Climate Change & National Security

Contents

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Prepared for CLAWS Conference
January 2017
UNCLASSIFIED

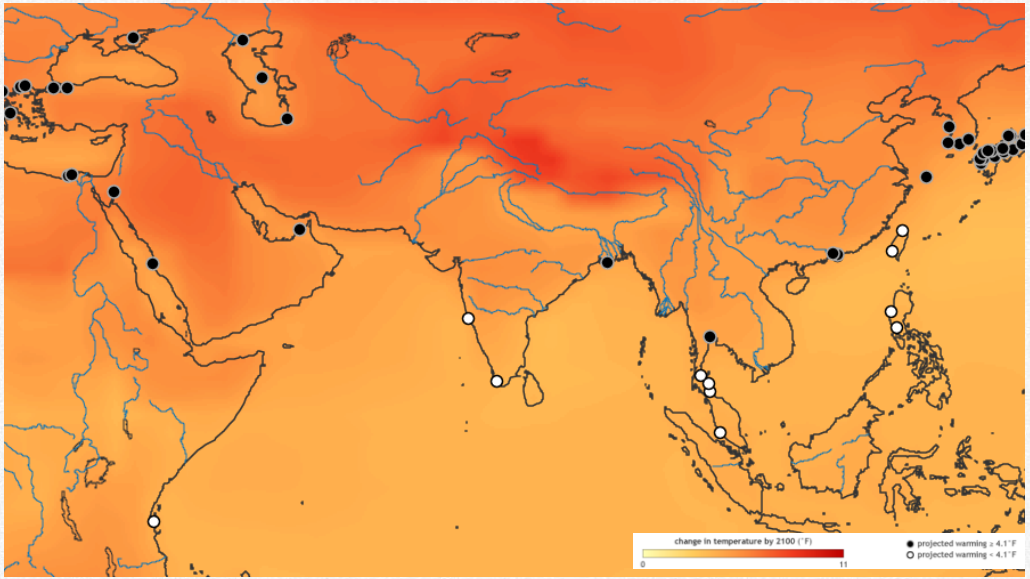
Key Climate Change Risks for National Security

In a nutshell

- Evidence that temperatures around the planet are rising

- Scientific consensus that this is caused by human activity

- Humanity can/should: try to stop this, mitigate its effects, and adapt



How?

1. Glacial Melt

Projected to cause increase in flow of Himalayan rivers and followed by reduction in volumes.

2. Rising Sea Levels

Submergence of low-level areas: coastlines, river-deltas and islands

3. Extreme Weather

Increased intensity, geographical areas & frequency of cyclones, storms and rainfall.

Two types of effects

Absolute effects: because we will be directly impacted regardless of others

Relative effects: because it will affect different countries in different ways and to different extents – this brings in the strategic dimension

Image credit: NASA

Philosophy

It is better to manage risks than to predict events

How has the role of the armed forces changed?

High Natural Low Human	High Natural High Human
Glacial Melt River Changes Course Rising Sea Level Extreme weather	Manipulation of River flow Withholding of information Resource-triggered civil wars Military invasion Demographic invasion Migration & Refugees
Low Natural Low Human	**Low Natural High Human**
	Poor resource management Manipulation of water flow Civil wars Invasion Economic migration Political refugees

Human agency managed by:

Multilateralism
Diplomacy
Deterrence ←
Defence ←
Punishment ←

Natural agency managed by:

Multilateralism
Diplomacy
Mitigation
Adaptation
Risk Management ←

This implies that the armed forces must:

1. Have institutional expertise in climate science and mechanisms

Climate-related inputs must be part of strategic calculations of every conflict scenario that our armed forces are preparing for

2. Invest in sophisticated modelling techniques to understand micro-level impact in geographies of interest.

There will be a need for tactical climatic intelligence (TCI) for all three services: ability to provide pinpoint information & projection in the battlespace

3. Develop capabilities to manage risks from a number of possible imaginable scenarios and attend to unimaginable ones

Ensure equipment, skills & training that can address climate risks

Implications: by conflict type

Here is a framework for thinking: you can use them by inserting your information and deriving your own assessments. The following slides are examples and non-exhaustive.

	Glacial Recession	Rising Sea Levels	Extreme Weather	Assessment
Conventional Military Aggression				
Proxy War Through Militant Groups				
Destabilisation Through Demographic Movements				
Opportunism & Brinkmanship in Dispute Negotiations				

Implications: by agent (1)

	Glacial Recession	Rising Sea Levels	Extreme Weather	Assessment
Chinese Government				
PLA (Western Theatre/Lanzhou Region)				
PLA Navy				
China's strategic infrastructure investments				

Implications: by agent (2)

	Glacial Recession	Rising Sea Levels	Extreme Weather	Assessment
Pakistani army				
Pakistani civilian government				
India-targeted militant groups (LeT, JeM, etc)				
Afghanistan/Sectarian militant groups (Taliban, LeJ etc)				

Implications: by conflict type

	Glacial Recession	Rising Sea Levels	Extreme Weather	Assessment
India-China Border				
Indian Ocean Region				
India-Pakistan frontier				
India-Nepal				

Implications: by vulnerability

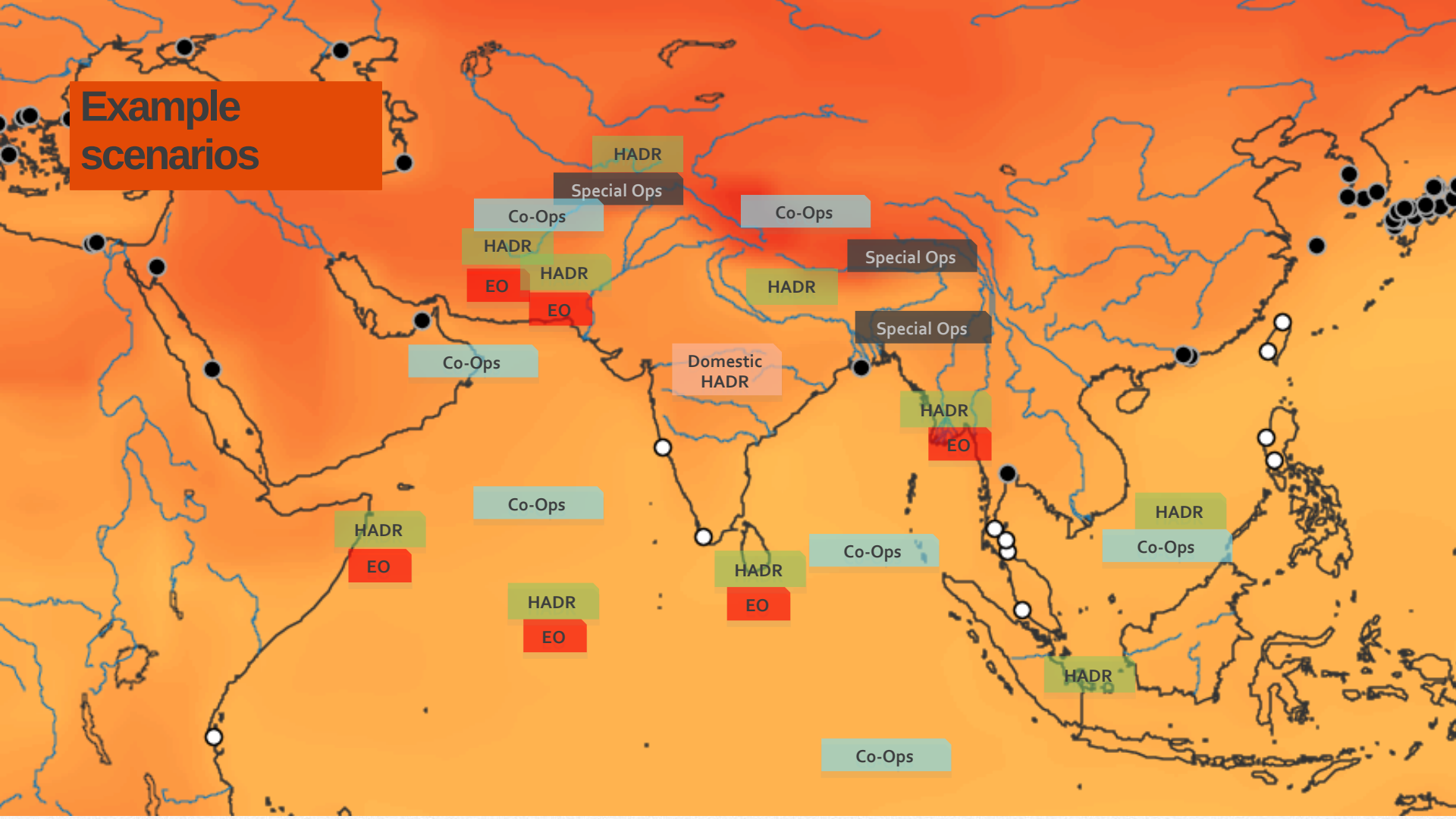
	Glacial Recession	Rising Sea Levels	Extreme Weather	Assessment
Border roads & railways				
Airports & airstrips				
Defence installations/sites				
Power stations/Grid				

Implications: others

What else do you think matters?

	Glacial Recession	Rising Sea Levels	Extreme Weather	Assessment

Example scenarios



What do the armed forces need for the emerging roles?

You should derive these by summing up the Assessments from all the implication frameworks: the following are the author's recommendations.

Science Capability

1. Set up a climate science department, perhaps in a defence think-tank/INDU that ensures sufficient uniformed officers have expertise in climate science.*

2. Collaborate with Survey of India, DRDO, Meteorological Dept, Dept of Space, Universities and private sector

Intelligence Capability

3. MoD, IDS & Services HQs must incorporate climate intelligence into strategic plans.

4. MI, Naval Intelligence and Air Intelligence must be able to provide operational & tactical climate assessment inputs to their commanders.

Equipment & Operational Capability

5. Amphibious capacity for beach landing and inland riverine movement

6. Heavy Lift (especially airlift)

7. Co-operation capital & inter-operability (domestic and international)

8. Expeditionary capacity (2 divisions)

9. Civil-Military Cooperation for Conflict Resolution (CIMPCOR)

Thank you