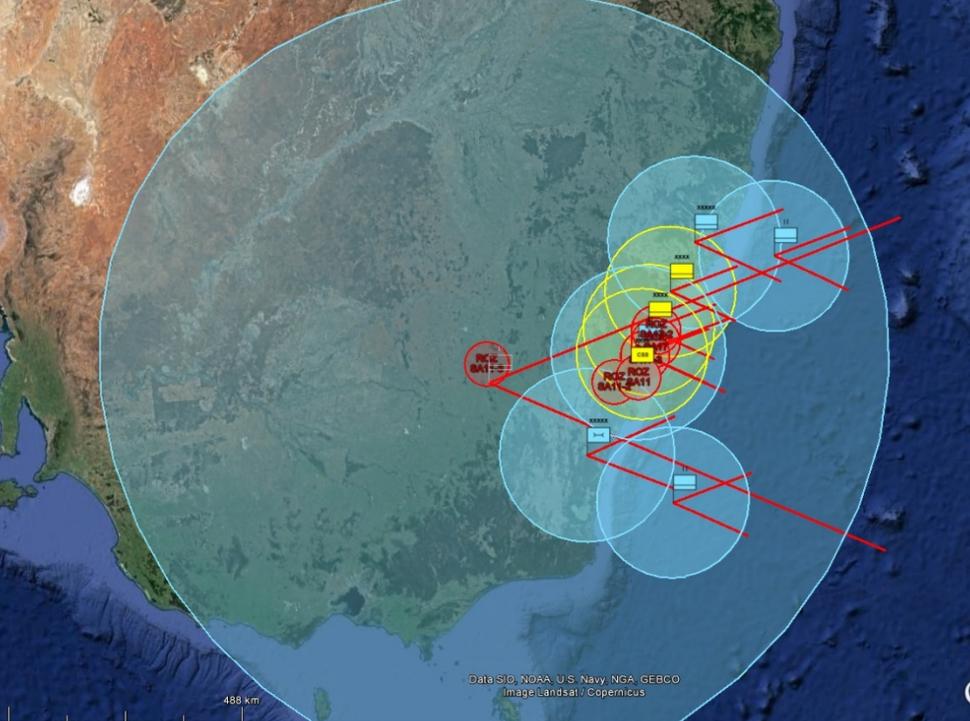


# A2AD – EX TALISMAN SABRE 17





# A2AD – SHOWING SYDNEY CITY AND URBAN SPRAWL



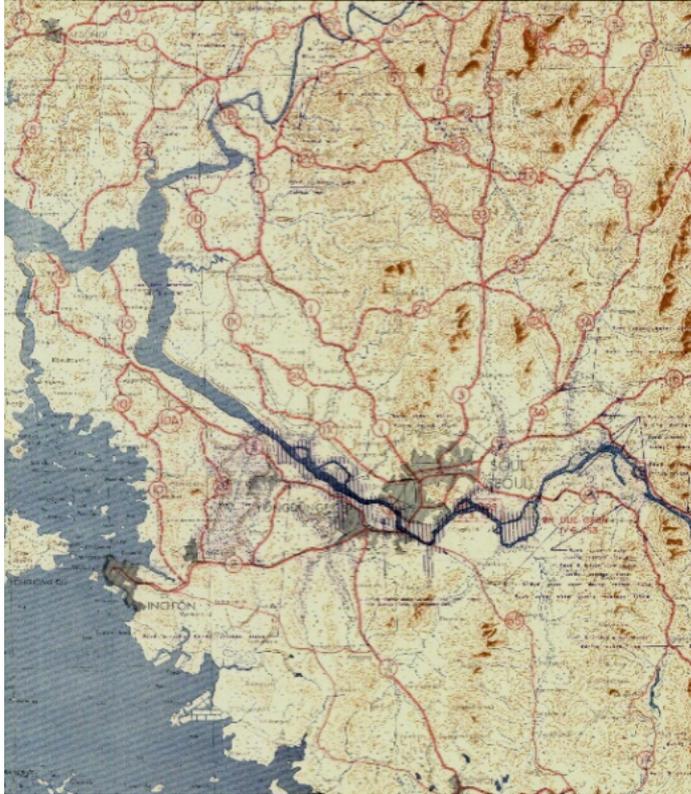
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# Multi-Domain Operation in Megacities – Australian Perspective

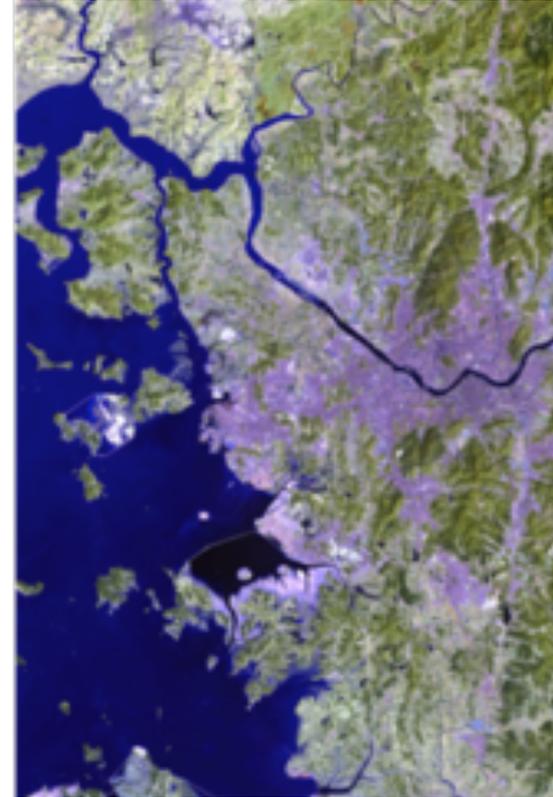
- Mega City clutter – systems, terrain effect and consent
  - CDE complexity
- Likely to be expeditionary by its very nature
- As a Middle Power we would seek to contribute positively within a coalition framework to conduct operations
- Defaulting to national systems limits the ability to generate coalition effects (convergence). We must seek to establish a standing Mission Partner Environment (MPE) to deliver full spectrum effects
- As a coalition we must harness holism to effectively transition between phases of operations in this environment (competition-armed conflict-return to competition)



# Megacities and Multi-Domain Operations (MDO) in the Indo-Pacific



**Seoul 1953**



**Seoul 1996**

Dr. Russell W. Glenn  
G2, U.S. Army Training and Doctrine Command  
LANPAC 2018, Honolulu, Hawaii  
May 23, 2018

# Megacities (> 10M population) Worldwide (2017)



# Why Focus on Megacities (or a Country's Largest City)?

Primate (or primary) city: A country's city that is at least twice as large as the next largest city and more than twice as significant. (Mark Jefferson, 1939)

Zipf's Law: If all cities in a country are placed in order from the largest to the smallest, each one will have a population half the size of the preceding city. (1935)

- New York-Los Angeles-Chicago: 21.4M – 15.5M – 9.1M
- **Tokyo-Osaka-Nagoya: 37.9M – 17.1M – 10.1M**
- Seoul-Busan-Daegu: 24.1M – 3.22M – 2.24M
- Manila-Davao-Cebu City: 24.2M – 1.6M\* – 0.95M\*
- Jakarta-Surabaya-Bandung-Medan: 31.8M – 2.9M – 2.5M – 2.2M
- Bangkok: Over 14x size of next largest Thai city



# Example: The Worldwide Reach of Megacity Tokyo

- Largest urban population in the world: 37.9M (2016)
- **29.8% of Japan's population(2016)\***
- **2.3% of Japan's geographic area (2016)**
  - **48 times the size of Washington, D.C.**
- **34.7% of Japan's GDP (2015)**
- **10.1% of country's employed persons(2010)**
- **35.1% of national annual commercial sales (2014)**
- **50.1% of corporations capitalized over 1B yen (2014)**
- **83.9% of foreign countries' companies in Japan (1995)**
- **2008 GDP (\$1479B) greater than Spain, approximately same as Texas in 2017**
- **Megacity spread over multiple prefectures in addition to encompassing 23 wards and other urban authorities**

\* Japan 2016 population: 127M

# Exemplar Tokyo: Natural and Manmade Disasters

- **Natural**

- **Earthquakes**

- **September 1, 1923 (7.9 on Richter scale)**

- **Over 140,000 killed**

- **1M homeless**

- **300,000 Tokyo buildings destroyed**

- **October 5, 1985 (6.2 on Richter scale)**

- **No deaths**

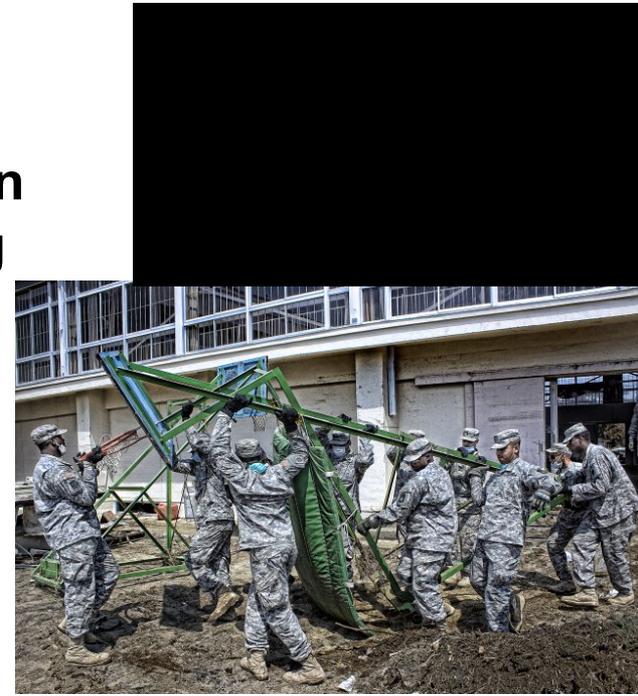
- **Manmade**

- **2011 Fukushima radiation threat**

- **“The country came within a ‘paper-thin margin’ of a nuclear disaster requiring the evacuation of 50 million people.”**

- **U.S. supports with Operation *Tomodachi* (“friendship”)**

- **nK missiles**



# Operationally-Helpful Definition of a Megacity



venti Frappuccino  
= 1M population

mega-venti Frappuccino  
= 10M population

## Megacity:

“An urban area of extraordinary population size, geographic spread, physical and social complexity, and similarly exceptional characteristics, to include influence with at least national and broader regional scope.”



# Why MDO rather than Multi-Domain Battle?

**“Between 1970 and 2014, natural disasters accounted for more than 2 million deaths in the Asia-Pacific, 57 percent of the global total. [Former PACOM commander] Admiral Locklear routinely told his subordinate commanders, ‘While you’re here you may not have a conflict with another military, but you will have a natural disaster that you have to either assist in or be prepared to manage the consequences on the other side.’”**

**Timothy McGeehan,**

**“A War Plan Orange For Climate Change”**

# **MDO in Megacities: Flow, Power, Consequences**

- **Every city has “flow,” the rhythm and directions of daily life**
  - Part of the urban “normal”
  - British in Northern Ireland sought to recognize the “absence of the normal or presence of the abnormal”
- **Power is part of that flow: Electrical, political, security, economic, information, and more**
- **Locals, host nation partners, first responders know the flow**
- **We can impose our own flow, but it must be informed.**
  - Impose against the grain and we create friction

# Implications of Megacities for MDO

- **View a megacity as a system *and* subsystem.**
  - Account for 2<sup>nd</sup> and higher order effects.
    - The pool table metaphor
  - Social infrastructure is as important as that physical.
  - Decisive terrain may not be ground...or in the urban area.
    - Stone(s) in the lake
- **Recognize that MDO's armed conflict and competition challenges will occur simultaneously.**
  - GEN Krulak's "3 block war" for the operational and strategic levels
  - The battle (or operations) will put demands on all domains.
  - Look beyond departure of coalition forces in planning and execution.
- **We need innovative thinking**
  - Maneuver as it is: employment of forces "in the operational area through movement in combination with fires to achieve a position of advantage in respect to the enemy"
  - Maneuver as it should be: "employment of relevant resources to gain advantage with respect to select individuals or groups in the service of achieving specified objectives"

# What are Multi-Domain Operations (MDO)?

**“Convergence of capabilities to create windows of advantage (often temporary) across multiple domains and contested areas throughout the depth of the battlespace to seize, retain, and exploit the initiative; defeat enemies; and achieve military objectives.”**

“Multi-Domain Battle: Evolution of Combined Arms for the 21<sup>st</sup> Century 2025-2040” (Ver. 1.0, December 2017), p. 77

# Bottom line: Population Size is not the Critical Factor, so...

## Megacity:

“An urban area of extraordinary population size, geographic spread, physical and social complexity, and similarly exceptional characteristics, to include influence with at least national and broader regional scope.”

”Non-traditional” Exemplar: Singapore (2017 population ~ 6M)

- World’s top oil bunkering (ship fueling) port by volume
- Second largest container port
- 130,000 ships call annually
- Singapore Strait monitored by the country’s Maritime and Port Authority's Port Operations Control Centre

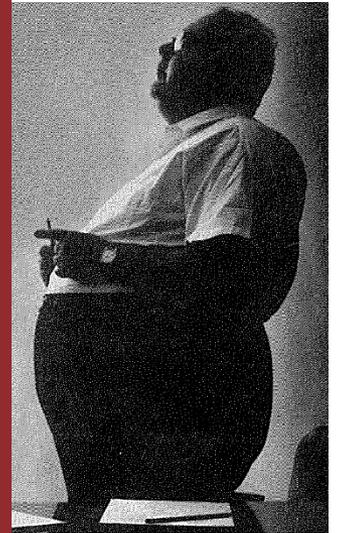
# Western Militaries Have Never Fought in Megacities

“Military doctrine serves to codify best military practices from primarily historical experiences.”

Dr. Cathy Downs, “Strategic Blind-Spots...”

“When [U.S. military] officers objected that [Herman] Kahn was ill-equipped to speak on military affairs...he’d shoot back, ‘How many thermonuclear wars have you fought recently?’ ... They admitted they had no actual experiences with these weapons. ‘O.K., Kahn would grin, ‘Then we start out even.’”

Ghamari-Tabrizi  
*The Worlds of  
Herman Kahn*



**...but we fortunately have much in the way of urban operations experience upon which to build.**