

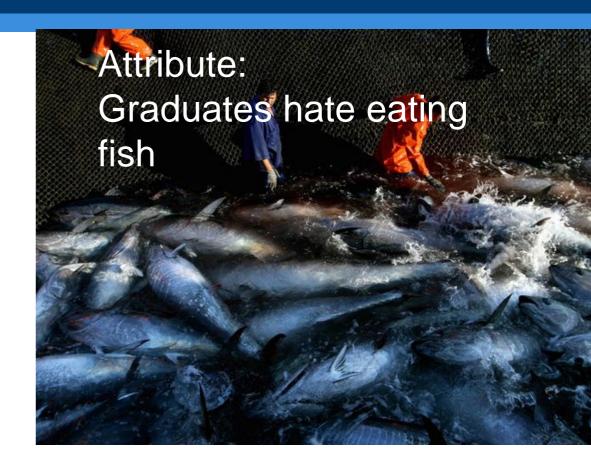
Dr Fai Cheng Senior Principal Surveyor Head of Research & Technology



Ocean in distress - overfishing

Led by the sushi market in Japan, the global demand for succulent tuna meat has driven stocks of the once ubiquitous species to the brink of collapse.

Fisheries in the Mediterranean, where this catch was landed, are in particular peril, with some studies showing highly prized blue-fin tuna near extinction there.





Ocean in distress - sea temperature rise

A woman inspects the wreckage of her Seabrook, Texas, home after Hurricane lke roared through in 2008. Some climate models predict that higher sea temperatures caused by global climate change will lead to more frequent and more severe hurricane activity.

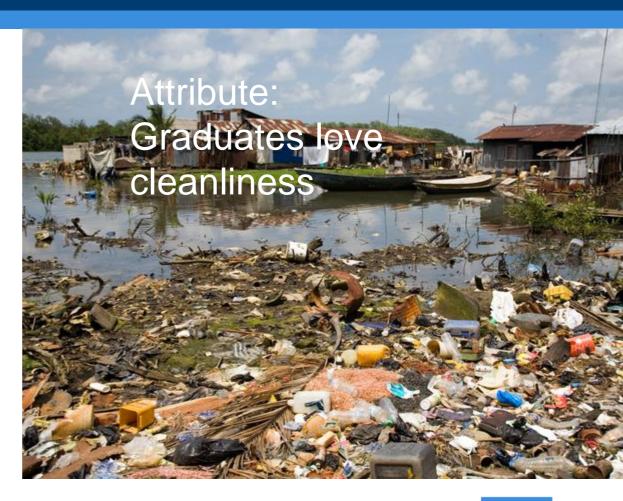




Ocean in distress - marine pollution

Trash litters the waters of a fishing village on Bonny Island in the Niger Delta.

This impoverished region of Africa was supposed to be transformed for the better by the discovery in 1956 of large oil reserves. Half a century later, poverty still reigns, exacerbated by pollution, depleted fisheries, and environmental degradation from the oil industry.

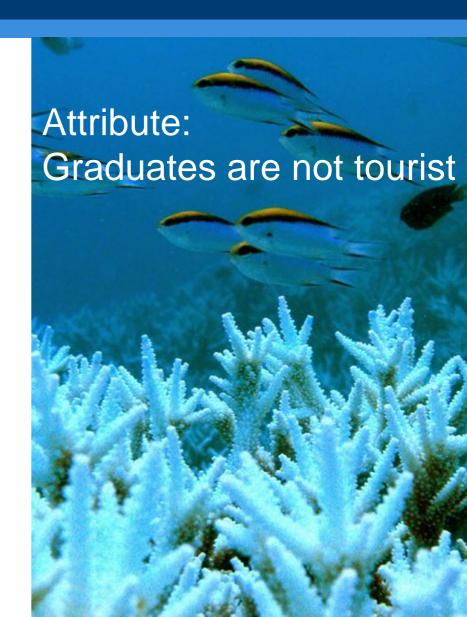




Ocean in distress - ocean acidification

Scientific awareness of ocean acidification is relatively recent.

Shallow-water creatures, like these corals, are extremely vulnerable to carbonic acid. Scientists are calling for drastic measures to avert massive bleaching of the world's reefs.



Ocean in distress - marine habitat destruction

Pollution, logging, dredging, draining of wetlands, and coastal development are all factors that lead to marine habitat destruction.

The absence of cypress swamps (shown here), decimated by logging and saltwater intrusion from manmade canals, is among the factors that led to New Orleans' devastation during Hurricane Katrina.





Ocean in distress - sea level rise

Scientific research indicates sea levels worldwide have been rising at a rate of 0.14 inches (3.5 mm) per year since the early 1990s.

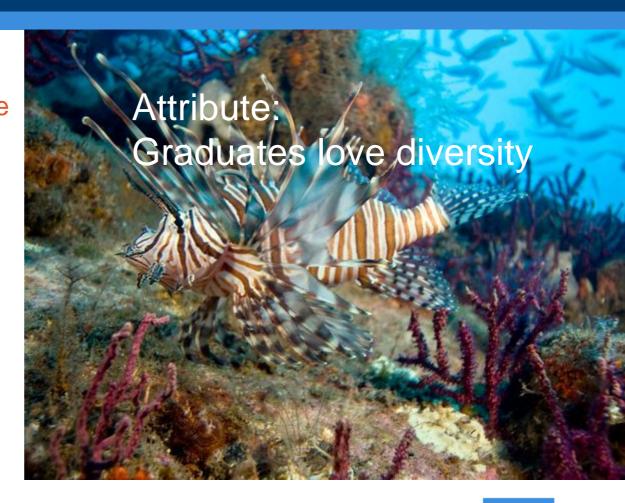
The trend, linked to global warming, puts thousands of coastal cities, like Venice, Italy, (seen here during a historic flood in 2008), and even whole islands at risk of being claimed by the ocean.





Ocean in distress - marine invasive species

Unknown in the Americas until three decades ago, lionfish—such as the one photographed here near the wreckage of the U.S.S. Schurz in North Carolina—have since been spotted from Rhode Island to Belize.





Ocean in distress – oil spills

11 of 12 of world's worst oil spills happened at sea. All happened since 1978, spilling over **One Trillion gallons.**

- 1. Gulf War Oil Spill 240 million gallons
- 2. Deepwater Horizon-210 million gallons
- 3. Ixtoc I 140 million gallons
- 4. Atlantic Empress & Aegean Captain 90 million gallons
- 5. Nowruz Oil Field 80 million gallons
- 6. ABT Summer 80 million gallons
- 7. Castillo de Bellver 79 million gallons
- 8. Amoco Cadiz 69 million gallons
- 9. Odyssey 43 million gallons
- 10. M/T Haven 42 million gallons
- 11. Exxon Valdez 11 million gallons



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What attributes should graduates have?

With the continued growth of the global economy and ever increasing living standards, the sea as a resource has never been so vital. Our oceans are crucial for transport, offshore food production, energy generation, mineral exploitation, a potential alternative to urban dwelling, tourism, manufacturing, and trade. As we increasingly utilise our oceans we need to ensure that we do so in an organised, safe and secure way, with minimum impact to the environment.

Graduates today will need to understand the <u>interconnectedness</u> of the modern world through the oceans, its <u>use for numerous purposes</u> and its <u>potential</u> <u>impact on others</u>. Graduates need to be able to think out of box and provide innovative solutions. Their minds need to be both green and blue, and yet understands human activities in the ocean are certain to increase.