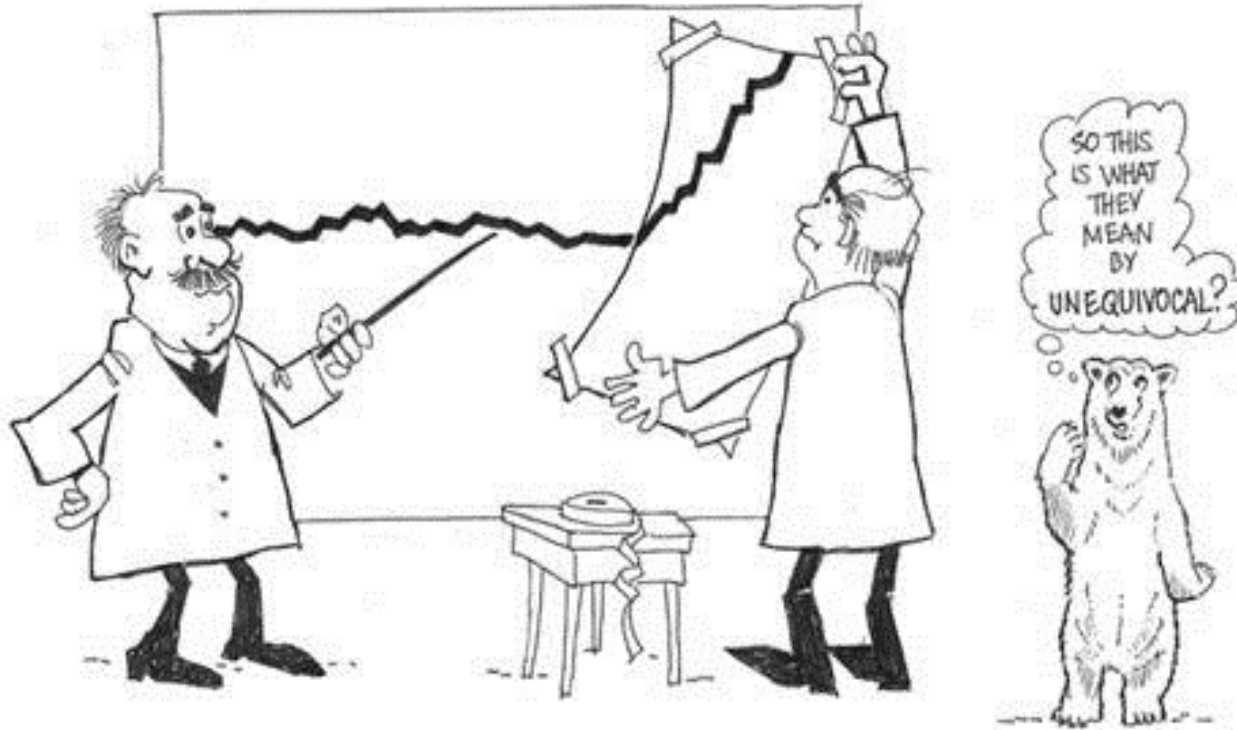
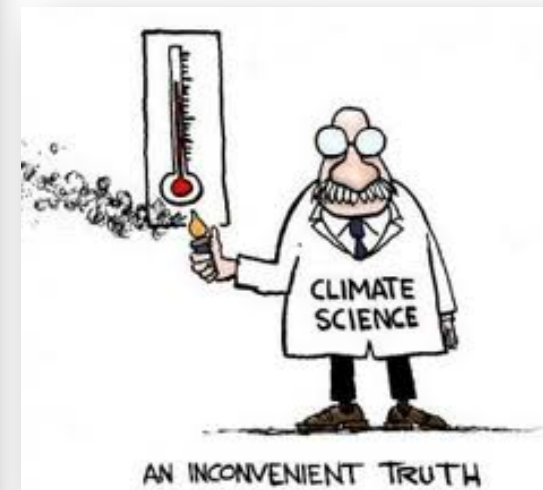


# Toward an ethical framework for climate services

Working Group: Peter Adams (Acclimatise), Erika Eitland (Columbia), Bruce Hewitson (UCT),  
Cathy Vaughan (IRI), Rob Wilby (Loughborough), Stephen Zebiak (IRI)



*The Mad, Mad, Mad World of Climatism, Chapter 9*  
Cartoon by Bob Lynch



AN INCONVENIENT TRUTH

# A brief introduction

- Geographer (who can count)
- PhD *Climate Change and the Recovery of Acidified Catchments* (1991)
- 10 different jobs in last 25 years
- Professor of Hydroclimatic Modelling at Loughborough University, UK (2008-)
- Pragmatic about use of climate science to achieve positive outcomes for human development and freshwater environments
- Concerned about potential harms linked to climate services



A bloke with poor taste in T-shirts

# Learning from others



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### INTRODUCTION

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If you are a journalist or editor you can order a wallet-sized version of the Code that is produced on behalf of the industry by the Society of Editors from [office@societyofeditors.org](mailto:office@societyofeditors.org)

This section also includes an [Introduction to the Code](#), which explains the function of the Code and who is responsible for its development; and a [history](#) of the Code, which provides a comprehensive summary of all changes made to the Code since 1991.

The Press Complaints Commission is charged with enforcing the following Code of Practice which was framed by the newspaper and periodical industry and was ratified by the PCC in December 2011 to include changes taking effect from 1 January 2012.

### THE EDITORS' CODE

All members of the press have a duty to maintain the highest professional standards. The Code, which includes this preamble and the public interest exceptions below, sets the benchmark for those ethical standards, protecting both the rights of the individual and the public's right to know. It is the cornerstone of the system of self-regulation to which the industry has made a binding commitment.

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# Building blocks of an ethical framework

## Toward an ethical framework for climate services

DRAFT white paper  
CSP Working Group on Climate Service Ethics\*  
November, 2014

### Preamble

The impacts of climate variability and change are immediate, intensifying, and potentially dangerous. Climate services offer valuable information and tools that allow users to anticipate or address these impacts. However, climate services lack a cohesive ethical framework to govern their development and application. This paper is an early step in an open-ended process to establish a set of ethical principles to ensure that climate services are effectively deployed to manage climate risks, realize opportunities, and advance human security.

The need for a climate service ethic is significant and growing. To date, a multiplicity of competing interests and motivations across individuals and institutions has led to poor cohesion within the climate services community. Growing awareness of climate impacts has raised interest and investments in climate services across sectors and around the world. This has also led to the entrance of new actors seeking to provide these services. User demand for climate services is also rising, as is demand for new types of services.

This urgency is heightened by recognition that negative consequences can arise when climate services should be used and are not, and/or from the deployment of such services in ways that bias (implicitly or explicitly) an outcome. Meanwhile, there has been growing pressure from funders to operationalize climate research. With a range of evolving practices, there is increasing scope for malpractice and maladaptation. Hence, there is a time imperative to articulate a set of ethical principles to guide this emerging field.

There is no agreed upon governance for developing or applying climate services. Major efforts are underway to provide structure to these endeavors, including the Global Framework on Climate Services (GFCS) which "guide[s] the development and application of science-based climate information and services in support of decision-making in climate sensitive sector."<sup>1</sup> GFCS is governed by eight principles, but these pertain to the organization's policy rather than to the remit of climate services *per se*.

Other relevant codes exist (WMO,<sup>2</sup> FAO,<sup>3</sup> NOAA<sup>4</sup>), but these are typically focused on specific sectors or international climate change negotiations rather than the mainstreaming of climate information services. Recognizing this vacuum in guidance,

<sup>1</sup> Under the auspices of the Climate Services Partnership's Climate Service Ethics Working Group, this draft paper was drafted by Peter Adams (Acclimatize), Bruce Hewitson (CSAG UCT), Cathy Vaughan (IRI), Rob Wilby (Loughborough), Stephen Zebiak (IRI), and Erika Etland (Columbia University) in 2014.

## ***Six key elements***

Motivations

Reference points

Shared language

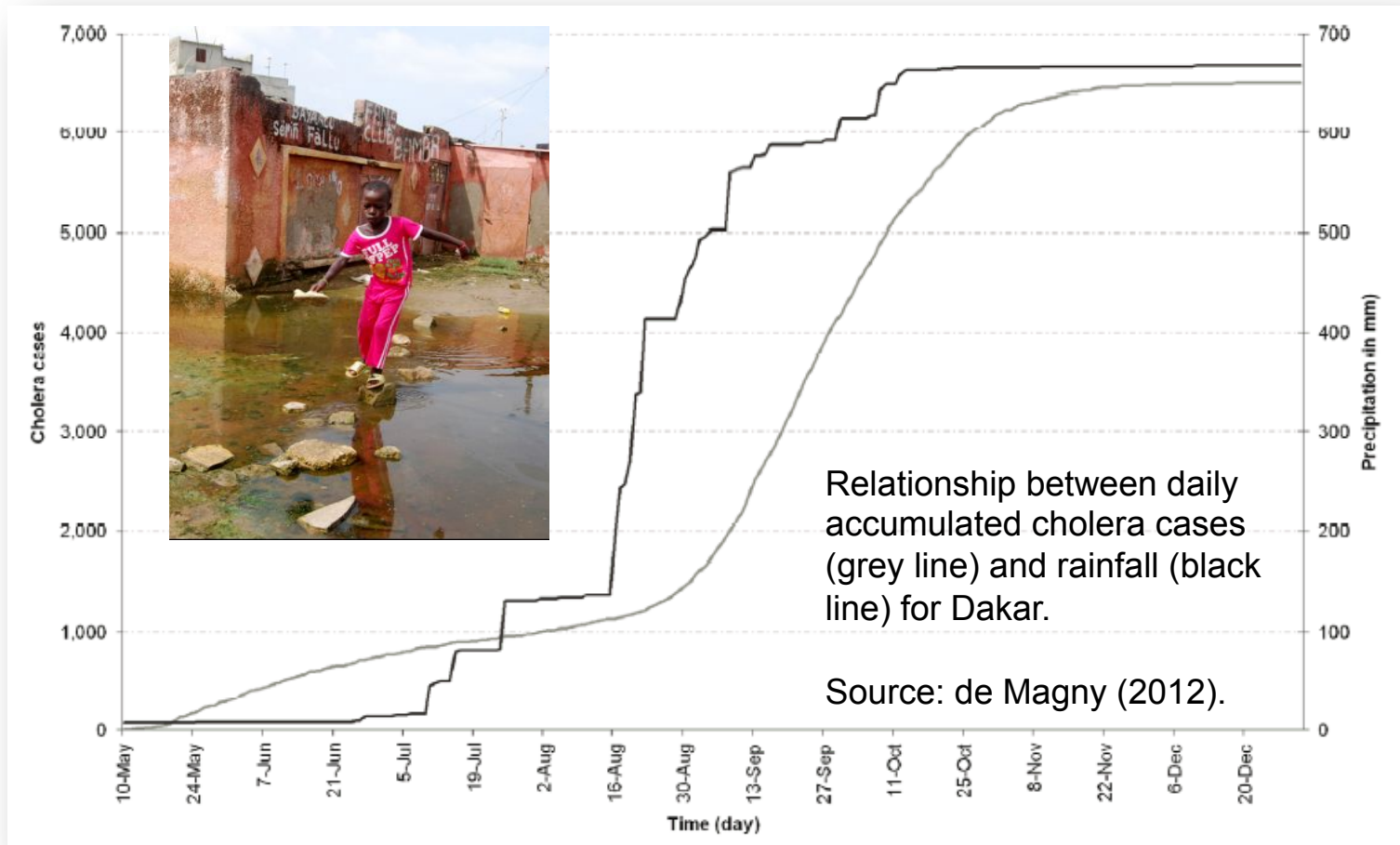
Core values

Principles\* of product

Principles\* of practice

\* Note principles not rules

# Motivations: Minimize risk and maximise human security



# Reference points

## **Box 1: We believe that ...**

1. Climate science has the potential to improve human well-being.
2. Users' needs should inform climate services provided.
3. The value systems and decision frameworks of users should be central to climate service delivery
4. Climate service providers should consider the consequences of their actions for those who may use or be affected by the use of climate service products.
5. Climate service providers should be accountable for the integrity and transparency of their practices and products.
6. No individual or institution has a monopoly on climate knowledge or scientific authority.
7. Climate service products should be open to scrutiny and comparison.
8. Public data are a public good.

# Shared language

## A UNIFIED MODELING APPROACH TO CLIMATE SYSTEM PREDICTION

BY JAMES HURRELL, GERALD A. MEEHL, DAVID BADER, THOMAS L. DELWORTH, BEN KIRTMAN, AND BRUCE WELICKI

Demand for more accurate predictions of regional climate necessitates a unified modeling approach explicitly recognizing that many processes are common to predictions across time scales.

The global coupled atmosphere-ocean-land-cryosphere system exhibits a wide range of physical and dynamical phenomena with associated physical, biological, and chemical feedbacks that collectively result in a continuum of temporal and spatial variability. The traditional boundaries between weather and climate are, therefore, somewhat artificial. The large-scale climate, for instance, determines the environment for microscale (1 km or less) and mesoscale (from several kilometers to several hundred kilometers) processes that govern weather and local climate, and these small-scale processes likely have significant impacts on the evolution of the large-scale circulation (Fig. 1; derived from Meehl et al. 2001).

The accurate representation of this continuum of variability in numerical models is, consequently, a challenging but essential goal. Fundamental barriers to advancing weather and climate prediction on time scales from days to years, as well as long-standing systematic errors in weather and climate models, are partly attributable to our limited understanding of and capability for simulating the complex, multiscale interactions intrinsic to atmospheric, oceanic, and cryospheric fluid motions.

The purpose of this paper is to identify some of the research questions and

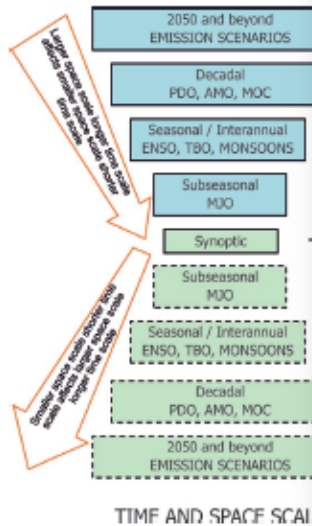


FIG. 1. Schematic illustrating interactions between time and space scales in the climate system. (left) Small scale processes influence the large scale. (right) Large scale processes influence the small scale. Though the smallest time scale, these interactions could continue to infinitely short time scales and small space scales.

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Themes

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## Climate Prediction Products

A climate prediction is a probabilistic statement about the future climate conditions on time scales ranging from seasons to decades. It is based on conditions that are known at present and assumptions about the physical processes that will determine future changes.

Climate predictions are generally the products most eagerly sought for longer-term decisions and early warning of potential hazards. Predictions can be produced on the global, regional or local scale.

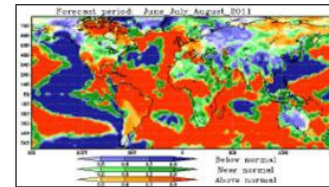


Image: Hydro-meteorological Centre of Russia

### Related items

- Climate System
- Climate Data and Monitoring
- Climate Prediction and Outlooks
- Climate Change
- Climate Research
- Climate Services
- Climate Applications
- Climate Risk Management
- International Collaborations and Partnerships on Climate Change
- World Climate Programme
- Commission for Climatology

### Global Climate Prediction products

#### Products from WMO Global Producing Centres for Long-Range Forecasts

The process of computing long-range forecasts (climate predictions from 30 days up to two years) on the global scale requires huge amounts of computer power along with a

# Core values

**≠** INSTITUTE FOR CLIMATE CASH



## *Four elements*

Integrity

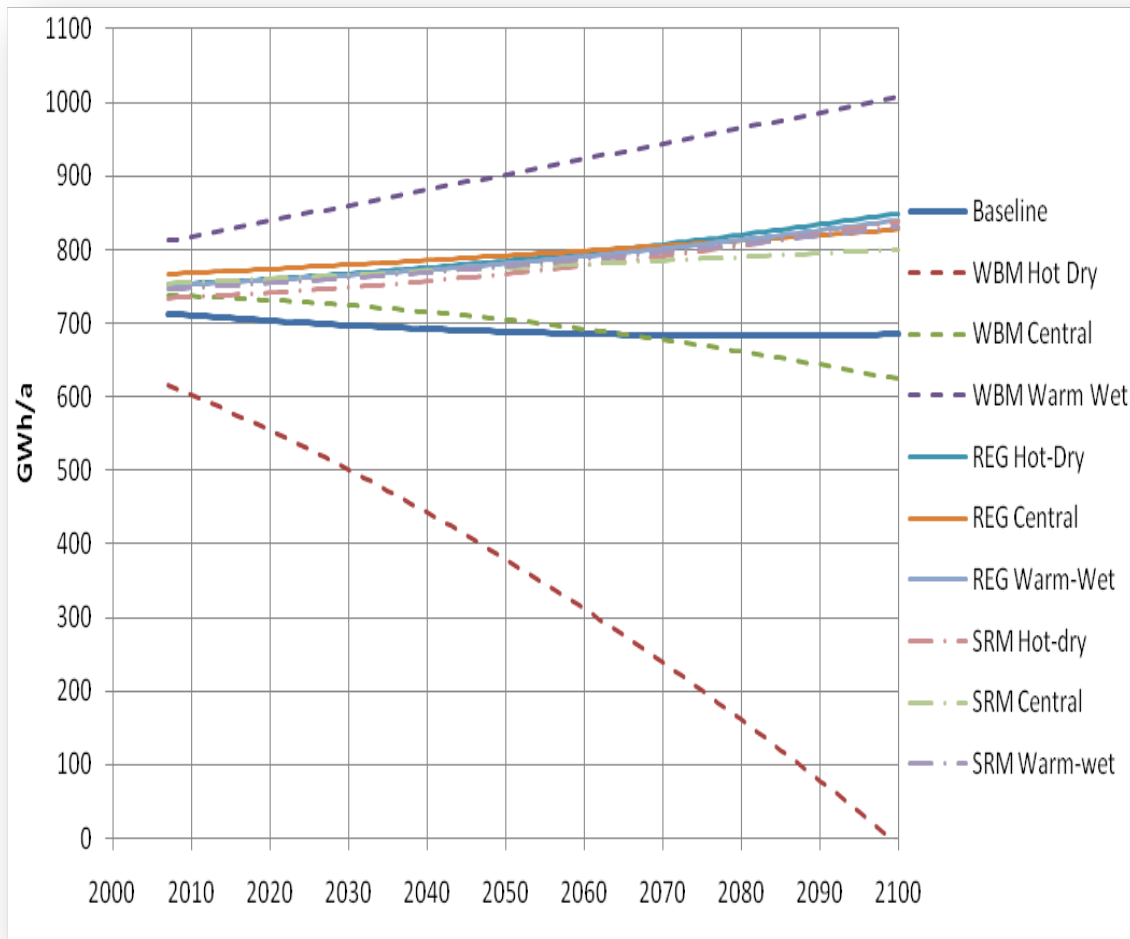
Transparency

Humility

Collaborative



# Principles of product



Source: EBRD (2011)

***Climate service products should...***

...be credible and defensible

...include detailed descriptions of uncertainty

...be fit for purpose

...be documented

# Principles of practice

## ***Climate service providers should...***

- ...communicate value judgements
- ...communicate principles of practice
- ...engage with their community of practice
- ...engage in the co-exploration of knowledge
- ...eschew climate as a singular threat
- ...provide metrics of the value of their products
- ...communicate appropriately
- ...implement mechanisms for monitoring and evaluation of procedures and products
- ...articulate process for refreshing and revising information
- ...declare any conflicts of interest and/or vested interests
- ...share the responsibility of climate information outcomes



# Closing remarks



***Principles not rules***

***Sanity check by climate service users***

***Consultation and refinement***