2nd FLARECAST User Workshop

The Results of the FLARECAST User Survey

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ESWW, Ostend, 29 November 2017

FLARECAST user survey

Carried out in Autumn 2016 and discussed at 1st user Workshop in January 2017

31 responses

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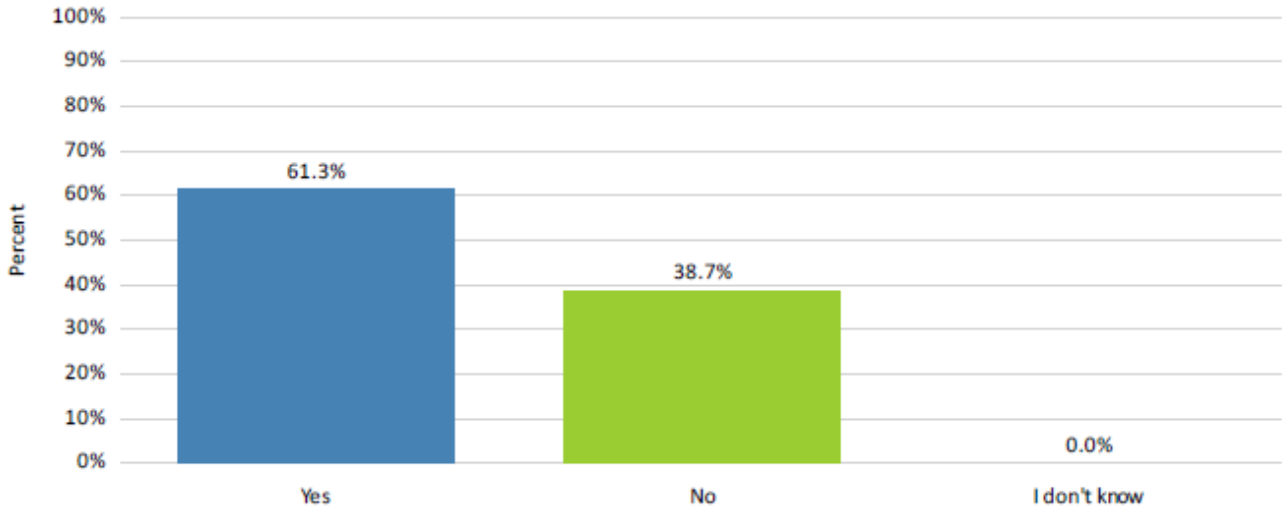
1. Do you currently use flare forecast or alert services?

About the FLARECAST project

The FLARECAST consortium partners are: Academy of Athens (Greece); Trinity College Dublin (Ireland); Università degli Studi di Genova (Italy); Consiglio Nazionale delle Ricerche (Italy); Centre Nationale de la Recherche Scientifique (France); Université Paris-Sud (France); Fachhochschule Nordwestschweiz (Switzerland); Met Office (UK) and Northumbria University (UK).



Name	Percent
Yes	61.3%
No	38.7%
I don't know	0.0%
N	31

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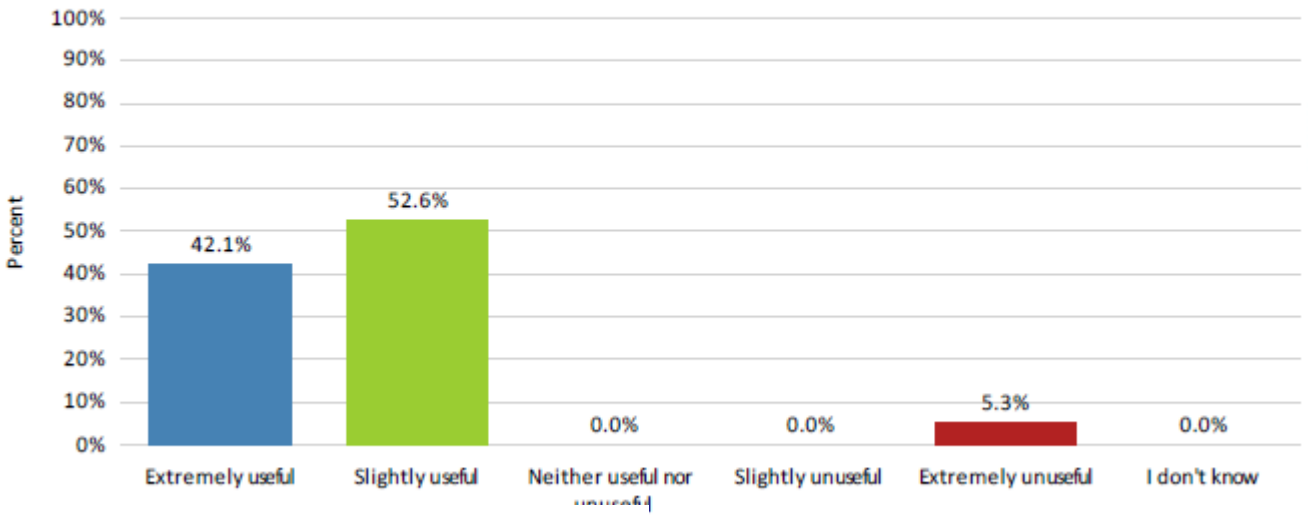
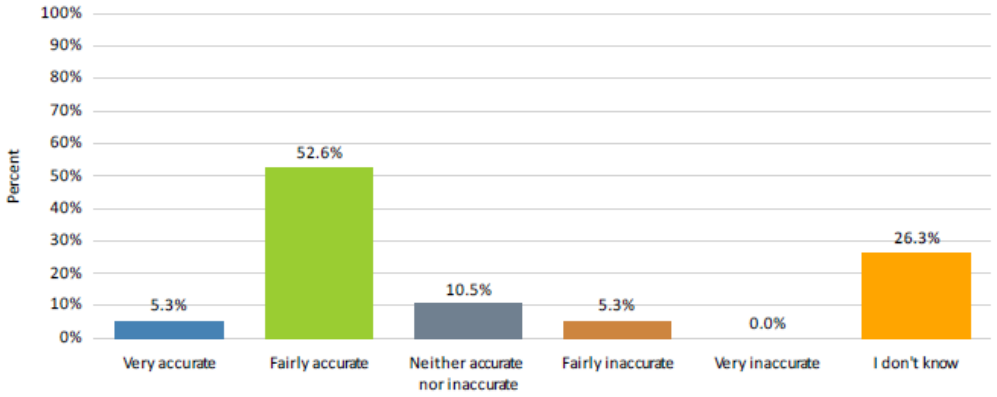
2. How useful or unuseful are these services?



Name	Percent
Extremely useful	42.1%
Slightly useful	52.6%
Neither useful nor unuseful	0.0%
Slightly unuseful	0.0%
Extremely unuseful	5.3%
I don't know	0.0%
N	19

3. How accurate or inaccurate do you find this service to be?



Name	Percent
Very accurate	5.3%
Fairly accurate	52.6%
Neither accurate nor inaccurate	10.5%
Fairly inaccurate	5.3%
Very inaccurate	0.0%
I don't know	26.3%
N	19

- Mainly thought useful
- 1/4 don't know if it's any good

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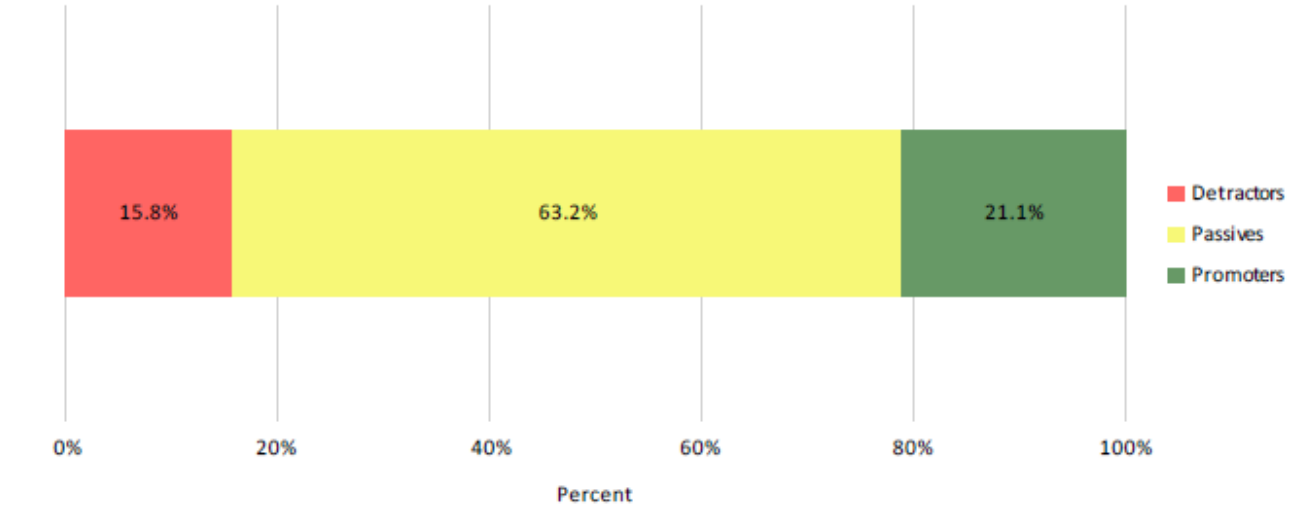
“shrugs shoulders”

4. Based on your experience of this service, how likely is it that you would or would not recommend it to a colleague? (using a scale from 0 to 10, where 0 means you definitely would not recommend and where 10 means you definitely would recommend it).

5

NPS™ Score



Name	Percent
Detractors	15.8%
Passives	63.2%
Promoters	21.1%
N	19

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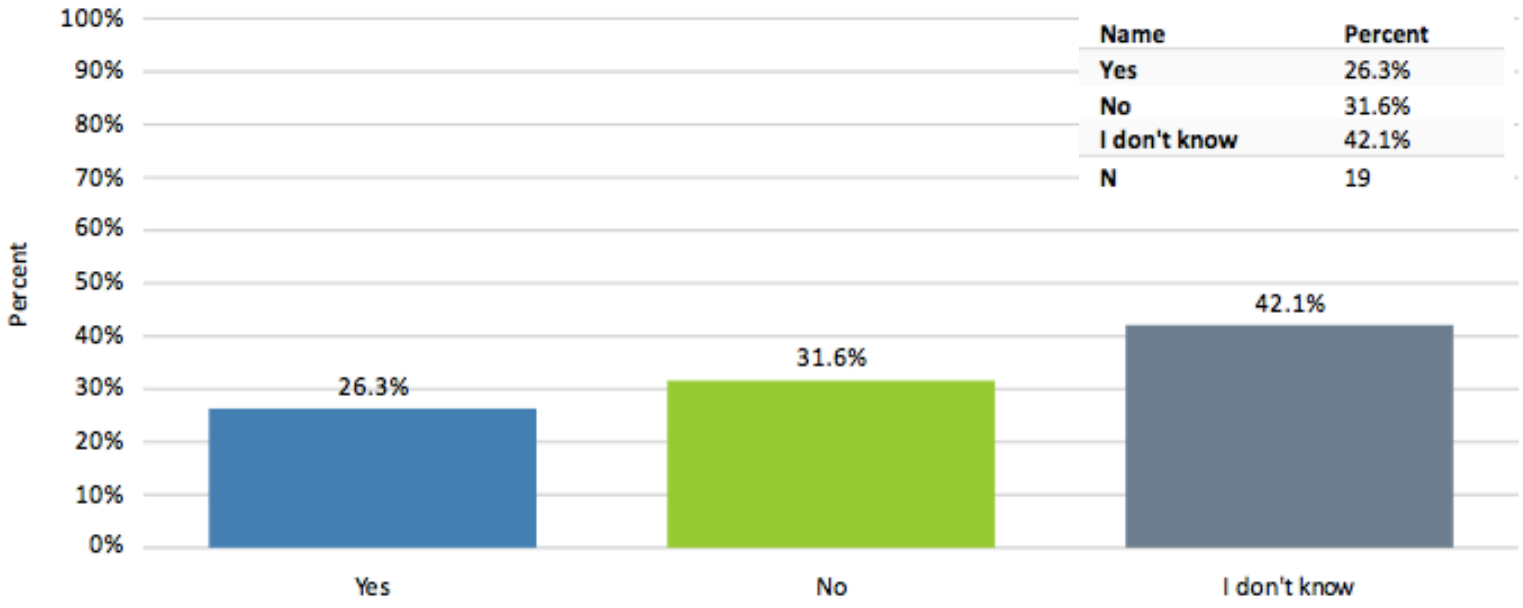
5. Are you planning to use the service differently in the future?



Name	Percent
Yes	26.3%
No	31.6%
I don't know	42.1%
N	19

6. You answered yes, please can you provide further details of how you are planning to do this?

We will be developing our Operation Response to Space Weather Events, and as new technologies yield different forecasting capabilities we will change our practices to take advantage of increased precision and advance warning afforded.

Comparison with other flare prediction Tools such as ASSA

As MOD Lead for Skynet, the MOSWOC Services come in to Airbus (MOD's PFI Partner for Skynet Satellite Constellation). I will let Airbus tailor the Services for their Spacecraft Control aspects

To check the impact of space weather disturbances on GNSS systems

Of interest are correlations between flare occurrence and the state of the ionospheric TEC.

Out of 5 – 1 satellite and 1 (maybe 2) GNSS users

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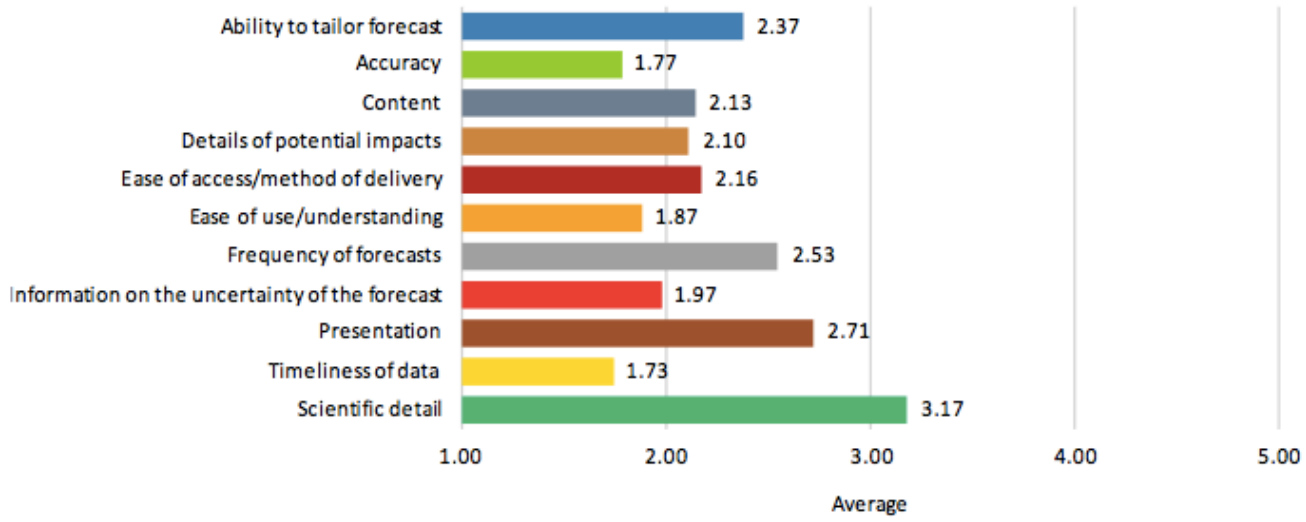
- Lowest score = most important
- So Timeliness and Accuracy most important
- Scientific details least important

9. Which factors are/would be important to you in a flare forecasting service? (please score the importance of each in the grid below).



Question	Average	N
Ability to tailor forecast	2.37	31
Accuracy	1.77	31
Content	2.13	31
Details of potential impacts	2.10	31
Ease of access/method of delivery	2.16	31
Ease of use/understanding	1.87	31
Frequency of forecasts	2.53	30
Information on the uncertainty of the forecast	1.97	31
Presentation	2.71	31
Timeliness of data	1.73	30
Scientific detail	3.17	30

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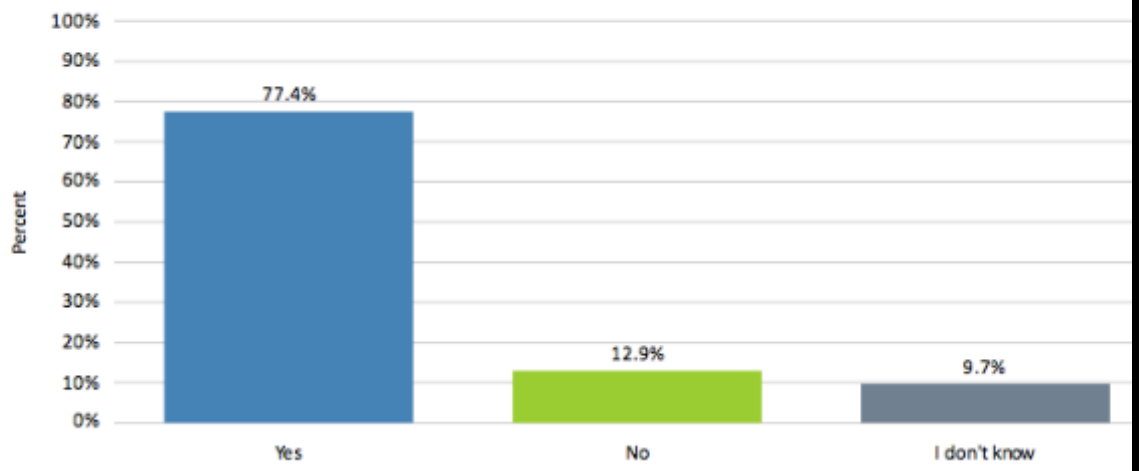
21. Would 'all clear' forecasts (i.e. no flares predicted) be useful to your organisation?



Name	Percent
Yes	77.4%
No	12.9%
I don't know	9.7%
N	31

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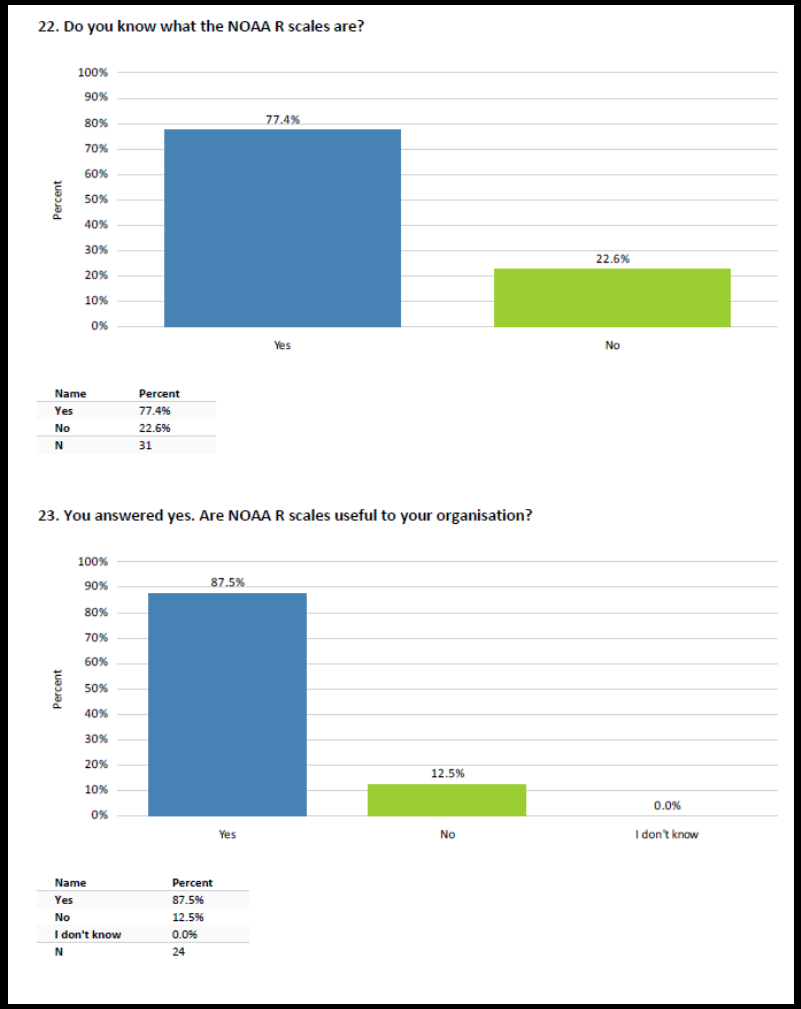
NOAA Scales



For those who said “No”, why?

- Whilst they rate impacts to radio systems such as HF, Microwave and GPS they are of some interest as we are a Telecoms company, we are also interested in impacts to other systems such as Power distribution (GIC etc.)

- The scale is useful globally, but too coarse at local (country) level

- Currently we are not reacting to NOAA Scales, the decision taken to react to MOSWOC sourced indices.

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The survey came up with suggestions of other points to be to be covered in Workshop (roadmap) discussions

- Details of verification results/methods

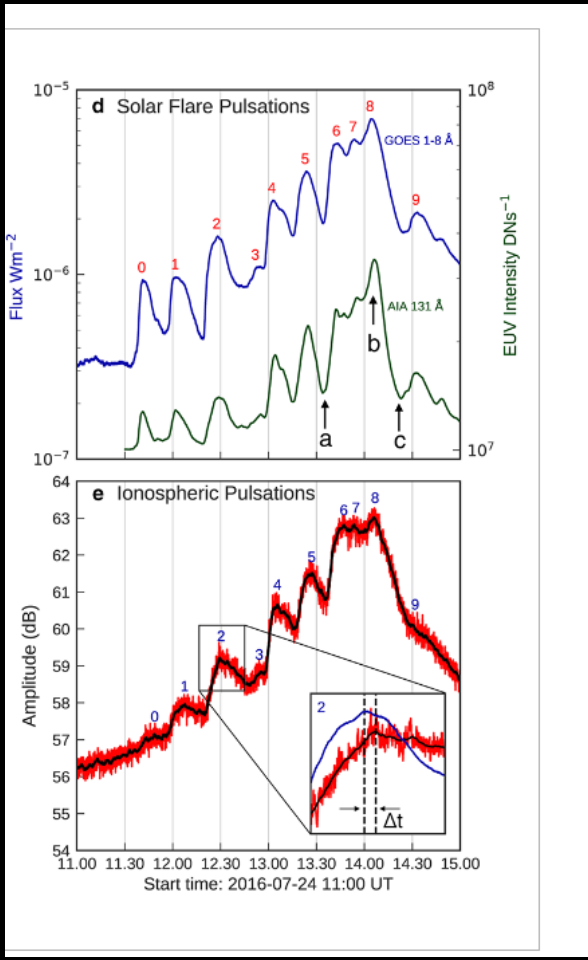
- Explanation for non-scientists; international coordination to raise awareness

- Couple to D-RAP; specific Solar Radio Burst forecasts/alerts

- The state of the science and roadblocks for forecast developments

- Better understanding of impact / consequence of space weather events, and presentation of this for non-experts

- Presentation of uncertainty



Hayes et al (2017)

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Survey Conclusions

¼ not sure about accuracy – more education needed?

If so, what do you want to hear from experts (eg lectures)? What should be online?

~60% passive regarding recommending forecast services – why?

Timely, accurate, easy to use forecasts (with uncertainty estimates) most important

Forecasting “all clear” periods important

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