

R0663

FEB 24 1985

APPENDIX III

SELECTION OF CORRESPONDENCE BETWEEN RESEARCH UNITS
REQUESTING REMOTE SENSING ASSISTANCE

OCS-10C
JAMES

December 16, 1985

Steve Pace
EG&G WASC Oceanographic Services
2220 East 88th Avenue
Anchorage, Alaska 99507

Dear Steve:

Enclosed with this letter are paper prints of the 5 AVHRR scenes you requested. These are all band 1 which is the visual wavelength band. You will note that the earth appears upside down on these images; this is because these images were acquired when the satellite was in an ascending path (i.e., going north) and since the annotation bar appears following the last scan line, it is at the north end of the region imaged.

The data shown on the right hand side of NOAA images processed at Gilmore ("GIL" on the left hand side) cannot always be trusted; this annotation is put on by a technician recessing the imagery who sometimes puts on the local date at the time of processing, and sometimes enters the universal date of image acquisition. The series of numbers just to the right of "GIL" is the Universal Julian date and mean time at actual time of data acquisition. This time and date are accurate.

As an example, take the image for Julian day 212. The time of acquisition was 01:07:21. Because of the recent legislated Alaskan time change, central Alaska standard time (actually Yukon time) is 9 hours earlier than universal time. Bering Strait time is 10 hours earlier. During summer these differences are 8 and 9 hours respectively because of daylight savings time. Hence the image we are considering was actually obtained at 17:07:21 on July 30 local Fairbanks time. The image indicating 230:23:25:05 was obtained on 15:25:05 August 18 local Fairbanks time.

We only archive one or two AVHRR images per day out of the total possible of 24. We had to order these from the NOAA archives. We ordered prints so you would not have to wait while we made prints from

Letter to Steve Pace
Page 2

transparencies. Unfortunately their standard' production technique is to balance the photographic density of clouds and water. Sediment in water can be seen--but not very clearly. However, I think these images will give you an idea of the information available, and it is possible to map out the Yukon River sediment plume.

Please call me if you have any questions.

Sincerely,



Bill Stringer

BS:jd

cc: Jawed Hameedi



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
ENVIRONMENTAL RESEARCH LABORATORIES
Pacific Marine Environmental Laboratory
NOAA Building Number
7600 Sand Point Way N.E.
Seattle, WA 98115

11 December 1985

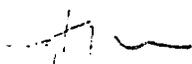
Dr. W. Stringer
Geophysical Union
University of Alaska
Fairbanks, Alaska 99701

Dear Bill,

I appreciate receiving a copy of your Chukchi Sea report. We are in the process of developing a coupled ocean sea ice model for the region and your report is helpful. Your statistics seem highly relevant for planning purposes. Your results look interesting for putting on a computer data base.

If possible, may we have two more copies of your report?

Regards,


Jim Overland
Supervisory Oceanographer
Marine Services Research Division



December 3, 1985

Jim Overland
Pacific Marine Environmental
Laboratory
7600 Said Point Way, NE
Bin C15700
Seattle, WA 98115-0070

Dear Jim:

I understand you are interested in Chukchi Sea statistics. Enclosed with this letter is a report we have recently completed that might be of interest. There are two major aspects of Chukchi ice behavior described here: the first is the statistical behavior of the ice edge, and the second is the relationship between the ice edge and bathymetrically-steered currents.

I think it would be interesting to see how ice-growth models perform in the Chukchi Sea. As you can see, it becomes ice-covered rather rapidly. We did not distinguish between growth and advection of ice in performing our statistical analysis. However, my recollection is that the ice cover is almost entirely re-established by growth of new ice.

We are also finishing a report on polynya formation and extent in the Bering and Chukchi Seas and will send this along as soon as we have a presentable first draft.

Please give my regards to Carol. She did me a favor recently that was greatly appreciated.

Best regards,

Bill Stringer

BS:jd

encl.

cc: E. Ozturgut (with encl. j
J. Hameedi (with encl.)

November 19, 1985

Douglas J. Martin
Envirosphere Company
10900 NE 8th Street
Bellevue, WA 98004-4405

Dear Dr. Martin:

Enclosed are aerial photographs of some of the sample sites for your 1985 summer survey of the Yukon River Delta. These may be a bit confusing for you, so I have marked on your map approximately where the various lines are and the frame numbers beginning and ending each line. There was not total coverage available for the area so I selected the coastal frames that I thought would best suit your needs and, as you will note, I had to use aerial photographs from different years and agencies to cover all the sites.

Frame numbers 7004-7018 and 7075-7083 are from NASA AEC Accession 2917, acquired on July 23, 1980 and are at a scale of 1:65,000. Frame numbers 5548-5579 were acquired by the National Ocean Service on July 27, 1976 and are at a scale of 1:37,000. Although these do not nearly cover all your sites, they do cover a fair amount of them and there is no block coverage available for this area from any one agency.

I hope these suit your needs--if I can help you further please let me know.

Sincerely,

Katherine Martz
" Geo Data Center

Enclosures - 28 aerial photographs

September 26, 1985

Mr. Steve Tace
EG&G
220 E. 88th Avenue
Anchorage, Alaska 99507

Steve:

Enclosed with this note is a copy of a Landsat image obtained October 25, 1984, which I think might satisfy the need you expressed on behalf of your people working on NOAA/OCSEAP Research Unit 679. However, as I recall, all they wanted was data supporting the existence of leads in the Beaufort Sea during fall. This seems like asking for evidence that it gets cold in Fairbanks, so I'm not sure this will completely satisfy your needs.

This image is a bit cloudy, but if you look closely you can see Cape Halkett just to the left of the center. Teshekpuk Lake is located below and left of Cape Halkett. Fall images of freeze-up are somewhat rare because of cloudiness and because the sun does not remain up very long after freeze-up starts. (Note that the solar elevation angle here was 6°.) In any case, if this image does not meet your needs, let me know and I'll try to come up with something more suitable.

Next, with regard to your request on behalf of Research Unit 670: Included with this note is a list of Landsat imagery acquired between 1 July and 17 September this year of the Yukon Delta. The satellite passes from NNE to SSW and usually one or two images of each pass are required to show the Delta region completely. When you have an idea of the dates you may be interested in, we can look at the imagery more closely.

sincerely,

Bill Stringer

Enc.: list of available Landsat imagery
copy of Landsat scene 5023821242

cc: Jaweed Hamed
Ref: RU 670, 679

7 September 1984

Thomas Kozo
Vantuna Research Group
Occidental College
1600 Campus Road
Los Angeles, California 90041

Dear Tom:

Enclosed are the rough sketches of the times when there was a blockage in the Bering Strait. The longest period of time that there was no ice movement in the strait due to the arched boundary blockage is about forty (40) days. I have also included a description of the day-to-day motion.

The sheet with no heading and beginning with 28 December 1974 pertains to dates on which there was motion seen just south of the Lisberne Peninsula but not in the strait. These were mainly just in case you had questions concerning these dates.

The sequence 13 April - 11 May 1980 is interesting because it appears that there was another blockage of an undeterminable length that ended just prior to the 13th of April 1980. A sketch for the 12th is included, but it is described on the sheet without a heading.

I have good images of all of the dates that I sketched. There are excellent images of the whole sequence dated 22 March - 22 April 1984.

You had asked about the 20th - 22nd April, 1982. The sequence is alright for seeing northward motion by noting the extent of polynas and tracking floes. The weather starts to get a bit hazy towards the 22nd, but floes can still be tracked at that point.

In answer to your question about the length of time between images, There were 24 hours between the 20th and the 21st of April 1982.

I hope to be sending you soon a description of the NOAA satellite system that we used to acquire our data.

Sincerely,

Lenora J. Wattum
611 Elvey Building
Geophysical Institute.
University of Alaska
Fairbanks, Alaska 99701



United States Department of the Interior

GEOLOGICAL SURVEY

Branch of Pacific Marine Geology
345 Middlefield Road, MS-999
Menlo Park, California 94035

August 5, 1985

Mr. Bill Stringer
Geophysical Institute
University of Alaska
C.T. Elvey Building
Fairbanks, Alaska 9.9701

Dear Bill,

I thank you very much for the enlargement of the ice ridge image east of Barter Island. I am amazed at how well the coastlines which should have been on different projections, math from the image to the chart,

Before I sail from Kotzebue, I will give you a call to find out what parts of the ridge may still be in place.

Best wishes,

Erk Reimnitz

cc : J. Hameedi
NOAA
Anchorage, AK

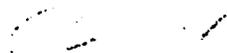
July 15, 1985

Erk Reimnitz
U.S. Geological Survey
345 Middlefield Road
Menlo Park, CA 94025

Erk:

Enclosed with this note is a photographic print of a portion of Landsat Image 40759-20361, from August 13, 1984, showing the large grounded ice feature east of Barter Island. The print has been enlarged to the scale of the chart you sent me. In addition, we have made a contact transparency of the chart so that it can be laid over the print. This should tell you what you want to know concerning the positions of your tracklines relative to the ice feature.

Best regards,


Bill Stringer

cc: Jawed Hameedi

May 8, 1985 . . .

Dr. Jonathan P. Houghton
Senior Fishery Biologist
Dames & Moore
155 N.E. 100th Street
P.O. Box C-25901
Suite 500
Seattle, Washington 98125-0711

Dear Dr. Houghton:

Enclosed with this letter is the balance of the imagery we promised you. It consists of two sets:

- 1) Color infrared, high altitude aerial photography exposed to enhance oceanic features.
- 2) Black and white enlargements of band 5 (red) Landsat images taken at times of out-going tides and exposed to enhance oceanic features.

All images are identified on the back side with location and date. All Landsat images are obtained at 10:30 AM true local mean time.

Also included is a September 23, 1984 near infrared 1:000,000 scale print of Harrison Bay. This is just to show you what is available. It was printed to enhance oceanic detail at the expense of land detail. However, if you want ocean sediment detail, we will need to acquire a green or red band image. There are other images available that skew shoals and other shallow areas in this area if this is what your interest is.

Best regards,

Bill Stringer

BS:jd

cc: Jawed Hameedi

May 8, 1985

Dr. Erk Reimnitz
U.S. Geological Survey
345 Middlefield Road
Menlo Park, CA 94025

Dear Erk:

With regard to the grounded ridge, we can first see it on a July 4 image when it appears to still be part of the fast ice. Next, it can be seen on August 13, then through clouds on August 28. On September 14, it has decreased somewhat in size and finally, on September 22 a piece (about 10% of the entire ridge) can be seen breaking off.

I think it formed as a shear ridge during winter or spring, 1983-84 and some of it may yet be in place today.

Although we haven't looked, I suspect we would be able to see it on winter Landsat imagery and on summertime AVHRR (weather satellite) imagery.

If you send me a copy of your chart, we can make the enlargement you mentioned to that precise scale.

Best regards,

Bill Stringer

BS:jd

cc: Jawed Hameedi

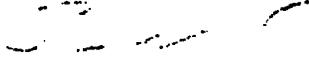
May 7, 1985

Mr. John Nauman
Minerals Management Service
949 E. 36th Avenue
Rm 614
Anchorage, AK

Dear John:

Enclosed, as ^{per} your request, are two Landsat scenes--one showing McKenzie Bay on June 19, 1983, the other showing the Prudhoe Bay region on June 18, 1983.

Sincerely,


Bill Stringer
Associate Professor
of Geophysics

BS:jd

cc: Jawed hameedi

May 2, 1985

Dr. Jonathan P. Houghton
Senior Fishery Biologist
Dames & Moore
155 N.E. 100th Street
P.O. Box C-25901
Suite 500
Seattle, Washington 98125-0711

Dear Dr. Houghton:

Shortly, I will be sending you some material corresponding to your letter request of April 18. This will consist of both aerial photography and satellite imagery of the Alaska Peninsula and a contact print of Landsat scene 52206-21242, obtained September 23, 1984 of the Colville Delta region. I am not entirely sure what you want with these images, particularly the Colville image. Are you interested in shoals in all cases?

Sincerely,

Bill Stringer
Associate Professor
of Geophysics

BS:jd

cc: Dr. Jawed Hameedi

Dames & Moore



155 N.E. 100th Street
P.O. Box C-25901
Suite 500
Seattle, Washington 98125-0711
(206) 523-0560
TWX: 910-444-2021 Cable address: DAMEMORE

April 18, 1985

Dr. William Stringer
Geophysical Institute
University of Alaska
Fairbanks, Alaska 99701

Dear Bill:

On reading Bob Bunney's letter of April 11, 1985, it occurred to us that perhaps some decent aerial imagery of portions of our Alaska Peninsula study area for R.U. 659 would help make up for inaccuracies of navigation charts. Specifically, we would be interested in blowups of recent (last 2-3 years) coverage of the following areas:

Ugashik Bay
Port Heiden
Port Moller
Northern Izembek Lagoon

To be most useful they should be taken during low tide or when water surface conditions permit delineation of shoaling patterns.

Please advise me as to the availability of such imagery; we would need it by May 15, 1985. Also, could you tell me what is available for recent, late-summer, imagery of the Colville Delta region.

Thank you for your assistance.

Sincerely,

DAMES & MOORE

Jonathan P. Houghton, Ph.D.
Senior Fishery Biologist

JPH: adn
cc: Dr. Jawed Hameedi
NOAA/NOS/DAD
701 C Street
P.O. Box 56
Anchorage, AK 99513

Simon; File
of OCS 10B

UNITED STATES DEPARTMENT OF THE INTERIOR

Geological Survey
Branch of Pacific Marine Geology
345 Middlefield Road, MS 999
Menlo Park, California 94025

re request

May 2, 1985

Mr. Bill stringer
Geophysical Institute
University of Alaska
C.T. Elvey Building
Fairbanks, Alaska 99701

Dear Bill,

I am grateful that you sent me the excellent image of the grounded linear ridge east of Barter Island. I would also like to know how it formed and decayed, but I believe there may not be much Landsat coverage to document its history. Unfortunately, I did not see the ridge myself, and don't know anyone who did. INTERA monitored it with SLAR all summer, and I saw a beautiful September 10 image.

We leaked at our survey lines covering the area, and found a shoal in three of four available crossings, I believe. The elevation of the crest is not the same everywhere. I hope to be able to get more lines across the feature this coming summer with the KARLUK. For that reason I would like to have an enlargement, so that we can transfer its precise configuration to our charts. I will give you a call about that.

Best regards


Erk Reimnitz

May 1, 1985

Doug Martin
Envirosphere, Inc.
400 - 112th Ave. NE
Bellevue, WA 98004

Doug:

Enclosed in this tube is a 1:250,000 scale color infrared Landsat image of the Yukon Delta region obtained 22 July, 1975. I don't know how familiar you are with the color-IR format, but as you can easily see, silt-laden water is pale blue while clear water is black. The near-IR reflectance by chlorophyll is red, and the brighter it is, the more vigorous is the vegetation reflecting it. This is not the best Landsat image I've seen--it contains multiple uncorrected scan lines. We normally don't have 1:250,000 scale prints on hand, but I had personally bought this one for my wife because of her interest in this area and had not yet had it framed, so I am sending it to you and ordered another for her. We can make enlargements to any scale of these images, but 1:63,360 (inch-to-the-mile) is just about the limit of useful enlargement.

Also enclosed is a Landsat band 6 black and white image from 22 August, 1976. Are the dark areas adjacent to the coast the clear-water areas you are interested in? If so, I will pursue images from other times.

Sincerely,

W.J. Stringer
Associate Professor
of Geophysics

WJS:jed

cc: Jawed Hameedi
Ref. Research Unit 660

April 23, 1985

Erk Reimnitz
U.S. Geological Survey
345 Middlefield Road
Menlo Park, CA 94025

Dear Erk:

On the phone the other day you mentioned a linear series of grounded ridges extending eastward from Bärter Island and your desire to obtain imagery of the same. I am reasonably sure that this Landsat image contains the ridges in question. If you desire, detailed enlargement can be made. (This image was overexposed for that level of brightness.) We also have a slightly cloudy September image showing this ridge beginning to break up. Do you have any surface observations of this ridge? I would be interested in learning about its construction and composition.

Best regards,

Bill Stringer

BS/jd

enc 1.

cc: Jawed Kameedi



December 21, 1984

Joe Truett
LGL Ecological Research Associates
P.O.Box 3227
Flagstaff, AZ 86003

Dear Joe:

Enclosed are some contributions to the Norton Basin Synthesis. In addition, I have enclosed copies of reports you may want to take a look at. My contributions include work I did in the past for OCSEAP, (which I think should be referenced), very recent work which may be of value and in one case (multi-year ice), a review which treats this potentially delicate subject in more depth than in the draft.

Best regards,

Bill Stringer
Associate Professor
o% Geophysics

BS/jd

cc: Dr. Jaweed Hamedi

Enc. : Suggested replacement for multi-year ice paragraph, . page 62.
Suggestions for page 29.
Highlights of Recent Research RU257, Stringer
Nearshore Ice Conditions and Hazards in the Beaufort, Chukchi,
and Bering Seas
Nearshore Ice. Characteristics in the Eastern Bering Sea