

Enhancing SRP Translation through Collaboration with EPA



Michael Gill / EPA San Francisco
NIEHS Superfund Research Program Annual Meeting
Portland, OR November 10, 2010



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Outline

- **EPA Background**
- **Connections to SRP Research Translation?**
- **Examples of Collaboration**
- **Tools**



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EPA Background

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Research and Development at EPA



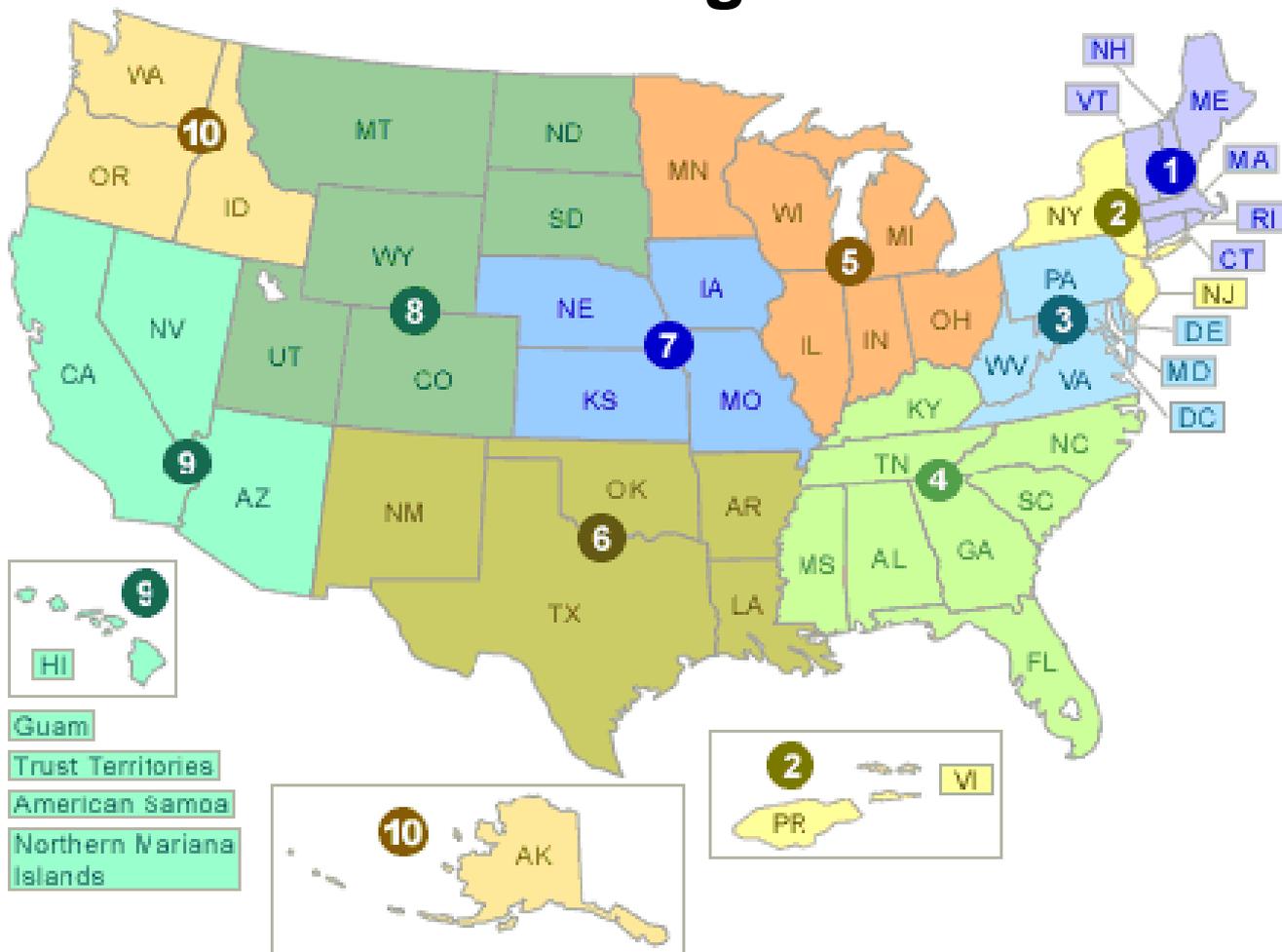
- **1,925 employees***
- **\$606 million* budget**
- **\$87 million* extramural research grant program**
- **13 lab or research facilities across the U.S.**
- **Provide credible, relevant and timely research results and technical support that inform EPA policy decisions**

* FY11 Requested Levels

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EPA Regions



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ORD Lab and Office Locations





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STL Program Mission Statement

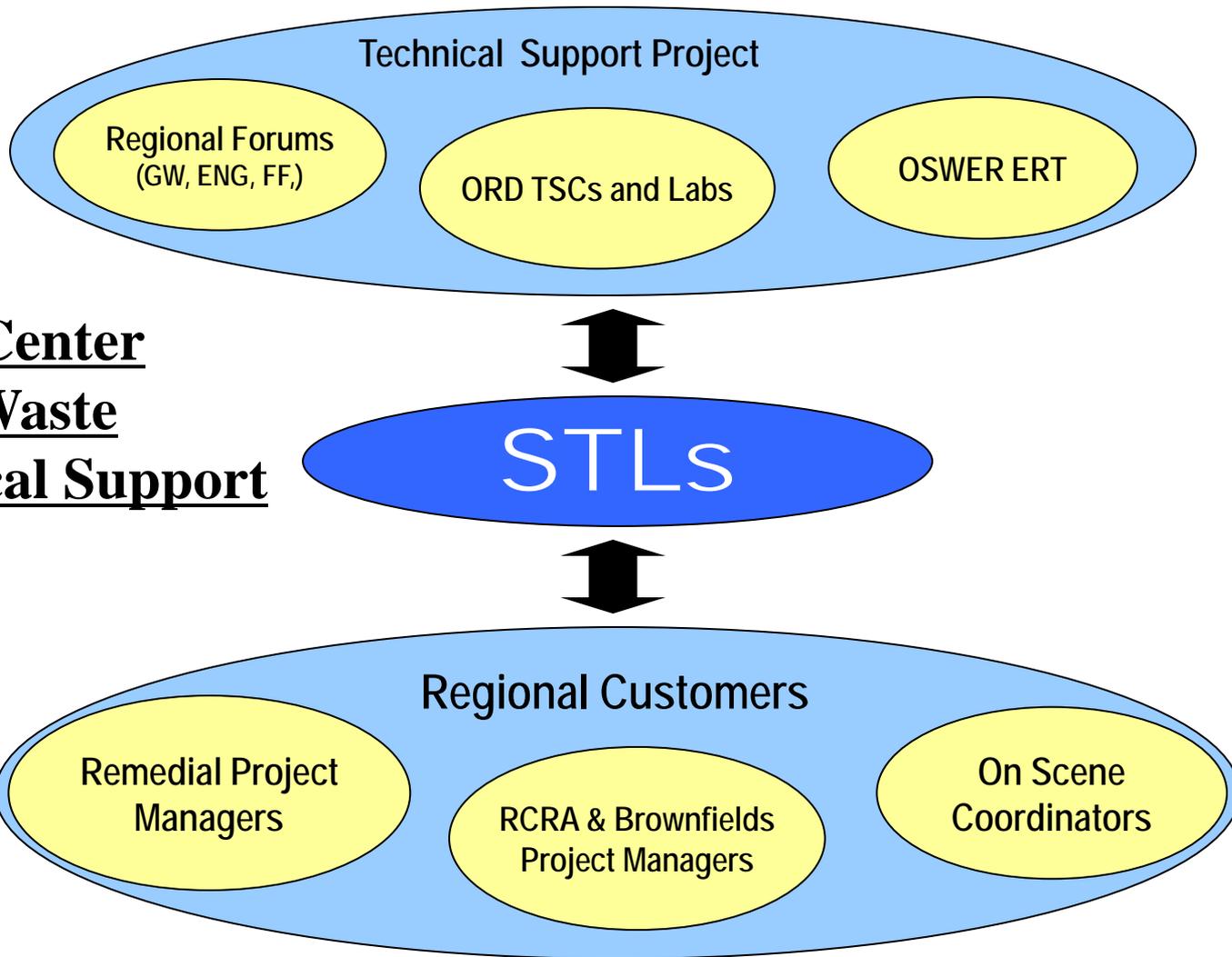
The mission of the Superfund and Technology Liaison (STL) program is to *facilitate* the sound use of science and technology in decision making for hazardous waste programs.

The STLs accomplish this mission by:

- **Coordinating technical support,**
- **Providing technical support**
- **Facilitating technology and information transfer**
- **Communicate regional research priorities**

(STL Staff Listing: <http://www.epa.gov/osp/hstl/hstlstff.htm>)

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STLs are in the Center
of the Regional Waste
Program Technical Support
Infrastructure



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Connections to SRP Research Translation?

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Aligning NIEHS Expertise with

Partner with the NIEHS
Superfund Research
Translation (RTC) Cores
whose mission is to:

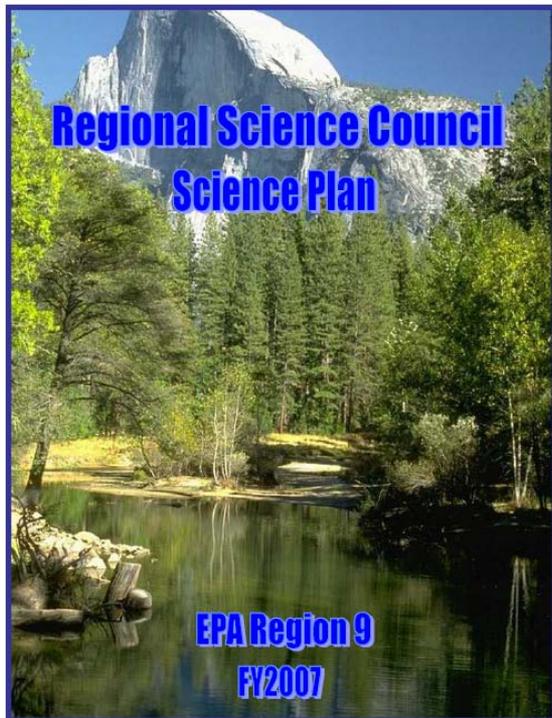
*Establish effective
communication with
stakeholders and
develop partnerships to
encourage collaboration*

Superfund Research U.S. EPA Regional Needs

Partner with U.S. EPA
Regional Superfund and
Technology Liaisons (STL)
whose mission is to:

*Facilitate the sound
use of science and
technology in decision-
making for hazardous
waste programs*

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**Communicated Region 9 research needs to
Research Translation Coordinator**



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Draft Region 9 EPA Research Needs (by Division)

Waste Management Division

Region 9 has been on the forefront of identifying several emerging environmental contaminants over the past several years and has been an active voice for pollution prevention. Identified below are science concerns associated with better identifying emerging pollutant concerns and development of safe, non-toxic alternatives to hazardous chemicals.

- Cross-Media Impacts of Organic Materials Recycling and Biogas Use
- Materials Management: Reducing the Lifecycle Impacts from Goods through Preferred Strategies
- Green Building: Health Effects and Lifecycle Environmental Impacts from Buildings

Superfund Division

Hazardous waste cleanups in Region 9 have often taken on environmental problems over large geographic regions with unique technical challenges. The science needs and priorities identified below represent important science issues associated with several of our largest and most significant cleanup challenges as well as recurring technical issues impacting both large and small sites. These issues involve large scale concerns in Region 9, such as naturally occurring asbestos widespread perchlorate contamination, as well as recurring challenges associated with our many



Indoor air sampling (Kathy Baylor, Alana Lee, R9 RARE Project).

groundwater remediation sites and an increasing concern associated with vapor intrusion of contaminants into buildings.

- Contaminated Vapor Intrusion into Buildings: Improving site investigation methods
- Asbestos Human Health Risk Assessment
- Green Remediation
- Groundwater Remediation
- Perchlorate: Human Exposure Routes
- Nanoparticles

Communities and Ecosystems Division

The populations of Region 9 are among the most diverse in the nation and include large segments of population that are uniquely impacted by environmental

pollution or which are underserved by basic environmental infrastructure. Our ecosystems are also uniquely diverse and



Tribal Dancers. (U.S. EPA Photo Archive)

varied from the rest of the nations. The science priorities and activities below reflect these unique characteristics and challenges facing Region 9

- Life Cycle Analysis of Environmental Effects of Agriculture, especially Dairy System
- Sustainability Indicators for Policy-making
- Better Methods to Identify and Evaluate the Most Vulnerable Communities and the Cumulative Impacts and/or Risks These Communities May Face
- Influx of Large-Scale Solar Energy Projects in the Desert Southwest
- Development of Tribal Environmental Indicators in the U.S./Mexico Border Region
- Impact of climate change on tribal lands, traditions, and ways of living
- Targeting Lead-based Paint Inspections Under TSCA
- Integrated approach to understanding fate and effects of pesticides in water and sediment



Pesticide Applicator (U.S. EPA Archive)

More detailed information on Region 9 Research Priorities, is available in divisional fact sheets

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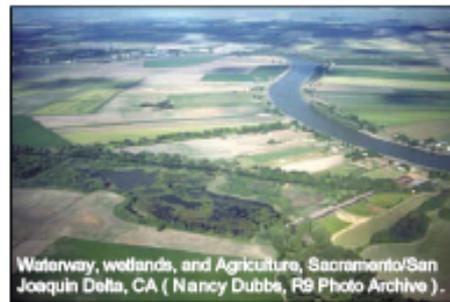
Air Division

Region 9 experiences some of the most severe air quality problems in the nation, which are compounded by our unique geography and climate, rapid population growth, and distinct mixes of agricultural, rural, and urban sources.



The science priorities and activities below are a reflection of these unique and significant air pollution challenges.

- Improving air quality and public health in the San Joaquin Valley and South Coast Air Basin through research on control technologies and control strategies
- Addressing infrastructure and public health challenges associated with climate change adaptation in the Western U.S. and Pacific Islands through research on climate change and energy.



Water Division

The water quality challenges associated with both the arid southwest ecosystems and pacific island ecosystems are especially challenging and unique relative to the rest of the nation. Much of the Agency-level science developed for water quality has a bias toward the environments of the eastern U.S. These science priorities and activities address issues that reflect the unique character of the environments in Region 9 and which address some significant public health concerns.

- Remote wetlands delineation
- Numeric nutrient criteria development and stressor identification
- Demonstrating water quality impacts of low impact development/green infrastructure
- Assessing the cause of the decline of Delta fisheries and Central valley salmonids
- Assessing sources and loads of selenium discharges to the San Joaquin River
- Coral reef ecosystem assessment tools
- Wildlife criteria development



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<i>ORD's Former Research Areas</i>	<i>ORD's New Research Areas</i>
Clean Air Human Health Risk Assessment Computational Toxicology Land Drinking Water Nanotechnology Ecosystems Services Pesticides and Toxic Substances Global Change Sustainability Human Health Water Quality	Air / Climate / Energy Safer Products for a Sustainable World Sustainable Communities Sustainable Water Human Health Risk Assessment Homeland Security Research



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- **Worked with other research translation staff to coordinate with SRP researchers**
 - **Used dual presentation model (live at EPA and webinar)**
-

Example:

Technical Presentation

Can We Avoid Another Generation of Superfund Sites?

Thursday, February 18, 2010 Noon-1pm

Nevada Room

(First Floor of 75 Hawthorne)

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Examples of Collaboration



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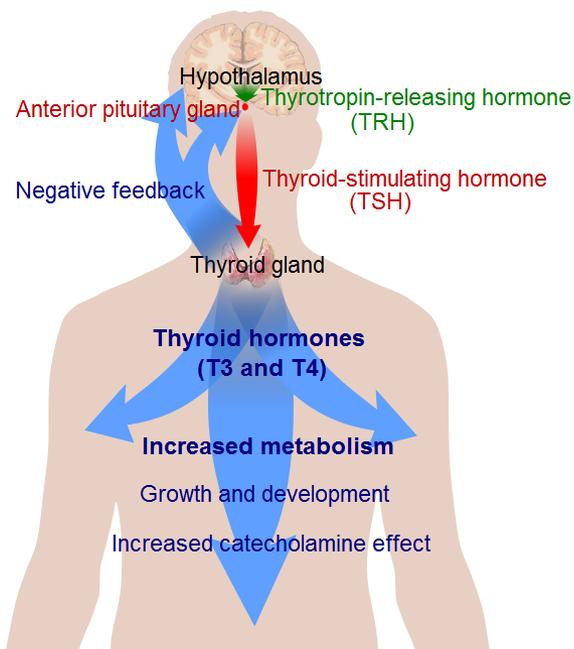


<p>Collaborative Research on Environmental Toxicants in Rapidly Developing Settlements of the U.S.-Mexico Border</p>	<p>Hiram Sarabia, UC-San Diego</p>
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Thyroid system



Perchlorate: Concern
About Environmental
Exposures,
Thyroid Homeostasis,
and Developmental
Impacts

Mark Miller, University of
California, San Francisco and
Craig Steinmaus, California
Environmental Protection
Agency

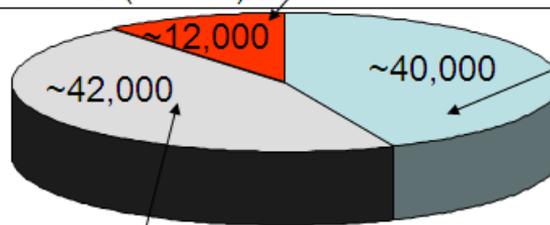
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Can We Avoid Another
Generation of
Superfund Sites?
Improved process for
identifying, prioritizing
and addressing
emerging pollutants

Wendell Ela, UA

■ **Pharmaceuticals & cosmetics**
(Food, Drug & Cosmetic Act)
Pesticides (FIFRA)



■ **Polymers**

- High molecular weight >> 1000 Daltons
- Residuals and byproducts often not well characterized

■ **Industrial chemicals (TSCA/CEPA)**

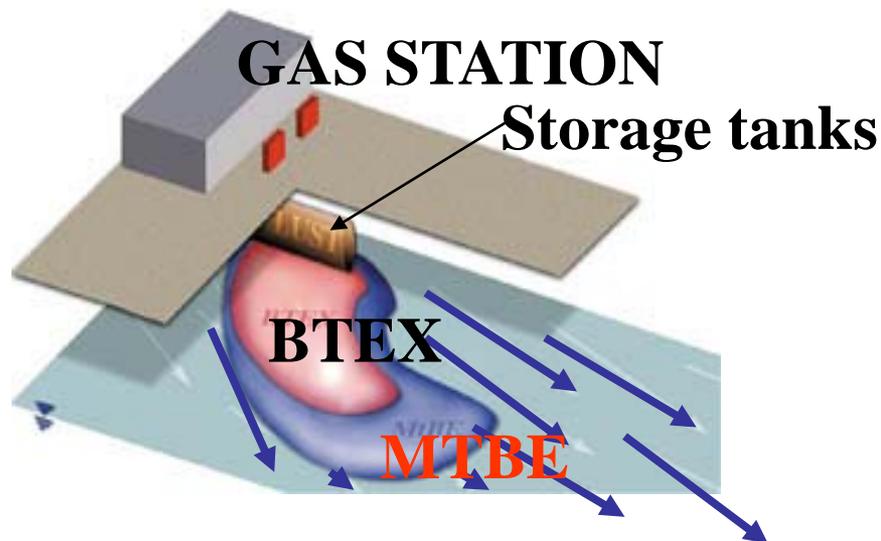
- Individual organic chemicals, organometallics, UVCBs under TSCA and CEPA
- ~21,000 substances since 1976 or 700 new substances per year under TSCA
- Molecular weight generally <1000 and >50 Daltons (99% are organics)

Not included:

- Minor use products (<4.5t/y)
- Degradation products
- Byproducts/impurities
- Isomers/congeners

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MTBE and TBA Cleanup-New Research Perspectives	Krassimira Hristova, UC-Davis
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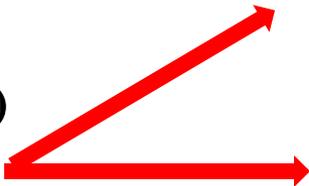


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Additional Collaborations:

- NARPM (Nano)
- UMass (Nano, GR)
- Global ARC Talk
- Cumulative Risk Assessment



Regional Science Council Seminar Series
Global ARC Sustainability Project
Journey 2010 Progress
Thursday, August 12, 2010
2-3pm
American Samoa – Guam Rooms



**THE
GLOBAL ARC™**
Global Action Research Center

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Global ARC visit to Region 9 – August 2010



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Tools

Webinars used existing system (clu-in.org website)



The screenshot shows the CLU-IN website interface. At the top left is the CLU-IN logo (an orange circle with 'CLU-IN' text and smaller circles around it). To its right is the EPA logo and the text 'United States Environmental Protection Agency'. Further right is the text 'Technology Innovation and Field Services Division' and a search bar. The main header area features the text 'Clean-Up Information' and 'Contaminated Site' over a background image of a contaminated site. Below the header is a navigation menu with tabs: 'Technologies', 'Contaminants', 'Issues', 'Strategies & Initiatives', 'Vendors & Developers', 'Training & Events', and 'Additional Resources'. The 'Training & Events' tab is selected. The main content area is titled 'Training & Events' and includes a sub-section 'Upcoming Internet Seminars'. To the right of this section is a box titled 'Other Resources for Training & Events' containing a list of links: 'Archived Internet Seminars & Podcasts', 'The Training Exchange (Trainex)', and 'Upcoming Courses and Conferences'. Below this list is a quote: 'Some comments we've received about Internet Seminars. . . "excellent summary review for the Brownfields Grant process applicable to all the EPA Regions" — Internet Seminar Participant' with a 'View All Comments' button. On the far right is a vertical sidebar titled 'Staying Connected' with icons for 'NEWS ROOM', 'Live Events', and 'TECHFOCUS'.



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Effective Marketing is Critical

- TechDirect Listserve is one way (> 30,000+ recipients)



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How to set up an EPA-SRP Seminar Series

1 Contact your regional US EPA STL

2 Align SRP expertise with regional EPA research needs

Logistics:

- Request regional research priorities from STL
- Be familiar with your programs research and foci

3 Plan a set of seminars. Each seminar should include:

3a. "Live at Region __" Face-to-Face time

Logistics:

- STL reserves a room at EPA regional office
- RTC works with SRP PI to set date and organize travel



3b. Web Seminar via US EPA's CLU-IN program

Logistics:

- Work with Justin Crane (NIEHS contractor) to setup and prepare for web seminar (cranej2@niehs.nih.gov, 919-794-4702)
- Get available CLU-IN dates and work with your SRP PI
 - At least a month before the seminar, obtain title, abstract and researcher's biography to announce web seminar in the EPA's Clu-In TechDirect e-newsletter, which reaches local, state and federal agencies, industry and consulting firms



3c. A local audience for the Web seminar on campus

Logistics:

- Reserve a room with a projector
- Get a speaker phone or conference phone
- Invite local stakeholders to participate in a global seminar

*Partnerships begin with with effective communication;
design your own regional seminar series to establish a
collaborative relationship with your regional EPA office.*

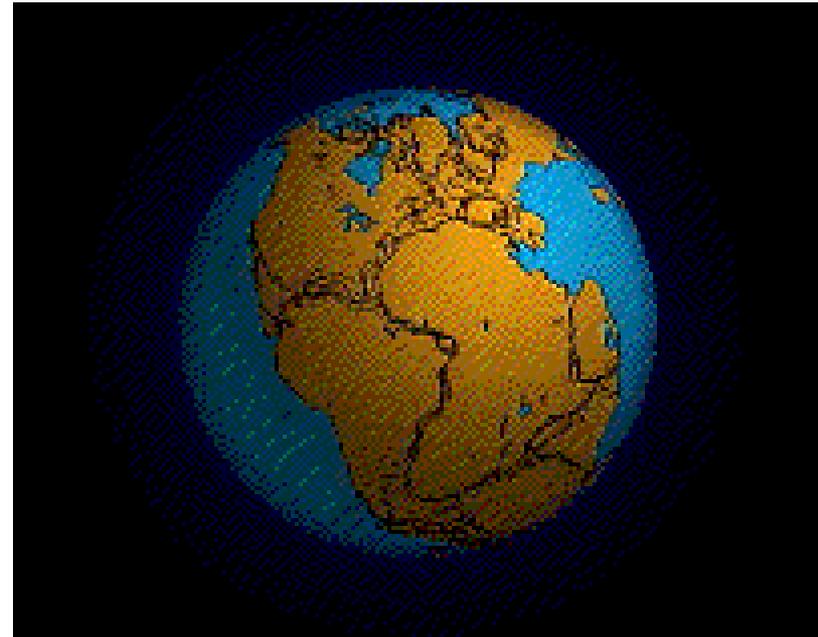
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Take Home Messages

1. **EPA Regions, NIEHS Superfund Research Program and human health and the environment can all benefit from our collaboration!**
2. **The key is to match the EPA research needs with the SRP products.**
3. **One model has been established with the West Coast Seminar Series and process is outlined in “Tools” handout and can be easily duplicated.**
4. **Adopt an STL!**

**The STL Program –
Trying to Understand How All the Pieces
Fit Together**





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Acknowledgements

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 - **Jim Sanborn (UC Davis)**
 - **Hiram Sarabia (UC San Diego)**
- **All the Researchers!**



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Questions??



Gill.Michael@epa.gov
415-972-3054

