

Media Briefing on Climate Change  
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**PANEL Discussion:**  
**Extreme weather events and**  
**disaster preparedness**

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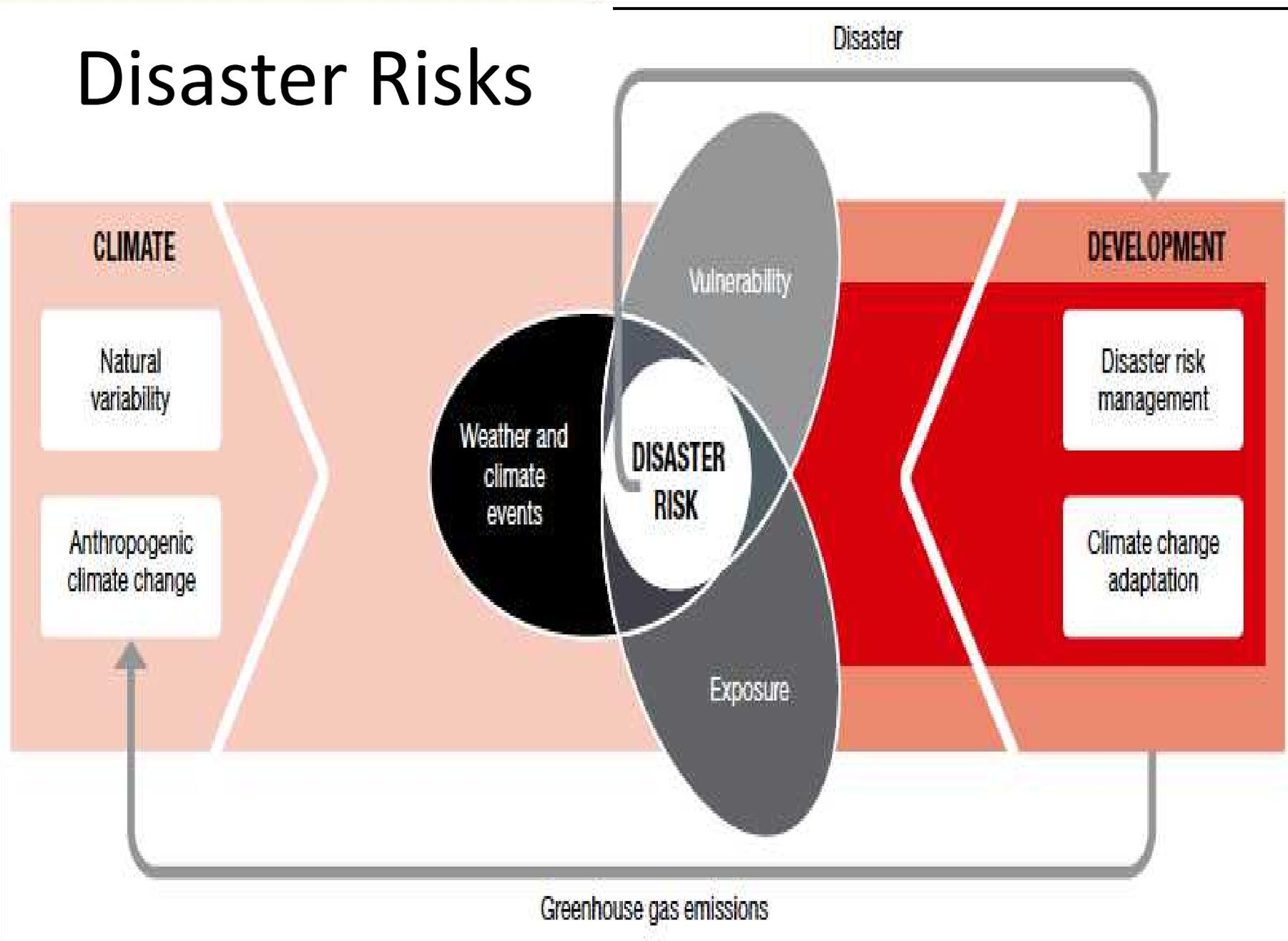
# Talking Points

- What are the impacts of extreme weather events on South and South East Asia ?
- What is the cost of adaptation for building resilience and long term preparedness towards the impact of extreme weather events?
- Addressing loss and damage in South East Asia – what mechanisms are currently available, how much of the financial burden is being borne by affected people, affected country governments?
- What would be needed in terms of financial aid, funds etc to protect the vulnerable population from the impact of these events?
- Case-studies: Good practices in adaptation and dealing with loss and damage from the region and sources of financial and technological support for the same

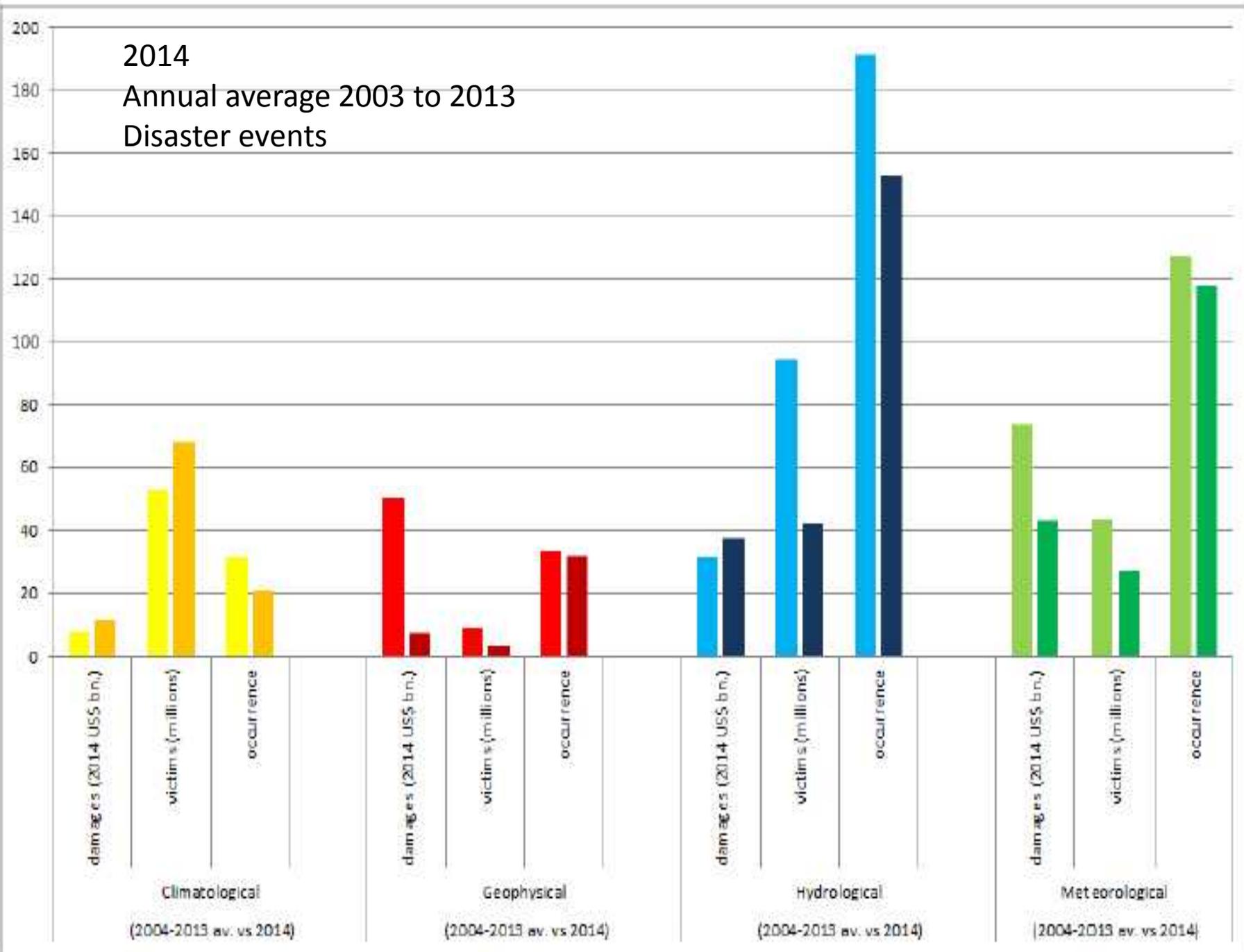
# IPCC AR5 on extreme weather events

- Stresses that risks associated with extreme weather events will further increase with rising temperatures.
- Those risks are unevenly distributed, which is likely to worsen as a trend.

# Disaster Risks



2014  
Annual average 2003 to 2013  
Disaster events



# Hazards

- Climatological
  - Droughts
  - Wild fires
- Hydrological
  - Floods
  - precipitation induced landslides
- Meteorological
  - Cyclones/storms
  - Heat waves



# The Asia Pacific Region

- Most disaster-prone area of the world
- Disaster events: 1, 215 since 2000 and counting
- Dominant hazards: Extreme hydro-meteorological hazards
- Exposure: 1.2 billion people
- Extreme weather events include heat waves, cold waves, floods, droughts, hurricanes, tropical cyclones, heavy rain, and snowfalls.

- Globally, Honduras, Myanmar and Haiti were the countries affected most by extreme weather events between 1994 and 2013 (Germanwatch Global Climate Risk Index)
- Top ten most affected countries (1994–2013), in terms of: Death toll ; Deaths per 100,000 inhabitants; Total losses in million US\$ PPP; Losses per unit GDP in % ; and, Number of Events (total 1994–2013)

1. Honduras	6. Bangladesh
2. Myanmar	7. Vietnam
3. Haiti	8. Dominican Republic
4. Nicaragua	9. Guatemala
5. Philippines	10. Pakistan

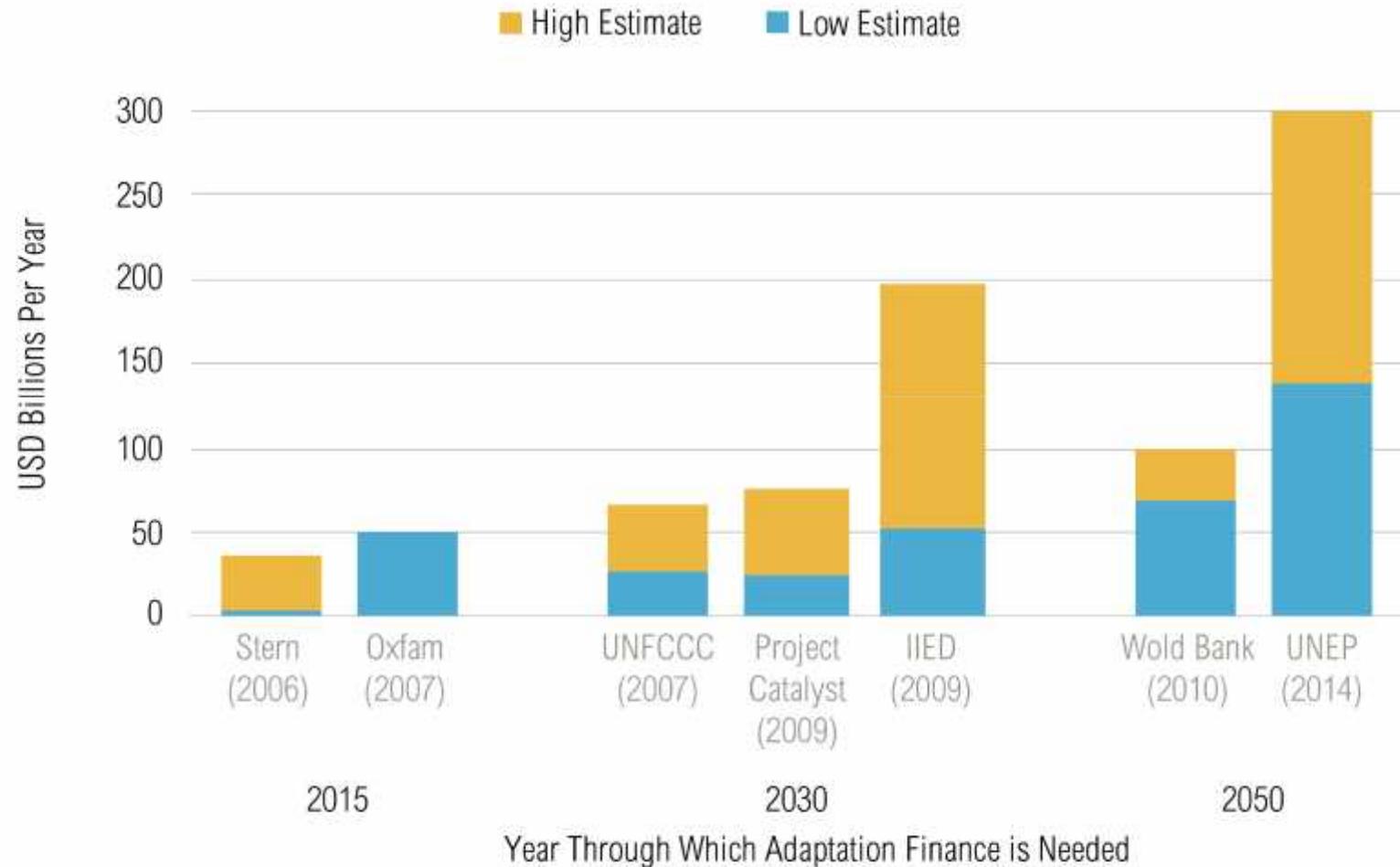
- More than 530,000 people died as a direct result of 15,000 extreme weather events,
- Losses between 1994 and 2013 amounted to nearly 2.2 trillion USD (in Purchasing Power Parities)
- In 2013, the Philippines, Cambodia and India led the list of the most affected countries.

# Increasing Economic Losses

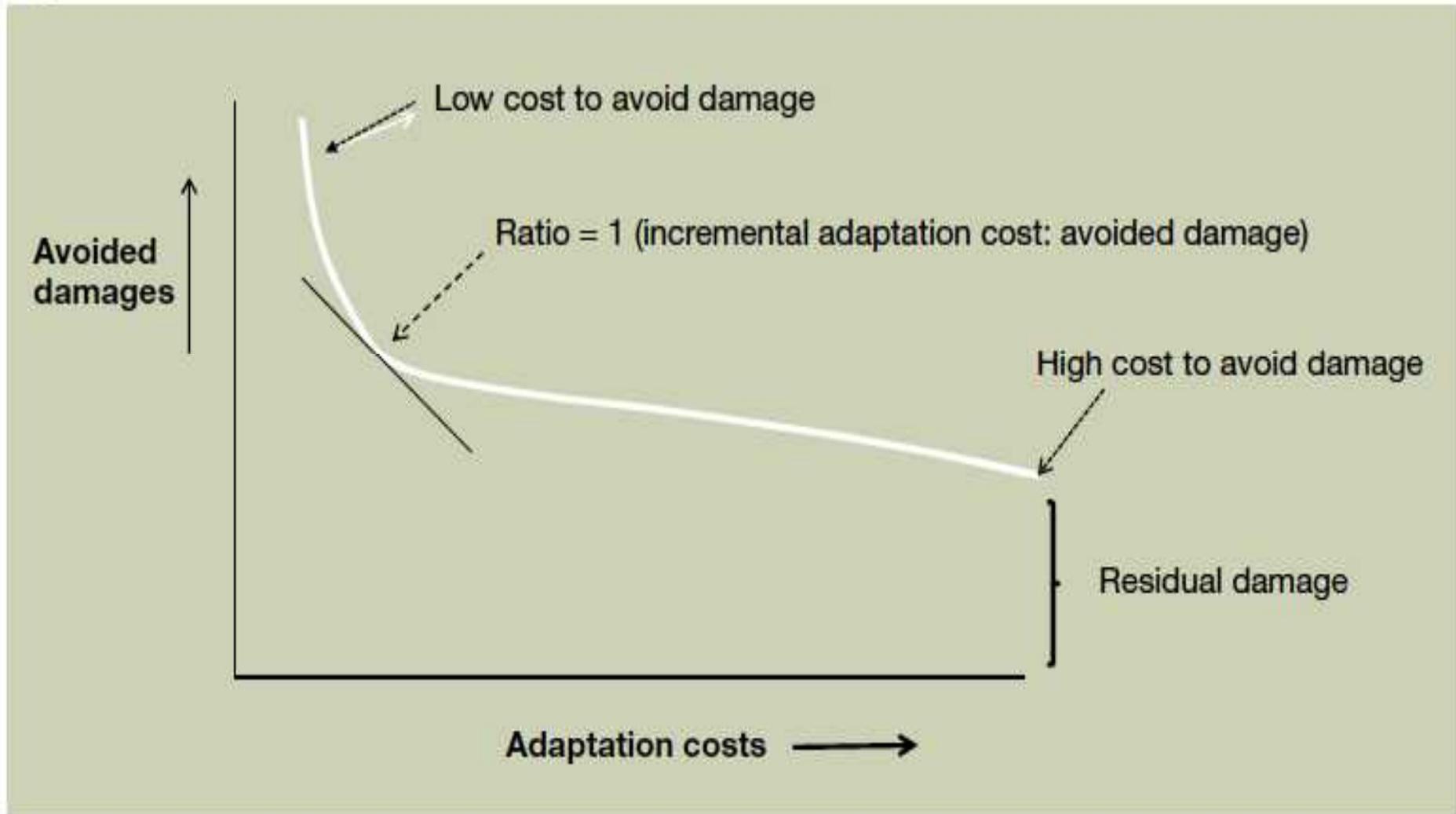
- High confidence
- Large weather and climate inter-annual variability
- Increasingly high exposure of people and economic assets
- Metrics:
  - Direct economic damages
  - Rate of fatalities and economic losses as percentage of GDP

Country	Disaster distribution	Damages (US\$ Bn.)	Country	Disaster distribution	% of GDP
China, P. Rep.		28.95	Tonga		7.14
India		23.26	Serbia		4.95
United States		16.78	Bosnia-Herzegovina		2.38
Japan		6.58	Solomon Isl.		2.07
Brazil		5.20	Bulgaria		1.67
Mexico		2.54	India		1.13
Serbia		2.17	Pakistan		0.82
Pakistan		2.02	Bolivia		0.59
United Kingdom		1.47	Philippines		0.37
Indonesia		1.11	Reunion		0.36

## Estimated Annual Adaptation Finance Needs for Developing Countries Through the Years

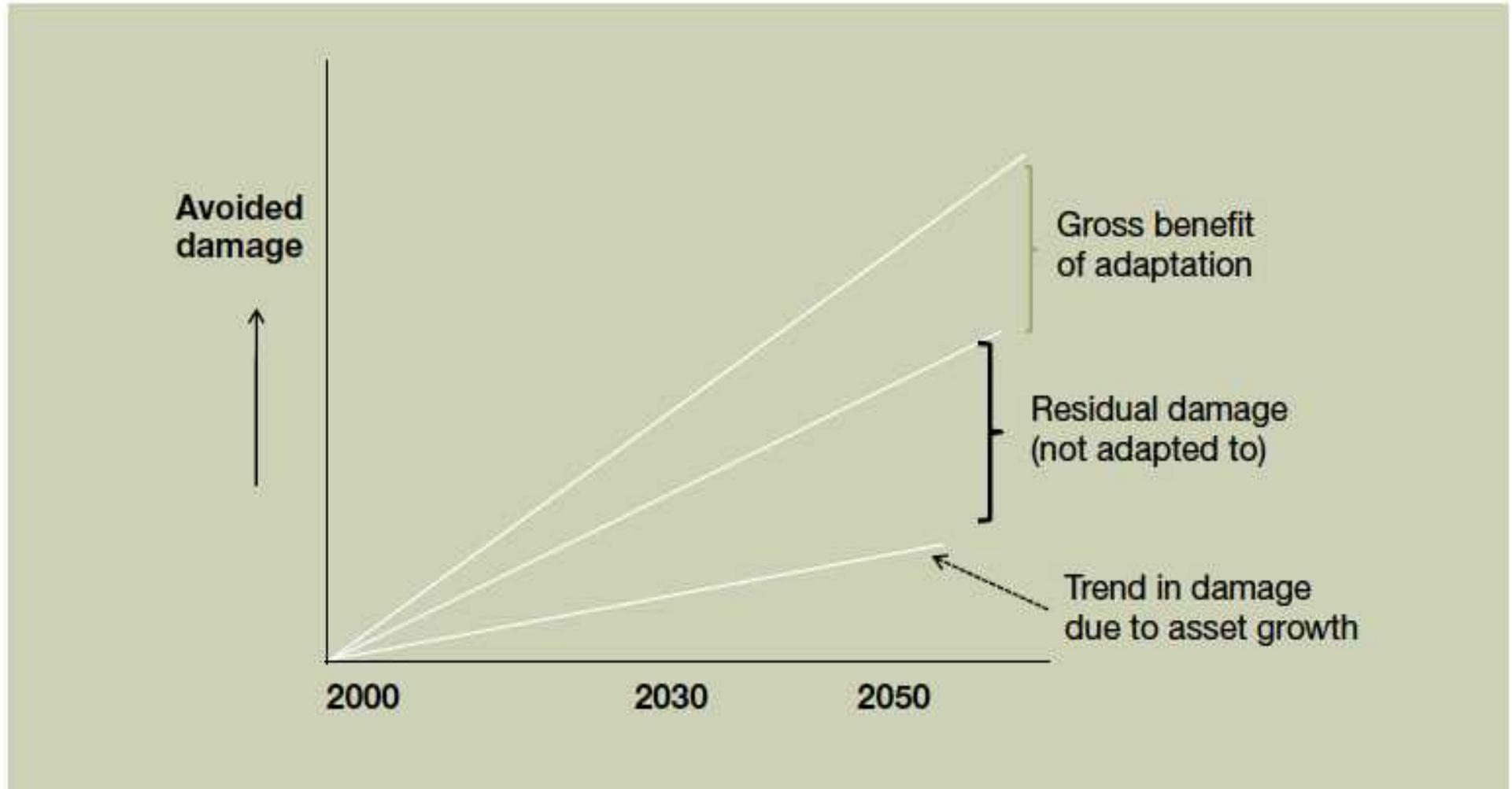


# Avoided impacts and Costs



(Parry, et al., 2009)

# Cost and Benefit of Adaptation



(Parry, et al., 2009)

# Loss and Damage

- The larger the efforts to mitigate climate change, the lesser is the need for adaptation.
- Adaptation cost is therefore reflective of the failure of mitigation
- No matter how we adapt, there will always be residual damages
- Concept of loss and damages is premised on the failure of adaptation (“adaptation deficit”)

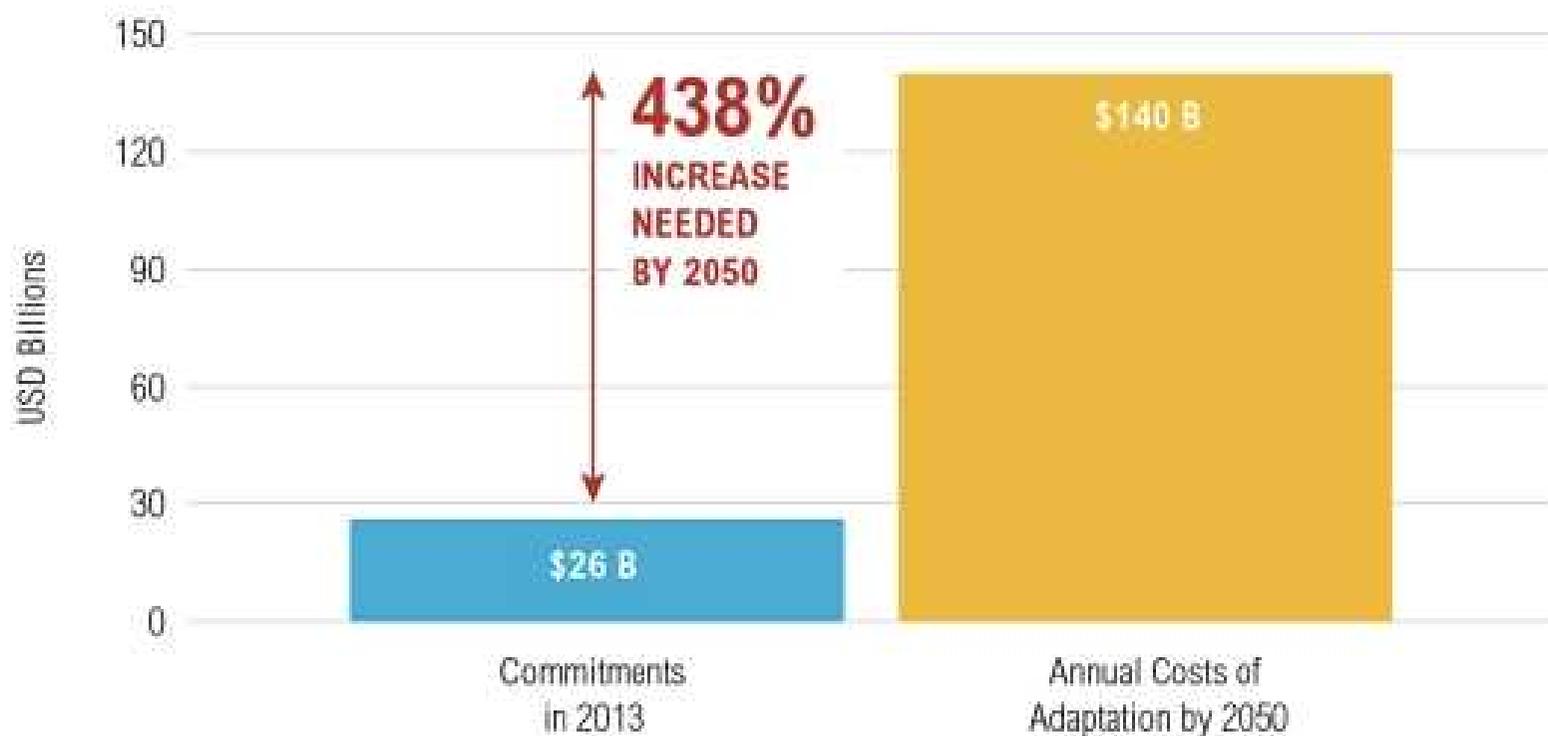
# Adaptation finance from the public sector

Global Public Adaptation Finance Commitments,  
2010-2013 (in USD Billions)



Source: Climate Policy Initiative (2011-2014),  
"Global Landscape of Climate Finance."

## Gap Between Estimated Adaptation Needs and Available Public Finance (2013-2050, Low Estimate)

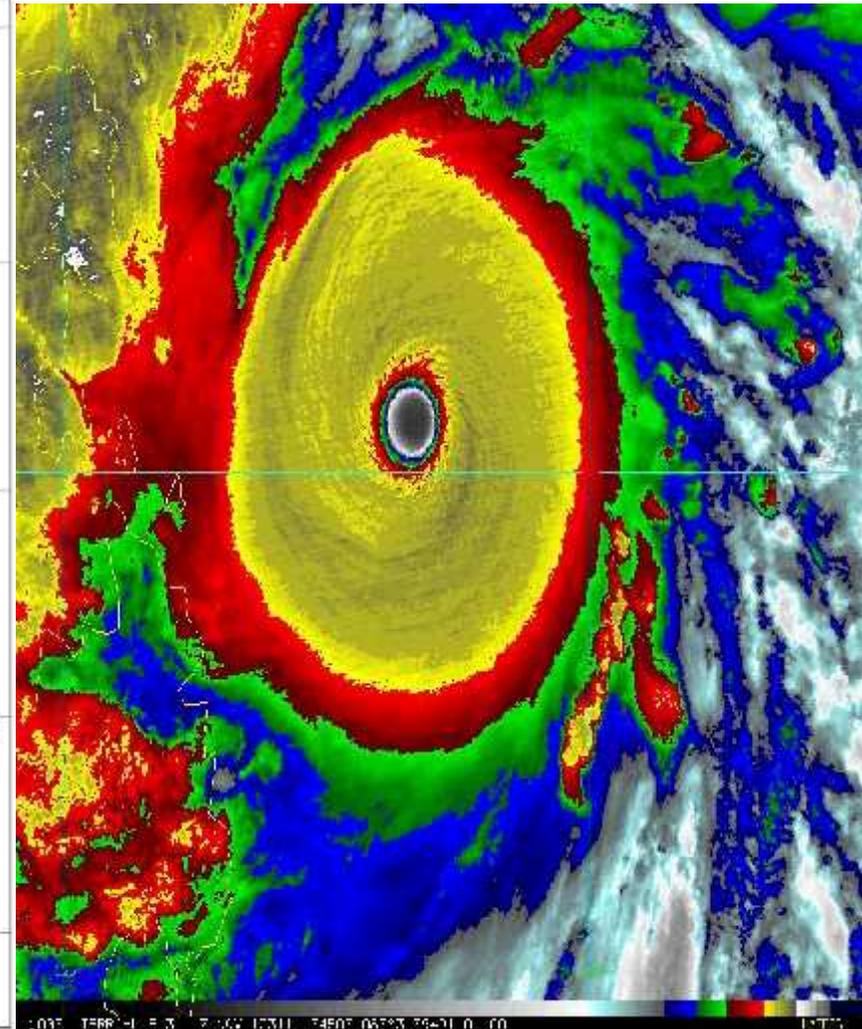
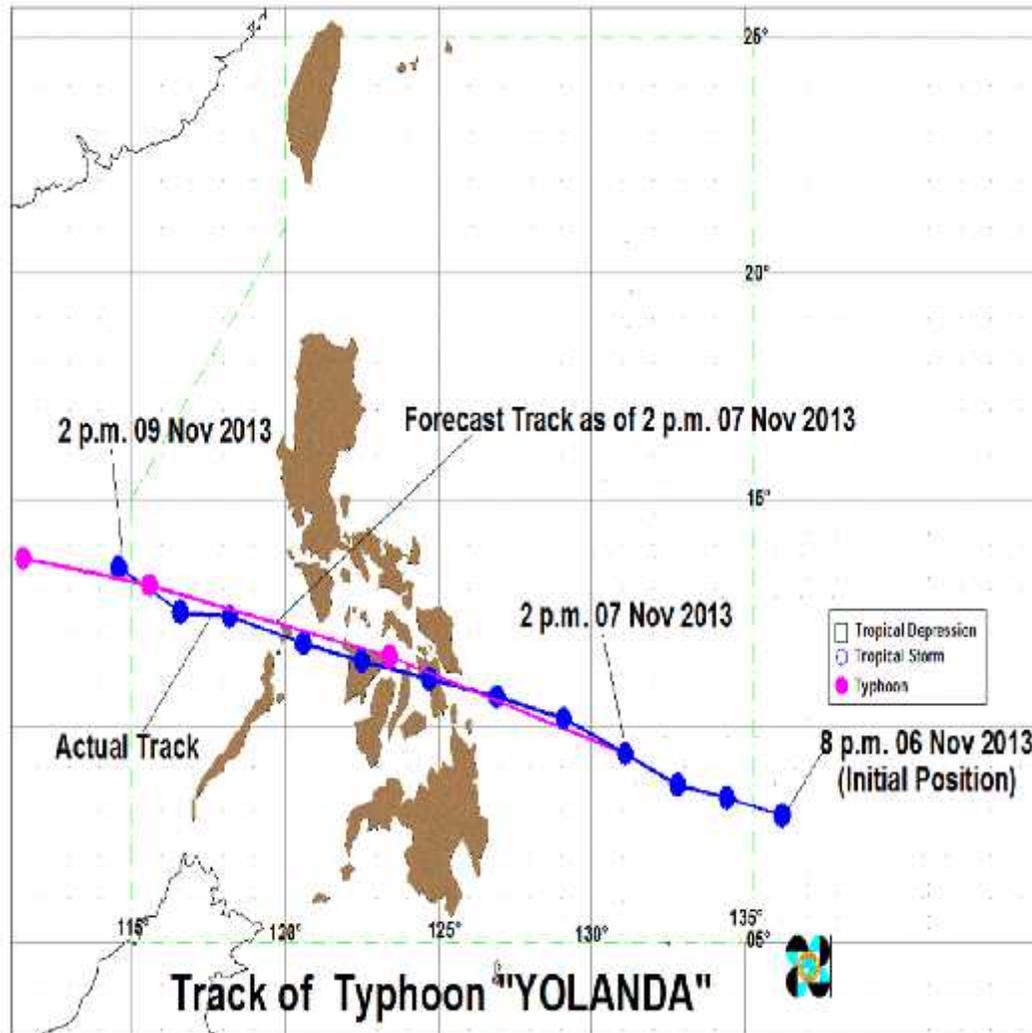


Source: UNEP (2014), "The Adaptation Gap Report."

Note: This data represents conservative estimates; a high estimate of commitments in 2013 and a low estimate of annual adaptation needs by 2050, according to UNEP's 2014 "Adaptation Gap Report".

# Typhoon HAIYAN "YOLANDA" November 8, 2013

**24<sup>th</sup> Tropical Cyclone that entered PAR in 2013**  
**The most devastating typhoon in Philippine history.**



# Super-Typhoon Haiyan

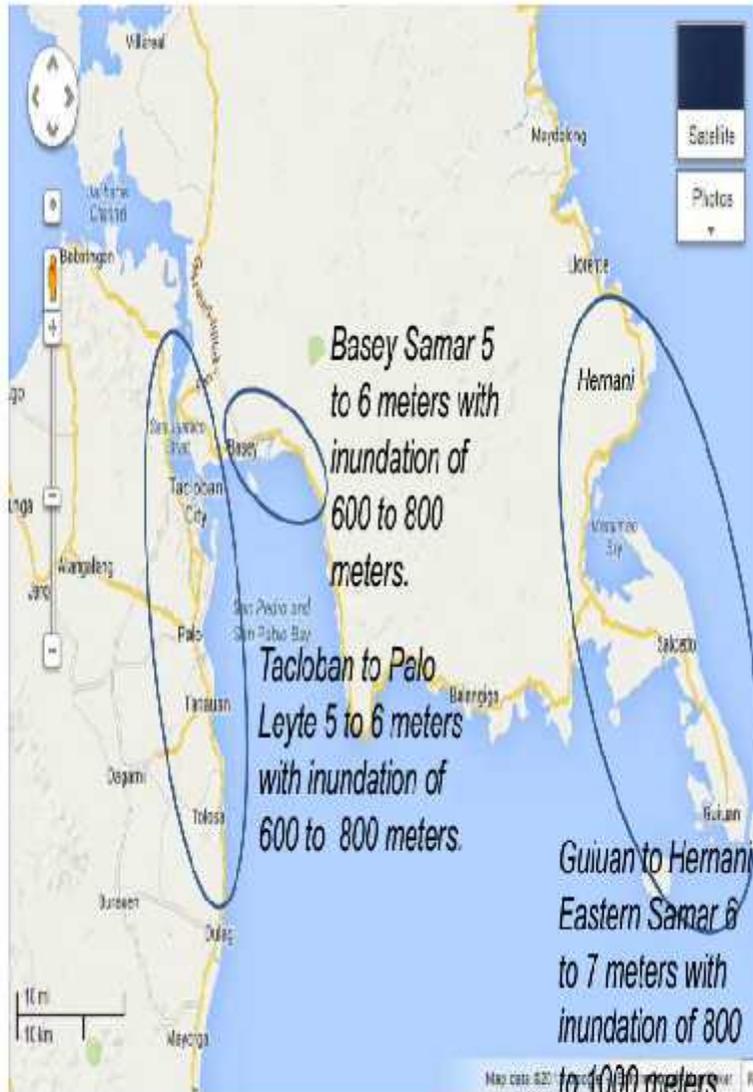
- A turning point for disaster risk management.
- It is clear that the world is in uncharted territory when it comes to disaster events like Typhoon Haiyan. There is a need for a dramatic scaling up of our efforts to protect vulnerable populations and exposed assets from the threat of natural hazards.
- Changes to the built environment, combined with the influence humankind is having on climate change, makes it likely that we will see more unpredictable and unprecedented weather events where storm surges, violent winds and heavy rains will combine to undermine development efforts.
- This event will have a major impact on the discussions now underway on a new global framework for disaster risk reduction.

Margareta Wahlstrom  
Special Representative of the Secretary-General  
for Disaster Risk Reduction  
12 November 2013



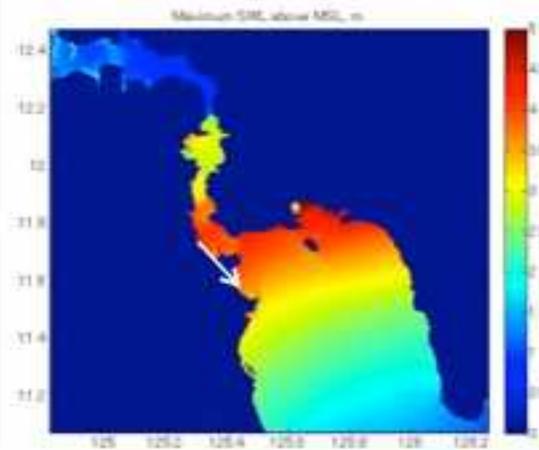
# Measured storm surge heights

(STORM CHASER Team)



## Types of damage in downtown Tacloban near the shoreline

- Surge up to 8 m above sea level
- Scour around structures
- Beached ships destroyed homes
- Most buildings destroyed





**TOTAL DAMAGES: PhP 89.6B**

**DEATH TOLL: 6,300**

*Source: NDRRMC*



# Good Practices in Adaptation

- “Win-win” strategies
- Science and evidenced based Vulnerability and Risk Assessment, as the basis for resources allocations
- Enhanced Disaster Risk Reduction and Management (DRRM)
- Mainstreaming DRRM and CCA into developmental planning Such as Comprehensive Land Use Plan
- Governance and political will

## References:

- Parry M., Arnell N., Berry P., Dodman D., Fankhauser S., Hope C., Kovats S., Nicholls R., Satterthwaite D., Tiffin R. and Wheeler T., (2009) Assessing the Costs of Adaptation to Climate Change: A Review of the UNFCCC and Other Recent Estimates, International Institute for Environment and Development and Grantham Institute for Climate Change, London.
- <http://www.wri.org/blog/2015/04/costs-climate-adaptation-explained-4-infographics>
- Climate and Development Knowledge Network (2012) Managing climate extremes and disasters in Asia: Lessons from the SREX report. CDKN, available online at [www.cdkn.org/srex](http://www.cdkn.org/srex)

Thank you !!