Unscrambling climate and weather information

Tips for integrating climate and weather information into development projects

ROOP SINGH (RED CROSS RED CRESCENT CLIMATE CENTRE)

In brief

To strengthen resilience and ensure development takes into account changing risks, NGOs must integrate uncertain climate and weather information into their work.

Who should participate?
Key players include NHMS, which have the authority to publish weather and hydro-logical forecasts and warnings, agriculture, environment and disasters ministries and regional forecasting centres, which can provide seasonal forecast information.

Where to start?
In many parts of the world the biggest climate shocks are related to year-to-year differences and periodic swings of five to 15 years. Looking at the historical data helps us understand what is happening now and also put long-term changes in context. It also provides a baseline for talking to communities that have likely observed these changes in the natural world.

Description

Climate and weather are key factors in the livelihoods and health of the most vulnerable people. However, it is difficult to navigate the climate and weather landscape, where there is often a mismatch between the time and spatial scales of information available, and what is needed for decision-making. Other complicating factors include lead time and uncertainty.

8 tips for integrating climate and weather information into development projects

1. Focus on decisions. Consider the decisions community members, NGOs and governments make that could benefit from climate or weather information. What could be done differently with knowledge on what the climate was like in the past or will be like in the next few days/months/years? Focus on these decision points rather than information that cannot be used practically. This can include considering the income-generating activities of different groups and how they relate to seasonal cycles in the region. For example, if beneficiaries are mostly farmers who depend on a single rainy season, key decisions, such as on buying seeds, deciding when and what to plant or using fertilisers, may benefit from climate and weather information.

2. Think about the kinds of disasters communities have faced – both those directly related to climate, such as flooding and droughts, and those indirectly linked to the climate, such as malaria or cholera. Weather forecasts can be used to prepare for climate shocks (e.g. extreme rainfall and flash floods), whereas seasonal forecasts can provide useful information about long-onset disasters like drought.

3. Timescales matter. The sooner information is needed the less detailed it will be. For example, scientists can tell us if a storm will approach a certain village three to five days in advance. Three months in advance, however, they may (only) know if your village falls into an area with a high chance of unusually wet or dry conditions over that season. Think about actions you can take at the seasonal timescale – like setting aside contingency funds – that can enable anticipatory actions for shorter-term forecasts that will become available

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one to five days before an extreme event. In addition, think about when decisions are being made: rainy season onset forecasts are typically needed about three months in advance so they can inform decisions about types of seeds to purchase.

4. Format and language are important. Consider who your targeted users are and when/how they typically like to get information. For instance, printed advisories might work well for local NGOs but not at all for farmers. Farmers might listen to the radio in their fields but local NGO staff may not while at the office. Forecast communications should also include uncertainty information. Even traditional forecasting indicators have some implicit uncertainty information; communities know some are better than others. The same should be true for scientific forecasts.

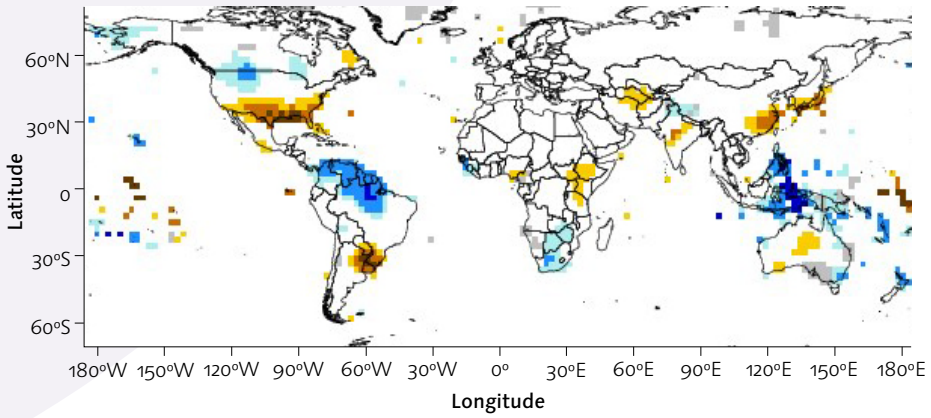
5. Use the uncertainty in forecasts to decide which actions to take. Forecasters make predictions by observing the current weather and using models to estimate what might happen next. Each forecast contains a degree of uncertainty. Practitioners should ask how good they are. Forecast skill is an evaluation of how well a forecast predicts the future. Skill information can help communities decide which actions are most appropriate for the level of uncertainty in the forecast. For example, a community may decide that a large flood forecast that is accurate only 60% of the time is not good enough to warrant evacuation but can trigger storing food in waterproof containers or other low-regret actions.

6. Don't forget natural variability. Long-term decision-making can benefit from climate projections, but vulnerable communities are often not well prepared to deal with the climate shocks happening right now. This is why it is important to understand year-to-year shifts in climate, and five to 15 year swings, as well as long-term trends. Historical records help explain periodic swings in the climate that have occurred in the past and are likely to occur in the future. For example, the climate of the Sahel in Africa naturally swings between wetter and drier conditions over decades, and climate change may affect this. Decision-makers need to use information on both past natural variability and climate change to formulate adaptation strategies.

7. Coordinate. More likely than not, many INGOs and local NGOs will already be working with NHMS and regional forecasting centres to request climate and weather information and/or provide capacity-building or other types of assistance. Without proper coordination, this can become an undue burden on already stretched institutions, with many organisations making information requests and attempting to provide similar capacity-building support to the NMHS. INGOs and NGOs should make an effort to coordinate with one another to reduce this burden.

8. Express demand. Sometimes the information is simply not available. Where this owes to lack of capacity, voicing your needs can guide climate information experts to develop useful products for you down the line. This can include holding meetings with other INGOs and NGOs working in similar geographic regions to discuss climate and weather information needs, and jointly communicating these to the NHMS or regional forecasting centre. Regional Climate Outlook Forums are one example of a venue where this can be done.

Forecast for Nov 2016 – Jan 2017, Forecast issued Oct 2016



Seasonal forecasts can effectively support resilient communities, but sometimes more detailed information is needed and can be sourced from the climate and weather help desk. (Map: http://iridl.ldeo.columbia.edu)

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