Solar Indices Team: Day 1 (1)

- Joint Meeting with Ionosphere Teams:
  - Tobiska: Operational uses of proxies and indices
    - Indices and operational atmosphere models using them
    - Validation efforts and performance metrics for models
  - Eparvier, Snow, Thiemann: GOES-16 EXIS Measurements and Data Products
    - The measurements we'll have for the next 20+ years

Solar Indices Team: Day 1 (2)

- Discussions:
  - Differences between measurements, proxies, and indices. (ISO 21348:2007 has definition of proxy and index)
  - Indices need to be stable for operational use, but sometimes they then don't work as well as they could or don't represent what the Sun is really doing
    - Need two datasets? "Historically stable index" plus "closest to reality" measurement
    - Possibly a "Quality Flag" that tells you that using the index at a particular time is not a good idea (e.g. F10.7 in at solar min not good for representing EUV)

Solar Indices Team: Day 1 (3)

- Recommendations:
  - Use version numbers!
  - Follow ISO standards!
  - Equivalent indices or proxies?
    - i.e. a better index/proxy that can be used in the models without changing the models but increase their performance
    - E.g. ensemble index

Solar Indices Day 2: Action Items (1)

- There are many MgII datasets out there.
  - **Action**: Corral the community to come up with a single consistent MgII C/W Index. ***Assigned to Marty Snow***
- UK Met Office and others are interested in D-region absorption, so care about soft X-rays, and flare start, peak, and ½ max (plus X-ray background). GOES already produces these and will continue to do that, but so do others. Again, there are many varied sets with different ways of getting the parameters for flares and different results.
  - **Action**: come up with a common event list for past and future flares and come up with a consistent set of common parameters to include in the list, and use same algorithms for identifying start, peak, etc… ***Assigned to Karin Muglach***

Solar Indices Day 2: Action Items (2)

- Worry about changing calibration of GOES XRS and definitions of flare magnitude and the impacts on heritage models that are in common use.
    - **Action:** get community input into the issue and give feedback to SWPC/Viereck. ***Assigned to Kent Tobiska***
- Irradiance models and data sets need regular periodic validation and comparisons against each other as they evolve and new versions are released.
    - **Action:** Do it! Best done whenever a new data version or model comes out. ***Assigned to LASP (varies with dataset and model)***
- How to get community to report data and model version numbers?
    - **Action:** CCMC could be used as a repository for metadata on versions to be available to everyone. ***Assigned to Karin Muglach***

Solar Indices Day 2: Action Items (3)

• Forecast validations of solar indices (primarily F10.7). SWPC currently does it by individual forecasters looking at recurrence, persistence, and anything else they feel important to make few day up to 45 day forecasts. SET has an actual algorithm for forecasting, also using recurrence and persistence. ADAPT is being adapted for use in forecasting. Juan Fontenla also does forecasts. Each of these efforts has their own statistics and measures of success.

- **Action:** Poll each group for their measures to compare. Pick a time period and compare forecasts. Do this for F10.7 and MgII c/w. ***Assigned to Karin Muglach & Carl Henney (??) & others***