

VOLCANISME SOUS-MARIN.

Notices de phénomènes géodynamiques communiquées au Bureau central international de Volcanologie.

A. — Observations envoyées par le *Meteorological Office, Air Ministry, London* (Director : G. C. Simson).

Meteorological Office, Air Ministry,
Astral House, Kingsway, London, W. C. 2:

1. — *The following is an extract from the Meteorological Report of C. S. « Henry Holmes ». Captain A. BICKER CAARTEN, at St. Thomas, observer Mr. M. A. GREEN, 2nd Officer.*

In the port of St. Thomas, West Indies, on the 1st August, 1927, 6.30 p.m. local M. T. wind dropped from force 4 to calm, sea became smooth, dark and oily looking. Barometer 30.002 inches. Air heavy and depressed. At 8.55 p.m. L. M. T. (2nd August 0055 G. M. T.). Earthquake Tremor. Heavy rumble under the earth, earth trembled, houses shaken also vessels in harbour. At 8.56 P. M. Earthquake subsided. Total period recorded of shock was 1 min. 15 secs.

This is the worst shock ever known in St. Thomas, as reported.

St. Thomas Virgin Isles of U. S. A. 28th August, 1927, 4.0 a.m. (L. M. T.) (0800 G. M. T.). Moderate earthquake. Heavy rumble under the ground. Buildings shaken. Total period approximately 1 minute. It is as well to notice that Earthquake Shocks in this Island are becoming more frequent and violent.

2. — *The following is an extract from the Meteorological Report of C. S. « Henry Holmes ». Captain A. BICKER CAARTEN, cable work West Indies, Observer Mr. M. A. GREEN, 2nd Officer.*

In the Port of St. Thomas, Virgin Island of U.S.A. West Indies, 18th September, 1927 (1245) G. M. T. (08,45 a.m. L. M. T.) Earthquake Tremor. Shock slight, but Subterranean, rumbling heavy and lasted over a period of one minute. Shock felt slightly on board of the ship moored to the wharf, the ship's bottom seemed as though it had grounded and shook the ship.

3. — *The following is an extract from the Meteorological Report of C. S. « Henry Holmes ». cable work West Indies.*

In the port of St. Thomas, Virgin Isles, U. S. A. West Indies the 26th September, 1927 (0740 G. M. T.) or 3.40 a. m. L. M. T. « Earthquake Tremor ». Shock slight but Subterranean rumbling heavy and lasted over a period of one minute.

28th September, 1927 (0945 G. M. T.) 5.45 a. m.
L. M. T., Slight Earthquake Tremor.

4. — *The following is an extract from the Meteorological Report of C. S. « Henry Holmes » Captain A. BIKER CAARTEN, cable work West Indies, Observer M. A. GREEN, 2nd Officer.*

24th December, 1927. In the Port of St. Thomas, West Indies, Virgin Isles of U.S.A. at 8.50 p. m. (L.M.T.) an earthquake tremor was felt, shaking buildings in the town.

25th December, 1927, at 4.0 a.m. L.M T. a second Earthquake tremor.

5.— *The following is an extract from the Meteorological Report of M. V. Lautaro, Captain R. E. DUNN, OBE. Balboa to Talcahuano.*

January 12 th, 1928, at 1309 G. M. T. in Latitude 29° 35'S. Longitude 71° 31'W. felt severe earthquake shock lasting about 15 seconds. Following bearings immediately taken Pajaros Island Light House N. 87°W. True. Pajaros North Island N. 49°W. True.

6.— *The following is an extract from the Meteorological Report of S. S. « Memnon », Captain W. T. DOUGALL, Hong Kong to Suez via East Indies, Observer Mr. J. A. G. MACGREGOR, 3rd Officer.*

Submarine volcanic eruption. — Straits of Sunda. — January 18th, 1928. At 4.25 p. m. A. T. S. in Latitude 6° 11 ½' S. Longitude 105° 22' E. a very fine view was obtained of Krakatoa Volcano (Sund Strait) which was then in eruption. At short intervals which rarely exceeded more than five minutes great columns of steam were ejected, attaining a height of over 2,000 feet. A considerable amount of rock and mud could be clearly distinguished in these upheavals, fragments of rock frequently reaching greater heights than the steam. The bearing of the centre from above position was 036° and distance approximately 6.5 miles. This distance and bearing placed the eruption in 14 fathoms of water.

The « Eastern Archipelago Pilot » Volume II states:

The volcan of Krakatoa was in eruption in the year 1680, and although included within the category of active volcanoes it remained in a state of quiescence for upwards of 200 years.

In the year 1883, on May 20th, volcano burst out with great violence, accompanied by earthquakes, which were severely felt at Batavia, and at the same time vast showers of pumice and ashes were projected to a great di-

stance. The eruption was observed from the Imperial German ship « Elizabeth », and on the following day, when 100 miles from Krakatoa, a shower of dust was experienced which was estimated to become a layer one inch in thickness in 24 hours, and this was still falling when the vessel had gained a position 300 miles south-west of Bund strait.

On 26th August of the same year, Krakatoa again burst into eruption, and of such a terrible nature that miles of coast on both sides of the strait were wholly devastated, and multitudes of people perished. On the 27th August, a succession of earthquake waves swept the shores of the strait, utterly destroying the towns of Anjer, Merak, Charingin and Telok Betung, together with some of the lighthouses on bot shores. This remarkable disturbance of the sea made itself felt in various parts of the world upon the same date, notably in Australia and Southern Africa, also at Karachi in India.

The vast amount of pumice which lay upon the surface of the sea, in some places many feet in thickness, gave an appearance as if the ocean bed had appeared above water.

The steam from the volcano was estimated to have been driven to a height of more than 12 miles, and the rain of ashes fell over all southern Sumatra and northward to Singapore, eastward to Batavia, and sout-westward to the Cocos islands; finer particles of dust floating in the upper atmosphere enveloped the earth, and caused brilliant sunsets up to December of that year. The sound of the explosions was heard at Perth in Western Australia, in New Guinea, Ceylon and the island of Mauritius.

The tidal wave which, where obstructed, increased, greatly in volume, was observed at Toppers island to rise 72 feet (22^m0); at Merak, between the island and mainland, about 120 feet (36^m0); and from Varkenshoek to Telok Betung the average height was about 80 feet (24^m4). Every object on the shore, in to the first range of hills, was levelled with the ground and where the land was low

the sea penetrated 5 miles inward. At Telok Betung the water rose to the square of the resident's house, 118 feet (36^m0) above high water; and the Government steamer « Berouw » was swept over the pier into Chinese quarter of the town, a distance of nearly 2 miles from the anchorage. The undulation was felt on the north coast of Java; in Batavia road it rose 8 feet (2^m4) in height, and, in Tanjong Priok harbour, on August 27th, from 1230 to 1330, the water suddenly fell 18 feet (5^m5).

The island, for 100 feet (30^m5) up, remanoid a mass of glowing lava and stones; all animal and vegetable life was destroyed, and it was five years before verdure again returned.

According to official report 36,417 persons perished, 37 of these being Europeans.

7. — *The following is an extract from a letter received from Captain R. SARGEANT, the Port Captain at Mombasa, Kenya.*

Earthquake Mombasa Kenia. — You will no doubt have seen reports of the Earthquake which effected this country on the 6th of January this year (1928). The shock, which was very marked at Mombasa, occurred at 10.04 pm. (Standard Time 2 ½ hours East of Greenwich). My house which is situated very close to the sea, about one hundred yards from the top of the Cliff, which slopes gradually, shook severely. Suspending objects were observed to swing some eight inches either side of the perpendicular. When I went outside immediately after the shock, it was bright moonlight, and the sky presented a perfectly normal appearance, with a few light clouds, almost stationary. The wind was from the North East, and light. No effect of the Earthquake appeared over the sea, nor was any reported by either ship, dhow or fishing craft. Several of the latter were out anchored close to the reefs

that night. No damage resulted at Mombasa, but in several inland districts, damage to land and property occurred.

The nature of the soil at Mombasa is mostly coral, very hard. The country is, in fact, to a great extent volcanic.

8. — *The following is an extract from the Meteorological Report of S. S. «Clan Alpine», Captain A. B. LYALL, Nukualofa to Haapai (Tonga Islands). Observer Mr. K. BANKS, 3rd Officer.*

Volcanic Island in neighbourhood of Falcon Shoal. South Pacific Ocean.

— 17th April, 1928. On passing the sight of Falcon Shoal (Latitude $20^{\circ}19'$ S. Longitude $175^{\circ} 25'$ W) an island was observed approximately in that position.

It appeared to be two to three miles long in a northerly and southerly direction and would have a height of about 500 feet.

Passing at a distance of 20 miles eastward of it, several columns of smoke were observed rising from the water's edge at the middle of the island (see sketch).



Sketch published in the « Marine Observer », Vol. 6, No. 64.

9. — *The following is an extract from Lloyds List dated 2nd May, 1928.*

Volcanic eruption in the Pacific.—Wellington, Apr. 30. The master of the Government steamer Tutane kai, on her way from Auckland to Samoa, reports by wireless that Falcon Island was in violent eruption last Thursday (Apr. 26). Flaming streams of lava were

pouring down into the sea on two sides of the Island, which had grown in extent. It is now two miles long in a N. N. E. and S. S. W. direction, and 550 ft. high. — (*Reuter*).

10. — *The following report has been received from S. S. « A o r a n g i », Captain T. V. HULL, Observer Mr. E. V. BILGER.*

At 3.30 a. m. (15 30 G. M. T.) on November 1st, 1928, in Latitude 16°59'S. Longitude 179°44'E. off Ta-viuni Is. observed extensive lanes of floating Scoriae.

Again on November 24th, from 9.40 a. m. to 11.15 a. m. (2140 to 23 15 G. M. T.) vessel was passing through several lanes of similar matter. At 10.15 a. m. in Latitude 16°55'S. Longitude 179°40' W. a sample of this substance was taken which had been preserved and will be forwarded to the London Meteorological Office from Vancouver.

This substance has, during the past few weeks, been washed up on the eastern shores of the Fiji Islands in large quantities.

In one place on the eastern side of Ovalu Is. it is said to be deposited on the foreshore to a depth of three feet; some of the pieces being an inch or an inch and a half in diameter, but is being rapidly pulverized due to the constant erosive action of the waves.

11. — *The following report has been received from Captain W. H. PARKER, (C. B. E.) (R. D.) R. N. R. S. S. « O l y m p i c ».*

At 3.30 p.m. on 18th November, 1929, when in Latitude 42°12' N. Longitude 56°56' W. steering 261°, speed 22 knots, calm sea, light airs, overcast dark gloomy, shy, a violent tremor and sustained vibration was felt on the bridge which lasted approximately 2 minutes. I was in the Chart Room at the time, and immediately put down the work I had in hand

went on the bridge. Two officers were on watch and two look-out men on duty, one in the Crow's Nest and the other on the bridge. Nothing had been sighted ahead and nothing was seen astern; for the moment I thought we had cast a propeller blade, but as the engine continued working normally, I began to fear we had struck or passed over a submerged wreck. I went aft as the vibration ceased to examine the wake of the ship for possible signs of wreckage, but neither I nor the Quartermaster on the after bridge saw anything.

The Carpenter very carefully sounded the ship fore and aft and with an officer examined No. 2 Hold and tank tops and found everything in order, the wells being dry and no sign of any damage in the Hold, the propellers all right, and the patent Log as well as the Forbes Log working all right. I was forced to consider the possibility of an earthquake and discussed this with my officers after they had reported all well below.

I should observe that the depth of water about our position would be as per chart 2,564 fms. or approximately 2 ½ miles deep.

I would mention that the Boatswain and the Watch on deck were working in the Mail Room and found themselves in darkness, as the electric lights were shaken out and extinguished; the Boatswain described it as an earthquake or submarine eruption. The look-out man in the Crow's Nest described the sensation of feeling as though the engines had been put full astern.

The Junior Engineer in the forward stokehold described it as though the anchors had been let go and the chain rattling out of the hawsepipe.

Most of the passengers were at the Cinema in the Lounge and apparently from enquiries I have made nobody felt any vibration there. The same applies to several other parts of the ship.

The wireless reports during the night confirm our conjecture regarding an earthquake, which I note as follows:

« Boston. Atlantic Coast line from Rhode Island to

« Newfoundland was shaken for an hour and a half by
« earth tremors of considerable intensity ».

Louisburg, Cape Briton reports :

« Maximum shock, a severe one, was felt at the station
« between 4 p.m. and 4.30 Canadian Atlantic time,
« corresponding to 3.30 p.m. E. S. T. »

Our distance from Louisburg was roughly 257 miles at
3.30 p.m., 312 miles from Cape Race, Newfoundland, and
640 miles from Rhode Island.

12 — *The following report from S. S. «Kiwitea»,
Captain M. MACKENZIE, has been received from Captain
G. D. WILLIAMS, Deputy Director of Navigation, New
South Wales, Marine Meteorological Agent at Sydney.*

The above-named vessel on voyage from Hobart to
Sydney on the 28th December, 1929, at 11.35 a.m. while
in Latitude 40°41'S. Longitude 149°E., 29 miles E. S. E.
of Cape Barron, and outside the 100 fathom line, expe-
rienced what appeared to be a submarine disturbance. The
vessel trembled and vibrated violently from stem to stern
for 30 seconds, and appeared to lift bodily in the water.

So violently was it felt in the engine room, that the
Engineer rushed to stop the engines, getting the impression
that the shaft or propeller had gone. However, the vibra-
tions then ceased, and ship resumed normal motion.

The weather at the time was fresh Easterly, choppy
sea and dirty rainy weather.

13. — *The following is an extract from the Meteorolo-
gical Report of S. S. « Talma », Captain R. W. HOCKING,
R. D., R. N. R., Calcutta to Far East, Observers Messrs
L. T. CARTER and H. F. WRIGHT.*

At 18.45 G. M. T. 28th December, 1929, when in La-
titude 14°15'N. Longitude 96°41'E. the vessel entered what

appeared to be an area of unusual phosphorescent disturbance.

At first what appeared like small globules of phosphorescence rising from below and breaking at the surface were observed, later these gradually assumed an appearance almost like flashes of lightning under the water, which rapidly formed into regular beams, curved as curved spokes of wheel might be and of a width at the ship of about 30 feet, and revolving rapidly from right to left, at the rate of two a second, timed as the beams passed the bridge, around a distant centre which could not actually be seen clearly but appeared to be about 5 miles off. This centre passed ahead of the ship being first observed on the port beam and from there drawing slowly ahead of and across the bows of the ship fading gradually till on the starboard bow when the whole phenomenon finally disappeared. For a short period when the centre was on the port bow the beams appeared revolving in the opposite direction, this latter phase was not clearly marked as the beams had already begun to fade at that time. The beams could clearly be followed on both sides of the ship though the illumination was much greater on the side nearest the centre of revolution (port) their brilliance on that side being dazzling; the whole phenomenon lasting 15 minutes.

The vessel at the time was in 50 fathoms of water over a bottom composed mostly of fine sand and mud with shingle here and there, the compass remained entirely unaffected and no difference was noticed in the steering. The weather at the time being cloudless and calm with smooth sea and steady barometer.

« It was later reported from the Engine room that at »
« this time the revolutions dropped considerably and the »
« main engines were straining. As this straining of the en- »
« gines appeared to me to point to the possibility of Marine »
« Volcanic disturbance I considered it advisable to send out »
« a wireless warning to all ships and stations ».

14. — *Extract from Report by District Officer Gizo. Mr. A. MIDDENWAY, to Secretary to the Government.*

Earthquake in British Solomon Islands.— On August 23rd 1930. I visited Nusa Simbo by canoe and when passing through the passage between Simbo and Narovo Islands, I found the sea, which at normal times is hot, almost boiling, the steam was rising from the surface of the sea and the heat could be felt through the bottom of the canoe. In the afternoon I visited Ovi where hot sulphur springs are situated and found that every spring was boiling. The bubbling of the boiling water could be heard from two or three hundred yards. I found one spring which previously had been a mud spring, full of clear water, a sample of which I have sent to Sydney for analysis. On Sunday 24th August while sitting on the verandah of Mr. Pybus' house at 7.30 pm. a rather severe shock earthquake was felt. At 9 p. m. there was again a rather severe shock and at 6.15 the following morning, this again occurred while in the intervals there were 14 distinct tremors, making 17 shocks during the night. Each shock and tremor was accompanied by loud roaring, very distinct and apparently local. On the Monday morning I questioned the natives, when some of the older men told me of a similar occurrence many years ago when there were a large number of land slides evidence of which can still be seen. When visiting Ranonga some nine miles away on the 25th August, I questioned the natives there and found that a number of distinct shocks were felt on the Northern end. I found on my return to Gizo that one severe shock was felt at about 7.30 p. m. on the Sunday night which was followed by a tremor. At Bilua on Vella Lavella only one shock was felt. At neither Bilua nor Gizo was the roaring heard. The movement during the disturbance was from the South East and from what I can gather it would appear that the centre of the activity was on Simbo.

15. — *The following is an extract from the Meteorological Log of S. S. « Norfolk », Captain J. HOWELL-PRICE, D. S. O., D. S. C., Observer Mr. G. C. HOCART.*

February 3rd 1931 at 10.50 a. m. vessel alongside wharf in Wellington, New Zealand. A violent earthquake shock was felt. All high buildings in Wellington commenced swaying, as did the cranes and sheds on the wharf. The motion in the ship was as if the engines had suddenly been reversed. The earthquake which devastated Hawkes Bay seemed to take a straight line through Wellington and Cook Strait to Christchurch in South Island, where a considerable shock was felt.

The barometer was 29.83 in and had been steady for the last 24 hours, Wind Easterly force 2. Temperature air 67°, the sky being cloudy with heavy cumulus clouds and passing showers of rain.

16. — *The following is an extract from the Meteorological Log of M. V. « Taranaki » Captain C. WOOD, D. S. C., at anchor in Napier Roadstead; Observer Mr. G. COPE.*

Earthquake. Napier, New Zealand. — « 2nd February 1931 at 23.47 G. M. T. whilst lying quietly an anchor, vessel was shaken by severe earthquake. Water was observed to be receding rapidly from shore and soundings round vessel showed decrease from 6 ½ fathoms to 4 fathoms. Hove up anchor and proceeded seaward. Sounding showed a decrease of 15 feet for a distance of approximately 3 miles eastward from the leading beacons.

The weather at time of earthquake was fine and cloudy with light easterly wind, sea was smooth and there was no swell. There was no disturbance noticeable on the water other than that caused by the receding water ».

17. — *The following is an extract from the Meteorological Log of S. S. « Ruapehu », Captain F.W. ROBINSON at Napier, N. Z., Observer Mr. H. I. PHILLIPS.*

5th February 1931, 8.58 p. m. (N. Z. Summer time) 0858 G. M. T. At single anchor with 45 fathoms cable in 10 fathoms of water off Ahuriri Bluff, Napier (during the embarkation of Refugees as a result of violent earthquake in Napier on 3rd February), a severe earth tremor was felt shaking the vessel violently, phenomenon lasting about 15 seconds.

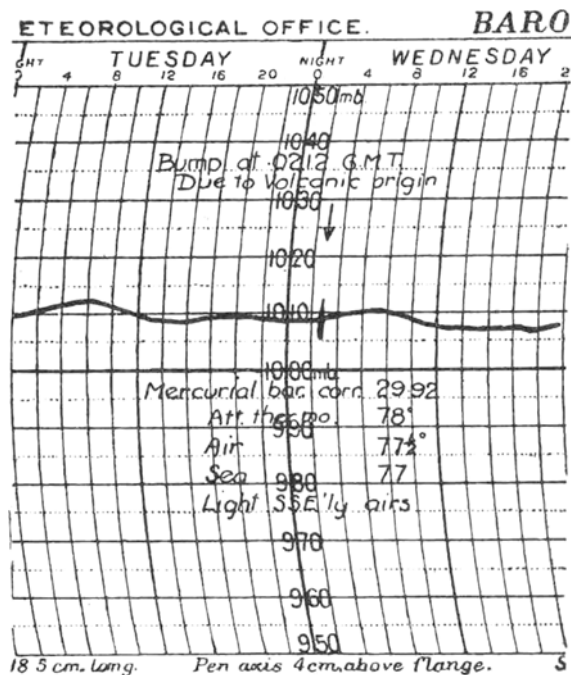
The wireless operator on the S. S. « Northumberland », which was anchored about 1 mile to the eastward of the S. S. « Ruapehu » was in the act of reporting this tremor to the operator on the « Ruapehu » when the shock was felt on the latter vessel. The former vessel must therefore have experienced this phenomenon at least $\frac{1}{4}$ minute before the « Ruapehu », showing that the disturbance originated to seaward of Napier.

The weather at time of observation was Mod. S. S. W. breeze, slight sea, barometer 30.05 ins. temperature air 56°, sea 60°, sky 3/10 covered, predominating cloud cumulus. A number of dead whales and some marine vegetation were seen floating on the surface during the passage from Auckland to Dunedin (4th to 7th February).

18. — *The following is an extract from the Meteorological Record of S. S. « Moldavia », Captain C. H. C. ALLIN, Colombo to Port Sudan, observer Mr. C. S. PIBIE, 4th officer.*

Earth tremor. Arabian sea. — 18th February 1931 at 0212 G. M. T. experienced a severe concussion, the ship being badly shaken. The shock was principally felt amidships, the effect being very slight forward and only moderate aft, and no disturbance of the sea was noticed. The effect of the shock, which was presumed to

be an earth tremor, is distinctly recorded on the enclosed barogram.



Weather at time was threatening, sky 2/10ths. covered with cu. and st. to N. N. E. and S. S. W. Barometer 29.92 in. Temperature air 77 1/2, Sea 77. Light S. S. E'ly airs.

Position of ship Latitude 14°49' N. Longitude 42°16' E. Course 323° Speed 15 knots.

Other persons on board *Moldavia* described it as very similar to the explosion of a mine.

W/T communication was attempted with the Dutch S. S. « *Rietfontein* », which was passing at the time, but with no result, the *Rietfontein* being a « one operator ship ». At 0530 G. M. T. sent following message to *Rietfontein*, « At 0212 G. M. T. did you feel any shock in your ship. We experienced severe shock and tremor. No evidence of reason so presume earth tremor ». At 0555 G. M. T. received following reply from *Rietfontien*, « Commander

Moldavia: Yes at 0115 G. M. T. experienced a severe shock and tremor and a noise as if the propeller came out of the water ».

At 0858 G. M. T. a request for information tho all ships was broadcast, and the following replies received :

At 0915 G. M. T. From S. S. Glenluce. « Commander Moldavia. Distinct tremor felt at 04,38 G. M. T. in about Latitude 14 51N. Longitude 42 12 E. No disturbance or discolouring of sea observed ».

At 0930 G. M. T. From S/S City of Melbourne, « Commander Moldavia. At 0212 G.M.T. Latitude 14 47 N. Longitude 42 11 E. Centre Peak Lt. bearing 356° distant 14 ½ miles. Ship badly shaken by concussion felt from forward to midships, but not in engine room ».

At 1400 G. M. T. From Company's S/S Nankin. « Nankin 14 miles astern of you at time. Felt nothing. Passed you at about 4.30 a. m. ».

19. — *The following is an extract from the Meteorological Record of S.S. « Duquesa », Captain R. OWEN, Liverpool to Montevideo, Observer Mr. F. D. JONES, 3rd Officer.*

Submarine shock. Nort Atlantic. — « May 20th 1931 at 1.30 a. m. A. T. S. The vessel was subjected to a severe shock, causing excessive vibration from stem to stern, and lasting about 2 minutes. The sea and swell remained normal and as the sky was overcast at the time, and the night dark, it was impossible to observe if any discolouration of the sea took place.

The sensation felt aboard was similar to that experienced by the discharging of a depth charge at close quarters to a vessel.

Position of ship Latitude 39° 08' N. Longitude 14° 08' W. bearing from Lisbon 276°, 238 miles ».

B. — Observations envoyées par le *Koninklijk Nederlandsch Meteorologisch Instituut*. De Bilt. Hollande.

A Mr. le Directeur du Bureau Central International de Volcanologie. — R. Osservatorio Vesuviano, Naples (Italie).

Onderwerp :
Tremblement de mer

De Bilt, le 7 Septembre 1927

1. — *Monsieur,*

J'ai l'honneur de vous faire parvenir ci-dessous un extrait de journal de bord du navire hollandais « *S i t o e b o n d o* », Capitaine K. TH. SMITH.

Le 17 Mai 1927 à 12h35m (heure vraie) ce navire se trouvait dans l'Océan Indien à 6°00'7 L. N., 94°25' L. E. (Gr.) quand le bateau vibrait fortement pendant environ 10 secondes. D'autres particularités ne furent pas observées, la surface de la mer peu agitée ne changea pas. Le tremblement s'enregistrait dans le barogram.

Veuillez agréer, Monsieur, l'assurance de ma considération distinguée.

DE HOOFDDIRECTEUR
van het Kon. Ned. Meteor. Instituut.
(Signé)

Onderwerp :
Tremblement de mer

De Bilt, 29 février 1928

2. — *Monsieur,*

J'ai l'honneur de vous faire parvenir ci-dessous un extrait de journal de bord du navire hollandais « *R e m b r a n d t* », capitaine G. B. J. SORGDRAGER.

« Le 28 décembre 1927 à peu près à, 21h30 (heure vraie) ce navire se trouvait dans l'Océan Indien, sud de

l'île de Java à 8°14' L. S., 109°52' L. E., quand le bateau vibra fortement pendant environ quelques secondes. D'autres particularités ne furent pas observées, la surface de la mer peu agitée ne changea pas.

Veuille agréer, Monsieur, l'assurance de ma considération distinguée.

DE HOOFDDIRECTEUR
van het Kon. Ned. Meteor. Instituut.
(Signé)

Onderwerp :
Courant à Makallah.

De Bilt, 9 mars 1928

3. — *Monsieur,*

Nous vous prions de vouloir bien nous informer si votre Bureau ait reçu quelques renseignements sur un tremblement de mer qui s'aurait présenté dans la mer d'Oman ou ses environs le 15 octobre 1927 et qui pourrait avoir causé une onde extraordinaire ou un courant remarquable à la rade de Makallah sur la côte d'Arabie.

Selon le « Red Sea and Gulf of Aden Pilot » des courants assez forts y sont inconnus, mais à la date surnommée le bateau hollandais « Soekaboemi » mouillé à la rade en 10 brasses, éprouva à 11h du matin (heure vraie) tout à coup un courant de l'est d'une force considérable. Pendant que le navire évitait à la nouvelle direction du courant on croyait voir l'eau se lever contre la proue, l'ancre chassait et le navire échoua.

En attendant vos nouvelles, recevez, Monsieur, l'assurance de notre considération distinguée.

DE HOOFDDIRECTEUR
van het Kon. Ned. Meteor. Instituut.
(Signé)

(Aucun renseignement a été reçu par le Bureau C. I. de Volcanologie sur le phénomène précité).

A. MALLADRA

Onderwerp :
Tremblement en mer

De Bilt, le 6 mai 1929

4. — *Monsieur,*

J'ai l'honneur de vous faire parvenir ci-dessous un extrait de journal de bord du navire hollandais « Alhena », capitaine M. TOONDER.

« Le 2 avril 1929 à 11h. 16m. G. M. T. ce navire se trouvait dans l'Océan Atlantique à 1°05' latitude nord et 28°42' longitude ouest, quand le bateau vibra fortement de toute sa longueur pendant environ 4 à 5 secondes. Les personnes à bord du navire eurent l'impression, que l'arbre de l'hélice s'était cassé et que la machine s'emballait. Aucun dégât ne fut constaté ! D'autres particularités ne furent pas observées et la surface de la mer, un peu agitée, ne changea pas ».

Veillez agréer, Monsieur, l'assurance de ma considération bien distinguée.

DE HOOFDDIRECTEUR
van het Kon. Ned. Meteor. Instituut.
(Signé)