

Originally Processed With FOIA(s):
2005-0336-F

FOIA Number:
2005-0336-F

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Record Group/Collection: George H.W. Bush Presidential Records
Collection/Office of Origin: Science and Technology Policy, Office of (OSTP)
Series: Bromley, D. Allan, Files
Subseries: Correspondence Files

OA/ID Number: 62023
Folder ID Number: 62023-007

Folder Title:
Executive Office of the President: Tracking White House Chief of Staff [1991]

Stack:	Row:	Section:	Shelf:	Position:
	0	0	0	0

"CORRESPONDENCE TRACKING"

TYPE: ACTION DOCUMENT NUMBER: 9124199
ORIGINATOR: 02 STATUS I DIRECTORATE STATUS

FROM: CARONE, Christopher: HARVARD UNIVERSITY

TO: JOHN SUNUNU

DATE OF
CORRESPONDENCE: 09/08/91

SUBJECT: CONCERN OVER THE DECISION BY NSF TO CLOSE FRANCIS
BITTER NATIONAL MAGNET LABORATORY AT MIT AND TO
LOCATE A MAJOR NEW MAGNETICS RESEARCH FACILITY AT
FLORIDA STATE UNIVERSITY.

DIRECTORATE STAFF
ASSIGNED: INDUSTRIAL *Phys. Sc.* ASSIGNED:

ACTION STAFF
REQUIRED: DIRECT REPLY ACTION:

SENDER'S DUE DATE:
OSTP DUE DATE: 10/02/91 STAFF DUE DATE
DATE COMPLETED: DATE COMPLETED/DEPT:

COPIES TO:

WHITE HOUSE TRACKING #: CONTACT PERSON:
REMARKS: PHONE: EXT:

CLOSED

OSTP RECEIVED: 09/25/91
DEPT RECEIVED:

FILE: P-EOP-SUNUNU TRACKING

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
WASHINGTON, D.C. 20506

October 7, 1991

Dear Mr. Carone:

Your letter of September 8 to Governor Sununu, concerning the NSF decision to construct a new magnet laboratory at Florida State University, has been referred to me.

The decision in question was a close call, but I am convinced that the results of scientific peer review were carefully considered by the National Science Board. I also believe that the Florida State laboratory will be a good one, and thus I disagree with your conclusion that the NSF decision is "tantamount to a misuse of federal funds."

Sincerely,

A handwritten signature in dark ink, appearing to read 'Karl A. Erb', with a stylized, cursive script.

Karl A. Erb
Acting Associate Director
for Physical Sciences and Engineering

Mr. Christopher Carone
Department of Physics
Lyman Laboratory
Harvard University
Cambridge, MA 02138

4199

HARVARD UNIVERSITY

DEPARTMENT OF PHYSICS

LYMAN LABORATORY
CAMBRIDGE, MASSACHUSETTS 02138

91 SEP 25 AM 11:16

September 8, 1991

Bromley

The Honorable John Sununu
White House Chief of Staff
The White House
Washington, DC 20500

OFFICE
DIRECTOR

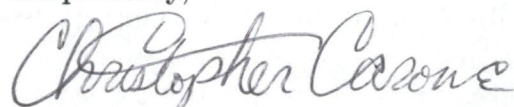
Dear Sir:

As a doctoral candidate in physics at Harvard, and an alumnus of MIT, I am writing to express my great concern over the decision by the National Science Foundation to close the Francis Bitter National Magnet Laboratory at MIT, and to locate a major new magnetism research facility at Florida State University. I find it most disturbing that in the process of choosing the location for the new magnet lab, the National Science Foundation blatantly ignored the recommendations of its own peer review panels which concluded that MIT's proposal to upgrade its existing lab was in the best interest of the nation. One only needs to recall the cold fusion fiasco of a few years ago to be reminded of the disastrous consequences that can follow from circumventing the peer review process. In the case of a national laboratory, where over 60 million dollars of federal funds are in question, it is all the more important that the scientific merit of competing proposals, as judged by peer review, be considered of primary importance in determining the host institution. In this respect, the final decision last year to locate the magnet lab at a third-rate state university seems, to me, to be tantamount to a misuse of federal funds on the part of NSF. Yet to date, there have been no high level governmental attempts at corrective oversight.

Recently, NSF announced that it would award MIT \$21 million to design the strongest magnet in the world, a project that would keep the Francis Bitter Lab operational for four more years. After completed, the magnet will be shipped to Florida State. This is utterly ridiculous. If MIT is the best institution (and probably the only one) capable of handling the design and construction of the largest magnet in history, then it is only common sense that the fruits of its labor should stay at the best institution, and the taxpayer can save on the shipping bills.

As a fellow alumnus, I hope you can exert pressure on the National Science Board to reverse its illogical and shameful decision.

Respectfully,



Christopher Carone

"CORRESPONDENCE TRACKING"

TYPE: ACTION DOCUMENT NUMBER: 9121750
ORIGINATOR: 02 STATUS I DIRECTORATE STATUS

FROM: CROSS, Carlton E.: WALLA WALLA COLLEGE

TO: JOHN SUNUNU

DATE OF
CORRESPONDENCE:

SUBJECT: ENERGY CONSERVATION, PARTICULARLY DEALING WITH
PETROLEUM DERIVATIVES, AND ITS INFLUENCE ON AMERICAN
COMPETITIVENESS.

DIRECTORATE STAFF
ASSIGNED: PHYSICAL SCIENCES ASSIGNED:

ACTION STAFF
REQUIRED: AS NECESSARY ACTION:

SENDER'S DUE DATE:
OSTP DUE DATE: 07/01/91 STAFF DUE DATE
DATE COMPLETED: DATE COMPLETED/DEPT:

COPIES TO:
D. Allan Bromley
INDUSTRIAL

WHITE HOUSE TRACKING #: CONTACT PERSON:
PHONE: EXT:
REMARKS:

OSTP RECEIVED: 06/17/91 FILE: SUNUNU TRACKING
DEPT RECEIVED:

"CORRESPONDENCE TRACKING"

TYPE: DOCUMENT NUMBER: 9121750
ORIGINATOR: 02 STATUS I DIRECTORATE STATUS

FROM: CROSS, Carlton E., Ph.D.

TO: JOHN SUNUNU

DATE OF
CORRESPONDENCE: 06/04/91

SUBJECT: ENERGY CONSERVATION, PARTICULARLY DEALING WITH
PETROLEUM DERIVATIVES, AND ITS INFLUENCE ON AMERICAN
COMPETITIVENESS.

DIRECTORATE STAFF
ASSIGNED: D. Allan Bromley ASSIGNED:

ACTION STAFF
REQUIRED: AS NECESSARY ACTION:

SENDER'S DUE DATE:
OSTP DUE DATE: 07/01/91 STAFF DUE DATE
DATE COMPLETED: DATE COMPLETED/DEPT:

COPIES TO: Ken Yale
PHYSICAL SCIENCES
INDUSTRIAL

WHITE HOUSE TRACKING #: CONTACT PERSON:
PHONE: EXT:
REMARKS:

OSTP RECEIVED: 06/17/91 FILE: SUNUNU TRACKING
DEPT RECEIVED:

WALLA WALLA COLLEGE



COLLEGE PLACE, WASHINGTON 99324

PHONE (509) 527-2615

4 June, 1991

Bromley

Mr. John Sununu
Chief of Staff
The White House
Washington, DC 20500

Dear Mr. Sununu:

What fuel will power aircraft 50 to 100 years from now? If, because of their high energy density, you think aircraft fuels will likely be petroleum derivatives, then you must have a plan to make our oil reserves last that long. I believe that our national energy policy must include much more emphasis on conservation, especially conservation of oil.

The United States has always consumed a lot more energy than we deserve. This habit gets us into wars and destroys the good influence we could exert on others. After we have used most of the world's oil, no one will feel sorry that our aircraft are non-competitive.

As a fellow engineer, my training brings me to an emphatic conclusion: we must practice better energy conservation. Otherwise, the cost of energy will squeeze us out of world competition and our great-grandchildren may not enjoy flying at an affordable price.

Because you are the most influential engineer in the US today, you owe the country a clear policy for addressing these issues. I have just read another report saying that many of us outside of the White House believe energy conservation is more important than you do. What is holding you back?

Sincerely,

A handwritten signature in cursive script, reading "Carlton E. Cross".

Carlton E. Cross, Ph. D.
Professor of Engineering

"CORRESPONDENCE TRACKING"

TYPE: DOCUMENT NUMBER: 9121750
ORIGINATOR: 02 STATUS I DIRECTORATE STATUS

FROM: CROSS, Carlton E., Ph.D.

TO: JOHN SUNUNU

DATE OF
CORRESPONDENCE: 06/04/91

SUBJECT: ENERGY CONSERVATION, PARTICULARLY DEALING WITH
PETROLEUM DERIVATIVES, AND ITS INFLUENCE ON AMERICAN
COMPETITIVENESS.

DIRECTORATE STAFF
ASSIGNED: D. Allan Bromley ASSIGNED:

ACTION STAFF
REQUIRED: AS NECESSARY ACTION:

SENDER'S DUE DATE:
OSTP DUE DATE: 07/01/91 STAFF DUE DATE
DATE COMPLETED: DATE COMPLETED/DEPT:

COPIES TO: Ken Yale
PHYSICAL SCIENCES
INDUSTRIAL

WHITE HOUSE TRACKING #: CONTACT PERSON:
PHONE: EXT:
REMARKS:

OSTP RECEIVED: 06/17/91 FILE: SUNUNU TRACKING
DEPT RECEIVED:

17
D.E.

WALLA WALLA COLLEGE



COLLEGE PLACE, WASHINGTON 99324

PHONE (509) 527-2615

4 June, 1991

Bromley

Mr. John Sununu
Chief of Staff
The White House
Washington, DC 20500

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Sincerely,

A handwritten signature in blue ink, reading "Carlton E. Cross".

Carlton E. Cross, Ph. D.
Professor of Engineering

"Document Control"

TYPE: ACTION DOCUMENT NUMBER: 9121288
ORIGINATOR: 02 STATUS I DIRECTORATE STATUS C

FROM: BELL, Greg

TO: JOHN H. SUNNUNU

DATE OF
CORRESPONDENCE:

SUBJECT: REQUEST FOR AN OPINION ON THE NEW GLOBAL WARMING
STATISTICS SHOWING A SIGNIFICANTLY HIGHER THAN
EXPECTED RATE OF OZONE DEPLETION.

DIRECTORATE STAFF
ASSIGNED: ENVIRONMENT ASSIGNED: ENVIRONMENT
Nancy Maynard

ACTION STAFF
REQUIRED: DIRECT REPLY ACTION: AS NECESSARY

SENDER'S DUE DATE:
OSTP DUE DATE: 05/15/91 STAFF DUE DATE
DATE COMPLETED: DATE COMPLETED/DEPT: 10/21/91

COPIES TO:

WHITE HOUSE TRACKING #: CONTACT PERSON:
PHONE: EXT:
REMARKS: No response necessary

OSTP RECEIVED: 05/01/91 DEPT RECEIVED:
FILE: SUNNUNU TRACKING
EOP-
CENTRAL FILES:



Chief of staff
The White House
Wash, DC 20500

9/2/88

Greg Bell
4161 Houston Ave
Macon GA 31206

REC

Bromley

Dear Governor ^{91 MAY 10 1988} ~~Sumner~~ 43

First of all I'd like to
congratulate you ^{OFFICE} ^{DIRE} for what I
think has been a fine job as
chief of staff.

Secondly I wish you
would give me your opinion
on new global warming statistics
showing a significantly higher
than expected rate of ozone depletion.
I myself am skeptical, but I think
your opinion will help me
put this into perspective.

Greg Bell

P.S. I've written before and
gotten the "he's busy" treatment.
I respect this but hope you
can find the time to answer
this one.

"CORRESPONDENCE TRACKING"

TYPE: ACTION

DOCUMENT NUMBER: 9121401

FROM: ANTAKLI, Marian

TO: JOHN SUNNUNU

DATE OF
CORRESPONDENCE: 04/20/91

SUBJECT: RE: HIS POSITION ON CLIMATE CHANGE AND HIS REASONING
FOR IT AS WELL AS A REQUEST TO RESPOND TO SPECIFIC
ASPECTS OF THE SECOND WORLD CLIMATE CONFERENCE.

ASSIGNED TO: ENVIRONMENT

ACTION REQUIRED: DIRECT RESPONSE

SENDER'S DUE DATE: OSTP DUE DATE: 05/24/91

DATE COMPLETED: -----

COPIES TO:

WHITE HOUSE TRACKING #:

CONTACT PERSON:

REMARKS:



DATE RECEIVED: 05/13/91

FILE: SUNNUNU TRACKING

9121401

RECEIVED

91 MAY 13 AM : 24

Ms. Marian Antakli
246 Barden Rd.
Bloomfield Hills, Mi. 48034

Bromley

OFFICE OF THE
DIRECTOR

The Honorable John Sununu
The White House
Washington D.C., 2050

April 20, 1991

Dear Honorable John Sununu:

I am presently studying International Studies in Geneva, Switzerland through the School for International Training based in Brattleboro, Vermont. A section of the program is devoted to Environmental Studies. And while researching for an oral presentation on a topic of my choice, I came across some disturbing information.

I chose to research the Second World Climate Conference which just recently took place, here in Geneva, in October and November of 1990. Unfortunately, I have always been aware of the U.S. position on environmental issues. And in this case as well, I am once again disappointed in the Administration's attitude. However, what disturbed me much more, was the stand you have taken.

Not long ago, I was proud to help my parents open our home to you. Of the many representatives of the U.S. Government who my family has welcomed to Bloomfield Hills, Michigan, you seemed to be the most approachable. And that is why I call on you, as a public governmental official and an engineer to offer your precise position on climate change and your reasons for taking it.

There are specific aspects of the Second World Climate Conference that I wish you would respond to in your answer. The SWCC, where world-class experts in numerous fields were drawn from all regions of the world, concluded that:

Notwithstanding scientific and economic uncertainties, nations should now take steps towards reducing sources and increasing sinks of greenhouse gases through national and regional actions, and negotiation of a global convention on climate change and related legal instruments.

Technically feasible and cost-effective opportunities exist to reduce carbon dioxide emissions in all countries. Such opportunities for emissions reductions are sufficient to allow many industrialized countries to stabilize carbon dioxide emissions from the energy sector and to reduce these emissions by at least 20% by 2005.

With such findings and recommendations can the U.S. Administration, specifically yourself, be unconvinced of the effects of greenhouse gases, especially carbon dioxide, let alone be unsupportive of concrete commitments to reducing greenhouse gases?

I strongly believe in the harmful effects of greenhouse gases and the necessity to take action to reduce them, on a national, regional and global level.

I appreciate and look forward to your response and will continue to look for your support and the U.S. administration's support on the issue of climate change.

Sincerely,

Marian Antakli

Marian Antakli

→ adm 5/14/92

"Document Control"

TYPE: ACTION DOCUMENT NUMBER: 9121401
ORIGINATOR: 02 STATUS I DIRECTORATE STATUS C

FROM: ANTAKLI, Marian

TO: JOHN SUNNUNU

DATE OF
CORRESPONDENCE: 04/20/91



SUBJECT: RE: HIS POSITION ON CLIMATE CHANGE AND HIS REASONING
FOR IT AS WELL AS A REQUEST TO RESPOND TO SPECIFIC
ASPECTS OF THE SECOND WORLD CLIMATE CONFERENCE.

DIRECTORATE STAFF
ASSIGNED: ENVIRONMENT ASSIGNED: ENVIRONMENT

ACTION STAFF
REQUIRED: DIRECT RESPONSE ACTION: As Necessary

SENDER'S DUE DATE:
OSTP DUE DATE: 05/24/91 STAFF DUE DATE
DATE COMPLETED: DATE COMPLETED/DEPT: 10/22/91

COPIES TO:

WHITE HOUSE TRACKING #: CONTACT PERSON:
REMARKS: No Response Necessary *per NM* PHONE: EXT:

OSTP RECEIVED: 05/13/91 DEPT RECEIVED:
FILE: SUNNUNU TRACKING
EOP-
CENTRAL FILES:



9121-0
RECEIVED

91 MAY 13 AM : 24

Ms. Marian Antakli
246 Barden Rd.
Bloomfield Hills, Mi. 48034

OFFICE OF THE
DIRECTOR

Bromley
The Honorable John Sununu
The White House
Washington D.C., 2050

April 20, 1991

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I appreciate and look forward to your response and will continue to look for your support and the U.S. administration's support on the issue of climate change.

Sincerely,

Marian Antakli

Marian Antakli

Marion Antaki
246 Barden Rd.
Bloomfield Hills, Mi
48304

VIA AIR MAIL

"CORRESPONDENCE TRACKING"

TYPE: INFORMATION

DOCUMENT NUMBER: 9121170

FROM: FURGERSON, W.T.

TO: JOHN H. SUNNUNU

DATE OF
CORRESPONDENCE: 03/29/91

SUBJECT: THE OZONE LAYER AND GLOBAL WARMING

ASSIGNED TO:

ACTION REQUIRED:

SENDER'S DUE DATE:

OSTP DUE DATE:

DATE COMPLETED:

COPIES TO: Nancy Maynard

WHITE HOUSE TRACKING #:

CONTACT PERSON:

REMARKS:

DATE RECEIVED: 04/19/91

FILE: SUNNUNU TRACKING

9121170

142 Ballard's Way
Louisville, TN 37777
March 29, 1991

RECEIVED

91 APR 19 AIO: 08

OFFICE OF THE
DIRECTOR

Bromley

Mr. John H. Sununu,
Chief of Staff,
The White House,
1600 Pennsylvania Avenue,
Washington, D.C., 20500

Dear Mr. Sununu:

It was encouraging to read the recent mini-biography on you in The Wall Street Journal. The encouragement comes from knowing that someone in an authoritative position in the U.S. Government has a background in technology and business instead of law and politics.

Before retiring I was an engineer in the industrial refrigeration business, and I was involved in setting our company policy to deal with the halo-carbon vs. ozone problem when it came to the fore in the mid-1970's. Incidentally, our company's attitude was "Suppose this is a real problem; how do we deal with it?" rather than "How can we oppose this?". After retiring I have tried to keep current with the problem, although I have not been directly involved.

With the information that is available to me it seems that there are holes in the existing theory that are at least as large as the hole in the ozone layer over the south pole. For instance:

Why should halo-carbons migrate to the south pole when probably 75 percent of their release occurs in the northern hemisphere? Yes, thermal diffusion should drive them toward cold spots, but the north pole is cold, too.

Researchers report finding chlorine in the upper atmosphere above the south pole, and they offer this as proof that halo-carbons are the cause. But, chlorine is ubiquitous; it could come from many sources, hypo-chlorite bleaches, for example. A much better connection would be if upper air samples showed fluorine, but published data do not mention this. I do not know if the researchers even look for fluorine.

Halo-carbons have been released to the atmosphere for 60-plus years. If they result in an increase in ultra-violet flux at the earth's surface it should be apparent by now. Ultra-violet flux measurements have been made, but the results have not been given publicity nor have any reports been released showing a correlation between halo-carbon release and UV flux. One wonders why.

In 1988 the hole in the south pole's ozone layer became smaller. There was a profound silence about this in the news media.

Cynically, it is easy to come to the following explanation for the halo-carbon vs. ozone problem: Suppose an ambitious young assistant professor is sweating out getting his tenure, and his career prospects depend on how many research grants he gets. He could go to the National Science Foundation, or similar source of funds, and say that the sky is falling and with a research grant he might prop it up. (You can be sure that the conclusion of his report would be that the sky is not yet quite propped up, and he needs more money to complete the job. This can go on and on.)

Alternatively, he might say that Mother Nature has mechanisms to compensate for perturbations. Everything looks great for the future, and given a research grant he will prove it. Which course will get him the more "brownie points"? Add to this the liberal-oriented news media which enjoy blowing a gloom-and-doom hypothesis out of proportion and a number of senators and congressmen who would gleefully do damage to the whole country in an effort to embarrass a conservative administration, and I believe that you have the root cause of the ozone problem and global warming as well.

So keep the brakes on. Make the researchers really prove their hypotheses, and try to keep legislation from running ahead of facts. By all means try to get your approach before the people. Right now the John Q. Public is being told that the atmosphere is being destroyed and that you want it that way. After being hammered with this for months John Q. is liable to believe it. If you could show him the conservative, and really scientific, side of the picture he would be able to make an informed choice. You might even convince some fence-sitting congressmen.

Good luck, and best regards,

W. T. Furgerson

W. T. Furgerson

"Document Control"

TYPE: ACTION DOCUMENT NUMBER: 9121201
ORIGINATOR: 02 STATUS I DIRECTORATE STATUS C

FROM: BICH, Melissa L.

TO: JOHN H. SUNNUNU

DATE OF
CORRESPONDENCE: 03/27/91

SUBJECT: RE: THE OZONE LAYER

DIRECTORATE STAFF
ASSIGNED: ENVIRONMENT ASSIGNED: ENVIRONMENT

ACTION STAFF
REQUIRED: DIRECT REPLY ACTION: As Necessary

SENDER'S DUE DATE:
OSTP DUE DATE: 05/06/91 STAFF DUE DATE
DATE COMPLETED: DATE COMPLETED/DEPT: 05/06/91

COPIES TO:

WHITE HOUSE TRACKING #: CONTACT PERSON:
REMARKS: No Response necessary *per NY* PHONE: EXT:

OSTP RECEIVED: 04/23/91 DEPT RECEIVED:
FILE: SUNNUNU TRACKING
808
CENTRAL FILES:





"Document Control"

TYPE: ACTION DOCUMENT NUMBER: 9121201
ORIGINATOR: 02 STATUS I DIRECTORATE STATUS C

FROM: BICH, Melissa L.

TO: JOHN H. SUNNUNU

DATE OF
CORRESPONDENCE: 03/27/91

SUBJECT: RE: THE OZONE LAYER

DIRECTORATE STAFF
ASSIGNED: ENVIRONMENT ASSIGNED: ENVIRONMENT

ACTION STAFF
REQUIRED: DIRECT REPLY ACTION: As Necessary

SENDER'S DUE DATE:
OSTP DUE DATE: 05/06/91 STAFF DUE DATE
DATE COMPLETED: DATE COMPLETED/DEPT: 05/06/91

COPIES TO:

WHITE HOUSE TRACKING #: CONTACT PERSON:
PHONE: EXT:
REMARKS: No Response necessary

OSTP RECEIVED: 04/23/91
FILE: SUNNUNU TRACKING
EOP~
CENTRAL FILES:

DEPT RECEIVED:



912101

RECEIVED

91 APR 23 P 5: 22

Bromley
OFFICE OF THE
DIRECTOR

3411 Kreidler Road
Forest Hill, Maryland 21050
March 27, 1991

John H. Sunua
1600 Pennsylvania Ave. N.W.
Washington, D. C. 20500

Dear Mr. John:

My vital environmental concern is the hole growing in the ozone layer in the earth's atmosphere. I find it hard to ~~believe~~ that many people don't show their concern for subjects such as this one. It's really sad that people are harming our environment and not thinking twice about it.

Things containing CFC 11, CFC,
and CFC 22 should be banned.
I wanted to draw your
attention to ~~these~~ certain
products because they cause
the most harm. I for
one make sure that
all my hairspray etc. all
have an ozone friendly
symbol on it. I would
like to hear your ~~views~~
on this subject if possible.
Thank ~~you~~ for your time.

Sincerely Yours,

Melissa L. Bicky

"CORRESPONDENCE TRACKING"

TYPE: ACTION

DOCUMENT NUMBER: 9120997

FROM: MAYR, Franz C.: NOMOS INTERSCIENCE MONTREAL

TO: JOHN H. SUNNUNU

DATE OF
CORRESPONDENCE: 03/19/91

SUBJECT: REQUEST THAT SUNNUNU NOTIFY THE GOVERNMENT OF THE
EXISTENCE OF NOMOS INTERSCIENCE & THEIR SERVICES AND
PROPOSE AN AGREEMENT WHICH WILL ENSURE THEIR USE FOR
THE BENEFIT OF THE COUNTRY.

ASSIGNED TO: Thomas Ratchford

ACTION REQUIRED: AS APPROPRIATE

SENDER'S DUE DATE:

OSTP DUE DATE: 04/19/91

DATE COMPLETED: 7/29/91

COPIES TO: D. Allan Bromley
Dr. Wong
Nancy Maynard

WHITE HOUSE TRACKING #:

CONTACT PERSON:

REMARKS: Per RATCHFORD: send to unanswered correspondence
file.

CLOSED

DATE RECEIVED: 04/05/91

EOP-
FILE: SUNNUNU TRACKING

NOMOS INTERSCIENCE MONTREAL

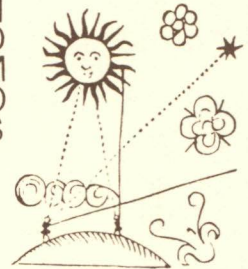
RESEARCH CORPORATION CORPORATION DE RECHERCHE

To John Henry SUNUNU
Chief of Staff
The White House
1600 Pennsylvania Avenue
WASHINGTON, D.C. 20500

DIRECTOR

File
Dossier
Date March 19, 1991.

NOMOS



INTERSCIENCE

Bromley
Dear Sir,

The timid response of American academic institutions to some recent astrophysical discoveries gave us the feeling that the news should be brought to your attention:

- i) Predictions of the solar magnetic field, of solar magnetic events and of magnetic storms in space and on earth are now possible.
- ii) The magnetic classification of atmospheric circulation patterns enables us to predict meteorological situations of the future with the precision of actual meteorological forecasts.
- iii) The feasibility of climate-related projects can now be examined with realistic expectations concerning the climate of the future.
- iv) Computations of the fine-structure of geological epochs can now be carried out for the whole known part of the Earth's history.

Nomos Interscience has acquired the exclusive right to offer the above-mentioned predictions; they cannot be made by any other institution in the world.

We ask you, therefore, to notify the Government of the United States of the existence of this service, and to propose an agreement which will ensure their orderly and controlled use for the benefit of the country.

Sincerely yours

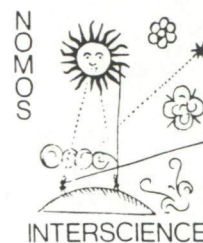
F. C. Mayr

Dr. Franz C. Mayr, President,
Nomos Interscience

Enclosed: Nomos Interscience Internal
Report 1991/02
Curriculum vitae

NOMOS INTERSCIENCE MONTREAL

RESEARCH CORPORATION – CORPORATION DE RECHERCHE



File
Dossier
Date

Internal Report 1991/02

ASTROGEOPHYSICAL PREDICTIONS

ALL RIGHTS RESERVED
NOMOS INTERSCIENCE
MARCH 13, 1991

FOREWORD

Planning on a grand scale needs vision, intuition and knowledge.

Knowledge of the past is limited by the readiness of our forefathers to investigate what their great-great-grandchildren might need to know. The knowledge of future generations will depend on our readiness to do what only we can do.

Nomos Interscience offers knowledge and guidance in a field which is not generally known; its appropriate name would be "astrogeophysics". Astrogeophysics investigates, computes and predicts the physical environments of the solar system and the surrounding galactic space.

Its application to practical problems on earth is of eminent importance: we are talking about benefits in the order of tens of billions of dollars per year, if only North-American projects are considered.

Nomos Interscience has, so far, introduced three major novelties: computed geological calendars, objective and unbiased methods to predict weather and climate, and a 'Magnetic Monitor' for the prediction of solar magnetic events and magnetic storms in space and on earth.

The predictions of Nomos Interscience cannot be offered by any other institution in the world.

Dr.F.C.Mayr, President,
Nomos Interscience

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NOMOS INTERSCIENCE

Nomos Interscience is a non-profit Research Corporation for fundamental and applied research in Geophysics and related fields. In order to achieve its purpose, Nomos Interscience has acquired the exclusive right to offer services which no other institution can offer:

- the computation of geological epochs, ecological catastrophes and magnetic events of the past,
- the prediction of magnetic storms on the sun, in space and on earth, and
- the prediction of weather and climate on earth.

The scientific rationale of our service is described in a number of reports, some of them public. The essentials can be found in our Calendrier des Savants (Montreal, Nomos Interscience, 1985) and in our public reports P89-01 and P91-01. P89-01 appeared also in a recent volume on "New Approaches in Geomagnetism and the Earth's Rotation" (Singapore, World Scientific, 1991).

The computation of the fine-structure of geological epochs is based on a mathematical model predicting the date and the magnitude of sudden changes in the magnetic properties of the galactic space surrounding the solar system. Magnetic predictions for the sun imply adequate knowledge of the interaction between galactic and heliospheric magnetic fields. Correlation between these magnetic predictions and weather and climate on earth is based on the fact that 21%(volume) of the terrestrial atmosphere consist of oxygen which is strongly paramagnetic.

The progress brought by the models of Nomos Interscience is difficult to grasp. They act like memories that work both ways, backward and forward; computing the past and predicting the future are part of the same mathematical algorithm, and at the scale of human history there is virtually no loss in precision.

The Models of Nomos Interscience

THE ORIGINAL ALGORITHM

is still the backbone of all of our computations; but the phase error is now reduced to a few minutes, and derivatives and higher harmonics were introduced to simulate the interaction between the galactic magnetic field and the heliosphere, and between the heliospheric magnetic fields and the atmosphere of the earth.

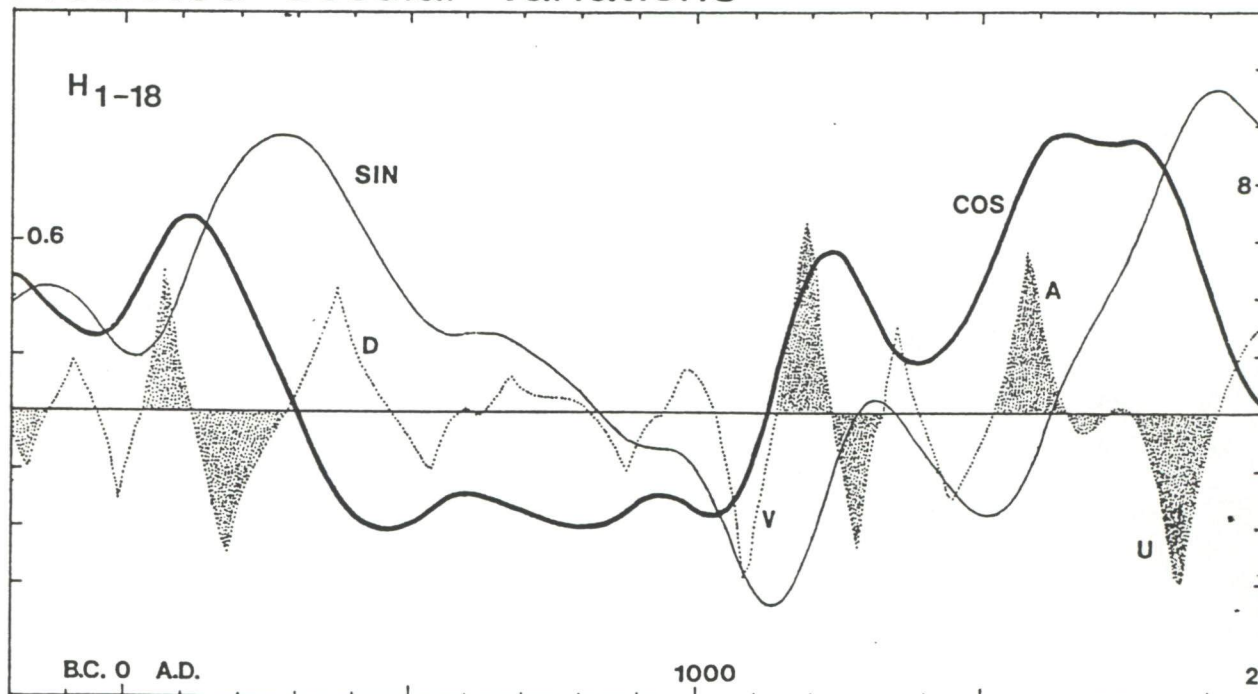
In its simplest form, the new wave-function describes the magnetic situation in the heliosphere as a cumulative effect of $18 \times 22 = 396$ galactic magnetic waves (SSIN, SCOS), or periodic oscillations of galactic magnetic fields (Fig.1). The longest wave has a period of 12,018.466 magnetic years, the shortest one a period of 171.35 magnetic years. The magnetic year is 12 min 48.9 sec shorter than the sidereal year.

The computation of SSIN and SCOS is followed by the computation of $RTFI = F(DSIN, DCOS)$. For the sake of brevity, the computed changes (DSIN, DCOS) are named A(+,+), U(+,-), D(-,-), V(-,+) and O(0,0).

The secular sequence A/U is, for instance, the magnetic signature of global cooling ("Little Ice Age"). The predicted (computed) events and secular variations are in full agreement with historical, dendroclimatic and radiometric data.

FIG.1

Predicted Secular Variations



GEOLOGICAL CALENDARS

indicate the duration of strong global climatic anomalies in promille of the time. They are a perfect template for the paleontological and paleoclimatic record of the earth (see: Fig.8 on p.12).

ANOMALOUS WEATHER

is predicted by the function RTFI. The theorem of RTFI stipulates that the change (DSIN,DCOS) is most effective if $\pm$ DSIN = DCOS, and that its effect equals zero, if one of the two parameters (SSIN,SCOS) does not change.

Anomalous weather on a seasonal and monthly scale is predicted by our model GEO-S (64 points per year). The model offers three options for the choice of the shortest wave: 225.5, 139.4 and 86.15 days. Anomalies on a weekly scale are predicted by BIO-S (256 points per year). The shortest waves have periods of 53.25, 32.9 and 20.3 days.

The format of the predictions is shown in Figure 2. AAA* are the RTFI-values of the respective model; in AA⁺, the highest harmonics are omitted; in A⁻, the second-highest harmonics are omitted as well. DSIN and DCOS are needed to distinguish 'A' from 'D' and 'U' from 'V'. SSIN and SCOS appear in a separate list.

METEO-H and METEO-S are extensions of these models to still shorter wavelengths. In METEO-H, the shortest waves have periods of 7.8 days, 4.8 days and 71.2 hours; the values for METEO-S are 71.2 hours, 44.0 hours and 27.2 hours. The shortest wave of METEO-S is 1/24 of a Carrington rotation of the sun (27.2 days), and also a quasi-harmonic (1/26) of the synodic period of the moon (29.5 days) (Fig.3).

The longest wave of KAPPA-K has a period of 1422 days, and the shortest one a period of 27.2 hours (Fig.4).

METEO-H, METEO-S and KAPPA-K are used for our world-wide magnetic classification of atmospheric circulation patterns, and for the prediction of magnetically controlled rapid changes of the meteorological situation. The three models are also used to predict regional climatic anomalies of the future.

MAGNETIC DISTURBANCES AND STORMS

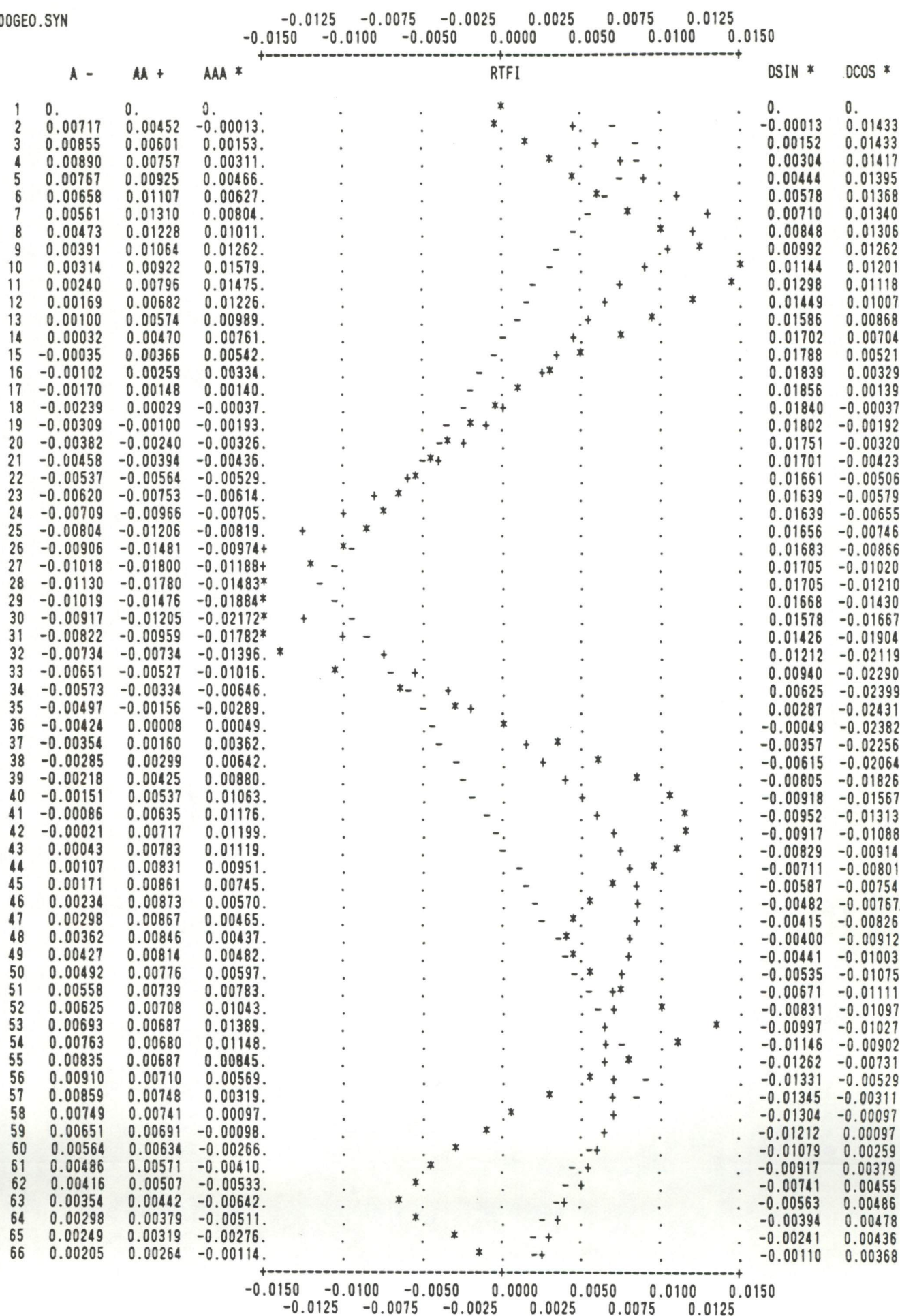
are predicted with MODEL-D, MODEL-M and MODEL-MS.

The longest wave of MODEL-D has a period of 43.077 magnetic years, and the shortest one a period of 3.968 hours - which is the average recurrence period of polar magnetic disturbances (Davis and Sugiura 1966).

MODEL-M uses periods between 30.27 days and 91 minutes. It simulates the displacement of the magnetic equator of the 'source surface magnetic field' of the sun, and is used to compute the timing of major disturbances of the solar magnetic field (Fig.5). MODEL-M is also needed to predict the probable energy balance of solar-terrestrial magnetic coupling, that is, to predict global warming and/or global cooling.

MODEL-MS is a combination of MODEL-M and MODEL-D. The longest magnetic wave has a period of 43.077 magnetic years, the shortest one a period of 91 minutes. MODEL-MS is used for the prediction of magnetic storms on the sun, in space and on earth. The technique is described in our public report P89-01 (Mayr 1991).

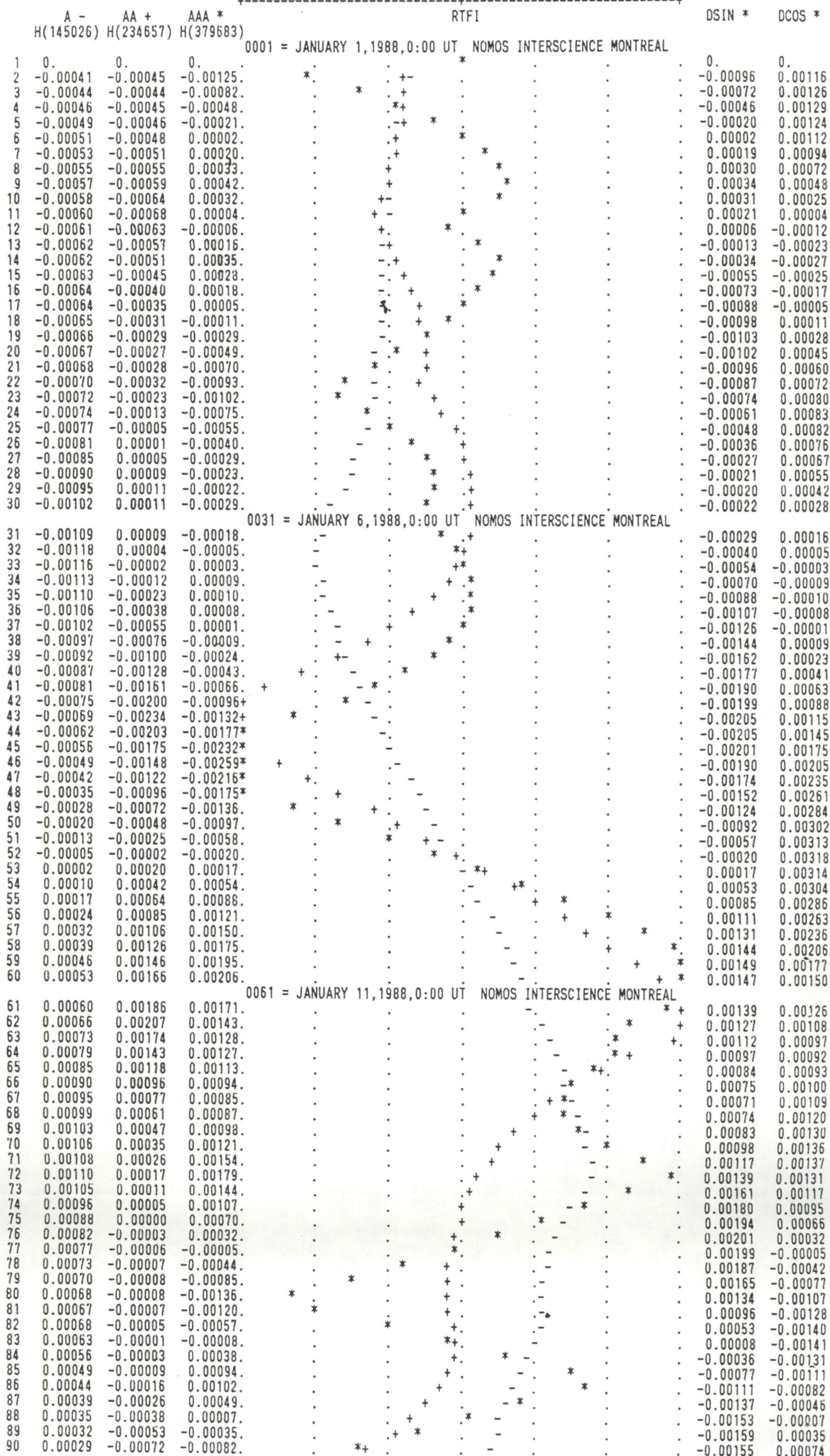
A0700GEO.SYN



METEO-H

FIG.3

A1988MFC.SYN



Kappa-K

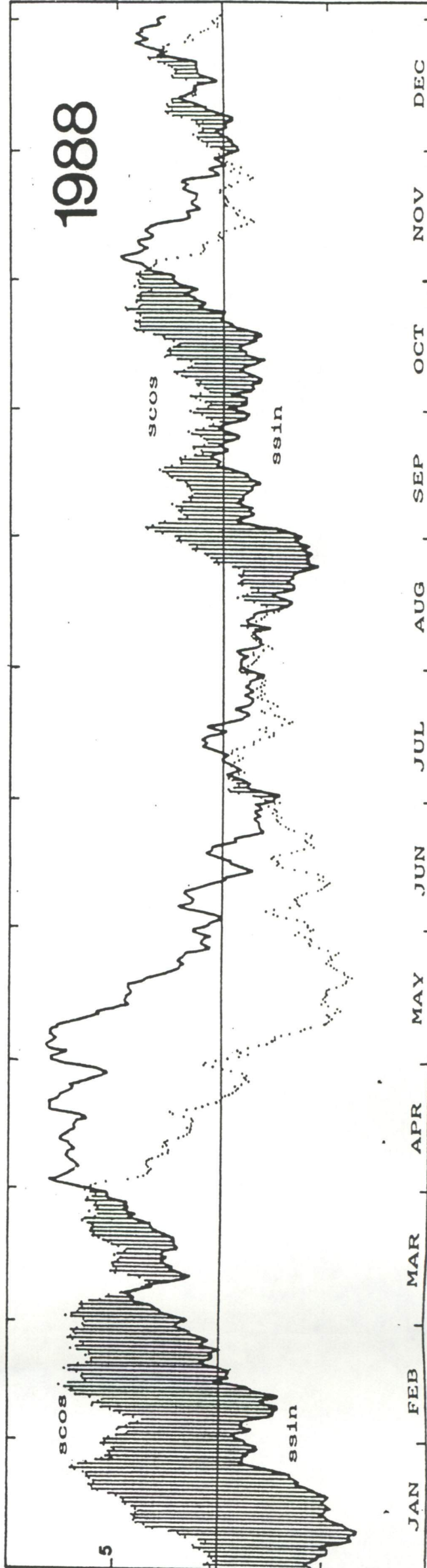
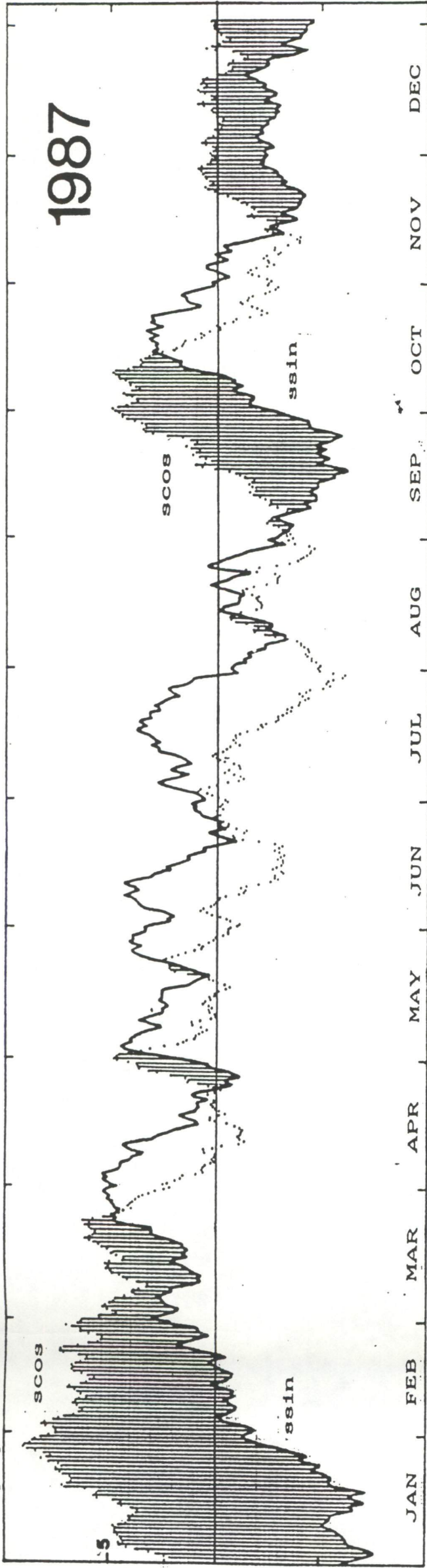
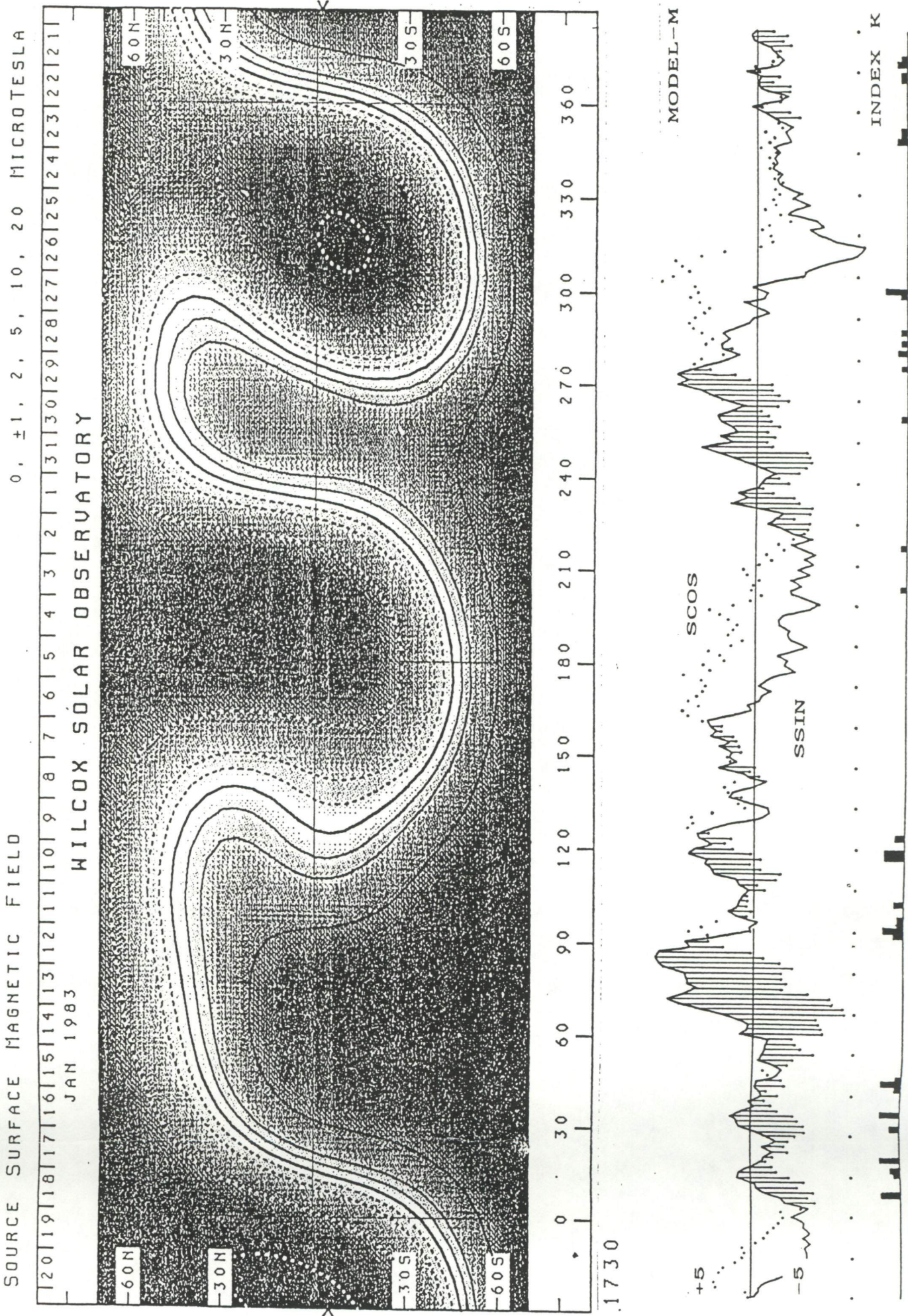


FIG.5



There was a time, when topographic maps were made without or almost without any use of geodetic instruments. These maps were beautifully coloured, but useless for any kind of planning.

Today's geological diagrams are beautifully coloured and as precise as topographic maps; but their timescale is, at best, elastic and unreliable.

The diagrams of the future will be precise in all dimensions.

Computed Geology

"Automated Stratigraphic Correlation" (Fig.6) is a catchy title and the book is well written (Agterberg 1990); but, is this really all that Physics, Mathematics and Astronomy can contribute to Geology?

What is the real time difference between two stratigraphic boundaries? The answer is given by our computed geological and paleomagnetic calendars.

FIG.6

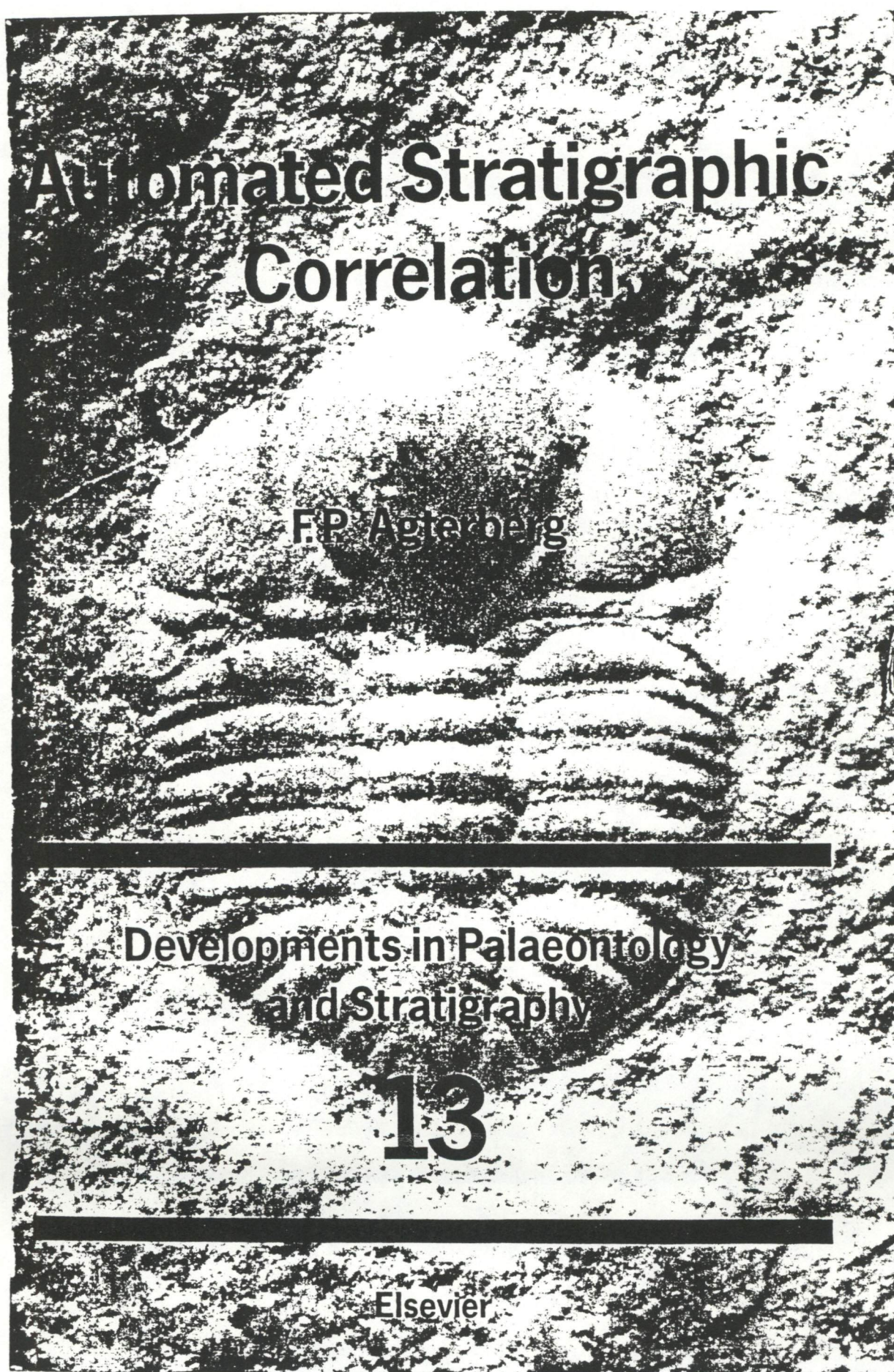
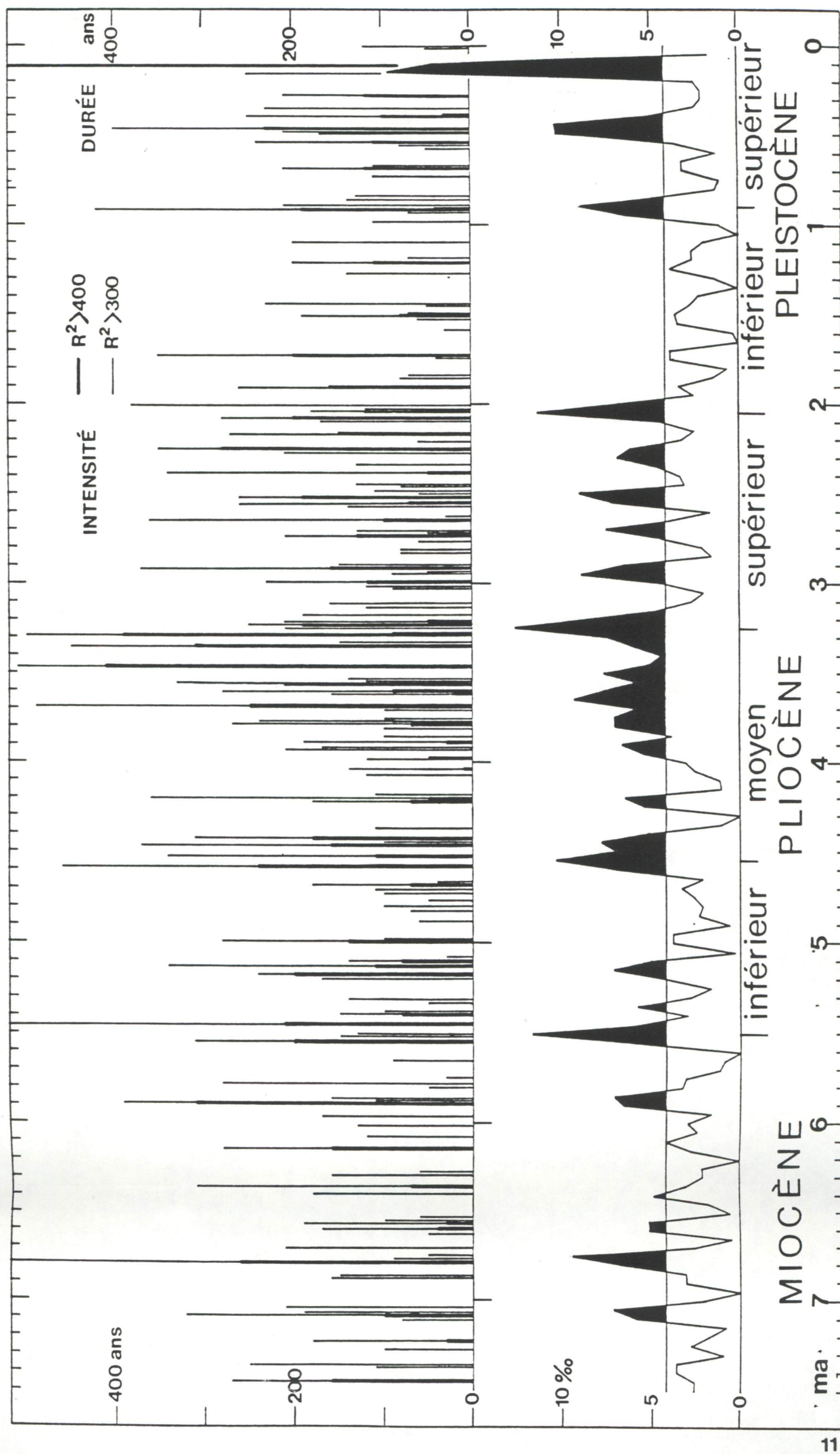


FIG.7



GEOLOGICAL EPOCHS can be defined on the basis of SCOS, the sum of cosines of our general model (see page 3), but geological and geomagnetic calendars need both functions (SSIN, SCOS) and give, in return, more specific informations.

THE GEOMAGNETIC CALENDAR is, in principle, a listing (simplified graph) of computed (paleo)magnetic events. Although the definition of an event is somewhat arbitrary, it can be adapted to include all events that are known to have occurred on several continents. In the case of Figure 7, a period of several hundred years with $R^2 = SSIN^2 + SCOS^2 > 300$ units (of Fig.1) was found to include all of the known paleomagnetic events of the past 5 million years.

Many of the already known events were true polarity events leading to a reversal of the magnetic poles of the earth; all of them were periods of a very disturbed climate leaving unmistakable traces in the geological record.

Each of the predicted events is known from geological profiles, and none was found to exist which is not predicted in the present diagram. The diagram is, therefore, a template for magnetic stratigraphies with the additional advantage of an absolutely reliable timescale.

Magnetic events are, however, not the only efficient way to disturb and destroy ecological systems. Any short and strong climatic anomaly affecting one or more continents, and repeating itself 5 or 10 times within a few centuries, can be at the origin of irreversible changes or ecological catastrophes. Ecological catastrophes are an important mechanism in the evolution of animals and plants. They trigger migrations, favour the expansion of certain species and reduce the lebensraum of other species until some of them become, locally or globally, extinct.

THE GEOLOGICAL CALENDAR of Figure 8 summarizes the frequency (relative duration) of these short and strong climatic anomalies during the past 4.8 million years. It can easily be seen that the number of ecological catastrophes was highest 3.7 million years ago. This was, to the best of our knowledge, the period that favoured the most intelligent breeds of the Pongides, and led to the irreversible creation of our man-like ancestors.

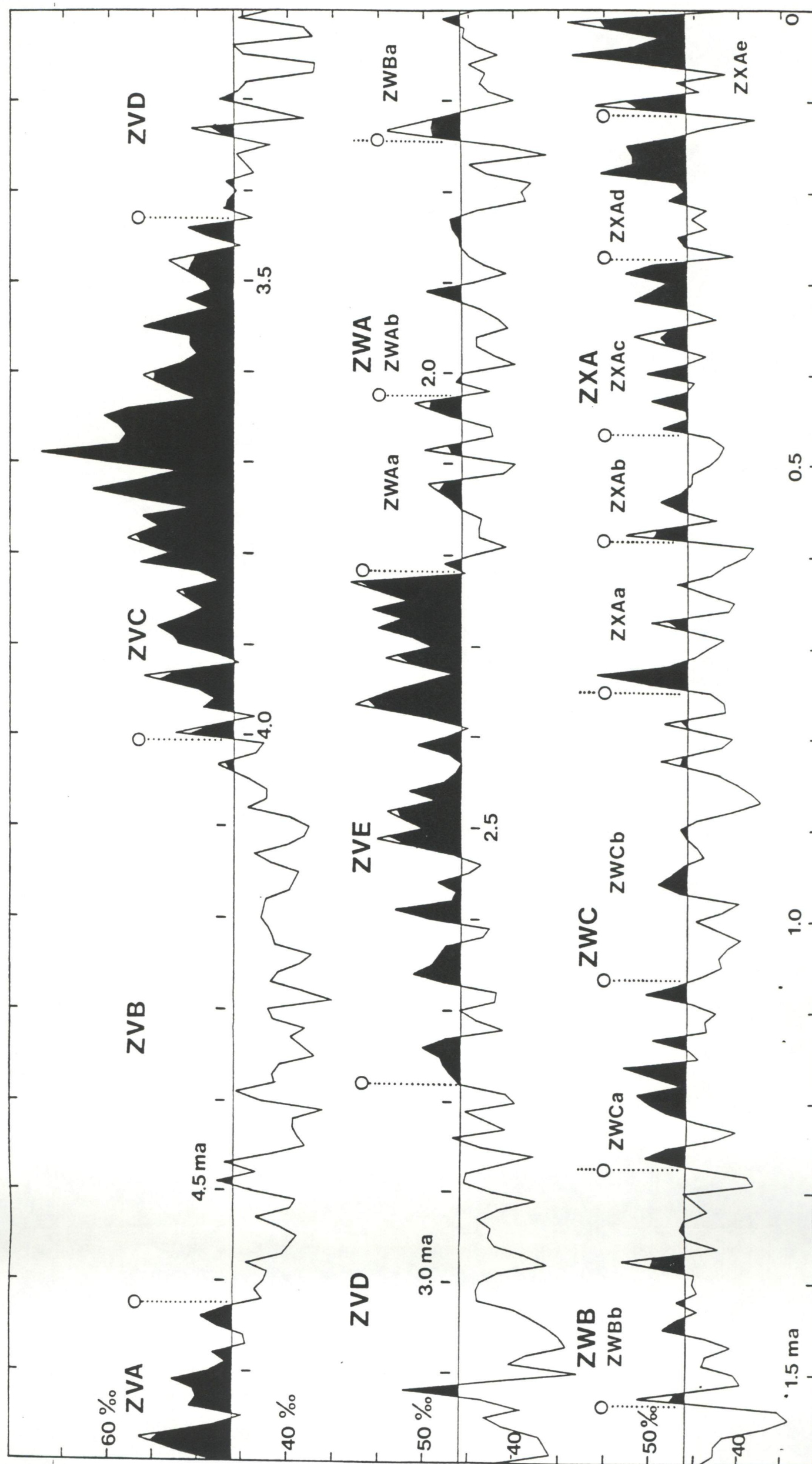
It can also be seen that the number of ecological catastrophes was the lowest 3.1 million years ago. This was the short interval of optimal climatic conditions along the coasts of Siberia, and the very moment when mussels of the Bering Sea migrated to Northern Europe.

According to these computations, the Pliocene began 5.34 million years ago and ended 2.22 million years ago. The number of ecological catastrophes during the Quaternary Period was never really high - except for the last 200000 years when an impressive number of species that had survived glacial and interglacial periods became extinct.

Every single one of the computed changes has left its traces in the geological record and has been described in geological publications. The diagram is, therefore, a template for stratigraphies based on ecological changes, with the additional advantage of an absolutely reliable timescale.

The usefulness and general importance of these 'calendars' can hardly be overestimated.

Source: Calendrier des Savants (Montreal, Nomos Interscience, 1985); Nomos Interscience Open File Report A86-01.



150 years ago, the most respected scientists of the world did not believe that climate could ever have been much different from the climate of today. Impeccable evidence of a true ice-age was ridiculed and rejected.

Under these circumstances, Faraday's knowledge of undisputable links between magnetism and climate (Phil. Trans. Royal Soc., 141, 1851) was simply lost. Even 130 years later, the word 'magnetism' did not appear in any treatise on the physics of the atmosphere.

150 years from now this will be totally incomprehensible.

Magnetism and Weather

The existence of a causal link between magnetism and weather is now known for almost 140 years (FARADAY 1851), but the true dimension of the problem, the intricate pattern of physical relationships between weather and magnetism on earth, magnetism on the sun and magnetism in space was only discovered during the past 15 years (BUCHA 1976, MAYR 1976-90).

The principal facts are, however, simple and can be easily understood:

1. The earth is the only planet of the solar system with a high percentage of oxygen in its atmosphere. Oxygen is strongly paramagnetic, that is, it will move under the influence of variable magnetic fields. As a result of this property of oxygen, the atmospheric circulation on earth is different from the atmospheric circulation on any other planet.
2. The next important fact is the tubular structure of the photosphere of the sun. Electromagnetic waves which are emitted vertically (=perpendicular to the solar surface) are much more efficient than waves emitted in any other direction. Strong magnetic fields at the center of the visible solar disk disturb the magnetosphere and the atmosphere of the earth; equally strong magnetic fields in other parts of the sun have little if any effect upon our terrestrial environment.
3. The third important fact is the continuous but variable flux of galactic particles and radiation which disturbs both, the sun and the earth. Most of the radiation comes from the center of our galaxy, and its effects upon the sun (solar magnetic events) and the earth are now predictable.
4. Finally, there is a geometrical aspect which must not be overlooked. The peak intensity of radiation from the sun occurs, as we know, always around local noon. The angle of incidence varies with the apparent position of the sun in the sky. The peak intensity of galactic radiation occurs around local noon only in December. In March it occurs around 6 a.m., in June around midnight, and in September around 6 p.m. . The angle of incidence depends on the geographic latitude of the station. The geographic latitude of the station determines also the relative importance of solar and galactic influences.

The enclosed maps describe two pairs of antagonistic situations:

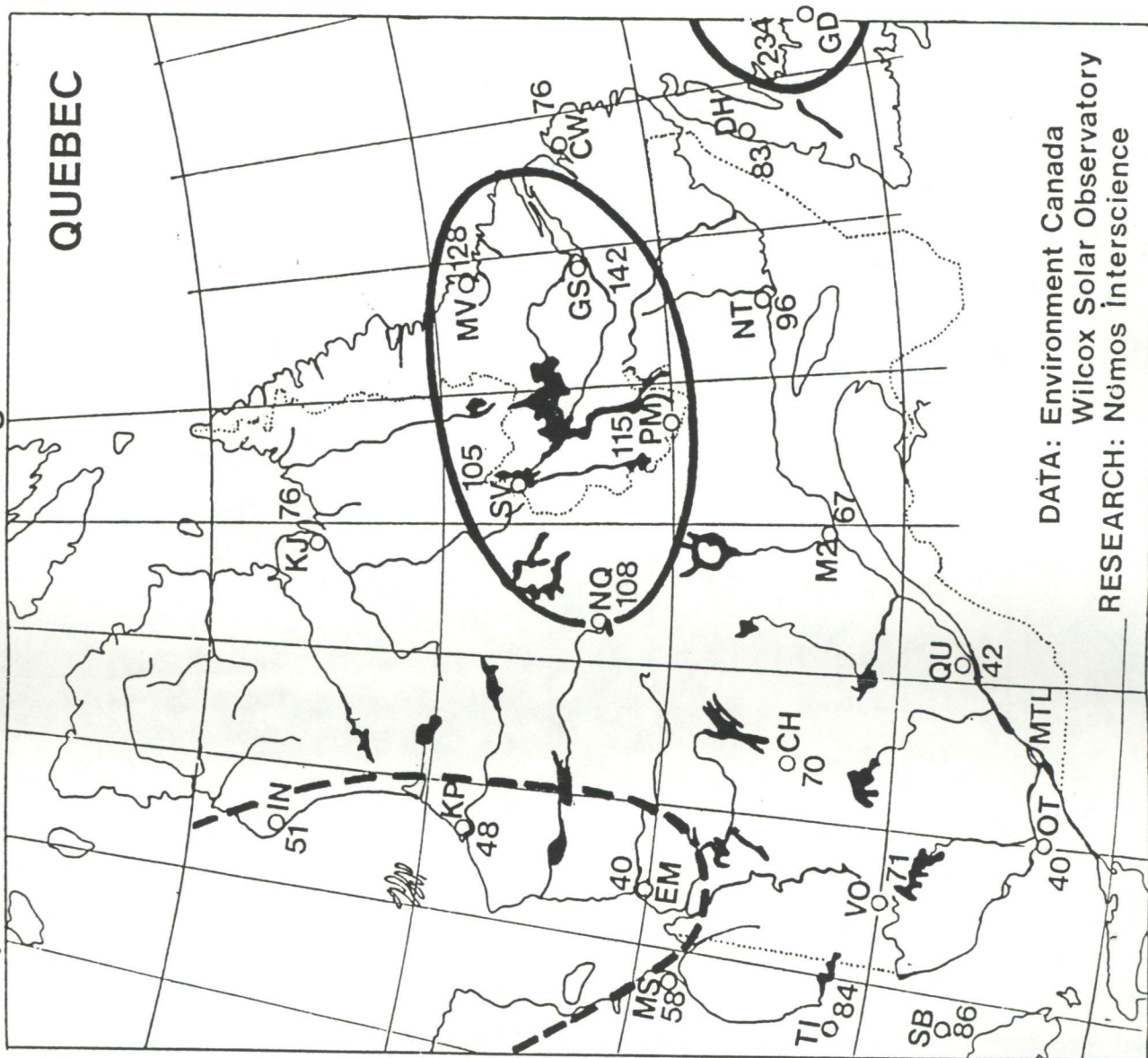
- a) Solar-positive days, with strong (~1000 micro-Tesla) positive magnetic fields at the center of the sun and inconspicuous changes of the predicted galactic magnetic field (Fig.9)
- b) Solar-negative days, with strong (~1000 micro-Tesla) negative magnetic fields at the center of the sun and inconspicuous changes of the predicted galactic magnetic field (Fig.9)
- c) Solar-neutral days, with weak (~100 micro-Tesla) magnetic fields at the center of the sun and rapid changes of the predicted galactic magnetic field. Type of change: AA (+,+)(Fig.10)
- d) Solar-neutral days, with weak (~100 micro-Tesla) magnetic fields at the center of the sun and rapid changes of the predicted galactic magnetic field. Type of change: DD (-,-)(Fig.10)

The choice of calendar dates was absolutely independent of any meteorological or geomagnetic database.

For the sake of simplicity, the parameter is "precipitation", in percent of the normal average value. The average values are based on the same set of days and on the same set of years (1976-89) as the sample. (Nomos Interscience Internal Report 1990/6, Magnetism and Climate in Quebec).

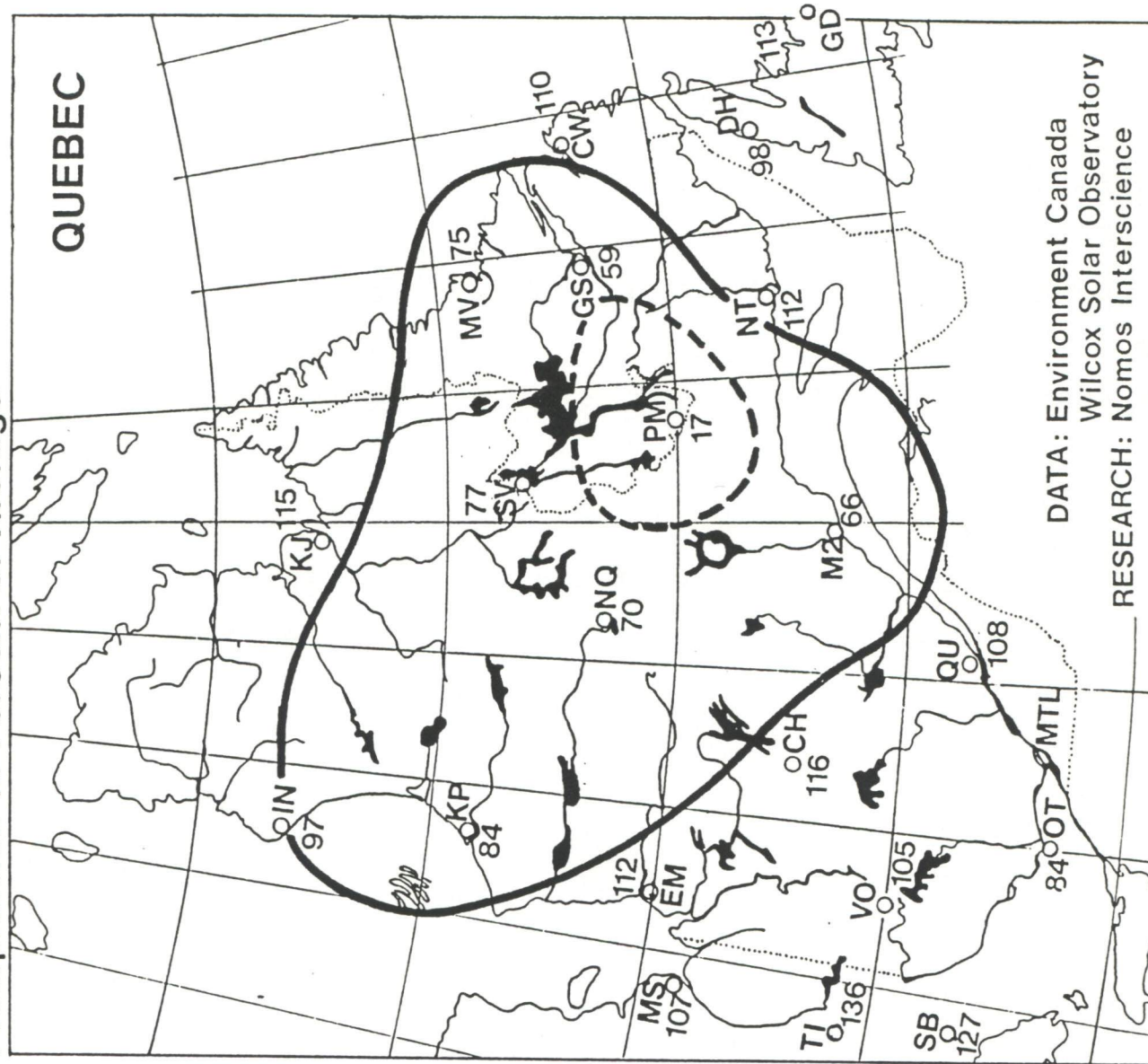
SOLAR MAGNETISM AND WEATHER
 Solar-positive Days; Winter;
 Precipitation in Percent of Average

Fig.1



SOLAR MAGNETISM AND WEATHER
 Solar-negative Days; Winter;
 Precipitation in Percent of Average

Fig.2

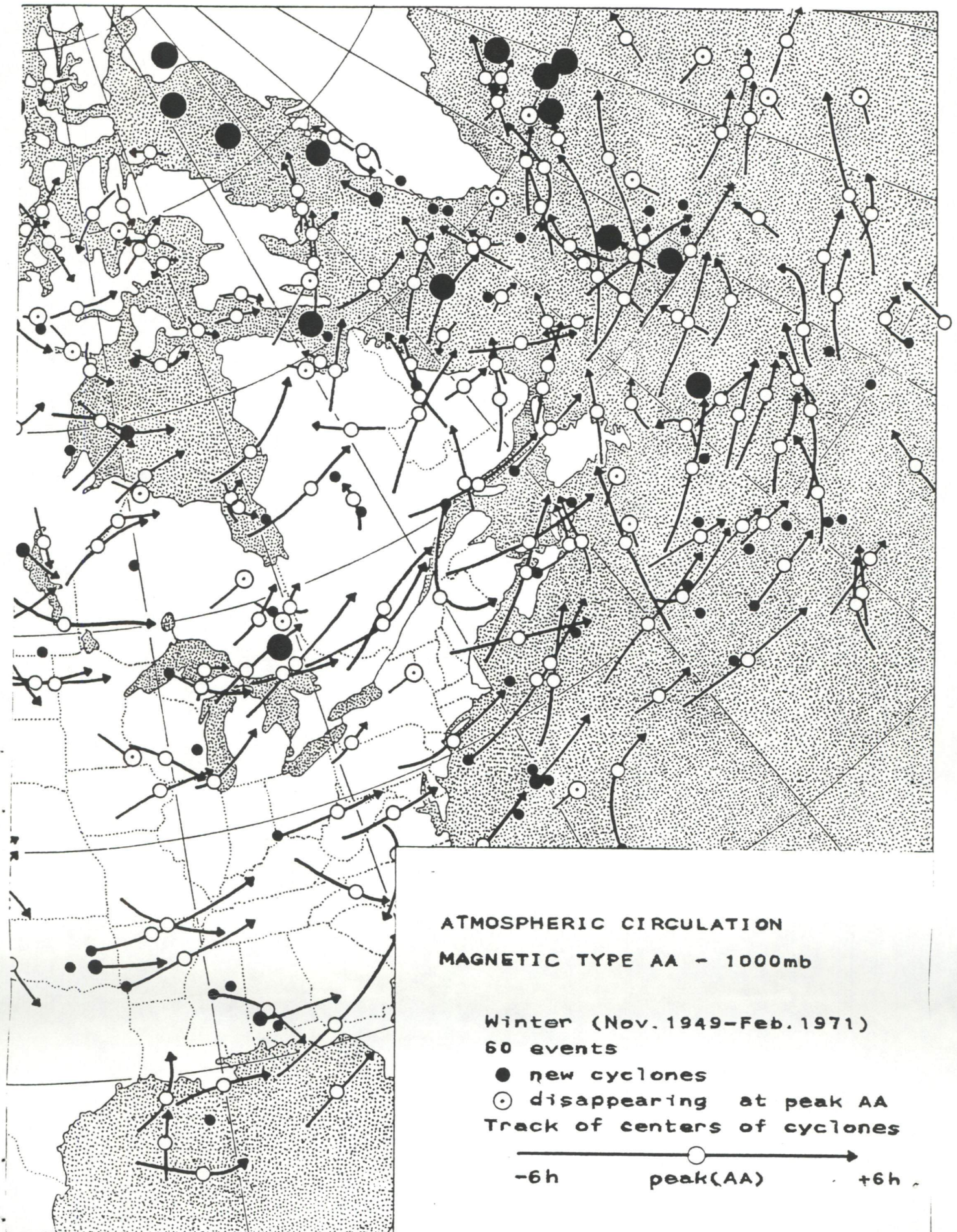


Magnetic Forecasting

The models of Nomos Interscience predict magnetic situations for any date, past or future. If the sun is very active, some of these predictions may become invalid or inaccurate. All of them must, however, be translated in order to be understood by the user.

The techniques of "translation" are described in our report P91-01 ("The Climatic Monitor of Nomos Interscience") and in a published paper on "The Magnetic Monitor of Nomos Interscience".

FIG.11



From: F.C.MAYR, A Discourse on Meteorology and Magnetism.
 Nomos Interscience Internal Report 1990/04.

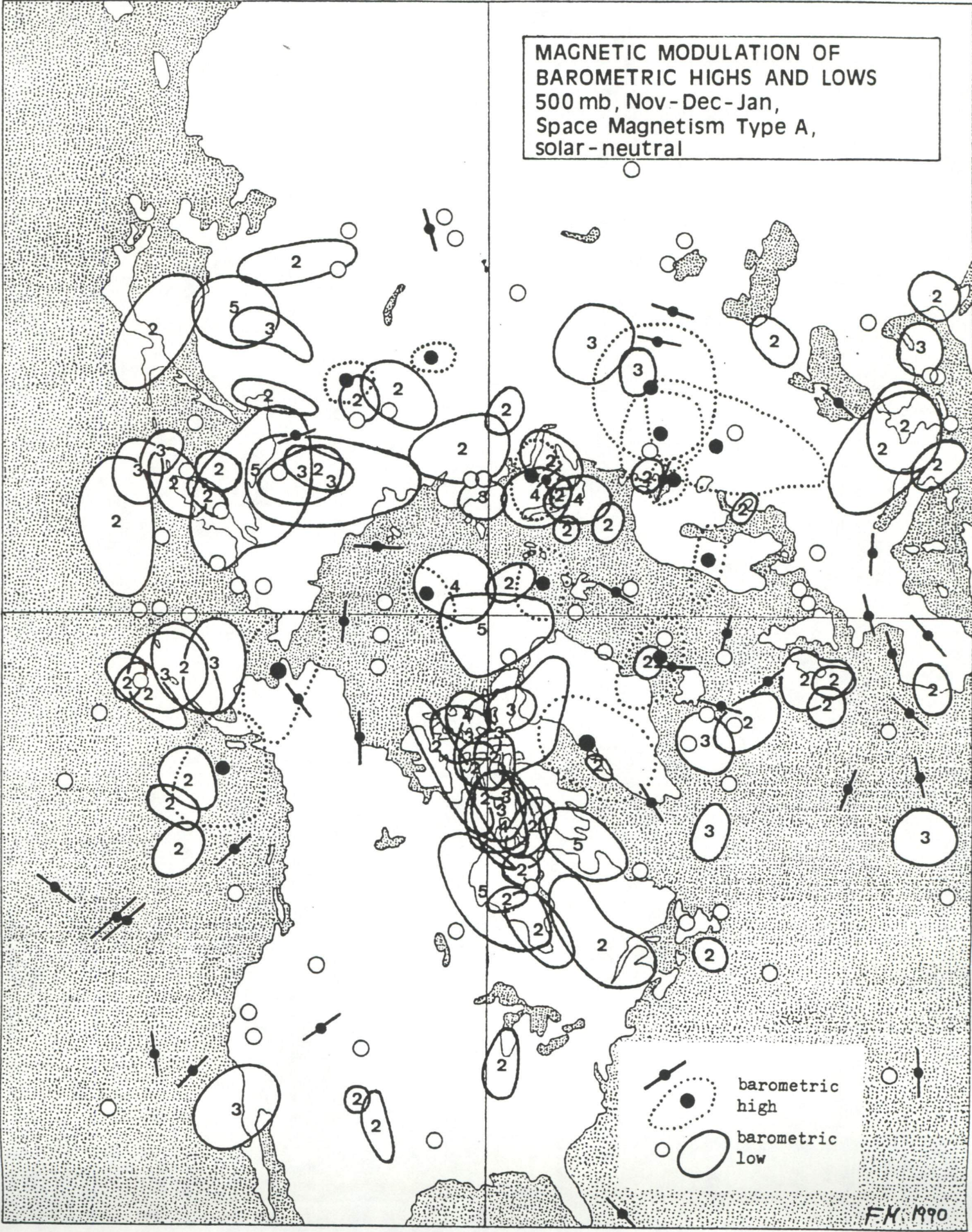


Fig.9: Magnetism and Meteorology. - Position of barometric highs and lows (500 mb, Nov.-Dec.-Jan.) on 17 days dominated by galacto-terrestrial magnetic coupling of type A(+,+).

The method of "translation" depends on the needs of the user.

The SYNOPTICAL APPROACH is used to predict probable departures from the average value (of temperature, precipitation, wind) for the respective day of the year. The maps should cover a major area so that trends and patterns are clearly visible (Fig.9,10).

Space magnetism of type AA (Fig.10/1) brings, for instance, heavy precipitation to the southern part of Hudson Bay and above-average precipitation to most parts of Quebec and Labrador; but the negative anomaly between Schefferville (SV) and Natashquan (NT) is persistent, and the minimum at Poste Montagnais (PM) cannot be disputed away: it is significant and does exist. By contrast, space magnetism of type DD (Fig.10/2) brings dry weather to most parts of Quebec. Precipitation drops to about 30% of the normal average; only the southern end of Hudson Bay will receive enough snow, while Newfoundland will claim to have normal conditions.

The HISTORICAL APPROACH of Figure 11 enables the meteorologist to reduce the dreaded displacement error to a fraction of its present value. If the position and motion of a cyclone is known, its behaviour during the following magnetic anomaly (e.g. peak of type AA) will not come as a surprise. The most annoying aspect of present weather-forecasting - its occasional or frequent failure to predict what will happen within the next 12 hours - will disappear.

Atmospheric conditions at sea-level do, however, not necessarily reflect conditions in the upper parts of the troposphere. Figure 12 shows, therefore, the same situation as Figure 11, but higher up in the atmosphere (500 mb) and on a hemispheric scale. Closed lines indicate the shape of the observed barometric lows; the numbers are a measure of their relative intensity. Black dots and stippled lines signify barometric highs.

The DYNAMICAL APPROACH puts the observed facts into a global, or at least hemispheric context.

A solar-neutral magnetic situation of type AA (Fig.12) will, for instance, create or enhance a major barometric low somewhere between the north magnetic dip-pole and the southern part of Hudson Bay. The position, shape and size of this barometric low will determine what is going to happen in the Kara Sea, in Kamtschatka and around the Aleutian Islands. Atmospheric pressure over the United States and Europe will adjust itself accordingly.

A solar-positive magnetic situation of type OO (Fig.13) will have quite different effects. Cyclonic activity in Eastern Canada will shift to the east and include Newfoundland and the Maritimes. The pacific part of the Arctic Basin will probably be dominated by a barometric high; cyclonic activity in Eastern Asia will be centered around the Kurile Islands.

Figure 12 and 13 help us to understand why the trends and patterns in Figure 9/1 and 10/3 are miles away from randomness.

And this is what counts: it makes our predictions useful, reliable, and perhaps vital for the successful planning of many operations.

From: F.C.MAYR, A Discourse on Meteorology and Magnetism.
 Nomos Interscience Internal Report 1990/04

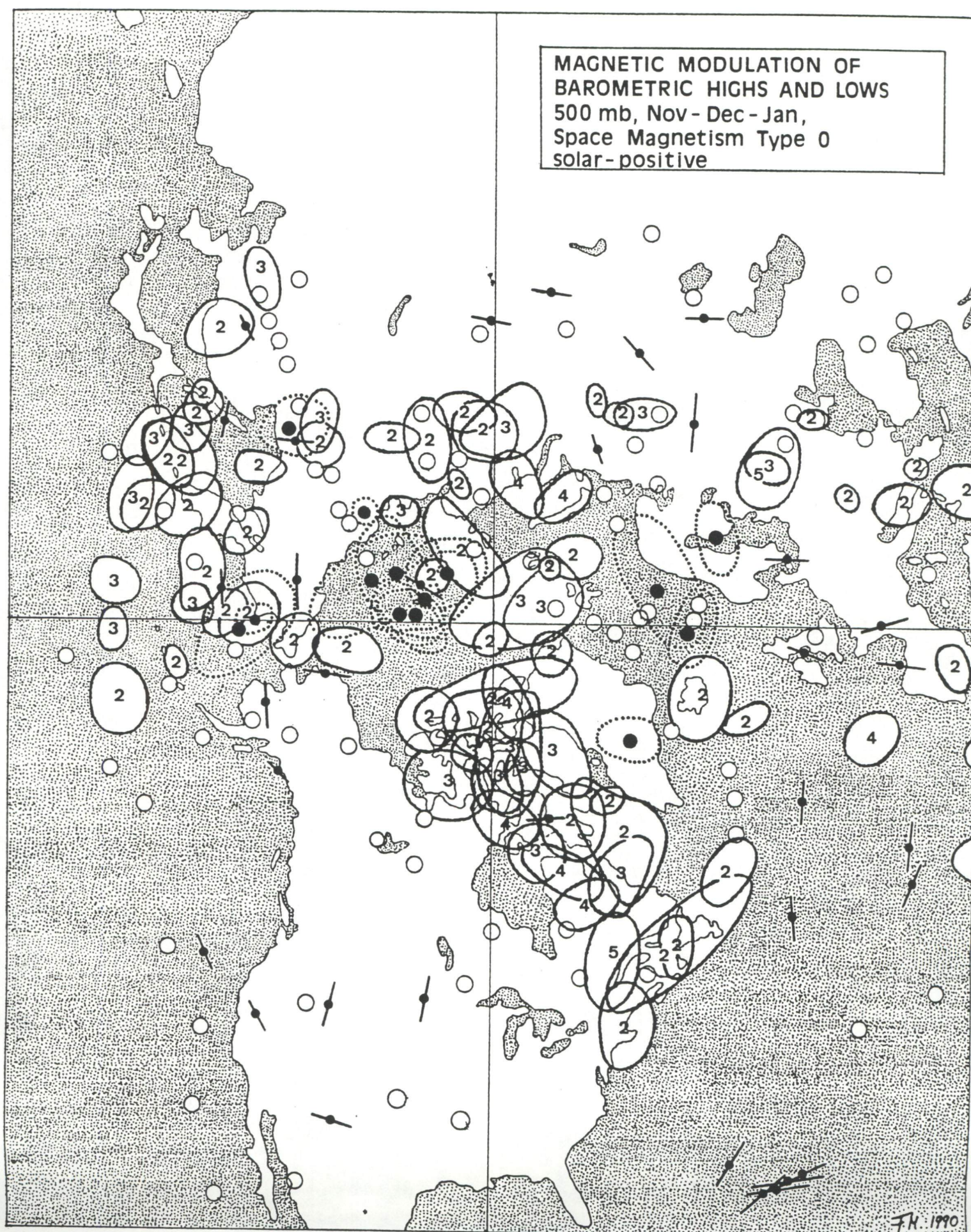
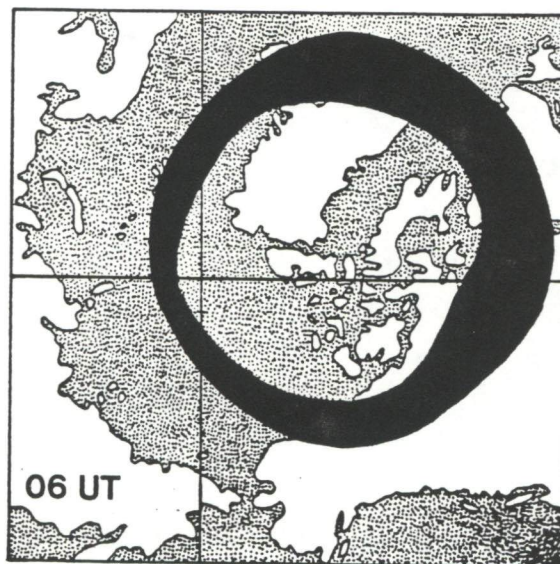


Fig.7: Magnetism and Meteorology. - Position of barometric highs and lows (500 mb, Nov.-Dec.-Jan.) on 19 days dominated by solar-terrestrial magnetic coupling (solar-positive).

Major magnetic storms have played havoc with North-American electrical utility systems for more than 140 years, and the latest event of this kind, on March 13, 1989, did not exhibit a single feature that was not known from previous cases.

Unfazed by the lessons of the past, Hydro-Quebec plans to build more powerplants at the most dangerous site on earth, in the immediate vicinity of the auroral oval, where ionospheric electrical currents of up to one million amperes are orbiting the magnetic poles of the earth.

Auroral Oval



Solar Magnetic Events

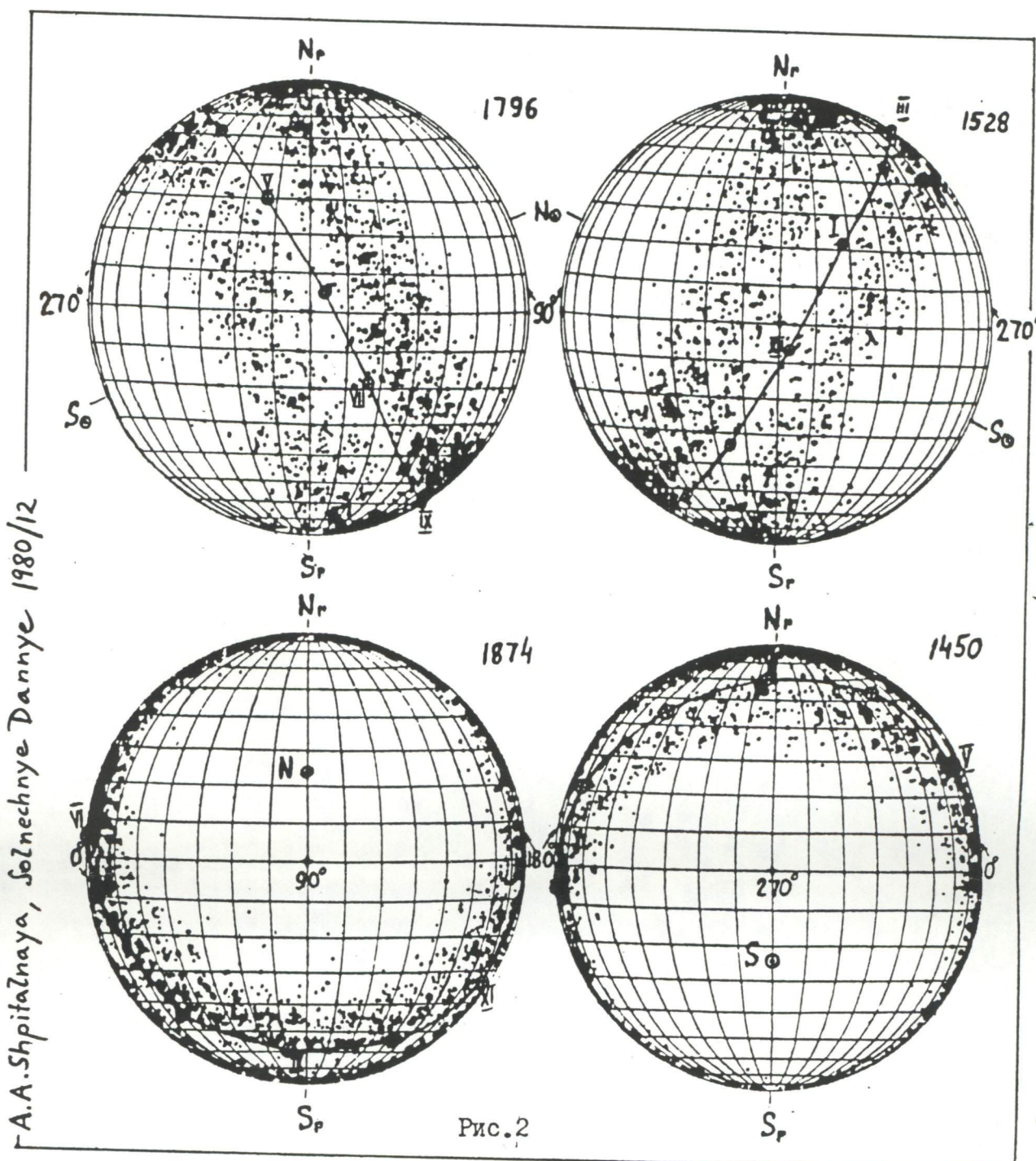
Solar magnetic events occur about once a week and usually last a day or two. They affect the entire chromosphere of the sun, lead to spectacular anomalies in the rotation rate of magnetic structures, and may even temporarily wipe out certain features in the uppermost parts of the photosphere.

Solar magnetic events do not occur at random. They are of external, galactic origin (Fig.15) and can be predicted for any date, past and future. The correct prediction of solar magnetic events is the scientific basis for the prediction of magnetic storms in space and on earth (Fig.16).

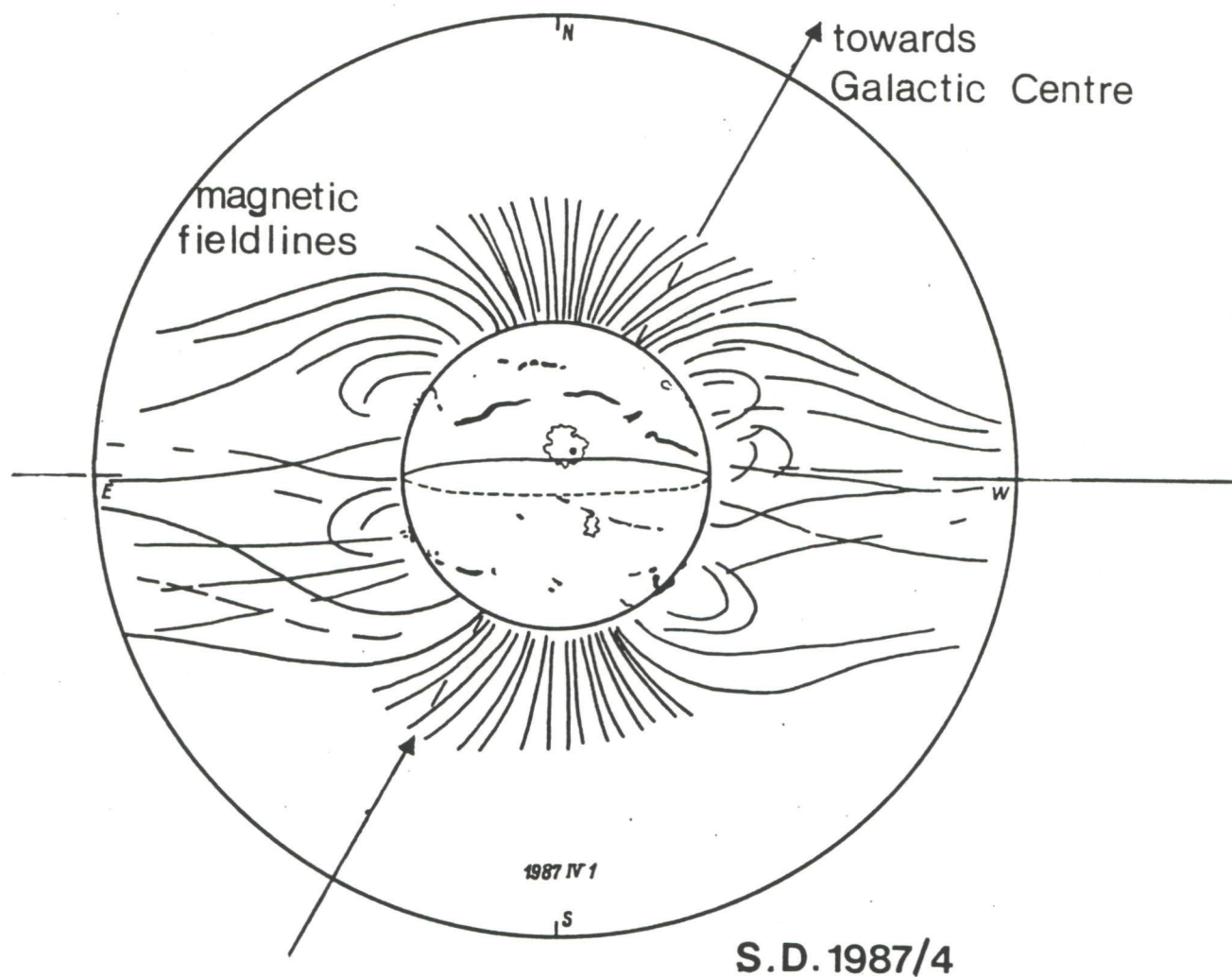
This entirely new, galactocentric view of physical processes in the solar system is also imposed by the discovery that solar flare activity is symmetric relative to the galactic equator, strongest in the direction centre-anticentre of the galaxy, and significantly asymmetric to the left and to the right of this axis (Fig.14, from: A.A. Shpitalnaya, Solnechnye * Dannye 1980/12).

*(Solnechnye Dannye is the Solar Bulletin of the Soviet Academy of Sciences; it is virtually unknown to western scientists). (Nomos Interscience Public Report P88-01).

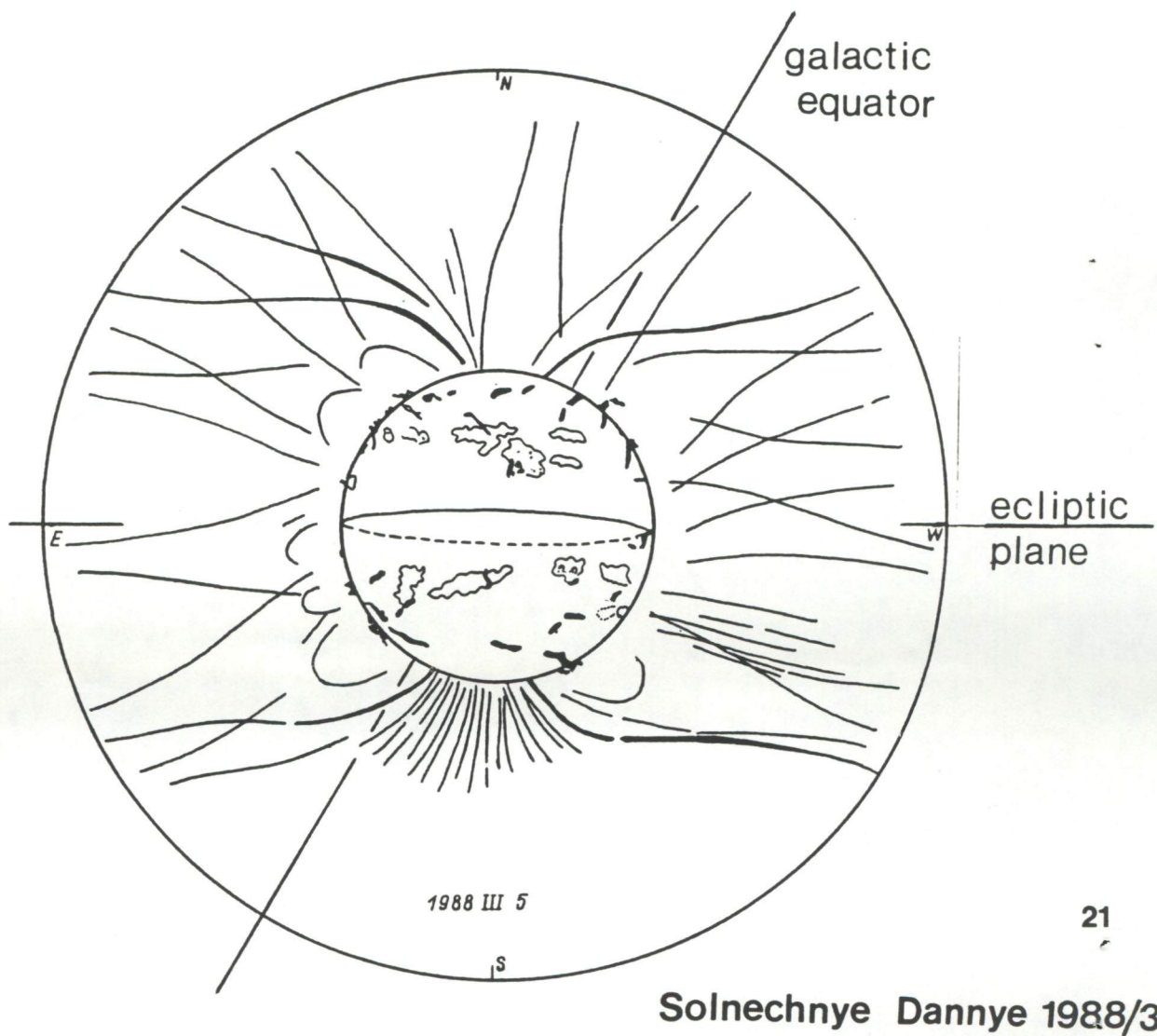
FIG.14



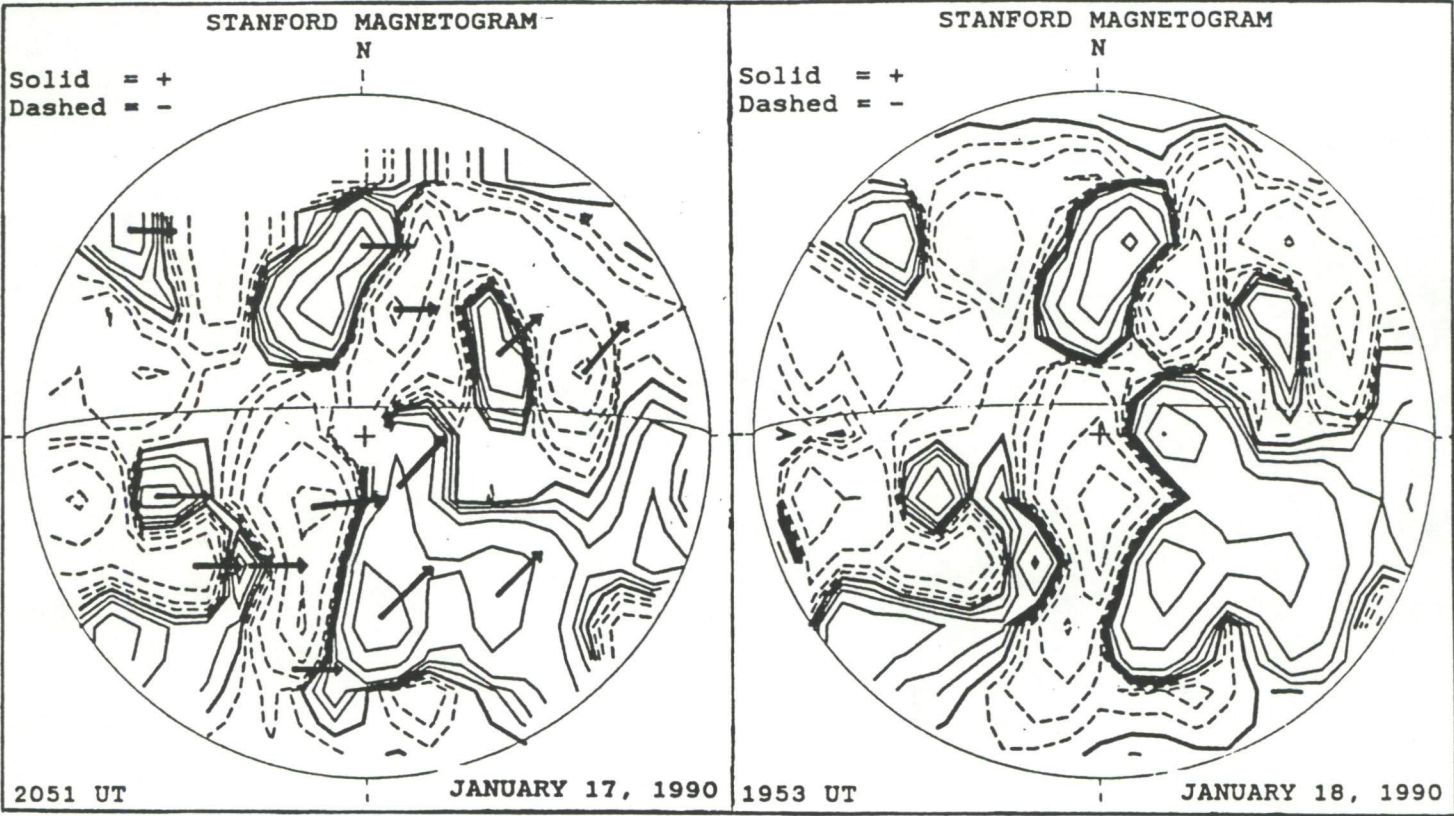
The Quiet Sun



Solar Magnetic Event



A MAGNETIC EVENT ON THE SUN



I	FBI	WI	WS	FBI (KM/S)					DSN	DCS	ROI		
FILE=B120U120.INT				0	500	1000	1500	2000	2500	3000			
829 = JAN.18,1990,00:00-00:30 UT ; 48 PPD ; ASSUMED HELIOSPHERIC PERIMETER: 120 LIGHT-HOURS; (C) 1990 NOMOS INTERSCIENCE MONTREAL													
816	68.5	85.6	*	.	.	.	.	.	.	.	5554	8256	10.537
817	173.5	180.0	.	.	.	.	.	.	.	.	9310	10968	15.170
818	222.0	219.2	.	.	.	.	.	.	.	.	9564	15561	19.742
819	324.3	296.9	.	.	.	.	.	.	.	.	11774	15545	21.622
820	293.3	273.9	.	.	.	.	.	.	.	.	10085	12775	18.766
821	371.4	330.9	.	.	.	.	.	.	.	.	20193	13793	24.776
822	654.3	520.6	.	.	.	.	.	.	.	.	17508	32055	40.350
823	1287.9	894.9	911.1	.	.	.	.	.	.	.	25083	45257	54.759
824	2441.1	1492.5	1352.1	.	.	.	.	.	.	*	30520	37041	56.464
825	2071.3	1308.8	1323.5	.	.	.	.	.	.	.	38843	27922	51.031
826	1899.2	1221.0	1221.1	.	.	.	.	.	.	.	29904	26875	46.008
827	1736.8	1136.7	1153.8	.	.	.	.	.	.	.	27136	31504	44.568
828	1773.4	1155.8	1174.0	.	.	.	.	.	.	.	34631	26672	48.239
829	2028.3	1287.0	1293.7	.	.	.	.	.	.	*	41328	30098	53.956
830	2390.3	1467.6	1390.3	.	.	.	.	.	.	*	31687	41533	56.985
831	1853.9	1197.6	1146.9	.	.	.	.	.	.	.	24008	42026	50.296
832	947.4	700.0	701.8	.	.	.	.	.	.	.	16876	25930	33.342
833	388.0	342.7	.	.	.	.	.	.	.	.	14255	12734	19.930
834	172.3	179.1	.	.	.	.	.	.	.	.	9258	7523	13.103
835	140.2	151.8	.	.	.	.	.	.	.	.	7511	8911	12.903
836	136.6	148.7	.	.	.	.	.	.	.	.	13411	6986	15.991
837	456.1	390.0	.	.	.	.	.	.	.	.	14582	15435	22.563
838	545.6	450.1	.	.	.	.	.	.	.	.	14519	25302	32.234
839	538.5	445.5	.	.	.	.	.	.	.	.	10466	35194	37.302
840	419.7	364.9	.	.	.	.	.	.	.	.	11043	33350	36.107
841	497.5	418.1	.	.	.	.	.	.	.	.	15044	25546	30.455
842	650.1	517.9	.	.	.	.	.	.	.	.	18079	19332	26.519
843	538.1	445.2	.	.	.	.	.	.	.	.	21769	14564	26.879
844	446.8	383.6	.	.	.	.	.	.	.	.	23641	13022	27.548
845	379.3	336.6	.	.	.	.	.	.	.	.	17547	11578	23.361
846	344.7	311.7	.	.	.	.	.	.	.	.	12277	11973	18.789
847	300.9	279.7	.	.	.	.	.	.	.	.	13931	10136	19.808
848	428.4	371.0	.	.	.	.	.	.	.	.	20223	14439	26.297
849	693.6	545.4	.	.	.	.	.	.	.	.	16823	21458	31.025
850	577.9	471.3	.	.	.	.	.	.	.	.	9331	27417	29.807
851	270.5	256.8	.	.	.	.	.	.	.	.	5677	27559	28.245
852	161.7	170.1	.	.	.	.	.	.	.	.	4437	31645	32.247
853	233.8	228.5	.	.	.	.	.	.	.	.	11762	41381	43.876
854	1401.2	957.3	877.9	.	.	.	.	.	.	.	27565	42092	55.401
855	2483.1	1513.1	1386.6	.	.	.	.	.	.	.	45360	33777	59.733
856	2175.1	1360.9	1294.0	.	.	.	.	.	.	.	38899	28347	52.493
857	1229.9	862.5	856.9	.	.	.	.	.	.	.	25858	18419	36.892
858	549.2	452.5	.	.	.	.	.	.	.	.	9681	17168	23.278
859	210.0	209.7	.	.	.	.	.	.	.	.	11440	7852	15.845
860	181.6	186.7	.	.	.	.	.	.	.	.	9032	9819	14.081
861	216.5	214.9	.	.	.	.	.	.	.	.	12778	10420	16.599
862	257.1	246.6	.	.	.	.	.	.	.	.	10557	16579	20.843
863	255.0	244.9	.	.	.	.	.	.	.	.	8480	21164	23.658
864	189.8	193.4	.	.	.	.	.	.	.	.	4047	19738	20.155
865	86.3	103.0	.	.	.	.	.	.	.	.	5030	16961	17.771
866	107.1	122.4	.	.	.	.	.	.	.	.	6021	23171	24.055
867	201.9	203.2	.	.	.	.	.	.	.	.	9747	35511	36.940
868	607.6	490.6	.	.	.	.	.	.	.	.	18563	42808	47.940
869	1739.8	1138.3	1000.6	.	.	.	.	.	.	.	29632	38002	50.481

Synchronous Events on Earth

If solar magnetic events owe their origin to variations of the galactic magnetic field, synchronous events should occur and be observable on planets like Jupiter and Earth.

Figure 17 illustrates the apparent coincidence between a geomagnetic storm in Russia and a 'filament event' on the sun. There is no lag between the two events, and the idea of a common cause cannot be dismissed a priori. But observations made at Canadian stations suggest that the relationship might not be simple (Fig.18).

In Southern Canada, a magnetic surge causing a sharp increase of the vertical component of the magnetic field was migrating from east to west. The time difference between St.Johns (Nfld) and Victoria (BC) was about 5 hours. As seen from the sun, this 'intensity bulge along the western limb of the Earth' was, therefore, a geostationary feature marking the duration of the event.

In the Auroral Oval, Churchill reported a spectacular drop of the vertical component of the magnetic field between 21 and 22 UT (=local afternoon). A temporary increase occurred a few hours earlier (April 3, 17-18 UT) and several hours later (April 4, 08-09 UT).

Stations within the polar cap (e.g. Resolute Bay) recorded the event in a still different fashion. The leading feature was a 'polar intensity bulge' on the following day (April 4, 15-16 UT). The 'bulge' was, again, geostationary; it lay beneath the zone of impact of the solar wind.

Canadian geomagnetic data support, therefore, the view that a geostationary system of ionospheric currents controls what will be observed on the ground. But this is not the whole story.

There was also a filament event on the sun on March 26, another one on March 29, and a third one on March 31. They occurred 3, 5 and 8 days before the magnetic storm on April 3.

Figure 18 summarizes the predicted rapid changes of the galactic magnetic field (Model-D) on March 26-28 (E2), on March 29-31 (S2), on March 31-April 2 (E1) and on April 3-5 (S1). The predictions agree very well with observed changes, in space and on the ground.

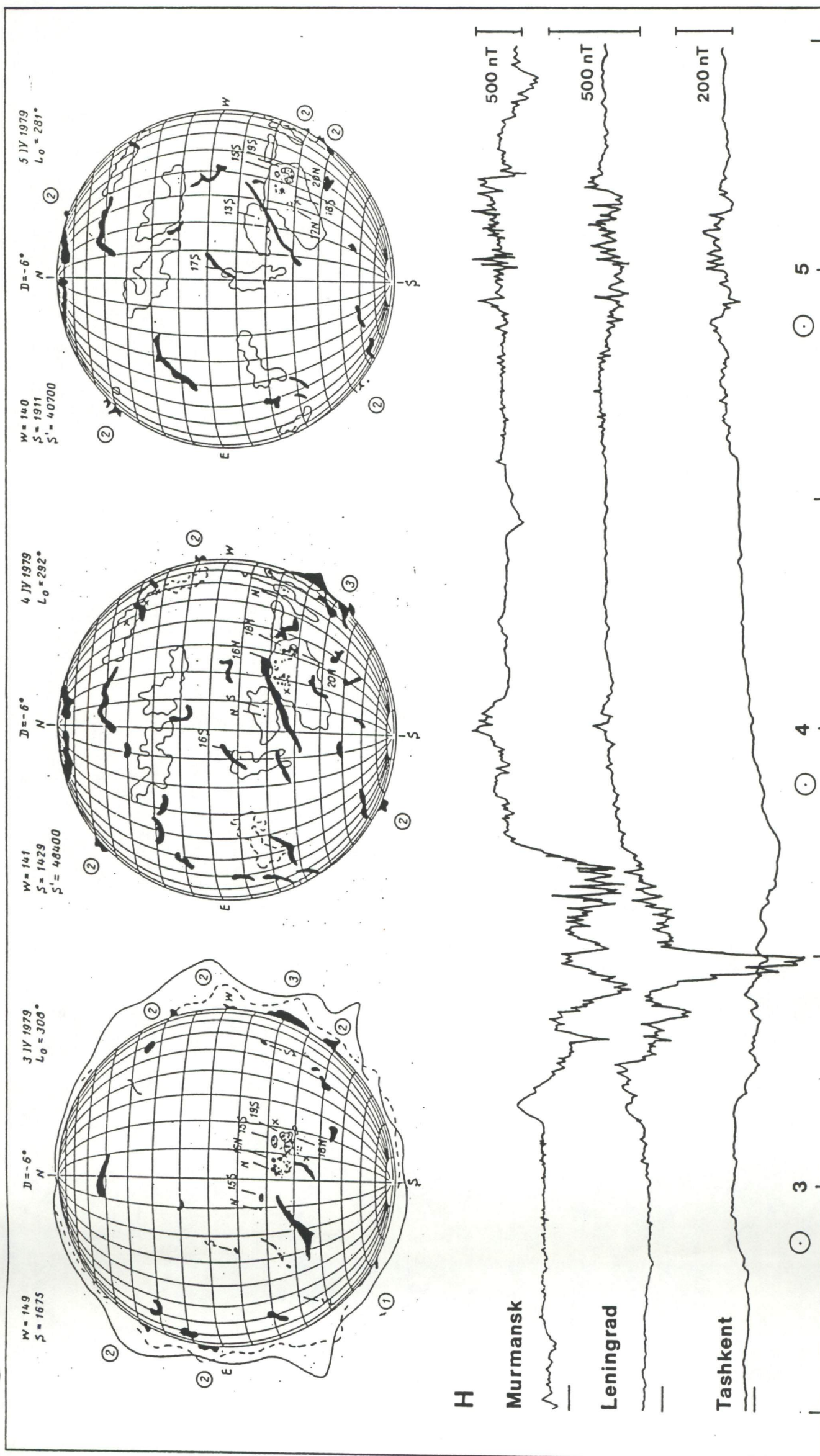
The response of the earth's magnetosphere to variations of the galactic magnetic field is, therefore, determined by the intricate pattern of interactions between S1, E1, S2 and E2. The variable geometry of the earth's magnetosphere and conductivity variations on and within the earth may complicate the picture without changing the fundamentals (F.C.Mayr, Solar Magnetic Events. Nomos Interscience Public Report P88-01).

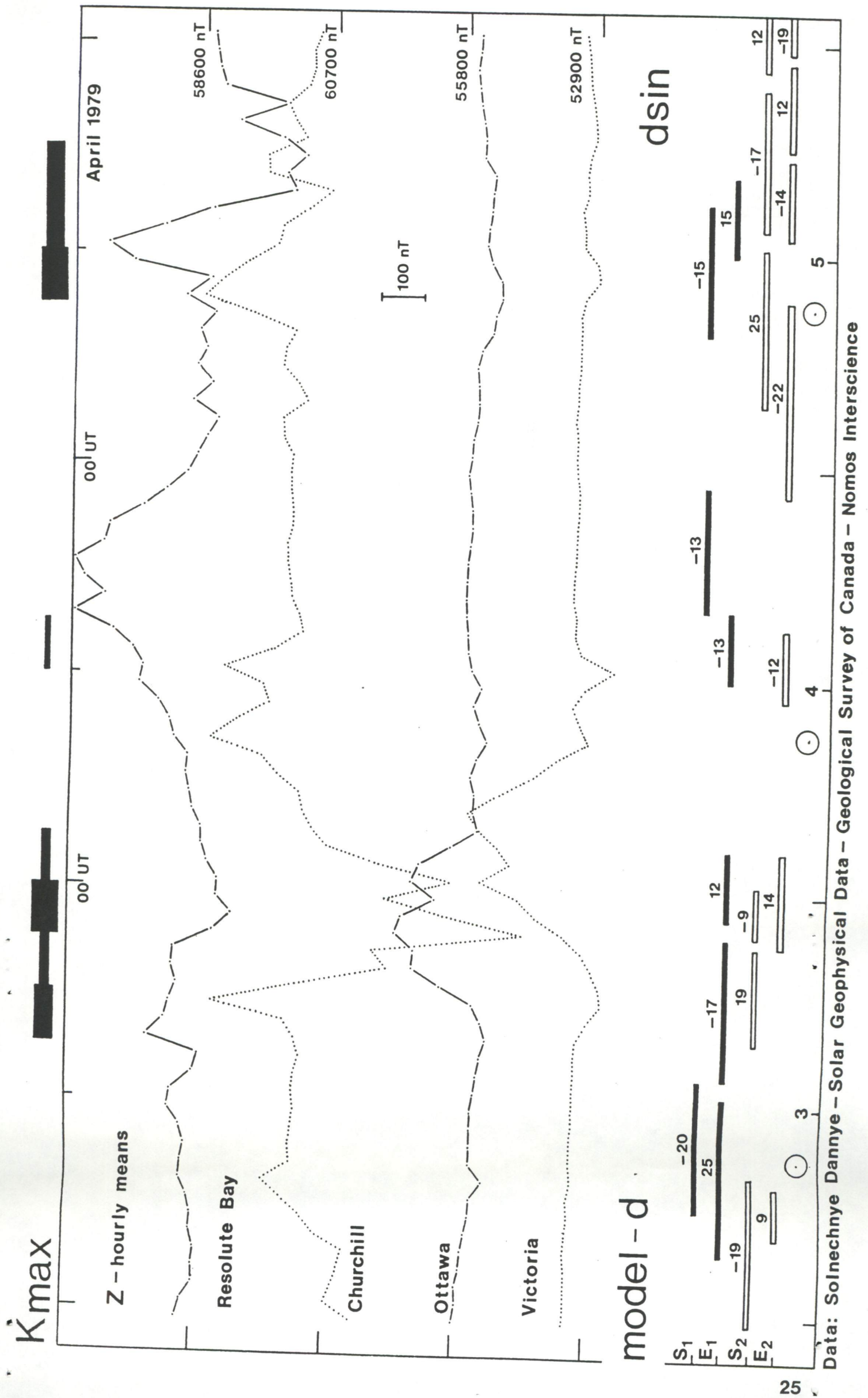
LEGEND: SOLAR DIAGRAMS FROM SOLNECHNYE DANNYE (Fig.17)

Filaments and prominences are drawn in black, areas of flocculi are surrounded by stippled, dashed or full lines. Sunspots appear as dots or black spots encircled by a full line, depending on their size and structure. The general state of the corona is indicated by the relative intensity of its green line (5303 Å = — 6374 Å = ---). Crosses mark the location of special measurements.

The heading of each map mentions the Wolf number of sunspots (W), the surface occupied by faculae (S) and flocculi (S') ($1 = s \cdot 10^6$), the tilt of the sun's axis of rotation (D), the date, and the Carrington longitude of the central meridian (L₀).

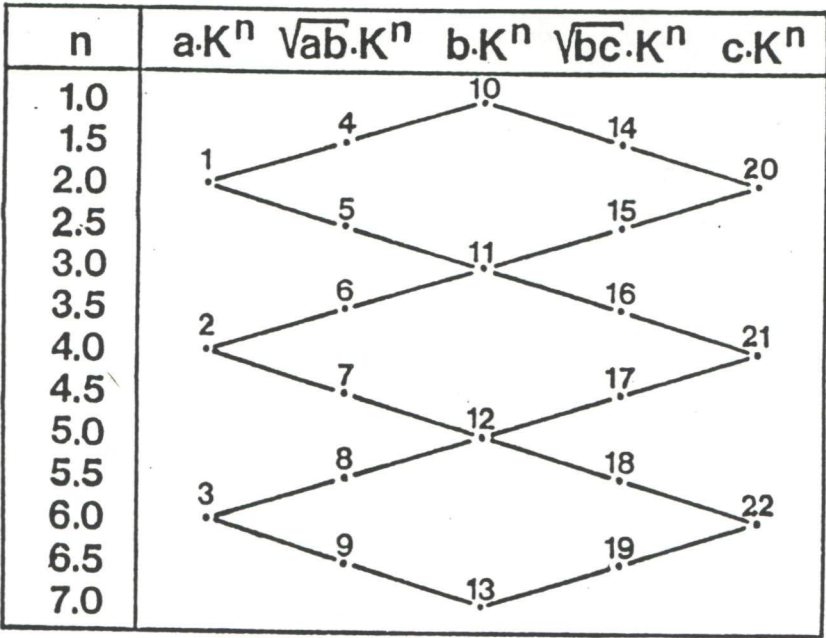
Before January 1980, the lower part of each page contained up to four magnetograms (Horizontal Force: Dixon Island, Murmansk, Lenin-grad, Tashkent); they were replaced by sunspot-charts.





Galactic Magnetic Waves

$0.01 \lambda = p =$



Period (1-22) in years = 100 p

Series a b c

1-2-4-6-9-15-25-40-64-104-169-273-441-

K = 1.110737787 CODATA BULLETIN 63/1986

$$K^3 = \alpha^{-1} \cdot 10^{-2} = \frac{h}{e^2} \cdot \frac{10^5}{2\pi c} = R_H \cdot \frac{10^5}{2\pi c}$$

Harmonics 1-18; 45,63,108,171,279,450; 729,

The Magnetic Monitor

The 'Magnetic Monitor' of Nomos Interscience is based on our Model-MS (p.4) and predicts magnetic events on the sun, in space and on earth.

The variations of the galactic magnetic field outside the heliosphere are simulated by a set of 528 galactic magnetic waves (Fig.16); the role of the heliosphere is simulated by 12144 heliospheric magnetic waves.

The assumed total amplification within the heliosphere is π^2 in the distal part of its surface (gal.long.=90° if gal. centre=270°), and 2π in the plane of the sun and the planets ('ecliptic' s.l.). The theoretical values ($\pi^2 + 2\pi$) are 1.73 promille higher than the sum of the 12144 individual waves of the model.

The dimensions of the heliosphere were recomputed from magnetic observations. The shortest axis (2c, towards the galactic centre) has a diameter of 32 light-hours; the longest axis (2a, galactic orbit of the sun) measures 40 light-hours; the intermediate axis has a length of $2b = 36 \pm 0.5$ light-hours. The average circumference of the heliosphere in the plane of the ecliptic (a=20h, b=18h) is 120 light-hours.

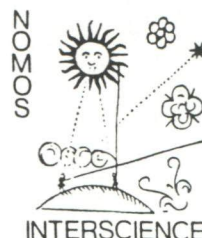
The above-mentioned heliospheric magnetic waves have a number of remarkable effects ('solar magnetic events') upon the sun and its corona. They modulate, above all, the particle speed of the solar wind in the outer corona, and the velocity of shockwaves as they travel from sun to earth.

According to our computations, the magnetic disturbance on March 13, 1989, should have reached its peak value between 02:30 and 03:00 EST. The actual peak occurred at 02:45 EST.

The response of the earth and its magnetosphere is defined by the following functions:

- a) The index AEI is the normalized sum of galactic (heliospheric) and solar influences as they arrive on earth. AEI is determined for every half hour of the day. The computed variations occur as predicted, but their amplitude on the ground depends on the energetic state of the magnetosphere which is computed separately.
- b) The difference (+,-) between successive three-hourly mean values of AEI (=AEM) is then used to compute an index of electromagnetic induction, where due weight is given to each pulse of the preceding 24 hours (index EMI).
- c) Electromagnetic induction creates two principal systems of electrical currents. The so-called 'polar cusp currents' (PCC) are computed from daily values of EMI. Their equatorial counterpart, the 'equatorial ring currents' (ERC) are deduced from daily values for the solar wind and AEM.
- d) Any unbalanced state of the magnetosphere (PCC vs ERC) is a source of magnetic waves emitted by the earth, and the cause of currents in the interior of the earth. Our model defines two external and three internal components, each of them with its proper phase and weight.

The resulting 'Auroral Activity Index' (AAI) predicts the highest intensity (in nanotesla) of the auroral electrojet (at local midnight) that can be expected in a given 24-hour period. The predictions are fairly accurate for a quiet sun (1986), and need adjustments if the central part of the visible solar disk is very active.



File
Dossier
Date

Reports and Publications

- *1. Mayr, F.C., Pr vision du Climat de l'Avenir (= Calendrier des Savants 1986-88, Compte rendu de 12 tableaux et 42 figures, avec texte explicatif et un aide-m moire bibliographiques). 18x22", 16 p., Montreal (Nomos Interscience) 1985. \$can. 100.-
- *2. Mayr, F.C., Das Klima der Zukunft. Deutscher Begleittext zu "Pr vision du Climat de l'Avenir". Nomos Interscience Montreal, Open File Report A86-01, 8x14", 13 p.
- *3. Mayr, F.C., Magnetic and Climatic Events: Computation of the Past - Prediction of the Future (= Explanatory Remarks to the Plates and Figures in : Mayr, F.C., Pr vision du Climat de l'Avenir). Nomos Interscience Montreal, Open File Report A86-02, 8x14", 13 p.
- *4. Annual Report for the Year 1986. Montreal (Nomos Interscience) 1987, 8x11", 18 p. \$can 20.-
- 5. Predictable Features of the Solar Magnetic Field. Nomos Interscience Montreal, Internal Report 1987-01, 8x11", 22 p.
- 6. Recherches et Services. Nomos Interscience Montreal, Internal Report 1987-02, 8x11", 18 p.
- *7. Mayr, F.C., The Role of Magnetism in Climate. Nomos Interscience Montreal, Internal Report 1987-03, 8x14", 13 p. In press in: Historical and Applied Climatology (B.Brentjes and L.K.Konigsson, Eds.), Striae, Vol.32 (1988), pp. ____-____
- 8. Mayr, F.C., A Preview of Magnetic Situations. Nomos Interscience Montreal, Internal Report 1987-04, 8x14", 35 p.
- 9. Magnetic Monitor, October-December 1987. Nomos Interscience Montreal, Internal Report 1987-05, 8x14", 26 p.
- 10. Magnetic Monitor, January-March 1988. Nomos Interscience Montreal, Internal Report 1987-06, 8x14", 26 p.
- 11. Comments on Two Magnetic Situations. Nomos Interscience Montreal, Internal Report 1987-07, 8x14", 13 p.
- *12. Mayr, F.C., Solar Magnetic Events. Nomos Interscience Montreal, Public Report P88-01, 8x14", 33 p. \$can.100.-
- *13. Magnetic Storms in Canada. A Series of Verified Predictions. Nomos Interscience Montreal, Public Report P88-02, 8x14", 35 p. \$can.100.-
- *14. Mayr, F.C., The Magnetic Monitor of Nomos Interscience. Nomos Interscience Montreal, Public Report P89-01, 8x14", 11 p. \$can.25.-
- *15. Mayr, F.C., A Paleomagnetic Survey in the Austrian Alps. Reprint Edition. Nomos Interscience Montreal, Public Report P89-02, 8x14", 53 p. \$can.50.-
- 16. Le Moniteur magn tique de Nomos Interscience. Commentaires et Synth se historique. Nomos Interscience Montr al, Internal Report 1990-01. 8x11", 16 p.
- 17. Recherches et Services. Nomos Interscience Montr al, Internal Report 1990-02. 8x11", 15 p.
- 18. Magnetic Predictions, January-June 1990. Nomos Interscience Montreal, Internal Report 1990-03, 8x14", 100 p.
- 19. Mayr, F.C., A Discourse on Meteorology and Magnetism. Nomos Interscience Montreal, Internal Report 1990-04, 8x14", 22 p.
- 20. Mayr, F.C., Magnetism and Climate in Quebec. Nomos Interscience Montreal, Internal Report 1990-06. 8x11", 11 p.
- *21. Mayr, F.C., The Climatic Monitor of Nomos Interscience. Nomos Interscience Montreal, Public Report P91-01, 8x14", 63 p.

* Public Documents

NOTICE

Information given in our 'Internal Reports' is restricted to registered owners of our public documents #1, #12 and #13. Please request an updated version of this listing before mailing any order. All orders have to be prepaid.

"CORRESPONDENCE TRACKING"

TYPE: ACTION

DOCUMENT NUMBER: 9120996

FROM: YOUNG, Karl: YTI, INC.

TO: JOHN H. SUNNUNU

DATE OF
CORRESPONDENCE: 03/18/91

SUBJECT: REQUEST TO ASSIST THE ADMINISTRATION IN FIELDING A
PANEL ON HYDROGEN ENERGY.

ASSIGNED TO: Dr. Wong

→ KAE

Don - Does any of this sound
familiar?
Karl

ACTION REQUIRED: DIRECT RESPONSE

SENDER'S DUE DATE:

OSTP DUE DATE:

04/19/91

DATE COMPLETED:

4/19/91 by EWH. Pryor

COPIES TO:

WHITE HOUSE TRACKING #:

CONTACT PERSON:

REMARKS:

DATE RECEIVED: 04/05/91

FILE: SUNNUNU TRACKING

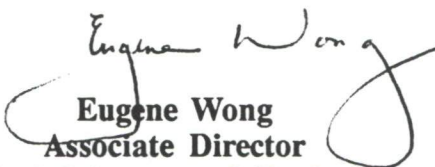
EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
WASHINGTON, D.C. 20506

April 16, 1991

Dear Mr. Young:

Governor Sununu passed on your letter concerning the Hydrogen Technical Advisory Panel called for under the Spark M. Matsunaga Hydrogen Research, Development and Demonstration Act of 1990. The Secretary of Energy is responsible for the establishment of this panel. Although there have been delays, it is my understanding that the actions necessary to carry out this charge are well underway. I appreciate your interest and encourage you to convey it to the Department of Energy.

Sincerely,


Eugene Wong
Associate Director
Physical Sciences and Engineering

Mr. Karl Young
YTi Incorporated
P.O. Box 68
Lake Placid, New York 12946



Bromley

Mr. John H. Sununu
The White House
1600 Pennsylvania Ave.
Washington, DC 20500

9/120994

18 MAR 91

Ref: H2SUNUNU.C91

P.O. Box 68
Lake Placid, New York 12946
U.S.A.

(518) 523-2843

Telex: 4991746 YNGIT
MCI: 229-8328

Karl S. Young
Syntactic Foams
Composites
Director

David Hunter
Vibration Analysis
Thermodynamics

Elden Housinger
Machine Design
Fabrication

Kasey Kasemodel
Finite Element Analysis
Composites
PASCAL-Programming

Irv L. Lennert
C-Programming

Donald A. Lennert
DBM Systems

Dear Mr. Sununu,

I just learned that the Administration was not able to meet the February deadline on the formation of the Administration's panel on hydrogen energy.

Although things have been pretty hectic at the White House recently, but it should be calming down a bit since the cease fire.

The White House is no doubt concerned in assembling a quality panel with knowledgeable and objective members. I would like to assist the Administration in fielding such a panel and produce a quality study.

I am familiar with all of the major R&D work in the U.S. and in the international hydrogen communities. As a relatively new comer in the hydrogen energy community, my concern is what would benefit our country the most.

Syracuse University holds a prominent position in advanced hydrogen storage technology in the world. I head up the engineering development effort as a consulting research associate.

Please tell me what I can do to assist in this effort.

Cordially,

Karl Young

Karl Young
(518) 523-8075

DIRECTOR
OFFICE OF THE

91 APR 5 03

OSTP
RECEIVED

"CORRESPONDENCE TRACKING"

TYPE: ACTION

DOCUMENT NUMBER: 9120894

FROM: TAYLOR, Bill

TO: JOHN SUNNUNU

DATE OF
CORRESPONDENCE: 03/12/91

SUBJECT: REQUEST TO MEET WITH SUNNUNU TO DISCUSS HIS PROPOSAL
TO COMBAT THE GREENHOUSE EFFECT.

ASSIGNED TO: Nancy Maynard

ACTION REQUIRED: AS APPROPRIATE

SENDER'S DUE DATE: OSTP DUE DATE: 04/05/91

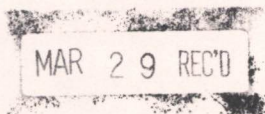
DATE COMPLETED: -----

COPIES TO:

WHITE HOUSE TRACKING #:

CONTACT PERSON:

REMARKS:



*No action req'd.
WSB 3/29/91*

DATE RECEIVED: 03/25/91

FILE: SUNNUNU TRACKING

9/20894

P.O. Box 463
Trenton, N.C.
28585

March 12, 1991

RECEIVED

91 MAR 25 AM 11:43

OST

Dear Mr. Sumnuu,

OFFICE OF THE
DIRECTOR

Sir, you have received a lot of criticism over your efforts to stalwart efforts to combat the greenhouse effect.

No one knows what will happen. Current guidelines for combatting this potential disaster would certainly undermine our economy and our way of life.

But there is a simple, very simple way to avoid such a catastrophe without undermining the economy.

It is so simple! It requires simple technological application recognizing the law of nature.

Why no one has thought about this is beyond me. The U.S.A. produces $1/4$ of CO_2 emissions, therefore we have a disproportionate responsibility to do something.

As a very conservative Republican, I don't want to see economic stability jeopardized by hypothetical computer models.

However, the greenhouse problem is real and can't be ignored. So, compromise is the way to solve this problem.

COULD I PLEASE meet with you or Bill Reilly to discuss my simple proposal? We can avoid any greenhouse effect with simple technology that wouldn't hamper our economy.

Sincerely yours,
Bill Taylor

21-11-2011

"CORRESPONDENCE TRACKING"

TYPE: INFORMATION

DOCUMENT NUMBER: 9120668

FROM: KRIEGER, Lise

TO: JOHN SUNUNU

DATE OF
CORRESPONDENCE: 02/22/91

SUBJECT: COMMENTS ON THE CONFERENCE HELD ON GLOBAL WARMING.

ASSIGNED TO: Nancy Maynard

ACTION REQUIRED:

SENDER'S DUE DATE:

OSTP DUE DATE:

DATE COMPLETED:

COPIES TO:

WHITE HOUSE TRACKING #:

CONTACT PERSON:

REMARKS:

DATE RECEIVED: 03/08/91

FILE: ENVIRONMENT*SUNUNU TRACKING

Bromley

Mr. John Sununu
White House Chief of Staff
White House
Washington, D.C.

Dear Mr. Sununu,

I am writing in reference to an editorial I saw in the paper last week regarding the conference held on global warming. It seems that the result of this conference was a decision to "talk about it more." You seem to think that global warming is not a threat but talk only and you said that trying to resolve this problem will only result in a damaged economy.

I recently attended a lecture by Carl Sagan on global warming and other environmental issues. I have listened to scientists' reports and read books. Why, if the science world has proven that global warming is occurring, isn't the government taking this more seriously? It seems to me that the scientists and experts have nothing to gain by presenting this as a hoax. They are the experts. They know. Why aren't you listening?

I am frightened by the threat of global warming and other dangers to the environment. I am frightened for myself, my family, my friends, animals and all the people who live on this planet. And I am frightened for the planet itself.

Please stop wasting time on this issue. Listen to the people who know and stop listening to the people who are only interested in our economy. Greed such as that will destroy us all.

Maybe we could learn something from the Native Americans who we have treated so poorly. They have always been able to live with nature, not conquer it. We need to do the same. We are very arrogant if we think we can overlook this pressing problem.

Thank you for your time.

9120068
RECEIVED
108 Fern Street
Fairfield, CT 06430
(203) 255-5827
91 MAR 8 A 8:34

February 22, 1990

OFFICE OF THE
DIRECTOR

Sincerely,

Lise Krieger
Lise Krieger

"CORRESPONDENCE TRACKING"

TYPE: INFORMATION

DOCUMENT NUMBER: 9120671

FROM: SHERMAN, Mark A.

TO: JOHN SUNUNU

DATE OF
CORRESPONDENCE: 02/20/91

SUBJECT: REDUCING EMISSIONS OF CARBON DIOXIDE.

ASSIGNED TO: Nancy Maynard

ACTION REQUIRED:

SENDER'S DUE DATE:

OSTP DUE DATE:

DATE COMPLETED:

COPIES TO:

WHITE HOUSE TRACKING #:

CONTACT PERSON:

REMARKS:

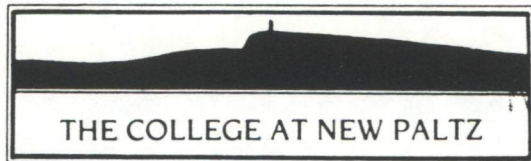
CLOSED

DATE RECEIVED: 03/08/91

FILE: ENVIRONMENT * SUNUNU

9120671

S U N Y



RECEIVED

91 MAR 8 A8:34
Department of Psychology

February 20, 1991
DIRECTOR

Bronley

Mr. John H. Sununu
Chief of Staff
The White House
Washington, D.C. 20515

Dear Mr. Sununu:

I was dismayed to read in the New York Times "Week in Review" last Sunday that you feel, to quote the paper, "that without more conclusive scientific evidence the United States should not commit itself to reducing emissions of carbon dioxide, the principal gas linked to warming temperatures, because that would be tantamount to reducing the use of oil and other fossil fuels and could lead to economic stagnation."

Perhaps the scientific evidence is not conclusive, but it certainly is strong. And to wake up on a mid-February morning in upstate New York to hear birds singing and see the temperature at close to 50 degrees is upsetting, particularly when it is part of a pattern that has been going on for a while. In my area temperatures are averaging around 5 degrees above normal this year. A few weeks ago, a 68 degree day in New York City broke a 108-year record by 14 degrees. It has been several years since our little village was crowded with cross-country skiers the way it used to be.

I understand your concerns about the economy, but nothing is more important than our environmental future. For the sake of our children and grandchildren, please help the United States become a leader in reducing fossil fuel emissions. This would be a good idea even if the greenhouse effect didn't seem so very likely to be a real problem.

Thank you.

Sincerely yours,

Mark A. Sherman
Associate Professor