



Int'l Communication & Coordination
Related to Extreme Space Weather Events

From KSWC's perspective

April 18, 2013

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KSWC's Work Procedures

Level	Event	Annual Frequency (1 Calendar Year)
1	1st level: Minor or more disruption of HF radio communication in South and North Korea and of radio communication in South Korea.	1000 per year
2	2nd level: Limited disruption of HF radio communication in South Korea.	1000 per year
3	3rd level: Limited disruption of HF radio communication in South Korea.	1000 per year
4	4th level: Limited disruption of HF radio communication in South Korea.	1000 per year
5	5th level: Limited disruption of HF radio communication in South Korea.	1000 per year

- ✓ We take actions according to NOAA SWx scales
- ✓ If level 3+ event occurs, we provide the press release for public



Issues in SWx Services

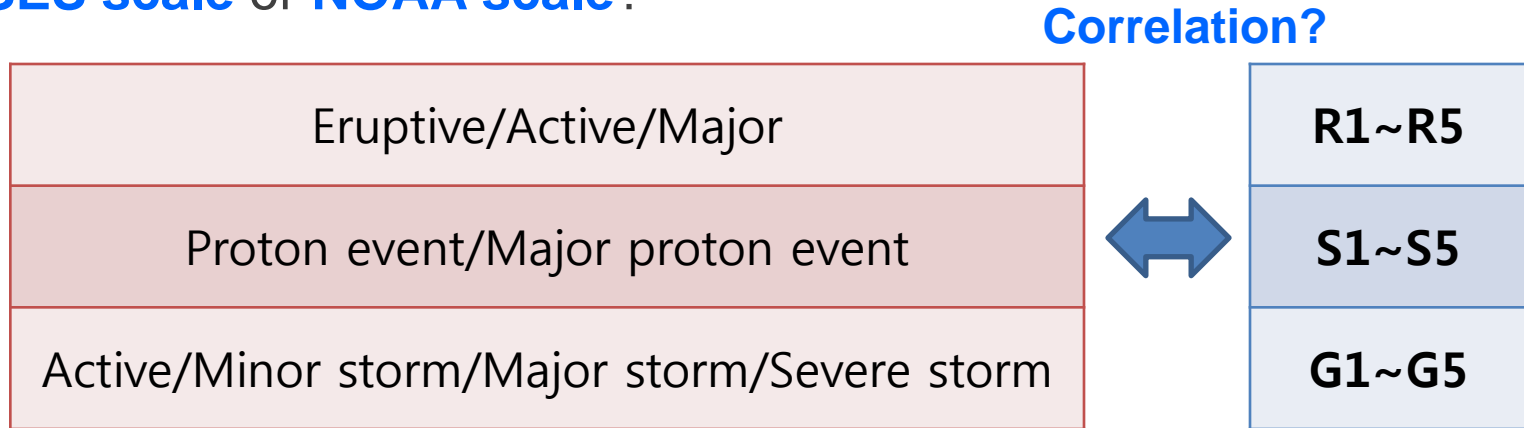
#1. Ambiguity in forecast information

#2. Too many frightened descriptions

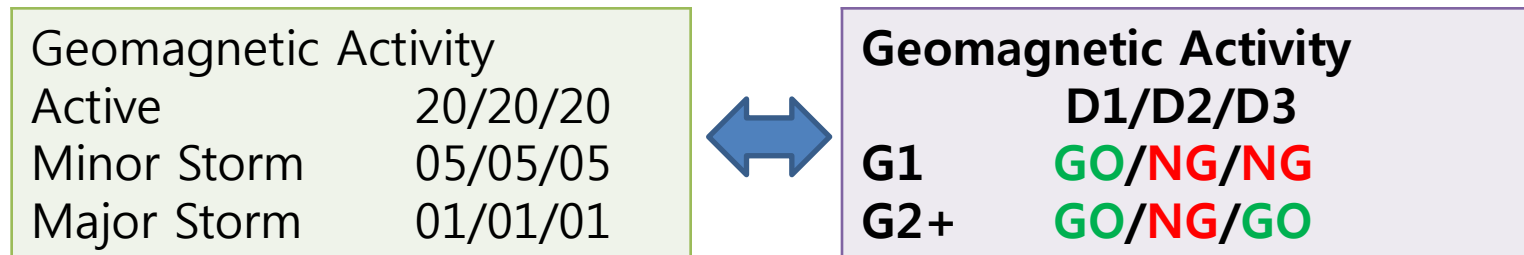
#3. Lack of post event analysis

Issue #1 : Ambiguity in forecasting

- ✓ **ISES scale** or **NOAA scale**?



- ✓ **Probability number** or **Stop sign**?



Issue #1 : Ambiguity in forecasting

How about using NOAA scale and probability for forecasting?

Institution (Input Time)	date	Radio Blackouts (%)		Solar radiation Strom (%)	Geomagnetic Storms (mid-latitude) (%)		notes
		R1~R2	R3 or higher	S1 or higher	G1	G2 or higher	
BAO (Input time, (UT))	17						
	18						
	19						
IPS (Input time, (UT))	17						
	18						
	19						
SWPC (12:30(UT))	17						
	18						
	19						
NICT (Input time, (UT))	17						
	18						
	19						
KSWC (02:00(UT))	17	30	1	5	10	1	
	18	30	1	5	10	1	
	19	20	1	1	30	5	
...							
...							

o KSWC : Geomagnetic warning, Valid From: 2013 Apr 29 0100 UTC, Valid To: 2013 Apr 30 0800 UTC

Issue #2 : Frightened descriptions



Huge solar flare shoots out particles at 3million mph as scientists predict weekend of powerful sunstorms

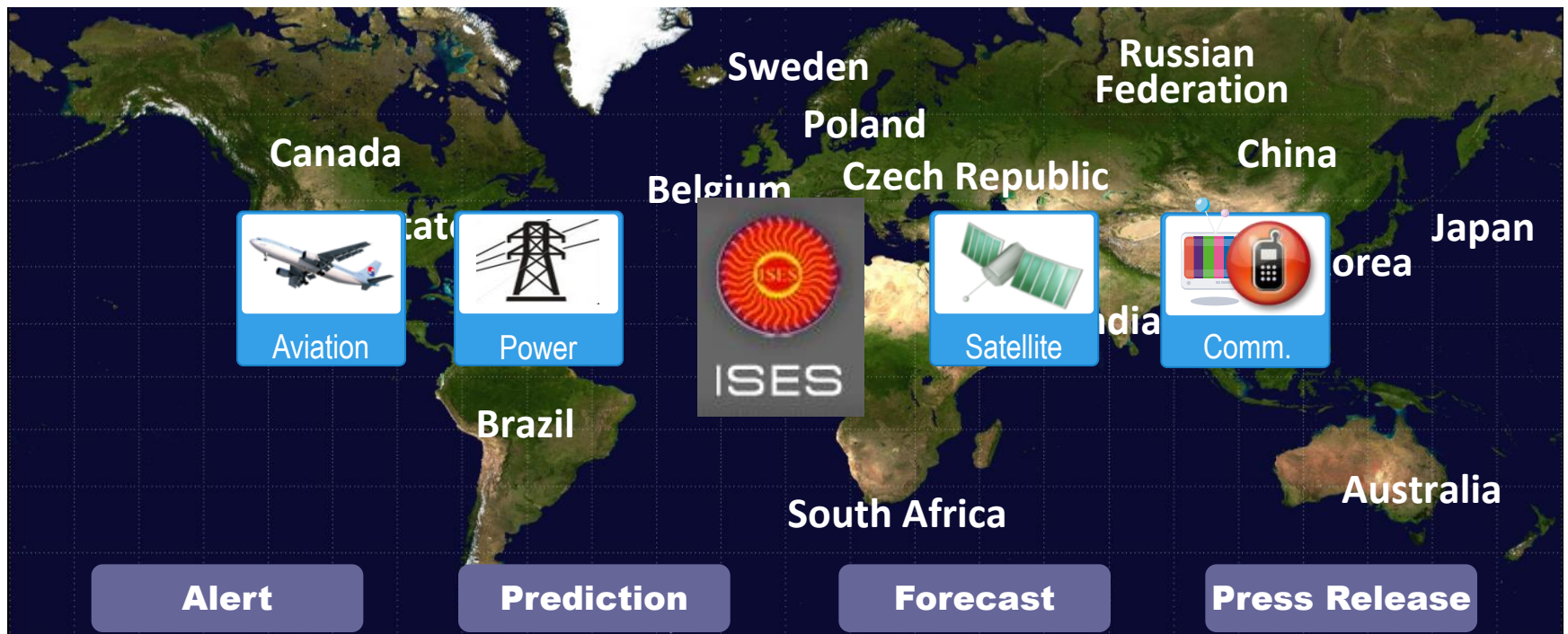
Scientists braced for 'solar tsunami' to hit earth

Scientists On High Alert: Massive Solar Flare Could **Huge and Severe Damage** The Power Grid

A Huge Solar Flare Will Bring The **End Of The World** In Months...

Issue #3 : Post event analysis

- ✓ Collect disruption & damage information on the user sectors
- ✓ Evaluate the forecast & alert service quality on each event
- ✓ Share the information between RWCs



A composite image of Earth from space. The foreground shows the curvature of the Earth with a thin blue atmosphere and a bright yellow-orange glow from the sun. The background is a dark starry sky with the Milky Way galaxy visible. The text "Thank you" is overlaid in the center in a white serif font, underlined with three horizontal lines.

Thank you