Okeanos Explorer ROV Dive Summary

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Site Name** | | South Kona transect of 1868 lava flow | | | | F:\OKEANOS EXPLORER\2015 CAPSTONE Planning\Web Content\Mission Intro & Plan\MonumentsOverview2(1).jpg | |
| **ROV Lead/Expedition Coordinator** | | Brian Bingham  Kelley Elliott | | | |  | |
| **Science Team Leads** | | Frank Parrish (Biology)  Christopher Kelley (Biology) | | | |  | |
| **General Area Descriptor** | | Main Hawaiian Islands | | | |  | |
| **ROV Dive Name** | | Cruise Season | | Leg | | | Dive Number |
|  | | EX1504 | | 3 | | | DIVE03 |
| **Equipment Deployed** | | ROV: | | Deep Discoverer | | | |
|  | | Camera Platform: | | Seirios | | | |
| **ROV Measurements** | | CTD | | Depth | | | Altitude |
|  | | Scanning Sonar | | USBL Position | | | Heading |
|  | | Pitch | | Roll | | | HD Camera 1 |
|  | | HD Camera 2 | | Low Res Cam 1 | | | Low Res Cam 2 |
|  | | Low Res Cam 3 | | Low Res Cam 4 | | | Low Res Cam 2 |
| **Equipment Malfunctions** | | N/A | | | | | |
| **ROV Dive Summary**  **(From processed ROV data)** | | 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 | | | | | |
| **Special Notes** | |  | | | | | |
| **Scientists Involved**  ***(please provide name / location / affiliation / email)*** | | Frank Parrish, EX, PIFSC/PSD, [Frank.Parrish@noaa.gov](mailto:Frank.Parrish@noaa.gov)  Chris Kelley, EX, UH, [ckelley@hawaii.edu](mailto:ckelley@hawaii.edu)  Amy Baco-Taylor, FL, FSU, [abacotaylor@fsu.edu](mailto:abacotaylor@fsu.edu)  Asako Matsumoto, Japan, CIT, [amatsu@gorgonian.jp](mailto:amatsu@gorgonian.jp)  Chris Mah, DC, SI, [mahch@si.edu](mailto:mahch@si.edu)  Michael Parke, HI, PIFSC, [Michael.Parke@noaa.gov](mailto:Michael.Parke@noaa.gov)  Nicole Morgan, FL, FSU, [nbmorgan11@gmail.com](mailto:nbmorgan11@gmail.com)  Scott France, LA, ULL, [france@louisiana.edu](mailto:france@louisiana.edu)  Tina Molodtsova, Portugal, PPSIO, [tina@ocean.ru](mailto:tina@ocean.ru)  Rachel Bassett, SC, CCEHBR, [Rachel.bassett@noaa.gov](mailto:Rachel.bassett@noaa.gov)  Jonathan Tree, UH ECC, UH, [jtree@hawaii.edu](mailto:jtree@hawaii.edu)  Daniel Wagner, UH, PMNM, [daniel.wagner@noaa.gov](mailto:daniel.wagner@noaa.gov)  Sam Kahng, UH ECC, HPU [Skahng@HPU.edu](mailto:Skahng@HPU.edu)  Meagan Putts, UH ECC, HPU, [Mputts@HPU.edu](mailto:Mputts@HPU.edu)  Brendan Roark, TX, TAMU-CC, [broark@geos.tamu.edu](mailto:broark@geos.tamu.edu)  Michael Garcia, UH ECC, UH, [mogarcia@hawaii.edu](mailto:mogarcia@hawaii.edu)  Andrea Quattrini, CA, USGS, [aquattrini@usgs.gov](mailto:aquattrini@usgs.gov)  Bruce Mundy, HI, IRC ECC, [bruce.mundy@noaa.gov](mailto:bruce.mundy@noaa.gov) | | | | | |
| **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 haumeaae, 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 aenaeus  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**  Chrionema chryseres  Chlorophthalmus proridens  Hollardia goslinei  Ophichthid eel  Epigonus glossodontus  Hoplostethus crassispinus  Scorpaenidae  Satyrichthys engyceros  Grammicolepis brachiusculus  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** | | |
| **C:\Users\Chris\AppData\LocalLow\Temp\Microsoft\OPC\DDT.iyh420rzaly7vgzlcn6nj31yc.tmp** | | | | |  | | |
| 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. | | |
| **Representative Photos of the Dive** | | | | | | | |
| **EX1504L3_IMG_20150831T014649Z_ROVHD_TRANSECT_450M_82.jpg** | | | | | EX1504L3_IMG_20150830T230450Z_ROVHD_TRANSECT_450M_47.jpg | | |
| 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. | | |
| **Samples Collected** | | | | | | | |
| **Sample ID** | EX1504L3\_D2\_DIVE03\_SPEC01GEO | | | | **EX1504L3_20150830T200803Z_D2_DIVE03_SPEC01GEO_L03.JPG** | | |
| **Date (UTC)** | August 30, 2015 | | | |  | | |
| **Time (UTC)** | 20:08:03 | | | |  | | |
| **Depth (m)** | 452 | | | |  | | |
| **Temperature (oC)** | 7.40 | | | |  | | |
| **Oxygen (mL/L)** | 1.90 | | | |  | | |
| **Field ID(s)** | Basalt validation sample | | | |  | | |
| **Comments** |  | | | | | | |
| **Sample ID** | EX1504L3\_D2\_DIVE03\_\_SPEC02GEO | | | | *EX1504L3_20150830T223346Z_D2_DIVE03_SPEC02GEO_L03.JPG* | | |
| **Date (UTC)** | August 30, 2015 | | | |  | | |
| **Time (UTC)** | 22:33:46 | | | |  | | |
| **Depth (m)** | 450 | | | |  | | |
| **Temperature (oC)** | 6.80 | | | |  | | |
| **Oxygen (mL/L)** | 1.60 | | | |  | | |
| **Field ID(s)** | Basalt valid. samp. middle flow | | | |  | | |
| **Comments** |  | | | | | | |
| **Please direct inquiries to:** | | | NOAA Office of Ocean Exploration & Research 1315 East-West Highway (SSMC3 10th Floor)  Silver Spring, MD 20910  (301) 734-1014 | | | | |