

U.S. ANIMAL TELEMETRY NETWORK

“SERVING NATIONAL
NEEDS THROUGH
REGIONAL ACTION”

iTAG Annual Meeting
St. Petersburg, FL
May 24 - 25, 2017

Bill Woodward – NOAA IOOS/ U.S. ATN Network Coordinator



What Has Motivated the Creation of an ATN ?

- **Current telemetry assets are owned/operated independently by multiple institutions/agencies with limited to no connectivity**
- **Operate with different Fed-State-Academic-Regional Objectives**
- **Limited ability to coordinate/share data across institutions, programs, regions, countries**
- **Lack of a sustained commitment to maintain the infrastructure**
- **No centralized accessibility to data or archiving**

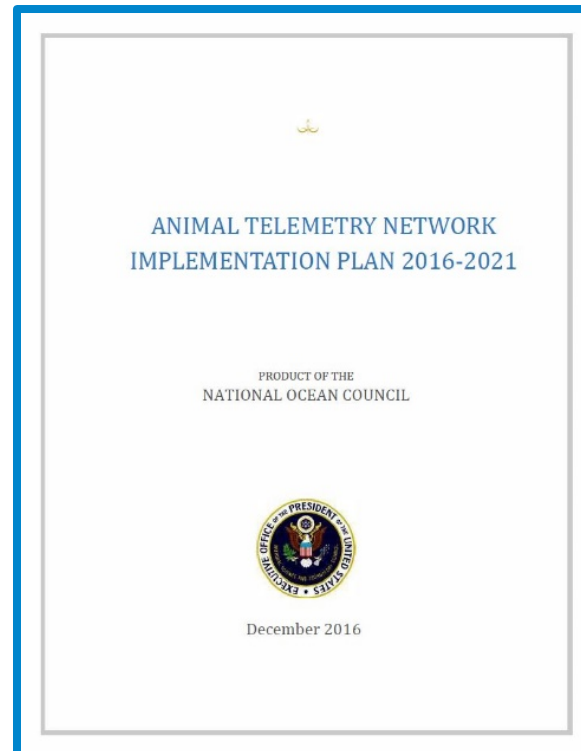
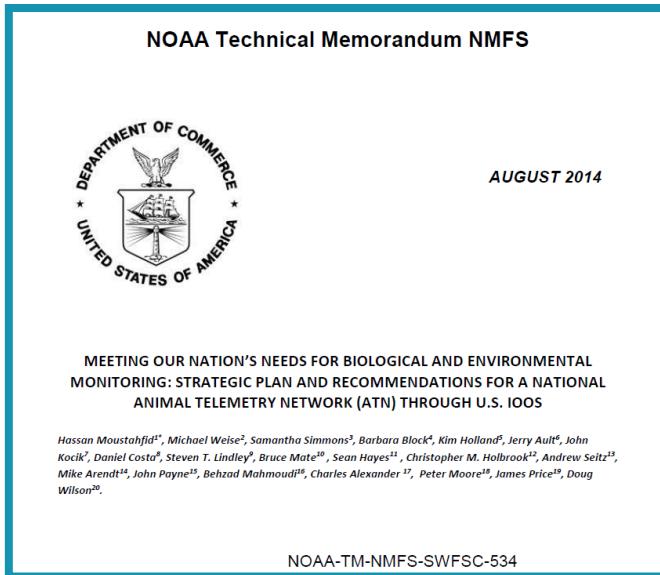


ATN National Plan

Integrated Ocean Observing Committee Task Team

(White House OSTP – SOST – IOOC)

- ATN Strategic Plan & Recommendations
- ATN Implementation Plan -22 Dec 2016 !!



ioos.noaa.gov/project/atn/

ATN CORE PRINCIPLES

- **AN OBSERVING SYSTEM THAT CAN TRACK AQUATIC ANIMALS AND THEIR HABITATS IS CRITICAL FOR THE CONSERVATION AND SUSTAINABLE MANAGEMENT OF COMMERCIALY HARVESTED SPECIES, PROTECTED SPECIES AND OTHER MARINE RESOURCES**
- **A MULTIDISCIPLINARY APPROACH IS THE ONLY WAY TO ADDRESS THE PROBLEMS CONFRONTING AQUATIC SPECIES CONSERVATION AND MANAGEMENT**
- **SHARED DATA STRUCTURES FOR BIOLOGICAL AND OCEAN DATA WILL FACILITATE MULTIDISCIPLINARY WORK OF PHYSICAL OCEANOGRAPHERS AND BIOLOGICAL SCIENTISTS**

PARTNERS



INTERNAL

- RA's
- IOOS PO
- NOAA PARTNERS

EXTERNAL

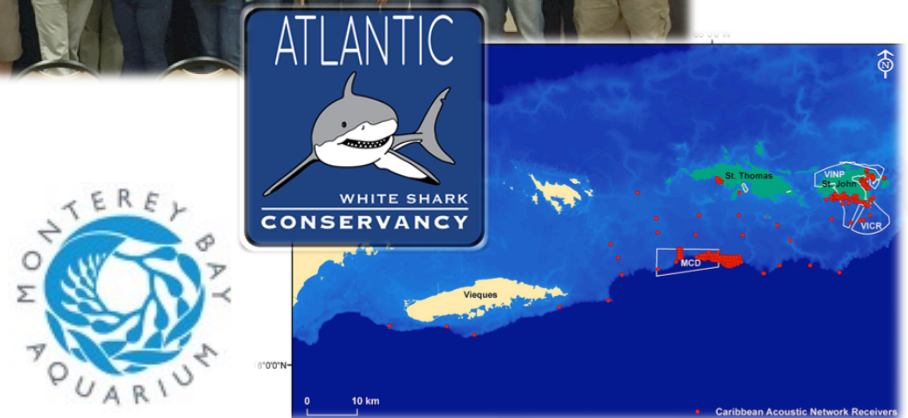
- ONR \$
- BOEM \$
- MMC
- IOOC
- OTN
- ATN Community
- Stakeholders



What Will A National ATN Do ?

BUILD ALLIANCES

The ATN, under the auspices of the U.S. IOOS, will provide a mechanism to facilitate and empower an alliance among Federal, industry, academic, state, local, tribal, and non-Federal organizations to coordinate aquatic animal telemetry infrastructure and operations.

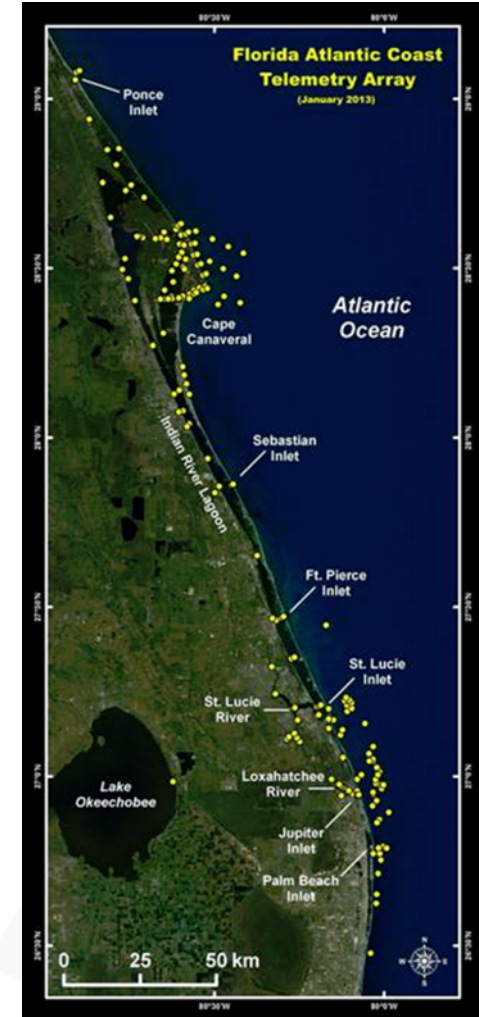
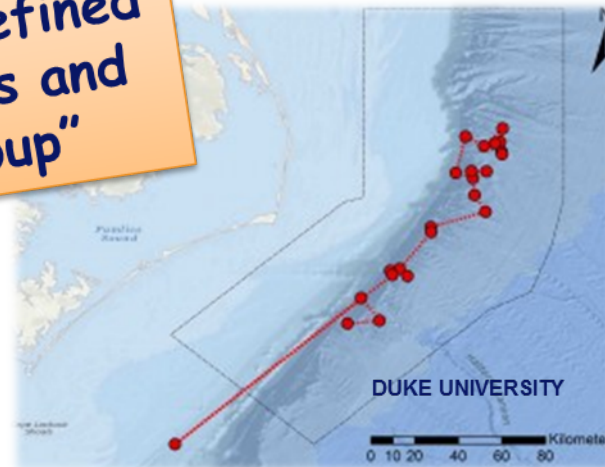
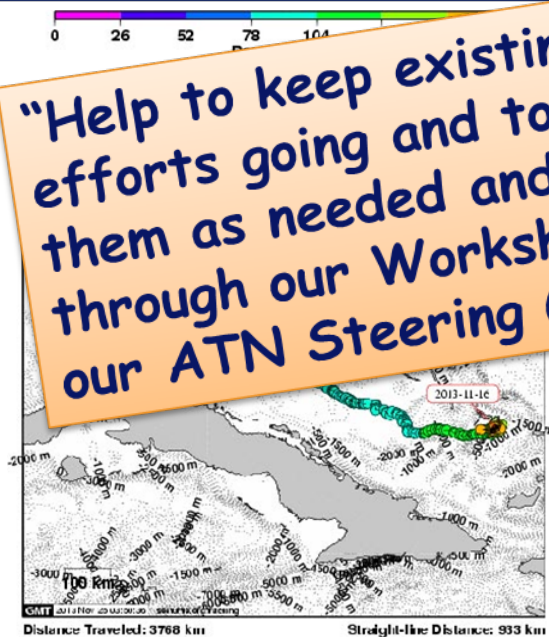


What Will A National ATN Do ?

BASELINE OBSERVATIONS

A top priority of the ATN is to facilitate and support baseline observations of the aquatic species movements and behaviors, and to coordinate, support, maintain, and enhance existing national animal telemetry infrastructure and capability, including activities coordinated through participating U.S. IOOS RAs

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

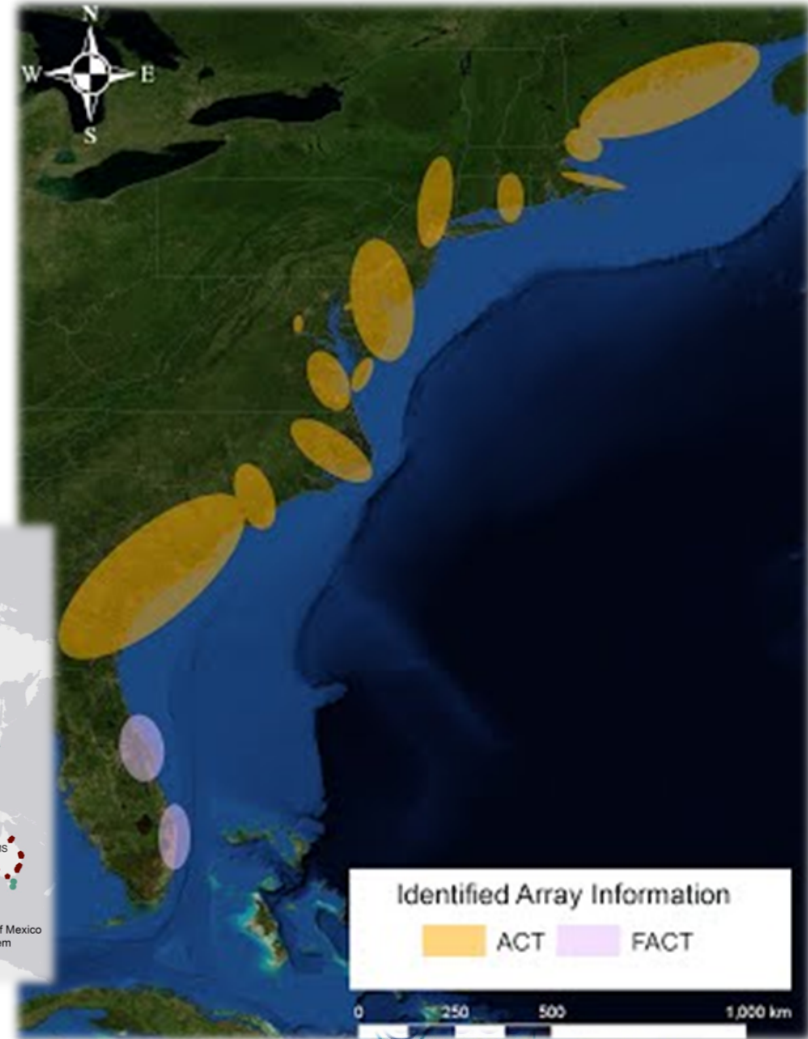
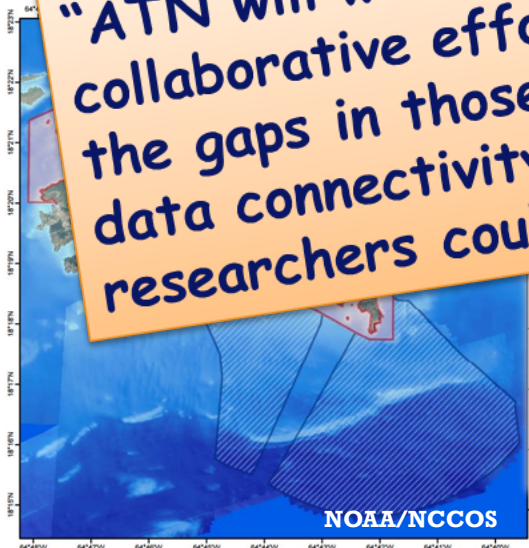


What Will A National ATN Do ?

DATA MANAGEMENT & DELIVERY

ATN will maximize the benefit of existing investments by providing a mechanism for sustained operations and consistent delivery of animal telemetry data by applying consistent international data standards and best practices across the United States and in conjunction with international oceanographic data.

"ATN will work with existing collaborative efforts and fill in the gaps in those areas where data connectivity among researchers could be improved"



BUILDING ON EXISTING ASSETS THE U.S. ATN WILL

A. DEFINE & FUND MULTI-AGENCY COLLABORATIVE BASELINE MONITORING / INFRASTRUCTURE TO FACILITATE LONG-TERM:

- *Tagging, Telemetry & Tracking of Aquatic Animals*
- *Collection/Sharing of Data*



ASSETS and INFRASTRUCTURE

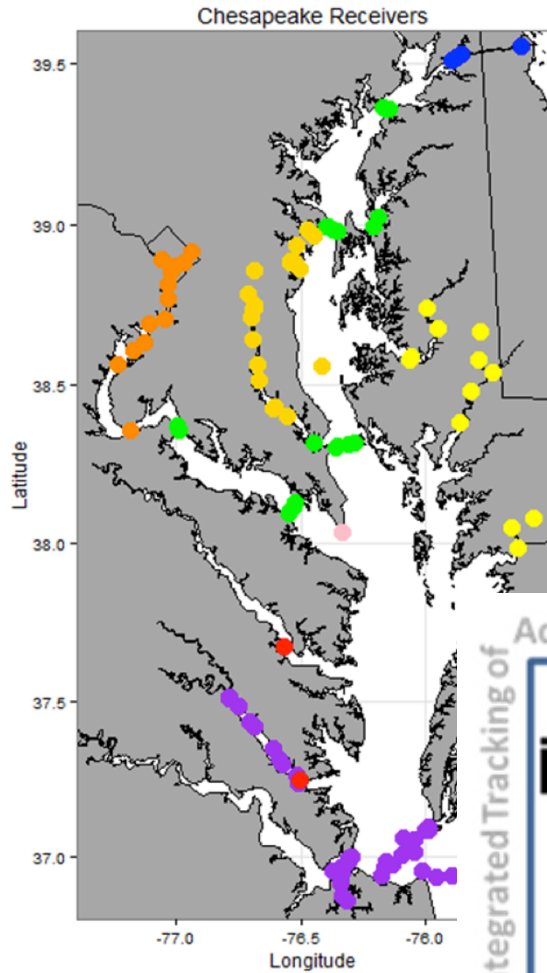
Regional Collaborations like FACT, ACT, iTAG etc. are considered existing assets/infrastructure and the ATN seeks to help these groups to:

- Maintain existing efforts**
- Add to them as needed and defined by our Workshops and with guidance from our ATN Steering Group**
- Work to improve connectivity among researchers in areas where it may be needed**

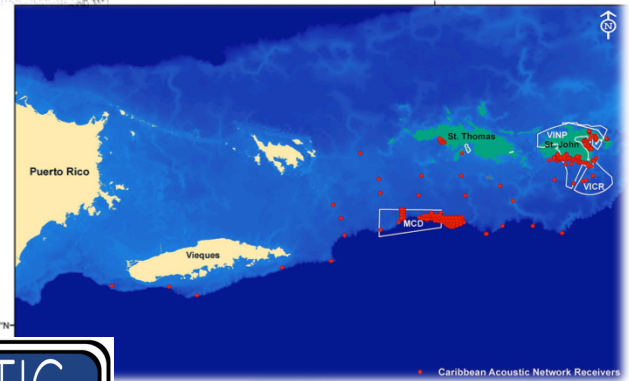
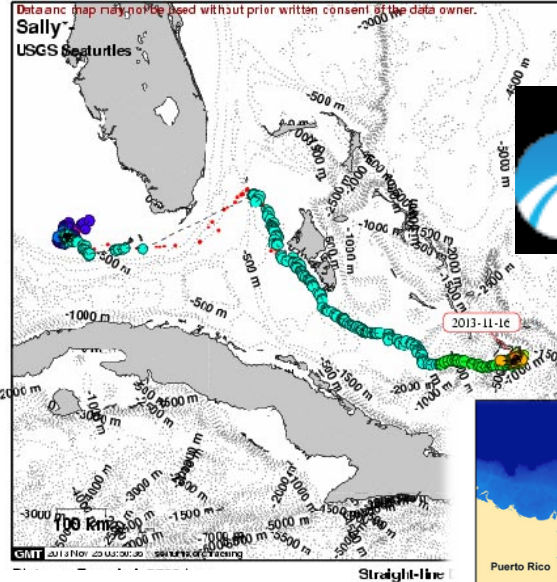
NATIONAL PERSPECTIVE

Easy for these Collaborations to be focused on Regions rather than the National perspective. So the ATN has an important role in supporting not only Regional collaborations, but also addressing the national perspective and engaging all stakeholders.

Some Existing Asset Examples

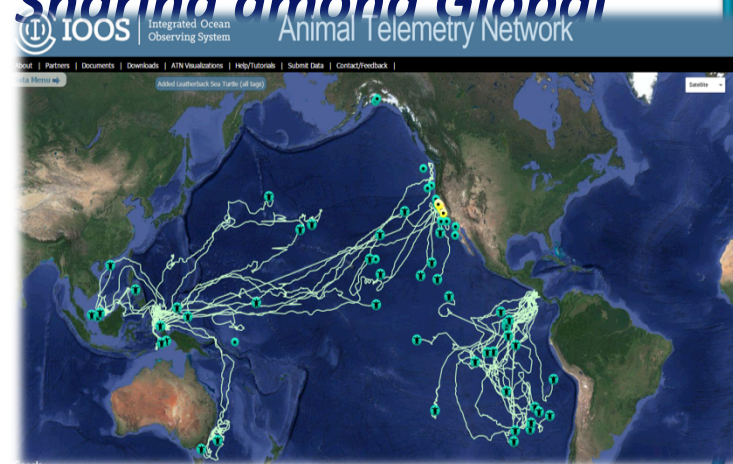


- Group
- CBL
 - DDOE
 - DSU
 - MD DNI
 - Navy
 - NOAA
 - SERC



B. IMPLEMENT CENTRALIZED DATA ASSEMBLY CENTER WHICH WILL:

- *Receive Satellite/Acoustic/Archival Data from Multiple Regional Sources*
- *Enable/Promote Data Availability & Sharing among Global Community*
- *Maximize access to telemetry data*
- *Enhance & Expand Electronic Tag Data Products*
- *Enable Permanent Archiving at NCEI*



ATN Data Assembly Center



Animal Telemetry Network

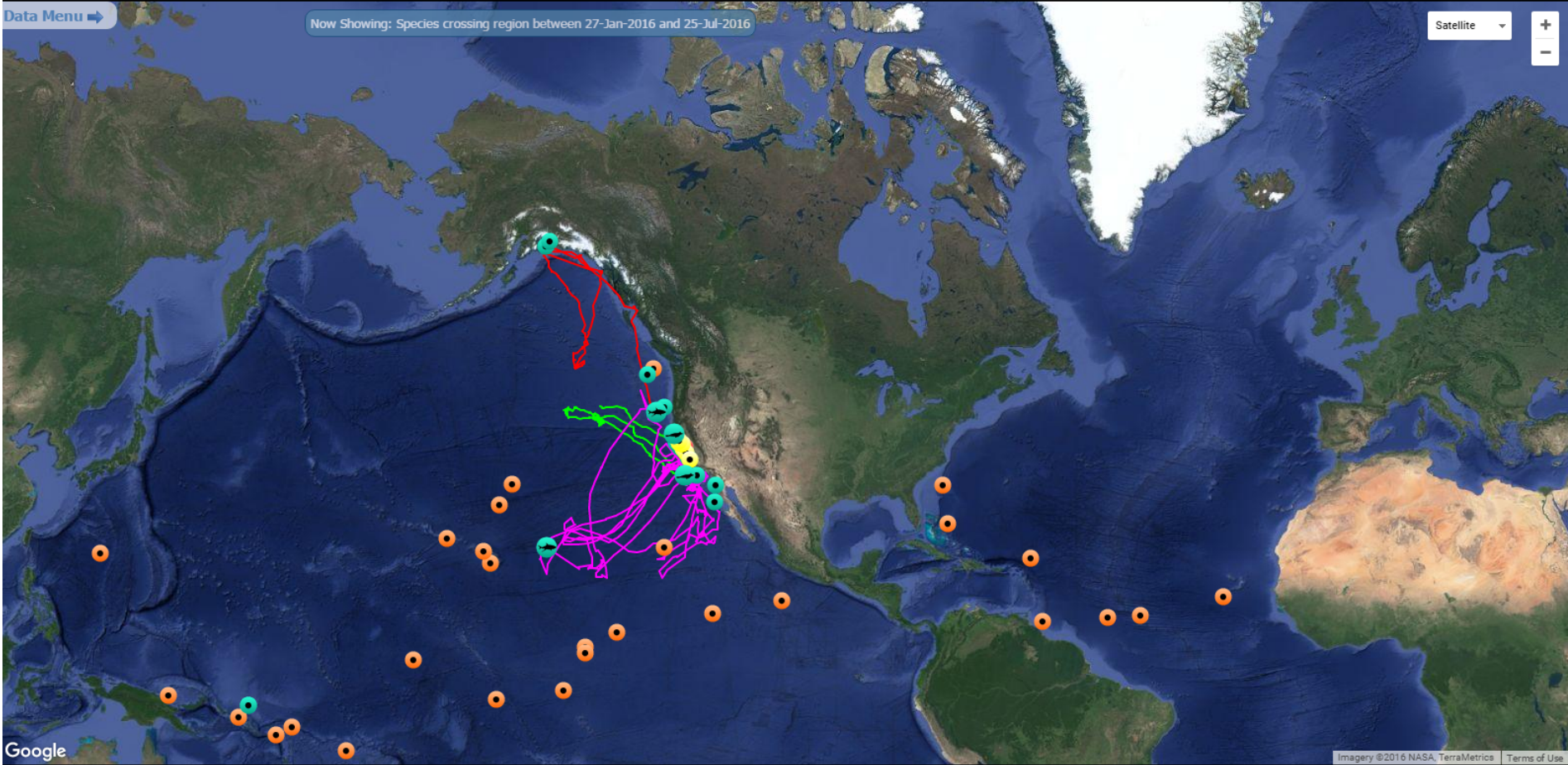
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Data Menu

Now Showing: Species crossing region between 27-Jan-2016 and 25-Jul-2016

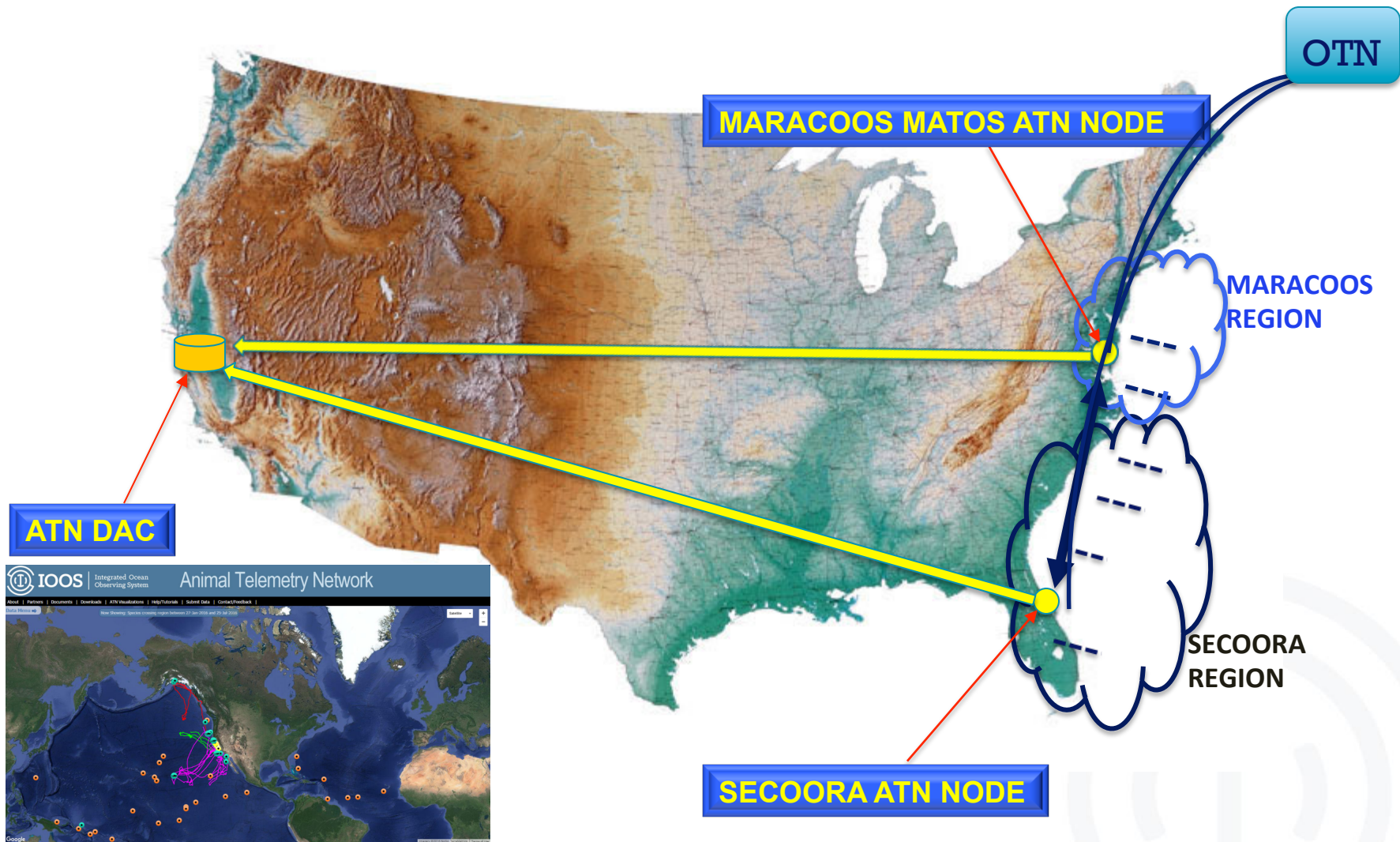
Satellite

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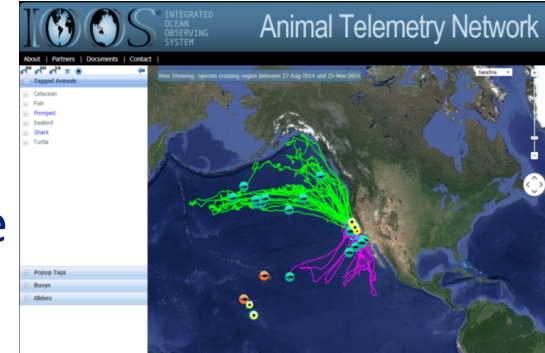
<http://oceanview.pfeg.noaa.gov/atn/>

ATN Data Sharing Examples



ATN Phase I - 2016/17

- Coordination - Coordinate, support and enhance planned and funded animal telemetry efforts
 - Hired Network Coordinator (Bill Woodward)
- Governance Structure
 - Established ATN Steering Group – Feds & non-Feds; 1st Mtg: June 5-6
- Data Management System / Data Assembly Center
 - DAC Operational January 2017
 - Asset/Effort Inventory Website (Who, What, Where)
 - Regional Acoustic Nodes linked with ATN DAC (SECOORA)



ATN Phase II – 2017/18/19

- Define & Fund Multi-Agency Collaborative Baseline Observations & Required Infrastructure
 - Workshops to ID Assets, effort, needs, gaps, and priorities
 - MARACOOS-MATOS (Annapolis, Feb 21-22)
 - SECOORA-CARICOOS (Tampa, Mar 29-30 2017)
 - AOOS, PACIOOS, GCOOS.... (Locations TBD - Summer/Fall 2017+)
 - Establish observation priorities
 - Plan for sufficient funding tagging & infrastructure O & M
 - Determine ATN funding distribution across RAs
 - Establish integration & coordination of IOOS assets

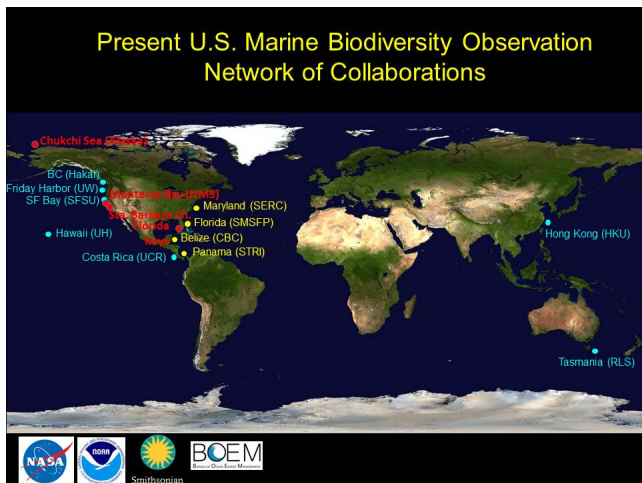


ATN Benefits - Researcher

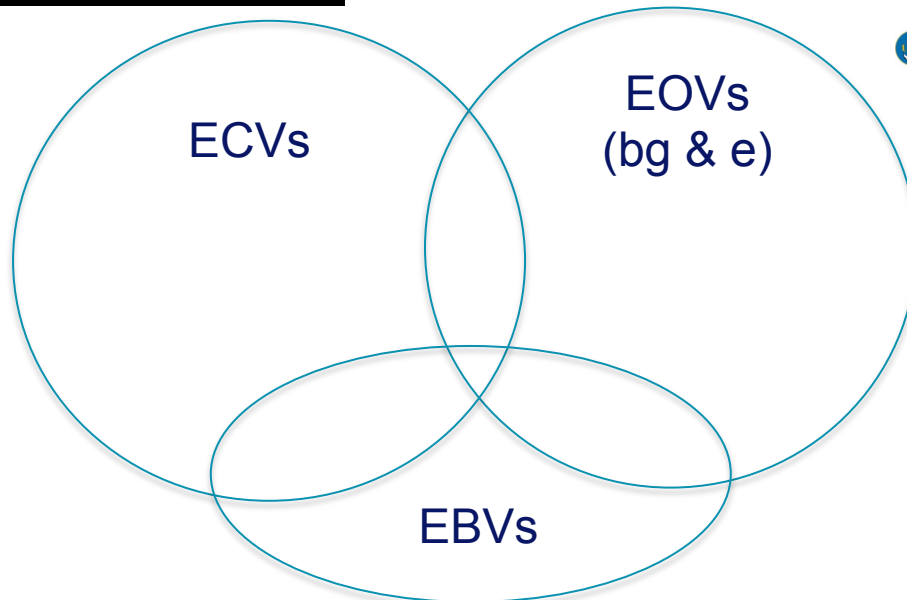
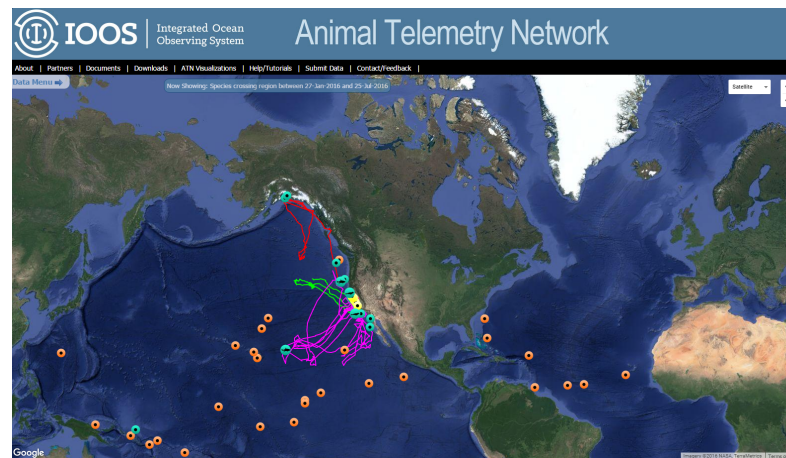
- Integration of tag data with other IOOS observations
- Reduced effort by PI for data management- more time for science
- Access to networked data sets (eg., track animals outside their region for acoustic tags)
- Tools to manage/analyze/share data
- Standardized meta data, data formats
- Data products, i.e. SSM tracks
- Permanent archiving with NCEI*
- Asset and tagging Inventory w/ web interface
- Potential for 'Big Data' projects (integrated, cross-species)
- Smaller, lower cost sensors & tags
- Potential for baseline asset support- (eg core arrays for researchers to rely on)



MBON AND ATN – IT'S TIME TO UNITE



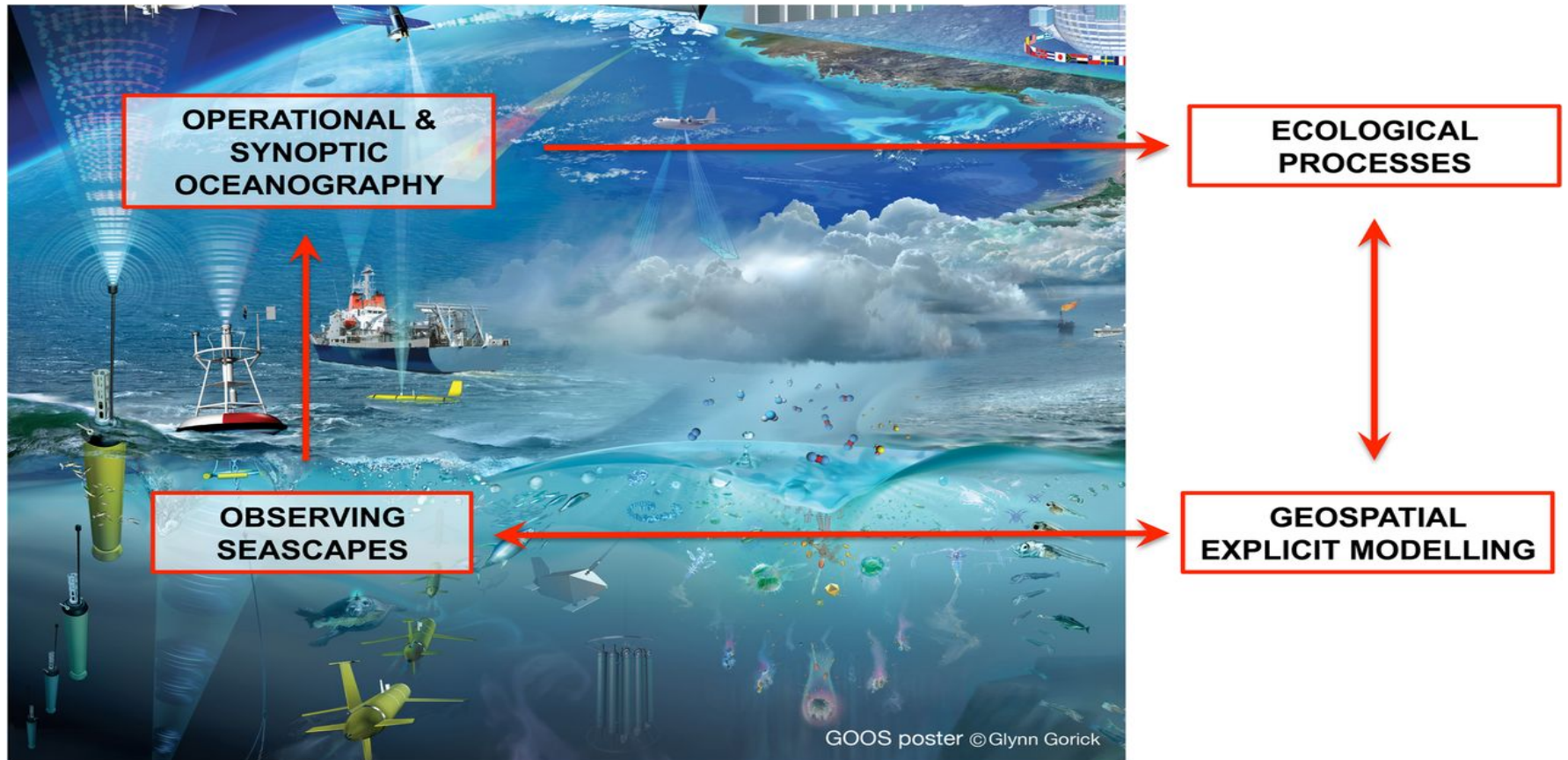
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Building Blocks of a Viable, Sustained, Multi-Agency Biological and Ecosystem Observing Program for U.S. IOOS

and Ecosystem Observing Program for U.S. IOOS

SEASCAPE ECOLOGY



Manuel Hidalgo, D. Secor and H. Browman 2016. Observing and managing seascapes: linking synoptic oceanography, ecological processes, and geospatial modeling *ICES J. Mar. Sci.* [icesjms.fsw079](https://doi.org/10.1016/j.icesjms.2016.07.009)

**Ya Gotta
Love
That ATN**



THANK YOU !