

Present:

Board members: Gabriela Aznar Siguan, Amy McGovern, Christopher Frans, Kenneth Nowak, Saied Vaghefi, Andrea Manrique Sunen, David Wallerstein, Jonathan Weyn

ECWME: Frederic Vitart, Olga Loegel, Joshua Talib, Jörn Hoffmann

Agenda:

1. Website and promotion campaign launch
2. Competitor guidelines
3. Evaluation system
4. Resources
5. WMO endorsement as a WIPPS project
6. Upcoming Quest launch webinar

Discussion points

Board Members commented on different aspects of the proposed approach, and suggested amendments.

Item #1: Website and promotion campaign launch

- **Proprietary socials:** Consideration was given to creating dedicated AI Weather Quest social media channels (e.g., LinkedIn, Bluesky) in the future.
- **Relevant promotion channels to leverage:**
 - **NSF AI Institute on Trustworthy AI for Weather, Climate, and Coastal Oceanography (AI2ES)** – Point of contact: Amy McGovern. AI2ES can disseminate dedicated promotional materials through their newsletter and social media.
 - **Climate Change AI** – [Link](#).
 - **NCAI News** – Points of contact: Rob Redmon (rob.redmon@noaa.gov) and Monica Youngman (monica.youngman@noaa.gov).
 - **LEAP (Learning the Earth with AI and Physics) at Columbia University** – [Website](#) (PI: Pierre Gentine, well connected with Amy McGovern).
 - **M²LInES (Machine Learning for Climate and Earth System Modeling)** – [Website](#) (PI: Laure Zanna, well connected with Amy McGovern).
- **Mainstream media outreach:**
 - A suggestion was made to frame the competition as “the Olympics of AI weather forecasting”, positioning ECMWF as a neutral platform for organizations that have claimed superior AI-based forecasting performance to validate their statements.

- However, it was also advised that mainstream media are unlikely to cover the initiative until results are available (e.g., published papers).

Item #2: Competitor guidelines

- **Evaluation category sub-division (2 lead times x 3 variables):**
 - Concerns were raised that highly specific sub-categories might be too narrow, potentially allowing models to specialize in a single variable at a specific lead time without demonstrating broader forecasting skill.
 - A proposal was made to introduce a **combined category** to recognize overall performance.
- **Extreme events performance:**
 - There was interest in identifying and highlighting teams that perform best on **extreme weather events** (e.g., heatwaves, storms).
 - This could be done **informally** in a forum or side discussion, even if not officially included in leaderboard rankings.

Item #3: Evaluation system

- **Leaderboard visibility:**
 - Concern was expressed that limiting the number of teams displayed on leaderboards could demotivate participants.
 - Ensuring all teams are visible, even if they are not top performers, would provide recognition and proof of participation.
- **Ranking progression:** It may be beneficial to display how rankings evolve throughout each 13-week period to highlight performance trends over time.
- **Regional performance comparison:** Consider assessing whether models demonstrate consistent performance across all regions or excel in specific geographic areas.

Item #4: Resources

- **Matchmaking support:** Facilitate connections between participants with varying levels of resource accessibility, extending beyond the discussion forum.
- **Super computing resources:**
 - Explore potential access to new HPC facilities as a resource for participants. Gabriela Aznar can facilitate introductions with the new facility in Lugano, linked to ETH Zurich.
 - Consider in the future potential sponsorship from organisations providing computing resources to participants.

Item #6: Upcoming Quest launch webinar

- **Pre-periods webinar:** Consider doing a pre-period webinar to make sure everything is running smoothly on the participants' side.
- **Webinar tailoring:** Monitor registrations and tailor the agenda according to the type of registrants.

Next steps

- Provide Advisory Board members with a promotional email template
OL - Action taken: A concise promotional email will be shared alongside this summary for Advisory Board members to distribute within their networks.
- Follow up with Amy McGovern on the mentioned promotion channels.
OL - To follow-up.
- Consider media outlets and papers publishing platform for promoting the competition.
OL - Organisers will investigate various options for promotion (including environmental-focused outlets such as The Conversation or Nature, and similar AI-related publications).
- Refine the evaluation system (consider combined performance category, ranking visibility for all teams, ranking tracking over each 13-week period extreme events performance).
JT - The results page for AI Weather Quest will feature an enhanced selection of weekly leaderboards:
 - *Weekly leaderboards displaying the most-recent **RPSS** for each variable and lead time.*
 - *Weekly leaderboards showing the average RPSS when collating all requested variables (tas, mslp and pr). These averages will be presented for each lead time and for models contributing to all three variables.*
 - *Accumulated RPSS leaderboards: In addition to the above, eight additional leaderboards will track cumulative RPSS, aggregating scores from previous forecasts within a competitive period.*

Website users will be able to view scores from all models. A set-up will be developed where participants can click on a 'expand' button to see all scores.

Forecasting of extreme events will be assessed on an ad-hoc basis, leveraging the developed online portal. At present, models won't be assessed regionally.
- Define how to best handle the matchmaking between participants.
OL and JT - To define as the Quest registrations come in.