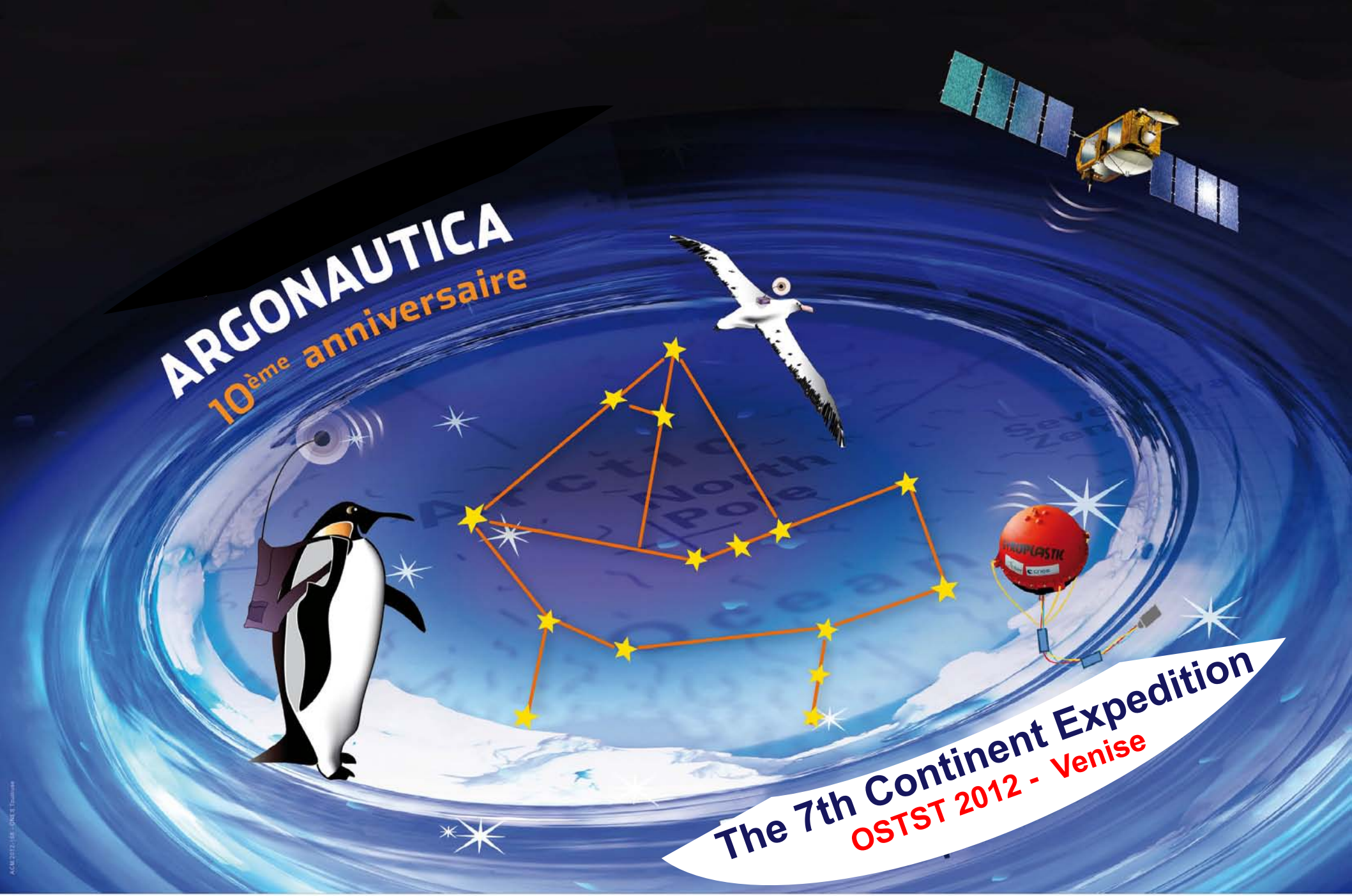
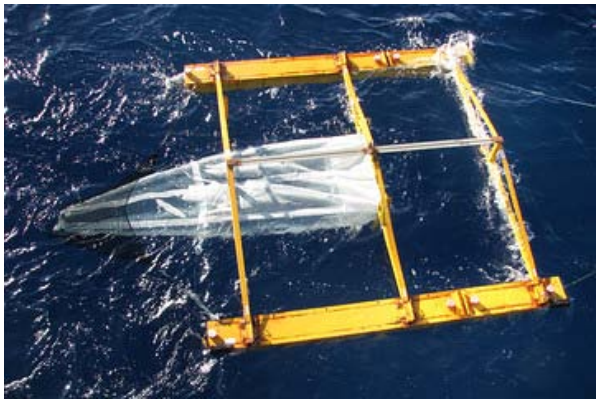

ARGONAUTICA
10ème anniversaire
The 7th Continent Expedition
OSTST 2012 - Venise

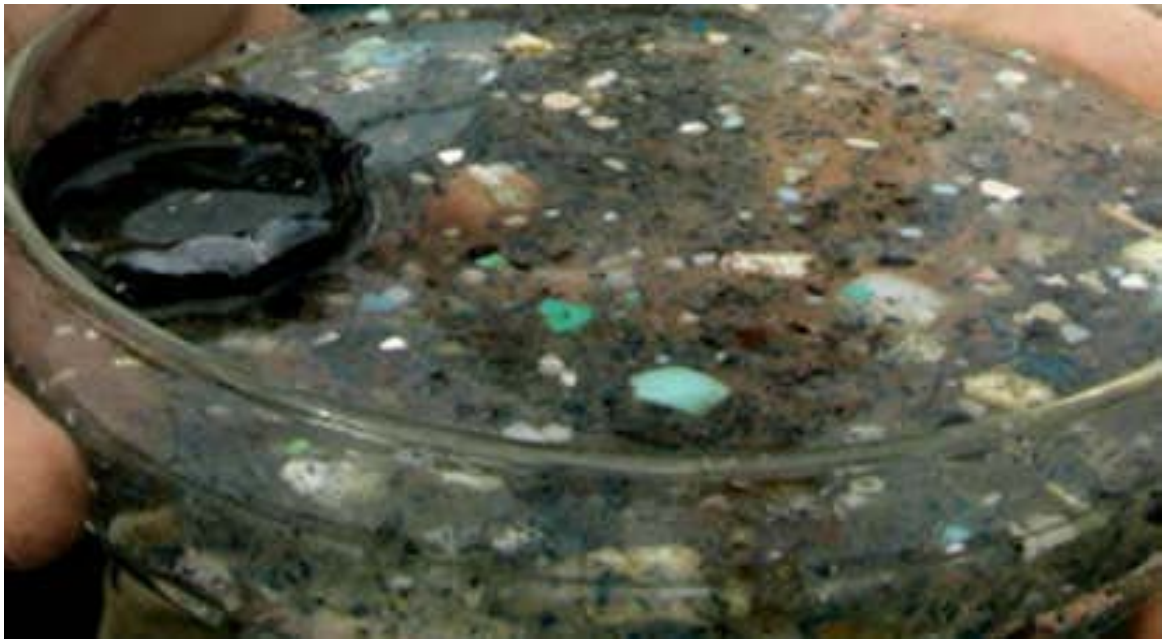
Plastic soup in the heart of the ocean!

Trash Island in the Northern Pacific was discovered in 1998.

With a manta net.....

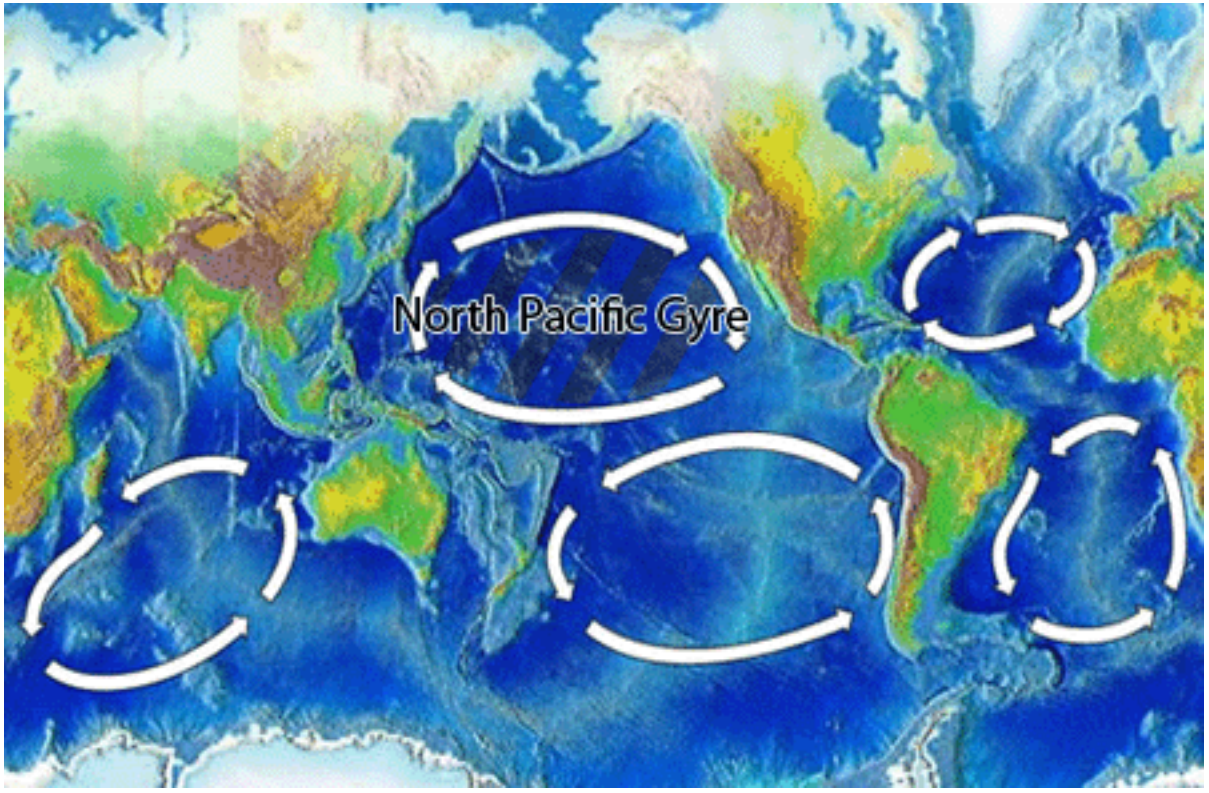


… you get 6 times more plastic than plankton!

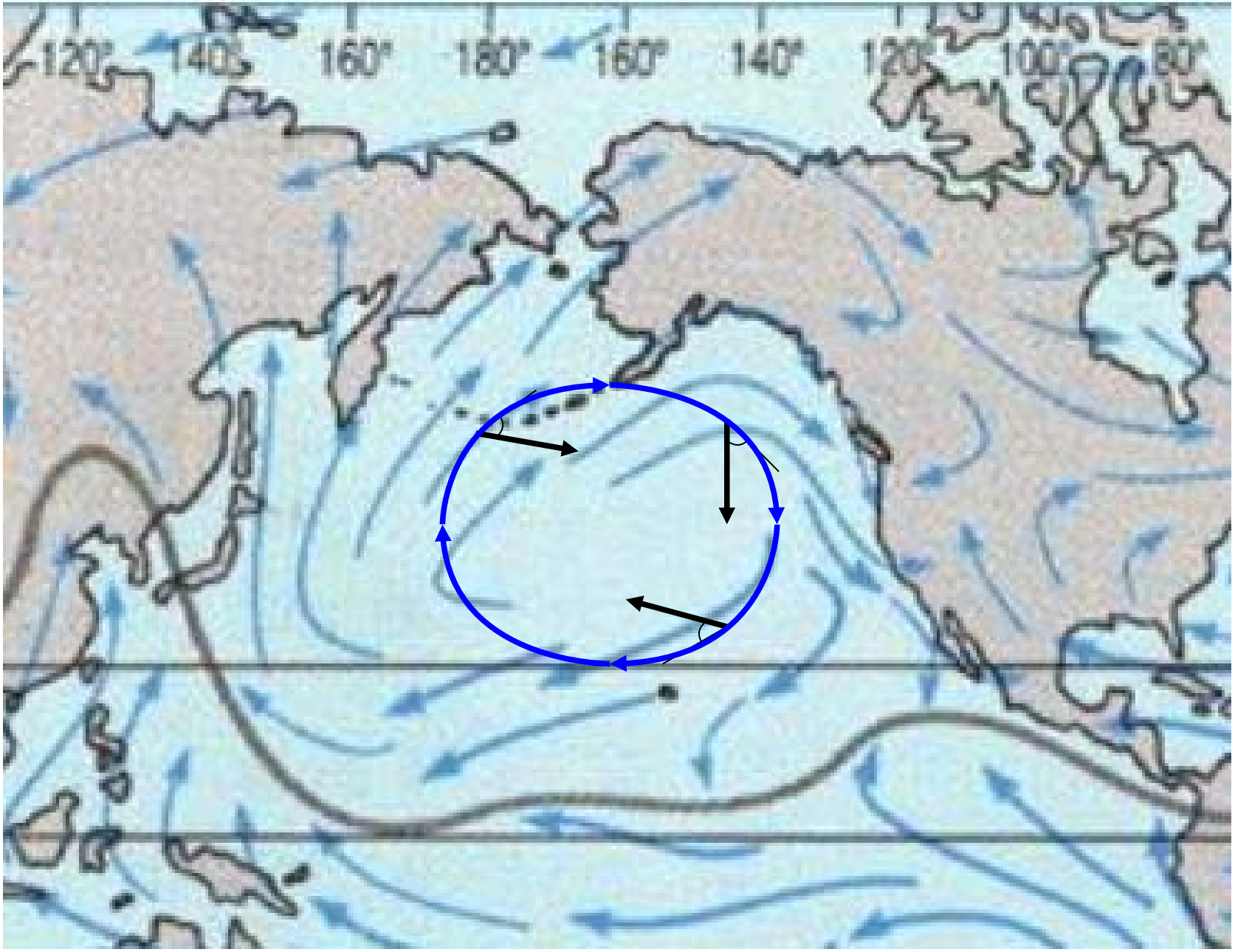


Very dangerous for Marine animals!

5 big Gyres

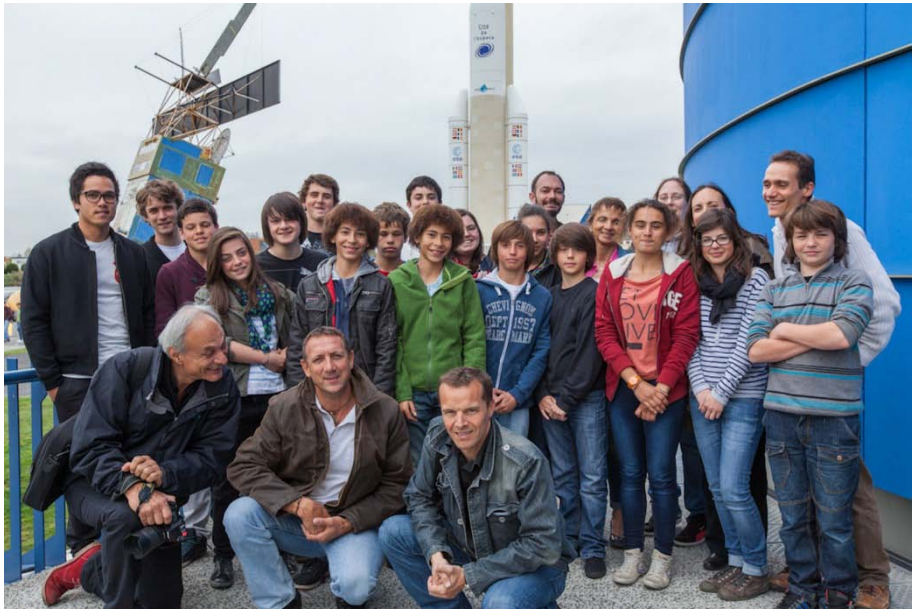


…mainly driven by surface currents



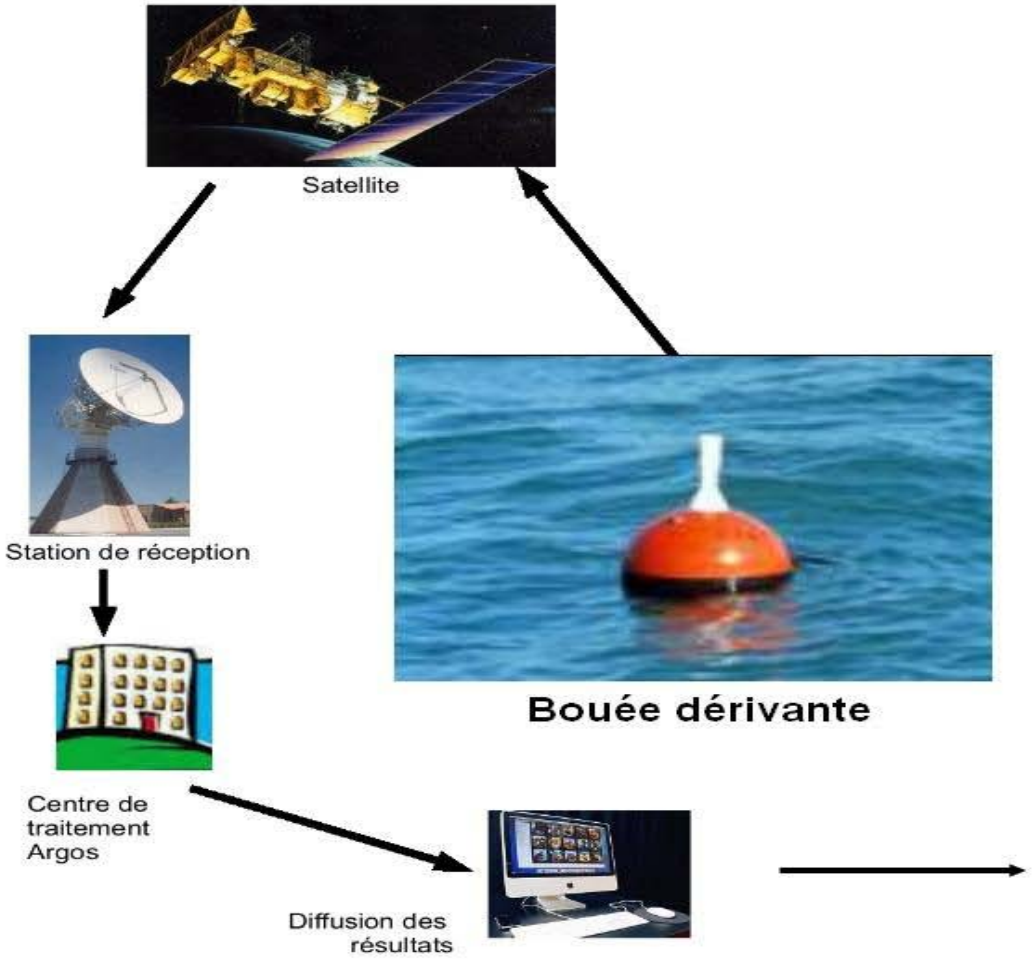
Middle School students
Collège Esquinance La Réole Gironde

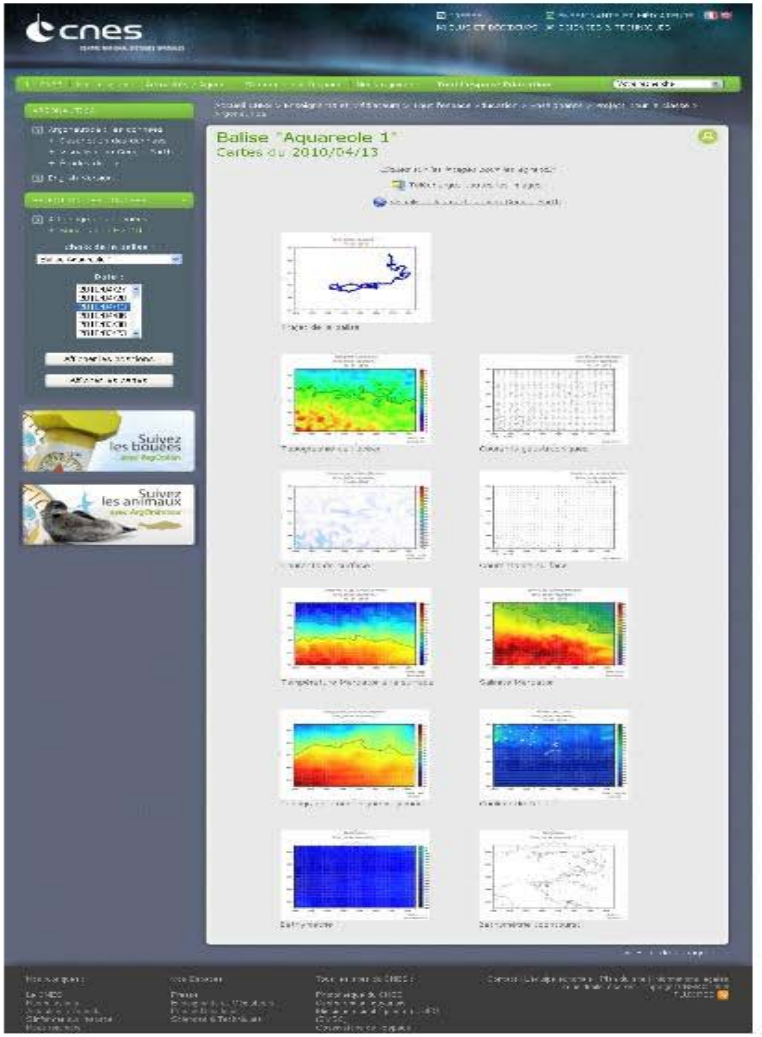
They started ArgOcean 4 years ago

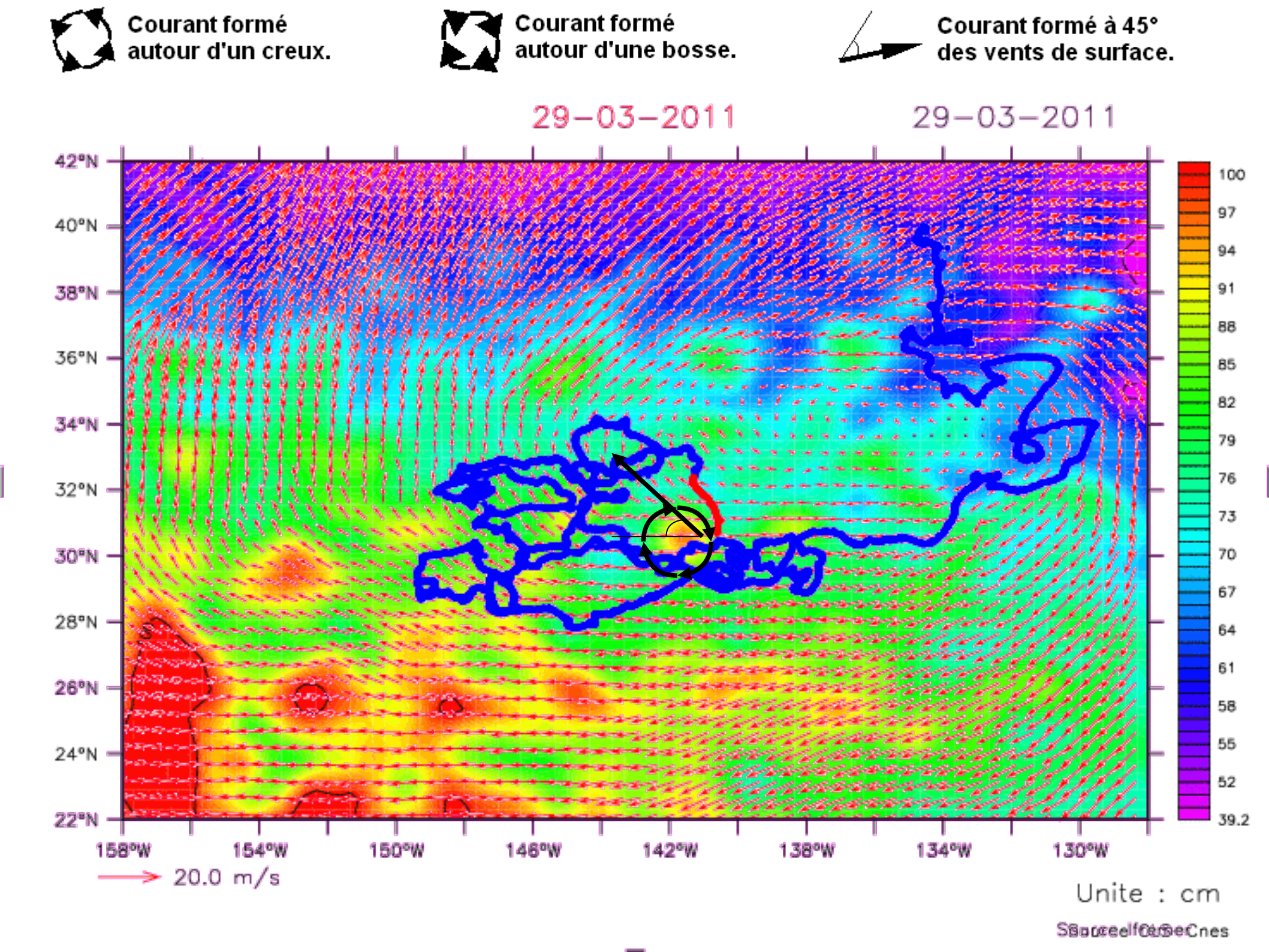


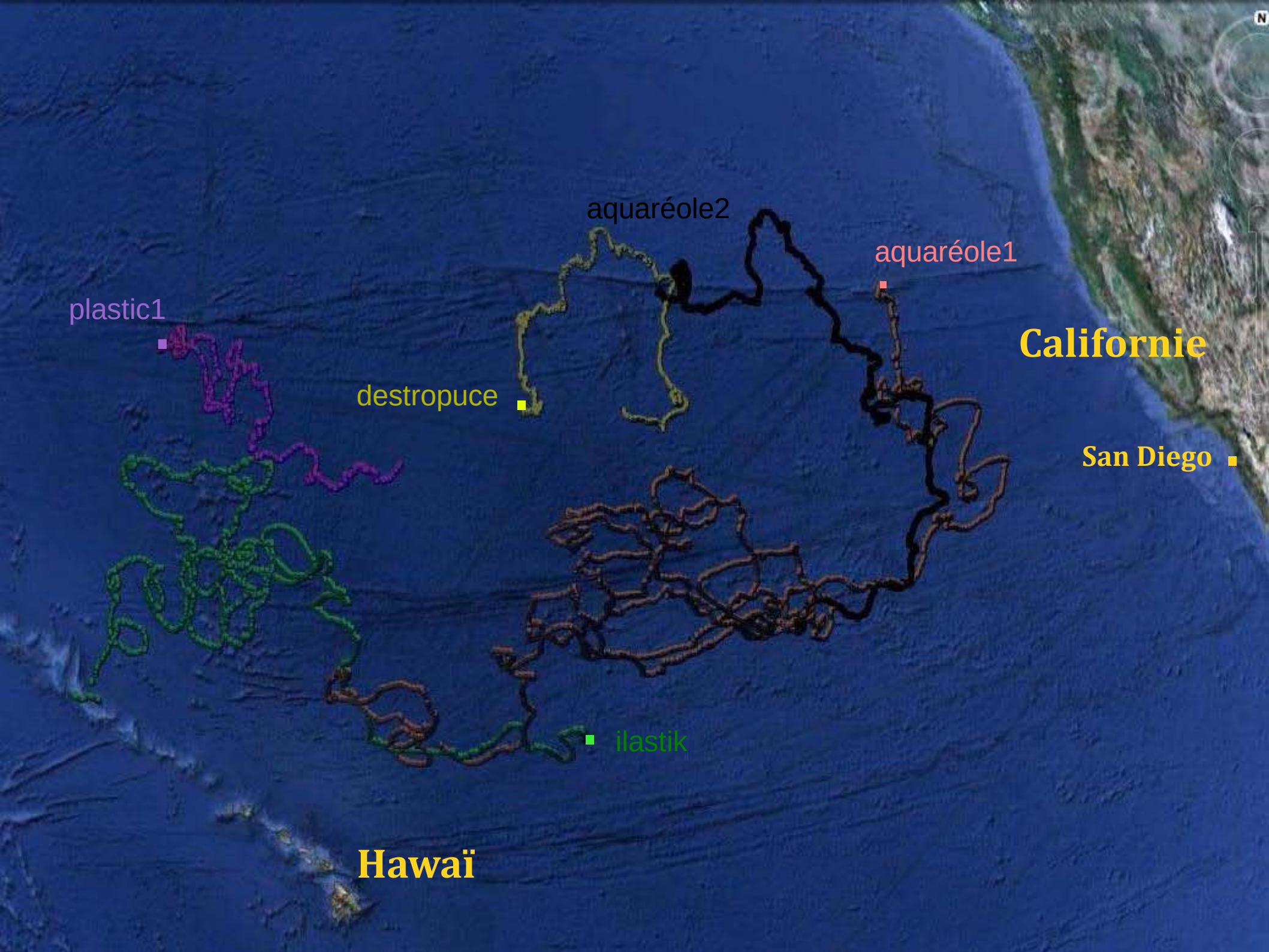
following a drifting buoy with ArgOcean (ARGONAUTICA)

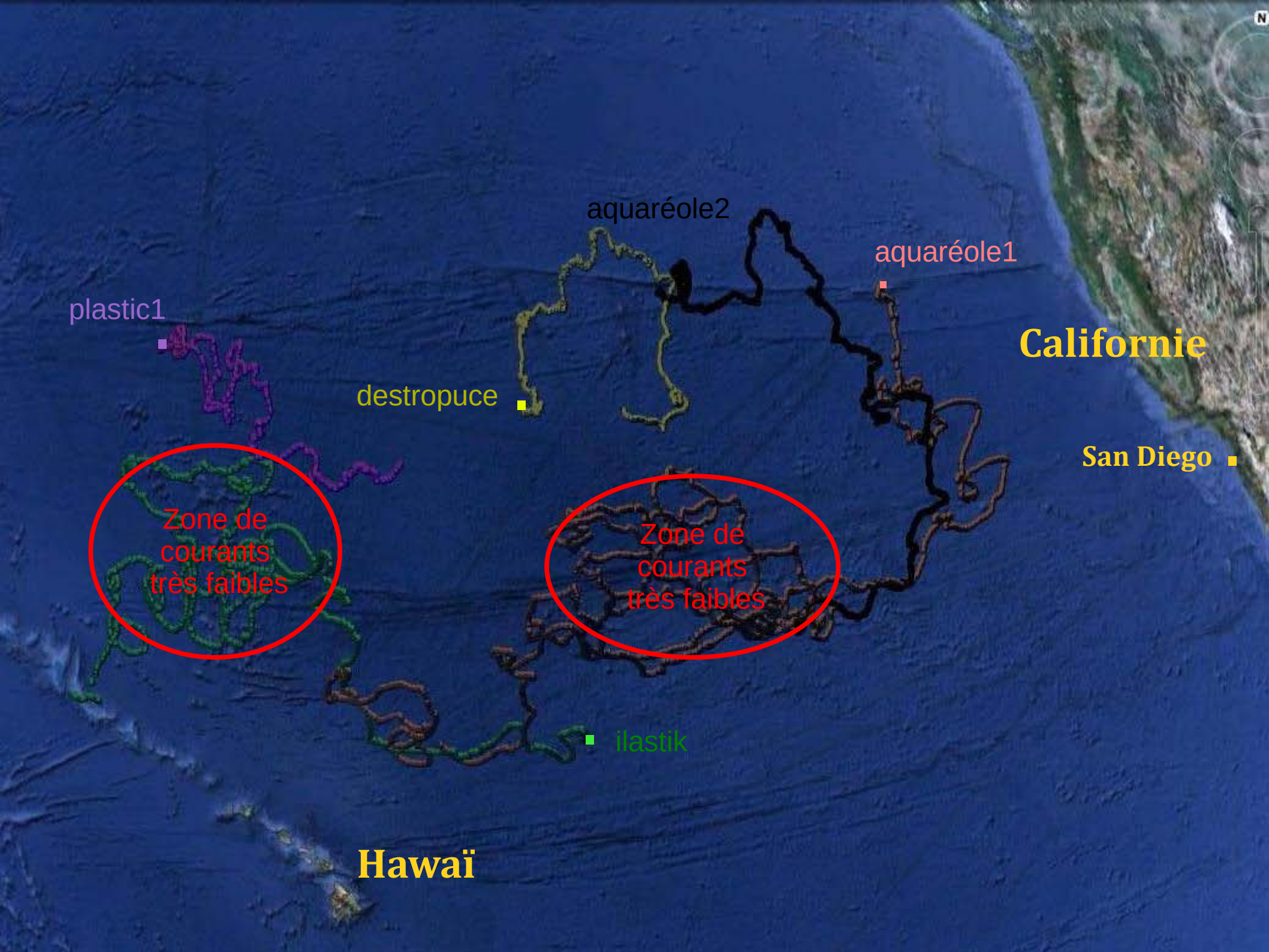
.



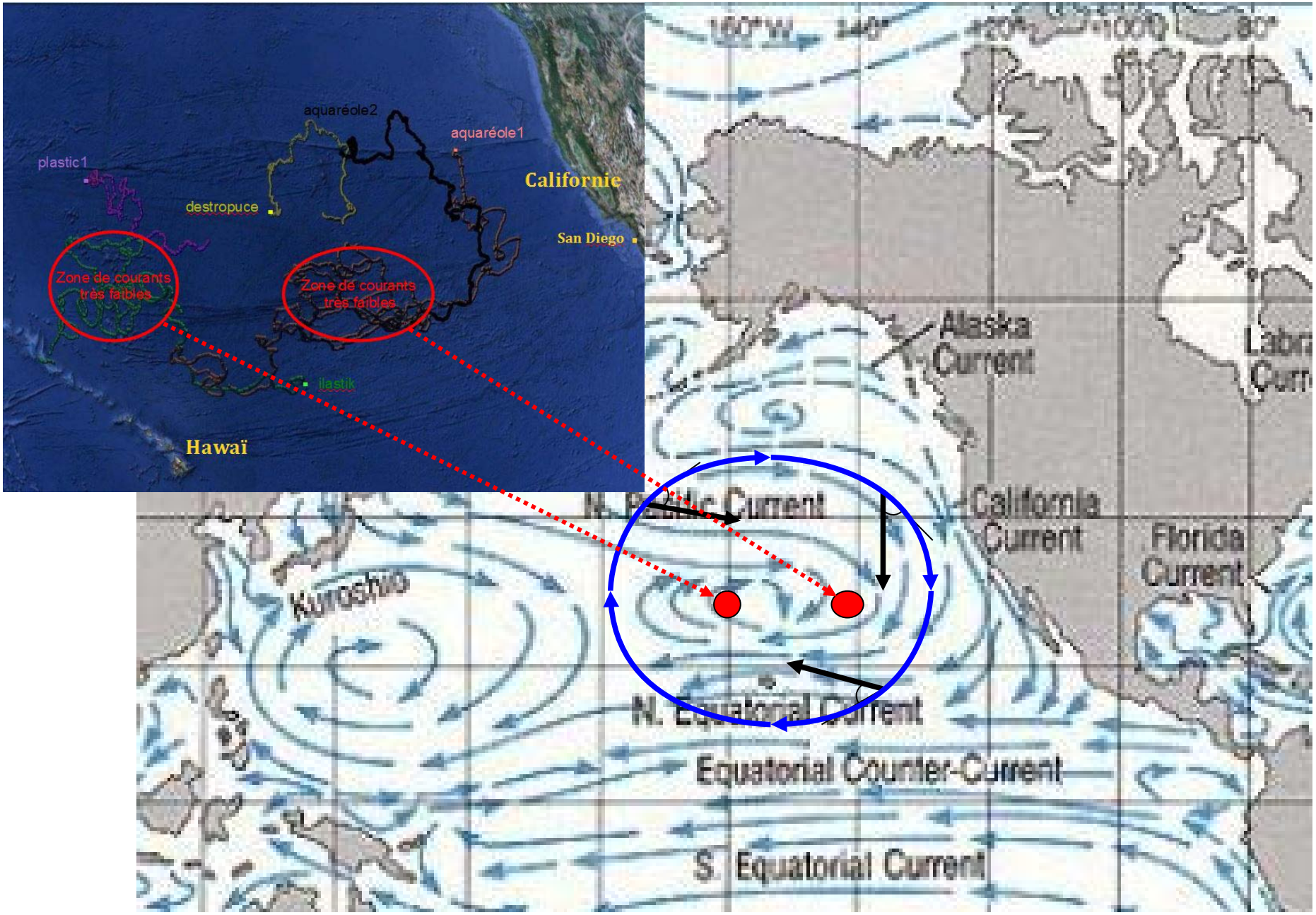



Courant formé autour d'un creux.
Courant formé autour d'une bosse.
Courant formé à 45° des vents de surface.
29-03-2011
29-03-2011
42°N
40°N
38°N
36°N
34°N
32°N
30°N
28°N
26°N
24°N
22°N
158°W
154°W
150°W
146°W
142°W
138°W
134°W
130°W
20.0 m/s
100
97
94
91
88
85
82
79
76
73
70
67
64
61
58
55
52
39.2
Unite : cm

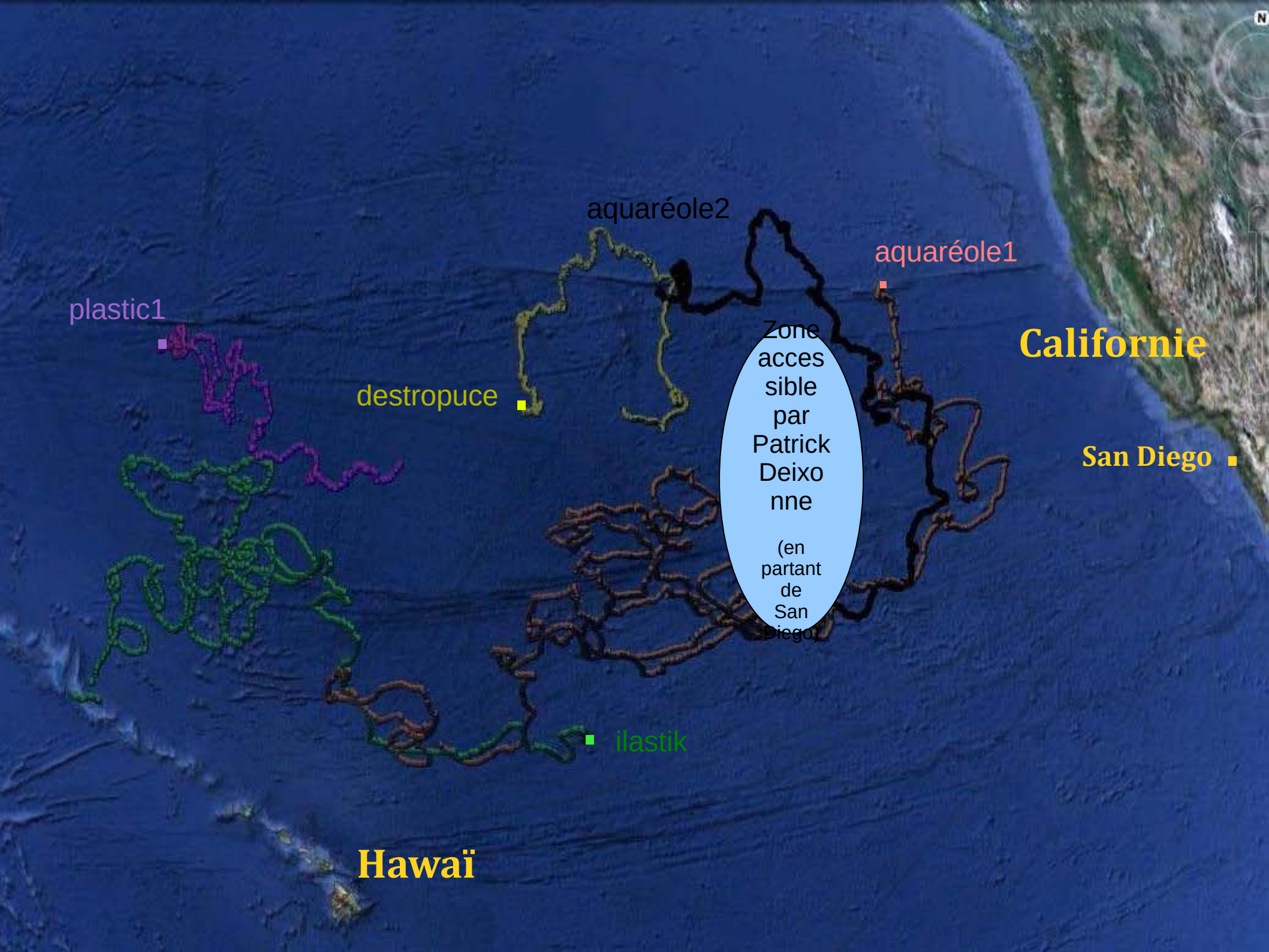

aquaréole2
aquaréole1
plastic1
Californie
destropuce
San Diego
ilastik
Hawaï

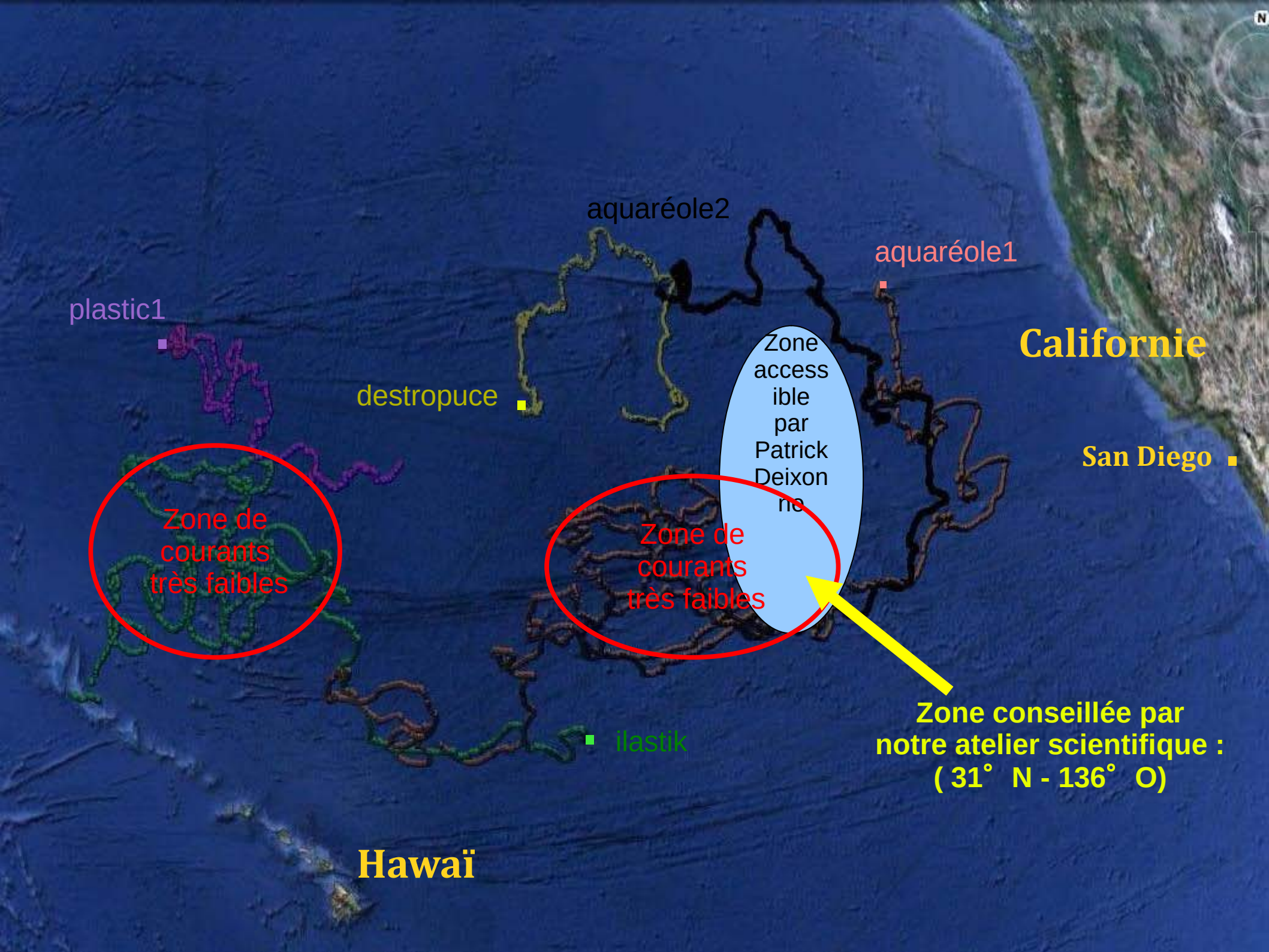

aquaréole2
aquaréole1
plastic1
Californie
destropuce
San Diego
Zone de courants très faibles
Zone de courants très faibles
ilastik
Hawaï

Two plastic Islands ?

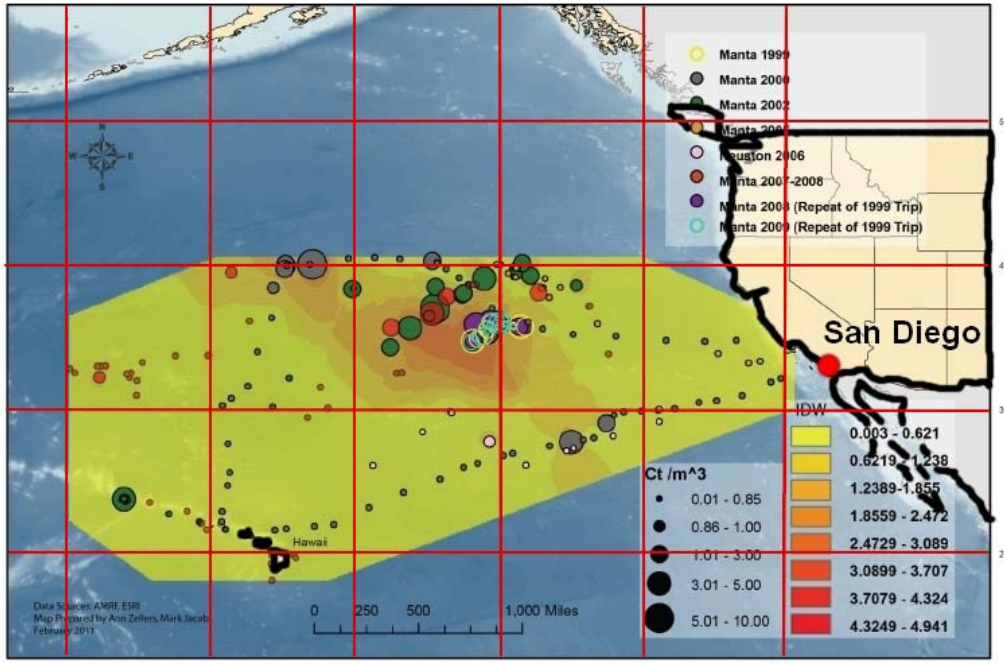


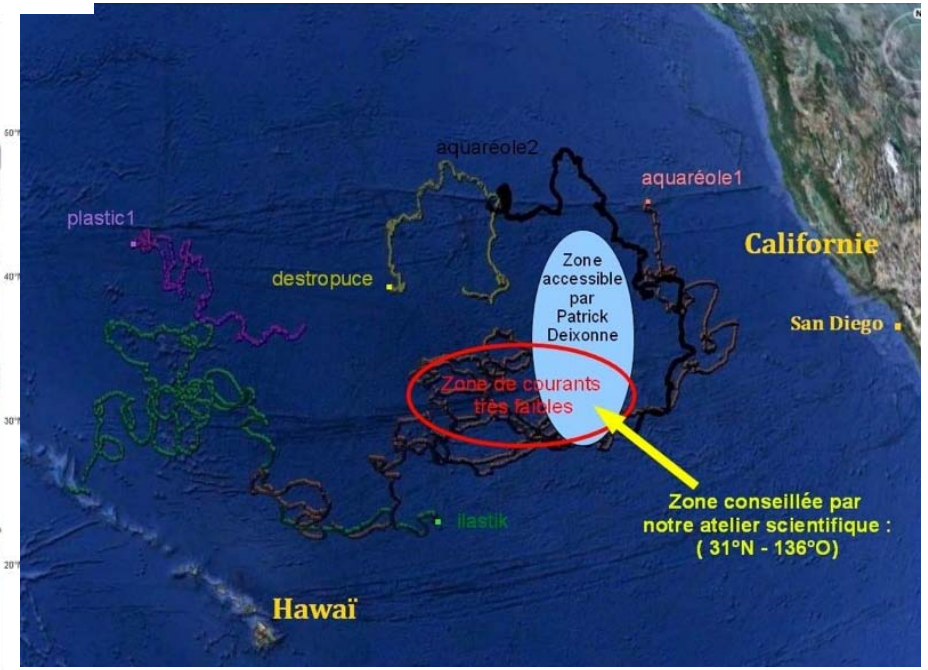
Argonautica student conference - La Rochelle 2011
Meeting with Patrick DEIXONNE


aquaréole2
aquaréole1
plastic1
Californie
destropuce
Zone accessible par Patrick Deixonne
(en partant de San Diego)
San Diego
ilastik
Hawaï


aquaréole2
aquaréole1
plastic1
destropuce
Californie
Zone accessible par Patrick Deixonne
San Diego
Zone de courants très faibles
Zone de courants très faibles
ilastik
Zone conseillée par notre atelier scientifique : (31° N - 136° O)
Hawaï

Study zone


Manta 1999
Manta 2000
Manta 2002
Houston 2006
Manta 2007-2008
Manta 2009 (Repeat of 1999 Trip)
San Diego
Hawaii
IDW
0.003 - 0.621
0.6219 - 1.238
1.2389-1.855
1.8559 - 2.472
2.4729 - 3.089
3.0899 - 3.707
3.7079 - 4.324
4.3249 - 4.941
Ct /m^3
0.01 - 0.85
0.86 - 1.00
1.01 - 3.00
3.01 - 5.00
5.01 - 10.00
0
250
500
1,000 Miles


aquaréole2
aquaréole1
plastic1
Californie
destropuce
Zone accessible par Patrick Deixonne
San Diego
Zone de courants très faibles
ilastik
Zone conseillée par notre atelier scientifique : (31°N - 136°O)
Hawaï

The expedition team

Expédition 7eme continent

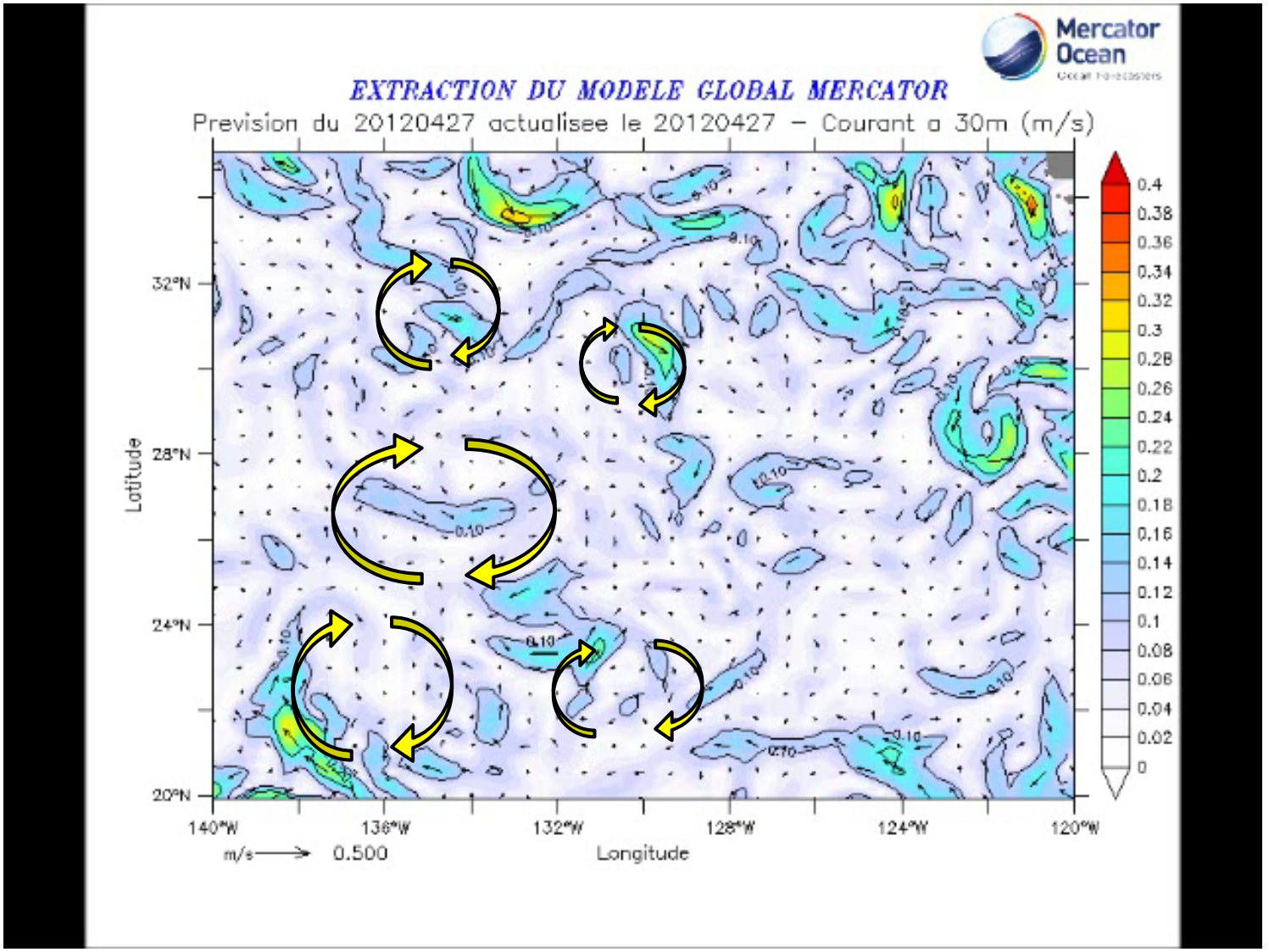
Patrick DEIXONNE
Expedition Captain

Alain DUPONT
Engineer

Georges GREPIN
Biologist

Navigation help

surface currents (Mercator prevision)



GYROPLASTIC, a drifting buoy to study plastic

Expédition 7eme continent

Students are developing a microplastic sensor to measure the concentration of plastic and the relative concentration between plastic and plankton.

Draft Plan for Argonautica 2013

Re-launch the 7th Continent Expedition

•Issue a call for international participation for schools to follow the expedition.

•Develop a resource kit including activities for teachers to use in the classroom.

•Based on response to the call, invite schools to participate in ArgoOcean (follow the buoy ‘Gyroplastic’); and to follow the weblog of the expedition.

•Encourage the students to use satellite data (Argos, Jason, etc..) to see if they can find a correlation between the trash island and the satellite data.

•Propose a challenge for students to think of, and present ways to solve the problem of plastic in the ocean.

Conclusion

- Degraded plastic in the ocean is a real and serious issue
- Having students involved in understanding the issue and suggesting solutions helps them and helps humanity
- Having the students understand the role of satellites in solving problems of the global ocean ensures that there will be a next generation of satellite oceanographers
- We and the students need the help of today's satellite oceanography community (You!).

If you are interested in supporting this joint outreach effort, please contact Danielle (danielle.destaerke@cnes.fr) or Annie (Annie.Richardson@jpl.nasa.gov).

Thank you.