HIW & USER VALUE CHAIN, 00:00-02:00 UTC, 12th Nov

Session notes

Key note

12 Nov,00:00 UTC

Facundo San Martino, Servicio Meteorológico Nacional, Argentina

Nowcasting verification in Argentina's Weather Service (SMN)

Questions

1. Is crowdsourcing (e.g. ALERT.AR) part of your nowcasting / verification approach?

No, use social media, twitter, google search and weather station reports

2. Twitter is great, but it is famous (especially at the moment!) for sometimes providing misinformation. Do you ever have to deal with false reports of extreme weather?

Yes, have seen it, but filter it. Need at least two tweets to verify a warning. Must also be consistent with what is possible on the day.

3. Do wundermap stations know they are used for the verification?

No

4. The monitoring of the twitter is done by a person, or is it "automated"?

Yes. Four forecasters are doing this manually.

5. I wonder if you can use the extreme dependence indices, EDI, SEDI (Ferro and Stephenson (2011))

Fucundo is not familiar with this. Barbara: not sure if these are applicable in your case, but worth having a look.

6. I am interested by the decision not to use radar in your verification. Can you please comment?

The entire verification process is manual for the moment, we manually verify with radar in those cases that there are doubts in the reports. Radar is used to verify quality of tweeter reports, so used as a reality check/cross reference from social media reports.

7. Have you considered using a single loss or scoring function for verification, that quantifies what your agency regards as acceptable level of false alarms and misses?

We could consider it, at the moment we only carry out the classic indices. The verification process started this year, so new ideas are welcome.

8. How long does it typically take to do a manual verification for an event?

For every short-term warning about 15-30 minutes. Depending on the number of weather stations we have to enter to review the data, if we have to check the SPECI messages, the social media data, etc

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12 Nov, 00:20 UTC

David Wilke, Bureau of Meteorology, Australia

Verification of a prototype wind impact forecast using building damage reports

Questions

1. How long is the wind hazard forecast archive you are assessing?

Only looking at one event (difficult to find reasonable quality data sets for events, especially when you can disaggregate wind and rain damage). Also these were first initial steps in this study.

2. Does the duration of the wind event play a role in your impact forecasts, or just the peak winds?

Only used peak wind gusts. Duration is the kind of thing to incorporate when moving forward.

3. When you list categories of minor/major damage, who do you define them?

Damage categories are a little bit subjective, based on who is making the assessment on the ground. For our forecasts, it is based on damage to structure, which is then converted to a categorical state. A structural engineer could answer this better based on structure loss thresholds.

4. I was just impacted by Hurricane Zeta. Fascinating that north facing roofs have not much roof damage, but south facing roofs have shingle damage.

Yes, orientation of building and projectiles have not been modelled here, but they are factors.

5. How were the categories chosen?

In terms of damage due to wind, not in terms of wind intensity/strength. It uses vulnerability curves (e.g. how different structure respond to different wind strengths) and information about the built environment from Geoscience Australia.

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12 Nov, 00:40 UTC

Jun Du, Environmental Modeling Center, NCEP/NWS/NOAA, USA

Measure of Forecast Challenge and Predictability Horizon Diagram Index for Ensemble Models

Questions

1. Can you explain the "non linearity" contribution to MFC?

See paper, it's a measure of the difference between ensemble members and control member

2. How common are the Type I, II, III behaviors?

It depends on the variable. Based on verification at grid scale.

3. And how does that depend on what variable you're checking?

Note taker did not record a response to this question.

4. How does your new verification measure compare to CRPS, which also integrates forecast error and ensemble spread?

I have not compared it to CRPS. This one is integrated over lead time. Consistency of forecasts is important so the purpose of this new index is to integrate this information into one score.

From Beth: @jun.du for forecast consistency you might be interested in the Flip Flop Index of Griffiths (Met Apps)

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12 Nov, 01:00 UTC

Matt Boterhoven de Haan, Bureau of Meteorology, Australia

Four Week Tropical Cyclone Forecast Verification

Questions

1. Are there finer resolution estimates of the probabilities underlying your categorical forecasts?

Looking at refining resolution, and seeing if there is evidence of skill. Also, forecaster adds text commentary to qualify risk in different geographical areas.

2. Have you (or your clients) tried determining economic value of the forecasts?

It's on my list of things to do.

From Deryn: Relative Economic Value may assist clients know which category to use to take action.

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12 Nov, 01:10 UTC

Haoming Chen, Chinese Academy of Meteorological Sciences

A verification method for sub-daily rainfall intensity in short-range forecast

Questions

1. Question of clarification: Are the thresholds for the four categories identical for all of the models and the observations?

The four categories are determined by the values of alpha and beta. The threshold depends on the region of interest.

2. Why did you choose 4 categories to fit your distributions?

Motivation is to see the regional differences in rainfall distribution. Otherwise it is somewhat arbitrary.

Session open discussion

1. Are there other indices that look at forecasts across different lead times?

Barbara: Realisation that flip flops may be due to different model initialisation times. Flip flopping can be reduced by only looking at models initialised at the same time (00z, or 12z).

Deryn: "Forecast revisions" is a good term to look for if interested in this.

Tara Jensen (NCAR): Forecast consistency assessed in NCAR, significance assessed, etc.

Barbara Brown: this issue was looked at at a verification workshop a number of years ago