**Description of Dataset (All details copied from original data source):**

Launched in 2006 with support from the National Science Foundation (NSF) and leveraged by the CAP LTER, the Carbon and Nitrogen deposition (CNdep) project sought to answer the fundamental question of whether elemental cycles in urban ecosystems are qualitatively different from those in non-urban ecosystems. Ecosystem scientists, atmospheric chemists, and biogeochemists tested the hypothesis that distinct biogeochemical pathways result from elevated inorganic nitrogen and organic carbon deposition from the atmosphere to the land. To test the hypothesis, scientists examined the responsiveness of Sonoran desert ecosystems to nutrient enrichment by capitalizing on a gradient of atmospheric deposition in and around the greater Phoenix metropolitan area. Fifteen desert study sites were established, with five locations each west and east of the urban core, and in the urban core in desert preserves. In addition to the gradient of atmospheric deposition in and around the urban core, select study plots at each of the fifteen desert locations receive amendments of nitrogen, phosphorus, or nitrogen + phosphorus fertilizer. Measured variables include soil properties, perennial and annual plant growth, and atmospheric deposition of nitrogen. At the close of the initial grant period, the CAP LTER assumed responsibility for the project, renamed the Desert Fertilization Experiment, which provides a remarkable platform to study the long-term effects of nutrient enrichment on desert ecosystem properties.

**Descriptions of Each Sub-Dataset:**

* **632\_annuals\_biomass.csv**
  + Biomass (g) of annual plants harvested from subplots within Desert Fertilization study plots. One-meter subplots include locations around a Larrea tridentata plant and locations in the interplant space between shrubs. Material is harvested from 0.25 square meter quadrats within each subplot. All harvests occur during the spring.
* **632\_annuals\_composition.csv**
  + Composition of annual plants and some other characteristics (e.g., bare soil, base or canopy of perennial plants) at subplots within Desert Fertilization study plots. One-meter subplots include locations around a Larrea tridentata plant and locations in the interplant space between shrubs. All measurements collected in the spring.
* **632\_atmospheric\_decomposition.csv**
  + Ammonium-nitrogen and nitrate-nitrogen as measured by ion exchange resin (IER) collectors that are used to measure bulk (wet) deposition in interplant open spaces and throughfall (wet and dry) deposition under the dominant shrub.
* **632\_fertilizer\_application.csv**
  + Catalog of amounts and timing of nitrogen and phosphorus fertilizer applications to nitrogen (N), phosphorus (P), and nitrogen+phosphorus (N+P) treatment plots - applications are delivered to the respective plot at the site that receives either N, P, or an N+P addition, except control sites (n = 2) that do not receive a fertilizer amendment.
* **632\_plant\_root\_simulator.csv**
  + Soil ion concentrations as determined with Plant Root Simulator (PRS®) probes (ion exchange resin membranes). Probes for the analyses of soil anions have a positively-charged membrane to simultaneously attract and adsorb all negatively-charged anions, such as nitrate (NO3-), phosphate (H2PO4-, HPO42-), and sulphate (SO42-), whereas cation probes have a negatively-charged membrane to simultaneously attract and adsorb all positively-charged cations, such as ammonium (NH4+), potassium (K+), calcium (Ca2+), and magnesium (Mg2+).
* **632\_stem\_growth.csv**
  + Biannual measures of stem growth on five Larrea tridentata study plants in Desert Fertilization experiment treatment and control plots.
* **632\_tissue\_chn.csv**
  + CHN (Carbon, Hydrogen, and Nitrogen) elemental analysis of Larrea tridentata leaf tissue and Pectocarya recurvata (whole plant) tissue collected from control plots at Desert Fertilization study sites.
* **632\_tissue\_icp.csv**
  + Elemental composition of Larrea tridentata leaf tissue and Pectocarya recurvata (whole plant) tissue collected from control plots at Desert Fertilization study sites. Most analyses are by ICP-MS except Sulfur (S), which is typically analyzed by ICP-OES with the instrument type noted in the instrument field.