



**NANOOS-CeNCOOS SCCOOS
ATN-MBON-OTN
Biological Observations Workshop**

**November 7-9, 2018
Hotel Paradox
Santa Cruz, California**

Day 1

8:00-8:30 Check-in, light breakfast

8:30-8:45 Welcome, introductions, review objectives/agenda - Henry Ruhl, Exec. Director, CeNCOOS & Bill Woodward, U.S. ATN Coordinator

8:45-9:15 Overview of ATN, MBON and OTN Programs

- **Animal Telemetry Network – Bill Woodward, U.S. ATN Coordinator**
- **Marine Biodiversity Observation Network – Gabrielle Canonico, U.S. IOOS**
- **Ocean Tracking Network – Fred Whoriskey, Exec. Director OTN**

SESSION FORMAT: Topics will be presented by invited talks of 10-15 minutes with group discussions following each set of speakers.

9:15-10:15 Session 1, RESEARCH SECTOR *[speakers will (1) provide an overview of the research activities for which they are responsible, (2) identify the importance of Marine Animal Telemetry and marine Biodiversity Observations to their research, and (3) offer their perspective on the value of a commitment to a long-term sustained Biological Observation Network in the West Coast Region.]* **Moderator: Dan Costa**

- **Barbara Block – Hopkins Marine Station, Stanford University**
- **Bob Miller – Marine Science Institute, UC Santa Barbara**
- **Barb Lagerquist – Marine Mammal Institute, Oregon State University**

Group Discussion

10:15-10:30 Break

10:30-11:30 Session 2, NATURAL RESOURCE/CONSERVATION MANAGEMENT SECTOR

[speakers will (1) provide an overview of the specific resource/conservation management activities for which they are responsible, (2) identify the importance of Marine Animal Telemetry and Marine Biodiversity Observations to their activities and identify/prioritize the observational needs of their organization, and (3) offer their perspective on the value of a commitment to a long-term sustained Biological Observation Network in the West Coast Region.] **Moderator: Gabrielle Canonico**

- **Donna Schroeder – BOEM Pacific Region Lead, Santa Barbara Channel**
- **Andrew DeVogelaere – Research Coordinator/SIMoN Dir, Monterey Bay National Marine Sanctuary**
- **Steve Weisberg – Southern California Coastal Water Research Project**

Group Discussion

11:30-12:30 Session 3, COMMERCIAL/PRIVATE SECTOR *[speakers will (1) identify and prioritize the Marine Animal Telemetry and Marine Biodiversity Observational needs of their business or organization and (2) offer their perspective on the importance of these observations to their commercial activities]* **Moderator: Henry Ruhl**

- **Justin Luedy – Port of Long Beach**
- **Pete Nelson – H.T. Harvey & Associates**
- **Nancy Black – Monterey Bay Whale Watch**

Group Discussion

12:30 - 1:30 Lunch

1:30 - 2:00 Session 4, NATURAL RESOURCE/CONSERVATION MANAGEMENT SECTOR

[speakers will (1) provide an overview of the specific resource/conservation management activities for which they are responsible, (2) identify the importance of Marine Animal Telemetry and Marine Biodiversity Observations to their activities and identify/prioritize the observational needs of their organization, and (3) offer their perspective on the value of a commitment to a long-term sustained Biological Observation Network in the West Coast Region.] **Moderator: Fred Whoriskey**

- **Tenaya Norris – The Marine Mammal Center, Sausalito**
- **Tommy Moore – Northwest Indian Fisheries Commission (remote)**

Group Discussion

2:00 - 3:30 Session 5, RESEARCH SECTOR [*speakers will (1) provide an overview of the research activities for which they are responsible, (2) identify the importance of Marine Animal Telemetry and marine Biodiversity Observations to their research, and (3) offer their perspective on the value of a commitment to a long-term sustained Biological Observation Network in the West Coast Region.*] **Moderator: Clarissa Anderson**

- **Elliott Hazen – Environmental Research Div./SWFSC/NMFS**
- **Greg Schorr – MARECOTEL , Seabeck, WA**
- **Karin Forney – Marine Mammal & Turtle Div./SWFSC/NMFS**
- **Scott Shaffer – San Jose State University**
- **Jeremy Goldbogen – Hopkins Marine Station, Stanford University**

Group discussion

3:30 - 3:45 Afternoon break

3:45 - 5:15 Breakout Session 1- Facilitator: Alex Harper: Breakout by sector (Commercial/Private Sector, Resource/Conservation Management Sector, Research Sector)

- 1: How can telemetry and biological observations better address information needs within your sector?
- 2: What types and extent of existing assets could adequately satisfy these requirements?
- 3: Synthesize and prioritize unresolved sector observation needs. Which observing gaps in assets, operations, data handling and governance are most critical and address more than one stakeholder requirement?

5:15 - 5:25 Breakout Session 1 Report Out

5:25 - 5:30 Wrap Up Day 1

6:00 – 8:00 Evening Reception – all are invited

Day 2

8:15 - 8:30 Summary of Day 1

8:30 - 9:30 **Session 1, RESEARCH SECTOR**

Moderator: Mike Weise

- Dan Costa – *UC Santa Cruz*
- Francisco Chavez – *Monterey Bay Aquarium Research Institute*
- John Calambokidis – *Cascadia Research Collective*

Group Discussion

9:30 -10:45 **Session 2, Biological Data Management and Visualization**

Moderator: Bill Woodward

- ATN DAC– *Axiom Data Science*
- NASA OIIP Satellite/In-Situ Data Visualization Tools – *Vardis Tsonetos, NASA/JPL*
- “SEASCAPES” – *Maria Kavanaugh, CEOAS, Oregon State Univ.*
- MBON Portal – *Axiom Data Science*

10:45 - 11:00 Break

11:00 - 12:00 **Session 3 , NATURAL RESOURCE/CONSERVATION MANAGEMENT SECTOR**

Moderator: Jim Price

- Chip Johnson – *U.S. Navy PAC Fleet Environmental Readiness Div., San Diego*
- Steven Bograd - *Environmental Research Div./SWFSC/NMFS*
- Elliott Hazen – *California Current Integrated Ecosystem Assessment*

Group Discussion

12:00-12:45 **Session 4, COMMERCIAL/PRIVATE SECTOR**

Moderator: Jan Newton

- Noah Oppenheim – *Exec. Dir., Pacific Coast Federation of Fishermen’s Association*
- Phil Cruver – *CEO, Catalina Sea Ranch*

Group Discussion

12:45-1:45 Lunch

1:45 - 2:30 Session 5, NATURAL RESOURCE/CONSERVATION MANAGEMENT SECTOR

Moderator: Jan Newton

- **Mike Johns – Point Blue Conservation Science**
- **Cyndy Dawson – O’Neill Sea Odyssey**

Group Discussion

2:30 – 3:45 Session 6, RESEARCH SECTOR

Moderator: Jennifer Brown

- **Ari Friedlaender – Institute of Marine Sciences, UC Santa Cruz**
- **Chris Lowe – Shark Lab Director, Cal. State University Long Beach**
- **Barry Berejikian – Environmental & Fisheries Sciences, NWFSC/NMFS**
- **Josh Adams - Western Ecological Research Center, USGS**
- **Nina Bednaršek - Southern California Coastal Water Research Project**

Group discussion

3:45 - 4:00 Afternoon break

4:00 - 5:30 BREAKOUT SESSION 2 – Facilitated by TBD: Breakout by Priority Challenges

- 1: How can telemetry and biological observations be used to better address the 4 Priority Applications described and Key Sector Needs identified on day 1?
- 2: What is the value a regional baseline network approach versus individual research efforts?
- 3: What are the potential challenges to building a regional biological observations network? What actions can be taken to address those challenges?

5:30-5:40 Breakout Session 2 Report Out

5:40-5:45 Wrap Up Day 2

Day 3

9:00-9:30 U.S. IOOS Vision & Strategy for an Integrated Sustained Biological Observing System

Carl Gouldman – Director U.S. Integrated Ocean Observing System Program Office

9:30-10:30 WEST COAST INTEGRATED OBSERVING SYSTEM: EXAMPLES, OPPORTUNITIES and VISIONS

Moderator: Woody Turner

- **Pete Raimondi – MARINe, UC Santa Cruz**
- **Ralf Goericke – CalCOFI-SIO Supervisor, IOD/Scripps Institution of Oceanography**
- **Joshua Brown - Western & Pacific Regional Program Coordinator at NOAA Sea Grant**
- **Bill Douros - National Marine Sanctuaries West Coast Region Director** Invited

Group Discussion

10:30-10:45 BREAK

10:45-11:30 PLENARY DISCUSSION – Vision for a U.S. West Coast Biological Observing Network

11:30-12:00 WRAP UP/NEXT STEPS

12:00 WORKSHOP CLOSSES