

Accession No.: 87-11

PROCESSING RECORD
SCRIPPS INSTITUTION OF OCEANOGRAPHY ARCHIVES

Bradner, Hugh 1915 - 2008

Hugh Bradner Photographs, 1962-1976

Physical Description: 3mss (273 photographs, 166 negatives, 86 lantern slides); 310 35mm slides

Description: Photographs and slides of physicist Hugh Bradner documenting scuba dives, seismometer instrument, work at sea, Hawaii, earthquake observations (including graphs and charts), the Revelle house, and rehearsals for the musical "Endless Holiday." Many of the slides were used by Bradner in his lectures.

Hugh Bradner Photographs, 1962-1976
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BOX FOLDER TITLE

- 1 Prints of Slides from December 1976, AGU
- Negatives from slides
- Photographs – first instrument (Haud Wade), & 1st sphere for OBS
- Photographs, 1976
- Photographs (Miscellaneous shipboard scenes – 1962-1963
- R/V Stranger, S.D. Trough, May 19, 1962, Photographs
- GLUB III, DWYN WEN
- Seisms, Photographs
- Iconoslot A, 1963 Photos
- Photographs – Prints
- Photographs
- Photographs, Revelle House, 1966
- Hugh Bradner, Slides, n.d.
- Hugh Bradner, Photographs, January 1963; March 1962
- Hugh Bradner, Photographs & Slides, n.d.
- Hugh Bradner, Photographs & Slides, n.d.
- Hugh Bradner, Photographs & Slides, n.d.
- Hugh Bradner, Photographs & Slides, 1962
- Hugh Bradner, Photographs & Slides, 1962

BOX FOLDER TITLE

- 1 Triaxial, 3-channel seis plus compass, remote delayed turn-on of running late model, 1965
Comparison of ordinary (land) short period vs long period records
3 component OBS vs Ocean swell. – Chatham Rise, Sept. 63
Coherence between 2 vertical seismometers
Double drop, Chatham Rise, 9/13/63
(Vertical) Power Spectrum, New Zealand Land vs Chatham Rise, Sept 13, 1963
Spectral power density. Sea Bottom vs Land
- 2 Ocean swell power spectrum, Honolulu, Hawaii
Observed ground motion (from triaxial three component seis, Rayleigh & Love
3 component power spectra vs ocean swell. Chatham Rise, Sept 6, 1963
Spectral power density on land, “ “ “ on ocean bottom. (Hawaii, So Cal, & 40 db/decade)
Sphere recovery on DWYN WEN, 1963
Seismic spectrum from 1/1000hg to 50hg (on band)
OBS – Coherence vs frequency
Comparative spectra, New Zealand land Vs OBS Chatham Rise – Sept 13, 1963
Spectra of coherence of two OBS
Seismic power spectra; land Vs OBS
Mid-water vs OBS per spectrum
Spatial power density; comparison of land vs OBS, 1963
3 comp OBS vs ocean swell; Chatham Rise, Sept 11, 63
Manoa Valley land seis. Record of CHASE V shot
Observed (calculated) particle motions (Rayleigh wave)

BOX FOLDER TITLE

- 2 Midwater seismometer – showing release, & the depth-potentiometer
Simultaneous records of 3 comp & 1 comp OBS, chatham, 1963
Earth disturbances, Recorded by seismographs (Table)
OBS record of Tongo Quake, May 4, 1963
OBS vs land records of earthquake, 1963
Bradner, Microseis, BKGD
Misc Shipboard operations (negatives corresponding to prints in file) – 1963
- 3 OBS spectra from CHASE V, shot, May 24, 1966
OBS Test rack in vault @ IGPP – 1963
Seiko Timer (Their first quartz clock timer)
OBS – internal view – 1963-64
Midwater seis in lab – 1965
Deck cradles for OBS DWYN WEN – 1962
OBS spectra, Jan 15, 1966, 160km, N.E. of Hawaii
3 component (triaxial) OBS
Triaxial, 3 component OBS
Midwater seismometer, 25 Feb 1966
Power spectra
Hugh Bradner – Lantern Slides, Oct 1965, “Midwater & Ocean Bottom Seismometer”

Hugh Bradner - Lantern Slides, n.d., “Midwater Seismometer Results”

35mm SLIDES

ITEM	TITLE
1	1952 Upper Echo-Bradner with salvaged motor
2	1953 Bradner and Charlie Townes in rubber suits & scuba gear, Ano Nuevo Island
3	Tonga Quake May 4 distance 9 degrees chart
4	1951 Don Cone in Pirelli dry suit at Echo Lake
5	Coherence between two vertical seismometers graph
6	Comparison of 3 components of motion Chatham rise 9/7/63 graph
7	8/1/63 Palmyra Atoll graph
8	Spectrum of 7/21/63 Land
9	Graph, Log Power Density vs CPS
10	Vertical velocity midwater seismometer 25 February 1966
11	Swains Island contour map
12	Horizontal velocity midwater seismometer 25 February 1966
13	Graph U.T. Vertical, 13 September 1963
14	1966 Jan 15 1800 Z 160KM NE of Hawaii graph
15	Vertical Velocity midwater seismometer 25 Feb. 1966
16	Horizontal velocity midwater seismometer 25 Feb. 1966
17	Swains Island 11 August 1963 graph
18	Ruapehu, N.Z. 13 September 1963
19	160KM NE of Hawaii January 1966 Seismometer output
20	Coherence between two vertical seismometers
21	Log power of density graph

ITEM	TITLE
22	Log power of density by frequency graph
23	8/9/63 Rayleigh map
24	Comparison of 3 components of motion, Chatham rise 9/16/63
25	Coherence between single component and three component, separated 150 ^m Chatham Rise 13 September 1963
26	160KM NE of Hawaii January 1966 Seismometer output
27	Log power density by frequency graph
28	Log Power Density vs CPS graph
29	Microseism Power vs Distance from New Zealand graph
30	Spectral modes, stations 2 and 4
31	HILO 31 graph
32	Log power density graph
33	9/11/3 .67 cps LOVE WAVE
34	Chatham Rise 1840 UT II September 1963 graph
35	9 August 1963 .18 cps
36	Block Diagram of Texas Instruments dual level, frequency modulation, seismograph recorder
37	Spectral power density by frequency graph, La Jolla Vertical, 29 Palms Vertical
38	Ocean bottom 155 KM NNW of Swain's Island 2243 UT 9 August 1963
39	8/11/63 Swain's Island power density graph
40	Special power density by frequency graph
41	Power density by frequency graph
42	Map of passage from San Diego to Hawaii

ITEM	TITLE
43	9/7/63 14 cps
44	Swain's Island Land graph
45	Double drop Chatham rise 9/13/63
46	Seismometer
47	[Person holding instrument]
47	Seismometer [two slides numbered 47]
48	[Instrument]
49	Seismometer
50	Seismometer
51	Seismometer
52	Seismometer
53	Retrieving buoy
54	Seismometer
55	Misfired smoke flare
56	Battery pack for seismometer
57	Seismometer on deck 1962
58	Whitcomb and man, 1962
59	Instrument logic, mod 3
60	Complete package on deck 1962
61	[5 men on deck of ship, paying out line into the water]
62	Easy recovery 1962
63	Seismograph

ITEM	TITLE
64	Seismograph
65	SIO ship, men on deck paying out line into water
66	Buoy on deck of SIO ship
67	Single component Seismograph with battery pack 1962
68	How the sphere floats for recovery
69	On deck of Neptune – off Hawaii
70	[Seismograph on the Neptune]
71	Instrument hung on Trieste bathyscaphe
72	“Safe” operation on stern of Neptune
73	[Man on deck of Neptune]
74	Trieste Bathyscaphe San Diego harbor, 1962
75	Trieste Bathyscaphe San Diego Harbor 1962
76	Seismometer used for Trieste bathyscaphe dive
77	Seismometer hung below Trieste bathyscaphe
78	Trieste Bathyscaphe – San Diego (Naval Electronics Lab) 1962
79	Trieste Bathyscaphe Naval Electronics Lab – 1962
80	[Deck of ship]
81	[Line in water]
82	[Man holding smoke flare]
83	[Device attached to smoke flare]
84	[Device attached to smoke flare]
85	Smoke flare tests

ITEM	TITLE
86	[Disassembled smoke flare]
87	Seismometer
88	Recovery flag of pole
89	Instrument (seismometer)
90	Walter Munk's deck house ~ 1970?
91	Lacoste – very long period
92	Lacoste – very long period
93	Lacoste – very long period
94	Early style anchor ~ 1962
95	[Seismometer on deck]
96	Smoke recovery ~ 1962 Forrest Whitcomb
97	Early spike anchors ~ 1962
98	Smoke flare ~ 1962
99	Preparing for launch ~ 1962 Forrest Whitcomb et al
100	Recovery ~1962
101	Seismometer
102	Anchor plate with lead spike
103	Hauling aboard Jim Dodds
104	Anchor plate ~ 1962
105	Smoke Flare ~ 1962
106	Walter Munk, men on deck of ship ~ 1962
107	SIO ships' crew ~ 1962

ITEM	TITLE
108	At sea. 192 Jim Dodds, man
109	Recovery ~ 1962
110	Sphere with smoke beacon and strobe ~ 1962
111	Strobe light and smoke flare
112	Recovery ~ 1962
113	Kanaloa recovery
114	Forrest Whitcomb on Kanaloa
115	Seismometer
116	Launching frame Kanaloa
117	P. Smiley. Man taking a shower on deck
118	P. Smiley, John Stout, Severs, Men with wahoo fish, on deck
119	John Stout [woman on ship]
120	P. Smiley, John Stout, Severs [Man on ship]
121	Kanaloa, P. Smiley, John Stout [Man writing in cabin and man on deck]
122	[Man with winding line on deck]
123	Kanaloa tugger winch
124	Kanaloa ship, at wharf
125	Kanaloa ship, at wharf
126	Flag buoy, Kanaloa
127	Whitcomb on Kanaloa
128	Sphere returning to surface 1962
129	Mahimahi on Kanaloa [3 men with fish]

ITEM	TITLE
130	Misfired smoke flare
131	[Swain's Island on map]
132	[Map of South Pacific showing Swain's Island, Chatham Rise, etc.]
133	[woman pulling on rope on ship]
134	Schematic view of midwater seismometer
135	Dwyn Wen ship, Easy day on deck [possible Hugh Bradner in middle]
136	[Man on deck, paying out line into water]
137	Foulks et al on Dwyn Wen ship
138	HST duration chart
139	[Markings on graph]
140	Spectral power density by frequency graph
141	Log power density by CPS graph
142	Log power density by CPS graph
143	8/3/63 2.5 cps
144	9/7/63 14 cps
145	Log power density by CPS graph
146	Spectral mode station 5 data
147	[Man working on seismometer shell]
148	[2 men putting seismometer into metal sphere]
149	Inferred spectral power density by frequency graph, calm day
150	[Seismometer floating in water]
151	[Seismometer on ocean floor]

ITEM	TITLE
152	[Shot of ocean]
153	[Drawing of seismometer buoy]
154	[Crew looking at seismometer from deck]
155	Seismometer
156	[View of Hawaii from sea, 1962]
157	Seismometer
158	[Hull of ship with colored streaking]
159	[2 men examining seismometer]
160	[Seismometer on ocean floor]
161	Seismometer
162	[flow chart diagram of data from seismometer to recorder]
163	Schematic view of midwater seismometer
164	Battery pack
165	Battery pack 1962
166	Dodds and VED or UED Engineer, holding camera
167	Texas Instrument system 1962?
168	Texas instrument package 1962-1963?
169	Texas instrument seismograph package
170	[Block diagram]
171	Digital recording system
172	[men on ship deck working with buoy instruments] Texas instrument
173	[Men lowering instrument into water, with ship A frame] Texas instrument

ITEM	TITLE
174	Seismicity of the earth, 1961-1967, ESSA, CGS Epicenters
175	Inferred power spectral density by frequency graph
176-185 missing	
186	Spectral power density by frequency graph
187	[Swain's Island map]
188	Inferred power spectral density by frequency graph, stormy day
189	[Men checking cylinders of compressed air]
190	[Group of men on deck]
191	[Eureka ship, with instrument alongside, small boat nearby]
192	[Dock with ship]
193	[Man next to canisters of compressed air]
194	[Whirlaway ship, followed by another ship]
195	[List of depths on deck of ship]
196	[List of depths on deck of ship]
197	[4 men on dock]
198	[small boat]
199	[Eureka ship, with instrument alongside, small boat nearby]
200	[Whirlaway and Eureka ships]
201	Visitor boat [Whirlaway ship]
202	[Group of people eating on deck]
203	[Liberty ship, of Pierpoint Landing, and two unidentified boats/ships]
204	[People on deck of ship, with Eureka ship in background]

ITEM	TITLE
205	[People on deck, with Eureka ship nearby, and Whirlaway ship farther off]
206	[Whirlaway ship, with Eureka ship farther off]
207	[Whirlaway ship, at Casino/Avalon harbor, Catalina Island, California]
208	[Eureka ship]
209	[Eureka ship]
210	[People on deck of ship]
211	[View of Diamond Head, Oahu, Hawaii, from deck of ship]
212	[Man on deck of ship]
213	[Men hoisting seismometer]
214	[Three men in small boat, with seismometers in water]
215	[Winch on deck of ship]
216	[3 men working on seismometer, possibly Hugh Bradner in middle]
217	[Man working on seismometer]
218	[3 men putting seismometer into round shell]
219	Seismometer
220	[Men on deck of ship, with seismometer]
221	[Man, possibly Hugh Bradner, preparing seismometer]
222	[Men working on seismometer]
223	[Men, possibly Hugh Bradner, working on seismometer]
224	[Men, possibly Hugh Bradner, working on seismometer]
225	[Men, possibly Hugh Bradner, working on seismometer]
226	McWayne Marine Supply Ltd.

ITEM	TITLE
227	[Man running magnetic tape data reels on a machine, display spectrum]
228	[Seismometer blueprint]
229	[Block diagram]
230	Functional block diagram of ocean bottom seismograph
231	[Blueprint]
232	[Diagram of seismometer setup]
233	[Diagram of seafloor instrument and surface ship]
234	[Instrument, showing tape reel, batteries, etc]
235	[Capsule control diagram]
236	[Picture of device, possibly a release]
237	[Disassembled device]
238	Illustration of first deep-ocean seismic measurements, Ewing and Vine, 1938
239	[Flow chart of tape playback to strip chart and spectrum display]
240	[Instrument]
241	Block diagram of Columbia University telemetering ocean-bottom seismograph
242	[Instrument]
243	[Men working on seismometer]
244	[Electrical wires]
245	Seismometer being winched
246	[Equipment]
247	[Equipment]
248	Seismometer

ITEM	TITLE
249	[Seismometer on deck]
250	Seismometer on deck
251	[Man holding Instrument]
252	[Ship antennae]
253	[Buoy in ocean]
254	[Small boat, offshore]
255	[Man, possibly Hugh Bradner, working on seismometer]
256	Seismometer
257	[Man pointing to ground, near an instrument or device]
258	[Deck of ship]
259	[Electrical wires]
260	[Buoy in ocean]
261	Seismometer on deck
262	[Man, possibly Hugh Bradner, with pole on deck of ship, retrieving instrument]
263	Charles Townes and Hugh Bradner, in scuba diving gear, Ano Nuevo Island, 1953. Bradner in rubber suit. Townes in front-zip quilted-pattern rubber suit.
264	[Men, possibly Hugh Bradner on left, hoisting seismometer]
265	[Crane hoisting seismometer]
266	[Men hoisting seismometer]
267	Seismometer being hoisted over ocean
268	Seismometer in water, with discolored seawater around it
269	Seismometer in ocean
270	Kanaloa ship, offshore land

ITEM	TITLE
271	Deck of Dwyn Wen sailing ship
272	[Instrument on rope in water]
273	Seismometer in water, with discolored seawater around it
274	Seismometer on deck
275	Seismometer in water
276	Seismometer in water
277	Seismometer in water, offshore land
278	[Seismometer on ocean floor]
279	[Seismometer on ocean floor]
280	Seismometer underwater
281	[Man pointing at ground, with instrument nearby]
282	[Workshop with electronic equipment]
283	Seismometer in water, offshore land
284	Seismometer, disassembled
285	[Seismometer on ocean floor]
286	[Seismometer on ocean floor]
287	[Seismometer on ocean floor]
288	Seismometer on deck, Men with Walter Munk (blue jeans, gray shirt)– 1968
289	Dodds at A-frame, on ship deck
290	Dodds, Hugh Bradner, Whitcomb, 1962, on deck of ship
291	[Men on deck of ship, handling seismometer, possibly Dwyn Wen]
292	With Munk 1970 [Seismometer on ship deck]

ITEM	TITLE
293	With Munk 1970 [Electronics lab Shipping-Container, on ship deck]
294	[Men working on instrument deck]
295	Recovery marker flag, above seismometer in ocean
296	[Data graphic]
297	[Graph of data]
298	[Graph of Data]
299	[Circuit schematic]
300	1951- Hugh Bradner with Skin Thermistors, Echo Lake [neoprene wet suit testing]
301	1951- Early neoprene wet suit testing at Echo Lake [instruments and neoprene wet suits on dock]
302	[Data graphic]
303	[Data graphic]
304	[Circuit schematic for scuba diving computer: tissue types, diver's depth, oxygen pressure, ascent rate, time to surface]
305	[Man wearing sailor's hat, standing and reading a script, in front of a group in a room. Probably rehearsal for Endless Holiday Scripps stage show]
306	[Group of people, with scripts in hand, rehearsing in a room, probably for Endless Holiday stage show]
307	[John Isaacs with Roger Revelle behind, and another man, rehearsing for Endless Holiday stage show]
308	[seated group, at Endless Holiday rehearsal]
309	[John Isaacs in foreground, and two men, at Endless Holiday rehearsal]
310	[Roger Revelle at side, John Isaacs on other side, with 3 other men, at Endless Holiday rehearsal]
311	[Man and 3 women, at Endless Holiday rehearsal]

ITEM	TITLE
312	[3 men, at Endless Holiday rehearsal]
313	[Group at Endless Holiday rehearsal, John Isaacs in extreme foreground, socks drying on clothes line overhead]
314	[Ellen Revelle, man, woman, at Endless Holiday rehearsal]
315	[2 men, one holding "Roger" banner, at Endless Holiday rehearsal]
316	[Roger Revelle, playing guitar, at Endless Holiday rehearsal]
317	[John Isaacs in front of Roger Revelle who looks on John, with two men, at Endless Holiday rehearsal]
318	[Roger Revelle, reading from a script, with three other men, at Endless Holiday rehearsal]
319	[Roger Revelle shirtless with guitar with other people, at Endless Holiday rehearsal]
320	[Group rehearsing for Endless Holiday show, with Roger Revelle playing guitar, and John Isaacs wearing gold sash around his shoulders]