

Marine Litter



What is the problem?

8 billion kg of plastic per year

1 million African elephants



90%
of marine litter
is plastic

50,000 Blue whales



Who does this affect?

🏠 > Science

Paradise lost: hotels bury waste plastic in the sand to keep tourists happy

South Korean litter drifted to Kent beach says Dover and Shepway White Cliffs Countryside Partnership

⚡ LIVE NEWS

SIGN ME UP FOR NEWS ALERTS 🔔

By Sam Lennon | slennon@thekmggroup.co.uk

Read all comments | 13

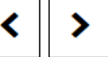
Published: 16:00, 15 November 2017 | Updated: 17:37, 15 November 2017

Shocking Photographs Show A Sea Of Plastic Pollution In The Caribbean

Plastic eaten by creatures living in deepest places on Earth

PTI | Updated: Nov 16, 2017, 04.48 PM IST

Plastics found in almost 10% of whales and dolphins in Ireland



Mussels contaminated with plastic particles

🕒 9 October 2017 | Kent | 💬



🔗 Share

Ecosystems





Tourism



YOU!

What is our solution?

Litter hotspot prediction tool

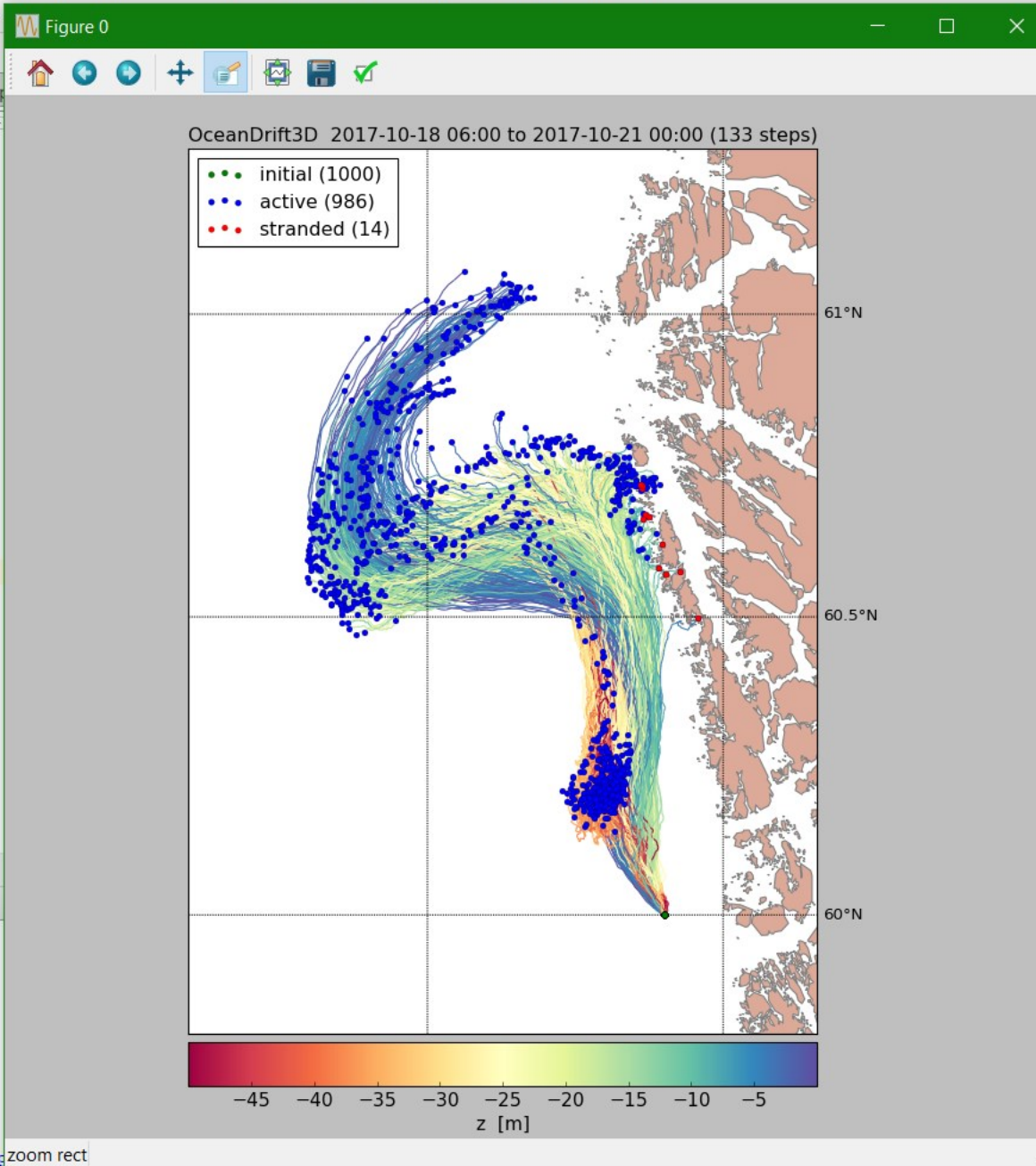
opendrift-master C:\Users\emma_\OneDrive\Documents

- > .eggs
- > docs
- > examples
- > opendrift
 - > elements
 - > export
 - > models
 - __init__.py
 - basemodel.py
 - eddydiffusivity.py
 - leeway.py
 - model_template.py
 - noaa_oil_weathering.py
 - OBJECTPROP.DAT
 - oceanDrift.py
 - oceanDrift3D.py
 - oil_types.txt
 - oilprop.dat
 - opendrift3D.py
 - openoil.py
 - openoil3D.py
 - pelagicegg.py
 - physics_methods.py
 - shipDrift.py
 - wforce.dat

Run: example3d example

```

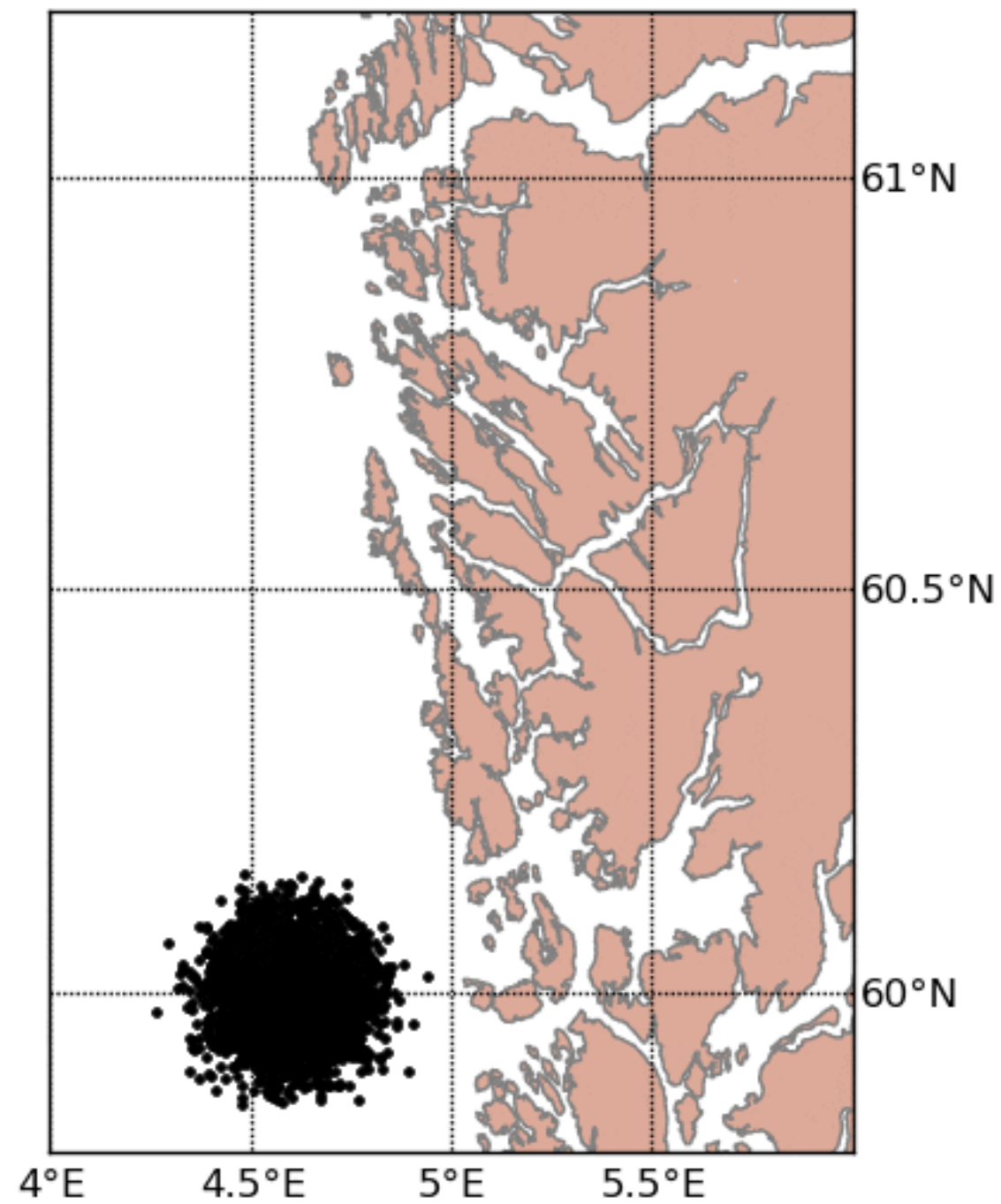
-----
basemap_landmask
0:00:00.5 total
0:00:00.1 preparing
0:00:00.3 reading
0:00:00.0 interpolation_time
0 masking
=====
C:\Users\emma_\Anaconda3\envs\Version2\lib\site-packages\
result = self.f(da, db, *args, **kwargs)
    
```



example3d

```

metcoop_default2_5km_latest.nc')
000m/1h/aggregate_be')
    
```

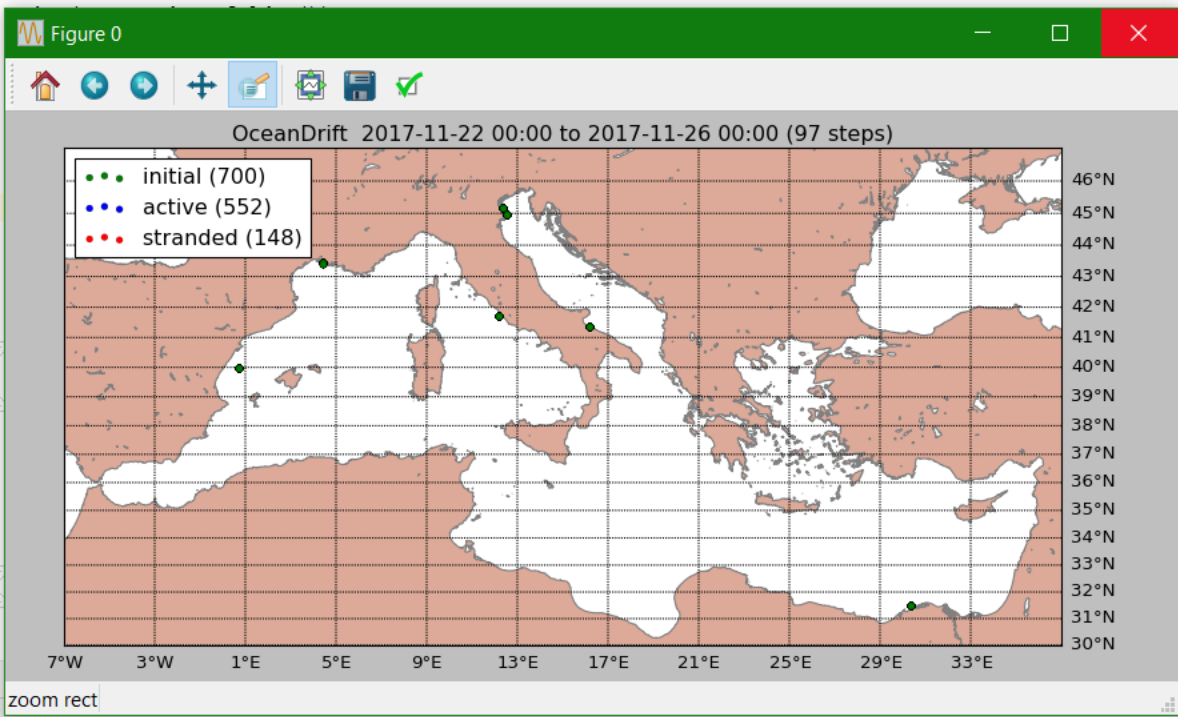


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 - openoil.py
 - openoil3D.py
 - pelagicegg.py
 - physics_methods.py
 - shipdrift.py
 - wforce.dat

```

10
11 reader_basemap = reader_basemap_landmask.Reader(
12     llcrnrlon=-7, llcrnrlat=30,
13     urcrnrlon=37, urcrnrlat=47,
14     resolution='h', projection='merc')
15
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```



Run: Model example

```

0:00:03.8 reading
0:00:00.0 interpolation_time
0 masking
=====
C:\Users\emma_\Anaconda3\envs\Version2\lib\site-packages\numpy\ma\core.py:1006: RuntimeWarning: overflow encountered in multiply
    result = self.f(da, db, *args, **kwargs)
C:\Users\emma_\Anaconda3\envs\Version2\lib\site-packages\matplotlib\axes\axes.py:531: UserWarning: No labelled objects found. Use label='...' kwarg on individual plots.
    warnings.warn("No labelled objects found. ")
Exception TypeError: TypeError("'instancemethod' object is not connected",) in <bound method TimerQT.__del__ of <matplotlib.backends.backend_qt5.TimerQT object at 0x0000000012CEB7F0>> ignored

```

Who will use this?

- Researchers – Identify
- Policy action - Prioritize
- Communities – Clean up action

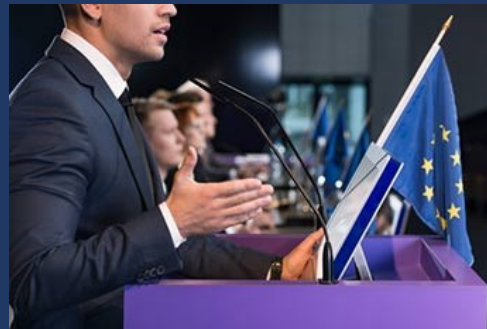


Coastal Communities

Researchers

Our tool

Policy makers



What do we need?

- More marine litter data
- Continuous field data – only point data available

