### (Earth) Data Science Training Opportunities (for TCUs)

[**The Carpentries**](https://carpentries.org/)

*The Carpentries teaches workshops around the world on the foundational skills to work effectively and reproducibly with data and code. Our certified volunteer Instructors are trained in pedagogy and focus on creating a motivating and engaging environment for learners. Our workshops are inclusive and hands-on, empowering students to learn new skills and build confidence in using them in their work.*

* <https://carpentries.org/workshops/>
  + [Alycia Crall (Director of Community)](https://carpentries.org/blog/2021/07/introducing-the-carpentries-director-of-community/); working on developing Carpentries Instructor training opportunities designed for faculty at TCUs
    - Spoke at *Sensing the Earth* meeting (2022); need to circle back to her about this  
        
      [**Earth Lab**](https://earthlab.colorado.edu/)

*Earth Lab’s mission is to harness the data revolution through research, analytics, and education to accelerate understanding of global environmental change to help society better manage and adapt.*

* [**Earth Data Analytics Professional Graduate Certificate**](https://earthlab.colorado.edu/earth-data-analytics-professional-graduate-certificate)
  + Complete in 10 months
  + 3-course sequence
  + Virtual; on-campus sections
  + Curriculum posted online as Open Educational Resources
  + Keep eyes out for announcements re: scholarship opportunities for faculty from TCUs
* **Open Online EDS Textbooks and Curriculum**
  + <https://www.earthdatascience.org/>
    - Over 300 EDS lessons designed for self-paced learning
    - 6 full textbooks/courses
    - Shareable through Creative Commons licensing
* [**Climate Futures Toolbox**](https://toolkit.climate.gov/tool/climate-futures-toolbox)
  + *This open-source R package gives easy climate data access (MACA v2) to managers and climate impacts researchers in support of climate scenario planning.*
  + **CFT Website:** <https://www.earthdatascience.org/cft/index.html>
  + **Article:** <https://www.earthdatascience.org/cft/articles/cft-intro.html>
  + **Webinar (April, 2020):** <https://www.youtube.com/watch?v=ggxrIKZ0KoE>
  + **Webinar (April, 2022; Novice Users):**
  + **Webinar (April, 2022; Super Users):**

**The Environmental Data Science Innovation & Inclusion Lab (ESIIL)**

*The Environmental Data Science Innovation & Inclusion Lab (ESIIL) will empower an inclusive*

*and diverse research community to address global environmental change through cutting-edge training in*

*open team science, data harmonization, emerging artificial intelligence (AI), and collaborative*

*cyberinfrastructure.*

* More to say about these programs soon!
* NSF funded; spread out over next 5 yrs
* James Rattling Leaf (Tribal Liaison)

* **ESIIL Stars internship**
  + Support ~100 students and ~20 faculty from institutions that work with underrepresented groups in STEM, via data skills training, research experience, and career mentorship.
  + Modeled after [Earth Data Science Corps (EDSC)](https://earthlab.colorado.edu/our-work/teaching-and-learning-earth-data-science/earth-data-science-corps)
* **Data Short Course**
  + Virtual; 4 weeks; train ~160 scientists in core EDS skills
* **ESIIL Leaders**
  + will support ~75 emerging scientists from underrepresented communities, helping to foster leadership skills in both their environmental data science domains and in team science

[**North Central Climate Adaptation Science Center (NC-CASC)**](https://nccasc.colorado.edu/)

*The North Central Climate Adaptation Science Center is a partnership between the US Geological Survey, the University of Colorado Boulder and five consortium partners. The NC CASC fosters innovative and applied research in support of tribal, federal, state, and local natural resource management and decision-making. The North Central center is one of nine regional climate centers in the national CASC network created to help meet the changing needs of land and resource managers across the country. It serves Colorado, Wyoming, Montana, North Dakota, South Dakota, Kansas and Nebraska.*

* [**Climate Toolbox**](https://climatetoolbox.org/)
  + *A collection of web tools for visualizing past and projected climate and hydrology of the contiguous United States.*
  + Climate Solutions Days Webinar (April, 2022)
    - [Introduction to the Climate Toolbox](https://www.youtube.com/watch?v=TyAQU7f6ebg&list=PLJmDX9Jgek13EHuwf9W2ZCg8betbmurT5&index=24)
    - [Uncertainty in Climate Projections](https://www.youtube.com/watch?v=ppPdFLFvVbQ&list=PLJmDX9Jgek13EHuwf9W2ZCg8betbmurT5&index=25)
    - [Climate Toolbox (Part II)](https://www.youtube.com/watch?v=hvtO9rgejX8&list=PLJmDX9Jgek13EHuwf9W2ZCg8betbmurT5&index=26)
    - [Presentation slides](https://nccasc.colorado.edu/sites/default/files/2022-06/Rangwala%20%26%20Hegewisch%20---%20Climate%20Change%20Concepts%20%26%20Applications%20-%20101.pdf)
  + [Future Tribal Climate tool](https://climatetoolbox.org/tool/Future-Tribal-Climate) (works best w/ Chrome Browser)
    - *This tool is designed to support tribes in the Pacific Northwest and Great Basin, U.S.A, as they prepare for the impacts of climate change, by providing information on how the climate is expected to change in the places Tribes care about. It provides maps, graphs, tables and descriptions of projected changes.*

**NW CASC(?)**

<https://cig.uw.edu/resources/tribal-vulnerability-assessment-resources/tribal-climate-tool/>

**National Ecological Observatory Network (NEON)**

*The National Ecological Observatory Network, or NEON, offers expert ecological data from sites across the continent to power the most important science being done today.*

* [Workshops & Courses](https://www.neonscience.org/resources/learning-hub/workshops-courses)
  + [Upcoming Events](https://www.neonscience.org/get-involved/upcoming-events)
* [Code Hub](https://www.neonscience.org/resources/code-hub)
* [Learning Hub](https://www.neonscience.org/resources/learning-hub)
  + [Tutorials](https://www.neonscience.org/resources/learning-hub/tutorials)
  + [Teaching Modules](https://www.neonscience.org/resources/learning-hub/teaching-modules)
  + Data Education Fellows
  + Faculty Mentoring Networks