

EAST AFRICAN MARINE FISHERIES RESEARCH ORGANIZATION

Telephone 1 (Ext. 13)
Cables: "E A M F R O"



P.O. Box 668,
ZANZIBAR

11th April, 1961.

Dr. E.H. Estabrook,
Chairman,
SOOR Committee on Chemical Oceanography,
Woods Hole Oceanographic Institution,
WOODS HOLE, Mass. U.S.A.

I.7/85: Our ref.

Dear Sir,

With reference to your letter of 6th January discussing arrangements for SOOR working group meetings, duly just received, I reply immediately, albeit briefly, in order to insure nominations are notified. Further details will follow in due course when it has been arranged how leave and other commitments are to be negotiated.

It is considered essential that the hydrologist to this Organisation, Mr. E.H. Hall, attend the Chemical Oceanography working group meeting. I regret to say that financial support will be needed. The only figure at present available is U.S.\$ 1,530 for the tourist return air journey: no estimates are yet available in respect of the shipment of equipment or for any other purpose.

If there is to be a Biology working group meeting, then it is considered that either myself or Mr. P. Williams, my Deputy, should attend. Again I regret to say that financial support will be essential.

Yours faithfully,

(D.H.F. Hall),
Director.

Copy to: Robert G. Snider.

Copy to: Agricultural Research Secretary,
U.A. High Commission,
P.O. Box 30005,
Nairobi.

Please find attached copy of the letter referred to above.

Is there any possibility of the Secretary of State or the Royal Society financing these visits?

EAST AFRICAN MARINE FISHERIES RESEARCH ORGANIZATION

Telephone: 1 (Ext. 12)
Cables: "EAMFRQ"

P.O. Box 648,
ZANZIBAR

19th April, 1961.

Robert G. Snider, Esq.,
Co-ordinator,
I.I.O.E.,
30 East 40th Street,
New York, 16, N.Y., U.S.A.

I.7/91: Our ref.

Dear Bob,

With reference to my letter I.7/85 of 11th April addressed to Col. Fearon and copied to you, I have now heard from the East Africa High Commission that no money whatsoever is likely to come from H.M.C. or the East African Governments.

I think it absolutely essential that Mr. Bell, our hydrologist, attend the calibration working group meeting. I have not heard further whether there is to be a similar meeting of biologists. If there is, then either I or Mr. Williams should attend but the attendance of one of these officers I consider less essential than that of the Hydrologist. It appears that H.M.C. have so much confidence in us that they consider it unnecessary for anyone to attend (1), and I therefore appeal to you for assistance in obtaining the necessary funds.

Yours sincerely,

(D.H.F. Hall),
Director.

RECEIVED
19 APR 20 1961
EAST AFRICAN MARINE FISHERIES RESEARCH ORGANIZATION
P.O. BOX 648
ZANZIBAR

[Handwritten signature/initials]

[Faint handwritten notes]

26 April 1961

D. M. P. Hall, Esq., Director
East African Marine Fisheries Research Organisation
P. O. Box 648
Zanzibar

Ref: I.7/91

Dear Mr. Hall:

Mr. Snider is in Washington for three days of meetings of the National Academy of Sciences' Committee on Oceanography.

He has asked me to acknowledge your letter of 19 April and to inform you that copies of your letter have been sent to Dr. Ketchum and Dr. Ryther for their attention.

Very sincerely yours,

Janet A. Smith,
Secretary to Mr. Snider

jas
cc: Dr. Ketchum
Dr. Ryther

4 May 1961

D. N. F. Hall, Esq., Director
East African Marine Fisheries Research Organization
P. O. Box 668
Zanzibar

Ref: I.7/85

Dear Dennis:

As you have already heard, Ryther and Ketchum have your note for inclusion in financial planning for the Hawaii meeting. In addition, I have written to Dr. Martin to find out what funds might be available from the U.K. I trust that I will see you and others in Hawaii.

My warmest congratulations to the Hall family on their new accession.

With best regards.

Very sincerely yours,

Robert G. Snider

RGS/jas

EAST AFRICAN MARINE FISHERIES RESEARCH ORGANIZATION

Telephone 2141 (Ext. 13)
Cables: "E A M F R O"



P.O. Box 668,
ZANZIBAR

30th May, 1961.

Robert G. Snider, Esq.,
Co-ordinator,
I.I.O.E.,
30 East 40th Street,
New York 16, N.Y., U.S.A.

I.1/97: Our ref.

Dear *Bob*

With reference to my letter I.7/91 of 19th April, it occurs to me that, if there is difficulty in finding the passage money in respect of Mr. Bell, it would be doubly advantageous if he could obtain a passage on one of the U.S.A. research vessels going to Hawaii. In this way there would be a considerable monetary saving, at the same time giving Mr. Bell the opportunity of working beside, and talking to, hydrologists of high calibre.

It is noted that both Mr. Bell and I will be on leave in the United Kingdom at the time of the proposed gathering, and that passage money is sought to cover the journey from London to Hawaii and not from Zanzibar to Hawaii. For your reference the following are the two United Kingdom leave addresses:

D.H.F. Hall,

(10th June - 2nd September.) 169, Oakdale Road,
Carlton,
Nottingham, England.

R.E. Bell,

4, Long Lane,
Olney,
Bucks. England.

Yours sincerely,

(D.H.F. Hall),
Director.

2 June 1961

D. N. F. Hall, Esq., Director
East African Marine Fisheries Research Organization
P. O. Box 668
Zanzibar

Ref: I.1/97

Dear Dennis:

Thank you for your letter of the 30th. I am passing it on to Dr. Bestwick H. Ketchum at Woods Hole since he is handling the organizing of the calibration meeting. I am sure that he will appreciate your suggestion that Mr. Bell's travel needs could be met by only the fare from London to Hawaii (and return?). I am sure that Dr. Ketchum will also call this matter to Dr. Ryther's attention on his return from Europe later this month.

All the best and stay out of the riots. Warm regards to your family.

Cordially,

Robert G. Snider

RGS/jas

cc: Dr. Ketchum

Mr. Hall at Nottingham, England

5 3 JUL 1961

Ref. 033.4351
GFR/WH

**CIRCULAR MEMORANDUM TO NATIONAL COMMITTEES
FOR OCEANIC RESEARCH IN JAPAN, S. AFRICA,
U.K. AND U.S.S.R.**

INDIAN OCEAN INVESTIGATION INTERCALIBRATION TRIP

I have not yet received from you a reply to my Circular of May 4 on the above subject. I know that scientists from your country will be working in the Indian Ocean and I hope their methods for nutrient chemistry and primary production will be demonstrated at Hawaii.

The replies I have received indicate that scientists from Australia, India, Israel, Pakistan and U.S.A. wish to come, some requiring small, others large financial assistance. I wish to write to UNESCO before the end of this month requesting such assistance. If you require assistance for your scientists please send their names to me before then.

To obtain financial assistance participants must have definite programmes for work in the Indian Ocean, i.e. they must work on board ships in the Indian Ocean or work with Indian Ocean samples in their laboratories. At Hawaii they will be expected to demonstrate the methods they will use and to carry out the intercalibration experiments.

When forwarding names and addresses please say whether the participant is active in nutrient chemistry or primary production. It is unlikely that full expenses will be available for more than one worker in each subject from each country.

18

(G.F. HUMPHREY)
President of IGOI

Sent to -

The Secretary, National Committee on Oceanic Research,
Pr-T Lomonosova 14, Kv. 492, MOSCOW, U.S.S.R.

The Secretary, National Committee on Oceanic Research,
Science Council of Japan,
Ueno Park, Taito-ku, TOKYO, JAPAN.

The Secretary, National Committee on Oceanic Research,
C/- Science Co-operation Division, C.S.I.R.,
P.O. Box 395, PRETORIA, SOUTH AFRICA.

The Secretary, National Committee on Oceanic Research,
The Royal Society, Burlington House, LONDON, W.1. ENGLAND.

Copies to -

29 JUN 1961

Ref. 033-4351
GFR/NN

**CIRCULAR MEMORANDUM TO NATIONAL COMMITTEES
FOR OCEANIC RESEARCH IN JAPAN, S. AFRICA,
U.K. AND U.S.S.R.**

INDIAN OCEAN INVESTIGATION INTERCALIBRATION TESTS

I have not yet received from you a reply to my Circular of May 4 on the above subject. I know that scientists from your country will be working in the Indian Ocean and I hope their methods for nutrient chemistry and primary production will be demonstrated at Hawaii.

The replies I have received indicate that scientists from Australia, India, Israel, Pakistan and U.S.A. wish to come, some requiring small, others large financial assistance. I wish to write to UNESCO before the end of this month requesting such assistance. If you require assistance for your scientists please send their names to me before then.

To obtain financial assistance participants must have definite programmes for work in the Indian Ocean, i.e. they must work on board ships in the Indian Ocean or work with Indian Ocean samples in their laboratories. At Hawaii they will be expected to demonstrate the methods they will use and to carry out the inter-calibration experiments.

When forwarding names and addresses please say whether the participant is active in nutrient chemistry or primary production. It is unlikely that full expenses will be available for more than one worker in each subject from each country.

18

(G.F. HUMPHREY)
President of IOC

Sent to -

The Secretary, National Committee on Oceanic Research,
Pr-T Lomonosova 14, Kv. 492, MOSCOW, U.S.S.R.

The Secretary, National Committee on Oceanic Research,
Science Council of Japan,
Ueno Park, Taito-ku, TOKYO, JAPAN.

The Secretary, National Committee on Oceanic Research,
C/- Science Co-operation Division, C.S.I.R.,
P.O. Box 395, PRETORIA, SOUTH AFRICA.

The Secretary, National Committee on Oceanic Research,
The Royal Society, Burlington House, LONDON, W.1. ENGLAND.

Copies to -

Ref. 033.4251
GFH/MM

The Chairman,
National Committee on Oceanic Research,
C/- Hydrographic Directorate,
Naval Headquarters,
KARACHI, PAKISTAN

Dear Commander Islam,

I was very glad to receive your list of suggestions for participation in the intercalibration work at Hawaii. I hope to arrange the list of participants at the end of this month so that I can make a recommendation to UNESCO for financial support.

I am not sure whether the names you suggested are all for nutrient chemistry or whether some will work on primary production (i.e. photosynthetic fixation of radioactive carbon and estimation of algal pigments). I would like to receive from you as soon as convenient an indication of what field your suggested participants will investigate.

Yours sincerely,

18

(G.F. HUMPHREY)
President of SCOR

Ref. 033.4251
GFH/MM

Professor V.G. Kort,
Institute Okeanologii,
U.S.S.R. Akademia Nauk,
Lujnikovskaya 8,
MOSCOW 127, U.S.S.R.

Dear Professor Kort,

I see from your recent letter to Mr Rochford
that "Vityaz" will be in Hawaii for the Pacific
Science Congress.

Our ship H.M.A.S. "Gascoyne" will be there until
about September 12 for the intercalibration tests on
Indian Ocean methods. Will "Vityaz" be in Hawaii at
that time and will she be available for the inter-
calibration of primary production and nutrient chemistry
methods?

I hope you will be in Hawaii and that I shall
meet you there.

Yours sincerely,



(G.F. HUMPHREY)
President of SCOR

Ref. 033.4251
GFH/MM

The Co-ordinator,
Indian Ocean Expedition,
30 East 40th Street,
NEW YORK 16, N.Y. U.S.A.

Dear Bob,

Many thanks for your letter of June 12 with
the attachments.

The Circular of June 9 was a follow-up to my
one of May 4 which went to all committees (including
Indonesia, Germany and Denmark). A copy was sent
to Hall but he has not answered. I sent reminders
only to those whom I knew had programmes in the two
subjects, i.e. nutrient chemistry and primary pro-
duction. I doubt if Zanzibar will do any primary
production - perhaps they will do some nutrients.
I shall write to Hall at his holiday address to ask
exactly what he is doing. As stated in Ketchum's
notes sent out with the Circular of May 4, the
project is not a training course.

I am glad to have the address of the Portuguese
committee. I do not like the title "Committee for
SCOR" and in my welcoming letter I shall suggest it
be changed to "National Committee for Oceanic Research"
to bring it into line with the majority of the others.
I shall send them the Circulars so they know what
has been going on.

The list of people going to Bombay seems a very
good one. They certainly sound like people who
should have some authority. As you will see from
my Circular of last week, I finally got started on
the zooplankton meeting. Panikkar did not reply to
my letters or cable so I finally rang him.

Yours sincerely,



(G.F. HUMPHREY)
President of SCOR

INTERNATIONAL INDIAN OCEAN EXPEDITION

30 EAST 40TH STREET - NEW YORK 16, N. Y. - LEXINGTON 2-6533

COORDINATOR
ROBERT G. SNIDER

CABLES
SCORINDOC - NEWYORK

12 June 1961

Dr. George F. Humphrey,
President
Special Committee on Oceanic Research
Box 21
Cronulla, Sydney, Australia

Dear George:

This will acknowledge the copy of your Circular Memorandum of 9 June. I also enclose copies of replies to two letters from Wooster.

When Ketchum and Ryther were organizing the chemistry and biological technique programs, I forwarded them information as it came in particularly from East Africa. I note that you have not included them in the list of those who wish to come to Hawaii. I enclose, therefore, copies of communications from Hall, the Director at Zanzibar. I feel it is important for them to be represented. They have a ship and will be working and have a laboratory.

East Africa is one of the "countries" which has not set up a formal national committee but which will be taking apparently an active part in the program. This^{was} outlined in the notes of my trip last November and December. Most of the other countries around the Indian Ocean which have not as yet set up formal national committees would probably not be involved in these meetings anyway. I do notice that you have not included Indonesia. Furthermore, I was notified last week of the establishment by Portugal of a National Committee for SCOR. Böhnecke has been notified by copy and a copy is enclosed, herewith. Although I do not know the extent of their biological program, it might be desirable to consider them as potential participants though without an outstanding chemist or biologist this could be only a basic training course.

Is it not possible, however, that both Germany who will have a ship and Denmark who plans to sent scientists and no ship might be interested in the meeting?

Very sincerely yours,

Bob
Robert G. Snider

with enclosure in 0239
RGS/jas
enc:

Ref. 033.4251
GFH/MM

15 JUN 1981

Dr D.N.F. Hall,
169 Oakdale Road,
Carlton,
NOTTINGHAM, ENGLAND

Dear Dr Hall,

I have not received any comment from you with regard to the Circular Memorandum on Intercalibration Tests I sent you on May 4 to Zanzibar, and I have assumed your laboratory will not be working in the subjects listed, i.e. primary production and nutrient chemistry. However, Mr Snider has told me you are on holiday and may not have received the circular. If this is so, you can get a copy from the Secretary, National Committee for Oceanic Research, The Royal Society, London.

If you have people who qualify as participants in terms of the Circular, please give me their names and addresses at once with an indication of what their programmes are and what methods they would demonstrate at Hawaii and want intercalibrated.

Yours sincerely,



(G.F. HUMPHREY)
President of SCOR

NATIONAL INSTITUTE OF OCEANOGRAPHY

TELEPHONE: WORMLEY (SURREY) 370

TELEGRAPHIC ADDRESS: OCEANS, WORMLEY, SURREY

OUR REF. D.180/61

YOUR REF. 033.4251
GFM/IM

WORMLEY,

GODALMING, SURREY,
ENGLAND.

19 June 1961

Dr G.F. Humphrey
CSIRO Marine Laboratory
Box 21
Cronulla
Sydney, Australia

FILE 033.4251

23 JUN 1961

Admin.

Fish.

Ocean *GH*

T. Sec.

Libr

Clerk

Dear Humphrey,

With reference to your letter of 9 June to the National Committee, I do not yet know who will be doing the UK chemistry in the Indian Ocean but F.A.J. Armstrong of the Marine Biological Association, Plymouth will be there part of the time and will be in general supervision of the work. He is ready to go to the trial of methods in Hawaii, and till we get the finance of our contribution to the International Indian Ocean Expedition straightened out we should be glad if SCOR or UNESCO would make a grant for his expenses. He is an outstanding contributor to nutrient chemistry and is familiar with what is being done on primary production.

Our National Committee will be very grateful if you can help.

Yours sincerely,

G. F. R. Deacon

Copies to:

Dr D.C. Martin
Dr Warren S. Wooster
Mr F.A.J. Armstrong

Science Council of Japan

Ueno Park, Tokyo

SS/61/23
June 20, 1961

FILE	033.4251
2	JUN 1961
Admin.	
Fish.	
1	Dear <i>GB</i>
T. Sec.	
Libr	
Clerk	

Dr. G.F. Humphrey
President of SCOR
Chief of C.S.I.R.O. Marine Laboratory,
Box 21, Cronulla,
Sydney
AUSTRALIA

Dear Dr. Humphrey,

With reference to your letter GFH/DKE 033.4251 of May 4, 1961, I take pleasure in informing you that our Committee has decided to send to following person to Hawaii as a participant in the Indian Ocean Intercalibration Tests.

Mr. Yoshio Sugiura (project: Nutrient chemistry)
Meteorological Research Institute
Tokyo, Japan

It would be highly appreciated if you would arrange for his round trip expenses on both ways and per diem for the period of the Tests. There is no need of expenses for transport of material.

Hoping the success of the Tests which will contribute greatly to the improvement of the analytical results in the Indian Ocean Expedition.

Yours sincerely,

T. Takeshita
Toshio TAKESHITA
Secretary-General
Science Council of Japan
for Yoshio FUJIOKA
Chairman,
National Committee on
Oceanic Research,
Science Council of Japan

YF:mn

Ref. 033.4251
GFH/MM

23 JUN 1964

Mr F.A.J. Armstrong,
The Laboratory,
Citadel Hill,
PLYMOUTH, ENGLAND


Dear Mr Armstrong,

I received word to-day that the U.K. National Committee wishes you to come to Hawaii for the inter-calibration tests. This is excellent news. You already have a copy of my Circular of May 4 and therefore have a general idea of what is proposed.

I would like to know which of the methods mentioned in the Circular you want included in the programme and which methods you will demonstrate at Hawaii. I am collecting this information both for transmission to Dr Ketchum and Dr Ryther and also as part of the submission to UNESCO for money.

If you have any comments on the programme please send them direct to Dr Ketchum with a copy to me.

Yours sincerely,


(G.F. HUMPHREY)
President of SCOR

Copy to Ketchum

Ref. 033.4251
GFH/MM

23 JUN 1961

The Director,
National Committee for Oceanic Research,
The Royal Society,
Burlington House,
LONDON, W.1. ENGLAND

Dear Deacon,

Many thanks for letting me know about Armstrong.
This is excellent news that he is your choice for
Hawaii and I shall write to him at once getting the
necessary details of what he would like to do.

Yours sincerely,



(G.F. HUMPHREY)
President of SCOR



23 JUN 1961

Ref. 033.4251
GFH/MM

Dr N.K. Panikkar,
Secretary, INCOR,
C/- Government of India,
Ministry of Food and Agriculture,
Krishi Bhavan,
DELHI, INDIA

Dear Dr Panikkar,

I have not had a reply from you to my letter
of May 18 asking for Dr Prasad's field of investigation.

Within the next few days I must make a submission
to UNESCO for money and I would like you to tell me by
return mail -

1. What methods Dr Jayaraman would demonstrate
at Hawaii and what methods he would like
intercalibrated
2. Would any other methods be demonstrated
if Dr Prasad came also, or is he required
to assist Dr Jayaraman.

Yours sincerely,



(G.F. HUMPHREY)
President of SCOR

FILE	033-4251
Lab	101
Admin	
File	
Comm	56
Rec	
Lib	
Club	

STATE OF ISRAEL
Ministry of Agriculture - Department of Fisheries
Sea Fisheries Research Station

Haifa, 23 June 1961.

Mr. G.F. Humphrey, President of SCOR
C.S./RO Marine Laboratory
Box 21, Cronulla, N.S.W.
A U S T R A L I A

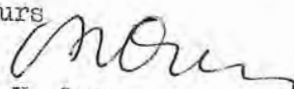
Dear Sir,

Thank you for your letter of May 23, 1961 (033.425, on 1 GFH/MM).

I have been working on primary production of the Mediterranean Sea and have some preliminary results and intend to work on primary production of coral reefs in Eilat using C_{14} technique, sedimentation of plankton and chlorophyll determination. This work which is being done together with Prof. H. Steinitz of the Hebrew University, Dr. Mendlesohn and his staff of the University of Tel-Aviv is in the framework of the Indian Ocean Expedition which includes a study of development of reef building corals and development of seaside organisms. I hope you received in the meantime our National Program for IOE. However, I am not yet in a position to demonstrate any method in particular as our work in the Red Sea was begun only recently and we are busy with many technical problems. These technical problems involved and our means or attempts to solve them may be of interest to other participants and I am ready to describe ^{and} some of the data we have collected to date. If this is of sufficient interest then I can present a technical paper on this subject.

I understood also that during the intercalibration meeting the working methods will be discussed and standardized for the IOE.

Sincerely yours


O.H. Oren

✓

COPIES to Dr B.H. Ketchum, Woods Hole.

Mt T. Takeshita, Science Council of Japan, Tokyo

Ref. 033.4251

GFH/MM

Mr Y. Sugiura,
Meteorological Research Institute,
TOKYO, JAPAN

27 JUN 1961

Dear Mr Sugiura,

I was very glad to receive to-day a letter from the Science Council of Japan nominating you to go to Hawaii for the intercalibration tests on nutrient chemistry.

You have received my Circular Memorandum of May 4; please write to Dr Ketchum telling him -

- (1) which methods you want intercalibrated
- (2) which methods you will demonstrate at Hawaii
- (3) your comments on his preliminary notes.

Please send me a copy of the letter you write to him.

Yours sincerely,



(G.F. HUMPHREY)
President of SCOR

Copy Ketchum

MARINE BIOLOGICAL ASSOCIATION OF THE UNITED KINGDOM

Ref. 033.4251 EFH/MM.
FAJA/BC.

Dr. G.F. Humphrey,
C/CSIRO Marine Laboratory,
P.O. Box 21,
Cronulla,
N.S.W., Australia.

FILE 033.4251
- 3 JUL 1961
Admin.
Fish.
Ocean <i>CP</i>
T. Sec.
Libr
Clerk

The Laboratory,
Citadel Hill,
Plymouth.

28th June 1961

Dear Dr. Humphrey,

The British programme of chemical work in the Indian Ocean will be comprehensive at times, and I should like to see the following included at Hawaii:-

Inorganic and total phosphorus, oxygen, nitrate, silicate and nitrite, together with C fixation and pigments.

I can demonstrate phosphorus methods, silicate and filtration techniques for pigment and other analyses.

I have some comments on the chemical work which I will send to Dr. Ketchum, and separately from this, to you.

Yours sincerely,

F.A.J. Armstrong

F.A.J. Armstrong.

MARINE BIOLOGICAL ASSOCIATION OF THE UNITED KINGDOM

The Laboratory,
Citadel Hill,
Plymouth.

FAJA/BC.

28th June 1961

Dr. B.H. Ketchum,
Woods Hole Oceanographic Institution,
Woods Hole,
Massachusetts, U.S.A.

Dear Dr. Ketchum,

It now seems fairly sure that I shall be at Hawaii for the intercalibration week. Dr. Humphrey has asked me to send you any comments on the programme. These are:-

Your system as outlined for phosphate could hardly be bettered and it should provide a sound basis for argument afterward.

Oxygen. If possible, the following should be agreed:-

Manganese and alkaline iodide reagents, standardisation of thiosulphate. This should go a long way toward reproducible results.

Phosphate. I still favour Harvey's method, which I am prepared to demonstrate, and to bring standards for.

Total phosphorus. I like a digestion with perchloric acid followed by Harvey's phosphate method.

Nitrate. Only the hydrazine reduction method seems worth while, and I hope that every laboratory will adopt it and save trouble.

Nitrite. I do not think it matters which method is used.

Silicate. I prefer my own molybdenum blue method which has been simplified, and which I can demonstrate. I can bring standard silicate solutions.

I will, as you suggest, bring measuring apparatus and solutions. I cannot bring a spectrophotometer but I hope that an instrument such as Beckman DU will be available.

I shall look forward to seeing you again.

Yours sincerely,

FAJA.

F.A.J. Armstrong.



Dr. N.K. Panikkar,
Fisheries Dev: Adviser and
Member-Secy, INCOR

BY AIR MAIL
D.O.No. 11/INCOR/61

GOVERNMENT OF INDIA,
MINISTRY OF FOOD & AGRICULTURE
(DEPARTMENT OF AGRICULTURE).

New Delhi, June 28, 1961

Dear Dr. Humphrey,

May I refer to your D.O.No.Ref.033.425/GFH/DKE, dated 18th May 1961 and your subsequent letter No.Ref. 033.4251/GFH/MM of the 23rd June, 1961. The National Committee strongly recommended that Dr. Jayaraman and Dr. Prasad should be enabled to participate in the Intercalibration meetings to be held in Hawaii. As I wrote to you before, we would welcome UNESCO assistance for their travel to Hawaii and back. Regarding the special qualifications of the two scientists, I would comment as below:-

Dr. R. Jayaraman: He has worked on the chemical composition of sea water at Madras, Mandapam and the West Coast of India for the past twelve years. He also worked at the National Institute of Oceanography in Surrey, England and was on some of the cruises of 'Discovery'. Dr. Jayaraman has been recently connected with oceanographic studies from Cochin between the West Coast of India and the Laccadive sea. He has been mainly following the traditional methods in chemical oceanography and I do not think he has any special techniques to demonstrate. We would like his participation mainly because we like to ensure that our chemical methods would conform to the accepted standards and procedures that may be arrived at after the Intercalibration meetings in Hawaii.

Dr. R. Prasad - is although not a chemical oceanographer, is one of our principal workers in biological oceanography and also will be responsible for the co-ordination of biological and chemical methods. In recent times he has been devoting much attention to C14 techniques, and he originally worked on this with Professor Steeman Neilsen on the 'Galathia'. Dr. Prasad was associated in the work of the Russian ship 'Vitiaz' during the last year. We would like Dr. Prasad to be familiar with recent techniques covering these fields and if he is to go to Hawaii, he will also be able to discuss C14 problems with Dr. Dostoy at some convenient time before the Indian Ocean Expedition. It is also our desire that Dr. Prasad should also visit Prof. Steeman Neilsen's Laboratory in Copenhagen. *He is our most active worker on Zooplankton.*

p.t.o.

FILE 033.4251
- 3 JUL 1961

Admin.

Fish.

Ocean

T. Sec.

Libr

Clark

With these details I trust you will be in a position to make a submission to the UNESCO.

With kindest regards,

Yours sincerely,



(N.K. Panikkar)

Dr. G.F. Humphrey,
President of Spl. Committee on Oceanic
Research,
C/o C.S.I.R.O. Marine Laboratory,
Box 21, Cronulla,
SYDNEY(Australia)

Water Research Laboratory
Faculty of Science
Nagoya University
Furo-cho, Chikusa-ku
Nagoya, Japan.

June 30, 1961

Dr. John H. Ryther
Woods Hole Oceanographic Institution
Woods Hole, Massachusetts
U. S. A.

Dear Dr. Ryther,

Science Council of Japan decided to let me represent Japan on the expected program of the intercalibration of the productivity measurement which will be proceeded pararelled by the intercalibration of chemical analyses for the Indian Ocean Project. Unfortunately we have little information as to how this program of productivity measurements will be proceeded and who is in charge for arranging the program. However, I suppose you are working as one of the members of the arrangement.

I shall be very much pleased if you are kindly enough to answer the folwing question and let me have any other information which you thinkto assist me for sufficiently preparing myself before participating in the calibration program.

What kind of instruments and other facilities do you expect to be brought with me? You know that an airtrip allows only a luggage of a limited weight. Therefore, it is desired to use as many instruments available at Hawaii University as possible which are of the same type as we use in Japan.

Awaiting your answer at your earliest convenience.

Yours sincerely,



Yatsuka SAIJO

- 5 JUL 1967

Ref. 033.4251
GPH/DKE

Mr Aprilany Soegiarto,
C/- Botany Department,
University of Hawaii,
HONOLULU, HAWAII

Dear Mr Aprilany,

It seems that the people on the enclosed list will take part in the SCOR intercalibration tests in connection with the Indian Ocean investigations.

Professor Sarwono and Dr Soediman would like you to be kept informed of what is planned and therefore I enclose a copy of the circular memorandum and notes which were sent out. You will see that a programme has been proposed for nutrient chemistry but that we do not yet have details of the primary production.

I think we shall be able to discuss these details with you at the Pacific Science Congress at Hawaii just before the intercalibration tests.

Yours sincerely,

18

(G.F. HUMPHREY)
President of SCOR

Copy to.-

Dr Ketchum
Dr Wooster
Professor Sarwono

Encl. List, Circ. memo., and notes

Mr Copy to Professor Doty
Dr Ketchum
Dr Ryther

5 JUL 1961

033.4251
GPH/LKE

Mr F.A.J. Armstrong,
Marine Biological Association of the U.K.,
The Laboratory,
Citadel Hill,
PLYMOUTH ENGLAND

Dear Mr Armstrong,

Many thanks for your letter of June 28 with the list of methods which you think should be intercalibrated at Hawaii.

I notice that you say you could demonstrate some primary production techniques. I think we would not call on you for this because you are likely to be fully occupied with the nutrient chemistry. It seems that the primary production intercalibration may not be very great because no National Committee (except Australia and Indonesia) has suggested participants. However, I think U.S.S.R. will send somebody on "Vityaz."

I am writing today to UNESCO asking for money for the participants, and from the list I have compiled, it seems the meeting should be very good. It is really an important concept to have people there with their gear so everybody can learn what methods are in use.

Yours sincerely,

16

(G.F. HUMPHREY)
President of SCOR

✓

Ref. 033.4251
GFH/DKE

Dr T.J. Chow,
Scripps Institute of Oceanography,
La Jolla,
CALIFORNIA U.S.A.

Dear Dr Chow,

Following your recommendation by the U.S. National Committee, I have suggested to UNESCO that you be given financial assistance to participate in the intercalibration tests at Hawaii.

I enclose a list of other participants. You already have the circular memorandum and notes which I sent earlier to you. You will see that you are expected to demonstrate the methods you are using, or which you will use, during your investigation of the Indian Ocean. Please note particularly paragraph 5 of Dr Ketchum's notes.

I think Dr Ketchum would like to receive any comments or suggestions you have. You should also tell him what methods you will demonstrate for intercalibration.

I hope you will be able to go to Hawaii to take part in the tests and I look forward to seeing you there.

Yours sincerely,

18

(G.F. HUMPHREY)
President of SCOR

Copy to.-

Dr Ketchum
Dr Wooster

Encl.

List

LIST OF PROBABLE PARTICIPANTS IN THE NINTH CHEMISTRY

PART OF THE INTERCALIBRATION TESTS

(Some of these have been suggested for financial assistance)

SCOT Dr Ketchum, in charge of tests

AUSTRALIA Mr Howell
Mr Rochford

INDIA Dr Jayaraman

JAPAN Mr Sugiura

PAKISTAN Dr Shah

U.K. Mr Armstrong

U.S.A. Dr Chow
Mr McGill

Other participants may be added if further information
comes from National Committees.

Copy to Dr Wooster

Ref. 033.4251
GFH/DKE

5 JUL 1961

Dr B.H. Ketchum,
Woods Hole Oceanographic Institution,
Woods Hole,
MASSACHUSETTS U.S.A.

Dear Buck,

As you can see from the copy of the enclosed letter to Wooster, the list of people I assembled after consulting the National Committees is not very different from the one you gave me. The additional countries are Indonesia and Pakistan.

I have asked people to write to you with comments and suggestions but I think it would be a good idea for you to contact them yourself since I now wish to hand the job over to you. One thing that needs re-emphasizing to the participants is that they must bring gear and solutions and make it clear to you what they expect to have provided in Hawaii. I think Wooster would like you to keep him informed on this since he will have to decide if he has enough money to pay for freight.

If there are any last minute additions to the list of participants (South Africa, U.S.S.R.) I shall let you know at once.

Yours sincerely,



(G.F. HUMPHREY)
President of SCOR

Encl.
Letters (copies)

Copy to Dr Wooster

Copy to Dr Wooster
Professor Doty
Dr Ryther

Ref. 033.4251
GPH/DKE

Dr O.H. Oren,
Sea Fisheries Research Station,
P.O. Box 699,
HAIFA ISRAEL

Dear Dr Oren,

Your letter of June 23 came as I was making the recommendation to UNESCO for expenses in connection with the intercalibration tests.

For the nutrient chemistry I have suggested seven people from Australia, India, Japan, Pakistan, U.K., and U.S.A. For primary production, in addition to your letter, I received -

- a) a request from Indonesia that Mr Aprilany Soegiarto (who is now working in Hawaii with Professor Doty) be allowed to observe the tests, and
- b) from Australia, the name of Mr Jitts who has been working for two years in the Indian Ocean and who would now like to calibrate his methods against any others which will be used.

The intercalibration tests are only for people who have methods which are in use. Of the three people who have expressed interest, only one (Mr Jitts) has a method in operation. At the moment it seems that there may be no intercalibration work in primary production. I know that Miss Kohlens-Wishke will be at the Congress and that the "Vityaz" will visit Hawaii. Mr Jitts will be at the Congress and his apparatus will be on board our ship "Lascayne." Thus some work may be done but since your method is not yet ready I cannot recommend to UNESCO that your fares be paid to attend.

It is probable that there will be other opportunities for intercalibration, especially if the laboratories which will work in the Arabian Sea include primary production in their projects. If I hear of such opportunities I shall write to you.

Yours sincerely,



(G.F. HUMPHREY)
President of SCOR

Copy sent to:-

Ref. 033.4251
GPH/DKE

Professor Doty
Dr Ketchum
Dr Ryther
Dr Wooster

JUL 1961

Dr N.K. Panikkar,
Secretary of INCOB,
G/- Ministry of Food and Agriculture,
NEW DELHI INDIA

Dear Dr Panikkar,

INTERCALIBRATION TESTS AT HAWAII

Thank you for your letter of June 28, with the information about Dr Jayaraman and Dr Prasad.

I am sending Dr Jayaraman's name to UNESCO asking that he receive financial assistance. I enclose a copy of the letter I have written to him about the work.

I am not sure from your letter whether Dr Prasad is going to work on primary production or not. If he is not going to do this work I cannot recommend financial assistance for him. As the circular says, "participants must have definite programmes for work in the Indian Ocean ... At Hawaii they will be expected to demonstrate the methods they will use and to carry out the intercalibration tests." If Dr Prasad has a programme and can demonstrate his techniques at Hawaii with material which he will bring, or which can be supplied by the University of Hawaii, please let me know by return mail or cable so that I can add his name to the list for assistance and also arrange for the preparation of laboratory facilities for him at Hawaii.

From the list of prospective participants it seems that the tests will mark an important step forward in practical international collaboration.

Yours sincerely,



(G.F. HUMPHREY)
President of IBCO



Encl. copy letter

Copy to Professor Doty
and Dr Wooster

Ref. 033.4251
GHH/DKE

5 JUL 1961

The Scientific Director,
Indian Ocean Biological Programme,
C/- Woods Hole Oceanographic Institution,
WOODS HOLE
MASSACHUSETTS U.S.A.

Dear John,

I am enclosing a copy of two letters on the inter-calibration tests. As you see we have good response on the chemistry but in effect only Australia for the primary production.

Your national committee did not nominate anybody, and I think you said earlier that probably nobody on the mainland had any definite plans. Do you think the position will remain like that, or will somebody be asked to do some work?

Jitts will be at Hawaii and his gear will be on board "Gascoyne;" I suppose Kohlents-Mishke and the "Vityaz" will arrive expecting something but without having told us they were really coming. If you are going to organize somebody to do something it would probably be worthwhile his being there.

Your letter of June 29 has just arrived. It is good to know you and McDowan can come. I shall keep you both informed.

Yours sincerely,



(G.F. HUMPHREY)
President of SCOR

Copies to:-

Professor Doty
Dr Wooster



Encl. copy letters

Ref. 033.4251
GPH/DKE

6 JUL 1967

Dr Niaz Ali Shah,
C.S.I.R.,
34-37 P.M.H. Lines,
Karachi,
PAKISTAN

Dear Dr Shah,

Following your recommendation by the Pakistan National Committee I have suggested to UNESCO that you be given financial assistance to participate in the intercalibration tests at Hawaii.

I enclose a copy of the Circular Memorandum and Notes which I sent to your committee. You will see that you are expected to demonstrate the methods you are using, or which you will use, during your investigation of the Indian Ocean. Please note particularly paragraph 5 of Dr Ketchum's notes.

I think Dr Ketchum (Oceanographic Institute, Woods Hole, U.S.A.) would like to receive any comments or suggestions you have. You should also tell him what methods you will demonstrate for intercalibration.

I hope you will be able to go to Hawaii to take part in the tests and I look forward to seeing you there. A list of other participants is enclosed.

Yours sincerely,



(G.F. HUMPHREY)
President of SCOR

Encls.
Circ. memo. & notes
List

Copy to.-

Dr Ketchum
Dr Wooster (Director,
Unesco Office of
Oceanography)
Commander Islam (Chairman)
Pakistan Committee

Copy to Dr Ketchum
Dr Ryther
Professor Doty
Mr Snider

Ref. 033.4251
GPH/LMS

Enclosures sent - copy letters and list

The Director,
Office of Oceanography,
UNESCO,
place de Fontenay,
PARIS 7, FRANCE

Dear Dr Wooster,

INTERCALIBRATION TESTS AT HAWAII

I enclose a table summarizing the answers from National Committees. Two important countries from which I have not received answers are South Africa and U.S.S.R. In addition to the committees, I sent the Circular Memorandum to Dr Hall, Director of the East African Fisheries Research Organisation; it is possible that he may nominate Dr Bell to come for the nutrient chemistry, but since both Bell and Hall are on holiday in U.K. I have not yet got details. Bell's attendance would cost about \$1700.

The total expense (excluding gear transport) of those included in the table is about \$14,000 which is about \$5000 more than the \$9,400 in the UNESCO budget. To keep expenses to the original level, I suggest grants be offered as follows:-

Australia - Jitte and Kochford, per diem.

Aprilany (Indonesia), Humphrey, and Jitte are the only people on the list who will definitely work on Indian Ocean primary production. Koblenz-Mishke will be at Hawaii, but I think we shall not know until we see her there whether anything practical can be done, nor shall we know if she is to work in the Indian Ocean. Jitte can demonstrate Humphrey's methods. I think that at this stage Jitte should be advised that if intercalibration work does eventuate he could claim per diem. No arrangements should be made to pay him before September; he will be at the Congress participating in the productivity symposium and his gear will be on "Gascoyne."

India - per diem and fares. - Jayaraman

I have asked if Prasad has a definite programme on production and if he can demonstrate his methods at Hawaii. I shall write to you as soon as I hear.

Indonesia - Although Aprilany requires no money, he should be kept fully informed if documents are distributed.

Israel - Oren has not got a method going yet. He is still working out technical problems and therefore cannot demonstrate anything.

Japan - Sugiuma - per diem and fares.

Pakistan - Shah - per diem and fares.

I am fairly certain Shah is chemistry, and I have written asking

Dr. Webster

U.K. - Armstrong - per diem and fares.

U.S.A. - Chow and McGill - per diem and fares.

Although I have suggested only one participant from the other countries I think we should have two from U.S.A. because of the size of her programme. I know Ketchum would like to have Garritt and Corwin to assist him, but I do not see how we can finance this.

SCMR - Ketchum - per diem and fares.

If Pyther stays on after the Congress for primary production intercalibration he should be offered per diem.

If my suggestions are followed, about \$5850 are needed. I think offers should be sent now to those mentioned. If East Africa nominates Bell I shall send you a recommendation for \$1700 for him, thus leaving a balance of \$1850 for gear.

The position about gear is as follows:-

Australia - no money needed, all will be brought on "Gascoyne."

India - no information.

Indonesia - uses same methods as Boty; gear already available in Hawaii.

Japan - no information.

Pakistan - "comparatively small sum for transport of material."

U.K. - will bring "measuring apparatus and solutions."

U.S.A. - no information.

I think Ketchum will write to the participants about their gear just to make sure they do not expect to find everything at Hawaii. However, I think that when you are offering expenses you should ask for an estimate of what weight of gear they will have.

Yours sincerely,



(G.F. Huxford)
President of SCMR

RE SUBMIT
EXPOSITION DEPT.
RE 11/19/61
WILL GO TO HONOLULU

COUNTRY	NAME	ADDRESS	METHODS EMPLOYED	UNLOCATED MONIES FOR ALL PARTICIPANTS SUBMITTED BY NATIONAL GOVERNMENTS
AUSTRALIA	Dr G.F. Humphrey } Mr H.R. Attis } Mr B.J. Newell } Mr D.J. Hochford }	C.S.I.R.O. Division of Fisheries and Oceanography, Cronulla	Pigments C - fixation Nitrate O ₂ Inorganic P, total P.	\$90 per diem " " "
INDIA (in order of priority)	Dr B. Jayaraman Dr H.R. Prasad	Fisheries Research Station, Thuvann Road, Madras. Central Marine Fisheries Research Institute, Marjapuram Camp.	Nutrient Chemistry ? Primary production	\$150 per diem, fares " "
INDONESIA	Mr Aprilany Soegianto	C/- Botany Department, University of Hawaii	Pigments, C-fixation Observe nutrient chemistry	Nothing
ISRAEL	O.H. Green	Sea Fisheries Research Station, Haifa.	<i>Primary production</i>	\$1500 per diem fares
JAPAN	Mr T. Sugimura	Meteorological Research Institute, Tokyo.	Nutrient Chemistry	\$700 per diem, fares
Pakistan (in order of priority)	Mr Mian Ali Shah Dr Ikramul Haq Dr H.K. Bhatti Mr H.M. Rizki Mr S. Rahman	C.S.I.R. 34-37 P.H.H. Lines, Karachi Zoology Department, University of Karachi C.S.I.R. Regional Laboratories, Lahore Meteorological Inst., Block 4, Westinabad, Karachi Central Fisheries Dept., West Wharf, Karachi	" " " " "	\$1200 per diem, fares " " " "

PRINT

NAME

ADDRESS

METHODS SUGGESTED

CALCULATED NEEDS
FOR ALL PARTICIPANTS
SUGGESTED BY
NATIONAL COMMITTEES

Mr F. Armstrong

Marine Laboratory,
Plymouth

O₂, inorganic P, total P,
nitrate, nitrite, silicate

\$1050 per diem
fares

+ Dr D. Carrick
+ Dr F.J. Chou
+ Mr H. Corwin
+ Mr D. McGill

Johns Hopkins University
Scripps Institution of Oceanography
Woods Hole Oceanographic Institution
"

Nutrient Chemistry

\$600 per diem, fares
\$350 " " "
\$600 " " "
\$600 " " "

+ will actively participate in Indian Ocean
+ will participate and/or train analysts

In addition to the above suggested by National Committees, SCOR suggests Dr Ketchum to run the Nutrient Chemistry, and
Dr Ryther (or Professor Doty) to run the Primary Production, i.e.,

SCOR

Dr B.H. Ketchum

Woods Hole Oceanographic Institution

\$600 per diem, fares

Dr J.H. Ryther

" "

? \$490 per diem
nothing

(Professor M.S. Doty)

University of Hawaii

Six days at \$15 per diem has been allowed; air fares are approximate and should be checked;
the per diem should be changed to the normal UNESCO rate

METEOROLOGICAL RESEARCH INSTITUTE

MABASHI, SUGINAMI-KU, TOKYO, JAPAN

July 5, 1961

Dr. G.F. Humphrey
President of SCOR
c/o C.S.I.R.O. Marine Laboratory
P.O. Box 21, Cronulla, Sydney
N.S.W., Australia

Dear Dr. Humphrey:

I am preparing to go to Honolulu to participate in the Intercalibration Meeting of Chemical Oceanography on behalf of the National Committee on Oceanographic Research of Japan Scientific Council. As informed early to you, I need fares to Honolulu and return by tourist class, transportation expenses for material and per diem for the period of the intercalibration meeting to be defrayed from SCOR.

There is a strict control on exchange of foreign currency in Japan. A guaranteed letter of invitation is necessary for me to go out of Japan.

I shall be much obliged to you if you could send me as promptly as possible an invitation letter with the guarantee of financial support. I beg your assistance and collaboration.

Prof. Miyake is hoping to give his best wishes to you. And he is also going to Honolulu for the Pacific Science Congress.

Sincerely yours,

Yoshio Sugiyama

Yoshio SUGIURA

WOODS HOLE OCEANOGRAPHIC INSTITUTION
WOODS HOLE, MASSACHUSETTS



July 6, 1961

Dr. Yatsuka Saijo
Water Research Laboratory
Nagoya University
Furo-cho, Chikusa-ku
Nagoya, Japan

Dear Dr. Saijo:

I have found it necessary to withdraw from the program for the intercalibration of productivity measurements at Hawaii. I am not certain of the present plans and am afraid I cannot answer your questions. I believe that the program will be arranged by Dr. George Humphrey, President of SCOR, or by Dr. Maxwell Doty, University of Hawaii or by both. In any event, Dr. Humphrey can give you the information you have requested, so I am sending him your letter and a copy of this reply.

I will be in Hawaii during at least part of the Congress, including Dr. Doty's symposium, and will look forward to seeing you again there.

Sincerely yours,

John H. Ryther

sey
cc: Humphrey

HYDROGIST (EAMPRO.) X

MR. B. E. BELL

4, LONG LANE

CONEY, (OWNEY)

BUCKS.

ENGLAND.

On leave
July - December.

WOODSTOCK,
RIDGE PARK,
PLYMPTON.

DEVON,

ENGLAND.

8th. July 1961.

FILE	033 4251
11 JUL 1961	
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Dr. J. F. Humphrey,
Marine Laboratory,
Brenulla N.W.

Dear Dr. Humphrey,

Thank you for your letter of 19th. June addressed to me in Nottingham. I regret to say that, although I was in Zanzibar up to 10th. June, I received no Circular Memorandum on Intercalibration Trials. I have written to the Royal Society for a copy.

To avoid delay, although I do not know yet the terms of the circular, I forward the name of the Officer* who will be undertaking the primary productivity & nutrient studies during the extended cruises of the "Humbly". The programme of EAMPRO participation has been with Mr. Snider for some eight months.

I think I told you in Liverpool for 2 or 3 weeks last year that when I took over EAMPRO in January last year the Organization had no hydrographic programme nor equipment to conduct one, nor even the cash to purchase the equipment. We now have a programme, & cash



Dr. G. F. Humphrey
CSIRO Laboratory
Box 21
Cronulla NSW.
Australia.

← Second fold here →

Sender's name and address:
D.N.F. HALL

Woodstock Ridge Park
Wynnumpton Devon.

AN AIR LETTER SHOULD NOT CONTAIN ANY
ENCLOSURE; IF IT DOES IT WILL BE SURCHARGED
OR SENT BY ORDINARY MAIL.

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was released w.e.f. 4th July. The purchasing of
equipment will proceed as quickly as possible.

In view of the limited experience of the Officer
concerned I consider it absolutely essential that he
attend the Hawaii meeting, not to demonstrate any of
his own methods, but to study those of others. I wrote
to Mr. Smith about this some time ago. We are trying to
arrange that he travel at least part of the way to
Hawaii on American research vessels (needless to say we have
no funds of our own to send him)

Yours sincerely
Cammie Hall

METEOROLOGICAL RESEARCH INSTITUTE

MABASHI, SUGINAMI-KU, TOKYO, JAPAN

July 10, 1961

Dr. G.F. Humphrey
c/o C.S.I.R.O. Marine Laboratory
P.O. Box 21, Cronulla, Sydney
N.S.W., Australia

Dear Dr. Humphrey:

I've sent a letter as is the same as one enclosed here
to Dr. Ketchum today.

I am now hoping I can attend the intercalibration
meeting and also I hope I can meet you there this summer.

Sincerely yours,

Yoshio Sugiura

SUGIURA, Yoshio

033-425

1-96

2 Newell BN

2 Rabyud PK

✓

METEOROLOGICAL RESEARCH INSTITUTE

MABASHI, SUGINAMI-KU, TOKYO, JAPAN

July 10, 1961

Dr. B.H. Ketchum
Woods Hole Oceanographic Institution
Woods Hole, Massachusetts, U.S.A.

Dear Dr. Ketchum:

I am glad to inform you that I was nominated to attend the meeting of the intercalibration of chemical oceanography at Hawaii by the National Committees on Oceanographic Research of Japan Scientific Council.

I've received a letter from Dr. G.F. Humphrey to write to you answering the following notes:

- (1) Which methods I want calibrated,
- (2) Which methods I will demonstrate at Hawaii,
- (3) What my comments on your preliminary notes is.

I will answer below:

- (1) Inorganic phosphorus, total phosphorus, oxygen, nitrate and silicate,
- (2) The same as in (1),
- (3) In our country, the colorimetric determination aboard a boat is mostly done by reading a ~~photometric~~ voltmeter attached to an electric filter photometer using the cells with the length of 100 mm. But only in the Hydrographic Office the reading is self-recorded on a roll of paper aboard the boat. According to the observers in the Hydrographic Office, it is quite successful even on rough sea. This system will be used for the observation of the Indian Ocean. The photometer in use will be taken to Hawaii this summer.

A copy of this letter will be sent to Dr. Humphrey according to his request.

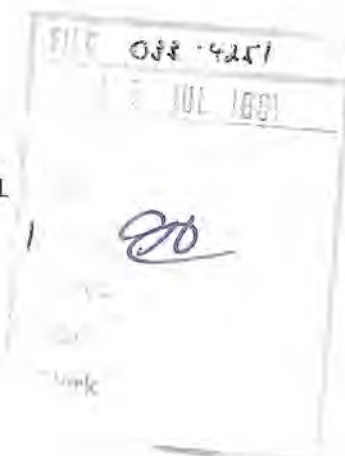
Sincerely yours,

SUGIURA, Yoshio

UNIVERSITY OF CALIFORNIA

SCRIPPS INSTITUTION OF OCEANOGRAPHY
LA JOLLA, CALIFORNIA

11 July 1961



Dr. G. F. Humphrey
President of SCOR
C.S.I.R.O. Marine Laboratory
Box 21, Cronulla, Sydney
AUSTRALIA

Dear Dr. Humphrey:

I wish to thank you very much for your letter of July 5 regarding the intercalibration tests at Hawaii and am grateful for the financial assistance from the UNESCO. I will communicate with Professor Ketchum concerning Scripps' chemical plan for the expedition.

If the research ship Vitiaz will be near Hawaii during the Congress, I hope arrangements can be made for our Russian colleagues to participate in the intercalibration.

I am looking forward to meeting you again during the Congress.

Sincerely yours,

Tsaihwa J. Chow
Tsaihwa J. Chow

bjs

Ref. 033.4251
GFM/MM

Dr D.N.F. Hall,
Woodstock,
Ridge Park,
Plympton,
DEVON, ENGLAND


Dear Dr Hall,


I have your letter of July 8 and I assume that you have seen the Circular Memorandum and Dr Ketchum's notes on the Intercalibration tests. I think you will see from these documents and from the information you gave me that your laboratory really cannot take part.

I think the question now is what can be done to help you to achieve your object, i.e. for Mr Bell to study the methods of others. Since he is on leave in U.K. until December I think he is in a pretty good position. Mr Armstrong is coming to the Hawaii tests on the recommendation of the U.K. National Committee as somebody who will do some of the Indian Ocean work and somebody who will have a major part in training others. I think Mr Bell should receive some training from him after he returns from Hawaii and sees how the methods he will demonstrate there compare with those of other laboratories. I would be very glad to write to the U.K. National Committee, to EAMPRO or any other body you nominate to explain the importance of Bell spending some time with Armstrong.

It is probable that there are other laboratories like yours which are now getting equipped but have not yet got going. I think that SCOR will have to consider the question of intercalibration for these at a later date. I hope you will agree with me that I cannot recommend, under the terms of the Circular Memorandum, to UNESCO that financial assistance be given to Mr Bell to go to Hawaii. Please give me any suggestions you have on how SCOR can help your laboratory.

Yours sincerely,


(G.F. HUMPHREY)
President of SCOR

Copies to Mr Snider
Dr Wooster 

Ref. 033.4251
GFH/MM

13 JUL 1961

The Chairman,
National Committee on Oceanic Research,
C/- Hydrographic Directorate,
Naval Headquarters,
KARACHI, PAKISTAN

Dear Commander Islam,

I am now making the final arrangements for the intercalibration work at Hawaii.

I would like to know as soon as possible if any of the participants you suggested in your letter of May 22 are working on primary production and can come to Hawaii to demonstrate their methods for intercalibration.

I would also like to know the fields of work of all the participants you suggested.

Yours sincerely,



(G.F. HUMPHREY)
President of SCOR

Ref. 033.4251
GFH/MM

13 JUL 1961

Mr Y. Sugiura,
Meteorological Research Institute,
Mabashi,
Suginami-Ku,
TOKYO, JAPAN

Dear Mr Sugiura,

Thank you for your letter of July 5.

I have recommended your name to UNESCO for financial assistance to participate in the intercalibration tests at Hawaii on nutrient chemistry. You will be expected to demonstrate the methods your country will use in the Indian Ocean.


On behalf of SCOR I invite you to accept the financial assistance from UNESCO and to come to Hawaii. This financial assistance will cover your fares, freight of apparatus, and daily allowance during the work. The exact details will come soon to you from UNESCO.

If there are any government formalities to be observed please write to Dr Wooster, UNESCO, Paris.

Yours sincerely,



(G.F. HUMPHREY)
President of SCOR



Copy to Dr Wooster

Ref. 033.4251
GFH/MM

Dr W.S. Wooster,
Director, Office of Oceanography,
Fontenoy Place,
PARIS 7, FRANCE

Dear Dr Wooster,

As you can see from the enclosed I think we should not assist Bell from Zanzibar to go to Hawaii. This gives us another \$ 1-2000. I have not heard from India or Pakistan yet about whether they have primary production workers.

If they have primary producers I shall recommend them. If not I think we should spend the money on a second chemist from each country. Do you have any objection to this?

U.S.A. is the only committee to answer on the zooplankton so far. On Monday I shall start sending cables.

Yours sincerely,

(G.F. HUMPHREY)
President of SCOR

Encl.
Copy letter

FILE 035.4250
JUL 1961
Admin.
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1. <i>GB</i>
Rec.
Libr.
Clerk

CABLE

HUMPHREY
MARINE LABORATORY
CRONULLA
SYDNEY (AUSTRALIA)

CONFIRMED PRASAD WORKING ON PRIMARY PRODUCTION STOP
REQUEST TRAVEL AND LOCAL ASSISTANCE FOR PRASAD

PANIKKAR

Not to be cabled

Sd/- (N. K. Panikkar)
Member-Secretary
Indian National Committee on Oceanic
Research,
Krishi Bhavan,
New Delhi.

Dated July 14, 1961.

cc. Dr. G. F. Humphrey,
President of SCOR
C/- C.S.I.R.O. Marine Laboratory,
Box 21, CRONULLA, SYDNEY,
AUSTRALIA

in confirmation.

on *Ren Park*
on

(N. K. Panikkar)
Member-Secretary.

14 JUL 1961

Ref. 033.4251
GFH/DKE

Professor M. Doty,
Botany Department,
University of Hawaii,
HONOLULU,
HAWAII

Dear Max,

Ryther sent me a copy of a letter he got from Saijo. Ryther's reply to Saijo said he would not be running the intercalibration but you would. So it seems intercalibration is on and you are the boss. I hope you will take it on and answer Saijo's enquiries and any others.

Prasad from India is also coming for primary production. His address is - Central Marine Fisheries Research Institute, Mandapam Camp.

I suppose we sort it out with Ryther when we see him. I wish he (or the U.S. committee) would get you to run an Indian Ocean programme.

Yours sincerely,

GA

(G.F. HUMPHREY)
President of SCOR

Copy of this to Professor Doty, Dr Ryther, Dr Wooster, and
Secretary, Japanese Nat. Committee (Uda)

Ref. 033.4251
GHI/DKE

14 July

Dr Y. Saijo,
Water Research Laboratory,
Faculty of Science,
Nagoya University,
Furo-cho, Chikusa-ku,
NAGOYA JAPAN

Dear Dr Saijo,

Dr Ryther has forwarded to me your letter of June 30 which says that the Science Council has asked you to represent Japan at the intercalibration of productivity measurements. I am very glad to know that you will be working in the Indian Ocean and that you will be able to stay on after the Congress and demonstrate your methods. I hope you will include both C-fixation and determination of pigments.

I assume that the only financial assistance you want is for daily allowance during the intercalibration and for transport of apparatus. You say in your letter that most of the apparatus you require is probably already available in Hawaii. Professor Doty is organizing the work and if you write to him he will give you details of the programme and of the apparatus.

I enclose a copy of the circular about the intercalibration. Other participants will be Mr Aprilany Soegiarto (Indonesia) who is already at Hawaii working with Professor Doty, Mr Jitta (Australia) who will send all his gear (counters, sampling bottles, ampoules, filtering apparatus etc.) on "Gascyne" the Australian oceanographic vessel, Dr Prasad from India, and probably Miss Koblenz-Wishke who is expected to bring her apparatus on "Vityaz." India and Pakistan may also participate. The countries participating in the nutrient chemistry are Australia, India, Japan, Pakistan, U.K., U.S.A., and probably U.S.S.R.

I look forward to meeting you at the Congress and at the intercalibration.

Yours sincerely,

18

(G.F. HUMPHREY)
President of ICR

Copy to:-
Professor Doty, Hawaii
Dr Ryther, U.S.A.
Secretary, Japanese National Committee (Uda)
Dr Wooster, UNESCO, Paris

Encl.
Circular

Ref. 033.4251
GML.DKE

The Secretary,
National Committee on Oceanic Research,
Science Council of Japan,
Ueno Park, Taito-ku,
TOKYO JAPAN

Dear Professor Uda,

I understand from Dr Saijo that he will represent Japan at the intercalibration of primary production methods in Hawaii. I enclose a copy of a letter I have sent to him in answer to his enquiry to Dr Ryther.

Please confirm that Dr Saijo is your representative and that he will require a daily allowance during the tests. I understand he is already attending the Congress and will therefore not require fares.

I am very glad to see that your country will participate in this important work.

Yours sincerely,

A

(G.F. HUMPHREY)
President of SCOR

Copy to:-

Dr Saijo, Japan

Dr Wooster, Paris

Encl.
Copy letter

4 JUL 1961

Ref. 033.4251
GFH/DKE

The Director,
Office of Oceanography,
UNESCO,
Place de Fontenoy,
PARIS 7, FRANCE

Dear Dr Wooster,

Ryther has passed on to me the news that Saijo will intercalibrate primary production for Japan. I know from Doty's symposium programme that Saijo will already be in Hawaii so he will not need fares. I shall write to you again when Uda confirms participation and then I suppose you should make an offer to Saijo for per diem and fares. If you wished you could do it now without waiting for Uda.

I have received a cable from India that Prasad is nominated as a participant for primary production. Please make an offer of fares, per diem and freight for him.

This means that primary production is definitely on so I suppose you should make a per diem offer to Jitts.

Yours sincerely,

A

(G.F. HUMPHREY)
President of SCOR

WOODS HOLE OCEANOGRAPHIC INSTITUTION
WOODS HOLE, MASSACHUSETTS

U. S. PROGRAM IN BIOLOGY
INTERNATIONAL INDIAN OCEAN EXPEDITION

FILE 033-425

18 JUL 1961

July 14, 1961

Ref 033.4251

GB

Dr. G. F. Humphrey
C. S. I. R. O. Marine Laboratory
Box 21
Cronulla, N. S. W., Australia

Dear George:

As far as I know now Max Doty, and I, with the possible addition of a few junior scientists and the help of technical assistants, will be responsible for the U. S. primary production measurements during IOE. I will see that the technicians are available; I hope that Max will be able to train them in Hawaii, supply the ships and do the counting and working up of data.

I presume that Max will still take an active part in the intercalibration tests, though he has recently suggested that perhaps Jitts (and/or you) would assume the responsibility for planning and organization. In view of Harry Jitts' obvious interest and involvement, I would think Doty's suggestion quite appropriate. I assume that he has contacted either or both of you about this.

In any event I had taken it for granted that Max would be the official U. S. representative for these tests. Since there is no need to provide him financial support, do we need to have him officially appointed by our National Committee? If so, I will see that it is done at once.

I need to know the dates of the Cochin meeting before I can get an Indian visa, which takes some time. Therefore I would appreciate your letting me know this as soon as possible after the decision is reached.

Sincerely yours,



John H. Ryther

aey



UNIVERSITY OF HAWAII

HONOLULU 14, HAWAII

July 17, 1961

Dr. George Humphrey
Chief, Division of Fisheries
and Oceanography
C. S. I. R. O.
P. O. Box 21
Cronulla, N. S. W.
AUSTRALIA

Dear George:

A letter just received from John Ryther and another from your office (in fact 2 counting the carbon of yours to Saijo) clears matters considerably. John is indeed expecting those of us out here to run the show for the SCOR productivity intercalibrations. Therefore, I suggest that Harry Jitts be brought in on it at least for the active show if not for the whole thing; especially since we expect to use "Gascoyne" and he is familiar with operations aboard her.

Either you take up this intercalibration matter with Harry or let me know and I'll approach him. I suppose he should be given a chance to say "no", but I think he would be ideal; thus, don't let's give him much of a chance.

American or English, I think.

I think that within a week I can produce a list of equipment available here and send it to the people whom you have mentioned from time to time as prospective participants; namely, Prasad, Saijo, Jitts, Koblentz-Mishka, Soegiarto, Doty (though what these last three will do with it, I don't know). Better send me "India's" and "Pakistan's" addresses and names for this if available, (Perhaps at the same time you tell me that Harry has agreed.....) I'll await your advise on these last two matters before making the distribution of information as to equipment available here.

I should note here that we are expecting to send most of our field gear out on the "Pioneer" for a 40-day cruise to the North on September tenth.


With the very best of wishes, I remain

Sincerely,


MAXWELL S. DOTY

MSD : ykk

cc: John Ryther

Sincerely,

MAXWELL S. DOTY

P.S. - I'm enclosing a "to be redone" letter
that was almost ready to send you when
yours arrived today.

P. S.S. - Enclosing a Rec. Sci.
Corp. schedule for you
and yours -




UNIVERSITY OF HAWAII

HONOLULU 14, HAWAII

July 17, 1961

Mr. George Humphrey
Chief, Division of Fisheries
and Oceanography
C. S. I. R. O.
P. O. Box 21
Cronulla, N. S. W., Australia

Dear George:

I have just received your manifold distribution of carbon copies concerning the SCOR tests. I can see right off that you are a very good paper man.

I received a letter of June 30 recently from Dr. Yatsuka Saijo, Water Research Laboratory, Nagoya University, Nagoya, Japan, in which he says:

"Science council of Japan decided to let me represent Japan on the expected program on intercalibration productivity measurements which will be proceeded parallel by the intercalibration of chemical analysis with the IO project. Unfortunately, we have little information as to how this program of productivity measurements will be proceeded and who is in charge for arranging the program. However, I suppose you are working as one of the members of the arrangement.

"What kind of instruments and other facilities do you expect to be brought with me? You know that an air trip allows only a luggage of limited weight. Therefore, it is desirous to use as many instruments available at your laboratory as possible which are of the same type as we use in Japan."

I wrote back to him suggesting that he still had time to ship things by surface freight if he got on the ball. I listed some of the more heavy apparatus that we have here. I also pointed out the president of SCOR is suggesting that these meetings be for people who are actually going to be participating in the work of IOE and that the intercalibration tests will be actual parallel use of apparatus and will not be discussions of techniques and interpretations. You can take it from there, George.

Mr. George Humphrey, July 17, 1961, page 2.

My impression is that John Ryther is expecting me to do everything for the SCOR intercalibration productivity work that he could have been expected to do. Knowing that he is snowed under with several other pressing matters, I don't feel that we can expect more than sympathy from him in our efforts to see a program organized around his suggestions (distributed variously in February and March), my suggestions distributed with my letter of April 27 to Ryther (a copy of which suggestions you have or have seen) and those made by Harry Jitts (in his letter of June 20 commenting on my letter of April 27 to Ryther).

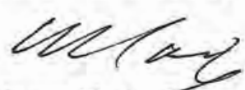
I think you are wise in restricting these intercalibrations tests to people who will be participating in the IOEs and the processing of data from them.

Insofar as I know, no decision has been made as to who will participate for the Americans in the IOE primary productivity work. I have expressed an interest provided: 1) financing were to be available, 2) a uniform technique would be applied throughout and that 3) I could do all of any particular part of it. This is not to be interpreted that I want to do the whole thing to the exclusion of others, but only that I think a cooperative application of one technique and set of methods over the whole 2-year program could produce some useful results; whereas 3 or 4 or 5 people each doing a little part in their own way for part of the expedition period will result in nothing worth the effort. Ryther has written back that this sounds like an interesting proposition. He is not yet, I believe, in a position to either delegate authority or the money. I certainly dislike to see your repeated comment to the effect that there seem to be no participants from the US in productivity, but it does seem to be near the truth. I am interested but I get the impression that such funds are to come from our NSF via WHOI and NSF has not yet considered granting any particular sum yet. I am quite sure there will be ^{productivity} work out there and that IOE will not be strictly a WHOI-Scripps deal.

With things as they are I'm quite sure that both Ryther and I ^{would} be quite happy if you were to urge Jitts and Doty to do what they can to ~~achieve the points in the three suggestions listed above for intercalibration tests~~. Doty could provide the laboratory base facilitation and Jitts, with the "Gascoyne", could provide the at sea base. Things will be hectic when Harry arrives here about the 16th or 17th of August. Perhaps he should try to get here a couple of days sooner than that. He could come with the idea that he and I should work out on the spot the operational details for the intercalibration activities. We should have a better idea by then as to who is coming with what. He should be able to live, considering the 20 days per diem we're giving him.

With the very best of good wishes, I remain

Yours sincerely,


Maxwell S. Doty

MSD:lm

24 JUL 1961

Admin.

Ful.

1. Quesn.

Sec.

Libr.

Clerk

R. Jayaraman.

Central Marine Fisheries
Research Substation,
Dewan's Road, Ernakulam-1.
S. India.

July 18, 1961.

Dear Dr. Humphrey,

*handwritten
details
written*

I am very glad to receive your letter of the 5th instant and thank you very much for the same. I shall certainly be writing to Dr. Ketchum regarding his notes on Intercalibration. I am yet to hear formally from the INCOR about my participation in Intercalibration. I presume that the INCOR would have replied to the various points in the questionnaire on page 2 of your circular memorandum.

If this trip to Hawaii materialises I shall indeed have the pleasure of meeting you again. The last time we met was in the year 1957 when you had visited the National Institute of Oceanography, England where I was working with Mr. Currie and later at the Primary Production Symposium at Bergen, Norway.

With best regards,

Yours sincerely,

R. Jayaraman
(R. Jayaraman).

Copy to Professor Doty, and Dr Ryther

19 JUL 1987

Ref. 033.4251
GTH/DKE

Dr W.S. Wooster,
Director, Office of Oceanography,
UNESCO, Place de Fontenay,
PARIS 7, FRANCE

Dear Dr Wooster,

INTERCALIBRATION AT HAWAII

I received today a note from Ryther saying U.S.A. would be doing some primary production in the Indian Ocean with Doty playing the leading role. Therefore, in any list of participants, Doty should be included as the U.S. participant for primary production. He needs no fares or per diem.

In my letter of July 14 to you about Saijo, I made a mistake in line 7 - "fares" should be "freight".

I think we should take it that Doty and not Ryther is the SCOR nominee for running the primary production intercalibration.

Yours sincerely,

lt

(G.F. HUMPHREY)
President of SCOR



SUFFREN 86-00
TÉLÉPHONE : SUFFREN 98-70 - TÉLÉGR. : UNESCO PARIS
SOLFERINO 99-48

UNITED NATIONS EDUCATIONAL SCIENTIFIC AND CULTURAL ORGANIZATION

ORGANISATION DES NATIONS UNIES POUR L'ÉDUCATION, LA SCIENCE ET LA CULTURE

Place de Fontenoy, PARIS 7^e

In your reply, please refer to
En répondant, veuillez rappeler
N° NS/9/12

21 July 1961

FILE 033.4251

JUL 1961

Admin.

Fish.

1 Ocean *SO*

T. Sec.

Libr

Clerk

Dear Dr. Humphrey,

In connection with the forthcoming intercalibration trials in Honolulu, 7 to 12 September 1961, we are now making arrangements for transportation and per diem for the following participants :

- Prasad (India)
- Chow (USA)
- Shah (Pakistan)
- Sugiura (Japan)
- Saijo (Japan) - per diem only
- Jitts (Australia) - per diem only
- Rochford (Australia) - per diem only
- Jayaraman (India)
- Armstrong (UK)
- McGill (USA)
- Ketchum (SCOR)
- Ryther (SCOR) - per diem only

In addition I note that Aprilany (Indonesia) will participate but at no cost. I assume that any Russian participants will be on VITIAZ and will involve no further expense.

We estimate the total expense so far as about \$8,000. I have no way of estimating what costs will be involved in the transportation of equipment, but assume that these will not be large.

Please let me know promptly of any changes in plans for this meeting.

Sincerely,

Warren S. Wooster

Warren S. Wooster
Director
Office of Oceanography

Dr. G. Humphrey,
CSIRO Marine Laboratory,
Box 21, Cronulla,
SYDNEY, N.S.W.
Australia.

14/7/61

Copy to

Dr Ketchum

Dr Wooster

Ref. 033.4251

GH/DKE

Dr R. Jayaraman,
Central Marine Fisheries,
Research Substation,
Dewan's Road, Ennakulam-1,
S. INDIA

Dear Dr Jayaraman,

Thank you for your letter of July 18, with the information that you will give Dr Ketchum your comments on the intercalibration of chemical methods for the work at Hawaii.

INCOR has already told me you will need fares and per diem and I think Dr Wooster, the Director of the UNESCO Office of Oceanography in Paris, will contact you about this. If you have any idea of what money you will need for transport of material please write to him. Dr Ketchum would also be interested to learn what you propose to bring.

I look forward to meeting you again.

Yours sincerely,

(G.F. HUMPHREY)
President of SCOR

← →

GOVERNMENT OF INDIA
CENTRAL MARINE FISHERIES RESEARCH ~~Station~~ Institute
MANDAPAM CAMP
RAMNAD DISTRICT SOUTH INDIA

GRAMS: "CADALMIN" MANDAPAM CAMP

PHONE: EXTENSION FROM
MANDAPAM CAMP P. C. O.

Dr. R. Raghu Prasad,
Research Officer
(Senior Scale)

No. 12979

Date: July 25, 1961

Dear Dr. Humphrey,

I write to acknowledge with thanks receipt of your letter Ref. 033.4251 dated July 17, 1961 and a copy of the Circular Memorandum. I am sorry to inform you that I have had no instructions from my Government so far in this matter. As soon as I hear from the Government, I shall certainly write to Professor Doty and to you.

← →

With kind regards,

Yours sincerely,

(Dr. R. Raghu Prasad)

Dr. G.F. Humphrey,
President of SCOR,
C/- C.S.I.R.O. Marine Laboratory,
Box 21, CRONULLA,
Sydney, Australia.

PKS

Copy to:- (Professor Doty
(Dr Panikkar
(Dr Wooster

Ref. 033.4251
GPH/DKE

Dr P.R. Prasad,
Central Marine Fisheries Research
Institute,
Mandapam Camp,
INDIA

17 JUL 1957

Dear Dr Prasad,

I was very pleased to hear from INCOB that you will be making measurements of primary production in the Indian Ocean and that you will be able to come to Hawaii for the inter-calibration work. I enclose a copy of the Circular Memorandum which I distributed. Professor Doty is organizing the meeting and I would be glad if you would write to him telling him what methods you will demonstrate so that he can supply as much apparatus as possible to save your bringing it.

Others at the meeting are Dr Saijo (Japan), Mr Aprilany (Indonesia), Mr Jitts (Australia), and probably Dr Olga Koblenz-Mishke (USSR). The "Vityaz" (USSR), "Cassidy" (Australia), and perhaps other research vessels will participate.

I have written to Dr Wooster, the Director of the Unesco Office of Oceanography, asking him to arrange money for fares, per diem and transport of gear.

I look forward to meeting you in Hawaii.

Yours sincerely,

A

(G.F. HUMPHREY)
President of SCOR

Encl. 
Circ. Mem.

Wooten

Wineo

Paris

Honolulu ~~states should be~~ participant

should arrive September 8th and work

until about tenth

Thompson

Sent 5⁴⁵ Friday 28/7/61

VEROGRAPHE

C/- CS.I.R.O. MARINE LABORATORY,
BOX 21, CRONULLA, N.S.W.,
AUSTRALIA

033.42251

Copy to Professor Doty
Dr Wooster
Dr Panikkar

Ref. 033.4251
GFH/DKE

3 AUG 1961

Dr R. Prasad,
Government of India,
Central Marine Fisheries Research Institute,
Mandapam Camp,
INDIA

Dear Dr Prasad,

INTER-CALIBRATION TESTS AT HAWAII

Thank you for your letter of July 25 with the information that your Government has so far given you no instructions.

I think you will receive advice and information from the Indian National Committee on Oceanic Research because it is this committee which nominated you for participation as a worker on primary production, who could go to Hawaii to demonstrate and intercalibrate his techniques. If you have not yet heard from INCOR please write to Dr Panikkar who is the Secretary.

You have received the Circular Memorandum which I sent you and therefore you know the type of work we shall expect of you in Hawaii. Professor Doty, who is in charge of the tests, will give you more details.

Yours sincerely,

GA

(G.F. HUMPHREY)
President of SCOR

Copies to:-

Dr Wooster (Paris)
Dr Panikkar (India)
Professor Doty (Hawaii)

Copies to Professor M. Doty, Hawaii

Dr Ryther)Woods Hole(Mass.

Ref. 033.4251
GFH/DKE

4 AUG 1961

Dr W.S. Wooster,
Director, Office of Oceanography,
UNESCO, Place de Fontenoy,
PARIS 7, FRANCE

Dear Dr Wooster,

Many thanks for your letter of July 21, with the information about the intercalibration work at Honolulu. I have already cabled you about the dates and received your answer.

Ryther has withdrawn from the job of organizing the primary production and Doty will take his place. Because Doty is already in Honolulu he needs no per diem. Uda (a Secretary of JNCOR) has now informed me that Saijo is a definite participant for his committee and needs only per diem.

Yours sincerely,



(G.F. HUMPHREY)
President of SCOR

033.1(27)

8 AUG 1981

Ref. 033.127) 4251
HRJ/DKE

Dr W.S. Wooster,
Director, Office of Oceanography,
UNESCO, Place de Fontenoy,
PARIS 7, FRANCE


Dear Dr Wooster,

Thank you for your kind offer of per diem expenses during my participation at the intercalibration tests at Honolulu next September. I am confident that UNESCO will find the results to have been worthy of its support.

I will have no expenses with regard to transportation of equipment as I have despatched mine aboard the Australian research ship, H.M.A.S. "Gascoyne," which will be arriving in Honolulu on August 30.

Yours sincerely,

(H.R. JITTS)



WOODS HOLE OCEANOGRAPHIC INSTITUTION

WOODS HOLE, MASSACHUSETTS

August 8, 1961

Dr. Thomas S. Austin
Honolulu Biological Laboratory
BCF, U. S. Fish and Wildlife Service
P. O. Box 3830
Honolulu 14, Hawaii

Dear Tommy:

The enclosed letter to Harry Zeitlin and the list of things we feel we will need in the laboratory will be, I think, self-explanatory. I regret that it has taken so long to get this show on the road but hope that the month remaining is not too short a time to ensure that we have a successful intercalibration meeting.

I think I explained to you in an earlier letter what sea water samples will be needed in order to do our analyses. I will review these requirements here.

- 1) For standardization techniques, to be available on Monday morning September 4. We will need for this between 50 and 100 liters of low-phosphate surface water which I hope is available near Hawaii. The phosphorus content should not exceed $0.5 \mu\text{g at./liter}$ and preferably should be less than $0.1 \mu\text{g at./liter}$. If water of this sort is not readily available we can use a salt solution but I would greatly prefer not to do so.
- 2) For analytical comparisons, we will need about 10 liters of each of 10 samples covering, as completely as possible, the range of phosphorus content of the natural sea water. Each of these 10-liter samples should be in a single glass bottle (carboy) and should be available for dispensing at the start of the day on Wednesday, September 6. These same samples will suffice for a more limited test of the nitrogen intercomparisons, but if everyone wants to do both nitrate and nitrite we will need a bigger water sample.
- 3) For the oxygen comparisons, and possibly for additional comparisons of the nutrient chemical methods, a day at sea seems to be the only way without a very elaborate set-up which seems to me impossible in the short time we will have available. I believe that Humphrey said that the Gascoyne would be available for one such day but since you are on the Visiting Ship Committee you probably know more about availability than I do.

Dr. Thomas S. Austin

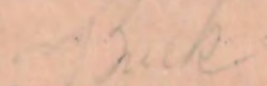
-2-

August 8, 1961

Some of the participants in the Congress will be staying on for this meeting but from here Dave McGill and Nat Corwin will be arriving by MATS on Thursday, August 31, and I will be arriving by commercial flight on Sunday, September 3. I am looking forward with a great deal of pleasure to seeing you again in Hawaii. How did your trip home from Helsinki go? I hope it was a great success.

With best regards,

Sincerely yours,



Bostwick H. Ketchum

BHK:em

August 8, 1961

-Professor Harry Zeitlin
University of Hawaii
Honolulu 14, Hawaii

Dear Dr. Zeitlin:

At long last we have a list of the participants in the nutrient chemistry intercalibration meeting to be held in Hawaii on September 4 - 10. A list of the participants is enclosed for your information.

I have tried to obtain information about what special equipment they will need which they will be unable to bring with them but so far I have no information and I am forced to conclude that everyone plans to come fully equipped. We are shipping today addressed to us in your care a box of equipment from here which will be used at the meeting. We will have to carry some with us when we come out on the plane.

It seems obvious to me that people will overlook some of the simpler kinds of glassware and we have deliberately not shipped this to ourselves since it appeared most likely that you would have it as standard stock in a university chemistry department. In addition to the simple glassware we are hoping that you will be able to provide some of the acids and volatile solvents which are hazardous to ship or carry. A list of the material which we are fairly certain will be required is appended. I know that it is late but I hope that this still gives you ample time to get this small list together.

There is one other problem that I should have, but failed to, think of earlier. What arrangements can we make for housing those who come now or who stay over for this special meeting at the end of the Congress? I realize that during the Congress dormitory spaces have been made available for the participants. Would it still be possible to house the enclosed list of people in the same way? I regret to say that I do not know whether any of the others have made housing arrangements or not. The three of us from here (McMill, Corwin and myself) would certainly appreciate any arrangements you could make for our housing. If the dormitory housing, which I presume would be most convenient, is unavailable I stayed at the 'Makuhalani' during my last visit and found it most delightful.

Right at the moment this intercalibration meeting seems vaguely chaotic to us. We have a good list of participants and I hope that everything will become well organized as soon as we get together and get to work.

Professor Harry Zeitlin

-2-

August 8, 1961

Again may I express my greatest appreciation, and that of SCOR and UNESCO for your cooperation in this intercalibration meeting. I sincerely hope that the results will make the interpretation of the data collected in the Indian Ocean week more meaningful.

With best regards,

Sincerely yours,

Bostwick E. Ketchum

BKK:cs

cc: G. Humphrey

T.S. Austin

**REAGENTS, GLASSWARE AND EQUIPMENT REQUESTED OF UNIVERSITY OF HAWAII
FOR THE SCOR-UNESCO CHEMICAL INTERCALIBRATION MEETING**

Reagents

1000 ml.	Acetone, reagent grade
9 lb.	Sulfuric acid, reagent grade
6 lb.	Hydrochloric acid, reagent grade

Glassware

12 dropping bottles (about 25 ml. capacity)

Reagent bottles, glass stoppered:

12	250-ml., glass
12	500-ml., glass
4	1-liter, amber glass

Graduates

12	25-ml.
12	100-ml.
3	250-ml.
3	500-ml.
3	1000-ml.

Pipettes

Volumetric transfer, Norman or class A, Kimax preferred

12	1-ml.
12	10-ml.
10	50-ml.
6	100-ml.

Graduated

6	1-ml. in 0.01 ml.
6	5-ml. in 0.1 ml.
6	10-ml. in 0.1 ml.

(Glassware, continued)

Volumetric flasks, glass stoppered:

24 100-ml.

3 250-ml.

3 500-ml.

24 Oxygen or H₂O bottles

(POFI may have standard type)

Erlenmeyer flasks

60 250-ml.

12 125-ml.

Beakers, Pyrex (half a dozen nests up to 1000 ml.)

INSTRUMENTS

Monroe calculator (2 or 3 we hope!)

Beckman DU or Model B photometers

(We will bring cells which we need)

REQUISITE

2 ring stands or burette stands

4 clamp holders

4 clamp extensions

PROPOSED PARTICIPANTS IN SCOR-UNESCO
NUTRIENT CHEMISTRY INTERCALIBRATION MEETING

Australia	— Mr. S. S. Maxwell
	— Mr. E. J. Rochford
Canada	Dr. John Strickland *
East Africa	B. E. Bell (†) *
India	— Dr. R. Jayaraman
Indonesia	— Mr. Aprilany Soopiarso (observer)
Japan	— Mr. Y. Jigima
Pakistan	— Dr. Rias Ali Shah
South Africa	(Nominations not yet received)
SCOR	Dr. B. H. Ketchum
U K	— Mr. F. A. J. Armstrong
U S A	— Dr. T. J. Chow
	Mr. H. Corwin *
	— Dr. D. McGill
	Mr. A. Mantyla *
U S S R	(? Nominations not yet received)

*Not included in SCOR-UNESCO list circulated by Dr. Humphrey.
These people will be in Hawaii and will participate.

WOODS HOLE OCEANOGRAPHIC INSTITUTION
WOODS HOLE, MASSACHUSETTS

Barkley
033-4251

August 11, 1961

To: Participants in the SCOR-UNESCO Intercalibration Meeting
Hawaii

Gentlemen:

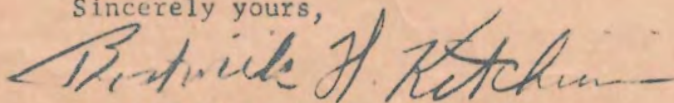
Plans are progressing for the intercalibration of nutrient chemical methods and oxygen determinations in sea water. A list of the participants who have agreed to cooperate in this study is enclosed.

I believe that all of you have received the earlier communications which briefly described the objectives of the meeting and the way in which we hope to proceed. Interest has been expressed by nearly everyone in oxygens and phosphates (both inorganic and total) and the major emphasis at the meeting will be upon these analyses. Several have indicated their desire to intercalibrate methods for nitrate and these analyses will also be possible. A few have expressed an interest in silicate. If others are also interested in comparing this method we will see if it can be worked into the schedule. Please let me know unless you have already done so.

I presume that everyone is bringing his photometer and whatever special equipment he will require for his analyses. I have asked the University of Hawaii to provide some standard glassware and chemicals, as indicated on the enclosed list. Please check through this and be sure you will bring anything additional which you will need unless it is standard glassware which you can feel certain will be available in a university's chemistry laboratory. It is expected that everyone will arrive with his own standards for each method which he plans to intercalibrate since, of course, intercalibration of standards is an important part of the program.

I am looking forward to seeing each of you in Hawaii.

Sincerely yours,



Bostwick H. Ketchum, Chairman,
SCOR Committee

cc: D. Carritt
G. Humphrey
B. Kullenberg
Robert Snider
Ronald Currie
John Knauss
John Ryther
Thomas Austin
Robert Hiatt
W. Wooster
H. Zeitlin

PROPOSED PARTICIPANTS IN SCOR-UNESCO NUTRIENT CHEMISTRY
INTERCALIBRATION MEETING

Australia	Mr. B. S. Newell
	Mr. D. J. Rochford
Canada	Dr. John Strickland *
East Africa	B. E. Bell (?) *
India	Dr. R. Jayaraman
Indonesia	Mr. Aprilany Soegiarto (observer)
Japan	Mr. Y. Sugiura
Pakistan	Dr. Riaz Ali Shah
South Africa	(Nomination not yet received)
SCOR	Dr. B. H. Ketchum
U K	Mr. F. A. J. Armstrong
U S A	Dr. T. J. Chow
	Mr. N. Corwin *
	Mr. D. McGill
	Mr. A. Mantyla *
U S S R	(Nomination not yet received)

*Not included in SCOR-UNESCO List circulated by Dr. Humphrey. These people will be in Hawaii and will participate.

REAGENTS, GLASSWARE AND EQUIPMENT REQUESTED OF UNIVERSITY OF HAWAII FOR THE
SCOR-UNESCO CHEMICAL INTERCALIBRATION MEETING

Reagents 1000 ml Acetone, reagent grade
 9 lbs. Sulfuric acid, reagent grade
 6 lbs. Hydrochloric acid, reagent grade

Glassware 12 dropping bottles (about 25 ml. capacity)

Reagent bottles, glass stoppered:

12 250-ml., glass
12 500-ml., glass
4 1-liter, amber glass

Graduates

12 25-ml.
12 100-ml.
3 250-ml.
3 500-ml.
3 1000-ml.

Pipettes

Volumetric transfer, Normax or class A, Kimax preferred

12 1-ml.
12 10-ml.
10 50-ml.
6 100-ml.

Graduated

6 1-ml. in 0.01 ml.
6 5-ml. in 0.1 ml.
6 10-ml. in 0.1 ml.

Volumetric flasks, glass stoppered:

24 100-ml.
3 250-ml.
3 500-ml.

24 Oxygen or BOD bottles (POFI may have standard type)

Erlenmeyer flasks

60 250-ml.
12 125-ml.

Beakers, Pyrex (half a dozen nests up to 1000 ml.)

Instruments

Monroe calculator (2 or 3 we hope)
Beckman DU or Model B photometers (We will bring cells which we need.)

Equipment

2 ring stands or burette stands
4 clamp holders
4 clamp extensions

October 6, 1961

Ref. 033.425
GFH/CV

Professor V.G. Kort,
Soviet Research Ship "Vityaz,"
C/- Harbour Master,
Papeete
TAHITI
FRENCH OCEANIA

Dear Professor Kort,

The participants in the inter-calibration tests have told me that the work was carried out and that interesting results were obtained.

I know that it will be some time before the results are worked out and before Dr Ketchum and Professor Doty prepare a scientific discussion for publication. However, on behalf of SCOR and UNESCO, please accept my thanks for changing your cruise plans so that the work could be done.

I enclose some photographs of some of the scientific work.

Yours sincerely,



(G.F. HUMPHREY)
President of SCOR

Encl.
Photographs

October 6, 1961

Ref. 033.425
GPH/CV

The Captain,
Soviet Research Ship "Vityaz,"
C/- Harbour Master,
Papeete,
TAHITI
FRENCH OCEANIA

Dear Captain Avramenko,

I was very pleased to meet you in Honolulu
and I enjoyed our conversations on board your ship.

I am sorry that the scientific work of the
inter-calibration tests gave so much trouble with
international and administrative complications.
I would like to thank you on behalf of SCOR and
UNESCO for the inconvenience. I assure you that
the work was a unique scientific experiment and
that it will have important results.

I enclose some photographs which were taken
on board "Vityaz."

Yours sincerely,



(G.F. HUMPHREY)
President of SCOR

Encl.
Photographs

Copy to Mr Snider
MK Doty
Dr

Ref. 033.4251
GFH/CV

(*gottle*)
The Scientific Director,
U.S. Program in Biology,
International Indian Ocean Expedition,
Oceanographic Institution,
Woods Hole,
MASSACHUSETTS. U.S.A.

Dear John,

At the recent IOC and SCOR meetings there were very favourable receptions to the news of the chemical and primary production intercalibration meetings. Everybody wants more of them, they want them on a global scale, and they seem to want SCOR to run them. I think we shall have to move slowly but steadily on this and let developments grow out of the Indian Ocean work.

If we are to do more in primary production (and it seems we shall need to) it would be a great help to know if U.S.A. is going to do any in the Indian Ocean and if so, who is to be the key person. No participant from your country was nominated for the work in Honolulu and if there is another such meeting, we shall again contact your committee. It would be helpful for us to know as soon as possible if we have to take into account any of the U.S. methods or if the primary production work will be mainly Australian, Japanese, and Russian with perhaps some English.

I am sending a copy of this to Bob Snider and he may contact you to see if he can help in any way.

Yours sincerely,

G

(G.F. HUMPHREY)
President of SCOR