

# GEOPHYSICS SOCIETY TRIP TO INDONESIA 2017

## Kind Thanks

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## 1<sup>st</sup> to 2<sup>nd</sup> July 2017 – Days 1&2

Today we flew from London Heathrow to Singapore via Dubai. The flight with Emirates was very nice, and a lot of films were watched. We landed in the morning at Singapore so there was no time to sleep or let jet lag hit us, we went straight into tourist mode (consisting mainly of complaining about the humidity!) and made our way to the hostel which was in Little India. After leaving our bags we went to a local



street food market where we could get a huge platter of Indian cuisine for only 3 dollars (about £1.50)! After this we all walked down to the harbour front where the marina bay hotel is located, a huge 3 tier hotel with a 'boat' supported on the top. Around the base of this is an area called the garden of the bay, which is a conservation effort by the Singapore government to integrate wildlife into a city environment. We wandered around the gardens and sat on the grass and within less than 5 minutes almost everybody had fallen asleep. Steve somehow managed to fall asleep in a crunch position?! At some point, we found some motivation to go look at a statue of a giant baby and get some dinner in a nearby restaurant as we were waiting for a light show that uses the artificial trees in the garden. The light show was good, it was done in time to songs from musicals. Just before the light show however, there was another display to behold, the bats in the garden came out from their hiding places were swooping down scarily close to where we were sitting. (Robbie was least pleased with this, having his flip flops on his





hands in case any flew too close to him, so he could bat them away!). After the light show we had to walk back to the hostel, and go a long way round as the normal way was blocked off due to Singapore celebrating their independence with a concert on the bay front. Our feet all ached, our eyes were heavy, when we made it back to the hostel we fell asleep instantly! A remarkably successful first day considering how sleepy everybody was!



### **3<sup>rd</sup> July 2017 – Day 3**

Today it was raining very heavily in the morning, and we all breathed a sigh of relief in hope it meant the humidity would drop, unfortunately however it didn't. It was somehow still as humid after the rain as it was before. We had planned to go to the national museum as we knew it had a section on the geological history of Singapore. When we got there it had great air conditioning and also was a very well laid out and descriptive museum. We learnt a lot about Singapore's history, which most of us had never had the opportunity to learn about before. It highlighted how Singapore has such a diverse range of cultures and lifestyles. After this the rain had stopped so we walked back to the garden by the bay and went inside one of the large conservatories that they had. They had two but we were mostly interested in the cloud observatory as it highlighted how the meteorology affects animals, flora and fauna as the altitude increases. We made sure to pay attention so that we could try and recognize things when we were climbing Mt Sibayak. After this we went to little china for lunch and wandered around the area.



The third was Ed's birthday, so in the evening we went to Clarkes Quay which is a pretty area with restaurants on the water. We went for Vietnamese food in a place called Little Saigon. It had great food and an even better live band, (they also learnt country roads for us so we were happy!). Day 2, a great success! Tomorrow we leave for Indonesia!

#### 4<sup>th</sup> July 2017 – Day 4

We started the day early to catch our flight from Singapore to Indonesia, everyone was very excited to move onto somewhere new! We arrived in Beristagi after a couple of hours drive and a pit stop for lunch where we first encountered some traditional Indonesian cuisine, so we



ordered some lovely Nasi Goreng and Mie Goreng, little did we know this was all we'd be eating for the next two weeks.... Once we got to Beristagi we decided to walk around the town to visit the local market and go in search of a local hot springs. Unfortunately google lied and 'Hot spring Nicole' did not exist, so we headed back to the hotel for a dip in the pool and some more nasi goreng.

#### 5<sup>th</sup> July 2017 – Day 5

After a lovely night sleep in our fancy hotel room we had another early start in preparation for an action-packed day. After a breakfast of nasi goreng at 7:00am we were picked up by our tour guides at the hotel and transported to the base of Mt Sibayak. The walk to the top of the 2,200m mountain took about 3 hours with quite a steep initial ascent through a forest. Once we were an hour from the top the forest thinned out and the views were amazing, we could catch a glimpse of Mt Sinabung, currently Indonesia's most active volcano. As we walked up to the summit we were met with active fumaroles and sulphur crusted rock fragments. The scramble to the summit was worth it, the views of the crater on Sibayak, Mt Sinabung and the forest filled valley were breath taking. After we were back at the hotel, we were bundled back into taxis and headed on our way to Sipisopiso waterfall. This was a quick journey, just enough rest after our active morning. Sipisopiso waterfall is located on the tip of Lake Toba and this was the view we were initially greeted with again amazing. The view of the lake didn't look real, a beautiful setting for lunch! After refuelling we began the walk down to the bottom of the waterfall, this took about 45 minutes and by the end we were cooled off by the spray of the water into the plunge pool. After only staying there for about five minutes we were drenched, at least it kept us cool on the journey back to the top! Once we'd all arrived at the top we continued our journey onto our accommodation at Lake Toba.







### 6<sup>th</sup> July 2017 – Day 6

Lake Toba is Southeast Asia's largest freshwater lake, and the largest caldera lake in the world. It was formed about 80,000 years ago by a volcanic eruption: the caldera that was created eventually collapsed in on itself and the high-sided basin that remained filled with water to form the lake. This eruption is believed to be the largest in history. A second, smaller volcanic eruption, 50,000 years after the first, created an island the size of Singapore in the middle of the lake. This island, Pulau Samosir. Today we got the ferry across to Samosir to learn about Batak culture and visit the volcanically active region of the island. We were taken around by a



lovely tour guide that took us to a traditional Batak village and to interesting geological sites on the island, such as a volcanic rock formation, the hot springs and the new active volcano that is forming at the edge of the island. The day was topped off by a quick dip in Lake Toba itself, which was an incredible chance to take in the sheer scale of the lake and how big the volcano would have been.



### 7<sup>th</sup> July 2017 – Day 7

Today we went on a jungle trek into an area of protected rainforest near Lake Toba. The hike enabled us to learn about the flora and fauna of the region, visit 'Tarzans house', see a gibbon and swim in a waterfall. In the afternoon, we jumped into our transport just before the tropical heavens opened and drove to Medan.

### 8<sup>th</sup> July 2017 – Day 8

Having awoken at an ungodly hour, a fleet of taxis dropped us off at Medan airport to commence our 18-hour journey to Bandung. The audacious and adventurous group beelined past local vendors to Starbucks for a caffeine hit before proceeding through the security with our full beverages in hand to the plane. A short island hop from Sumatra to Batam and then back to Sumatra gave great aerial views of the landscape and displayed the blatant human impact on the environment below. After landing we boarded a coach that would become our temporary home for the rest of the day, driving down to the southern tip of Sumatra before catching a ferry to Java then driving on to Bandung.

I use the word coach lightly, perhaps it should have been called a roving hotbed due to the infestation of militant mosquitos forming a resistance against their unwelcome new co-inhabitants. The first hours spent on the peripatetic breeding ground were an almighty struggle between human and pest, successive waves of mosquitos originating from every recess fought off valiantly by the explorers as we approached the sea port.

Little respite was to be had on the packed-out boat either as the only place with enough spare oxygen with which to breathe was the front deck, however the views were spectacular and found their way on to many an Instagram feed. After a frantic disembarkation, we settled in for a long ride to Bandung. Having suffered major losses in the initial clashes on the bus, the federation of assorted winged insects resorted to guerrilla warfare, however small-scale skirmishes were resolved quickly with the use of repellent and improvised swatters.



The humans, triumphant, regrouped and we decided to toast our success with a succulent KFC just past Jakarta. In the queue for the moist and zingy chicken we discussed a great deal of things: does Singapore really have the tallest indoor waterfall? Has Charlie instagrammed the Colonel's iconic logo yet? Would we have won the battle with the bugs earlier had we not been asphyxiated by the DEET?

As we chomped down on the crispy fillets we reflected on our favourite memories from Sumatra and pondered on what Java had in store for us. The trip so far had been astounding and suffice to say we couldn't wait for a comfortable bed to rejuvenate us for the next part of the trip.

### 9<sup>th</sup> July 2017 – Day 9



Today we explored Bandung walking into the centre of town from our accommodation. Unfortunately as it was a Sunday there wasn't a lot open so we decided to try and visit a nearby waterfall and volcanic hot springs. Although once arriving back to the hotel we were told that this was not possible either. However, all hope was not lost when we discovered a nearby sculpture museum. The museum

itself was really fun and there was a lot to see, as we were walking around we actually bumped into the artist that had made the majority of the outside sculptures and he gave a guided tour around them. We were then taken down into his workshop where he is in the process of



completing a currently 20-year-old project for a sculpture that will be bigger than the statue of Liberty! This statue is being transported in parts to Bali where he will assemble it next year (hopefully!). Our tour guide at the museum then took us to one of his favourite restaurants in the city where we had a lovely selection of Indonesian and western food to choose from.

## **10<sup>th</sup> July 2017 – Day 10**

An early start today to check out of our hotel and head to the Centre for Volcanology and Geological Hazard Mitigation (CVGHM) for presentations and a tour around their geological museum. This was a very interesting and formal experience. The presentation topics included Volcanic hazard mitigation, landslide monitoring and earthquake monitoring. All of which our group has studied so we had lots of questions at the end leading to



long discussion with those from the centre. We were able to gain valuable insight into some of the things we had seen on Mt. Sinabung like previous eruptions and landslides. The tour around the geological museum was lovely, they had a range of exhibits from fossils to an earthquake simulator. Although I think Charlie's favourite bit was the gift shop where he picked up a plethora of souvenirs. Afterwards we were promptly picked up by a tour guide and taken out of the city to visit the Tangkuban Perahu volcanic crater. Tangkuban Perahu is a stratovolcano about 30km north of Bandung so we thought the journey was going to be one of the quicker of the trip, however the vast extent of the traffic anywhere in Indonesia never failed to surprise us. So we arrived at the crater about 2 hours after departing. We were dropped off near the top to the walk to the crater rim was not too strenuous. Once at the top the views were brilliant and we wandered around to all the viewing platforms. After a long day we once again hopped on our coach, this time not mosquito infested, and headed to Jakarta.

## **11<sup>th</sup> & 12<sup>th</sup> July 2017 – Day 11 & 12**



It was the day we had all been waiting for- the boat trip to Krakatoa! Krakatoa is a set of volcanic islands around 50km off the West coast of Java which were formed due to the eruption of a much larger island in 1883. Bronwen and Sophie were throwing up before we even got on the boat (something they had eaten the night before) and were swiftly joined by other members of the team who weren't huge fans of the 1.5 hr boat ride! The journey was a more beautiful experience than we

could have ever imagined. The boat chugged its way through the deep blue waters of the Indian Ocean, past steep sided islands smothered in rainforest and volcanoes blackened by recent eruptions. The island we were visiting, Anak Krakatau, was only 90 years old and was uninhabited- except for a few giant monitor lizards which we spotted later on (thinking at first they were deadly komodo dragons!). We set up camp on the beach in the shade of the jungle. That afternoon was spent snorkelling, hiking and eating freshly cooked food (plus oreos and





funky Indonesian biscuits- these were always on the menu). In the evening we hiked up to the volcano to watch the sunset, which was out of this world! To top off an incredible day, the guides even brought out Bintang at dinner (along with some tasty freshly caught seafood)! The following morning we were promised that a 5.30am wake up was worth the beautiful sunrise we would apparently be able to see with a short hike up out of the rainforest. This was a lie- it was probably the worst sunrise I

have EVER seen- the sun didn't actually become visible and was hidden the whole time by a curtain of cloud. To apologise for the early wake up, the guides decided they would take us to climb the volcano- insisting that the top really would be worth it! And how right they were! It felt like being on another planet, with sulphur plumes and yellow stained rocks rising up against a stunning backdrop of the other volcanic islands. After a climb back down, breakfast and a pack up of tents, we left to explore another island. This was just as jaw-dropping as the first! After a morning exploring and snorkelling we really saw the impact of climate on the coral reefs with wide spread bleaching opening up before us. After tucking into some more funny food, it was time to head back to mainland Java. Next stop Jakarta!



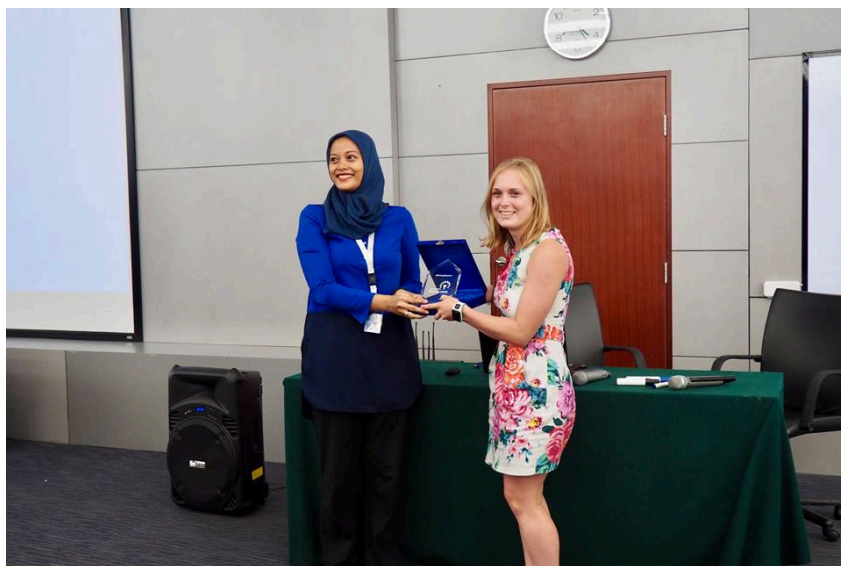
### 13<sup>th</sup> July 2017 – Day 13



After only just arriving in Jakarta we were up early for a full day of activities. Deciding that we were sick of sitting in taxis and cars and coaches and any other form of motorised vehicle we decided to walk to our first destination, The Meteorological, Climatological and Geophysical Agency (BKMKG). This was a mere 50 minute walk not much further than most commutes into university every day. However, what we didn't account for was the lack of

infrastructure available for the mere pedestrian. Needless to say we had many strange looks whilst 20 seemingly lost students trundled their way along the streets of Jakarta. We did eventually make it to our destination bang on 9am and were greeted by a lovely group of people who were very keen to show us their earthquake simulator, obviously we all had to have a go. After the initial fun we got down to business and the people at the institute gave presentations on different techniques they use to assess and monitor Tsunami and earthquake hazard in Indonesia and the wider reaches of the Indian Ocean. We were also given a whistle stop tour of their Tsunami early warning centre systems. Again we had lots of questions to ask about the techniques and technology they were using. To top the day off they showed us around their seismometer museum where they held some of the oldest seismometers in South East Asia. We had a great morning and everyone there was so welcoming. Again, we set off on foot in search of some lunch, and we ended up at a nearby shopping centre on the recommendation of the people at BKMKG. Initially we were quite sceptical of the legitimacy of the claim there was a food court at this place, however after searching 5 floors of the deserted self storage section of the building we eventually stumbled upon the hustle and bustle of the lunch time traffic in the food court. There was a big selection of food so we all managed to find something we liked, even in the form of deep fried ice cream...? I'm still confused. The day had gone all to plan, and we had plenty of time to get to our next destination Pertamina University on time. However, what we did not factor in the fact that this shopping centre was not a regular stop off for taxis, so sources transport for our half an hour journey began to prove very difficult. Over an hour later we were all safe in ubers on the way to the University, now racing against the clock with only 30 minutes exactly left to get there. Unfortunately, some of the uber drivers didn't know the streets of Jakarta as well as they initially thought and took many a wrong turning causing two groups to arrive 40 minutes late. Luckily the people at the university were very understanding and insisted that we wait for everyone to begin. We were given a presentation on Geothermal energy production in Indonesia and the research going into how to extract energy from their plethora of volcanoes on the Islands. Afterwards there was a lengthy Q&A session with the speaker not only due to the Imperial students but also students from Pertamina university who attended the talk. Once the official talk was over the organiser of the





event asked us if we could share our experience as a society that we have had on our trip and also the day to day workings of the society. This was to aid the geophysics students of Pertamina to set up their own equivalent society soon, as the university is only one year old so no such societies exist. It was really good to interact with the students and academic staff, we were able to share

our experiences to help them to become a successful society. The people at Pertamina were absolutely lovely and I think we have made a good grounding for future relations with them, whether it be an exchange of some kind or research collaborations. After this a PhD student, actually studying at Imperial originally from Indonesia, took us out for dinner to a local mall. It was again great to chat with him and talk about his research links between Imperial and Pertamina. Since this was our last night in Indonesia and we had barely a chance to buy any souvenirs we headed to the night market in the centre of town. This really didn't disappoint, it was full of everything and anything you could think of, from food to tattoo artists. It was nice to wander around and see the city at night.

14<sup>th</sup> July 2017 – Day 14

Sadly, today was our last full day. After a very early start and an early morning flight from Jakarta, we arrived in Singapore. We dumped our stuff at the footprints hostel before heading off to lunch. A group of us headed to the Hill Street Tai Hwa Pork Noodle stall, a Michelin star street food stall. After almost an hour, we got served and sat down to really tasty noodles. Whilst the others got dinner, we made a stop off at the Harbour front for lots of touristy photos and iconic Fort Canning park before joining everyone. Once we had all regrouped we decided to go to little Siagon, as we had had such a great time last time. We did the eagerly awaited group awards and had a few cocktails then moved to Cafe Iguana for a late night Mexican snack and margaritas. Once again we went back to Little Siagon for the live music, where we stayed for the rest of the evening before heading back to the hostel for a few hours sleep before the long trek back.



15<sup>th</sup> July 2017 – Day 15

After all the excitement, it was an emotional goodbye to South East Asia. We'd all had an unforgettable trip with plenty of once in a lifetime experiences! We were able to see four volcanoes. Two of those infamous for causing the largest eruption, and the largest tsunami, ever. These experiences couldn't have been had in Europe, let alone the UK, and were inspiring for all. We all learnt a great deal about the Pacific ring of fire, and what the Indonesian government are doing to mitigate against the risks of living on it.

