

# The politics of Australian climate science expertise

## Research Utilisation Vs. Framing

**THE CONVERSATION**  
Academic rigour, journalistic flair

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**CSIRO must ensure climate science is maintained**

April 8, 2018 8:10am AEST

CSIRO chief executive Larry Marshall fronts senate estimates in February. AAP Image/Mick Tsikas

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Parts of CSIRO's climate science capability axed from the organisation could be absorbed by the Australian Bureau of Meteorology, according to [media reports](#) this week.

Under cuts announced in early February by chief executive Larry Marshall and Oceans and

Author



**John Church**  
CSIRO Fellow, CSIRO

“Long-term strategic investment in climate science is critical for monitoring, modelling, understanding and predicting future climate”

- **Durack and Pirani et al. (2016)**

“Successful adaptation will require an ability to foresee and prepare for inevitable changes in the likelihoods of extreme climate events from year to year.” – **Church et al. (2016)**

“CSIRO has long been a global leader in projecting climate at the regional scale and presenting the information in a form that suits decision makers” – **Jones (2016)**

“Billions of dollars will be invested to adapt to [climate change]. Taxpayers and governments will demand that these hard-won dollars should be spent optimally.” – **Pitman (2016)**

# Three Modes of Research Utilization

(Weiss, 1979; Head, 2013; Newman, 2017)

- **Instrumental**

- Directly used to solve policy problems

- **Political/Tactical**

- Used symbolically or tactically to legitimise political choice

- **Conceptual**

- Generates ideas that affect policy indirectly – through ‘enlightenment’

### Summer mean temperature

2020s  
50% probability level:  
central estimate

[Customisable version](#)



2050s  
50% probability level:  
central estimate

[Customisable version](#)



2080s  
50% probability level:  
central estimate

[Customisable version](#)



Change in summer mean temperature

# Predict and Optimise??

- **Predictive ability?**

(Dessai et al., 2009; Pielke and Wilby, 2012; Frigg et al., 2013; Frigg et al., 2015; Heymann, Gramelsberger & Mahony, 2017)

- **Instrumental usability?**

(Tang & Dessai, 2012; Rickards et al., 2014; Porter et al; 2015; Porter & Dessai, 2016; Tangney & Howes, 2016)

- **Projections neither credible nor legitimate for Cost-Benefit rationalization**

(Porter et al., 2015; Tangney, 2016; 2017);

- Vast majority of funding for climate adaptation policy has not and, arguably, will not be accrued or dispersed on basis of *climate predictions*

(E.g. Tangney et al., 2010; TE2100; QRA 2011)

# Conflating different forms and uses of evidence?

- **Instrumental** use:

- Exploratory scenario planning for adaptation science and geo-engineering
- ~~Monitoring progress??~~
- ~~Anticipating tipping points??~~

[Landuse Change vs GHG? Climate Sensitivity? Downscaling?  
Sub-system process<->Model Parameterisation Gap?  
Predictive Ability: ...Perceived Credibility for Policy?]

- **Political/Tactical** use:

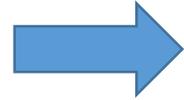
- GHG reduction
- Building legitimacy for adaptation [...But is it needed??]

- **Conceptual** use:

- Earth System Science

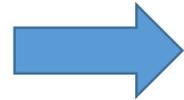
# The importance of framing

**'Climate Disaster'**



**'Climate Alarmism'**

**'Predict and Optimise'**



**'Uncertain Science'**

**'Expert Consensus'**



**'Stealth Advocacy'**

**["...more like religion than science"]**

# The Perils of Expert Advocacy

- Communications theory/ STS -> **Deficit Model**

(Pearce et al., 2017; Kahan et al., 2012, 2015; Nisbet, 2009; Bucchi & Neresini, 2008)

- Political Science -> **Linear-Rationalism**

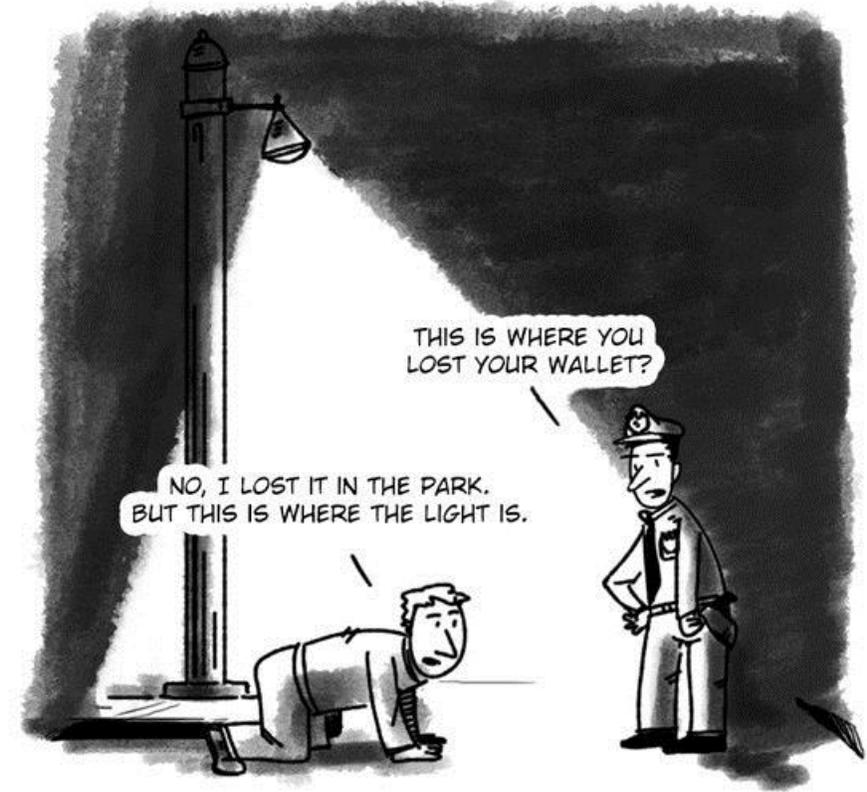
(Tangney, 2017; Durant, 2015; Beck, 2010)

- Social Studies of Science -> **'Cultures of Prediction'**

(Heymann et al., 2017; Victor, 2015; Beck et al., 2014, 2012; Hulme and Mahony, 2010)

- Philosophy of Science -> **Consensus as Naïve Falsificationism?**

(Lakatos; Laudan; Feyerabend; ... even Popper!)



# Rethinking CSIRO's research purpose:

## **Gain Frame Advantage:**

- Enhancing Local Economy (Spence & Pidgeon, 2010; Stokes and Warshaw, 2017)
- Enhancing Local Environment & Community (Scannell and Gifford, 2013)

## **Communicating risk without disaster?**

....climate science as ***Adaptation Science?*** *speaks to both valid instrumental and political uses of evidence*