

Paying for Predictions

Rethinking Climate Services through Gameplay

by Pablo Suarez & Janot Mendler de Suarez

RED CROSS/RED CRESCENT

CLIMATE CENTRE



International Federation
of Red Cross and Red Crescent Societies

The Netherlands  **Red Cross**

Your
Comfort
Zone



Where the
magic happens

RED CROSS/RED CRESCENT

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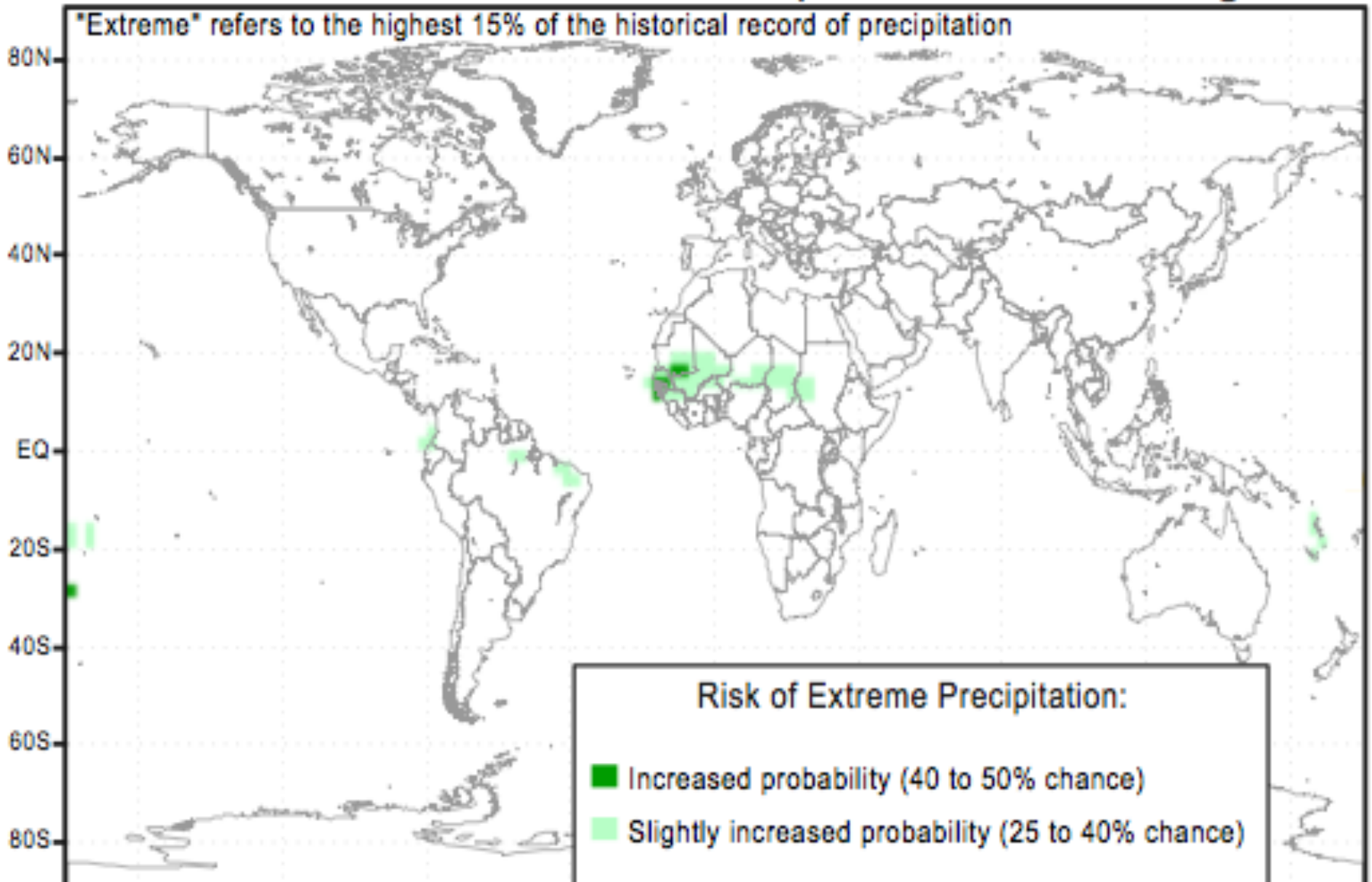


International Federation
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The Netherlands  Red Cross

Fax to Red Cross with New Info (May 2008)

Seasonal Forecast of Extreme Precipitation for June-August 2008

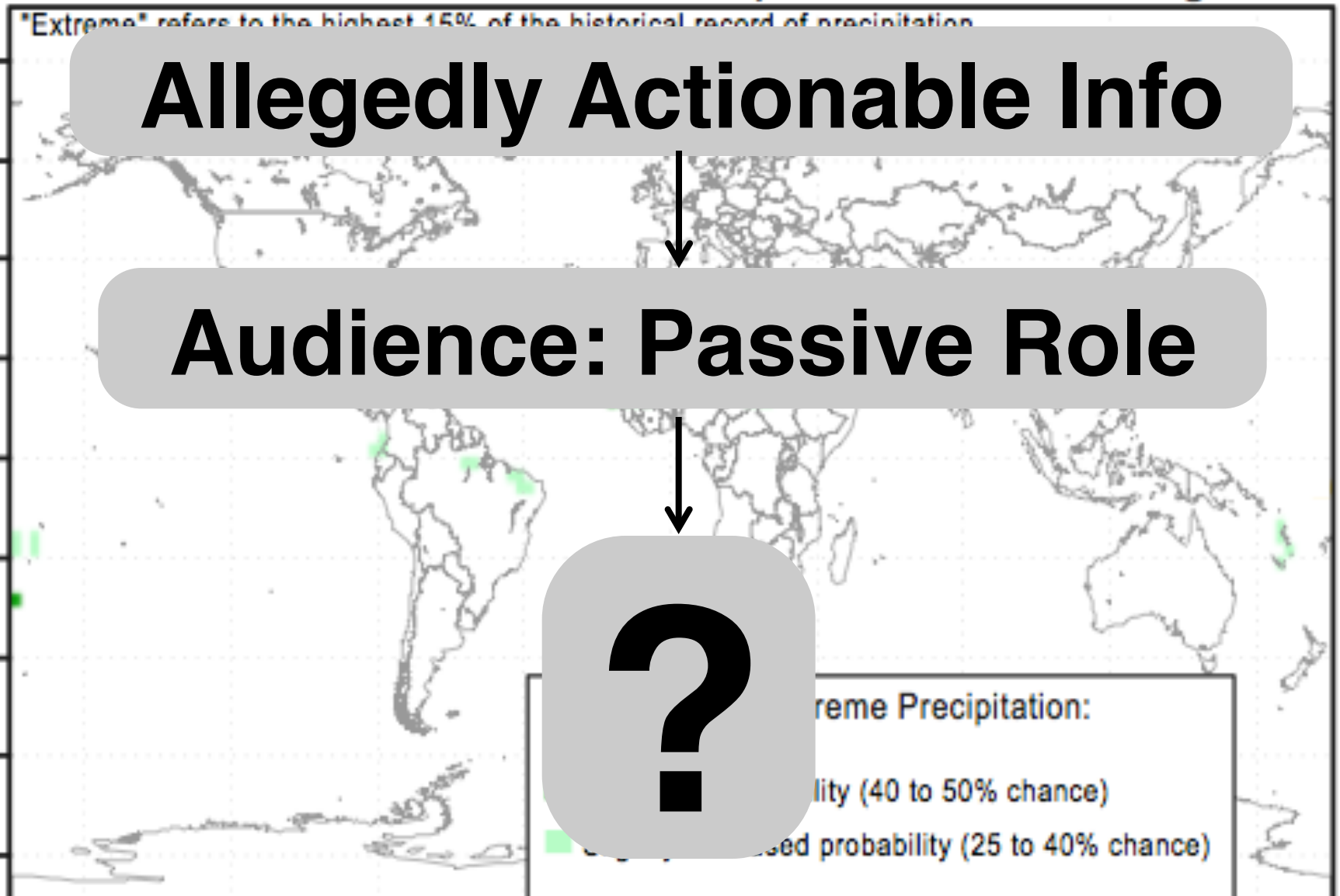


Model of a Forecast Experience

Allegedly Actionable Info

Audience: Passive Role

?

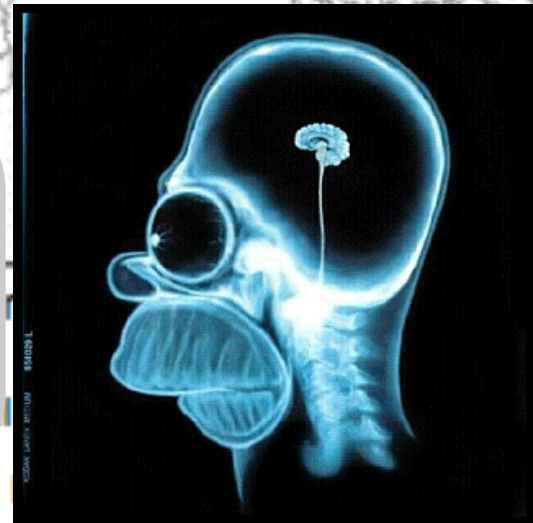


A Model of the Usual Experience

Allegedly Actionable Info

Audience Passive Role

?



GROUND RULES

- 1. Game = *simplified* representation of reality**
No questioning of game rules
- 2. Decisions are individual**
But consultation with team is encouraged
- 3. You win or lose beans**
Beans cannot be shared - Start with 10
- 4. We will play 10 years (rounds)**
Expect time pressure...

WINNERS & LOSERS

Losers: *Most red stones
(humanitarian crises)*

Winning Players: *No crisis, and
Most beans for Long-Term Investment*

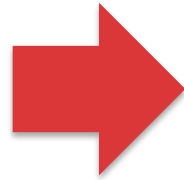
Winning Team: *Fewest crises
(if tied: Most beans for Long-Term)*

Flood Risk Depends on Upstream Rains



*Flood if 10+
(~16% chance)*

YOU



(DISASTER MANAGER)



**Long-Term
Investment**

Stay sitting
Pay 1 bean for Long Term

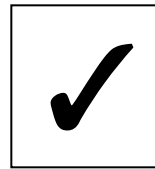
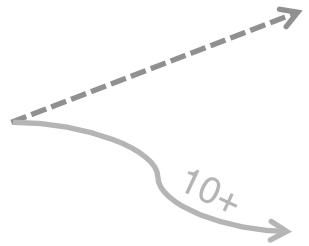


Early Action

Stand up for Flood Preparedness:
Pay 1 bean for Early Action



Long Term
(Stay Sitting – Pay 1)



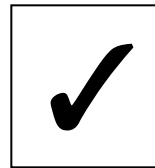
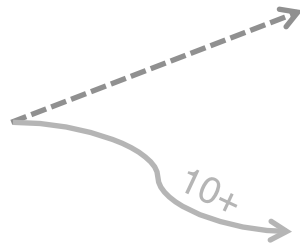
**Long-Term
Investment**



Oh No!! ('Long-Term' investment reallocated)
Pay 4 – or *CRISIS*




Long-Term
(Stay Sitting – Pay 1)



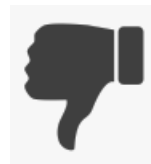
**Long-Term
Investment**



Oh No!! ('Long-Term' investment reallocated)
Pay 3 – or *CRISIS*



Do Nothing,
No Flood`

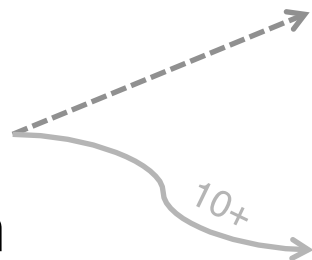


Act in Vain
(Beans gone)



Hero !


Early Action
(Stand Up – Pay 1)



Not enough beans to pay?

Crisis!
(get red stone)

GET A REGIONAL EARLY WARNING?

~Half of provinces will have info about likely rains

- **Cost of transparent cup: XX beans**
- **Highest bidders get the investment**

Provinces that get Early Warning can see regional die before decision, throughout game.

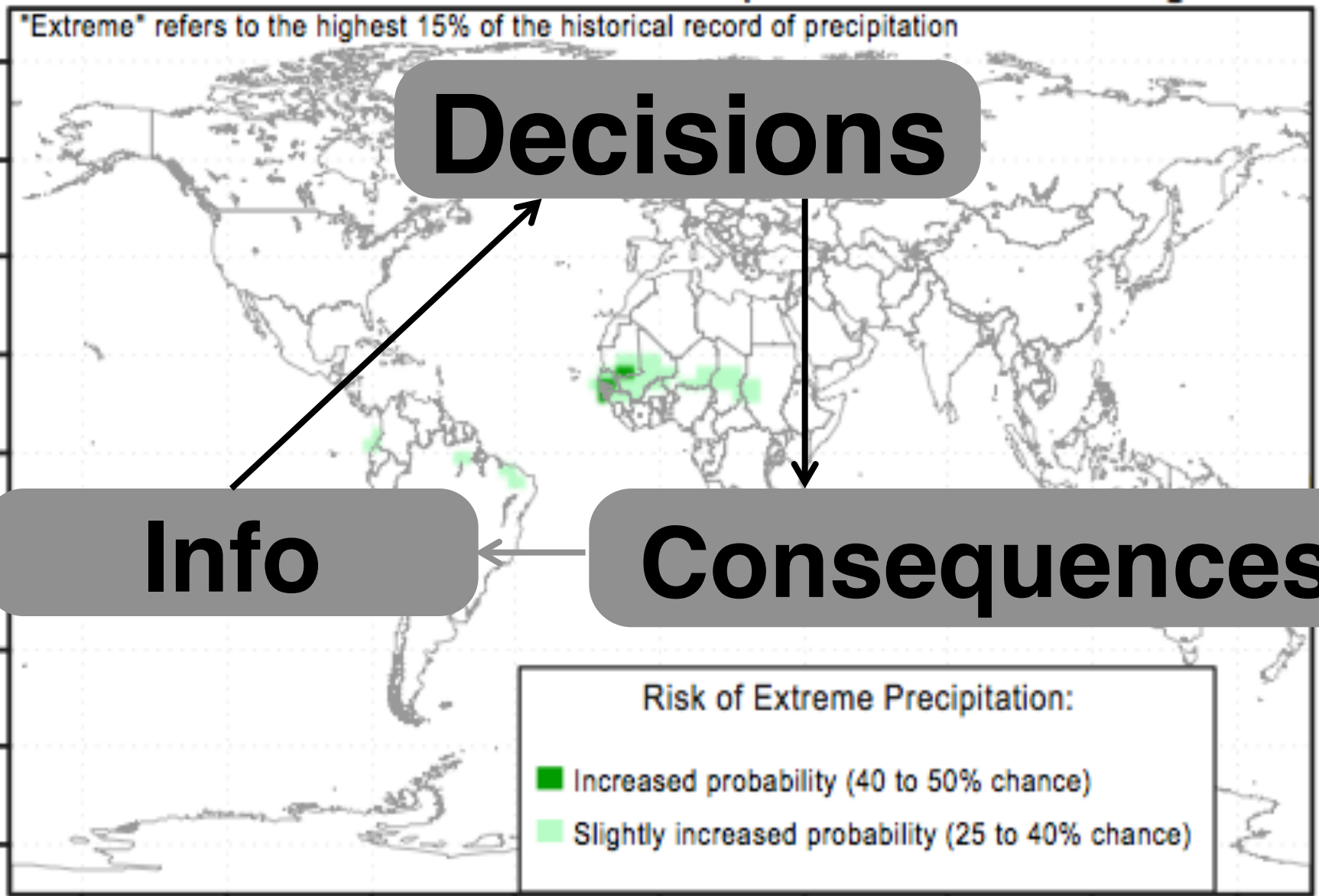
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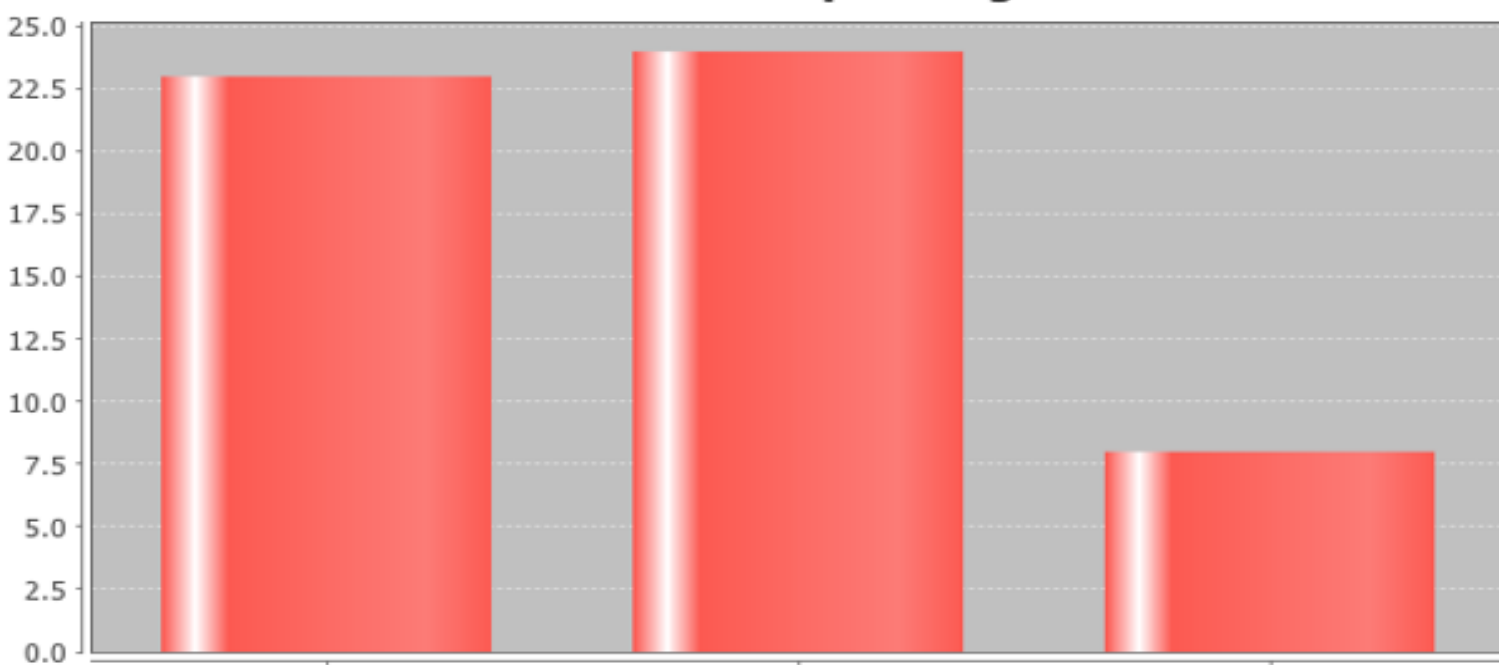
Winning Team: *Fewest crises
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A Model of the Gameplay Experience



Washington (RC)

Crises



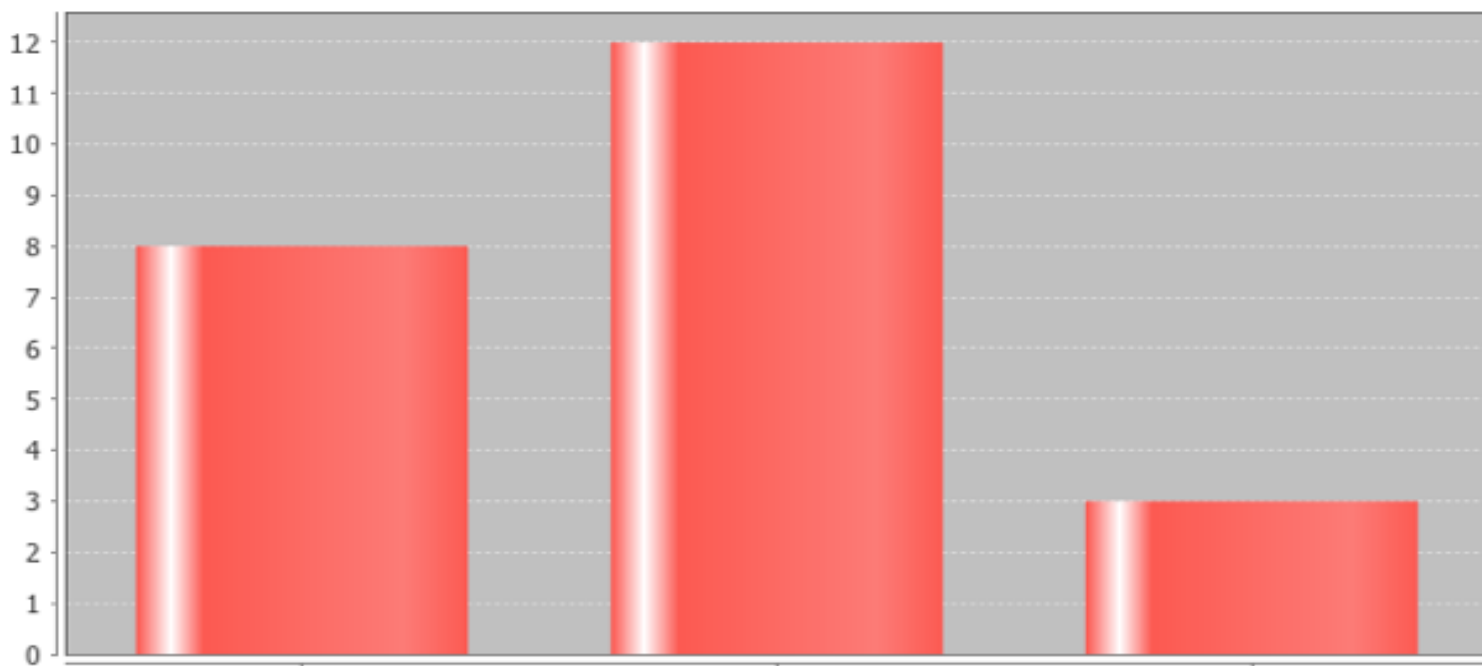
Real Game

Never Prepare

Best Plan

Univ. Lugano

Crises



WHY GAMES for Actionable Info:

HUH?



AHA!



with University Students



8 Fritz Policelli (Goddard)
Science Advisor Spotlight

16 Lauren Makely (Langley)
Center Lead Spotlight

40 Stennis Space Center
Node Spotlight



ate Change Adaptation (CCA) seeks to disburse funding for
aster, allowing communities to prepare for the oncoming forces of
rather than simply react once the damage has been done. As Dr.

PROTECTION from Too Little Rain (if "Drought", remove 1 bean)

PRODUCTIVE INVESTMENTS (1 "1" for 10% increase in productivity)

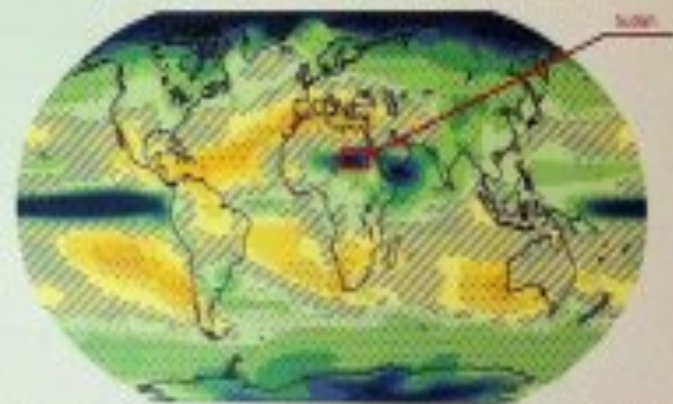
PROTECTION from Too Much Rain (if "Flood", add 1 bean)

Climate-sensitive Investment Options

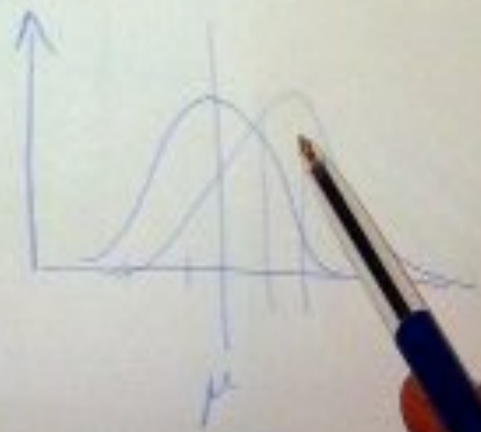
Decade	Protection from Too Little Rain	Production	Protection from Too Much Rain
1	0123456789	12345678910	0123456789
2	0123456789	12345678910	0123456789
3	0123456789	12345678910	0123456789
4	0123456789	12345678910	0123456789

Your Name: _____ Your Gender: (Male / Female) _____

Map A - Sudan
Change in average precipitation (1980-2020 to 2081-2100)
RCP 8.5



Hatching indicates regions where the multi-model mean is small compared to internal variability (i.e., less than one standard deviation of internal variability in 20-year means). Flipping indicates regions where the multi-model mean is large compared to internal variability (i.e., greater than two standard deviations of internal variability in 20-year means) and where 80% of models agree on the sign of change.



with IPCC Lead Authors



Games for a New Climate: US. Pablo Suarez plays *Dodging the Storm* at the White House in Washington, DC. (Photo: American Red Cross)

at the White House

Gameplay *beats* Powerpoint

- 1. Active learning** (*Peer-to-peer, “Aha!” moments* UNFCCC)
- 2. Serious, fun engagement** (*Emotions matter!* RockFound)
- 3. Data collection on decisions** (*In real time* GEC)
- 4. Optimization platform** (*illiteracy no problem*)

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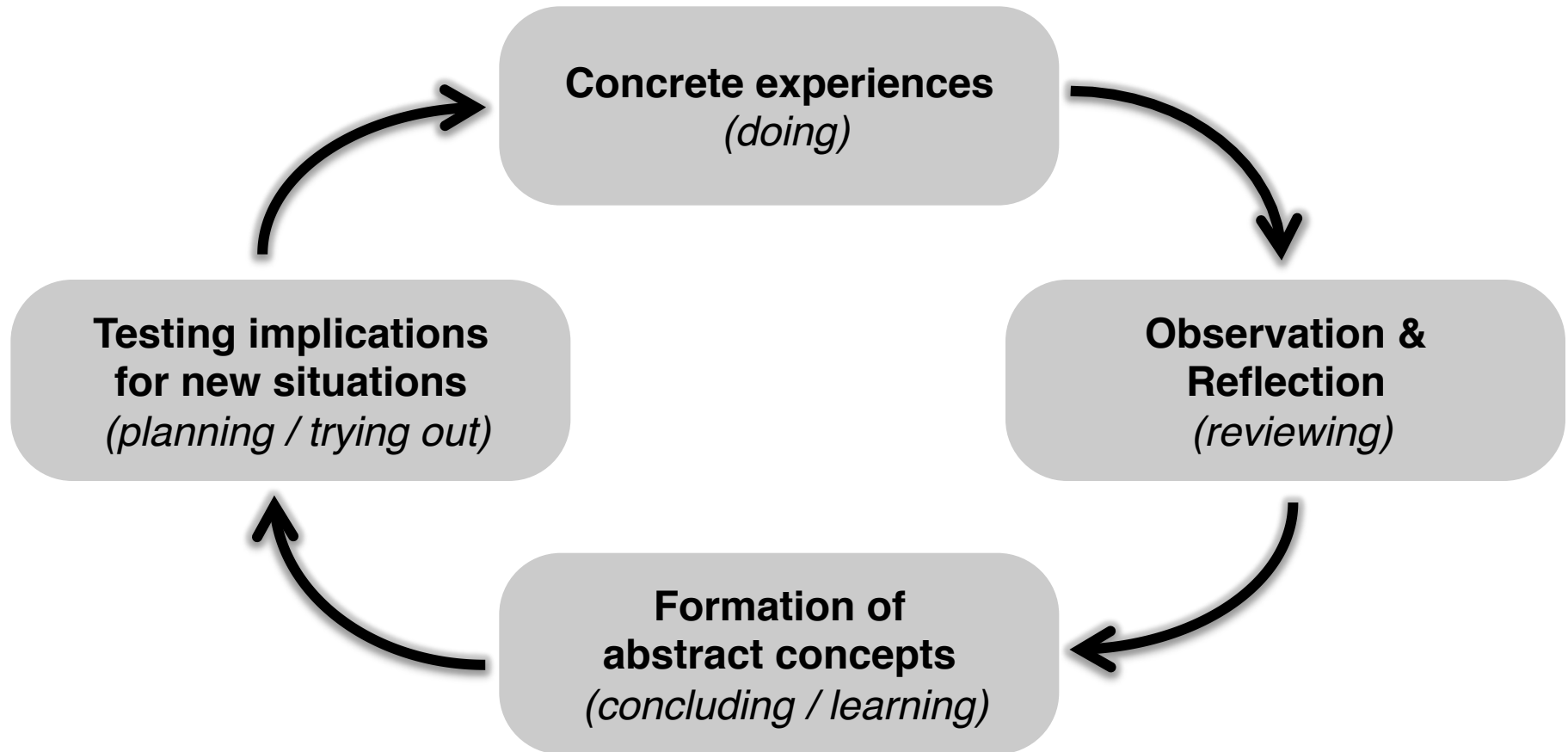
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The Experiential Learning Cycle: A Model for 'Lincoln Lab + Climate Centre' ?



Kolb, 1984

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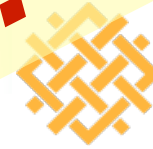


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The Netherlands **Red Cross**



African Union
a United Nations System Organi...



WORLD RESOURCES INSTITUTE



THANK YOU!!!



Climate & Development Knowledge Network

