

National Center for Ecological Analysis and Synthesis Global Jellyfish Working Group



The Tentacle Times A Letter to Update the Community

January 24, 2011
Edited by Kelly Robinson

The purpose of this letter is to provide a progress report of NCEAS sponsored global jellyfish project and to *invite the wider jellyfish and science communities to participate further in collaboration with our group*. For more background information about our project please see the previous community letter or visit the jelly working group website www.jellywatch.org/blooms.



Examples of art submitted by children to the International Jellyfish Art Contest.

Current status of NCEAS project

Over 20 researchers and students from around the globe have attended or been involved in our three workshops held at NCEAS headquarters, *resulting in several manuscripts* in preparation and the *development of our global database of jellyfish records*, the Jellyfish Database Initiative (JEDI). In addition, we recently hosted a well-attended public outreach event at the Santa Barbara Museum of Natural History called 'Jellyfish ROCK: Reaching Out to the Community & Kids', which can be downloaded from YouTube (search words 'Jellyfish ROCK') or viewed on our [Facebook](#) group page. In conjunction with this event and through collaborations with Ms. Emily Yam at the Long Beach Aquarium of the Pacific, we also ran an International Jellyfish Art Contest for children 12 and under. The contest was a *huge success with over 560 entries from 14 different countries*

and plans are currently underway to produce a 'coffee table' book comparing this artwork to various aspects of jellyfish ecology and research. The winning entries can be viewed at www.jellywatch.org and all entries will also be displayed before the plenary talks at the ASLO Aquatic Sciences Meeting being held in San Juan, Puerto Rico, Feb. 13–18. The NCEAS group is also holding an *ASLO sponsored emerging issues workshop* the weekend prior to this conference and at least seven scientists from outside the working group will be in attendance. This seminar series is similar to the NCEAS open workshop held prior to the 3rd Jellyfish Blooms Symposium in Argentina last July with the *expectation of producing a review paper on 'jellyfish in future ocean' to be published in L&O*.

Jellyfish Database Initiative

Since the workshop in Argentina, much progress has been made on the global jellyfish database or JEDI. Many of you have assisted in the construction of JEDI by generously sharing your datasets (Box 1) and we believe we are starting to obtain a truly global perspective of current and historical jellyfish blooms (Fig. 1). On behalf of the jelly working group, we thank everyone for their support and we hope to continue to build on these relationships in the near future. We are now in the final

push to complete JEDI and have set a **deadline of May 31**. So far we have formatted about 40% of the datasets identified in the initial phase of our project, so there is a bit of work to do but we believe we can achieve this goal as many datasets received require reformatting.

At our November 2010 workshop, our group spent considerable time addressing the status of JEDI, and in particular identifying regions lacking information about jellyfish and revising our methods for acquiring non-electronic data on jellyfish blooms (e.g., historical reports from pre-1980). To address this issue, we have adopted a new strategy using a Mac program called 'Click Graph' (PC equivalent to PC version of 'Data Thief') to extract data from published literature. We believe this strategy will be particularly important when interpreting historical jellyfish blooms, in addition to complementing datasets already in JEDI. Over the next two weeks, our group will focus on identifying and compiling key papers. If you have or know of any reports or publications about historical or current jellyfish blooms that might be useful to the group or if you have questions about JEDI datasets please email them to Kelly Robinson at jellyfishdata@gmail.com.

Sharing data sets means authorship as part of the 'JEDI Development Team'

Following discussion and feedback from colleagues within and outside the jelly working group, we decided to alter the criteria for authorship on our group publications to reward everyone for their contribution(s). *Under the revised criteria all owners sharing datasets will now be included as authors on publications that include the dataset*. In this case, individuals will be acknowledged and accredited as authors under the umbrella of the 'JEDI Development Team', and while not listed under the primary author list (see below), all the names and institutions of

contributors will be listed in the publication thereby allowing all contributors to be accredited.

We believe this is an excellent compromise and improvement on the previous criteria that is all encompassing and allows all authors to gain credit for their contributions regardless of size or scope of the dataset. It also broadens the scope of JEDI as a current and future research tool for the wider jellyfish and scientific communities, as it was originally designed to do, in addition to promoting open communi-

cation and the potential for establishing collaboration beyond the NCEAS project.

Please note that the previous policy of including outside members as stand-alone authors still applies where significant contributions have been made to the publication. This would apply in circumstances where someone has contributed greatly to the construction of the paper, data analysis and writing or to JEDI in the form of significant or large datasets (e.g., Larry Madin's 40-year blue water dataset).

Box 1. JEDI Development Team

Current Members

- LARRY MADIN, WHOI (USA)
Global records of open-ocean & coastal jellyfish
- BARBARA SULLIVAN, U. RHODE ISLAND GSO
Narragansett Bay ctenophores, USA
- CLAUDIA HALSBAND-LENK, PLYMOUTH MARINE LAB (UK)
L4 time-series jellyfish, English Channel
- NOEL COLEMAN & TERRY WALKER, MARINE FISHERIES SCIENCE, VICTORIA DEPT. OF PRIMARY INDUSTRIES (AUS)
Port Phillip Bay medusae, Australia
- KEITH SHEARD, CSIRO (AUS)
New South Wales coast salps, Australia
- DAVID RISSIK, DEPT. ENVIRON. RESOURCE MGMT. (AUS)
SE Queensland coast scyphomedusae, Australia
- MAIU LEHTINIEMI, FINNISH ENVIRONMENTAL INSTITUTE
Baltic Sea ctenophores
- WULF GREVE*, GERMAN CNTR. FOR MARINE BIODIVERSITY RESEARCH
Helgoland Roads time-series jellyfish
- STEVE HAY, MARINE SCOTLAND MARINE LABORATORY (UK)
North Sea jellyfish
- CHRISTOPHER LYMAN, CEFAS (UK)
North Sea jellyfish
- VICTORIA HOBSON, SWANSEA UNIVERSITY (UK)
Irish Sea medusae
- GREG PERRY, MARINE & FRESHWATER RES. INST. (AUS)
Port Phillip Bay medusae, Australia
- HUMBERTO GONZALEZ & RICARDO GIESECKE, U. AUSTRAL DE CHILE
Central Chilean continental shelf jellyfish
- RICHARD BRODEUR, NOAA NW FISHERIES SCIENCE CENTER
Bering Sea scyphomedusae
- MARK OHMAN, SCHIPPS INSTITUTE OF OCEANOGRAPHY
California Cooperative Fisheries Investigators (CalCOFI) jellyfish, USA
- PHIL PUGH*, NOCS (UK)
NE Atlantic, Mediterranean Sea, Weddell Sea hydromedusae
- PRISCILLA LICANDRO*, SAHPOS (UK)
Continuous Plankton Recorder jellyfish, N. Atlantic
- MARIO LEBRATO*, IFM-GEOMAR (GERMANY)
Global distribution of jelly falls and fossil records
- LARS STEMMANN & GABY GORSKY*, L'OBSERVATOIRE DE VILLEFRANCHE SUR MER/UPMC (FRANCE)
NW Mediterranean Sea pelagic tunicates
- MARK GIBBONS, U. OF THE WESTERN CAPE (S. AFRICA)
SW African coast (Benguela upwelling) medusae
- IAIN SUTHERS, U. NEW SOUTH WALES (AUS)
New South Wales coast salps, Australia
- FRANK HERNANDEZ, DAUPHIN ISLAND SEA LAB (USA)
FOCAL Program, Northern Gulf of Mexico jellyfish
- CHESEAPEAKE BAY PROGRAM (USA)
Chesapeake Bay jellyfish, NW Atlantic
- JAN & JEFF LOVERIDGE, CORNWALL IRLIFE TRUST MARINE STRANDINGS NETWORK (UK)
Cornwall coast jellyfish beach strandings, NE Atlantic
- MICHAEL KINGSFORD, JAMES COOK UNIVERSITY (AUS)
Lake Alexandria Cassiopea, N. Territory, Australia
- RON LARSON*, US FISH & WILDLIFE SERVICE
North American coastal jellyfish
- LISA GERSHWIN, AUST. MARINE STINGER ADVISORY SERVICES
Lake Alexandria Cassiopea, N. Territory, Australia
- GRAEME HAYS*, SWANSEA UNIVERSITY (UK)
Irish Sea jellyfish
- PETER MARTENS, STIFTUNG ALFRED WEGENER INSTITUTE FÜR POLAR UND MEERESFORSCHUNG (GERMANY)
LIST Tidal Basin, Sylt-ramo bight jellyfish, North Sea

FOR MORE INFORMATION, CONTACT KELLY ROBINSON AT:
jellyfishdata@gmail.com

DEADLINE FOR SUBMISSION: MAY 31, 2011

* DENOTES AWAITING DATA SUBMISSION

NCEAS PRODUCTS IN PROGRESS

- Duarte, Pitt, Lucas et al. "Global Ocean Sprawl as a Trojan Horse for Jellyfish Blooms"
Submitted to *Nature Letters*, Jan. 2011
- Condon, Graham, Duarte, Jelly Working Group. "Questioning the Rise of Jellyfish in the World's Oceans"
Concept Paper to be submitted to *Bioscience*, Feb. 2011
- Graham & Gelcich et al. "Jellyfish and marine ecosystem services: The good, the bad and the future"
To be submitted to *Science*, May 2011
- Duarte, Condon, Yam (eds) *Children's Art Book: "MEDUSAE: Jellyfish Perceptions From Children's Art to Science"*
Outline complete with page samples; Currently seeking publisher
- Pitt, Duarte et al. "Breaking the law: how a gelatinous body frees jellies from the allometric constraints of body size"
Allometry paper to be submitted to *Ecology Letters*
- Condon, Pitt, Sweetman et al. "Will ocean desertification favor gelatinous zooplankton blooms in the future?"
Collaboration between NCEAS Working Group & ASLO Emerging Issues Workshop Members. Review paper to be submitted to *Limnology & Oceanography*
- Condon, Pitt, Robinson, Duarte, Lucas, Jelly Working Group, JEDI Dev. Team. "Exploring the Paradigm of a Global Expansion in Jellyfish: Implications for Biogeochemical Cycles & Food Webs in a Changing Ocean"
In preparation. Journal TBD
- Condon, Graham, Duarte, Jelly Working Group, JEDI Dev. Team. "Global synthesis of jellyfish blooms"
Final synthesis paper using JEDI to test the paradigm of global expansion of jellyfish blooms. Analysis to begin June 1, 2011
- Lucas, Purcell, Lebrato et al. "What's in a jellyfish? Proximate and elemental body composition and biometric relationships for use in biogeochemical studies"
To be submitted to *Ecology Data Papers*, Feb. 2011
- Gelcich, Condon, Graham, Duarte et al. "Media & Public Perception of Jellyfish"
To be submitted as a letter to *Trends in Ecology & Evolution*

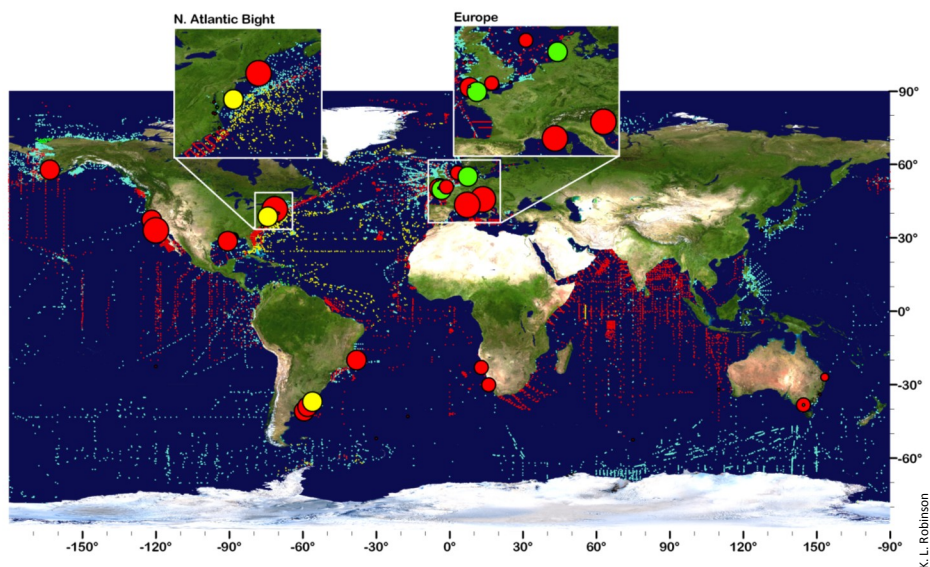
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Sharing data sets means authorship as part of the 'JEDI Development Team' cont.

Remember, while we are collating regional datasets in JEDI, we are interested in analyzing jellyfish blooms purely on a global scale, thus any unpublished regional or local dataset could still be used for independent publication. In addition, we respect that publication of many datasets could be time sensitive or it is desirable to first obtain ownership permission when accessing data. To reiterate, JEDI is to be ultimately based at the Dauphin Island Sea Lab where it can be efficiently managed by the jelly working group database team. All core datasets will continue to be secured and password protected (note the metadata

will be published) and permission to access private/individual datasets will require written permission from the owner. JEDI has also been designed as a future repository of datasets, and if requested publication of certain datasets can be embargoed. If you have datasets that you would like to share with JEDI but do not have time for formatting please let a member of the working group know as we can assist you in this area. In the meantime, please take the time to peruse the honor roll below that lists all contributors to JEDI to date.

Figure 1. Distribution map of Jellyfish Database Initiative (JEDI) data sets. Types of data represented in JEDI include quantitative (green), categorical (yellow), presence/absence (red), and presence only (light blue). Point size illustrates the relative temporal length for each data set or individual records, with longer time-series represented by larger points. Time-series lengths range from 1-200 years. Note the majority of datasets are from Europe and coastal North America so we are particularly interested in increasing the number of datasets in polar regions, South America, Africa and the Indian Ocean to gain a more complete global picture of jellyfish blooms.



Jellyfish Working Group Participants - Mtg. One (from left): Craig Carlson, Carlos Duarte, Kelly Robinson, Lucas Brotz, Alenka Malej, Hermes Mianzan, Jenny Purcell, Steven Haddock, Rob Condon, Cathy Lucas, Monty Graham, Mary Beth Decker & Kylie Pitt. **Absent:** Shin-ichi Uye, Stefan Gelcich, Larry Madin, Paul del Giorgio, Mark Gibbons, Claudia Mills, Mike Dawson & Kelly Rakow-Sutherland.

To contact the Principal Investigators...

If you have any suggestions, comments or questions about this project please do not hesitate to contact Rob Condon (rcondon@disl.org), Monty Graham (mgraham@disl.org), Carlos Duarte (carlosduarte@ifisc.uib.es) or visit www.jellywatch.org/blooms. Please also check our [Facebook](#) page over the next few months for discussion and news of our publications and database. As always, we continue to look forward to involving as many people in this project as possible and would be happy to hear comments or feedback on our group. We thank everyone for their support.



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