

Communication and Coordination During Extreme Space Weather Event

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Outline

- I. Is it necessary for better communication among SWx providers, especially about ESW?**

- II. Where shall we start from? And what shall we benefit from it? What resources are needed for communication?**

- III. Is there a standardized ESW description/scale/impact characterization? And should we have one?**

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Necessity

I. **Good communication can fill knowledge gaps, broaden the points of view of forecasters, improve the accuracy of forecast, especially in the prediction of solar eruption and geomagnetic storm.**

Scenario	A : A large ,complex active region quickly forms on the solar disk	B : A large flare erupts ,2500km/s halo CME	C : ACE detects - 100 nT Bz	D : Ground magnetometers show massive disturbances	E : Post event
What do we do now?	①Daily issue(01:00UT) <ul style="list-style-type: none"> • Flare probabilities (M-class, X-class) • Anticipation of eruption ②Event forecast <ul style="list-style-type: none"> • Anticipation of eruption 	①Daily issue(01:00UT) <ul style="list-style-type: none"> • Geomagnetic Storm probabilities • Anticipation of Geomagnetic Storm ②Alerts (Flare, SPE) ③Bulletin (Chinese) ④Event forecast <ul style="list-style-type: none"> • Arrival time of CME • Level of Geomagnetic Storm 	None	① Alerts (Geomagnetic Storm) ② Bulletin (Chinese)	Summary (Chinese)

Necessity

- II. Good communication can help avoid confusion or give explain to the requires.**

NASA称今年将发生毁灭性太阳风暴 可导致大规模停电

2013年02月13日 09:01

来源：凤凰科技 作者：严炎刘星

426人参与 80条评论 分享到： 更多

凤凰科技讯 北京时间2月13日消息，据英国每日电邮报道，近日美国宇航局警告称，地球即将遭受一场毕生难遇的“空间风暴”，之后英国将面临大规模停电，并将长期失去重要的通讯信号。



The Telegraph

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Nasa warns solar flares from 'huge space storm' will cause devastation

Exclusive: Britain could face widespread power blackouts and be left without critical communication signals for long periods of time, after the earth is hit by a once-in-a-generation "space storm", Nasa has warned.

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In Space

Image 1 of 5

Nasa is currently studying the effects of the Sun's power in the earth. Photo: NASA

By **Andrew Hough**
1:00PM BST 14 Jun 2010

arns, the earth is hit by once-in-a storm", since then Britain could face ts and



在研究太阳活动对地球的影响。

电网过热，空中飞行严重受到影响。未来几年内太阳和重大的卫星可能停止工作。

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Priority-Share

1. What to Share?

Information (model result, analysis process, forecasts, publication about ESW)

2. How to Share?

Develop a platform among SWx providers, where each provider can share their own information.

3. Benefits accrue from Share?

Awareness of what other providers are going to issue , filling knowledge gaps, Cross-verification of their own forecast

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Criteria of ESW

I. There is no standardized criteria of ESW.

NOAA/SWPC

Category		Physical measure
Scale	Descriptor	
Flux level of ≥ 10 MeV particles (ions)		
S 5	Extreme	10^5
S 4	Severe	10^4
S 3	Strong	10^3
S 2	Moderate	10^2
S 1	Minor	10

CSSAR/SEPC

Category		Physical measure
Scale	Descriptor	
Flux level of ≥ 10 MeV particles (ions)		
Rank 1	Red	10^3
Rank 2	Orange	10^2
Rank 3	Yellow	10

II. We need a threshold of ESW to trigger the communication and coordination.

Thanks for your attention!