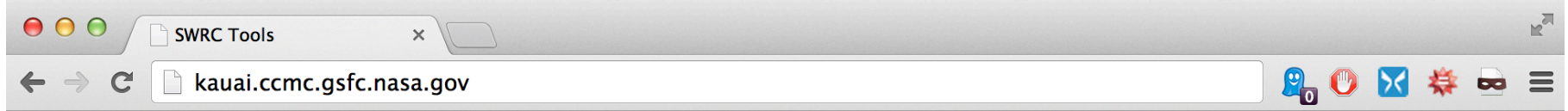


# Space Weather Web Tools from CCMC/SWRC:



Space Weather  
Scoreboard



Space Weather  
DONKI

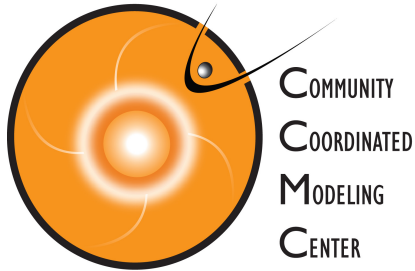


WSA-ENLIL+Cone  
1-Click



Stereo CAT  
CME Analysis Tool

<http://kauai.ccmc.gsfc.nasa.gov/>



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# CME Arrival Time Scoreboard

*developed at the CCMC*

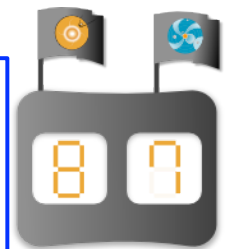


The CME scoreboard is a research-based forecasting methods validation activity which provides a central location for the community to:

- submit their forecast in real-time
- quickly view all forecasts at once in real-time
- compare forecasting methods when the event has arrived

<http://swrc.gsfc.nasa.gov/main/cmemodels>

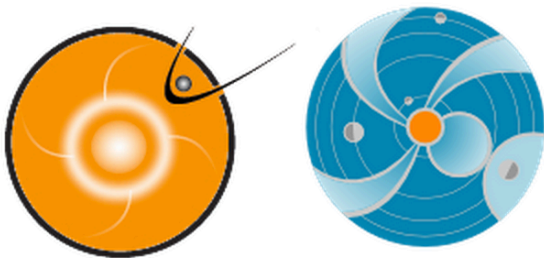
<http://kauai.ccmc.gsfc.nasa.gov/SWScoreBoard>



**Please join! All prediction methods are welcome and all are encouraged to participate.** Currently registered models include:

*Anemomilos, ESA Model, H3DMHD (HAFv.3 +3DMHD), HAFv.3, STOA, WSA-Enlil + Cone Model, BHV Model, DBM, ECA Model, Expansion Speed Prediction Model, HelTomo, HI J-map technique, TH Model*

The scoreboard also includes predictions from the SWRC (Space Weather Research Center) which is a CCMC branch carrying out in-house research-based space weather ops team



## Space Weather ScoreBoard



[Login](#)

### Space Weather ScoreBoard

*CME arrival time predictions from the research community:*

The Space Weather ScoreBoard (developed at the Community Coordinated Modeling Center, [CCMC](#)) is a research-based forecasting methods validation activity which provides a central location for the community to:

- submit their forecast in real-time
- quickly view all forecasts at once in real-time
- compare forecasting methods when the event has arrived

Using this system:

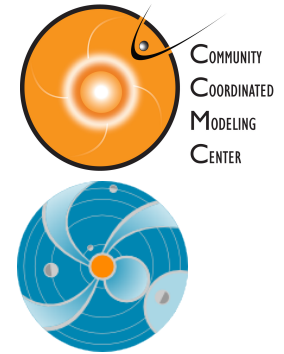
- Anyone can view prediction tables
- Users can enter in your CME shock arrival time forecast after logging in:
  - Registered Users: Begin by finding your CME under the "Active CMEs" section, then click "Add Prediction" and select your forecasting "Method Type" from the list. (Click [here](#) to register for an account.)
  - Power Users: If you do not see your CME listed under the "Active CMEs" section, click "[Add CME](#)" to get started (Click [here](#) to request power user privileges). To enter the actual CME shock arrival time, click "*Edit CME*" after you are done entering your prediction(s).
- [Click here to see a list of registered methods](#). If you would like to register your prediction method, please send an email to [M. Leila Mays](#) or [Yihua Zheng](#) with your model/technique details.

<http://kauai.ccmc.gsfc.nasa.gov/SWScoreBoard>

Anyone can view predictions, please register to submit predictions.



# Community predictions for the January 7, 2014 CME (X1.2 flare):



Columns are sortable!(click column headings)

Average of all predictions  
is calculated for the user

CME: 2014-01-07T18:24:00-CME-001

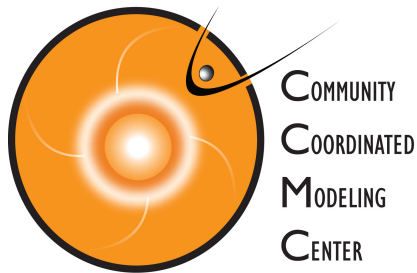
Actual Shock Arrival Time: 2014-01-09T19:32Z

Observed Geomagnetic Storm Parameters:

Max Kp: 3.0

Predicted Shock Arrival Time	Difference (hrs)	Submitted On	Lead Time (hrs)	Predicted Geomagnetic Storm Parameter(s)	Method	Submitted By	
2014-01-10T04:04Z (-16.0h, +36.0h)	8.53	2014-01-08T14:56Z	28.60	Max Kp Range: 8.0 - 8.0 Dst min. in nT: -300	<a href="#">COMESEP</a>	Andy Devos (SIDC)	<a href="#">Detail</a>
2014-01-09T19:26Z (-10.0h, +10.0h)	-0.10	2014-01-07T21:00Z	46.53	----	STOA	Leila Mays (GSFC)	<a href="#">Detail</a>
2014-01-09T13:00Z (-7.0h, +7.0h)	-6.53	2014-01-08T23:17Z	20.25	Max Kp Range: 6.0 - 8.0	WSA-ENLIL + Cone	Duty Forecaster (ASFC)	<a href="#">Detail</a>
2014-01-09T12:00Z (-7.0h, +7.0h)	-7.53	2014-01-08T06:32Z	37.00	----	WSA-ENLIL + Cone	RWC Jeju (KSWC)	<a href="#">Detail</a>
2014-01-09T11:22Z (-11.7h, +9.1h)	-8.17	2014-01-09T18:57Z	0.58	Max Kp Range: 3.0 - 5.0	Ensemble WSA-ENLIL + Cone (GSFC SWRC)	Leila Mays (GSFC)	<a href="#">Detail</a>
2014-01-09T08:02Z	-11.50	2014-01-08T16:37Z	26.92	----	Expansion Speed Prediction Model	Alisson Dallago (INPE)	<a href="#">Detail</a>
2014-01-09T08:00Z	-11.53	2014-01-08T01:31Z	42.02	Max Kp Range: 6.0 - 7.0	<a href="#">WSA-ENLIL + Cone (NOAA/SWPC)</a>	Leila Mays (GSFC)	<a href="#">Detail</a>
2014-01-09T06:35Z	-12.95	---	---	Max Kp Range: 6.0 - 7.625	Average of all Methods	Auto Generated (CCMC)	<a href="#">Detail</a>
2014-01-09T04:30Z (-2.5h, +2.5h)	-15.03	2014-01-08T05:02Z	38.50	Max Kp Range: 5.0 - 8.0	<a href="#">Other (SIDC)</a>	Leila Mays (GSFC)	<a href="#">Detail</a>
2014-01-09T04:00Z (-6.0h, +6.0h)	-15.53	2014-01-08T09:42Z	33.83	----	<a href="#">DBM</a>	Manuela Temmer (UNIGRAZ)	<a href="#">Detail</a>
2014-01-09T02:00Z	-17.53	2014-01-08T17:53Z	25.65	Max Kp Range: 8.0 - 9.0	<a href="#">BHV</a>	Volker Bothmer (UGOE)	<a href="#">Detail</a>
2014-01-09T01:00Z	-18.53	2014-01-08T23:00Z	20.53	Dst min. in nT: -142 Dst min. time: 2014-01-09T12:00Z	<a href="#">Anemomilos</a>	WKent Tobiska (SET SWD)	<a href="#">Detail</a>
2014-01-09T00:38Z (-7.0h, +7.0h)	-18.90	2014-01-08T00:41Z	42.85	Max Kp Range: 6.0 - 8.0	WSA-ENLIL + Cone (GSFC SWRC)	Leila Mays (GSFC)	<a href="#">Detail</a>
2014-01-09T00:17Z (-6.9h, +9.2h)	-19.25	2014-01-08T04:11Z	39.35	Max Kp Range: 6.0 - 8.0	Ensemble WSA-ENLIL + Cone (GSFC SWRC)	Leila Mays (GSFC)	<a href="#">Detail</a>
2014-01-08T22:00Z	-21.53	2014-01-08T03:17Z	40.25	Dst min. in nT: -146 Dst min. time: 2014-01-09T11:00Z	<a href="#">Anemomilos</a>	WKent Tobiska (SET SWD)	<a href="#">Detail</a>
2014-01-08T12:30Z	-31.03	2014-01-08T05:58Z	37.57	----	ESA	Leila Mays (GSFC)	<a href="#">Detail</a>

<http://kauai.ccmc.gsfc.nasa.gov/SWScoreBoard>



Begin by clicking **Add Prediction** under the "Active CMEs" section and select your forecasting "Method Type" from the list. While logged in, if you do not see any CMEs listed under the "Active CMEs" section, click **Add CME** to get started.

Using this system:

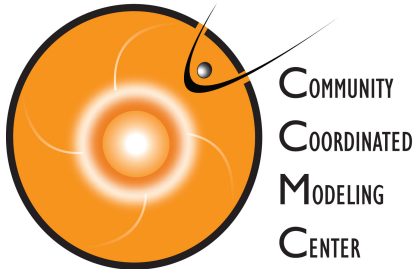
- Anyone can view prediction tables
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### Active CMEs:

**Note:** If you can't find your CME below, please click **Add CME** to add your CME. To enter the actual CME shock arrival time, click "*Edit CME*" after you are done entering your prediction(s).

<b>CME: 2015-01-01T00:00:00-CME-001</b>
<a href="#">Edit CME</a>
<a href="#">Delete CME</a>
<b>Add Prediction</b>
No Prediction Entered for this CME yet!

<http://kauai.ccmc.gsfc.nasa.gov/SWScoreBoard>



<http://kauai.ccmc.gsfc.nasa.gov/SWScoreBoard>

### Prediction Form for CME (2014-01-01T00:00:00-CME-001)

Enter submission time in format (yyyy-MM-dd'T'HH:mm'Z' i.e. 2012-07-12T16:52Z) :

Method Type ([details](#)):

Prediction notes: (Please include all initial conditions/parameters used in your prediction)

- ✓ --- Select ---
- Anemomilos
- Ballistic projection
- BHV
- DBM
- ECA
- ESA
- H3DMHD (HAFv.3+3DMHD)
- HAFv.3
- HAFv2w
- HI J-map
- Other
- Other (ips.gov.au)
- Other (SIDC)
- STOA
- TH
- WSA-Enlil + Cone
- WSA-Enlil + Cone (GSFC SWRC)
- WSA-Enlil + Cone (NOAA/SWPC)

Enter predicted CME shock arrival time in format (yyyy-MM-dd'T'HH:mm'Z' i.e. 2012-07-12T16:52Z) :

Positive Error Bar in hours (optional):

Negative Error Bar in hours (optional):

Kp Range Lower Limit (optional):

Kp Range Upper Limit (optional):

Dst min. in nT (optional):

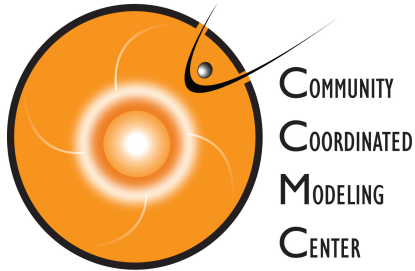
Dst min. time in format (yyyy-MM-dd'T'HH:mm'Z' i.e. 2012-07-12T16:52Z) (optional):

submit

cancel

# Scoreboard – Future Improvements

- Automatically accepting and parsing predictions (less work for groups who can populate directories with their predictions)
  - Manually created predictions (e.g. from SIDC)
  - Automatically created predictions (e.g. from Anemomilos, SARM).
    - Challenges: filtering out non-CME related predictions, matching predictions with CME start time.
- Showing table data in dynamic plot form, e.g. Prediction Error vs. Time of Prediction, Prediction Error vs Input parameters.
- Suggested earlier today: We can add an “analysis” field to provide a few sentences about the arrival and predictions. This can also be found in DONKI as notes/comments.
- Any interest in including STEREO A and B predictions?
- Your suggestions?



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# CME Arrival Time Scoreboard

*developed at the CCMC*

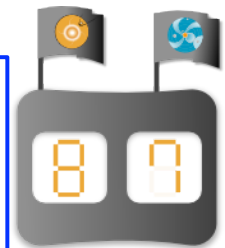


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