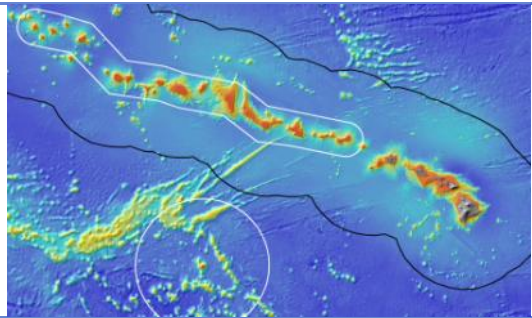


OKEANOS EXPLORER ROV DIVE SUMMARY

<b>Site Name</b>	South Kona transect of 1868 lava flow		
<b>ROV Lead/Expedition Coordinator</b>	Brian Bingham Kelley Elliott		
<b>Science Team Leads</b>	Frank Parrish (Biology) Christopher Kelley (Biology)		
<b>General Area Descriptor</b>	Main Hawaiian Islands		
<b>ROV Dive Name</b>	Cruise Season	Leg	Dive Number
	EX1504	3	DIVE03
<b>Equipment Deployed</b>	ROV:	Deep Discoverer	
	Camera Platform:	Seirios	
<b>ROV Measurements</b>	<input checked="" type="checkbox"/> CTD	<input checked="" type="checkbox"/> Depth	<input checked="" type="checkbox"/> Altitude
	<input checked="" type="checkbox"/> Scanning Sonar	<input checked="" type="checkbox"/> USBL Position	<input checked="" type="checkbox"/> Heading
	<input checked="" type="checkbox"/> Pitch	<input checked="" type="checkbox"/> Roll	<input checked="" type="checkbox"/> HD Camera 1
	<input checked="" type="checkbox"/> HD Camera 2	<input checked="" type="checkbox"/> Low Res Cam 1	<input checked="" type="checkbox"/> Low Res Cam 2
	<input checked="" type="checkbox"/> Low Res Cam 3	<input checked="" type="checkbox"/> Low Res Cam 4	<input checked="" type="checkbox"/> Low Res Cam 2
<b>Equipment Malfunctions</b>	N/A		
<b>ROV Dive Summary (From processed ROV data)</b>	Dive Summary: EX1504L3_DIVE03 ~~~~~		
	In Water at:	2015-08-30T18:59:35.515000 18°, 57.592' N ; 155°, 43.940' W	
	Out Water at:	2015-08-31T02:27:22.250000 18°, 56.614' N ; 155°, 42.752' W	
	Off Bottom at:	2015-08-31T02:11:38.890000 18°, 56.741' N ; 155°, 42.804' W	
	On Bottom at:	2015-08-30T19:17:36.187000 18°, 57.535' N ; 155°, 43.901' W	
	Dive duration:	7:27:46	
	Bottom Time:	6:54:2	
	Max. depth:	454.9 m	
<b>Special Notes</b>			
<b>Scientists Involved (please provide name / location / affiliation / email)</b>	<p>Frank Parrish, EX, PIFSC/PSD, <a href="mailto:Frank.Parrish@noaa.gov">Frank.Parrish@noaa.gov</a>  Chris Kelley, EX, UH, <a href="mailto:ckelley@hawaii.edu">ckelley@hawaii.edu</a>  Amy Baco-Taylor, FL, FSU, <a href="mailto:abacotaylor@fsu.edu">abacotaylor@fsu.edu</a>  Asako Matsumoto, Japan, CIT, <a href="mailto:amatsu@gorgonian.jp">amatsu@gorgonian.jp</a>  Chris Mah, DC, SI, <a href="mailto:mahch@si.edu">mahch@si.edu</a>  Michael Parke, HI, PIFSC, <a href="mailto:Michael.Parke@noaa.gov">Michael.Parke@noaa.gov</a>  Nicole Morgan, FL, FSU, <a href="mailto:nbmorgan11@gmail.com">nbmorgan11@gmail.com</a>  Scott France, LA, ULL, <a href="mailto:france@louisiana.edu">france@louisiana.edu</a>  Tina Molodtsova, Portugal, PPSIO, <a href="mailto:tina@ocean.ru">tina@ocean.ru</a>  Rachel Bassett, SC, CCEHBR, <a href="mailto:Rachel.bassett@noaa.gov">Rachel.bassett@noaa.gov</a>  Jonathan Tree, UH ECC, UH, <a href="mailto:jtree@hawaii.edu">jtree@hawaii.edu</a>  Daniel Wagner, UH, PMNM, <a href="mailto:daniel.wagner@noaa.gov">daniel.wagner@noaa.gov</a>  Sam Kahng, UH ECC, HPU <a href="mailto:Skahng@HPU.edu">Skahng@HPU.edu</a>  Meagan Putts, UH ECC, HPU, <a href="mailto:Mputts@HPU.edu">Mputts@HPU.edu</a>  Brendan Roark, TX, TAMU-CC, <a href="mailto:broark@geos.tamu.edu">broark@geos.tamu.edu</a>  Michael Garcia, UH ECC, UH, <a href="mailto:mogarcia@hawaii.edu">mogarcia@hawaii.edu</a>  Andrea Quattrini, CA, USGS, <a href="mailto:aquattrini@usgs.gov">aquattrini@usgs.gov</a>  Bruce Mundy, HI, IRC ECC, <a href="mailto:bruce.mundy@noaa.gov">bruce.mundy@noaa.gov</a></p>		

### **Purpose of the Dive**

This dive was the first use of the D2 to conduct a standardized survey of corals along a 450 contour at the southern end of the Kona Coast of the Big Island of Hawaii. The intent was survey a lava flow of a known age (1868) and see what coral community had grown in the years since the flow had formed. The objectives were to (1) travel a 2000 meter distance with the video recording a fixed wide frame with occasional snap zooms to verify coral taxa, (2) to use the laser scale to estimate the size frequency of the coral colonies encountered on the transect, and (3) to collect two basalt samples to verify the material and the age of the lava flow.

### **Description of the Dive:**

All of the dive objectives were completed. The full 2000 m distance was covered completing the planned transect. Colonies of *Hemicorallium* sp, *Kulamanamana haumeae*, *Antipatharians* and other coral were verified with a quick snap zoom of the camera to ensure progress on the transit was maintained and the full distance was covered. The dive did collect two basalt samples one at the beginning of the transect (near the edge of the flow) and one at the midpoint of the transect (the center of the flow).

**Animals observed during the dive are listed below.**

#### **Cnidarians:**

*Acanthogorgia* sp.  
*Corallium* sp.  
*Hemicorallium* cf. *lauense*  
Isididae  
*Keratoisis* sp.  
Plexauridae  
*Callogorgia gilberti*  
*Kulamanamana haumeae*  
*Trissopathes pseudotristicha?*  
*Calibelemnon symmetricum*  
*Pennatula pearceyi*  
*Hydrodendron gorgonoide*  
*Stylobates aeneus*  
Single polyp scleractinian  
*Chrysogorgia stellata*  
*Acanthogorgia* sp.  
*Anthomastus fisheri?*  
*Anthomastus robustum*  
Primnoidae  
*Corallimorphus pileatus*  
Antipatharian  
*Umbellapathes helioanthes*  
*Acanthogorgia striata*  
*Swiftia* sp.  
*Stichopathes* sp  
*Bathypathes conferta*  
*Chrysogorgia geniculata*

#### **Sponges**

*Regadrella* sp  
*Poecillastra* sp.  
Uncinateridae new genus?

#### **Echinoderms**

*Stereocidaris hawaiiensis*  
*Sphaeriodiscus ammophilus*  
Starfish  
*Hippasteria municepula*  
*Astroceramus eldridgei*  
Pedinidae  
*Atelocrinus conifer?*

#### **Arthropods**

*Paromola* sp  
Squat lobster  
Gooseneck barnacles  
*Plesionika* sp

Sympagurus dofleini  
 Crab  
 Indosquilla manihinei

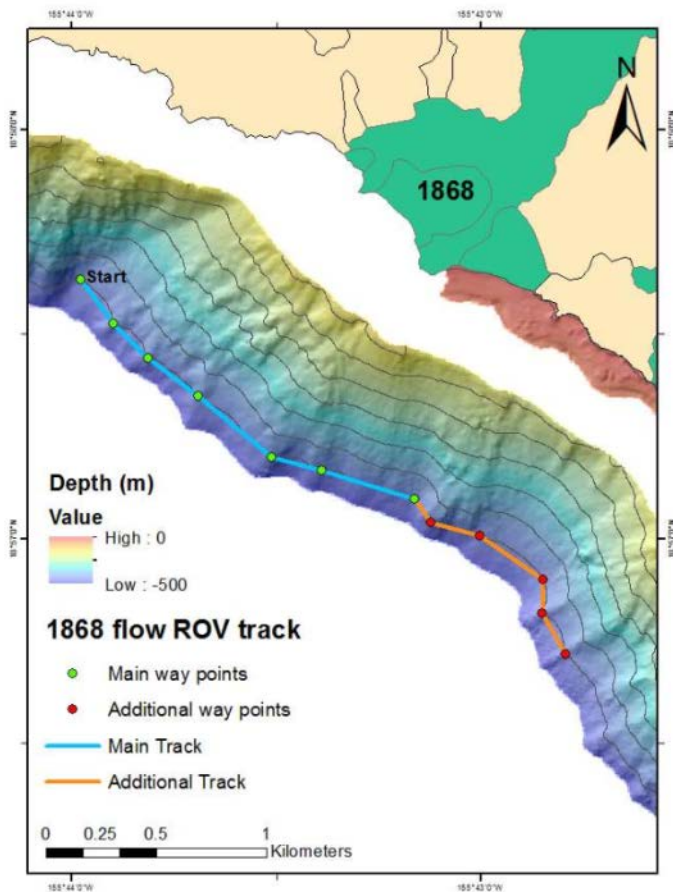
**Fishes**

Chironema chryseres  
 Chlorophthalmus proridens  
 Hollardia goslinei  
 Ophichthid eel  
 Epigonus glossodontus  
 Hoplostethus crassispinus  
 Scorpaenidae  
 Satyrichthys engyceros  
 Grammicolepis brachusculus  
 Randallichthys filamentosus  
 Polymixia sp  
 Myctophidae  
 Beryx sp.  
 Malthopsis sp?  
 Eumegistus sp  
 Chaunax umbrinus

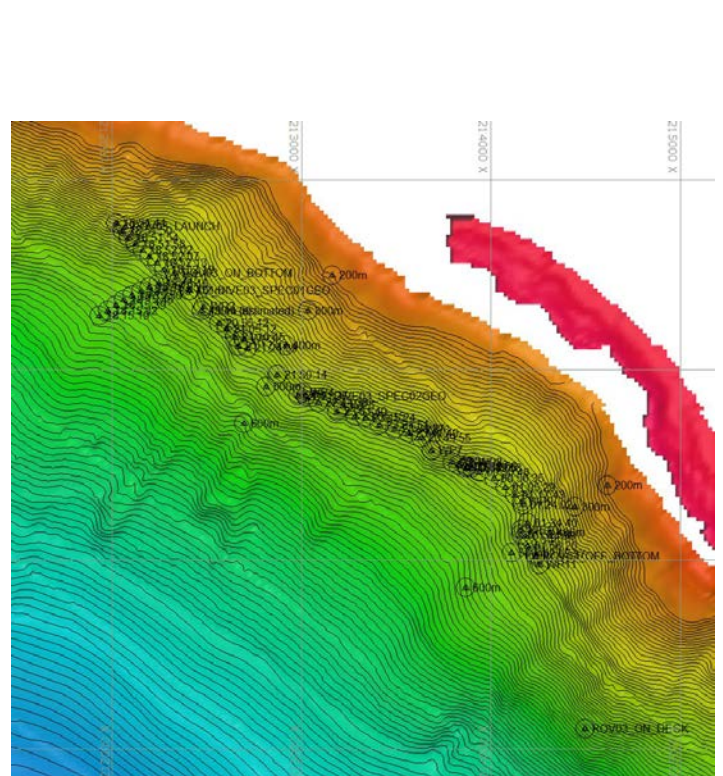
**Other**

Ctenophore  
 Lyrocteis sp (benthic ctenophore)  
 Salp  
 Xenophyophore

Overall Map of Dive Area

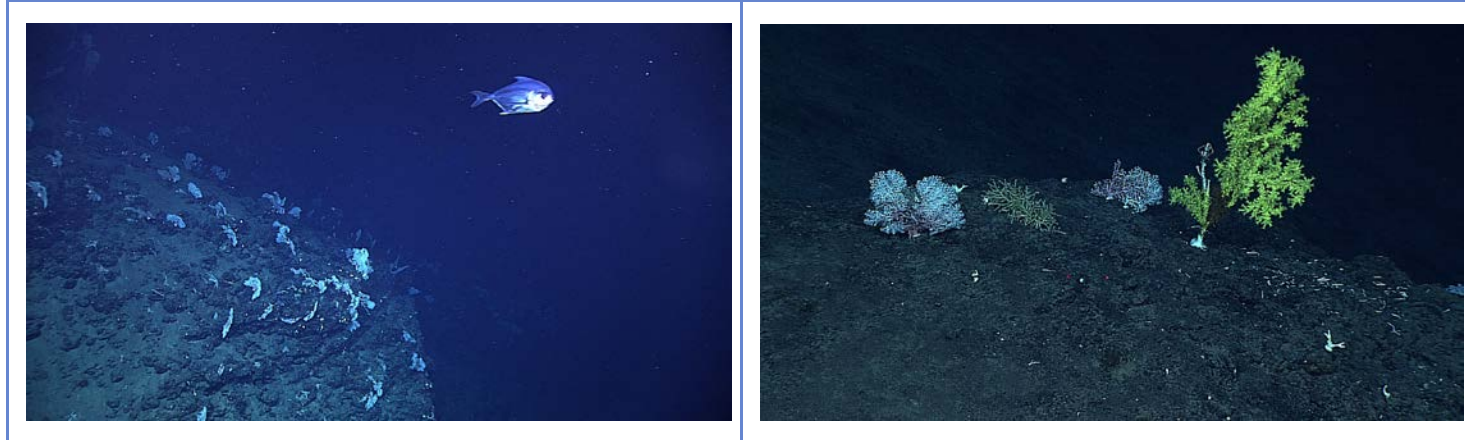


Actual track of ROV dive



Bathymetry data for the dive site. Planned dive start and end points are at right and end of track lines.	Hypack screen grab showing waypoints dropped during actual ROV dive.
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**Representative Photos of the Dive**



Precious coral in the family Coralliidae covering a ridge along the survey route. A deep water pomfret (Bramidae) swims by as the ROV approached.	Precious pink coral in the family Coralliidae (left) and gold coral (Kulamanamana haumeae, right) observed during the transect.
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**Samples Collected**

<b>Sample ID</b>	EX1504L3_D2_DIVE03_SPEC01GEO	
<b>Date (UTC)</b>	August 30, 2015	
<b>Time (UTC)</b>	20:08:03	
<b>Depth (m)</b>	452	
<b>Temperature (°C)</b>	7.40	
<b>Oxygen (mL/L)</b>	1.90	
<b>Field ID(s)</b>	Basalt validation sample	
<b>Comments</b>		

<b>Sample ID</b>	EX1504L3_D2_DIVE03__SPEC02GEO	
<b>Date (UTC)</b>	August 30, 2015	
<b>Time (UTC)</b>	22:33:46	
<b>Depth (m)</b>	450	
<b>Temperature (°C)</b>	6.80	
<b>Oxygen (mL/L)</b>	1.60	
<b>Field ID(s)</b>	Basalt valid. samp. middle flow	
<b>Comments</b>		

**Please direct inquiries to:**

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Silver Spring, MD 20910  
(301) 734-1014