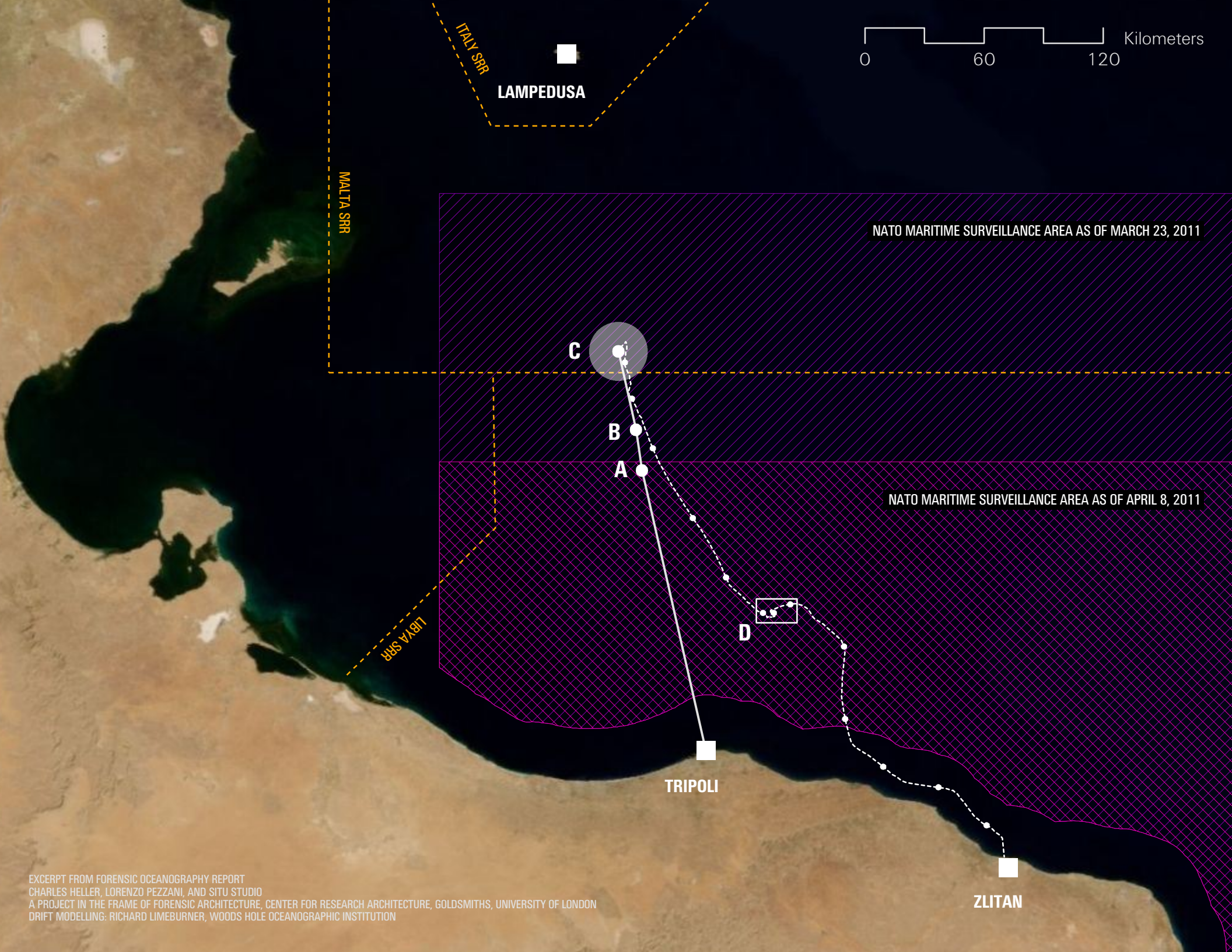
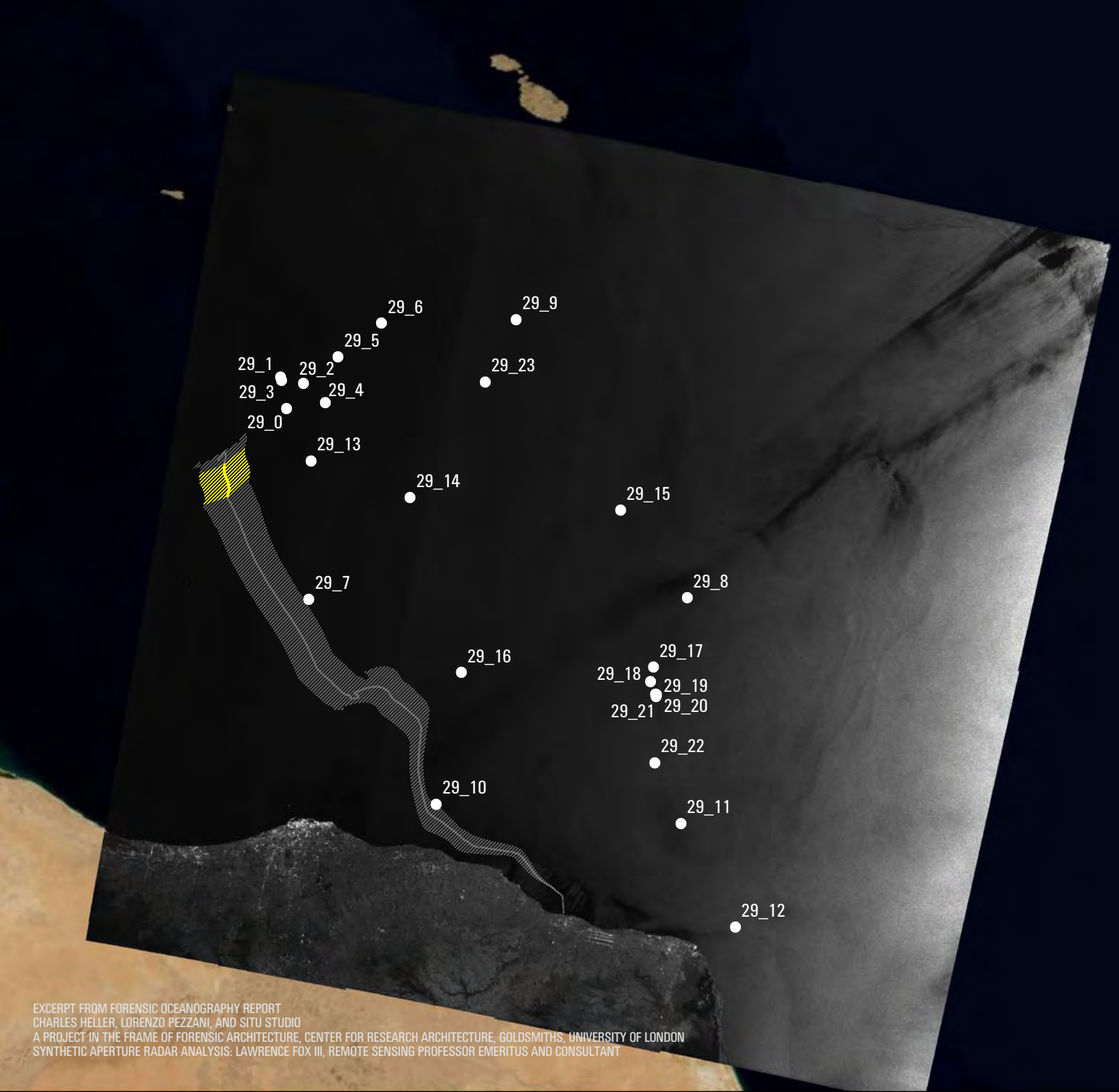


EXCERPT FROM FORENSIC OCEANOGRAPHY REPORT
CHARLES HELLER, LORENZO PEZZANI, AND SITU STUDIO
A PROJECT IN THE FRAME OF FORENSIC ARCHITECTURE, CENTER FOR RESEARCH ARCHITECTURE, GOLDSMITHS, UNIVERSITY OF LONDON
DRIFT MODELLING: RICHARD LIMEBURNER, WOODS HOLE OCEANOGRAPHIC INSTITUTION



Id	Length	Confidence
29_0	75m	80%
29_1	75m	70%
29_2	75m	95%
29_3	75m	80%
29_4	75m	70%
29_5	75m	90%
29_6	225m	95%
29_7	75m	80%
29_8	75m	70%
29_9	75m	80%
29_10	75m	80%
29_11	150m	95%
29_12	150m	95%
29_13	75m	80%
29_14	300m	95%
29_15	150m	95%
29_16	75m	80%
29_17	75m	95%
29_18	300m	95%
29_19	75m	80%
29_20	75m	80%
29_21	75m	70%
29_22	150m	95%
29_23	225m	95%

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A PROJECT IN THE FRAME OF FORENSIC ARCHITECTURE, CENTER FOR RESEARCH ARCHITECTURE, GOLDSMITHS, UNIVERSITY OF LONDON
SYNTHETIC APERTURE RADAR ANALYSIS: LAWRENCE FOX III, REMOTE SENSING PROFESSOR EMERITUS AND CONSULTANT

CREDITS:

FORENSIC OCEANOGRAPHY: Charles Heller, Lorenzo Pezzani and Situ Studio

Drift Model: Richard Limeburner, Woods Hole Oceanographic Institution (WHOI)

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DRIFT MODEL CREDITS: Ocean currents were obtained from the MyOcean website (http://www.myocean.eu.org/index.php/products-services/catalogue). MyOcean provides data mainly from EuroGOOS Regional alliances which have deeply contributed to structure the European Operational Oceanography community. The ocean currents were actually provided by the Istituto Nazionale di Geofisica e Vulcanologia (INGV) in Italy. INGV uses NEMO (Nucleus for European Modeling of the Ocean), a state-of-the-art modeling framework for oceanographic research, operational oceanography, seasonal forecasts and climate studies. See http://www.nemo-ocean.eu/. Wind data at the Lampedusa Island airport was obtained from EuroWeather (http://www.eurometeo.com/english/home). Weather data at Libyan meteorological stations was unreliable in early 2011.

FIGURE 1 CAPTION:

Trajectory followed by the “left-to-die” boat with indication of key events:

- The migrants’ vessel leaves the port of Tripoli between 00:00 and 02:00 UTC on March, 27, 2011 with 72 people on board.
- (**A**) After proceeding in the direction of Lampedusa, Italy for 15-18 hours, the migrants place a distress call by satellite phone. The GPS location of the vessel is located at 16:52 GMT on March 27, 2011 at position LAT 33 58.2 N – LON 12 55.8 E by the satellite phone provider Thuraya. Shortly following this call, the Italian Coast Guard publishes an Enhanced Group Call alert that a vessel is in distress and provides its geographic coordinates.
- (**B**) The boat proceeds for around 2 hours until, according to witnesses, a helicopter flies overhead. After this encounter the satellite phone battery dies and the phone is thrown in the water. The last signal detected by the satellite phone provider is LAT 34 07.11 N – LON 12 53.24 E at 19:08 GMT on March 27, 2011. This location presumably

corresponds to that of the encounter with the helicopter. The vessel remains in approximately the same area for 4-6 hours before, according to witnesses, a military helicopter flies over and drops biscuits and water before leaving. Still without moving very much from the location of the last signal, the migrants say they encounter several fishing vessels, which do not provide assistance. They then decide to move again between 00:00 and 01:00 GMT and continue presumably NNW towards Lampedusa for 5 – 8 hours with an estimated speed of 4.43 kt (the average speed held during the navigation from Tripoli to point **A**).

- (**C**) The vessel runs out of fuel and begins to drift within an 8 nautical mile radius (indicated with a white shade) of position 34 24.792 N – 12 48.576 E at approximately 07:00 GMT on March 28.
- (**D**) The boat drifts SSE and between April 3 and April 5th the migrants say they encounter a military ship that fails to provide assistance.
- On April 10, 2011 the boat lands back at Zlitan, Libya. Upon landing 11 of the 72 migrants are still alive. Two die shortly after landing.

FIGURE 2 CAPTION:

The image below shows the location of all vessels over 75 meters in length in the area where the boat drifted. Each numbered dot represents a vessel. The hatched area represents the probable drift trajectory of the migrant boat with an 8 nautical mile radius margin of error. Lawrence Fox III, Humboldt State University Emeritus Professor of Remote Sensing and consultant, produced this analysis based on Envisat-1 synthetic aperture radar data for March 29, 2011. The yellow portion of the drift area provides possible positions of the migrant's vessel on this day. The table provides Fox's estimate of each ship's length and quantification of confidence for all returns considered probable vessels. The resolution of the Envisat-1 data allows for high confidence detection of ships length 75 meters and above.