

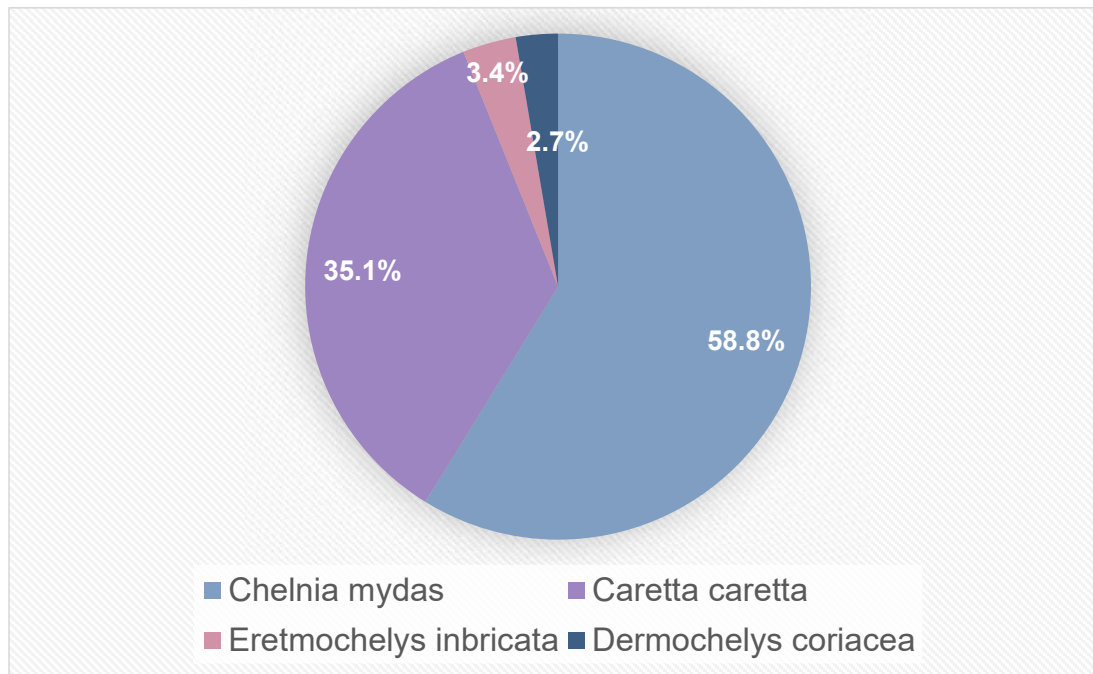
TRACKING SEA TURTLES AROUND JEJU ISLAND

Soojin Jang

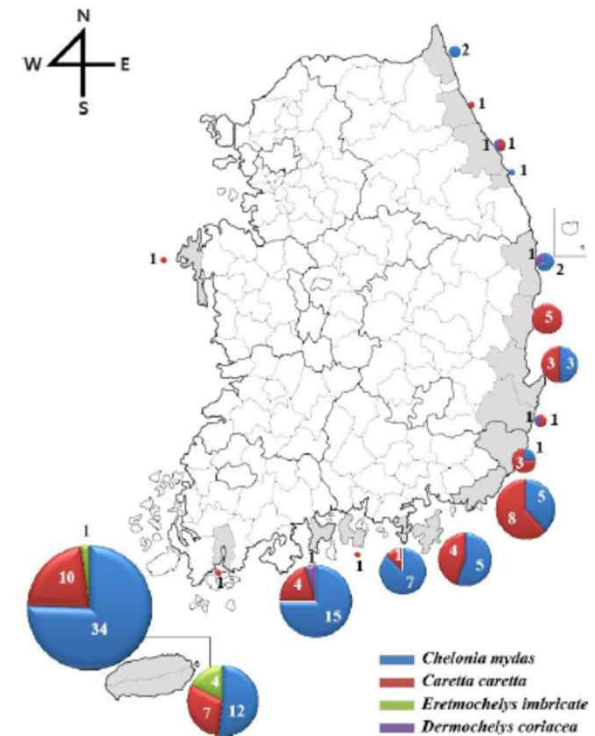
**Ewha Womans University /
Marine Animal Research and Consecvation**



SEA TURTLE IN KOREA



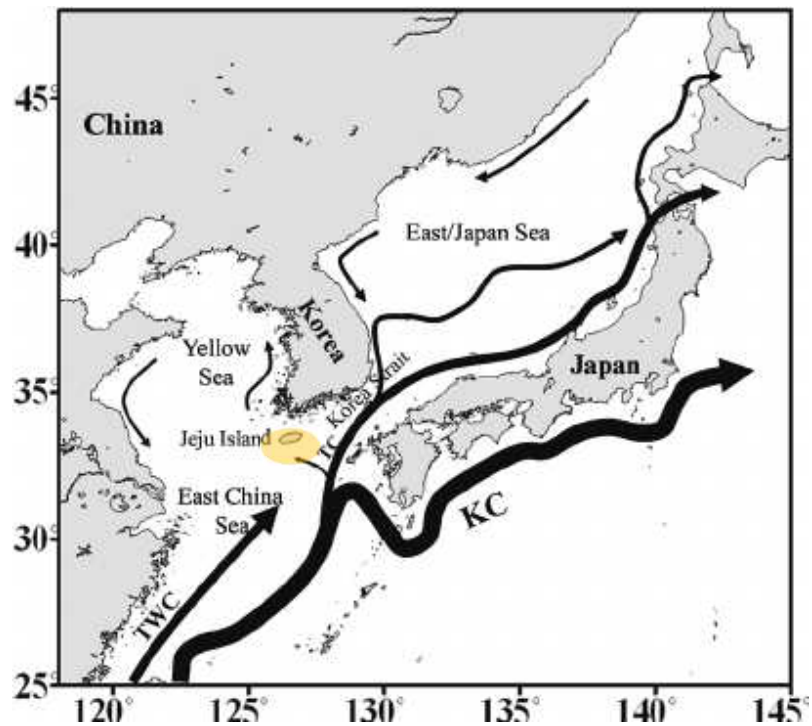
Sea turtle species observed in Korea (Kim et al, 2017)



Location of sea turtles observed around Korean peninsula from 1949 to 2016 (Kim et al, 2017)



JEJU ISLAND



Oceanic currents in the vicinity of the Korean Peninsula

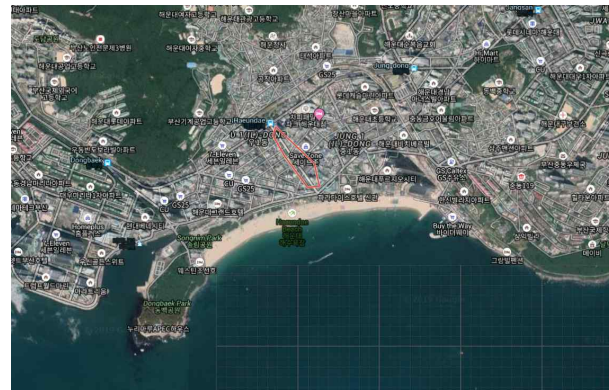
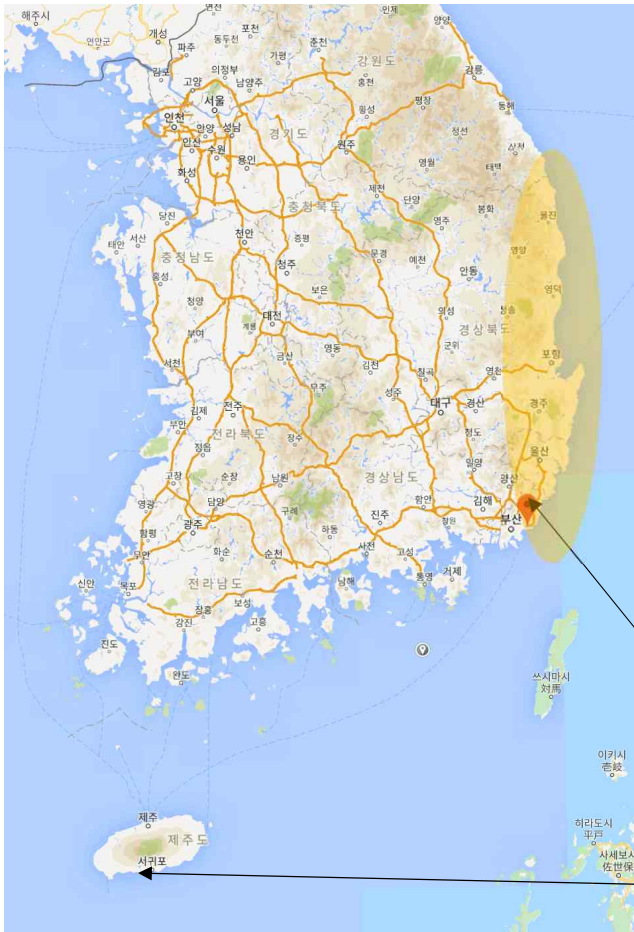


A pound net at Jongdal-ri in Jeju



RECORDS OF SEA TURTLES

- Previously known nesting area of sea turtle in Korea.
 - Gunam street in Busan until the 80's
 - Jungmun beach, Jeju Island: last record in 2007

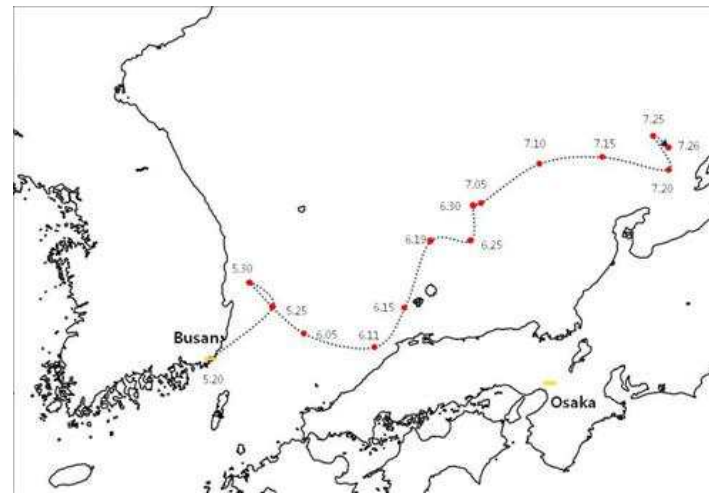
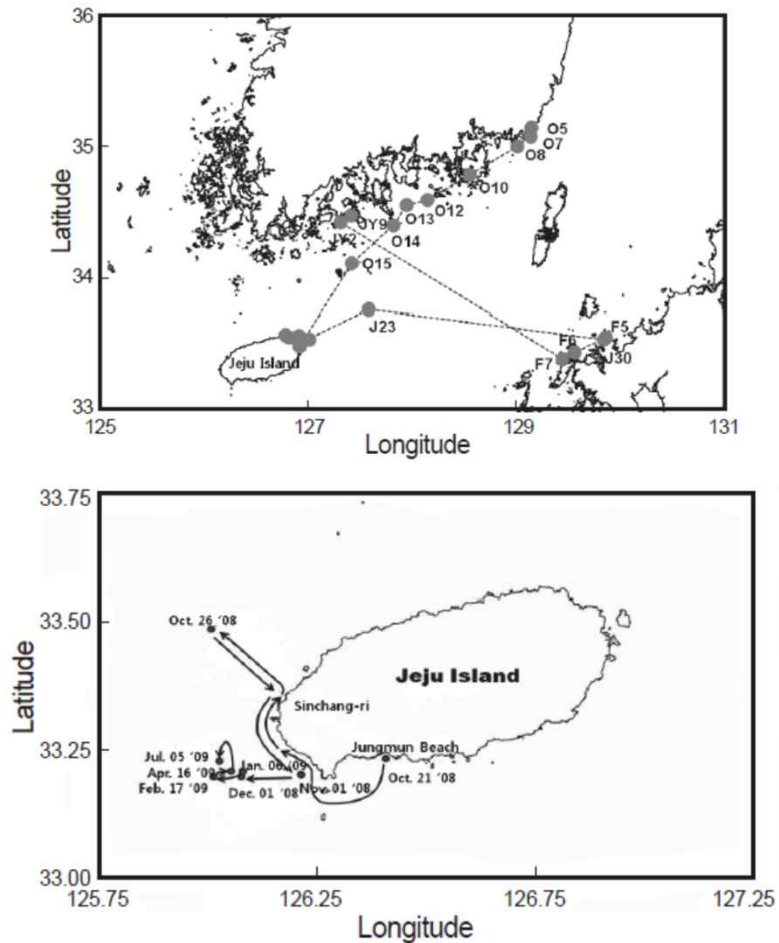


Gunam(龜南, 구남) street



Jungmun beach

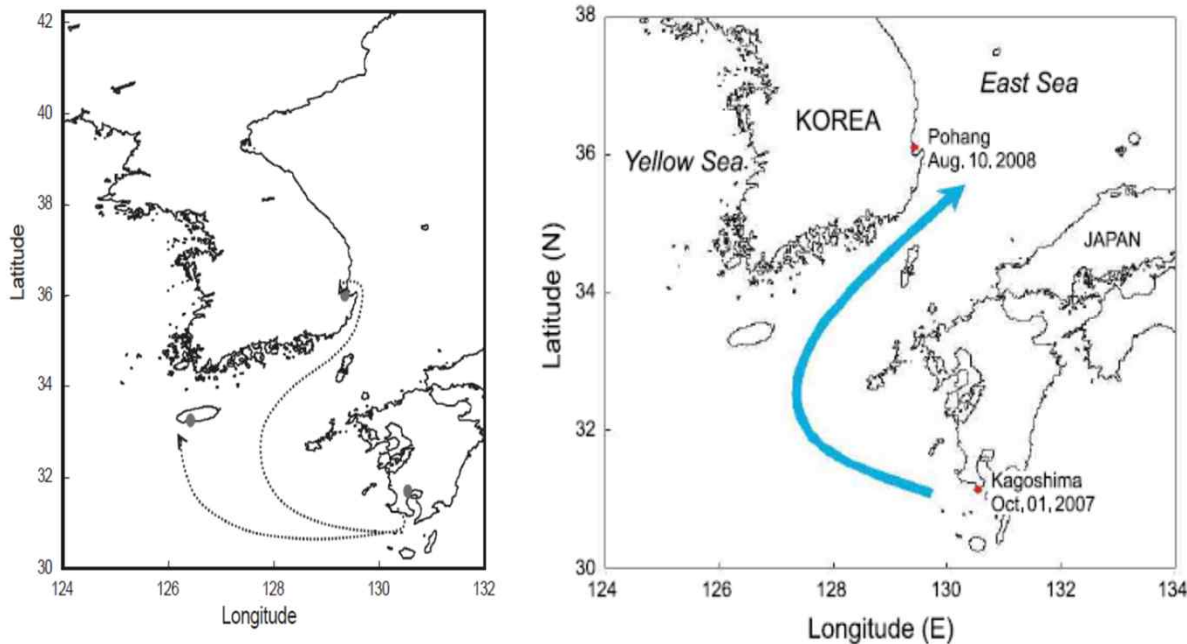
PREVIOUS RESEARCHES



Migration route of green turtles from 2008 to 2013
(Moon et al. 2009, 2011)



PREVIOUS RESEARCHES

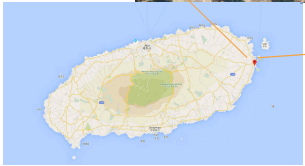


Hypothetical migration route of green sea turtles
(Moon et al. 2009, 2011)

- Sea surface temperature around Jeju Island in summer : 26 – 28 °C
- Sea surface temperature around Jeju Island in winter : 12 – 14 °C
- Sea surface temperature around East and South sea of Korean water: Under 10 °C
- Green sea turtles that nested in Japan spent the summer and winter either in Jeju or Japan.
 - The lack of visit to East and South Sea of Korea during the winter month is probably due to the low water temperature, which is not suitable for turtle survival.



A START OF SEA TURTLE RESEARCH IN JEJU



21. Jul. 2013 Shinyang-ri



SEA TURTLE TRACKING FROM 2015 TO 2017

Chelonian Conservation and Biology, 2018, 17(2): 236-244
doi:10.2744/CCB-1279.1
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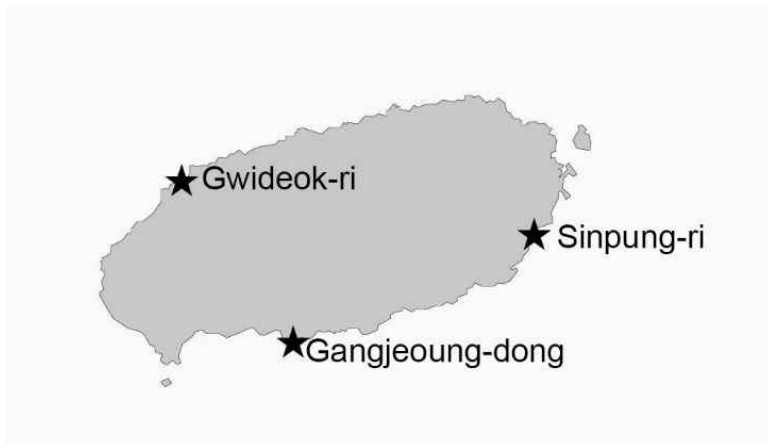
Movements of Green Turtles (*Chelonia mydas*) Rescued from Pound Nets Near Jeju Island, Republic of Korea

SOOJIN JANG¹, GEORGE H. BALAZS², DENISE M. PARKER³, BYUNG-YEOP KIM⁴, MI YEON KIM⁵,
CONNIE KA YAN NG⁶, AND TAE WON KIM^{7,*}

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²National Oceanic and Atmospheric Administration, Inouye Regional Center, National Marine Fisheries Service, Pacific Islands Fisheries

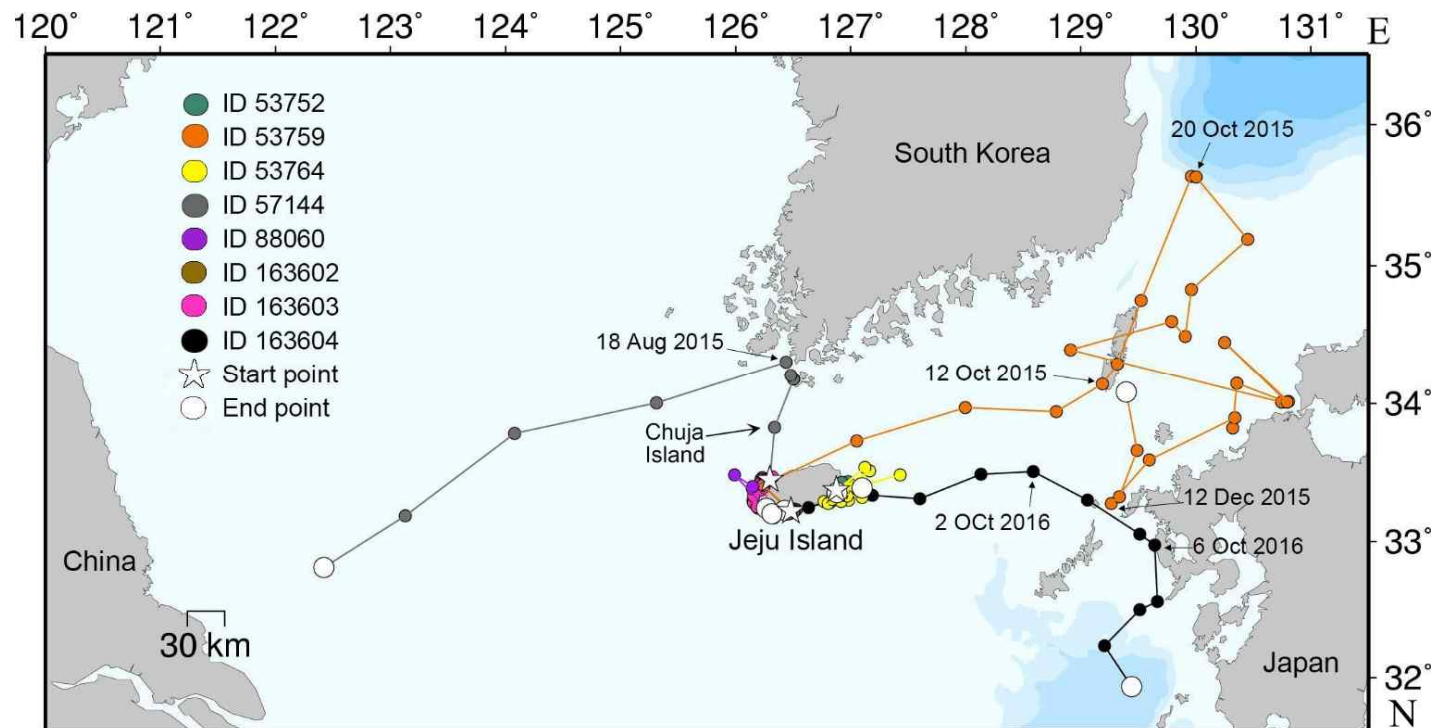
- 8 Juvenile green sea turtles accidentally caught in pound net.
- Straight carapace length range: 49.7–85.9 cm (mean ± SD, 63.36 ± 10.99 cm)
- Track duration: 17 ~-314 days (from august 2015 to January 2017)
- Total minimum movement distance: 70 – 1393 km



Bycatch and release sites of 8 green turtle in Jeju Island



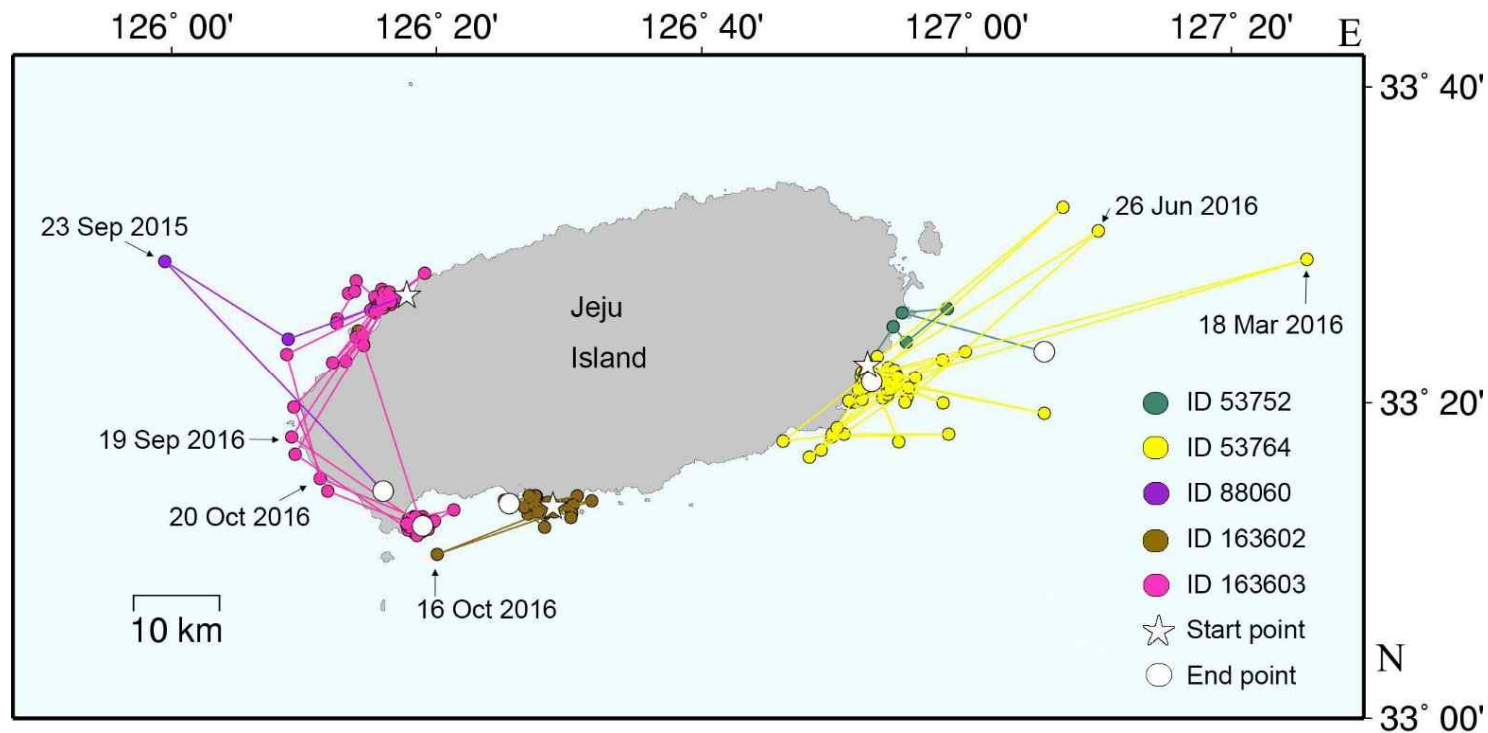
SEA TURTLE TRACKING FROM 2015 TO 2017



Pathways of eight green turtles released from three separate sites on Jeju Island, Republic of Korea.



SEA TURTLE TRACKING FROM 2015 TO 2017



Localized movements of five green turtles that resided near the two release areas on Jeju Island, Republic of Korea.



SEA TURTLE TRACKING FROM 2015 TO 2017



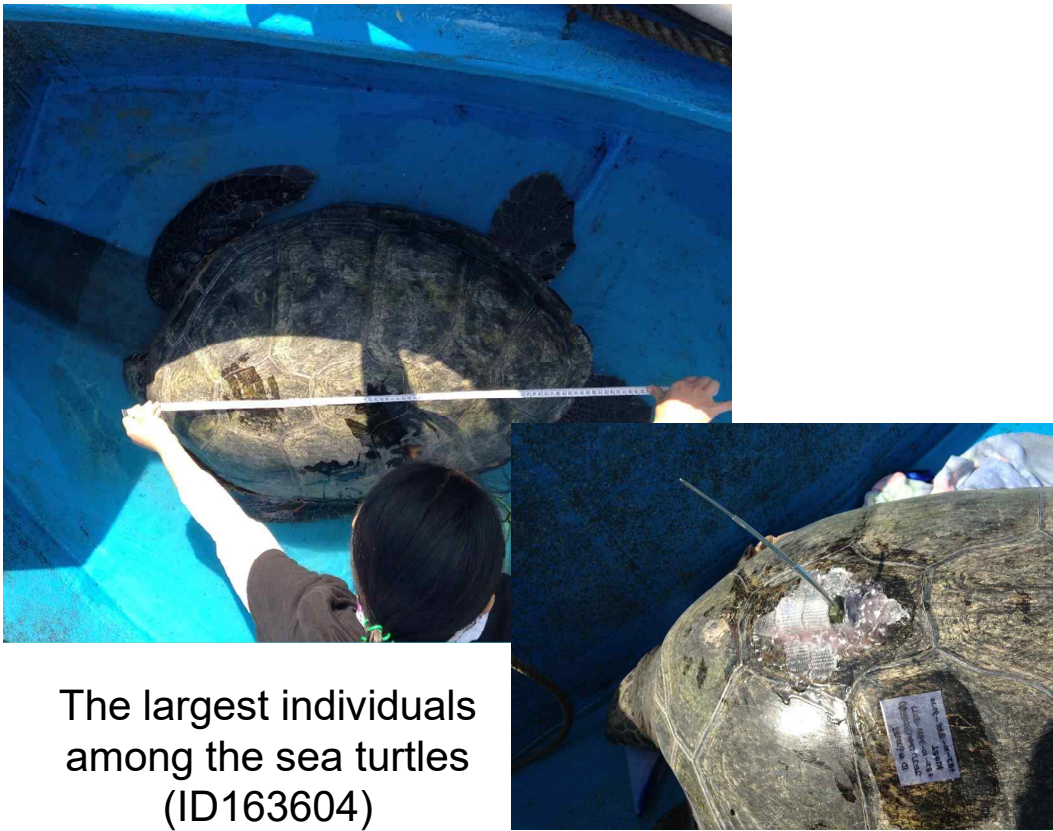
Sea turtle from
Kagoshima, Japan (ID
53759)



Giving rice and makgeolli(rice wine) before the
release of the sea turtle



SEA TURTLE TRACKING FROM 2015 TO 2017



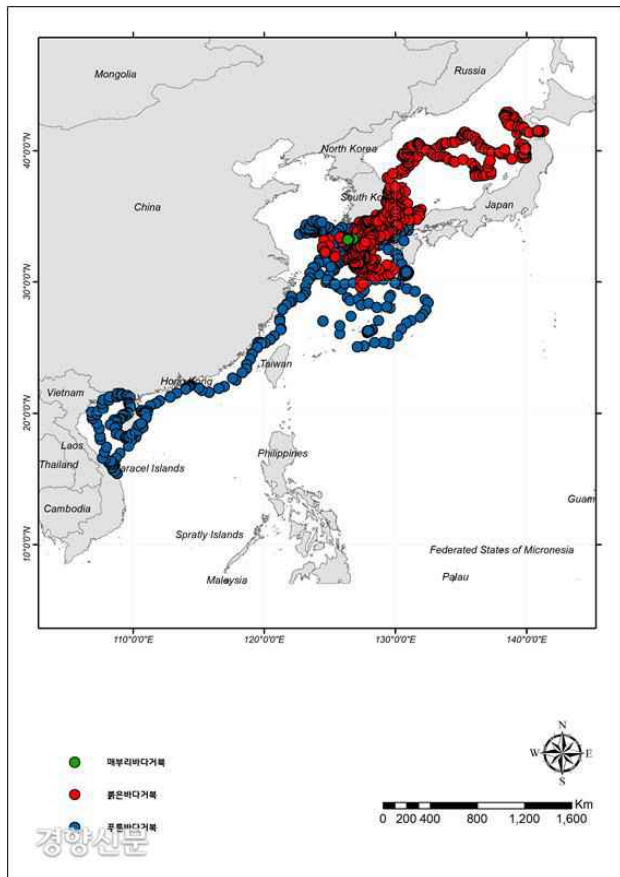
The largest individuals
among the sea turtles
(ID163604)



The turtle recaptured in the same
pound net (ID53764)



RECENT RESEARCH OF MABIK



The Display of the migration route of released sea turtle by MABIK

The migration route of three species of sea turtles (2019, MABIK)

Blue dot: green sea turtle

Red dot: loggerhead sea turtle

Green dot: Hawksbill sea turtle

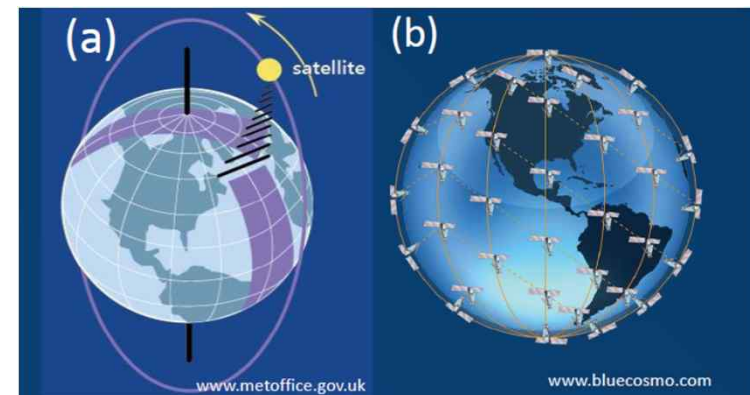


TRACKING SEA TURTLES IN KOREA IN 2019

- Applying iridium transmitter
- Continuous sea turtle tracking
- Enhancing domestic cross-organization collaboration for sea turtle survey
- Expanding global networking

Iridium System

The Iridium satellite constellation has been operating since 1998 and is used by the military and commercial GPS phone providers. The Iridium system is a low-orbit satellite system that provides continuous satellite coverage independent of latitude



Satellite coverage for ARGOS, a polar orbiting satellite system, and IRIDIUM satellite system



FUTURE PLAN

- Applying transmitters to diverse age class
- Expanding species to loggerhead turtles
- Using various tags: satellite transmitter, flipper tag, PIT tag
- Collecting DNA samples



- Finding connectivity of sea turtles found on Jeju Island with other identified populations in the northwest Pacific areas
- Identifying habitat use, movement pattern, and population ecology throughout Asia
- Contribution to sea turtle conservation through global networking



Thank you
for your attention!

