

## The Great Migration Game: Engaging Youth in Sea Turtle Conservation with Online Maps



Nathaniel Miller  
Dutch Caribbean Nature Alliance  
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Safeguarding nature in the Dutch Caribbean



## Dutch Caribbean: Geography



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## Dutch Caribbean Nature Alliance: **Mission Statement**

Safeguard the biodiversity and promote the sustainable management of the natural resources of the islands of the Dutch Caribbean...



... by supporting and assisting the protected area management and conservation organisations activities in the Dutch Caribbean

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*Our mission is to ensure the protection and recovery of Bonaire's sea turtle populations throughout their range*



Follow scientific methods to build a reliable base of knowledge



Conservation action



Education & Advocacy

Strategic partnerships, Local and international training, Public awareness campaigns

## The Great Migration Game: What and Why

**Project Goal:** Build local knowledge and support for sea turtles in the Caribbean centered around innovative, fun, yet informative online map interactions.

Particular focus on Bonaire's nature education 'gap audience'—teenagers.



"I am playing outside, Mom — look at the graphics."

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### THE GREAT MIGRATION GAME

#### KIKO ESAKI TA?

Un contest completamente nobo i gratis pa studiantenan di Bonaire. Usando un teknologia nobo di Google mapping online, studiantenan por pronostiká unda e turtuganan di laman ta bai bek despues di a pone nan webonan na Bonaire. Esun u su pronostiko ta mas serka ta gana.

#### KEN POR PARTICIPA?

Tur estudiante di skol sekundario na Bonaire, sea di SGB, E-College, Stichting Project, of ku ta ricibi enseñansa na kas.

#### KON PA PARTICIPA?

Ricibi bo "Turtle Code" card – pa registra bo pronostiko bo mesler di yan a "Turtle Code". Pa ricibi bo code bo por pasa na:

E Turtle Code por wordo usa un biaha so i bo no por fia otro estudiante. Hasi bo pronostiko riba nos website - [www.bonaireturtles.org](http://www.bonaireturtles.org) - no mas laat ku -

**5:00 PM DIABIERNA 21 DI SEPTEMBER.**

Sigi e turtuga live online pa wak si bo ta gana!

#### PREMIO, PREMIO, PREMIO...

**Premio Mayor** – E estudiante ku pronostiká e luga di mas serka na unda e turtuga ta bai ta ricibi un smartphone i un aña di servisio completo di 4G di Digicel.

**Otro Premionan** – E dies studiantenan mas serka na unda e turtuga ta bai lo pasa un dia dushi ku STCB: kayak, snorkel i lands ku staff i voluntarionan di STCB Bonaire, i mas ku klaro turtuganan. Studiantenan lo ricibi tabe un DVD video di nan dia i nan mag skohé un regalo di STCB: pechi, t-shirt o kadena.

Tur participante ta sifia hopi tokante migrashon di turtuga di laman!

Bo tin bo Turtle Code kaba? Bai a nos website pa hasi bo pronostiko!

[www.bonaireturtles.org](http://www.bonaireturtles.org)  
Find us on Facebook - [www.facebook.com/bonaireturtles](http://www.facebook.com/bonaireturtles)



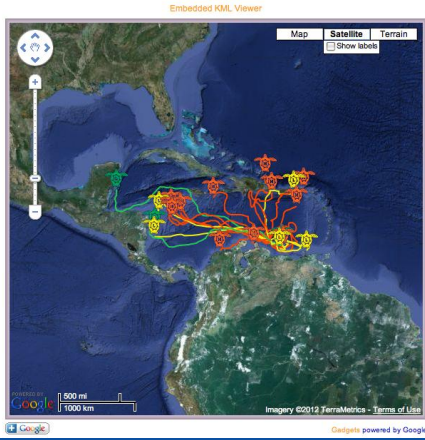
## The Great Migration Game: Contest Announcement

Bonaire high school students can register online, research and predict where the home foraging grounds are of Bonaire-nesting female hawksbill, 'Jklynn'



# The Great Migration Game: Research

## Previously Tracked Turtles



## Turtles Tracked in 2007

### Darwina



The second turtle to be tracked in 2007 was Darwina, a female and only the second green turtle to be tracked from Bonaire (the first was STINAPA in 2004). Darwina left Bonaire south to Venezuela's coast, then headed north through Las Aves Archipelago, but then incredibly she came back to nest again on August 9th at the same beach she was found on July 25th. Perhaps she didn't realize she still had a nest to lay! What is even more interesting is after laying the August 8th nest, Darwina took off in the opposite direction all the way to the Yucatan Peninsula, Mexico. Darwina traveled a remarkable 2,930 kilometers on her journey. Darwina's signal had not stabilized when it stopped transmitting so perhaps she wasn't quite at her foraging grounds, but even so, this is the farthest a Bonaire turtle has ever been tracked!

### Eloise



Sponsored by and named after the granddaughter of Queen Beatrix, Eloise, a female hawksbills was fit with a transmitter on 13th of July 2007 while nesting on Klein Bonaire. Eloise laid a total of five nests on Klein Bonaire before departing Bonaire waters for her home foraging grounds of Albatross Bank, Jamaica. Her travel speed was at times very fast, surpassing 100 kilometers in a single day. Eloise passed through and forages very close Haitian waters, where she is at risk of being legally harvested.

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# The Great Migration Game: Research



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**SEA TURTLE CONSERVATION BONAIRE**  
THE GREAT MIGRATION GAME

## REGISTRATION FORM

# The Great Migration Game: Predictions

### 1- ENTER YOUR INFORMATION

<input type="text" value="Enter turtle code"/>	<input type="text" value="Enter Full Name"/>
<input type="text" value="Select school name"/>	<input type="text" value="Enter Email"/>
<input type="text" value="Enter class"/>	<input type="text" value="Enter Phone number"/>

### 2- TURTLE QUESTIONS

Answer the questions about sea turtles below correctly to continue to the map.

Sea turtles are reptiles	true / false
Driving on beaches threatens sea turtle nests	<input type="checkbox"/>
Discarded plastics pose no danger to sea turtles	<input type="checkbox"/>
Female sea turtles nest every year	<input type="checkbox"/>


### 3. CONTINUE TO MAP

By submitting I agree to the [terms and conditions](#) of this contest

**SUBMIT**

### MAKE YOUR PREDICTION




Drag the turtle on the map below to predict where it will end up. Use the zoom-tools for extra precision.



### SUBMIT YOUR CHOSEN LOCATION

By submitting I agree to the [terms and conditions](#) of this contest

**SUBMIT**

### MAKE YOUR PREDICTION

Drag the turtle on the map below to predict where it will end up. Use the zoom-tools for extra precision.



### SUBMIT YOUR CHOSEN LOCATION

By submitting I agree to the [terms and conditions](#) of this contest

**SUBMIT**

## THANK YOU TOMMY TURTLE TRACKER

### WE'VE ADDED YOUR PREDICTION TO THE MAP!



### KEEP TRACK OF THE TURTLES ON:

[WWW.BONAIRETURTLES.ORG](http://WWW.BONAIRETURTLES.ORG)

[WWW.FACEBOOK.COM/BONAIRETURTLES](http://WWW.FACEBOOK.COM/BONAIRETURTLES)

**CLICK HERE TO CLOSE THIS WINDOW AND RETURN TO THE TRACKING PAGE**

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**SEA TURTLE CONSERVATION BONAIRE**



**WIDECAST**  
Wider Caribbean Sea Turtle Conservation Network

### The Great Migration Game: Predictions

- 88 student predictions
- Well researched (for the most part)
- Interactive Map showing: predictions...

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### The Great Migration Game: Interactive Map

nests...

Jklynn's nest

10 November Jklynn's crawl to lay her fourth nest was a little different to her others as it was in a figure of 8 shape. This was because this time she dug two pits but didn't like what she found there, so she tracked round and made a final successful attempt in the soft sand.

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SLIDE TO CHANGE THE DISPLAYED TIME PERIOD

DATE: 03.07.2012

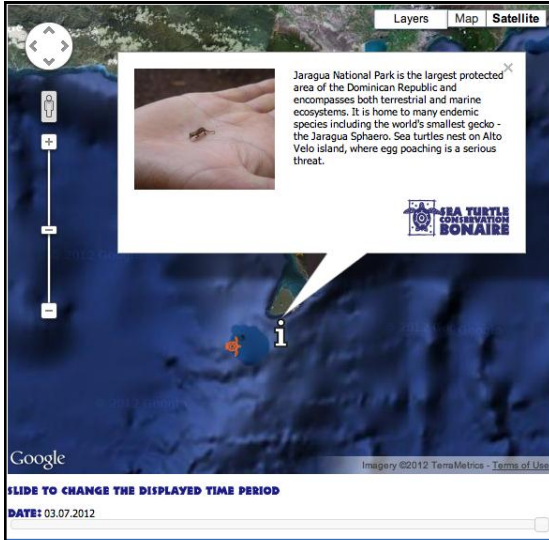
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### The Great Migration Game: Interactive Map



Jaragua National Park is the largest protected area of the Dominican Republic and encompasses both terrestrial and marine ecosystems. It is home to many endemic species including the world's smallest gecko - the Jaragua Sphaero. Sea turtles nest on Alto Velo Island, where egg poaching is a serious threat.

points of interest...

SLIDE TO CHANGE THE DISPLAYED TIME PERIOD  
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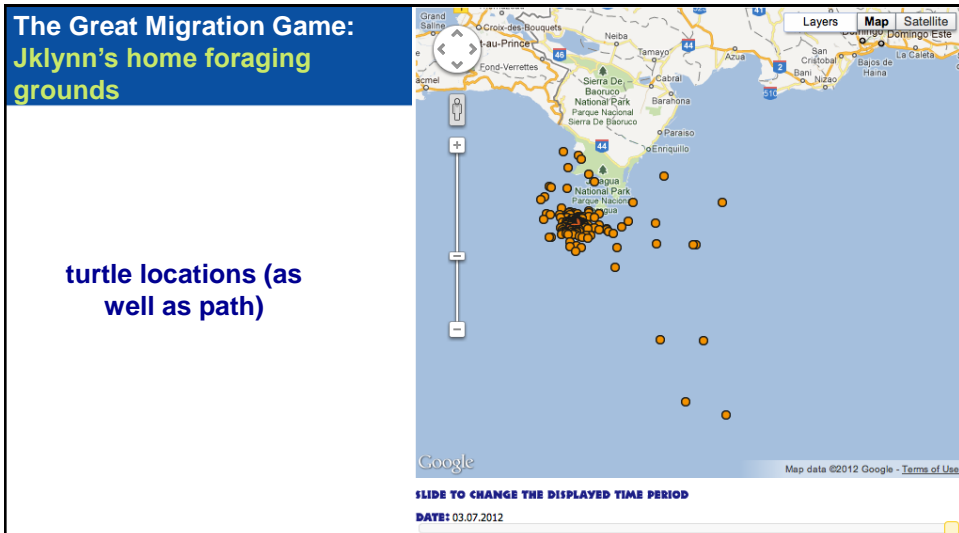
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### The Great Migration Game: Jklynn's home foraging grounds



turtle locations (as well as path)

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## The Great Migration Game: **Winners**

### Sea Turtle Conservation Bonaire

### Tracking Page



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## The Great Migration Game: **Winners**



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## The Great Migration Game: **Take Aways**

- International and local interest on website increased significantly

- “Simple”, “fun”, “competition” are key to engagement

- Sustainability of technical aspects

Country/Territory	Visits	% Visits
1. United States	1,408	32.09%
2. Netherlands Antilles	873	19.90%
3. Netherlands	554	12.63%
4. United Kingdom	202	4.60%
5. Canada	129	2.94%
6. Germany	84	1.91%
7. Aruba	71	1.62%
8. Italy	69	1.57%
9. France	61	1.39%
10. Australia	47	1.07%

Unique visitors to website tracking page  
December - January

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## Great Migration Game: **Next Steps**



- Other data presentation
- Expansion of GMG to other audiences, other countries?

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## Thank You!



- Google Earth Outreach – Funder
- WIDECAST – Grant administrator and support
- Woodwind Snorkel Tours – Funding some of the prizes
- OJINGO Labs and RJ van Oosten for technical development

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## Great Migration Game: Links



Backdoor - <http://greatmigrationgame.appspot.com/edit>  
 Student Registration <http://greatmigrationgame.appspot.com/>  
 Output - <http://greatmigrationgame.appspot.com/predictions?>  
 All users - <http://greatmigrationgame.appspot.com/api/users>  
 Predictions - <http://greatmigrationgame.appspot.com/api/result>  
 KML - <http://greatmigrationgame.appspot.com/kml>

Turtle Data Maps

Backend - <http://greatmigrationgame.appspot.com/admin>

Frontend - <http://greatmigrationgame.appspot.com/tabs>

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