

# A SURVEY OF USERS OF 27-DAY GEOMAGNETIC FORECASTS

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J. HRUSKA

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GEOLOGICAL SURVEY  
COMMISSION GÉOLOGIQUE

## Introduction

The need to update the mailing list of the users of 27-day forecasts of geomagnetic activity resulted in a questionnaire which was mailed to 208 external users in February 1988. In-house and observatory personnel were not included. An example of the questionnaire is in Appendix 1; an example of a 27-day forecast is in Appendix 2.

The initial purpose of this questionnaire was simply to update the mailing list. However, sixty-five users added comments so it seemed appropriate to summarize and analyze their replies in a short Internal Report.

## Description of Responses to Questionnaire

Answers were received from 155 users, e.g. 74.5%. This is a very high response rate, which itself suggests the desirability of this service. Only 12% of the users do not want to continue to obtain this information. Most of them thanked us and explained why they no longer need the forecasts. Their reasons were retirement, no longer involved in exploration, etc.

We did not ask the users to evaluate the forecasting service, but we provided a space for comments. Sixty-five users (42%) added comments. Many expressed their satisfaction with the service and gave their reasons for using the information. Some of them suggested possible improvements to the service. Examples of users' comments are found in Appendix 3. All original questionnaires are in the author's office.

## Profile of the Users

We have stratified the profile of all 210 present users according to three categories:

1. Type of work for which the geomagnetic forecast was used.
2. Affiliation of users.
3. Geographic distribution of users.

### 1. The type of work in which the geomagnetic forecasts are used.

	Number:	Percentage
Exploration surveys	111	53%
Radio communication	65	31%
Research	17	8%
Electrical power utilities	6	3%
Satellite operators	5	2%
Others	6	3%

## 2. Affiliation of users

Private exploration industry, including development of geophysical instrumentation	102	49%
Individual users such as radio operators, medical researchers	50	23%
Federal governmental agencies	23	11%
Universities, clubs, magazines	16	8%
Private corporations such as power utilities, satellite agencies	14	7%
Provincial governmental agencies	5	2%

## 3. Geographical distribution of users

Ontario	92	44.0%
Alberta	30	14.0%
Quebec	21	10.0%
British Columbia	19	9.0%
Manitoba, Saskatchewan	11	5.0%
New Brunswick, Nova Scotia	10	4.5%
NWT, YK	4	2.0%
<u>PEI, NFLD</u>	<u>1</u>	<u>0.5%</u>
Canada	188	89.0%
USA	19	9.0%
Other countries	3	2.0%

From these tables is clearly visible that the forecasts are mainly used by private Canadian exploration companies, located predominantly in Ontario, Alberta and Quebec. The growing sector of users are electric power companies and companies involved in satellite positioning.

### Recommendations

1. To continue mailing of 27-day forecasts and reviews. When technically possible, have these forecasts and reviews available also on the magnetic information services on the Microvax computer of the Geophysics Division.
2. To include solar flux data from the Algonquin Radio Observatory, NRC with the geomagnetic forecasts. Discussion with representatives of NRC were held and probably during next 3-6 months these solar data will be available for our users. There will be no substantial cost involved - only the price of 230 paper sheets per month.

3. To introduce dial-up computer version of daily short-term forecast to user community. Presently this service is available to in-house users and to Ontario Hydro.
4. To include daily solar flux index on computer version of short-term forecast.
5. To investigate the possibility of including daily magnetic forecasts on CHU.
6. To continue the communication link with the users community.
7. To publish an article on geomagnetic forecasting service in *Northern Miner* or in a similarly oriented magazine to inform potential users of the geomagnetic forecasting services of the Geophysics Division, Geological Survey of Canada.

To: Dr. J. Hruska  
Geophysics Division, GSC, EMR  
1 Observatory Crescent  
Ottawa, Ontario CANADA  
K1A 0Y3

à: Dr. J. Hruska  
Division de la géophysique, CGC, EMR  
1, place de l'Observatoire  
Ottawa, Ontario CANADA  
K1A 0Y3

Please continue my mailing of Geomagnetic Forecasts and Reviews:  
Garde mon nom sur votre liste d'envoi les prévisions et compte rendu de  
l'activité géomagnétique:

Discontinue sending this information:  
Ne plus envoyer vos informations:

CORRECT ADDRESS/L'ADRESSE EXACTE:

ORGANIZATION/ORGANISME:

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NAME/NOM - TITLE/TITRE:

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STREET/RUE:

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CITY/VILLE:

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PROVINCE - POSTAL CODE POSTAL - COUNTRY/PAYS

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TELEPHONE NUMBER/NUMERO DE TELEPHONE:

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FACSIMILE NUMBER/NUMERO DE FACSIMILE:

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TELEX NUMBER/NUMERO DE TELEX:

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COMMENT/COMMENTAIRE:

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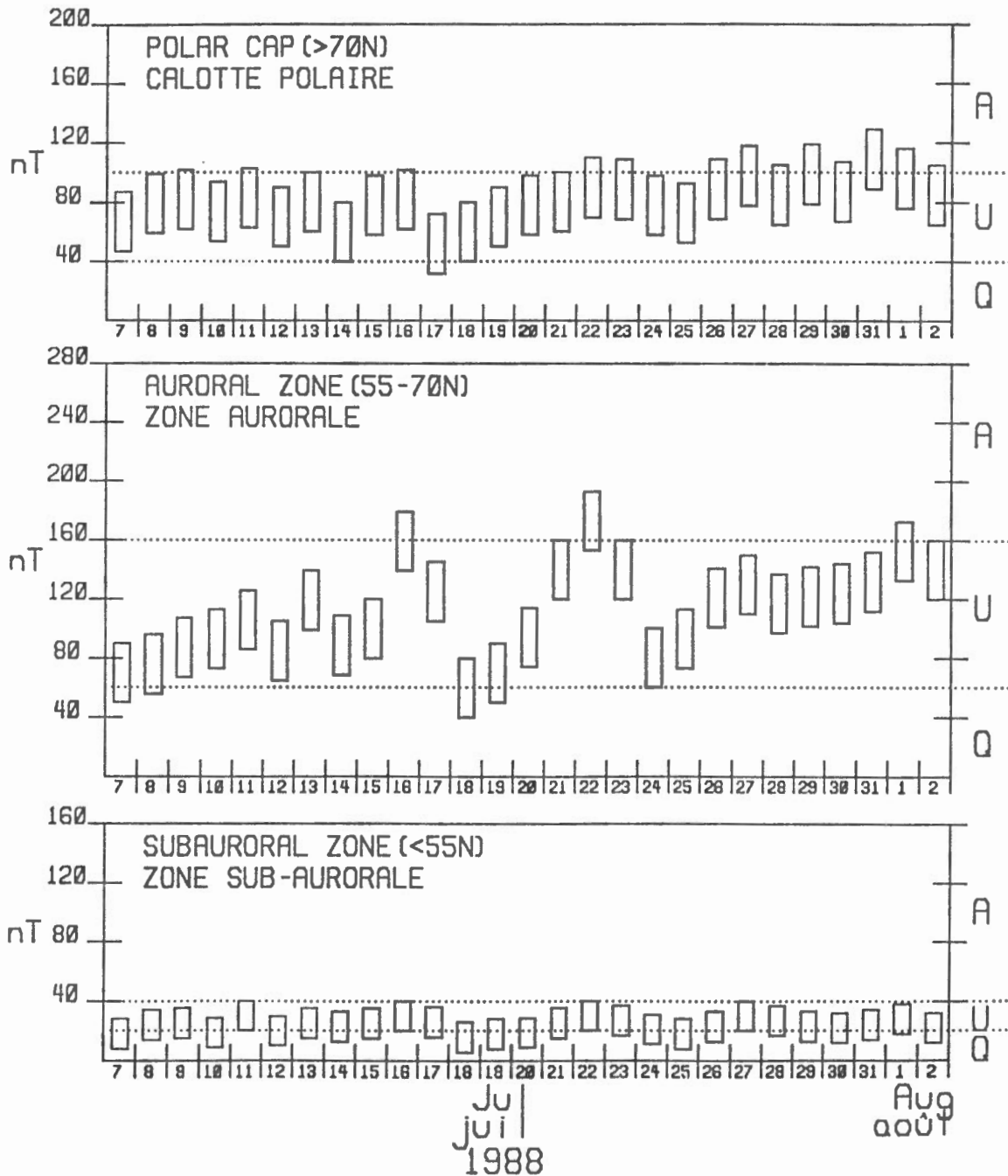
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2116 (to July 10) 2117 (the rest)

# EMR CANADA OTTAWA

FORECAST DAILY MEAN OF HOURLY RANGES  
 PREVISION DU MOYEN QUOTIDIEN DES AMPLITUDES HORAIRES



Q, U and A represent quiet, unsettled and active levels of geomagnetic activity.  
 Q, U et A representent des niveaux calmes, agités, et actifs de l'activité géomagnétique.

For 72-hr forecast, dial : 1-613-992-1299  
 Pour la prévision de 72-h, téléphoner: 1-613-992-1299

### Appendix 3

Some examples of 'comments':

B. Lum, Cominco Ltd.

I like the format of magnetic activity forecast and review.

Dr. Watanabe, UBC

Forecasts have been displayed in the departmental hall along with a running magnetometer so the students and visitors can actually feel something about geomagnetic field variations.

Z. Schindler, USA

I am an amateur radio operator and I find the forecasts most useful!

B. Jatzeck, P.Eng

This information is used for hobby purposes and is quite useful, providing an adequate estimate for reception conditions. Also, I find it difficult to compare the information with the information from WWV & Radio Australia/radio Netherlands. But I do like the presentation of data with respect to latitudes, although how it relates to longitudinal variations may possibly help. Your office provides an excellent service as it is often quoted by G. Hauser on this program *World of Radio* and his presentation on *Radio Canada International's - Short-wave Listeners Digest*.

G. Hauser, USA

Thanks! I only wish you were weekly rather than three-weekly.

G. Podolsky, Geopod

I thank you for sending the forecasts in past. My original intent was to draw to the attention of the field operations at Aerodat Ltd. the value of the forecasts and reviews. They agreed with me and now subscribe to it. I personally have no further need for them. Nevertheless, you provide a valued service to the contracting industry.

Barringer Research Ltd.

This information has been very useful to us.

Chevron Canada Resources

An excellent service. Hope you continue to expand and improve your forecasts.

Patterson Mining Geophysics Ltd.	I find the forecasts very useful in planning magnetic surveys.
Sander Geophysics Ltd.	Information very useful for our operations.
Anadrill Ltd.	The geomagnetic information is proving very helpful in recognizing and correcting for magnetic interferences in the arctic areas.
Exsics Exploration Ltd.	The forecast has been a good aid in determining magnetic storms, etc. during our survey year. Thank you.
E. Kusalik	Solar flux indices, printed out on daily bases recorded at certain time - similar to WWV Geophysical sheets.
R.T. Carster, PhD.	This information is useful in checking HF radio propagation and is interesting to compare with WWV propagation indices (A and K index). The northerly magnetic activity is also interesting as this is not given by NRS.
K. A. Jensen, Exploration & Consulting Services	Thank you for the excellent magnetic data. Keep up the good work.
Observatoire Cantonal, Switzerland	Thank you for the excellent service.
Insporation Inc.	Valuable service!
M. Anderson	Thanks for this service. I would like to see solar flux and the geomagnetic information given over CHU radio - like is by WWV in USA.
Nova Scotia Power Corp.	Both the forecasts and reviews are extremely useful in electric power system operation.
Radiosporting Magazine, USA	Is the forecast/record data available on-line for computer downloading? If not, it would be desirable.
Esso Minerals Canada	The forecasts are used to plan geophysical surveys, which include magnetic measurements.
Dr. K. Burke, University of N.B.	A useful service both for the planning of surveys and allowing students to appreciate the relationship of events.



Dome Petroleum Ltd.

Very helpful. Thanks a lot!

R.S. Middleton Exploration Services

Appreciate receiving this forecast. Assist greatly in planning ground magnetic surveys and also for observing and photographing urora borealis activity. Could you please send forecast/reviews to the following address as well?

Commonwealth Seager Group

Thank you again for all your help with our still ongoing study of telluric related pipeline corrosion in the auroral zone.