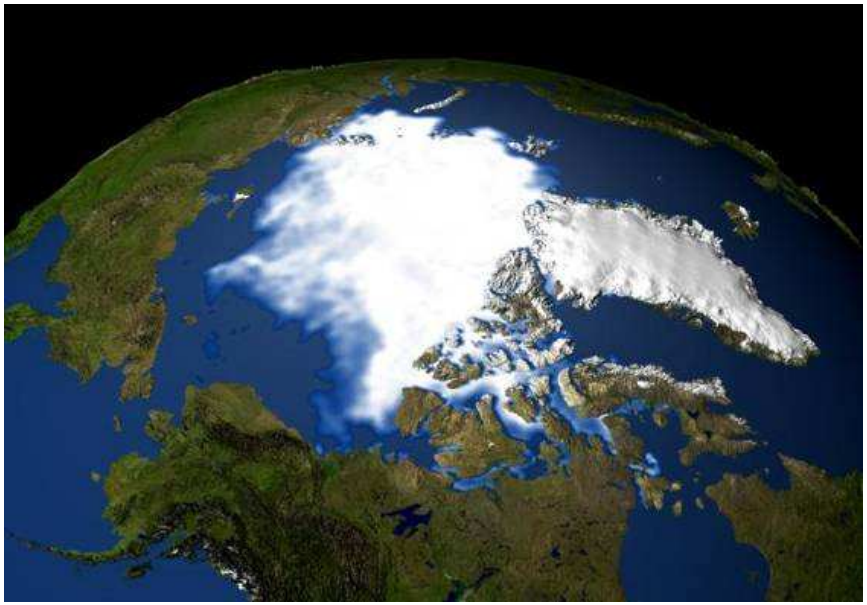
More *certainty* about climate change



More *uncertainty* about its manifestations

As the climate changes, we can expect **more frequent and severe** extreme weather events.

Why Early Warning Early Action?

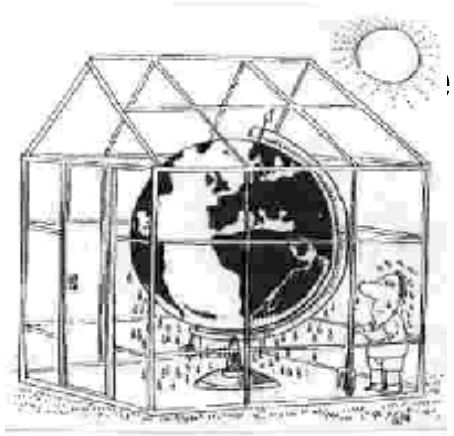
Extreme events have implications on **health, livelihoods, water, food security**, and more

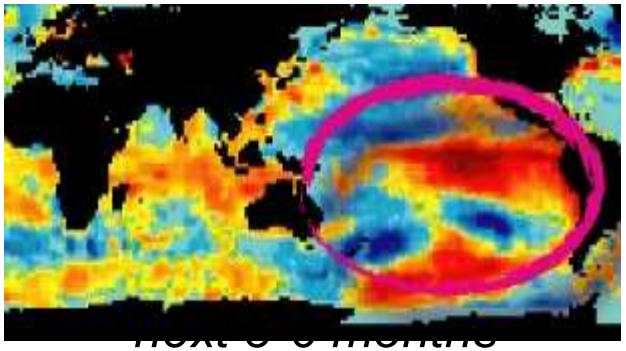
Climate and weather information can help **anticipate and prepare** for changing risks.

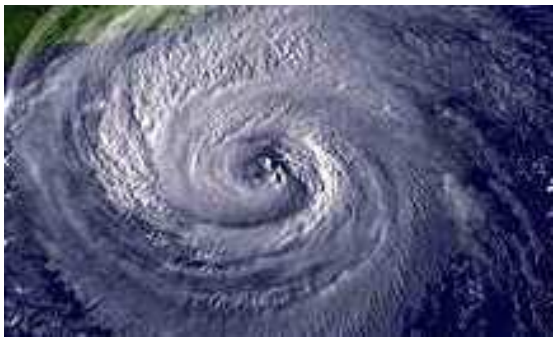
Using Information Across Time-scales…

Long Lead Time

more specific information







Sho Lea Tin

more time to reduce risk

Which forecasts are useful for humanitarian decisions

How can forecasts help make better decisions?

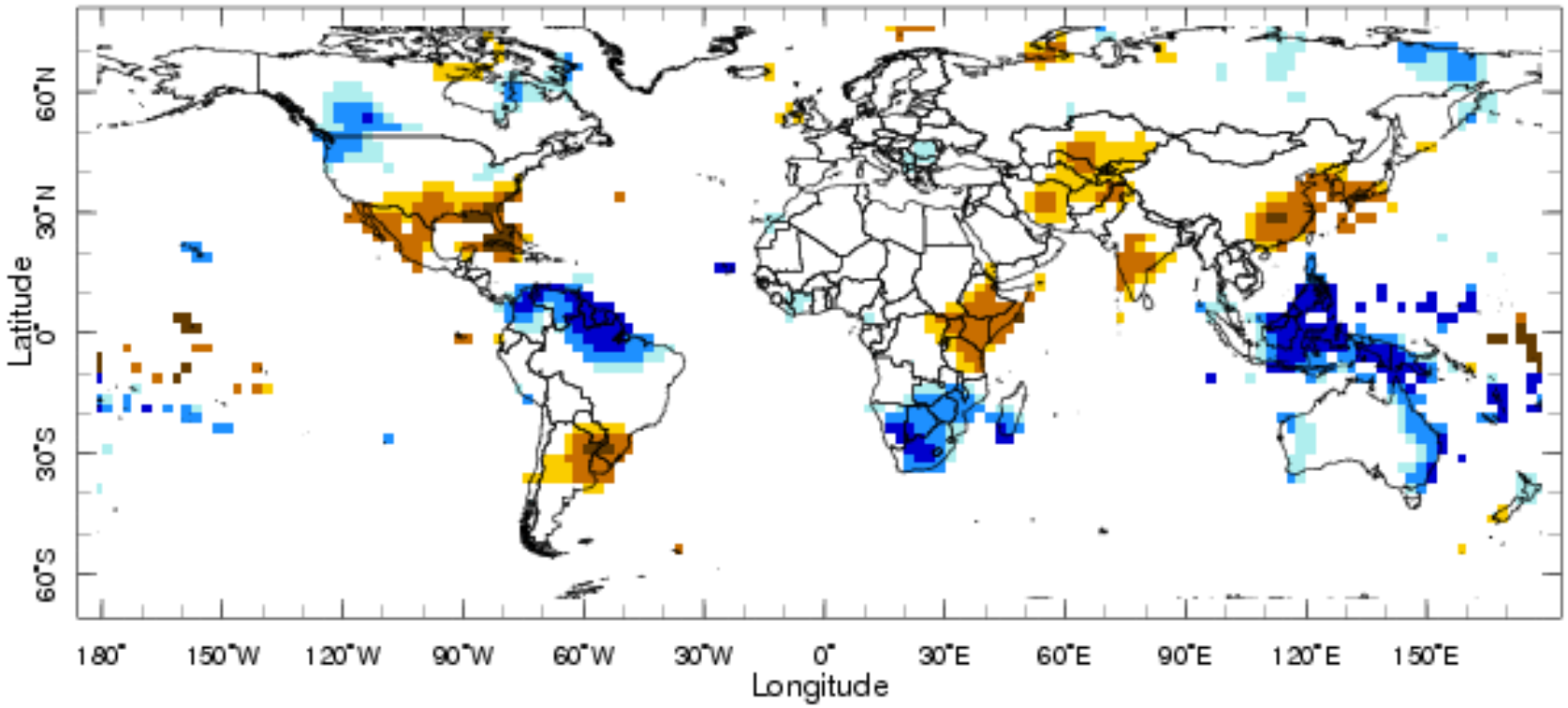
What kind of early actions should be taken in the

Short-term? **Medium-term?** **Long-term?**



Example 1: flood	Example of early warning	Example of early action
Years	Increasing risk of extreme rainfall due to climate change Increasing risk of extreme rainfall due to climate change	Continually update risk maps and identify changing vulnerable groups, recruit additional volunteers, establish new areas of work, work with communities to reduce risk through concrete actions like reforestation, reinforcement of houses, etc.
Months	Forecast of strongly above-average rainfall for the coming season	Revisit contingency plans, replenish stocks, inform communities about enhanced risk and what to do if the risk materializes, e.g. clear drain.
Weeks	High ground saturation and forecast of continued rainfall leading to high probability of floods	Alert volunteers and communities, meet with other response agencies to enable better coordination, closely monitor rainfall forecasts
Days	Heavy rainfall and high water levels upstream, likely to result in floods	Prepare evacuation, mobilize volunteers, get warnings and instructions out to communities at risk
Hours	Flood water moving down the river to affected areas	Evacuate

Seasonal Rainfall forecast Issued October 2010 for upcoming November-January



Forecast for Nov 2010 - Jan 2011, Forecast Issued Oct 2010

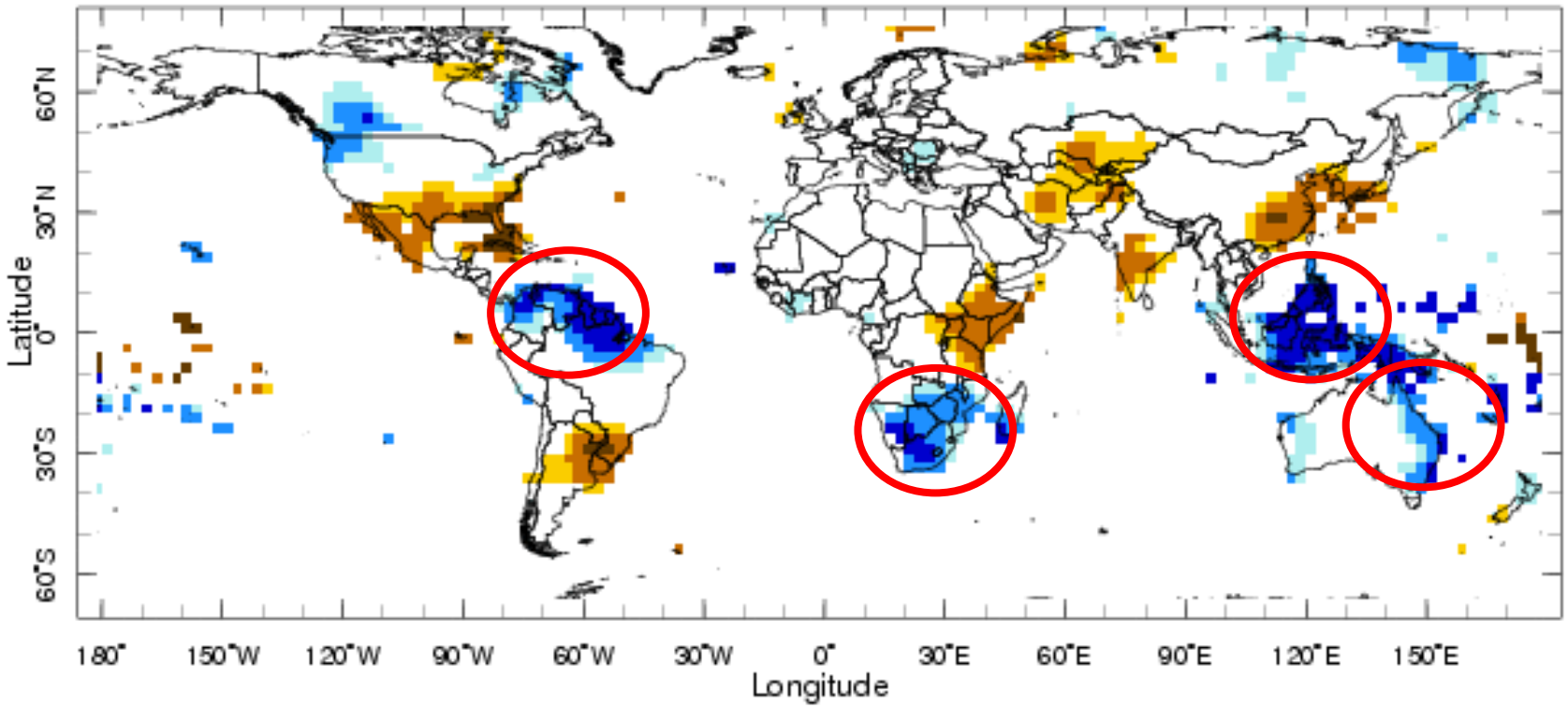
How confident can we be that the next 3 months will be unusually wet?

Low Confidence (35% to 40% Chance)	Medium Confidence (45% to 50% Chance)	High Confidence (55% Chance or Greater)

How confident can we be that the next 3 months will be unusually dry?

Low Confidence (35% to 40% Chance)	Medium Confidence (45% to 50% Chance)	High Confidence (55% Chance or Greater)

Places that experienced flooding that November-January



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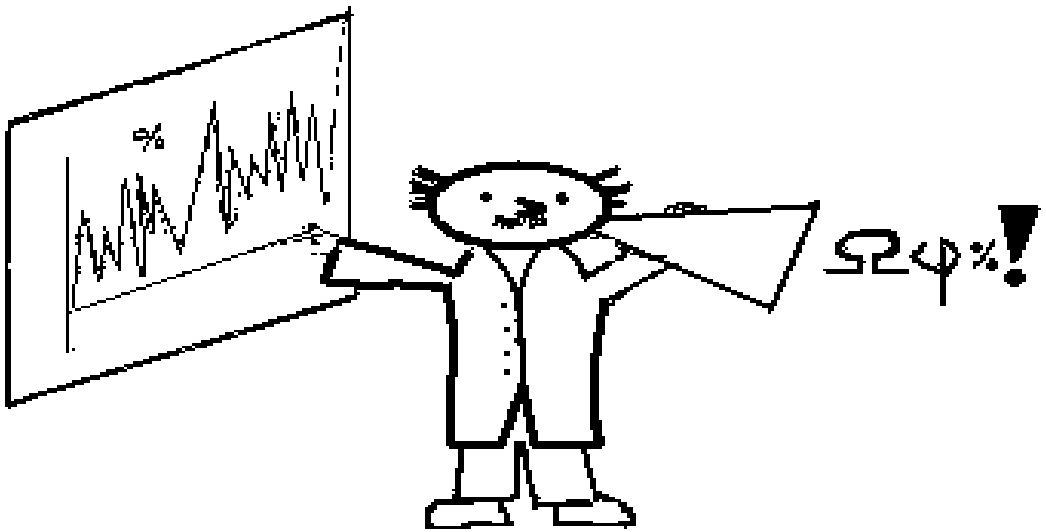
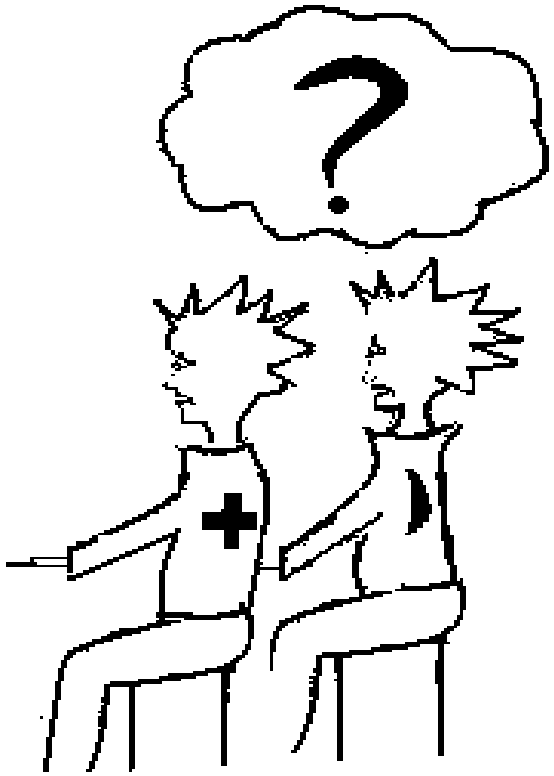
BUT can we understand what the Met offic is telling us?





Conclusions

•Forecasts across timescales allows us to better anticipate and prepare for disasters.
•Lives lost, response time, and resources spent can be minimized by

- building a good relationship with information providers
- establishing chains of communication
- developing ideas for preparedness actions

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