

# **“SERVING NATIONAL NEEDS THROUGH REGIONAL ACTION”**

## **US Marine Biodiversity Observation Network (MBON) All-Hands Meeting**

*Friday, May 24, 2019*

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# **ATN**



**BOEM**  
BUREAU OF OCEAN ENERGY MANAGEMENT

# ATN VISION

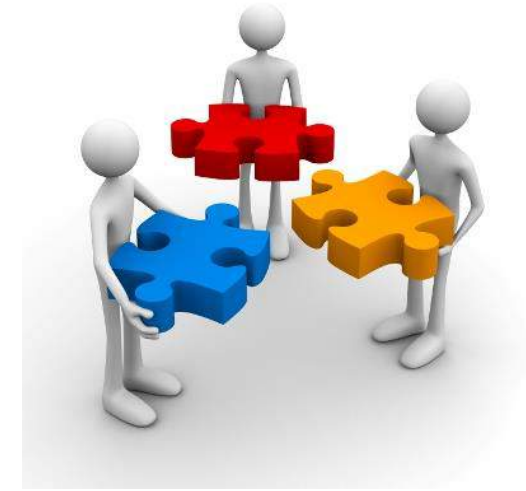
**Create an alliance among federal and non-federal, state, regional, tribal, and academic partners which will:**

- Maximize collaborations/benefit of existing investments
- Maximize access to telemetry data
- Integrate telemetry instruments with existing observing systems
- Improve data standards, sharing capability and establish a cyber-infrastructure for assembling and displaying telemetry data
- Bring permanence to a national baseline telemetry network

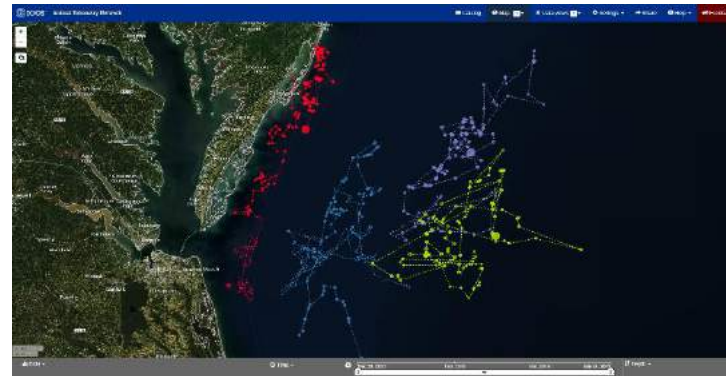


# THREE ATN COMPONENTS

## ✓ BUILD ALLIANCES AND COLLABORATIONS



## ✓ PROVIDE TELEMETRY DATA MANAGEMENT & DELIVERY



## ✓ SUPPORT BASELINE ANIMAL TELEMETRY OBSERVATIONS



# THE ATN DATA ASSEMBLY CENTER



- Community Resource
- Receives Data from Multiple Sources
- Enables/Promotes Data Availability and Sharing among Global Community Partners
- Maximizes Access to Telemetry Data
- Enhances and Expands Electronic Tag Data Products
- Enables permanent Archiving at NOAA/NCEI

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# THE ATN DATA ASSEMBLY CENTER

Web-based Registration  
User Name-PW

RESEARCH COMMUNITY  
SATELLITE & ACOUSTIC PIs

RESEARCH WORKSPACE

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## RESEARCH WORKSPACE

A SCIENTIFIC COMPUTATIONAL/COLLABORATION  
SPACE FOR PIs TO:

- CREATE COLLABORATIVE GROUPS/ PROJECTS
- UPLOAD, CENTRALIZE, SECURE, MANAGE, COLLABORATIVELY ANALYZE, SHARE, PUBLISH YOUR DATA
- PROVIDE DOI MINTING, PERMANENT ARCHIVING

DATABASE



WEB-BASED ATN DATA PORTAL



DATA

DISCOVERY, DISPLAY, DOWNLOAD REQUESTS

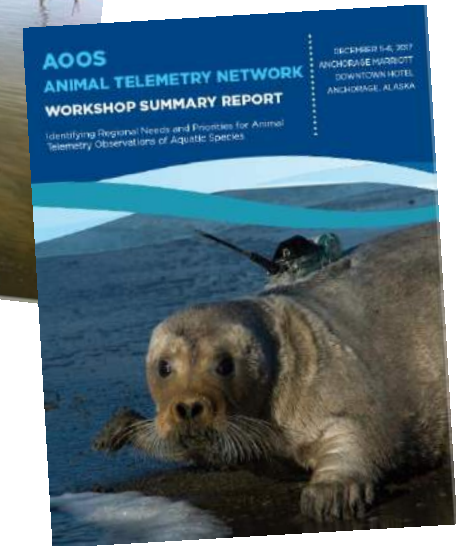
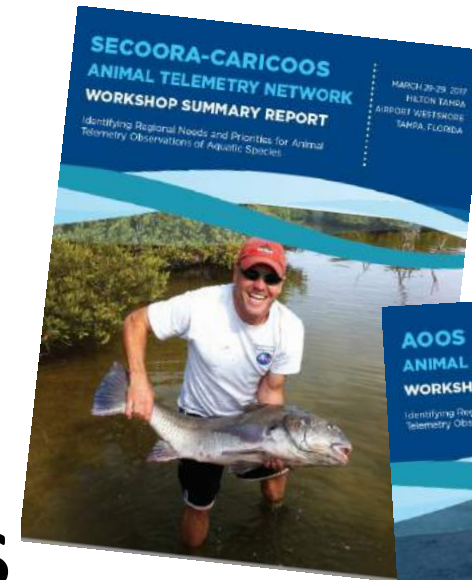
<https://atn.ioos.us/>

# ✓ SUPPORT BASELINE ANIMAL TELEMETRY OBSERVATIONS

"Help to keep existing efforts going and to add to them as needed and defined through our Workshops and our ATN Steering Group"

# REGIONAL PRIORITIES & NETWORK DEVELOPMENT

- **CONVENE STAKEHOLDER WORKSHOPS COVERING ALL 11 IOOS REGIONS (*7 WORKSHOPS/10 REGIONS SO FAR*)**
- **138 SPEAKERS**
  - Commercial Sector: 19
  - Conservation/Resource Management Sector: 46
  - Research Sector: 73
- **SECOORA-CARICOOS AND AOOS REPORTS COMPLETED; GCOOS ALMOST FINISHED**



# WORKSHOPS BY REGION

Status May, 2019





# WORKSHOP OBJECTIVES

- Identify and prioritize stakeholder monitoring and observational needs in the Regions
- Identify the existing observing assets and capabilities in the Region
- Document stakeholder specific uses of telemetry data
- Identify the infrastructure and data management challenges and opportunities that exist in the Regions

# OBSERVATIONAL NEEDS

## SOME OF WHAT WE'VE LEARNED:

**VERY REGIONALLY DEPENDENT w/SOME OVERLAP**

**SOUTHEAST:** *soniferous fish, cobia, pompano, gulf kingcroaker, red drum, white/scalloped hammerhead and lemon/bull/blacktip sharks, spotted eagle rays, devil rays, snook, goliath grouper, manatees, sea turtles, tarpon, NARW, sperm whales, Bryde's whales, bottlenose dolphins.....*

**GULF:** *eastern brown pelicans, green and Kemp's Ridley turtles, red snapper, sperm whales, manatees, yellowfin & bluefin tuna, king mackerel, speckled sea trout, juvenile bull sharks, adult red drum, American oystercatchers, clapper rails.....*

**ALASKA:** *polar bears, bowhead whales. Walrus, seals (ice, bearded, ringed, spotted), Steller sea lions, northern fur seals, Beluga whales, NPRW, salmon (chinook, coho, pink), Dolly Varden char, Pacific halibut, skates.....*

# OBSERVATIONAL NEEDS

- ☐ **THE PORT WELCOMES THE COLLECTION OF ANY AND ALL MARINE ANIMAL TELEMTRY DATA THAT CAN ASSIST US IN IMPLEMENTING OUR COMMITMENT TO REDUCE/ELIMINATE IMPACTS ON THE MULTIPLE PROTECTED SPECIES OF FISH AND WILDLIFE WITH WHOM WE SHARE THE ESTUARY**
- ☐ **COMMERCIAL/RECREATIONAL FISHING INDUSTRY CAN BENEFIT SUBSTANTIALLY FROM COLLABORATIVE SCIENCE-BASED FISHERIES MANAGEMENT USING ANIMAL TELEMTRY DATA TO UNDERSTAND FISH MIGRATION PATTERNS AND THEIR CORRELATION WITH CHEMICAL AND PHYSICAL OCEANOGRAPHIS PROPERTIES, ARRIVAL AND DEPARTURE TIME, MORTALITY ESTIMATES, POPULATION STRUCTURE AND FISH AGGREGATION LOCATIONS**

# STAKEHOLDER USES OF THE DATA

## SOME OF WHAT WE'VE LEARNED:

### **HIGH COMMONALITY AMONG ALL REGIONS**

- CONDUCT IMPACT ANALYSES – INFORM MITIGATION ACTIONS
- UNDERSTAND HABITAT USE AND HOW ANIMALS USE THE ECOSYSTEMS
- SUPPORT CONSERVATION MANAGEMENT/HABITAT PROTECTION OF ECONOMICALLY IMPORTANT SPECIES
- ASSESSMENT OF EFFECTS OF ANTHROPOGENIC DISTURBANCES
- EVALUATE SITE FIDELITY AND CONNECTIVITY BETWEEN MPAs AND ESTABLISH CRITICAL HABITATS FOR SELECTED SPECIES
- GUIDE MANAGEMENT EFFORTS AND ASSESS EFFECTIVENESS OF CONSERVATION MEASURES & BOUNDARIES FOR MPAs, SANCTUARIES, MONUMENTS & NATIONAL PARKS
- ENSURE COMPLIANCE OF MILITARY TRAINING ACTIVITIES WITH FEDERAL ENVIRONMENTAL LAW AND REGULATIONS
- ASSIST NEPA ANALYSES, THAT SUPPORT EXPLORATION AND DEVELOPMENT PLANS, ADVISE INCIDENTAL HARASSMENT AUTHORIZATIONS, IMPLEMENT ESA, MMPA & FUR SEAL ACT, ASSESS CHANGES IN MIGRATING ROUTES, IMPROVE ABUNDANCE AND DISTRIBUTION ESTIMATES
- ASSIST WITH RECOVERY OF THREATENED AND ENDANGERED SPECIES AS WELL AS WITH **CO-MANAGEMENT OF SUBSISTENCE SPECIES**



# INFRASTRUCTURE THEMES/DATA MANAGEMENT CHALLENGES & OPPORTUNITIES

## SOME OF WHAT WE'VE LEARNED:

### **REGIONALLY FOCUSED w/SIGNIFICANT COMMONALITY**

#### **EAST COAST:**

- Large amount of ongoing community-organized/managed Acoustic Telemetry efforts; strong technical support from Canadian OTN; sustaining infrastructure is essential
- Dedicated data management and improved cyber capabilities needed for regional data aggregation, sharing, collaboration

#### **GULF:**

- Very active Acoustic Telemetry efforts; multiple research institutions; integration could be improved; notional idea of a broad acoustic infrastructure using O&G platforms of opportunity
- Need to define those products that can maximize the utility of telemetry data; multi-year monitoring is needed to detect changes in trends of habitat use/productivity

#### **ALASKA:**

- More satellite and less acoustic telemetry; must engage subsistence community at the beginning
- Raw data w/o analysis is not helpful to managers; Long-term commitment to fund tagging/data management is essential; ATN can provide the needed access to modern cyber infrastructure

# BUILDING THE NETWORK

WITH BOEM, ONR AND NOAA FUNDING, THE ATN HAS SUCCESSFULLY IMPLEMENTED FIVE MULTI-YEAR PROJECTS AIMED AT INCREMENTALLY STRENGTHENING THE EXISTING U.S. MARINE ANIMAL TELEMETRY OBSERVATION AND DATA MANAGEMENT INFRASTRUCTURE

- **Two Data Wranglers/Managers: FACT and ACT Acoustic Networks**

Trusted interfaces within their communities who will recruit PIs to submit their data and encourage data sharing and will insure that the data is properly managed. Support provided also for web-based tool for ACT plus new ACT leadership

- **High priority, Strategically Located, Georgia Coastal Acoustic Telemetry Array (GACATA) in the Atlantic Ocean's Sound**

This array has received acoustic data from 41 unique species which is shared with over 46 different environmental organizations. Data from this array are being used to improve understanding of marine life and its interactions with the environment.

- **Argos Satellite Data**

This pays for the cost of Argos satellite data for telemetry researchers who agree to display their animal tracks in the ATN DAC

- **Develop the Next Generation of Animal Movement Analysis Tools**

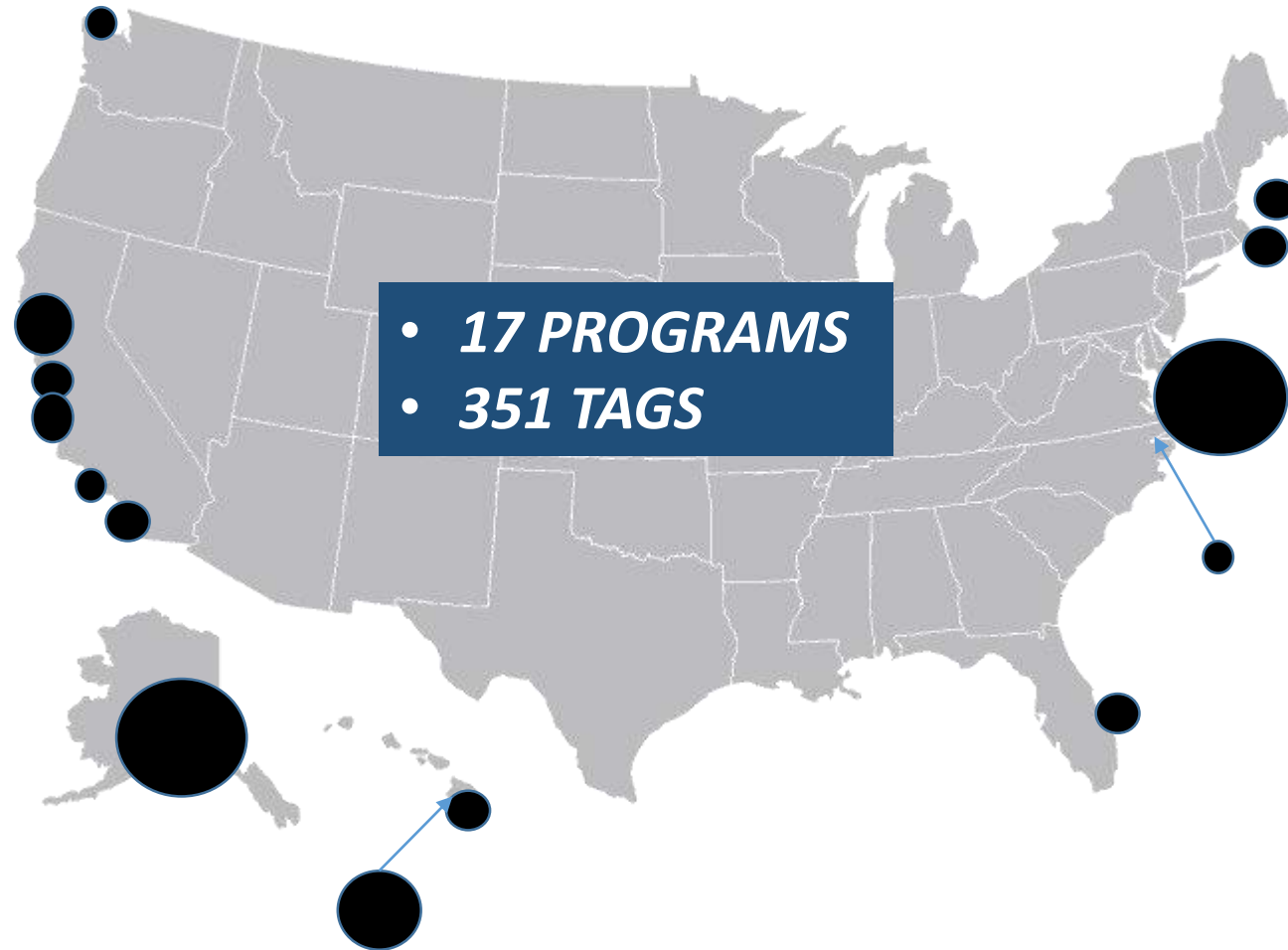
Develop the next generation of animal movement analysis tools by building a powerful, lightning-fast and easily used toolbox of state-space models for multiple types of animal tracking data

ALSO HIRED ATN DAC DATA COORDINATOR, DR. MEGAN MCKINZIE, WHO IS NOW THE PRIMARY INTERFACE BETWEEN THE TELEMETRY COMMUNITY AND THE ATN DAC IMPLEMENTED AT AXIOM

# THE ATN ARGOS FEES PROGRAM

IF PI AGREES TO DISPLAY R/T DATA ON ATN DAC PORTAL

THEN THE ATN WILL PAY ARGOS FEES



**\*\* ATN SEAL OF APPROVAL \*\***



Michael Cameron

THANK YOU !