



# FIG WORKING WEEK 2019

22-26 April, Hanoi, Vietnam

"Geospatial Information for a Smarter Life and Environmental Resilience"

*Presented at the FIG Working Week 2019,  
April 22-26, 2019 in Hanoi, Vietnam*



## Mapping the plastic along Hai Phong's urban and coastal margins



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## Core Team

- Denise Hardesty – Lead Scientist
- Chris Wilcox – co-leader, analysis lead
- TJ Lawson – GIS/Database Support and field operations
- Qamar Schuyler – Modelling
- Vanessa Mann – logistics support

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## What do we know about litter/waste mismanagement?

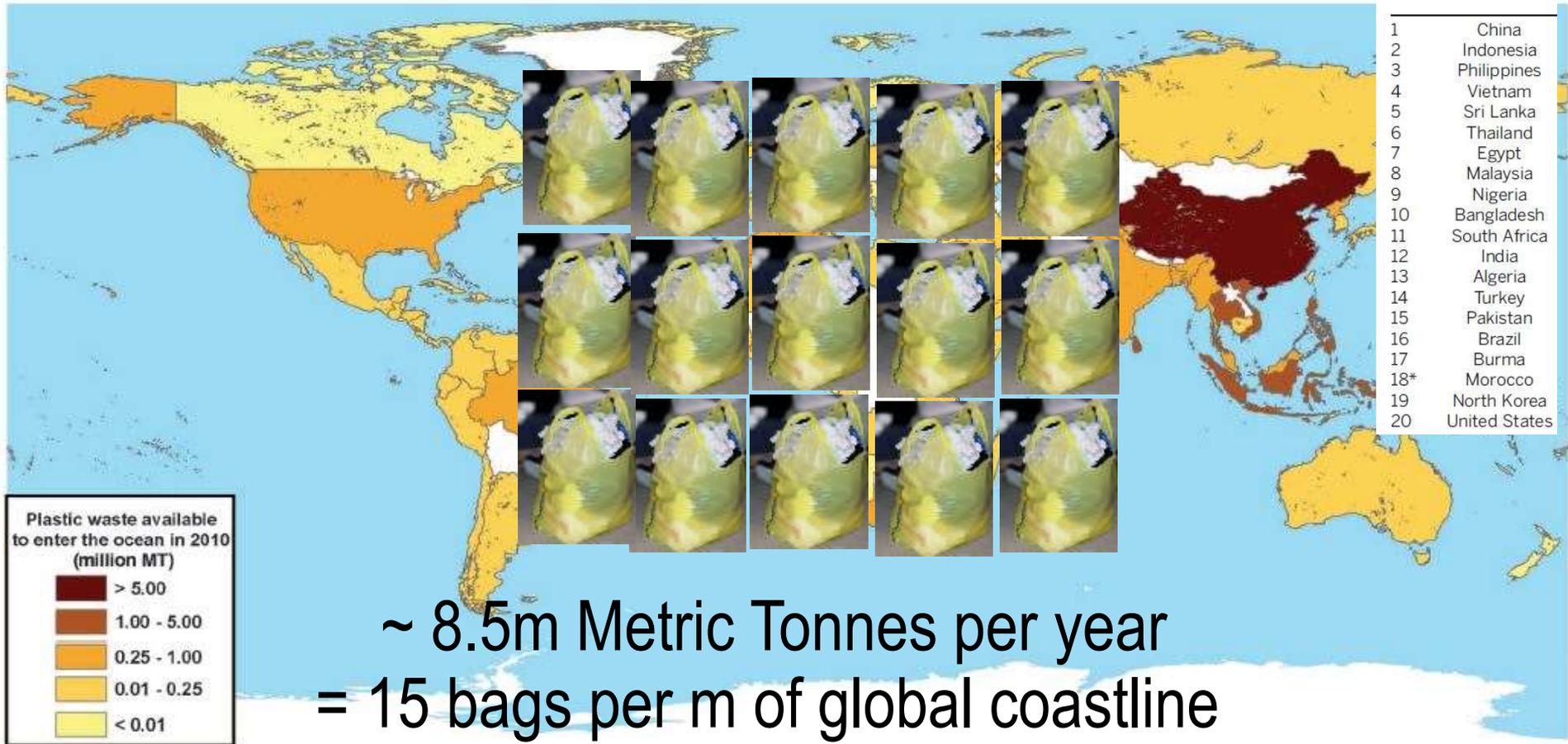


Fig. 1. Global map with each country shaded according to the estimated mass of mismanaged plastic waste [millions of metric tons (MT)] generated in 2010 by populations living within 50 km of the coast. We considered 192 countries. Countries not included in the study are shaded white.



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## Approach: Statistically robust sampling for INLAND, COASTAL, RIVER, AT-SEA sites





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## What we collect:

- By item and material type
- Whole and fragment
- Count
- Size



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Rank	Country
1	China
2	Indonesia
3	Philippines
4	Vietnam
5	Sri Lanka
6	Thailand
7	Egypt
8	Malaysia
9	Nigeria
10	Bangladesh
11	South Africa
12	India
13	Algeria
14	Turkey
15	Pakistan
16	Brazil
17	Burma
18*	Morocco
19	North Korea
20	United States

## Estimates

- Density is 270 items per metre

**847,907,547**

- Average density is 117,720 items per km<sup>2</sup>

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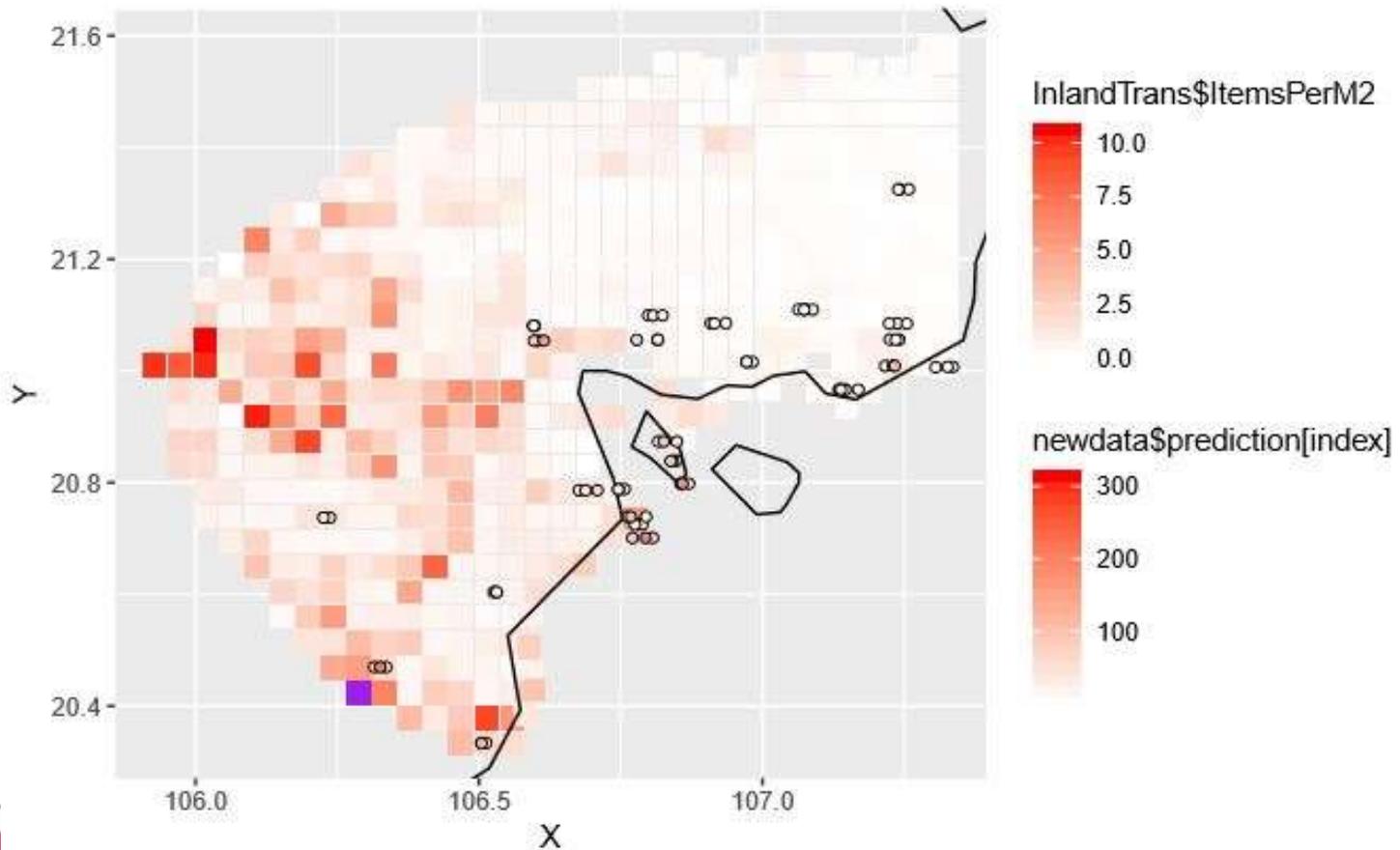
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## Inland – predicted densities



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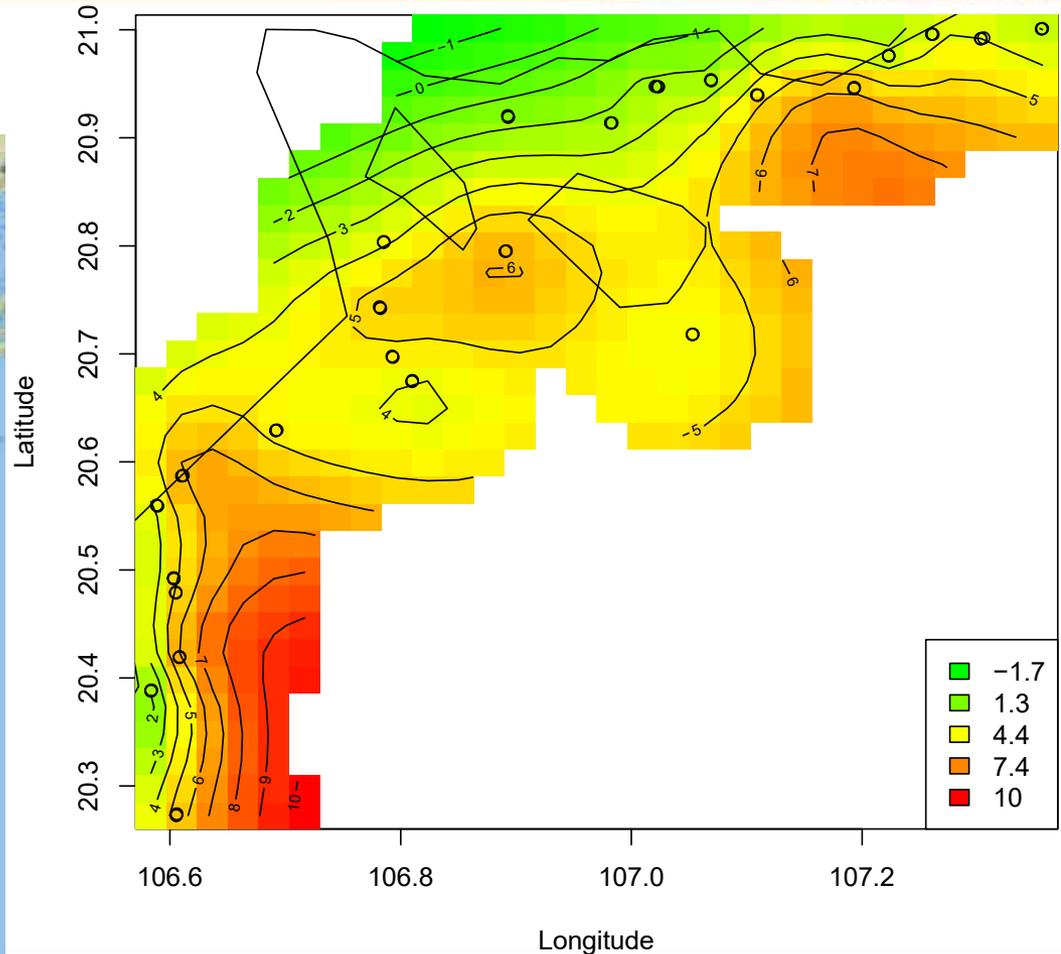
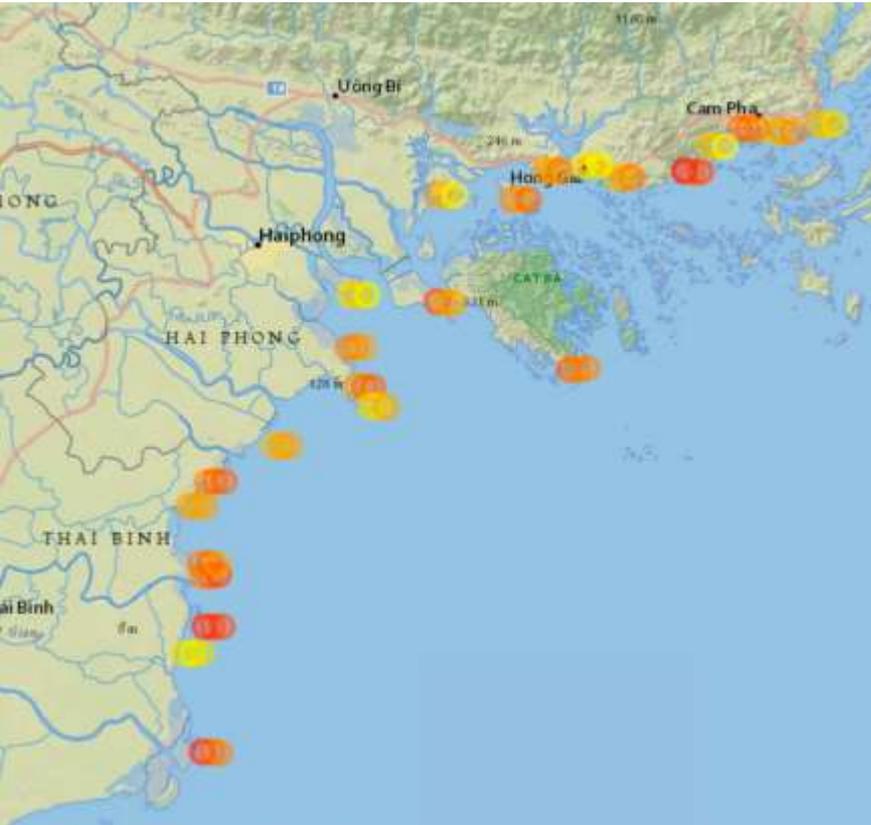
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## Coastal areas



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## Why do we care?

- Baseline for which future measurements can be compared
- Policy changes
- Platform to evaluate effectiveness of policies
- Global network of partners
- Combining empirical data and modelling allows us to better identify interdiction points, sources and sinks,
- **More aware and informed public – reduce, re-use, recycle, refuse....**

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**‘Don’t underestimate the power of the individual’**



**WE ARE ALL PART OF THE SOLUTION**

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