

Working Group:
Operational Space Weather Forecast

Motivation: the need for operational forecasters to discuss problems and share solutions.
FORUM=Questions can be asked during any presentation (free discussion)

History:

ESA SWW November 2004 - Splinter on November 2004 space weather events and forecasts.

ESA SWW November 2011-The First Forecaster Forum:

Attendance: about 15 people.

Discussions focussed on 5 main topics:

1. Forecasts during low solar activity and during increasing solar activity. Presentation on local geomagnetic forecasts and evaluations.
2. Use of new scientific data (SDO, STEREO, PROBA) in the operational forecasting now and in the future. Two presentations on STEREO and SDO/PROBA-2 data products for the forecasts.
3. Use of new models in the forecasts. Two presentations: on the regression models and non-linear dynamical models.
4. Discussion on forecasts of geomagnetic indices: their applicability for GIC forecasts and their importance for other forecasting models
5. Discussion on possible characteristics of dynamical evaluation of active regions

Feedback received from 10 participants

(not in priority order):

1. Evaluation of the forecasts is needed: skill scores, other possible measures.
2. Proposal: to choose event(s) for the comparative study of different forecasts.
3. Wider use of different methods of the forecasts/combined forecasts
- 4. Needs to discuss indices related to ionosphere predictions**
5. Problems with predictions of the geoeffectiveness of CMEs are of great importance and far from being resolved
6. SEP and flares predictions were only briefly mentioned
7. New space weather indices might be discussed in the future.

Recommendations:

1. Regular observational satellite at L1
2. Possible improvement of the quality of real-time data provided by scientific missions (example-STEREO).

ESWW 9, Forecaster Forum, Part I and Part II

Part I: Forecast of ionospheric and radiowave propagation parameters

Part II: 2012 Case studies.

Attended: **62** participants

Points discussed:

Point #1 **Do services provided equivalent to user needs?**

Point # 2 **What packages needs to be updated based on modern knowledge? What part (inputs, outputs, forecast model, model evaluation?)**

Point #3: **What are the most needed SW parameters for inputs into ionospheric forecast models**

Point # 4: Do we need common frame for validation and verification of ionospheric (and other) forecasts.

Point #5: **Do we need to have Topical group on SW forecast (general)?**

Conclusions:

Forecasters are a large group which can be regarded as scientists, service providers and users (of observations and models).

Forecasters need to meet and discuss their important questions (see ## 1-5 below).

Forecasters need to meet and discuss recent space weather events.

Thus:

1. Forecasters need their working group. This group should also include forecasters from other countries, as space weather does not know the borders.
2. It has been general opinion that old ionosphere and propagation models based on old indices (input indices, derived ionospheric indices) need upgrades or complete changes. It has been mentioned that many new models/indices etc. were developed but not tested or implemented as operational (COST Actions, etc).
3. It has been pointed out, that scientific models/indices etc. developed under different umbrellas should have their non-bias evaluation and be tested and recommended (or not) to become proto-operational?
4. Need to have a concept of open data access for highly regarded data, for example, mission will be regarded as critical and of the first priority for implementation if it is produced real time data used for critical services.

Next Tasks:

1. Website: drafted by Bloomfield and Trichtchenko, technical implementation will be done by Shaun Bloomfield.
2. List of participants (welcome): under development, also they need to approve the website.

3. ESWW 10 Forecaster Forum: Suggestions are welcome
4. Possibility to arrange on-line forum for communications during SW events (discussion forum for Duty Forecasters).

Currently the activity of the group is foreseen mostly during ESA SWW Forecaster Forums, unless suggested by members.