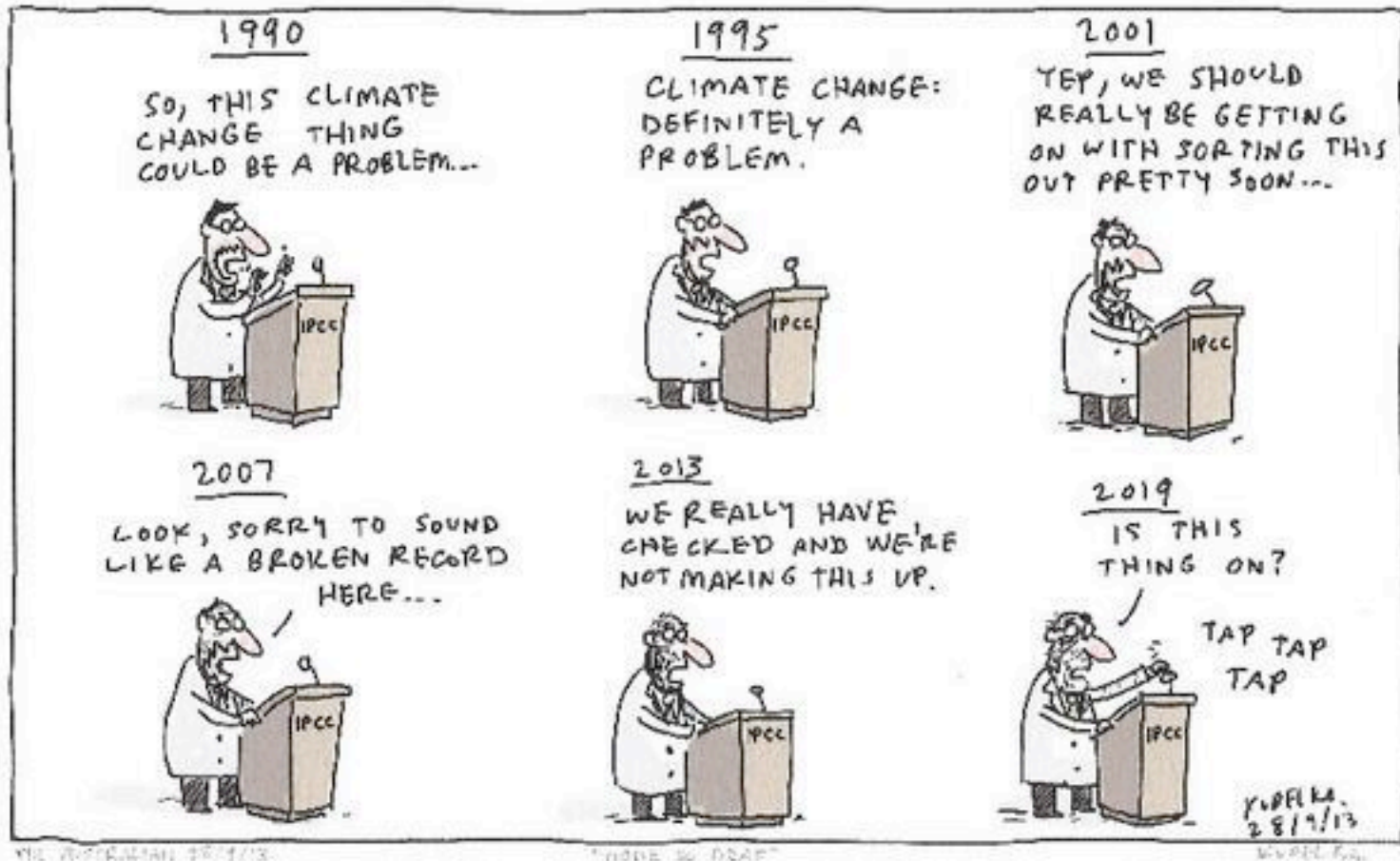


# The long march of IPCC



THE INFORMATION IS 1/13

THOSE SO DEAD

WHEELS



# Media on food security

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## Climate change a threat to security, food and humankind - IPCC report

Warming is leading to more volatile weather patterns that are already reducing crop yields, the IPCC has warned

[Reaction to the IPCC report on climate change - live](#)

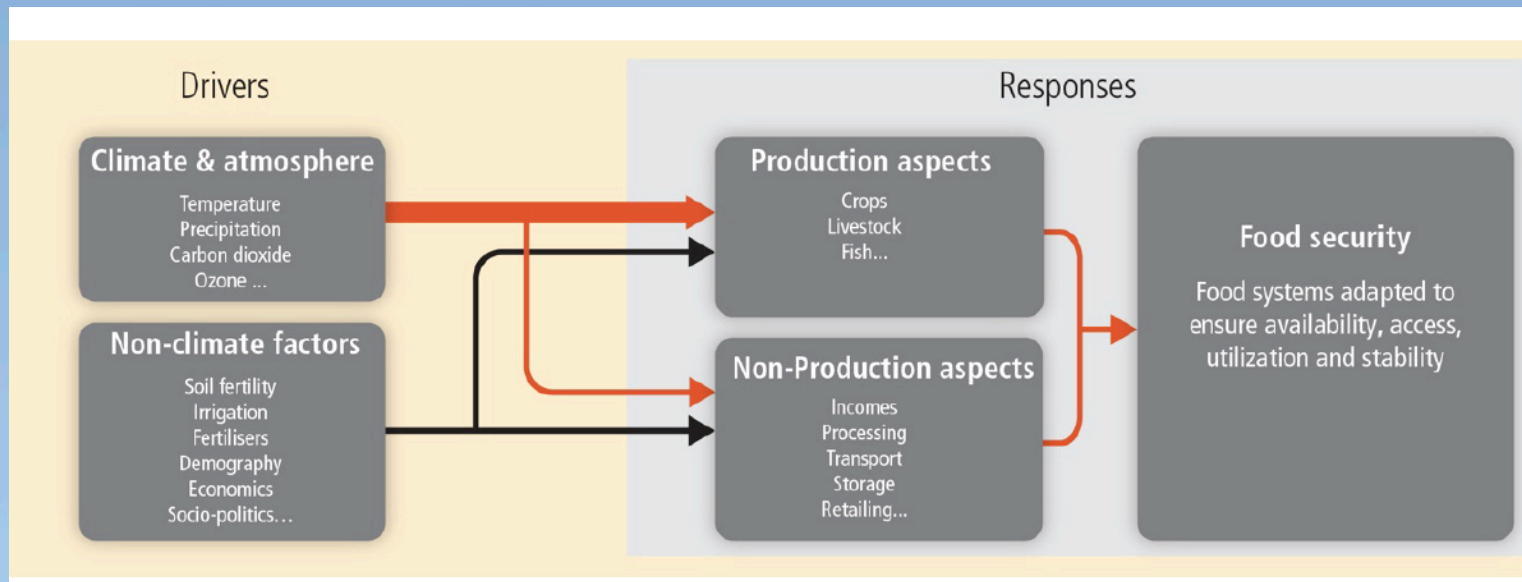
## Climate change 'already affecting food supply' – UN

Report by climate change panel says global warming is fuelling not only natural disasters, but potentially famine – and war

# IPCC and food security

‘When all people, at all times, have physical and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for an active and healthy life’

MUCH MORE THAN CROP YIELDS...



# Observed changes in food systems

Changes already have been observed

- Based on many studies covering a wide range of regions and crops, negative impacts of climate change on crop yields have been more common than positive impacts (high confidence)
  - High latitude production increases?
  - Declines in wheat and maize compared to rice
  - Food price rises linked to climate extremes

# Projected changes in food systems

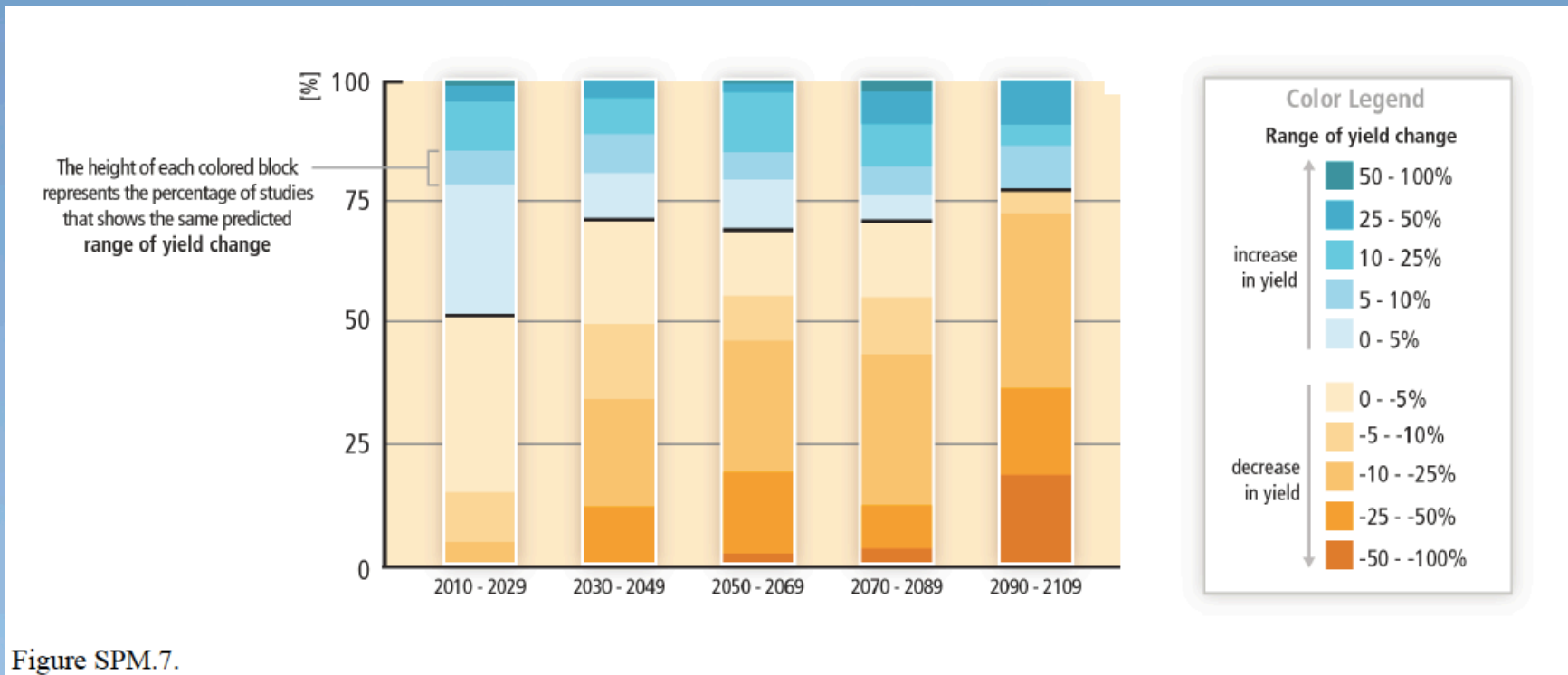


Figure SPM.7: Summary of projected changes in crop yields, due to climate change over the 21st century. The figure includes projections for different emission scenarios, for tropical and temperate regions, and for adaptation and no-adaptation cases combined. Relatively few studies have considered impacts on cropping systems for scenarios where global mean temperatures increase by 4oC or more. For five timeframes in the near-term and long-term, data (n=1090) are plotted in the 20-year period on the horizontal axis that includes the midpoint of each future projection period. Changes in crop yields are relative to late-20th-century levels. Data for each timeframe sum to 100%. [Figure 7-5]

# Projected changes

- At 2°C and above in absence of adaptation production will mostly decline
- After 2050 high risk of negative yield impacts depending on warming, beyond 4°C large risks globally and regionally
- Increased variability
- Higher demand for food

# North America

- Effects of temperature and climate variability on yields of major crops have been observed (high confidence)
- Projected increases in temperature, reductions in precipitation in some regions, and increased frequency of extreme events would result in net productivity declines in major North American crops by the end of the 21st Century without adaptation, although the rate of decline varies by model and scenario, and some regions, particularly in the north, may benefit (very high confidence)
- Canada and the US are relatively food secure, although households living in poverty are vulnerable. 17.6% of Mexicans are food insecure
- Dependence on imports not well captured – we will be affected by changes elsewhere



# IPCC and economic impacts

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Environment > Intergovernmental Panel on Climate Change (IPCC)

## Governments reject IPCC economist's 'meaningless' climate costs estimate

UK-based Richard Tol, who has criticised overall report, accused of underestimating costs of climate change in economics section

Suzanne Goldenberg in Yokohama

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theguardian.com, Friday 28 March 2014 05.10 EDT



The opening session of IPCC meeting in Yokohama. Photograph: Yoshikazu Tsuno/AFP/Getty Images

Britain has dismissed as "completely meaningless" a key economic finding cited in part of the draft United Nations climate report from a dissenting author who went public on Thursday with criticisms of the report, the Guardian has learned.

## IPCC dispute simmers over economic costs of climate change

March 27, 2014

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IPCC chairman Rajendra Pachauri is projected onto a screen at the opening session of the 10th plenary of the IPCC Working Group II in Yokohama. Photo: AFP

## IPCC report downplays economic impacts of climate change, reviewer says

March 25, 2014

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The sneaky prepper trick to hoard massive amounts of food super cheap

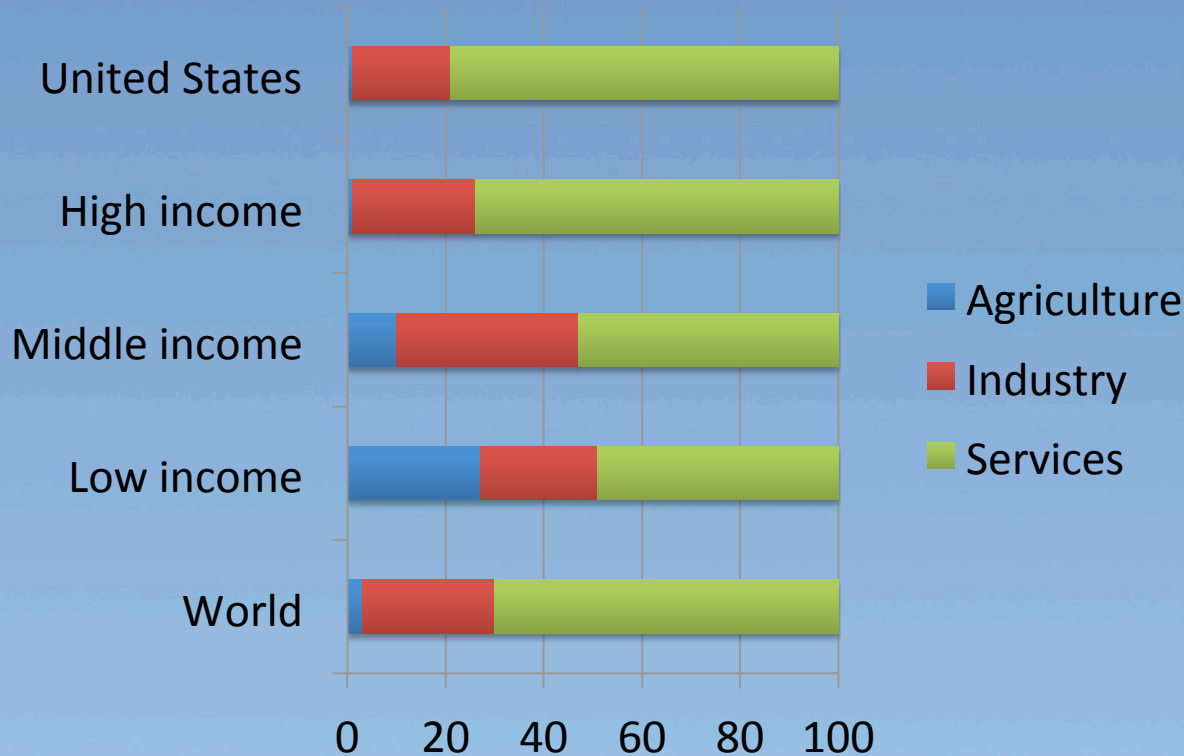


Marshall Islands hit by king tides earlier this month as it prepared to host a global climate meeting. Photo: B.D. Yamamura

# Impacts on other economic sectors

- Global economic impacts are difficult to estimate (incomplete estimate of -2%)
- For most economic sectors, the impacts of other drivers (changes in population, age structure, income, technology, relative prices, lifestyle, regulation, and governance) are projected to be large relative to the impacts of climate change

# GDP by sector 2012 (%)



Gross Domestic Product: the market value of all officially recognized final goods and services produced within a country over a period of time e.g. a year











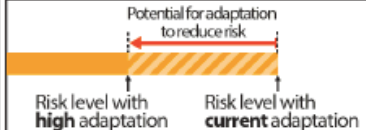
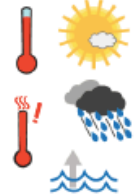
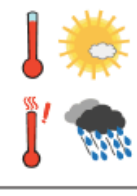

# Why so little economy?

- Lack of peer reviewed literature directly on key economic sectors
- Focus is on natural resources, water, and agriculture
- Assumption that urban or coastal captures most of the economy
- Very little information on manufacturing (chemicals, food, autos) or service (Finance, Healthcare, ICT, Tourism)
- Information hard to get because of competitive pressures

# Climate and conflict

- Climate change can indirectly increase risks of violent conflicts in the form of civil war and inter-group violence by amplifying well-documented drivers of these conflicts such as poverty and economic shocks (medium confidence). Multiple lines of evidence relate climate variability to these forms of conflict.  
64 The impacts of climate change on the critical infrastructure and territorial integrity of many states are expected to influence national security policies (medium evidence, medium agreement).

# Africa

Climate-related drivers of impacts										Risk & potential for adaptation															
 Warming trend	 Extreme temperature	 Drying trend	 Extreme precipitation	 Precipitation	 Snow cover	 Damaging cyclone	 Sea level	 Ocean acidification	 Carbon dioxide concentration																
Key risk	Adaptation issues and prospects			Climatic drivers	Supporting ch. sections	Timeframe	Risk for current and high adaptation																		
Africa																									
Compounded stress on water resources facing significant strain from overexploitation and degradation at present and increased demand in the future ( <i>high confidence</i> )	<ul style="list-style-type: none"> <li>Reducing non-climate stressors on water resources</li> <li>Strengthening institutional capacities for demand management, groundwater assessment, integrated water-wastewater planning, and integrated land and water governance</li> </ul>				22.3-4	<table border="1"> <tr> <td></td> <td>Very low</td> <td>Medium</td> <td>Very high</td> </tr> <tr> <td>Present</td> <td colspan="3">[Bar chart showing risk level]</td> </tr> <tr> <td>Near-term (2030-2040)</td> <td colspan="3">[Bar chart showing risk level]</td> </tr> <tr> <td rowspan="2">Long-term (2080-2100)</td> <td>2°C</td> <td colspan="2">[Bar chart showing risk level]</td> </tr> <tr> <td>4°C</td> <td colspan="2">[Bar chart showing risk level]</td> </tr> </table>		Very low	Medium	Very high	Present	[Bar chart showing risk level]			Near-term (2030-2040)	[Bar chart showing risk level]			Long-term (2080-2100)	2°C	[Bar chart showing risk level]		4°C	[Bar chart showing risk level]	
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Reduced crop productivity with strong adverse effects on regional, national, and household food security, also given increased pest and disease damage and flood impacts on food system infrastructure ( <i>high confidence</i> )	<ul style="list-style-type: none"> <li>Technological adaptation responses (e.g., stress-tolerant crop varieties, irrigation)</li> <li>Enhancing smallholder access to credit and other critical production resources and diversifying livelihoods</li> <li>Strengthening institutions at local to regional levels to support agriculture and gender-oriented policy support</li> </ul>				22.3-4	<table border="1"> <tr> <td></td> <td>Very low</td> <td>Medium</td> <td>Very high</td> </tr> <tr> <td>Present</td> <td colspan="3">[Bar chart showing risk level]</td> </tr> <tr> <td>Near-term (2030-2040)</td> <td colspan="3">[Bar chart showing risk level]</td> </tr> <tr> <td rowspan="2">Long-term (2080-2100)</td> <td>2°C</td> <td colspan="2">[Bar chart showing risk level]</td> </tr> <tr> <td>4°C</td> <td colspan="2">[Bar chart showing risk level]</td> </tr> </table>		Very low	Medium	Very high	Present	[Bar chart showing risk level]			Near-term (2030-2040)	[Bar chart showing risk level]			Long-term (2080-2100)	2°C	[Bar chart showing risk level]		4°C	[Bar chart showing risk level]	
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Changes in the incidence and geographic range of vector- and water-borne diseases due to changes in the mean and variability of temperature and precipitation, particularly along the edges of their distribution ( <i>medium confidence</i> )	<ul style="list-style-type: none"> <li>Achieving development goals, particularly improved access to safe water and improved sanitation, and enhancement of public health functions such as surveillance</li> <li>Vulnerability mapping and early warning systems</li> <li>Coordination across sectors</li> </ul>				22.3	<table border="1"> <tr> <td></td> <td>Very low</td> <td>Medium</td> <td>Very high</td> </tr> <tr> <td>Present</td> <td colspan="3">[Bar chart showing risk level]</td> </tr> <tr> <td>Near-term (2030-2040)</td> <td colspan="3">[Bar chart showing risk level]</td> </tr> <tr> <td rowspan="2">Long-term (2080-2100)</td> <td>2°C</td> <td colspan="2">[Bar chart showing risk level]</td> </tr> <tr> <td>4°C</td> <td colspan="2">[Bar chart showing risk level]</td> </tr> </table>		Very low	Medium	Very high	Present	[Bar chart showing risk level]			Near-term (2030-2040)	[Bar chart showing risk level]			Long-term (2080-2100)	2°C	[Bar chart showing risk level]		4°C	[Bar chart showing risk level]	
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