

**Foreign Affairs, Defence and Trade References Committee**

Department of the Senate  
PO Box 6100  
Parliament House  
Canberra ACT 2600

**Implications of climate change for Australia's security**

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This is an individual perspective/submission, not associated with any institution.

I am in broad agreement with points already covered within submissions by ARC Centre of Excellence for Climate Extremes; the UNSW Climate Change Research Centre; Sherri Goodman; and Jon Barnett etc. My response to the Terms of Reference (ToR) will only add what I perceive as new information or that which is particularly important to emphasise.

## **SUMMARY OF RECOMMENDATIONS**

The focus of this submission is around the theme of “Preparing for Chaos” – a Hurricane Katrina type event in the Australasian region.

1. Improve National Early Warning capability. Establish a ‘red flag’ warning system for use by physical scientists tracking key environmental variables, particularly at the Bureau of Meteorology
2. Prepare ‘systems’ for chaos.
  - a. *Develop a ‘civilian analytical-war-gaming’ method.* Use the existing Australian Defence Force (ADF) military analysis and planning process (JMAP) to develop a Climate & Environment analysis and planning process (CEAP) for preparation for extreme climate events/risks.
  - b. *Establish a “Ready-Centre.”* (A Whole-of-Government/Society Crisis Planning Centre). This would train experts from key sectors and agencies in ‘civilian war-gaming’ methods; test scenarios; develop a range of contingency plans and incorporates a non-adversarial “lesson learned” capacity to analyse responses to Australian extreme events / natural disasters.
3. Prepare ‘people’ to operate in chaos. Create a succession planning career pathway which allows ex-ADF members, already highly skilled in risk planning and response, to transition into climate, human and domestic security roles. This can be linked with Veteran Employment strategies.
4. Raise a Wake Force. Develop a new military capability, based upon the “Wake Force” conception. This a new type of military capability, tailored towards human security tasks, focussed upon ‘war among the people’ complexities; with Humanitarian Assistance Disaster Relief (HADR) and gender, child and general population protection expertise. The “Wake Force” idea could be refined to account for climate emergency type scenarios.
5. “Human security?” Consider integrating “climate security” strategy with the broader field of “human security” so as to avoid the risk of institutional/policy silo’s and non-integrated approaches.

## **RESPONSE TO TERMS OF REFERENCE**

- a. **the threats and long-term risks posed by climate change to national security and international security, including those canvassed in the *National security implications of climate-related risks and a changing climate* report by the United States Department of Defence;**
- Agree with US assessment of risk
  - However, there are also risks in 'securitising' climate change, as articulated by Selby et al., in their analysis of discourse about the Syrian War.<sup>1</sup> (Specifically that it can be used to detract attention from other socio-political-economic direct causes.)
  - Research in climate communication finds that the way the climate issue is framed is of great importance. Outside the scope of this response, I simply flag that the 'language' used and way the "climate threat" is framed requires some deeper philosophical reflection.<sup>2</sup>
  - A start point in any military appreciation of "threat" is to understand the unique "nature" of each particular threat, this allows adequate strategic response. With that in mind, I propose these aspects of this "type" of threat require attention when designing a response:
    - Difficult for lay people to visualise, perceive the threat. "Invisibility"
    - Unknowability and unpredictability
    - Complexity and magnitude
    - Destructive power of extreme events, irreversibility (scale/magnitude of threat)
    - 'Slow violence'<sup>3</sup> – Rob Nixon's concept: 'death by a thousand cuts'
    - Main victims are voiceless (future generations, ecosystems)
    - Defies existing policies and mechanisms to protect human populations (laws etc)
    - Is empowered by human hesitation, ('threat' growth is related to speed of human response)
- b. **the role of both humanitarian and military response in addressing climate change, and the means by which these responses are implemented;**
- Acknowledging the breadth of climate mitigation and adaptation response possibilities, in terms of security, foci must be on the most destructive possibilities; those of a Hurricane Katrina type magnitude.
  - Based upon this, a key guiding principle needs to be: ***developing the ability to operate in chaos.***

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<sup>1</sup> Selby J, Dahi OS, Fröhlich C, et al. (2017) Climate change and the Syrian civil war revisited. *Political geography*.

<sup>2</sup> Boulton E. (2016) Climate change as a 'hyperobject': a critical review of Timothy Morton's reframing narrative. *Wiley Interdisciplinary Reviews: Climate Change*: n/a-n/a.

<sup>3</sup> Nixon R. (2011) *Slow Violence and the Environmentalism of the Poor*: Harvard University Press.

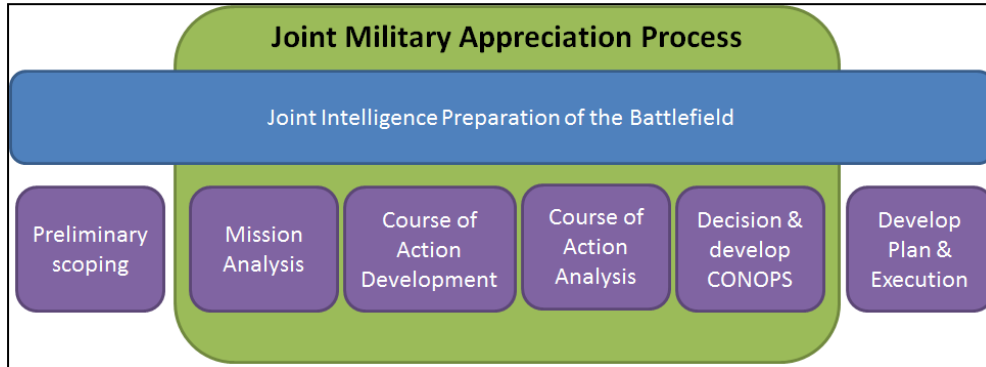
- **“Preparing for Chaos” involves three key aspects:**
  - **Early Warning:** Everything is easier and more possible with greater notice; considering climate risks, this relies upon civil sector ‘intelligence,’ see sub-para ‘c’.
  - **Systems:** (Methods, standard operating procedures; structures established beforehand that can be leveraged from).
  - **People:** People with unique skills and aptitude for “chaos” management
- **RECOMMENDATION: “Systems for Chaos”**
  - **Use the existing ADF ‘JMAP’ process to develop a ‘CEAP’ process.**
  - **Rationale:** One of the Australian Defence Forces (ADF) principle tools for helping to understand uncertainty and the inter play between disparate risk variables is the ‘Joint Military Appreciation Process’ (JMAP), developed in the late 1990s. International militaries, particularly regular coalition partners such as the U.K and U.S., have virtually identical processes with slightly different names. Since it was used highly effectively during the Queensland floods reconstruction,<sup>4</sup> there are calls for it to be developed as a ‘whole of government’ planning methodology.
  - **What is JMAP?** In simple terms, JMAP is a planning activity that involves inter-disciplinary experts sitting around the table together and analyzing risk in a structured and sequenced manner. Decision makers are presented distilled intelligence in a digestible format, (visual graphics typically overlaid over the geographic region in question) then ‘war-game’ a range of scenarios to tease out the potential interplay between different risks and factors and thereby develop the most robust and well-integrated plan possible. Its strengths are that it fosters mutual understanding and trust between experts who will need to collaborate together. It is an endlessly iterative rather than linear process, whereby updated information is being continually fed into the scoping, analysis, planning and execution phases. It can be conducted by a Corporeal with a mere 10-minute analytical time window through to teams of experts who may typically work together for 3-5 days to conduct the JMAP.

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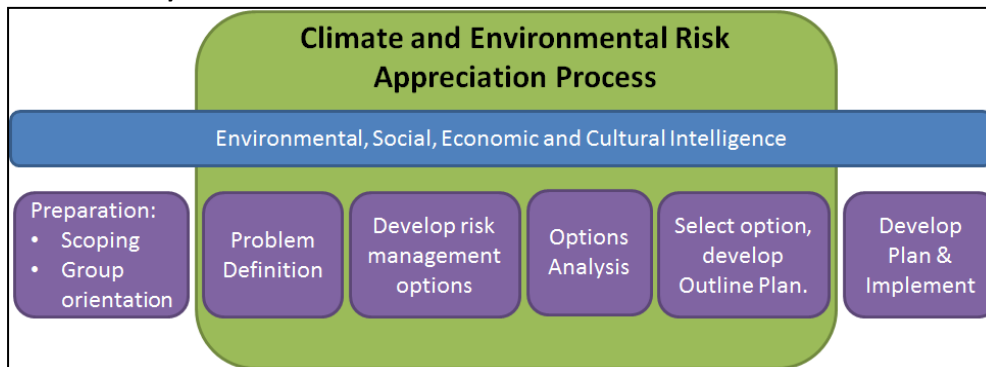
<sup>4</sup> Field C. (2011) Operation Queensland - Ten ideas for Australian Defence Force Support to Disaster Relief Operations. *Australian Army Journal* VIII: 121-139.

- An outline of the JMAP is shown in Figure 1. Figure 2 proposes an initial climate and environmental policy environment translation.

**Figure 1: The Australian Defence Force's doctrinal Joint Military Appreciation Process**



**Figure 2: Climate and Environmental Risk Appreciation Process (CEAP) (initial 'translation')**



- JMAP is cemented in as a best-practice methodology to work through complex security problems, however there has been criticism is that there is not enough scope within the existing process for creative thought, and that if not well led, it can become overly focussed upon process rather than analysis. To address these issues, it can be enhanced with other techniques, for example, the U.S Army use 'Design' methods<sup>5</sup> which aims to bridge this gap. Its success relies upon the intellect; expertise; interpersonal skills, and JMAP training of the facilitator and participants.

<sup>5</sup> United States Department of the Army. (2012) The Operations Process.

- RECOMMENMDATION: “People and Skillsets for Chaos”
  - Post-disaster inquiry reports are frequently critical about coordination, communication and leadership skills.
  - A post Hurricane Katrina analysis<sup>6</sup> lamented that those involved lacked ‘surprise management’ ability – the “knowledge, skills, and attributes that can read inconceivability and unthinkable impossibilities.” A key recommendation was a suite of education remedies and even new institutions dedicated to the task of teaching people how to cope with ‘surprises’ (rather than routine processes). It is noted that this is not simply a training problem but also an aptitude issue.
  - The IPCC report on ‘*Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation*’<sup>7</sup> notes that in such events, good leadership is crucial, and writes that, ‘knowledge about how to create and enable leadership remains elusive.’
  - Link to succession planning for ADF Officers and Veteran Employment strategies
    - The pyramid hierarchical nature of the ADF means that many extremely highly trained and experienced Officers must be discharged at the Colonel rank. For example, of several hundred existing Army Colonels, only 10% have a future in the ADF due to manning/position number limitations.
    - The Australian tax-payer has already greatly invested in these people’s training.
    - These people are mostly “veterans” who deserved a modern approach to veteran care.
    - These people are highly trained and capable in scenario and risk planning; ‘chaos or surprise management;’ people and project management and are personally driven by an ethos of serving the community. Many of them have much lived experience of the actual extreme difficulties of chaotic human-socio dimension of warfare and insecurity.
    - A career-pathway plan could be developed whereby these people transition into security roles, related to the Whole of Government nature of climate security planning and response.

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<sup>6</sup> Farazmand A. (2007) Learning from the Katrina crisis: A global and international perspective with implications for future crisis management. *Public administration review* 67: 149-159. (p.146)

<sup>7</sup> IPCC. (2012) Managing the risks of extreme events and disasters to advance climate change adaptation. Special Report of the Intergovernmental Panel on Climate Change. In: Christopher B. Field VB, Thomas F. Stocker, Qin Dahe (ed). p.469

c. **the capacity and preparedness of Australia's relevant national security agencies to respond to climate change risks in our region;**

- *MANTRA: "Early Warning saves lives."* All Australian and Regional agencies can better respond, and have greater chance of saving lives with "Early Warning." Accordingly, investment in improving Australian Early Warning must be a high-priority.
- In a military sense, 'intelligence' is far more than amalgamated data, it involves a substantial amount of analysis; 'so what?' thinking; some speculation and layered attempts to "join the dots" to anticipate risk. It involves actively trying to think of outlier situations; worst case scenarios etc.
- The BoM is the Australian provider of "*Environmental Intelligence*" (Figure 3), this acknowledges the way in which risk is created through the interplay of numerous environmental factors. (eg: Black Saturday Bushfires: temperature; wind; soil moisture; historical drought). However, integration with socio-cultural human factors is harder and while long term research occurs in these areas, at present, the capability to quickly analyse the converging and compounding risk factors does not exist.
- **Figure 3: Extract: BoM Strategy 2017-2022**<sup>8</sup>



- Example: Queensland Floods of 2011, where 35 people died. This event occurred after a year of above average rainfall; in an environment where BoM Seasonal Climate Outlooks (SCO) predicted further unusually high rainfall; during a La Niña (increases likelihood of rainfall); and when the Indian Ocean Dipole (IOD) was negative – also an indicator that additional

<sup>8</sup> <http://www.bom.gov.au/inside/downloads/Bureau-of-Meteorology-Strategy-2017-2022.pdf> (p.5)

rainfall may be more likely.<sup>9</sup> On the socio-cultural side, longer dry periods had seen large population groups move into flood prone areas and erased much of popular memory about flood likelihood. When looked at holistically, if an ability to “join the dots” had existed, there would have been greater ability to anticipate the risk and take mitigation measures earlier, such as lowering dam holding levels - well before it became too late and dangerous to do so.

- RECOMMENDATION: BoM to establish a “Red Flag” Service
  - When BoM climate or water analysts note unusual trends, even if this could be hard to quantify statistically in the short-term, they need the capacity to raise a “Red Flag warning.”
  - This would “Flag” that some variables may present greater risk than usual and could do with more integrated “quick” analysis to see how other physical and socio-cultural risk factors bear upon them.
  - This mechanism would need to apply to any other agencies that may play a critical role in providing *Environmental Intelligence*.
  - A review / mapping activity of ‘which’ indicators and ‘provider agencies’ of indicators need to be included would be essential.
  
- RECOMMENDATION: Establish a “Ready-Centre.”
  - This would be a Whole-Of Government, crisis planning centre, which specialises in short-notice integrated risk assessment and response planning (4 hour to 30-day time horizon), built upon existing ADF Joint Military Appreciation Processes (JMAP) described above.
  
  - The hypothetical name “Ready-Centre” is a play on the term “Red-Centre” – an iconic Australian notion, plus it establishes the key aim of the centre (being ‘ready’) while avoiding the confusion associated with acronym use. This would involve:
    - Interface with BoM Red Flag service.
    - A core staff with JMAP expertise
    - The development of CEAP (a WOG version of JMAP)
    - The conduct of scenario modules and work-up of contingency plans. (Scenario development should be guided by the forthcoming IPCC Report “Global Warming of 1.5 °C” due ~ 2018).
    - The conduct of training courses for Subject Matter Experts from across the range of Australian and Regional sectors and agencies to facilitate common language and understanding, enabling all to be ready to plan when the inevitable chaotic situation arises.
    - Incorporates a non-adversarial “lesson learned” capacity to analyse responses to Australian extreme events / natural

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<sup>9</sup> Giles BD. (2012) The Australian summer 2010/2011. *Weather* 67: 9-12.



disasters. (The focus is not on finding someone to 'blame' but rather to allow collaborative learning to occur.)

- Consider Regional / ASEAN linked approach. Climate threats occur cross National boundaries, thus this idea could be layered from a National to a Regional level.
- **ADF or WOG Response Force: "Wake Forces"**
  - The 'Wake Force' conception (figure 4) is an idea recently proposed to the Australian Army to address the increasing 'war among the people' dimension of current and future security environments.<sup>10</sup>
  - This concept could be further developed to take account of "Human security" aspects of Humanitarian Assistance Disaster Relief (HADR) / climate security related responses.

**Figure 4: 'Wake Forces' conception**

Wake Forces.... Wake Teams...	
<p><b>Function:</b></p> <ul style="list-style-type: none"> <li>• Close Operations, Human Terrain and Population Protection Specialists</li> </ul> <p><b>Tasks:</b></p> <ul style="list-style-type: none"> <li>• Provide the larger force with Situational Awareness, help keep it 'awake' to the:                             <ul style="list-style-type: none"> <li>– changing atmospheric; and</li> <li>– the status and needs of civil populace and impacts of operations upon them</li> </ul> </li> <li>• Provide intelligence and understanding on security priorities and perspectives of women, children, families.</li> <li>• Analyse 'Relations of Care' (RoC) that need to be maintained and act to preserve them.</li> <li>• Special protective forces for women, families and children.</li> <li>• Provide flexible, dynamic responses to emergent operational requirements</li> <li>• Specialist analysis and response to female combatants</li> <li>• Analysis of masculinity cultural dimension and specialist response</li> </ul> <p><b>Physical Standards:</b></p> <ul style="list-style-type: none"> <li>• Should not be so prohibitive that they would prevent timely mobilisation of Battalion size group, or employment of highly skilled personnel for specific tasks.</li> </ul>	<p><b>Composition:</b></p> <ul style="list-style-type: none"> <li>• At least 50% female</li> <li>• Cultural, language expertise</li> </ul> <p><b>Conceptual training:</b></p> <ul style="list-style-type: none"> <li>• Women, Peace and Security (WPS)</li> <li>• Sexual Violence in Conflict (SVC)</li> <li>• Care ethics; Relations of Care (RoC)</li> <li>• Human Terrain issues</li> <li>• Child soldiers</li> <li>• Human trafficking; slavery; paedophile rings</li> <li>• Population protection</li> <li>• Critical and emergency governance, infrastructure and environmental considerations</li> <li>• Humanitarian Assistance and Disaster Response (HADR)</li> <li>• Urban operations</li> <li>• Social media, multimedia</li> <li>• Detainee management</li> <li>• Searching people</li> </ul> <p><b>Tactical training:</b></p> <p>Ability to secure an area; rescue and protect civilians; respond to and deter sudden small-scale attacks; ability to call in fire; ability to operate in armoured vehicles; intelligence collection; detainee management; to utilise drone technology and/or interface with other specialist elements and main forces.</p>

- **Rationale:** Previously the ADF has typically relied upon Infantry units for population protection tasks. The concern is that increasingly, training the Infantry soldier is a very all-consuming, technical and specialised task. Also, their focus is upon destruction of an enemy combatant force. This means that additional training on the

<sup>10</sup> Boulton EG. (2017) Teaming: An introduction to gender studies, unshackling human talent and optimising military capability for the coming Era of Equality: 2020 to 2050. Canberra, Australia: Australian Army. p.173

above elements of the “Human dimension” could be neglected or only achieved at a superficial level. Additionally, the very complicated nature of modern battlefields / insecure environments finds that humanitarian needs are often overlaid with more traditional security operations. (The 3-Block War phenomena). Thus, the idea could be that the ADF could utilise traditional combat forces in tandem with *Wake Forces*. There are numerous ways this could work; in some cases, the “Wake Force” may be like the “wake” of a boat, it follows in closely behind combatant forces to take over population protection/security / human security tasks, while the Infantry unit or combat battle group moves on to more hostile locations.

**d. the role of Australia’s overseas development assistance in climate change mitigation and adaptation more broadly;**

- Training and capacity building of regional meteorological staff is a very effective and efficient way of improving optics across the region. This can be enhanced through funding greater exchange and educational opportunities. Regional tropical cyclone warning centres<sup>11</sup> require priority.
- Presently there is hot competition between China and Japan for investment opportunities in Indonesia;<sup>12,13</sup> these are focused upon the smelter and power plant sectors (China) and infrastructure such as motorways and car manufacturing<sup>14</sup> (Japan), both GHG intensive activities. Australia could compete through provision of clean-technology, linked with overseas development initiatives.
- Given the Australian population’s connection with Bali, if there was mutual interest among neighbours, this could be a start point for a trial activity, whereby Australia makes a constructive contribution to maintaining the beauty of the ‘paradise island.’
- Consider other contributions to Regional ‘early warning’ capacity and preparation for chaos, as part of ODA.

**e. the role of climate mitigation policies in reducing national security risks; and**

- Strong climate mitigation policies are essential: Risk avoided is infinitely preferable to risk being realised and experienced.

**f. any other related matters.**

- Integrated Human Security Strategy
  - “Human security” is gaining prominence in some National Security Strategies, such as Sweden and Canada. This involves understanding security in a far broader way and taking account of the increased “war among the people”

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<sup>11</sup> <http://www.bom.gov.au/cyclone/about/centres.shtml>

<sup>12</sup> <https://asia.nikkei.com/Politics-Economy/International-Relations/China-overtakes-Japan-in-Indonesia-direct-investment>

<sup>13</sup> <https://en.tempco.co/read/news/2017/01/14/056835949/Indonesia-Expects-More-Investment-from-Japan>

<sup>14</sup> <http://www.japantimes.co.jp/news/2017/04/26/business/corporate-business/mitsubishi-motors-opens-plant-indonesia-looks-synergy-nissan/#.WYRhA1EjGUK>

nature of modern warfare; plus, acknowledging aspects like human trafficking; paedophilia markets and sexual violence and gendered impacts of insecurity. Insecure, vulnerable populations are easily exploited by a range of predators and need protection in the aftermath of a major shock event.

- It would seem imprudent to consider “Climate Security” on its own, rather an integrated strategy which also incorporates other environmental and human risks is preferable. One model is the “Human, Gender and Environment” (HUGE) approach.<sup>15</sup>
  - A key lesson from the Middle East wars was the importance of the “Human terrain” this must not be forgotten as future climate security planning is conducted.
- Teamwork and cultural cohesion aspects
    - An adequate response to climate security risks will demand multi-disciplinary, multi-agency and likely international cooperation. Key to success will be ensuring the teamwork and cultural cohesion aspects of such a coordination challenge are addressed. The book ‘Team of Teams’<sup>16</sup> may be instructive on this, while the ‘diversity’ aspect of such teams must also be accounted for.<sup>17</sup>

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## Conclusion

Military planning tools are tailored and tested for chaotic situations; they can be applied to the assist Australia to be prepared for worst-case climate threats.

*“It is a fallacy, when one believes it is possible to determine a plan of campaign far in advance and carry it out to the end. The first clash with the enemy main force creates, according to its result, a new situation. Many things cannot be carried out which one may have intended, many things become possible which were previously not expected. To understand the changed circumstances, on that basis, to direct what is suitable and carry it out in a determined fashion is all that the army leadership can do”*

*Prussian General, Helmuth Von Moltke the Elder, 1864 (McKercher, 1996)*

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<sup>15</sup> Spring ÚO. (2009) A HUGE gender security approach: towards human, gender, and environmental security. *Facing Global Environmental Change*: 1157-1181.

<sup>16</sup> McChrystal GS, Collins T, Silverman D, et al. (2015) *Team of Teams: New Rules of Engagement for a Complex World*: Penguin.

<sup>17</sup> Boulton EG. (2017) *Teaming: An introduction to gender studies, unshackling human talent and optimising military capability for the coming Era of Equality: 2020 to 2050*. Canberra, Australia: Australian Army. [https://www.army.gov.au/sites/g/files/net1846/f/teaming\\_lo\\_res.pdf](https://www.army.gov.au/sites/g/files/net1846/f/teaming_lo_res.pdf)

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