



Smithsonian

100 years of science in Panama



Smithsonian Tropical Research Institute, Panamá

STRI news

www.stri.si.edu

July 15, 2011

Tupper seminar

Tuesday, July 19, 4pm seminar speaker will be Peter Molnar, University of Colorado at Boulder

The gradual closing of the Indonesian Seaway, the demise of a permanent El Niño-like Pacific sea-surface temperature distribution, and the onset of Northern Hemisphere Ice Ages

Bambi seminar

Thursday, July 21, Bambi seminar speaker will be Nina Wurzburger, University of Georgia

What controls nitrogen fixation in tropical forests?

If you wish to give a Bambi, please contact Sara Neihaus at sfln2@cam.ac.uk

Colon talk

Thursday, July 21, Colon talk speaker will be Maya de Vries, University of California, Berkeley

Entre el mar y la arena: Ciencia y educación en Punta Galeta

Batería Morgan, Fuerte De Lesseps, Colon, 7pm

Birmingham holds town meeting with the STRI community

STRI director Eldredge Bermingham (at right) held a town meeting with the STRI community on Wednesday, July 13, at the Tupper Center Auditorium.

Bermingham summarized STRI's scientific and administrative achievements during his presentation and detailed his main current goals to strengthen the Institute's finance resources to support on-going and future research. He expressed his strong commitment to STRI's efforts in Paleoecology at the Panama Canal, the Agua Salud Project and its partners, STRI's Marine Sciences, among others.

The Director, who has also established a financial committee to promote development in Human Resources and employee benefits, spoke of the recent changes in the Management Team, OFEO, and Information Technology.

Together with Bermingham, Oris Sanjur, associate director for Scientific Administration, and the associate director for Academic Programs, Owen McMillan, presented their mission and objectives, organization and recent achievements.

Sanjur leads STRI's scientific coordinators, the Visitor's Office, BioInformatics, Information Technology, the Collections initiative, the Office of the Liaison with Panamanian institutions, Crane operations, Metrics and Film Crews. McMillan and his team (see photo on the next page) oversee training programs geared at the next generation of tropical biologists, a strong community of researchers responsible for producing at least a third of the STRI publications. Among the objectives described by McMillan is the strengthening of STRI partnerships with national and international universities.

Bermingham introduced acting Advancement director Richard Schooley, who introduced the new department and its organization and plans in support of the upcoming Capital Campaign. One of the most important projects initiated by the Advancement team is the production of STRI's new webpage (image on next page), scheduled to be launched in December 2011.

Bermingham concluded his remarks with happy announcements: Ira Rubinoff's



receipt of the Smithsonian highest honor, the Joseph Henry Medal, the celebration of Georgina de Alba's career at STRI, which is coming to an end, and the happy return to Panama of researcher Richard G. Cooke, after a long and arduous fight against cancer in US hospitals.

El director de STRI Eldredge Bermingham (arriba) celebró una asamblea general con la comunidad de STRI el miércoles, 13 de julio en el Auditorio del Centro Tupper.

Bermingham resumió los logros científicos y administrativos de STRI durante su presentación y detalló sus principales objetivos actuales para fortalecer los recursos financieros del

Arrivals

Sarah Hadman-Back, Amy Butterworth and Mary Higgs, University of Cambridge, to assess the importance of litterfall for tree growth and nutrient dynamics by a large scale litter removal experiment in tropical deciduous forest in Panama, on BCI.

Kevin Wolz, University of Illinois, Urbana-Champaign, to study elevation effects on the life history characteristics of tropical trees, in Fortuna.

Wayne Souza, University of California at Berkeley, to study the patterns and mechanisms of canopy tree regeneration in a Caribbean mangrove forest, at Galeta.

Mirjam Knoernschild, University of Ulm, Germany, to study local dialects in social vocalizations of the greater sac-winged bat *Saccopteryx bilineata*, on BCI.

Sibylle Hassler, Universitat Postdam, Germany, to join the Agua Salud Project-Hydraulic Studies.

Ludwig Jimenez, Universidad Nacional de Colombia, to study Neotropical stratigraphy, at the CTPA.

Matthew Fagan, Columbia University, to study social and genetic determinants of eusocial behavior and kin recognition in *Synalpheus* snapping shrimps, at Bocas.

Matthew Lutz, Princeton University, to study self-organizing structures in a distributed sensory network: A field study of bridge formation by the army ant *Eciton burchelli*, on BCI.

Maria García, University of Panama, to conduct the project “Do lianas cause chronic disturbance and alter successional trajectories in tropical forests, on BCI.

The screenshot shows the Smithsonian Tropical Research Institute (STRI) website. At the top, there is a navigation bar with links for Research, Scientists, Sites, Research Visits, News & Events, and About. Below this is a secondary navigation bar with 'VIEW', 'CONNECTIONS', and 'PAGE' options. The main content area features a large article titled "WHAT IS THE IMPACT OF ELEVATED CARBON ON THE ENVIRONMENT?" with a prominent image of a blue butterfly. To the left of the article are several smaller article teasers under the heading "RESEARCH", including "Rainforests arose when plants solved plumbing problem.", "How Rainfall Dried Up Panama's Drinking Water", and "SIGEO SMITHSONIAN INSTITUTION GLOBAL EARTH OBSERVATORY". To the right of the main article is a "SCIENTISTS" section with portraits of Helene Muller, Klaus Winter, Joseph Wright, and Stefan Schnitzer. Below the main article is a "RELATED QUESTIONS" section with two links: "ARE VINES TAKING OVER THE WORLD'S FORESTS?" and "WHAT HAPPENED WHEN PLANTS GOT BETTER PLUMBING?". At the bottom of the page, there is a horizontal menu with categories like "CONFERENCE CO2 SYMPOSIUM JUNE 7TH", "PARTNERS HSBC", "NEW DISCOVERY WORLD'S LARGEST SNAKE", "SITES BARRO COLORADO ISLAND", and "POLICY CARBON DYNAMICS".

Instituto para apoyar los proyectos de investigación actuales y futuros. Expresó su fuerte compromiso con los esfuerzos de Paleoecología de STRI en el Canal de Panamá, el Proyecto de Agua Salud y sus socios, y las ciencias marinas, entre otros.

El Director, quien también estableció un comité financiero para promover el desarrollo de Recursos Humanos y los beneficios de los empleados, habló de cambios recientes en el equipo administrativo, OFEO e Informática.

Junto con Bermingham, Oris Sanjur, directora asociada para Administración Científica y Owen McMillan, director asociado para Programas Académicos presentaron su misión y objetivos, organización y recientes logros de sus departamentos.

Sanjur lidera a los coordinadores científicos, la Oficina de Visitantes, Informática y BioInformática, la Iniciativa de Colecciones, la Oficina de Enlace con instituciones panameñas, las operaciones de las grúas, y la Oficina de Métricas y Filmaciones. McMillan y su

equipo (foto abajo) supervisan la capacitación dirigida a forjar la futura generación de biólogos tropicales, una fuerte comunidad de investigadores responsables por más de una tercera parte de las publicaciones de STRI. Entre los objetivos descritos por McMillan está el fortalecer las asociaciones con universidades nacionales e internacionales.

Bermingham presentó al director interino de “Advancement”, Richard Schooley, quien presentó al nuevo departamento, su organización y estrategia en apoyo de la próxima Campaña de institucional de Capital.

Una de los proyectos más importantes del equipo de “Advancement” será la producción de la nueva página de web de STRI, cuyo lanzamiento está previsto para diciembre de este año.

Bermingham concluyó sus comentarios con notas positivas: el nuevo honor que recibió Ira Rubinoff, la Medalla Joseph Henry, la celebración de las contribuciones profesionales de Georgina de Alba, y el feliz regreso a Panamá del investigador Richard Cooke, luego de una larga y difícil lucha contra el cáncer en hospitales de Estados Unidos.



Adriana Bilgray, McMillan Nélida Gómez and Nilka Tejeira

Departures

H. Lessios to Athens, Greece, on a short vacation.

Roberto Ibañez to Curitiba, Brazil, to participate in the symposium "Amphibian Conservation in Latin America: Experiences and Perspectives" at the IX Latin American Congress of Herpetology.

Owen McMillan to Bogota, Colombia, meet with colleagues and attend defense and committee meetings for students at the Universidad de los Andes.

Gloria Jovane to Melbourne, Australia, to attend the XVIII International Botanical Congress to be held in Melbourne, Australia.

New publications

Fernandez, Maria Jose, Dudley, Robert, and Bozinovic, Francisco. 2011. "Comparative energetics of the Giant hummingbird (*Patagona gigas*)."
Physiological and Biochemical Zoology 84(3): 333-340.

Freestone, Amy L., Osman, Richard W., Ruiz, Gregory M., and Torchin, Mark E. 2011. "Stronger predation in the tropics shapes species richness patterns in marine communities." *Ecology* 92(4): 983-993.

Hauber, Donald, Saltonstall, Kristin, White, David, and Hood, Craig. 2011. "Genetic variation in the common reed, *Phragmites australis*, in the Mississippi River delta marshes: Evidence for multiple introductions." *Estuaries and Coasts* 34(4): 851-862.

Henry, Amanda G., Brooks, Alison S., and Piperno, Dolores R. 2011. "Reply to Collins and Copeland: Spontaneous gelatinization not supported by evidence." *Proceedings of the National Academy of Sciences* 108(22): E146.



Rubinoff granted Joseph Henry Medal

SI secretary Wayne Clough (at right, in the photo) presented STRI director emeritus Ira Rubinoff (center) with the Institution's highest distinction, the Joseph Henry Medal, on Thursday, July 14, at the Smithsonian's Castle, Washington DC. The Joseph Henry Medal is given by the Board of Regents to individuals in recognition of their distinguished service, achievements, or contributions to the prestige and growth of the Smithsonian Institution.

"A generous and astute visionary," Rubinoff built a modern research platform for tropical biology, contributing significantly to core scientific advancement in the US and Latin America. During 34 years as STRI director, he capitalized on Panama's unique position. He inspired more than \$100 million in donations and created an atmosphere of discovery as a champion of free inquiry and basic research. He achieved government support in both Panama and the US, and has been successful in urging policy

makers to use scientific information as they make critical decisions.

As the first marine scientist at STRI, Rubinoff took advantage of the unique natural experiment that Panama provides through its geographic position as a narrow isthmus and extended the Institute's scope beyond the tropical forests, fostering marine programs on both of Panama's coasts and across the tropical world. During his tenure as director, the number of permanent scientists grew from a handful to 35, with 300 support staff and over 1000 visiting scientists each year.

Rubinoff has served on the boards of Panamanian and international organizations, was awarded the Order of Vasco Nuñez de Balboa by the Republic of Panama, is an elected Fellow of The American Association for the Advancement of Science, The Linnean Society of London and The American Academy of Arts and Sciences. In 2008, Rubínoff

New publications

Kapheim, Karen, Bernal, Sandra, Smith, Adam, Nonacs, Peter, and Wcislo, William. 2011. "Support for maternal manipulation of developmental nutrition in a facultatively eusocial bee, *Megalopta genalis*; (Halictidae)." *Behavioral Ecology And Sociobiology* 65(6): 1179-1190.

Myers, Jonathan A., and Harms, Kyle E. 2011. "Seed arrival and ecological filters interact to assemble high-diversity plant communities." *Ecology* 92(3): 676-686.

Robertson, Jeanne M., and Vega, Andres. 2011. "Genetic and phenotypic variation in a colourful treefrog across five geographic barriers." *Journal of Biogeography* doi: 10.1111/j.1365-2699.2011.02548.x

Rosenthal, Gil G., and Ryan, Michael J. 2011. "Conflicting preferences within females: sexual selection versus species recognition." *Biology Letters* 7(4): 525-527.

Schafer, Priska, Fortunato, Helena, Bader, Beate, Liebetrau, Volker, Bauch, Thorsten, and Reijmer, John J.G. 2011. "Growth rates and carbonate production by coralline red algae in upwelling and non-upwelling settings along the Pacific coast of Panama." *Palaios* 26(7): 420-432.

Sjögersten, Sofie, Cheesman, Alexander, Lopez, Omar, and Turner, Benjamin. 2011. "Biogeochemical processes along a nutrient gradient in a tropical ombrotrophic peatland." *Biogeochemistry* 104(1): 147-163.

New publications

Vallo, Peter, Benda, Petr, Martinkova, Natalia, Kanuch, Peter, Kalko, Elisabeth K.V., Cervený, Jaroslav, and Koubek, Petr. 2011. "Morphologically uniform bats *Hipposideros aff. Ruber* (Hipposideridae) exhibit high mitochondrial genetic diversity in Southeastern Senegal." *Acta Chiropterologica* 13(1): 79-88.

Winter, Klaus, Garcia, Milton, and Holtum, Joseph A.M. 2011. "Drought-stress-induced up-regulation of CAM in seedlings of a tropical cactus, *Opuntia elatior*, operating predominantly in the C3 mode." *Journal of Experimental Botany* 62(11): 4037-4042.

Winter, Klaus, and Holtum, Joseph A.M. 2011. "Induction and reversal of crassulacean acid metabolism in *Calandrinia polyandra*: Effects of soil moisture and nutrients." *Functional Plant Biology* 38(7): 576-582.

Yavitt, Joseph B., Harms, Kyle E., Garcia, Milton N., Mirabello, Matt J., and Wright, S. Joseph. 2011. "Soil fertility and fine root dynamics in response to 4 years of nutrient (N, P, K) fertilization in a lowland tropical moist forest, Panama." *Austral Ecology* 36(4): 433-445.

Zarowiecki, Magdalena, Loaiza, Jose R., and Conn, Jan E. 2011. "Towards a new role for vector systematics in parasite control." *Parasitology*
doi:10.1017/S003118201100062X

STRI in the news

"Six-million-year-old whale fossil discovered by NMNH researchers in Panama" by Jeanne Maglaty. 2011. SI Around the Mall (July 12).



also received the Secretary's Gold Medal, presented by Cristián Samper (at left) in Panama, for exemplary service to the Smithsonian.

Throughout his career, Rubinoff made sure that young scientists and students could meet and interact with prestigious scientists in the fields of ecology and evolution. "Ira has a clear vision of STRI as an intellectual community, of STRI in Panama, and of STRI in the world," said STRI's Mary Jane West-Eberhard, "and above all, he has listened to us and been a friend."

According to the words of SI secretary Wayne Clough during the award ceremony, Rubinoff is "a believer in, and defender of, basic research and intellectual curiosity. He has passed that on to generations of scholars and scientists, and that may be his greatest legacy."

Remarks by Ira Rubinoff

"I am most grateful to the Secretary and the Board of Regents for conferring the Joseph Henry Medal to me. As the first Secretary, Joseph Henry confronted many of the issues that shaped the Institution as we know it today. Working from the goal of 'increasing knowledge' as it was presented in James Smithson's legacy to the United States and articulated most nobly by John Quincy Adams in the legislation of July 1, 1836, establishing the Smithsonian '...to furnish the means of acquiring knowledge

is, therefore, the greatest benefit that can be conferred upon mankind. It prolongs life itself, and enlarges the sphere of existence."

"From the beginning of his term, Henry had to engage the contentious issue of whether the Institution would be devoted to pursuing basic research or only that which was obviously practical."

"At a meeting in this building in 1852, he debated Senator Stephen A. Douglas (six years before his famous debates with President Lincoln). Douglas had criticized the Smithsonian for wasting its funds on such esoteric research as studies of the moon rather than something useful, such as agriculture. Henry had responded that Douglas's criticism might be valid 'if the highest cravings of the human soul were confined to the desire for good potatoes.'

"A year later, Douglas again attacked the Smithsonian for its preoccupation with research of 'no practical bearing,' such as studies of 'sea weeds and such trash.' Henry responded that he would rather blow up the Smithsonian and send the funds back to England than have the bequest used to establish an agricultural society, as Douglas had suggested."

"Much of my career at the Smithsonian – I have served 6 Secretaries and was acquainted with three others -- I briefed 16 Panamanian Presidents and 13 U. S. Ambassadors and many legislators both in Washington and in Panama on the nature of the Smithsonian and of the importance of our research mission."

"Sometimes, I was more successful than others, but it is interesting that no matter how directly, persuasively, and passionately you can provide examples of the value of basic

research to mankind, such as the fact that Alexander Fleming wasn't looking for Penicillin when he found it, there are still those who don't get it. Perhaps they lack a certain intellectual curiosity gene, disabling their ability to see basic research —trying to understand the history of the universe or the evolution of life on earth— other than as dilettantish, immoral or in the modern terminology as examples of waste, fraud or abuse."

"Joseph Henry had Stephen Douglas, more recently we have had to contend with the likes of Senator Proxmire and his 'Golden Fleece Awards.'

"I am most grateful to my friends, colleagues and my family for their help and encouragement in building the world's leading tropical research institute –a home for a group of scholars with a scope that embraces the world's tropics and that has, as well, provided many scientific innovations to research in the developed world. I wish to also acknowledge the forbearance of my superiors in this building during the last half century. They endured my impetuosity and single-minded pursuit of resources for scholarship at the Smithsonian. For some, perhaps only because I could be relied upon to board a plane and return to Panama at the end of the week of nagging."

"I am still devoted to the Smithsonian's mission and, as ever, convinced of the causal relationship between increasing knowledge and the ultimate advance of human progress."

"Thank you all, so very much, for joining me this afternoon."

El secretario del Smithsonian, Wayne Clough (a la derecha, en página 3) hizo entrega de la Medalla Joseph Henry, la

máxima distinción de la Institución, al director emérito de STRI, Ira Rubinoff, el jueves 14 de julio en el Castillo del Smithsonian, Washington DC. La Medalla Joseph Henry la concede el Comité de Síndicos, en reconocimiento de un servicio distinguido, logros o contribuciones al prestigio y crecimiento de la Institución Smithsonian.

“Un visionario astuto y generoso,” Rubinoff construyó una moderna plataforma de investigación para la biología tropical, contribuyendo así significativamente al progreso científico en los Estados Unidos y América Latina. Durante 34 años como director de STRI, capitalizó la posición única de Panamá. Atrajo más de \$100 millones en donaciones y creó una atmósfera fértil para descubrimientos como defensor de la libertad intelectual y las ciencias básicas. Rubinoff logró tanto el apoyo del gobierno de Panamá como el de los Estados Unidos y ha tenido éxito al urgir a políticos a usar la información científica al tomar decisiones críticas.

Como primer biólogo marino en STRI, aprovechó la ventaja del experimento natural que ofrece Panamá como pequeño istmo y extendió el rango de acción del Instituto más allá de los bosques tropicales con programas marinos en ambas costas de Panamá y a través del mundo tropical. Durante su administración como director, el número de científicos permanentes del Instituto pasó de unos cuantos a 35, con un personal de apoyo de 300, y más de 1000 académicos visitantes.

Rubinoff ha fungido como síndico en comités nacionales e internacionales, recibió la Orden de Vasco Núñez de Balboa de la República de Panamá y es miembro de la American Association for the Advancement of Science, la Linnean Society of London, y la Academia de Artes y Ciencias de los Estados Unidos. En

2008, Rubinoff también recibió la Medalla de Oro del Secretario por servicio ejemplar en el Smithsonian por parte de Cristián Samper (a la izquierda, en páginas 3 y 4) en Panamá.

A lo largo de su carrera, Rubinoff se aseguró de que los científicos jóvenes interactuaran con científicos de gran prestigio en los campos de la ecología y la evolución. “Ira tiene una visión clara de STRI como una comunidad intelectual, de STRI en Panamá, y de STRI en el mundo” dijo la científica Mary Jane West-Eberhard, y sobre todo, nos ha escuchado y ha sido un amigo.”

De acuerdo a las palabras del secretario Clough durante la ceremonia de premiación, Rubinoff es “creyente y defensor de las ciencias básicas y la curiosidad intelectual. Y esto lo ha transmitido a generaciones de académicos y científicos, lo que es su mayor legado.”

Palabras de Ira Rubinoff

“Agradezco enormemente al Secretario y al Comité de Regentes por conferirme la Medalla Joseph Henry. Como al primer secretario, Joseph Henry confrontó muchas situaciones que moldearon a la Institución como la conocemos hoy. A partir del objetivo de ‘enriquecer el conocimiento’ establecido por el testamento de James Smithson a los Estados Unidos, y que quedó aún más claro por la legislación del 1ro de julio de John Quincy Adams que deja sentado que el Smithsonian ‘...suministraría las herramientas para adquirir el conocimiento, que es el mayor beneficio que se le puede ofrecer a la humanidad. Esto prolonga la vida misma, y engrandece la esfera de su existencia.’

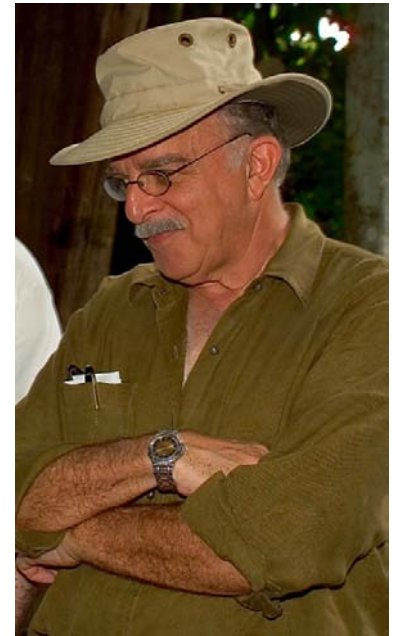
“Desde el principio de su período administrativo, Henry tuvo que encargarse de temas contenciosos, como que si la Institución se dedicaría a las investigaciones básicas, o a lo que era obviamente práctico.

En una reunión en este edificio en 1852, debatió con el senador Stephen A. Douglas (seis años antes de sus famosos debates con el presidente Lincoln). Douglas había criticado al Smithsonian por desperdiciar fondos en estudios esotéricos como investigaciones de la luna en vez de algo útil, como la agricultura. Henry respondió que las críticas de Douglas podrían ser válidas ‘si las mayores ansias del alma humana estuvieran confinadas al deseo de comerse unas buenas papas.’

“Un año después, Douglas volvió a atacar al Smithsonian por su preocupación con investigaciones ‘que no tenían aplicación,’ como los estudios de ‘algas marinas y otra basura.’ Henry respondió que él prefería volar al Smithsonian en pedazos y regresar los fondos a Inglaterra antes de usar el legado para establecer una sociedad de agricultura, como había sugerido Douglas.

“Durante gran parte de mi carrera en el Smithsonian — he servido bajo seis secretarios y he conocido a otros tres— informé a 16 presidentes panameños, 13 embajadores estadounidenses y muchos legisladores tanto en Washington como en Panamá, sobre la naturaleza del Smithsonian y la importancia de nuestra misión de investigación.

Algunas veces tuve más éxito que otras, y es muy interesante que no importa qué tan directa, persuasiva o apasionadamente se ofrezcan ejemplos del valor de la investigación básica a la humanidad, como el hecho de que Alexander Fleming no estaba buscando la penicilina cuando la encontró; hay quienes todavía no lo entienden. Quizás les hace falta un cierto gen de curiosidad intelectual, lo que les imposibilita ver la investigación básica —tratar de entender la historia del universo o la evolución de la vida en la tierra— más allá de lo diletante o inmoral, o en términos modernos, como ejemplos del desperdicio, fraude o abuso.



“Joseph Henry tenía a Stephen Douglas, pero recientemente también hemos tenido que lidiar con personas como el senador Proxmire y sus ‘Premios del Vellocino de Oro.’

“Estoy muy agradecido con mis amigos, colegas y mi familia por su ayuda y su incentivación en la construcción del instituto de investigaciones tropicales líder del mundo -el hogar de un grupo de académicos con una visión que abarca a los trópicos del mundo y que ha ofrecido muchas innovaciones científicas para la investigación en el mundo desarrollado. Deseo también reconocer la paciencia de mis superiores en este edificio durante el último medio siglo. Soportaron mi impetuosidad y mi obstinado deseo de obtener recursos para el desempeño académico del Smithsonian. Para algunos, quizás fue porque sabían que al final de una semana de tozuda insistencia, yo tomaría un avión y regresaría Panamá.”

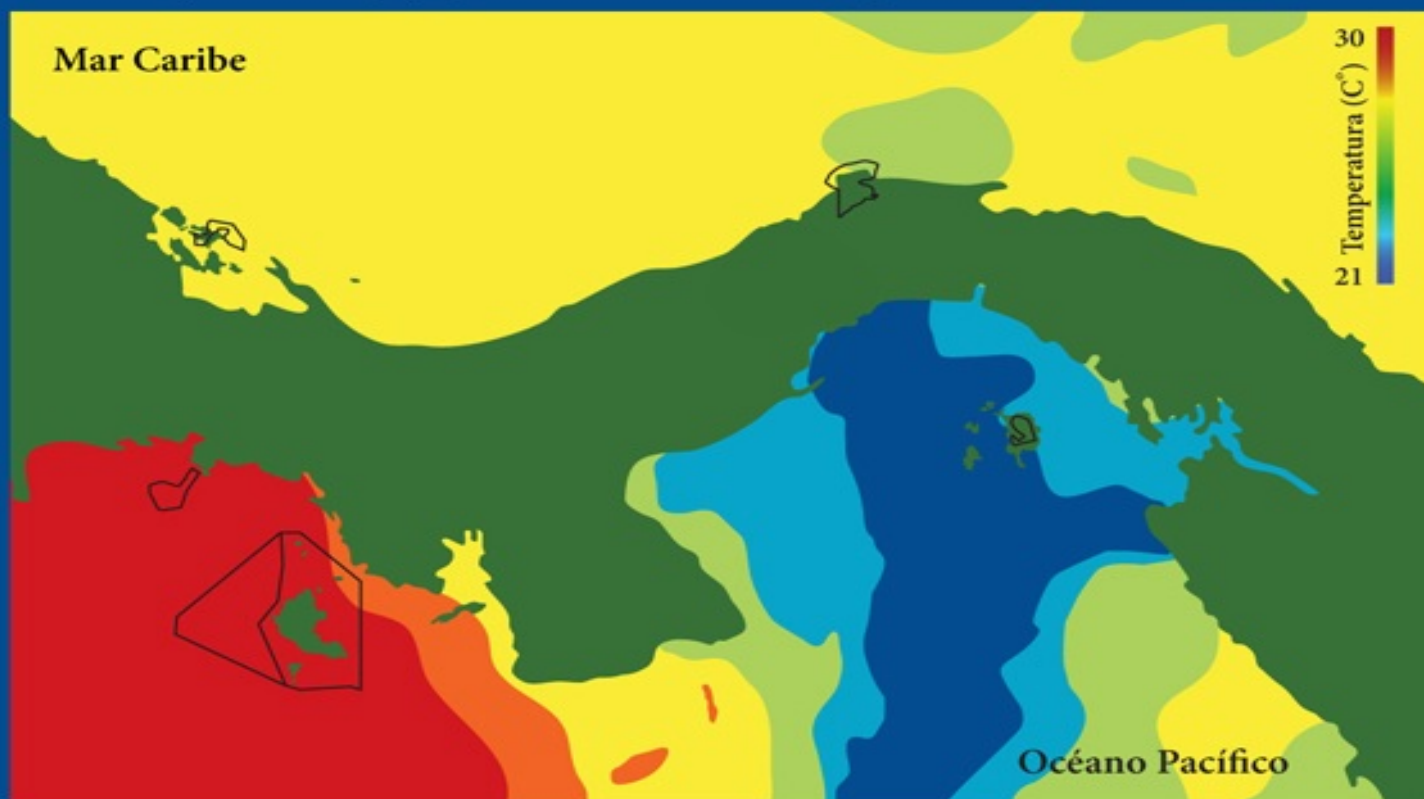
“Yo sigo dedicado a la misión del Smithsonian y, como siempre, estoy convencido de la relación causal entre el aumento del conocimiento y un mayor avance del progreso humano.”

“Gracias a todos, muchas gracias, por unirse a mí esta tarde.”

Conversaciones en el Smithsonian

Ciclo de Conferencias Centenario

es parte del programa de actividades organizado para celebrar los Cien Años de Ciencia del Smithsonian en Panamá y reconocer el apoyo que hemos recibido de millares de panameños a través de los años.




Panamá y sus Océanos de contraste: de la Investigación Marina a la Conservación

Dr. Juan Maté

Entrada Libre
Auditorio del Centro Earl Tupper
Instituto Smithsonian
27 de julio de 2011
5:30 p.m.

Información: 212-8111, 212-8000 ext. 0
<http://www.stri.si.edu/english/webcast/index.php>

 Smithsonian



100 años
de ciencia en Panamá

A partir de enero de 2011, investigadores del Smithsonian presentarán charlas mensuales sobre la historia de la relación centenaria entre el Smithsonian y Panamá y sobre la investigación científica que el Smithsonian adelanta desde Panamá para el mundo.