Photo Credit: Todd Amacker / Michael Dennis

# Fred Dolislager

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**OBJECTIVE:**  
Apply risk management practices to ensure implementation of effective and innovative environmental restoration techniques at hazardous waste sites through the development of risk assessment models and establishment of national guidance and policy.

**EDUCATION:**  
[Bryan College](http://www.bryan.edu/), Dayton, TN (1985-1988) B.S. Natural Science (cum laude)  
Graduate classes at [The University of Tennessee](http://www.utk.edu/), Knoxville (24 hours)

**CURRENT PROJECTS:**  
EPA Regional Screening Levels ([RSL](http://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search)), EPA Vapor Intrusion Screening Levels ([VISL](https://epa-visl.ornl.gov/cgi-bin/visl_search)) for chemicals and radionuclides, EPA radionuclide Preliminary Remediation Goals ([PRG](https://epa-prgs.ornl.gov/radionuclides/)) in multiple media, State of Alaska Cleanup Levels Calculators ([ADEC](https://csites.ornl.gov/)), risk assessment advancement for [Spatial Analysis and Decision Assistance](http://www.sadaproject.net) (SADA) software, [RAIS](http://rais.ornl.gov/), [WHO Chemical Risk Assessment Network](http://www.who.int/ipcs/network/en/).

**WORK HISTORY:**  
**(11/98 - Current)** Human Health and Environmental Risk Assessor primarily supporting the US EPA’s national risk guidance development at Oak Ridge National Laboratory via collaboration with the [University of Tennessee](http://www.utk.edu/) (UT) Primary functions: content manager for the [Risk Assessment Information System](http://risk.lsd.ornl.gov/rap_hp.shtml) (RAIS) internet site and Oak Ridge Operations risk assessment consulting for [UCOR, LLC](http://www.ucor.com/). Secondary functions include: providing **chemical and radionuclide risk assessment** policy development for the U.S. Environmental Protection Agency [Office of Superfund](http://www.epa.gov/superfund/), risk assessment consulting for [Spatial Analysis and Decision Assistance](http://www.sadaproject.net) (SADA) software, supporting U.S. [Army Public Health Center](https://phc.amedd.army.mil/Pages/default.aspx) (APHC) in developing human health standards for warfighters, and content manager for the Alaska Contaminated Sites Program (CSP) [cleanup level calculators](http://dec.alaska.gov/spar/csp/calculators/).

**(7/02)** Visiting scientist at [Forschungszentrum Jülich GmbH](http://www.fz-juelich.de/) in Jülich, Germany. Assisted in the operation of the [SRA-Europe](http://www.sraeurope.org/) 2002 conference at [Humboldt University](http://www.rz.hu-berlin.de/), Berlin. Also met with [MUT](http://www.fz-juelich.de/mut/index_e.html) staff to coordinate [UT's](http://www.utk.edu/) online risk assessment tools with the risk communication models of [MUT](http://www.fz-juelich.de/mut/index_e.html) to support the needs of the European Union.

**(12/96 - 10/98)** [Oak Ridge National Laboratory](http://www.ornl.gov/) (ORNL) as the [PORTS](http://www.bechteljacobs.com/ports.shtml) Human Health Risk Assessment Technical Lead (RATL) for the Toxicology and Risk Analysis (TRA) Section for the Risk Assessment Council (RAC). Primary duties included but were not limited to: oversight of all risk assessment activities, review of all risk related reports, risk management, interaction with state and federal regulatory agencies, participate in the RAC meetings to formulate risk policy for the [DOE-ORO](http://www.oakridge.doe.gov/), assisted DOE with assessment of remedial progress, and management of all in-house risk activities for [PORTS](http://www.bechteljacobs.com/ports.shtml). Secondary responsibilities included providing direct support to the [PGDP](http://www.bechteljacobs.com/pad.shtml) RATL. This position required applying my knowledge of risk assessment to the various projects underway at PGDP. Additional areas of responsibility were: TRA USDOE [Center for Risk Excellence](http://www.riskcenter.doe.gov/) liaison, [USDOE ORO](http://www.oakridge.doe.gov/) risk-based prioritization team member, and [Risk Assessment Information System](http://rais.ornl.gov/) contributing author and reviewer (http://rais.ornl.gov/).

**(8/93 - 12/96)** Human health risk assessor for [Oak Ridge National Laboratory](http://www.ornl.gov/) (ORNL) in support of [PORTS](http://www.bechteljacobs.com/ports.shtml) and [PGDP](http://www.bechteljacobs.com/pad.shtml) RATLs. Learned the EPA risk assessment guidance as directed by CERCLA/SARA. Duties included data gathering, toxicity assessments, exposure assessments, risk assessments, exposure modeling, environmental transport modeling, workplan writing, document review, writing PRG screening risk assessments, and oversight of related tasks. Notable baseline risk assessments (BRAs) for [Paducah](http://www.bechteljacobs.com/pad.shtml) were the Northwest Plume, WAGs 1&7, KOW, WAGs 7&30, and WAG 17 BRAs. Notable reports completed were Background Concentrations and PRGs for Metals in Soil, Building C-410-D Proposed Fluorine Facility Risk Evaluation, North South Diversion Ditch Risk Evaluation, Building C-750-C Risk Evaluation, and Portsmouth Plantwide Human Health Risk Assessment. Complete publications list presented in subsequent pages.

**(11/90-8/93)** As an environmental analyst for the [Y-12](http://www.y12.doe.gov/) National Security Complex Plant Laboratory, learned several EPA Federal Register analytical procedures: TCLP, TOC, COD, BOD, BNA and VOA. After receiving several promotions, operated a GC/MS performing VOA procedures. Duties included CLP data compilation, chromatography interpretation, data validation and writing ASTM procedures. Also received training in NPDES, TSCA and RCRA waste disposal procedures.

**(8/89 - 6/90)** Graduate research included research in mammalian molecular genetics, plasmids, cell culture, DNA cloning, sequencing, and molecular biology techniques. Also worked on retroviral transpositions and class characterization. These techniques were used in conjunction with cancer research and the effects of radiation.

**(1/89 - 8/89)** As a [University of Tennessee](http://www.utk.edu/) contractor, worked in the Health and Safety Research Division at [ORNL](http://www.ornl.gov/). Digitized human C.A.T. scan images into three dimensional computer models. Software was then used to simulate radiation dose response in humans. In addition, collected data to establish relationships between age and lung size. Wrote the users manual for this system (ORNL/TM-11237). Generated results have been internationally recognized.

**PROFESSIONAL SKILLS:**  
Working knowledge of VAX, Unix-based Workstation and PC hardware. Software frequently used: Database, Management, Spreadsheets, Graphics, Word Processing, HTML, Communication, [Spatial Analysis and Decision Assistance](http://www.sadaproject.net) (SADA), [RESRAD](http://web.ead.anl.gov/resrad/home2/), [DUST](http://www-rsicc.ornl.gov/codes/ccc/ccc6/ccc-634.html), [MapInfo](http://www.mapinfo.com/), [ArcView](http://www.esri.com/), [VSP](http://vsp.pnnl.gov/) and SAS. HAZWOPER and Rad Worker trained.

**AWARDS AND HONORS**   
2011 Co-recipient of the [Risk Management Paper of the Year](http://www.tandfonline.com/doi/abs/10.1080/10807039.2010.534722) from the HERA journal. Office of Superfund Recognition Award for superior radionuclide and chemical risk support; [ORNL](http://www.ornl.gov/) World-Class Teamwork Award; Member of the "A" Team in TRA; received internship at ORNL; and College Chemistry Award

**REFERENCES:** AVAILABLE UPON REQUEST

**CONFRENCE PRESENTATIONS AND TRAININGS:**   
SETAC 20th Annual Meeting, SRA 2000 Annual Meeting, SRA 2001 Annual Meeting, EIMS Symposium 2000, FIELDS/SADA Conference& Training 2001, FIELDS/SADA Conference& Training 2003, SRA-Europe 2002 Annual Meeting in Berlin, World Congress on Risk 2003 Meeting in Brussels, SRA 2004 Annual Meeting, 2008 ITRC meeting in Kennebunkport, 2008 EPA TRIAD conference, 2010 EPA Regional Risk Assessors Meeting, 2010 Radiation Research Society, 2012 NARPM Training, 2012 HHRRA Training, 2012 SRA Annual Meeting, 2013 SRA Annual Meeting, 2014 OHHRRAF Training, 2014 NARPM, 2014 SRA Annual Meeting, 2015 SOT Annual Meeting, 2015 Superfund Radiation Risk Assessment Training (Boston, New York, Atlanta, Philadelphia), 2016 Superfund Radiation Risk Assessment Training (Phoenix, Washington D.C., Denver, San Francisco, Unacasville, Pittsburgh, Arlington), ANS 2016, WM 2016, 2016 SOT Annual Meeting, 2016 SRA Annual Meeting, Health Physics Society 50th Midyear 2017, WM 2017, 2017 Superfund Radiation Risk Assessment Training (Arlington, Bethesda, Kansas City, Phoenix). 2018 Alaska risk calculator training (Juneau, Anchorage, Fairbanks). 2018 Superfund Radiation Risk Assessment Training (HPS Cleveland). 2019 U.S EPA and RAIS Screening Level Calculator Training for Chemical and Radionuclide Risk Analysis (Knoxville, Virginia DEQ). 2019 Superfund Radiation Risk Assessment Training (Navajo Nation, HPS Orlando).

**PUBLICATIONS:**

**Primary Author:**

Operating Manual and Principles for the HASRD Biomedical Workstation, ORNL/TM-11237, July 1989.

Baseline Risk Assessment for Exposure to Polycyclic Aromatic Hydrocarbons at Underground Storage Tanks C-750A&B Paducah Gaseous Diffusion Plant, Paducah, Kentucky, KY/EM-170, August 1996.

Baseline Risk Assessment for Underground Storage Tanks 130, 131, 132, 133, and 134 as presented in the WAGs 1&7 RFI/RI, PGDP, Paducah, Kentucky, UST identification number 6319073, KY/EM-179, September 1996.

Risk Reduction Action Report for the East Drainage Ditch, POEF-LMES-159, September 1997.

Proposed Core Hole Locations and Sample Plan for Confirmatory Round of Samples for the East Drainage Ditch, POEF-LMES-170, October 1997.

Risk Reduction Action Report for the East Drainage Ditch, POEF-LMES-159 Rev.1, March 1998.

Data Assessment and Risk Evaluation Report for Big Run Creek and the Southwest Drainage Ditch for Portsmouth Gaseous Diffusion Plant. Piketon, Ohio, DOE/OR/11-1689, POEF-LMES-179, March 1998.

Site Evaluation Report for the East Drainage Ditch, X-701B Plateau, and the Former Retention Basins for Portsmouth Gaseous Diffusion Plant. Piketon, Ohio, DOE/OR/11-300S, BJC/PORTS-59 October 1998.

Data Assessment and Risk Evaluation Report for the North Drainage Ditch for Portsmouth Gaseous Diffusion Plant Piketon, Ohio, DOE/OR/11-3008&D2, BJC/PORTS-61 December 1998.

Data Assessment and Risk Evaluation Report for the Northeast Drainage Ditch for Portsmouth Gaseous Diffusion Plant Piketon, Ohio, DOE/OR/11-3013&D1 January 1999.

DUST Modeling and Risk Assessment for FFA Tank W-1, Bechtel Jacobs Company, LLC, December 28, 2000.

DUST Modeling and Risk Assessment for FFA Tank W-11, Bechtel Jacobs Company, LLC, January 11, 2001.

DUST Modeling and Risk Assessment for Inactive LLLW Tank TH-4, Bechtel Jacobs Company, LLC, January 14, 2001.

DUST Modeling and Risk Assessment for Inactive LLLW Tank WC-4, Bechtel Jacobs Company, LLC, January 16, 2001.

DUST Modeling and Risk Assessment for Inactive LLLW Tank W-19, Bechtel Jacobs Company, LLC, January 26, 2001.

DUST Modeling and Risk Assessment for Inactive LLLW Tank W-20, Bechtel Jacobs Company, LLC, February 2, 2001.

DUST Modeling and Risk Assessment for Inactive LLLW Tank W1I, Bechtel Jacobs Company, LLC, March 16, 2001.

DUST Modeling and Risk Assessment for Inactive LLLW Tank WC-9, Bechtel Jacobs Company, LLC, June 1, 2001.

DUST Modeling and Risk Assessment for Inactive LLLW Tank WC-20, Bechtel Jacobs Company, LLC, June 1, 2001.

DUST Modeling and Risk Assessment for Inactive LLLW Tank W-18, Bechtel Jacobs Company, LLC, June 5, 2001.

DUST Modeling and Risk Assessment for Inactive LLLW Tank W-17, Bechtel Jacobs Company, LLC, June 5, 2001.

DUST Modeling and Risk Assessment for Inactive LLLW Tank F-501, Bechtel Jacobs Company, LLC, Knoxville, June 6, 2001.

DUST Modeling and Risk Assessment for Inactive LLLW Tank WC-3, Bechtel Jacobs Company, LLC, June 6, 2001.

DUST Modeling and Risk Assessment for FFA Tank W-2, Bechtel Jacobs Company, LLC, June 7, 2001.

DUST Modeling and Risk Assessment for FFA Tank T-14, Bechtel Jacobs Company, LLC, June 7, 2001.

DUST Modeling and Risk Assessment for Inactive LLLW Tank 2026A, June 7, 2001, Bechtel Jacobs Company, LLC, June 7, 2001.

DUST Modeling and Risk Assessment for HFIR Inactive LLLW Tank, Bechtel Jacobs Company, LLC, May 30, 2003.

DUST Modeling and Risk Assessment for T-13 LLLW Tank, Bechtel Jacobs Company, LLC, March 11, 2004.

DUST Modeling and Risk Assessment for Building 7567 and Tank T-3. BJC/OR-1848, May 2004.

DUST Modeling and Risk Assessment for 3597 Hot Storage Garden, Oak Ridge National Laboratory, Oak Ridge, Tennessee. BJC/OR-1873, July 2004.

Strawman Addendum Report to “Remedial Investigation/Feasibility Study for the David Witherspoon Inc. 901 Site, Knoxville, Tennessee”, Bechtel Jacobs Company, LLC,January 2004.

Data Assessment and Workplan for a Baseline Risk Assessment Supporting Remedial Action at the David Witherspoon, Inc. 901 Site, Knoxville, Tennessee, Bechtel Jacobs Company, LLC, September 2004.

An Estimation of the Uranium-238 Inventory in Soils at the David Witherspoon, Inc. 901 Site, Knoxville, Tennessee, Bechtel Jacobs Company, LLC, October 2004.

**Primary Author of the Risk Assessment Portion:**

Draft Comparison of Trichloroethylene (TCE) Concentrations at Area of Concern (AOC) 204 to Human health Risk-Based Concentrations, January 1996.

Resource Conservation and Recovery Act Facility Investigation/Remedial Investigation Report for Waste Area Groupings 1 & 7 at Paducah Gaseous Diffusion Plant, Paducah, Kentucky (DOE/OR/07-1404&D2), April 1996.

Preliminary Site Characterization/Baseline Risk Assessment/LASAGNATM Technology Demonstration at Solid Waste Management Unit 91 of the Paducah Gaseous Diffusion Plant, Paducah, Kentucky KY/EM-128, May 1996.

Resource Conservation and Recovery Act Facility Investigation/Remedial Investigation Report for Kentucky Ordnance Works Solid Waste Management Units 94, 95, and 157 at Paducah Gaseous Diffusion Plant, Paducah, Kentucky (DOE/OR/07-1405&D2), July 1996.

Integrated Remedial Investigation/Feasibility Study Work Plan for Waste Area Grouping 27 at Paducah Gaseous Diffusion Plant, Paducah Kentucky, DOE/OR/07-1518&D1, November 1996.

Final Site Evaluation Report for WAG 15, C-200-A UST and C-710-B UST Paducah Gaseous Diffusion Plant Paducah, Kentucky. DOE/OR/07-1540&D1, December 1996.

Technical Scoping document RI/FS Work Plan for WAG 28 Including WAG 8 PA/SI at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky. DOE/OR/07-1543&D1, May 1997.

Remedial Investigation Report for Solid Waste Management Units 7 and 30 of Waste Area Grouping 22 at Paducah Gaseous Diffusion Plant, Paducah, Kentucky, Volume 2, Baseline Risk Assessment, DOE/OR/07-1604/V2&D2, July 1997.

Remedial Investigation Report for the Waste Area Grouping 6 at Paducah Gaseous Diffusion Plant, Paducah, Kentucky, Volume 3, Baseline Risk Assessment, DOE/OR/07-1727/V3&D1, August 1998.

Remedial Investigation Report for Waste Area Grouping 27 at Paducah Gaseous Diffusion Plant, Paducah, Kentucky, Volume 4, Baseline Risk Assessment, DOE/OR/07-1777/V4&D1, December 1998.

Sampling and Analysis Plan Surface Impoundments Operable Unit A and B Post-Remediation Sampling Project, Oak Ridge, Tennessee, BJC/OR-568/R1, June 2000.

Surface Impoundment Operable Unit A Post-Remediation Sampling Project. Oak Ridge, Tennessee, October 2000.

Surface Impoundment Operable Unit B Post-Remediation Sampling Project. Oak Ridge, Tennessee, September 2003.

Sampling and Analysis Plan for Final Verification of the David Witherspoon, Inc. 901 Site Knoxville, Tennessee , June 2005.

**Contributing Author or Coauthor:**

Comparison of Soil Surrounding the C-750-C Waste Oil Underground Storage Tank to Preliminary Remediation Goals, KY/ER-52, February 1994.

Exposure Assessment Models for Estimating Contaminant Concentrations in Human Foods for Use at the U.S. Department of Energy Oak Ridge Operations Office, September 1995.

Baseline Ecological Risk Assessment, Portsmouth Gaseous Diffusion Plant, Piketon, Ohio D2, DOE/OR/11-1316/D2, June 1996.

Methods for Conducting Human Health Risk Assessments and Risk Evaluations at the PGDP, DOE/OR/07-1506&D1, August 1996.

Background Concentrations and Human Health Risk-based Screening Criteria for Metals in Soil at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky (DOE/OR/07-1417&D2), September 1996.

Resource Conservation and Recovery Act Facility Investigation/Remedial Investigation Report for Waste Area Grouping 17 at Paducah Gaseous Diffusion Plant, Paducah, Kentucky, DOE/OR/07?1404/V1&D2, April 1997.

Integrated Remedial Investigation/Feasibility Study Work Plan for Waste Area Grouping 6 at Paducah Gaseous Diffusion Plant, Paducah Kentucky, DOE/OR/07-1243 version D4, January 1997.

Excess Lifetime Cancer Risk and Systemic Toxicity Hazard to Excavation Workers by Pit at Solid Waste Management Units 7 and 30 at the Paducah Gaseous Diffusion Plant. KY/EM-231. September 1997.

Technetium-99 Transport Modeling Results for Sources at SWMUs 7 and 30 at the Paducah Gaseous Diffusion Plant. KY/EM-266. March 1998.

Residual Risk Evaluation Report for Waste Area Grouping 23 and Solid Waste Management Unit 1 of Waste Area Grouping 27 at the Paducah Gaseous Diffusion Plant, Paducah, Kentucky. DOE/OR/07?1781&D1. February 1999.

Determination of Threshold Screening Values for Post-Remediation Activities at Surface Impoundments Operable Unit A and B at the Oak Ridge National Laboratory, Oak Ridge, Tennessee, BJC/OR-558, March 2000.

Determination of Background Concentrations for Metals and Naturally-Occurring Radioactive Materials in Soil at the Mary Vestal Park, Knoxville, Tennessee for the Remedial Investigation / Remedial Actions at the David Witherspoon, Inc. 901 Site, Knoxville, Tennessee, Bechtel Jacobs Company, LLC, June 2004.

Reevaluation of 1999 Health-Based Environmental Screening Levels (HBESLs) for Chemical Warfare Agents. Oak Ridge National Laboratory. ORNL/TM-2007/080. May 2007. A. P. Watson and F. G. Dolislager.

[Developing Health-Based Pre-planning Clearance Goals for Airport Remediation Following Chemical Terrorist Attack: Introduction and Key Assessment Considerations.](http://www.tandfonline.com/doi/abs/10.1080/10807039.2010.534721) Annetta Watson, Linda Hall, Ellen Raber, Veronique D. Hauschild, Fredrick Dolislager, Adam H. Love, and M. Leslie Hanna. Journal of Human and Ecological Risk Assessment (vol 17, No. 1).

[Developing Health-Based Pre-planning Clearance Goals for Airport Remediation Following a Chemical Terrorist Attack: Decision Criteria for Multipathway Exposure Routes.](http://www.tandfonline.com/doi/abs/10.1080/10807039.2010.534722) Annetta Watson, Fredrick Dolislager, Linda Hall, Ellen Raber, Veronique D. Hauschild, and Adam H. Love. Journal of Human and Ecological Risk Assessment (vol 17, No. 1).

[Area Correction Factors for Contaminated Soil for Use in Risk and Dose Assessment Models](http://epa-prgs.ornl.gov/radionuclides/ACF_FINAL.pdf). Oak Ridge National Laboratory, ORNL/TM-2013/00. Prepared by: Michael Bellamy, Lauren Finklea, Fred Dolislager, Keith Eckerman. September 2014

[Gamma Shielding Factors for Soil Covered Contamination for Use in Risk and Dose Assessment Models](http://epa-prgs.ornl.gov/radionuclides/ACF_FINAL.pdf). Oak Ridge National Laboratory, ORNL/TM-2013/00. Prepared by: Michael Bellamy, Lauren Finklea, Fred Dolislager, Keith Eckerman. September 2014

[Calculation of Slope Factors and Dose Coefficients](http://epa-prgs.ornl.gov/radionuclides/ACF_FINAL.pdf). Oak Ridge National Laboratory, ORNL/TM-2013/00. Prepared by: Michael Bellamy, Lauren Finklea, Fred Dolislager, Keith Eckerman. September 2014

[Biota Modeling in EPA's Preliminary Remediation Goal and Dose Compliance Concentration Calculators for Use in EPA Superfund Risk Assessment: Explanation of Intake Rate Derivation, Transfer Factor Compilation, and Mass Loading Factor Sources](https://epa-prgs.ornl.gov/radionuclides/20161130_Biota_TM_KLM_Final_printable_version.pdf). Prepared by Karessa L. Manning, Fredrick G. Dolislager, and Michael B. Bellamy. Oak Ridge National Laboratory. November 2016. ORNL/TM-2016/328.

Phased Construction Completion Report for Remediation of the Zone 1 Powerhouse Duct Bank, Oak Ridge, Tennessee. Prepared for the U.S. Department of Energy Office of Environmental Management. DOE/OR/01-2736&D1. November 2017.

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[The Risk Assessment Information System](https://rais.ornl.gov/). Oak Ridge National Laboratory. (Live since 1998)

[Regional Screening Levels for Chemical Contaminants at Superfund Sites (RSLs).](http://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search) U.S. Environmental Protection Agency, (Live since 2008)

[Regional Removal Management Levels for Chemicals (RMLs)](https://www.epa.gov/risk/regional-removal-management-levels-chemicals-rmls) U.S. Environmental Protection Agency, (Live since 2012)

[Vapor Intrusion Screening Levels for Chemicals (VISL).](https://epa-visl.ornl.gov/cgi-bin/visl_search) U.S. Environmental Protection Agency. (Live since 2018)

[Preliminary Remediation Goals for Radionuclides (PRGs).](http://epa-prgs.ornl.gov/radionuclides/) U.S. Environmental Protection Agency, (Live since 2001)

[Radionuclide ARAR Dose Compliance Concentrations (DCCs)](http://epa-dccs.ornl.gov/radionuclides/). U.S. Environmental Protection Agency, Live since 2002)

[Preliminary Remediation Goals for Radionuclides in Buildings (BPRG)](http://epa-bprg.ornl.gov/). U.S. Environmental Protection Agency, (Live since 2009)

[Preliminary Remediation Goals for Radionuclides in Outdoor Surfaces (SPRG)](http://epa-sprg.ornl.gov/). U.S. Environmental Protection Agency, (Live since 2008)

[Dose Compliance Concentrations for Radionuclides in Buildings (BDCC)](http://epa-bdcc.ornl.gov/). U.S. Environmental Protection Agency, (Live since 2009)

[Dose Compliance Concentrations for Radionuclides in Outdoor Surfaces (SDCC)](http://epa-sdcc.ornl.gov/). U.S. Environmental Protection Agency, (Live since 2009)

[Radionuclide Decay Chain Tool.](http://epa-prgs.ornl.gov/radionuclides/chain/chain.php) U.S. Environmental Protection Agency, (Live since 2012)

[Cleanup Levels Calculator](http://dec.alaska.gov/spar/csp/calculators/). Alaska Contaminated Sites Program. (Live since 2014)

[Cumulative Risk Calculator](https://csites.ornl.gov/cgi-bin/risk_search). Alaska Contaminated Sites Program. (Live since 2014)