

On this screenshoot from google maps – you can see where the DSSV Pressure Drop (the blue circle) and the RV Sonne (the red circle) are on the 18th of August! Both exploring hadal trench environment.

It looks like one long trench – in reality the trenches are separated by bathymetric saddles and remain isolate from each other. Also, they are underlying water columns of vvery different productivity, and life and element cycling in the respective trenches might be very different.



Beforee each dive with the submersible the "Limiting Factor" the pilot – here it is Chris – is giving the co-diving scientist a thorough safety introduction.



Katzu - on his way into the sub for a dive in the Ruyky Trench – that is 9800 m deep.

A dive normally takes 8-10 hours.

At the surface it is 30 degree C – but as the sub dives, the inside temperature decreases to 3- 4 degrees. This is the temperature of the ambient water in the deep sea. The sphere hosting the two divers is made of titanium – there is no insolation!!

Some pictures taken from the window of the sub at 9800 m depht



One of Alan Jamiesons landers with fish bait, settling on the seabed creating a plume of suspended sediment.





A large hydrozoan

.... And stalked crinoids

Dead fish mounted as bait in front of the camera on the lander. The timelapse camera record how scavengers eat the bait – at 9800 m depht over a period of 8 hours

Mostly amphipods and schrimps will appear – no fish can live at these extreme dephts.



First sediment holder are mounted on the lander.

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The manipulator arm on the "Limiting Factor" that among many things can recover sediment cores and place them on the holders of the landers for recovery. Unfortunately the arm had problems and we did not succeed getting sediment this time!





Hiroshi Kitazato and Akihisa Ishikawa after having mounted the sediment holders on the lander.



Onboard the two "mappers" Jaya Roperez and Sara Cardigo.

They are constantly busy, mapping the seafloor with a sophisticated Kongsberg multi beam system.

This is extremely important especially in the areas where the "Limiting Factor" or/and the landers are deployed to awoid slopes and bolders on the seafloor.





Boobies – experts of catching flying fish in the air!

I tried to take a picture of a flying fish – I did not succed!







Someone got tired – but had to fight for the spot!



