Supplemental Material for 'Technical note: A global database of the stable isotopic ratios of meteoric and terrestrial waters'

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1. Data upload template
2. Database records

1 Data upload template

The template for data organization for upload to the database, named WI_template.xlsx, is included as a separate file.

2 Database records for individual projects

All projects associated with the database (as of April 2019) are described in the following sections. Projects in each subsection are organized by Project ID. The project subsections were selected to highlight the wide variety of sources of data, including network-based datasets, agency supported data collection efforts, published, and unpublished work. Individual projects may fall under multiple categories, and are presented here with the category we judged to be most characteristic. Each entry includes a short description of relevant sampling design information, *Project_ID* and the data citation(s). All datasets are available from the wiDB unless otherwise noted. If projects are not redistributable, we comment on where data may be accessed.

2.1 Network datasets

Antarctic Surface Snow Database: An assimilated database of *Snow_pit*, *Ice_core*, *Firn_core* and *Precipitation* samples representing sampling from 1954 to 2001. Samples often integrate multiple year timescales. Project 00001, (Masson-Delmotte et al., 2008) and references therein.

Global Network of Isotopes in Precipitation: Monthly *Precipitation* samples collected by the IAEA at long term monitoring sites around the world, starting from 1960 and continuing through present. These data are unavailable for download from the wiDB, but are available from the Water Isotope System for Data Analysis, Visualization and Electronic Retrieval (WISER). Project 00020, (IAEA/WMO, 2019).

iUtah water survey: Collection of *Tap*, *Sprinkler*, *Spring*, *Ground*, *Canal*, *Lake*, *Mine*, *River_or_stream* from across Utah, US. Data collection efforts focus in the Salt Lake Valley of UT and sampling spans 2013 to 2016. Project 00033, (Jameel).

Tibetan Network of Isotopes in Precipitation: *Precipitation* collected at 18 stations across the Tibetan Plateau between 1991 and 2008. Project 00074, (Yao et al., 2013).

US Network of Isotopes in Precipitation: Isotope analyses for biweekly *Precipitation* samples collected at 76 sites across the United States from 1989 to 1996 as part of the National Atmospheric Deposition Program. These data are unavailable for download from the wiDB, but may be available directly from the data contributor upon request. Project 00076, (Welker, 2000).

NASA global seawater database: An assimilated database of *Ocean* samples from 1949 to 2009. Samples may be at surface or at depth and represent a single point in time. These data are not available from the wiDB, but are publicly available through the project website. Project 00106, (Schmidt et al., 1999).

Southern African water isotopes: Collection of *Precipitation* samples from countries in Southern Africa between 1967 and 2008. This dataset is assimilated from a number of networks and publications. These data are not available for download through the wiDB, but can be accessed from the original data sources. Projects 00134 - 00139, (Vogel and van Urk, 1975; Beekman and amd K.J. de Vries, 1998; E., 2000; Meyer, 2001; Harris et al., 2010; Abiye, 2013).

JAMESTEC isotope sampling: Monthly scale *Precipitation* and *River_or_stream* samples from across southeast Asia and Siberia. Sampling occurred between 2001 and 2012. These data are not available from the wiDB, but are available through the JAMSTEC website. Event scale precipitation data are available from the data contributors upon request. Project 00167, (Kurita and Ichiyanagi, 2008).

Tibetan Plateau river waters: Collection of *River_or_stream*, *Snow_pit*, *Spring*, *Lake*, *Precipitation* from the Tibetan Plateau and surrounding regions. Samples were collected between 1998 and 2013. Data were assimilated for a meta-analysis (Li and Garzione, 2017). We accessed data from original sources when possible. Projects 00170-00179, (Ding et al., 2009; Hren et al., 2009; Bai et al., 2012; Bershaw et al., 2012; Hoke et al., 2014; Liu, 2014; Xu et al., 2014; Liu et al., 2015; Li and Garzione, 2017).

2.2 Agency data

2.2.1 EPA

National Lakes Assessment: *Lake* samples collected across the US during 2007 as part of National Lakes and Ponds Assessment. Project 00011, (Brooks et al., 2014).

Willamette River Basin: *River_or_stream* samples from Willamette River Basin in western Oregon, US. Samples were collected between 2008 and 2010. Project 00011, (Brooks et al., 2012).

Oregon Precipitation: Ongoing collection of *Precipitation* samples from Oregon, US collected between 2002 and 2015. Project 00016, (Brooks, 2017a).

National Rivers and Streams Assessments: *River_or_stream* samples from 2007-2008 and 2013-2014 as part of National River and Streams Assessment. Over 2000 sites were sampled during each campaign. The 2007-2008 data are available for

download from the wiDB, and 2013-2014 data will be available upon publication of the EPA NRSA report. Projects 00165 and 00140, (Brooks, 2009, 2014).

Pipestem Creek Prairie Pothole: Collection of *Ground*, *Lake*, *Precipitation*, *River_or_stream* samples for a wetland connectivity study. Samples were collected between 2014 and 2015. Project 00155, (Brooks et al., 2018).

2.2.2 USGS

AIRMoN: Collection of 7 *Precipitation* samples at 7 sites across eastern US, integrating 1992 to 1994. Project 00005, (Coplen and Huang, 2000).

NASQAN/HBN: *River_or_stream* at 391 sites across the US between 2002 and 2015. Project 00048, (Deacon and Woodside, 2015).

USA Tapwater: *Tap* water samples from 349 sites across the US collected between 2007 and 2008. Project 00090, (Coplen et al.).

Hawaii Groundwater: *Ground* and *Precipitation* samples from Hawaii, US collected between 1992 and 1994. Project 00111, (Scholl et al., 1996).

Puerto Rico Hydrology: Collection of *Precipitation*, *River_or_stream*, *Ground* and *Cloud_or_fog* samples from across Puerto Rico collected between 1994 and 2013. Project 00129, (Scholl et al., 2014).

Yellowstone National Park LMWL: *Precipitation* and *Snow_pit* data from Yellowstone National Park region, US collected between 1999 and 2001 to establish a local meteoric water line for the region. Project 00190, (Benjamin et al., 2005).

US Water Quality Field/Lab Samples: *Ground* and *Spring* waters from across the United States, spanning 1900 through 2018. Project 00210, (Survey, 2019).

2.2.3 Other Agencies

Critical Zone Observatory, US: *River_or_stream* samples collected at the Shale Hills Observatory between 2009 and 2011. Project 00130, (Duffy, 2011).

Ontario Geological Survey, CA: *Ground* water measurements from Ontario, CA in 2014. Project 00113, (Hamilton, 2015).

DIHA-PUC surface waters, CL: *Ground*, *Precipitation*, *River_or_stream*, *Lake*, *Canal*, and *Spring* water collected from Salar de Huasco, CL between 1991 and 2015. Projects 00191, 00192, 00193, 00194, (Salazar et al., 1998; DIH, 2009; Uribe et al., 2015; Sanchez-Murillo et al., 2017).

MAF Biosecurity and Department of Conservation, NZ: Monthly scale *Precipitation* collections from 2007 through 2010. Project 00204, (Frew, 2015).

Idaho Groundwater quality: *Ground* and *Spring* samples from across Idaho, US, spanning 1997 through 2016. Project 00206, (IDG).

2.3 Published data

2.3.1 Precipitation

Project 00006: A single sample spanning 1995 through 1998 at St. Louis, MO, US (Criss, 1999).

Project 00013: Five samples from 1989 collected in southern California, US, collected in 1989 (Friedman et al., 1992).

Project 00014: 278 samples from the western US collected between 1991 and 1994 (Friedman et al., 2002a, b).

Project 00017: 44 samples from Butte, MT, US, collected in 2004 (Gammons et al., 2006).

Project 00022: 94 samples from Nebraska, US collected between 1989 and 1994 (Harvey and Welker, 2000).

Project 00023, 00024: 90 samples from Mead, NE, US collected between 1992 and 1999 (Harvey, 2001).

Project 00025: 104 samples from Pawnee National Grasslands, CO, US between 1994 and 1998 (Harvey, 2005).

Project 00027: 178 monthly scale samples collected at 4 sites near Sydney, AU between 2005 and 2009 (Hughes and Crawford, 2013).

Project 00029: One sample collected from Nevada, US in 1986 (Ingraham et al., 1991).

Project 00030: Over 100 samples collected from 2 sites in Iowa, US collected between 2001 and 2002 (Iqbal, 2008).

Project 00031: 98 Samples collected between 1992 and 2002 at Ames, IA, US (Simpkins, 1995; Iqbal, 2008).

Project 00036: A single sample at a single site that integrates *Precipitation* between 1985 and 1987 in Wisconsin, US (Krabbenhoft et al., 1990).

Project 00037: 243 samples collected at 5 sites in Russia between 1996 and 2000 (Kurita et al., 2004).

Project 00039: 72 samples collected at 72 sites across Italy collected between 1996 and 2002 (Longinelli and Selmo, 2003).

Project 00041: 48 event-scale samples at one site in Kalamazoo, MI, US collected between 1993 and 1994 (Machavaram and Krishnamurthy, 1995).

Project 00049: Single sample collected integrating 1985 through 1985 at Lubbok, TX, US (Nativ and Riggio, 1990).

Project 00052: 120 monthly samples from Calgary, AB, CA collected between 1992 and 2001 (Peng et al., 2004).

Project 00051: 20 samples at 4 sites in Nevada, US collected between 2013 and 2014 (Oerter et al., 2017).

Project 00053: 532 samples at 20 sites in Taiwan, CN collected between 1993 and 2008 (Peng et al., 2010).

Project 00055: 279 samples at 5 sites in Florida, US collected between 1997 and 2006 (Price et al., 2008).

Project 00057: 48 event scale 2 sites in Washington State, US collected between 2000 and 2001 (Robertson and Gazis, 2006).

Project 00060: 713 samples at 126 sites on the East Coast of US who recieved precipitation from Superstorm Sandy in 2012. Samples are sub-daily resolution, and come from a network of contributors (Good et al., 2014).

Project 00062: One sample from Ames, IA that integrates all of 1992 (Simpkins, 1995).

Project 00080: 18 samples from a single site in Taipai, Taiwan, CN collected between 1997 and 1998 (Wang and Peng, 2001).

Project 00084: 842 monthly samples from 16 sites in the mountainous region surrounding Nagano, JP collected between 2010 and 2015 (Yamanaka et al., 2015).

Project 00085: A single sample integrating the calendar year of 1982 at Alburquerque, NM, US (Yapp, 1985).

Project 00086: 72 monthly scale samples collected at 6 sites across Mongolia collected between 2002 and 2003 (Yamanaka et al., 2007).

Project 00096: 318 event-scale samples at a single site in Guangzhou, CN collected between 2007 and 2009 (Xie et al., 2011).

Project 00100: 58 event-scale samples at 3 sites in Riyadh, SA collected between 1974 and 2013 (historical data and recent collection) (Michelsen et al., 2015).

Project 00101: 31 event-scale samples at one site in Bangalore, IN in 2010 (Rahul et al., 2016).

Project 00128: 91 event-scale samples at one site in Utquiagvik, AK, US between 2009 and 2013 (Putman et al., 2017).

Project 00132: 925 samples at 1 site in California, US collected between 2008 and 2014 (Oshun et al., 2016).

Project 00143: 32 samples integrating multiple months from 8 sites across Hawaii, US between 2013 and 2014 (Fackrell, 2016).

Project 00151: 2302 samples, including *Cloud_or_fog*, from 9 sites on Mt. Kilimanjaro, TZ collected between 2012 and 2014 (Otte et al., 2017).

Project 00153: 330 event-scale samples from 9 sites in the Galapagos, EC collected between 2012 and 2016 (Martin et al., 2018).

Project 00156: 204 event-scale samples from 2 sites in the Alxa Desert Plateau, CN collected between 2013 and 2017 (Rao et al., 2018).

Project 00159: 140 event-scale samples from one site at Mossel Bay, ZA collected between 2009 and 2012 (Braun et al., 2017).

Project 00160: 49 event-scale samples at one site in Mossel Bay, ZA collected between 2006 and 2007 (Bar-Matthews et al., 2010).

Project 00161: 1030 event-scale samples at 1 site in Gunning Mulu National Park, MY collected between 2006 and 2011 (Moerman et al., 2013).

Project 00168: 25 event-scale samples at 2 sites in southern Australia collected between 2009 and 2011 (Guan et al., 2013).

Project 00185: 233 monthly-scale samples including 10 *Lake* samples from 15 sites in central-eastern Africa collected between 2013 and 2015 (Balagizi et al., 2018).

Project 00187: 325 event-scale samples, including 181 *Cave_drip* samples from 2 sites in the Iberian Peninsula collected between 2010 and 2012 (Moreno et al., 2014).

Project 00188: 184 paired *Precipitation* and *Vapor* samples at one site in Heidelberg, DE collected between 1981 and 1988 (Jacob and Sonntag, 1991).

Project 00203: 178 samples, including 73 *River_or_stream* samples from 82 sites in the Andes Mountains collected between 2002 and 2010 (Hoke et al., 2013).

Project 00158: 173 samples at one site in the Yamdruk-tso catchment, Southern Tibetan Plateau collected between 2004 and 2007 (Tian et al., 2008).

Project 00207: 446 samples from one site in central Indiana, US collected between 2014 and 2018 (Tian and Wang, 2019).

Project 00209: 1343 event-scale samples from one site at Summit, GR, collected between 2011 and 2014 Kopec et al. (2019).

2.3.2 Surface waters

Project 00012: 250 *River_or_stream* samples from Bolivia collected between 2009 and 2012 (Fiorella et al., 2015).

Project 00019: 358 *Lake* and *River_or_stream* samples from 205 sites from various depths near river outlets in eastern Lake Michigan, US collected between 2012 and 2014 (Jameel et al., 2018b).

Project 00034: 514 *Lake* samples from 80 sites and various depths in Laurentian Great Lakes, US, collected in 2007 (Jasechko et al., 2014).

Project 00073: 24 *River_or_stream* samples at 24 sites in Big Cottonwood Canyon, UT, US, collected in 2011 (Tipple, 2015).

Project 00092: 366 *Lake*, *River_or_stream*, *Ground*, *Precipitatation*, *Spring* and *Tap* samples from 266 sites across Ethiopia and Kenya collected between 1975 and 2007 (Levin et al., 2009).

Project 00093: 208 *Lake* samples at 184 sites in Alaska, US collected between 2007 and 2011 (Anderson et al., 2013).

Project 00103: 350 *Lake* and *River_or_stream* samples from 139 sites from Ethiopia collected between 1976 and 2005, (Kebede et al., 2009).

Project 00107: 185 *Lake* samples from 184 sites in Northern Canada collected in 1993 (Gibson and Edwards, 2002).

Project 00112: 76 *Lake* samples from 58 sites in western China collected between 2010 and 2012 (Wen et al., 2016).

Project 00115: 28 *River_or_stream* samples from one site in Fairbanks, AK, US collected between 2005 and 2006 (Douglas et al., 2013).

Project 00117: 75 samples at 25 sites along the Jordan River, UT, US, collected in 2016 (Follstad Shah et al., 2019).

Project 00119: 404 *River_or_stream* samples from 357 sites from across Alaska, US and Yukon, CA collected between 2005 and 2006 (Lachniet et al., 2016).

Project 00120: 71 *River_or_stream* and *Tap* samples from 71 sites around Patagonia, AR and CL, collected in 2005 (Smith and Evans, 2007).

Project 00121: 76 *River_or_stream*, *Lake* and *Canal* samples from 75 sites across CO, northeast of Bogota, collected between 2008 and 2009 (Saylor et al., 2009).

Project 00122: 1179 *River_or_stream*, *Precipitation* and *Snow_pit* samples from 169 sites in and near the Togiak National Wildlife Refuge, AK, US collected between 2011 and 2013 (Lisi et al., 2015).

Project 00123: 1714 *River_or_stream* and *Ground* samples from 199 sites from Canada and northern United States collected between 1963 and 2011 (Jasechko et al., 2017).

Project 00124: 237 *River_or_stream* from 236 sites in northwest Argentina collected between 2010 and 2013, (Rohrmann et al., 2014).

Project 00125: 257 *River_or_stream* and *Lake* samples from 257 sites in Peru and Bolivia collected between 2007 and 2014 (Bershaw et al., 2012).

Project 00126: 8 *River_or_stream* samples at 8 sites in Huaraz, PE, collected in 2005 (Giovanni et al., 2010).

Project 00127: 124 *Lake* samples from 116 sites across the western United States collected between 2006 and 2008 (Henderson and Shuman, 2009).

Project 00142: 54 *River_or_stream*, *Lake* and *Ground* samples from 54 sites in Ecuador collected between 2014 and 2017 (Florea et al., 2017).

Project 00145: 158 *Lake* samples from 63 sites in the Peace-Athabasca Delta lakes region, Northern Alberta, CA collected between 2000 and 2006. Note that sample sites were not provided so site geographic information was estimated using the sites map and Google Earth (Yi et al., 2008).

Project 00157: 307 *Lake* and *Precipitation* samples from 2 sites near Cona Lake, CN collected between 2011 and 2013 (Cui et al., 2017).

Project 00180: 150 *River_or_stream*, *Lake*, *Spring*, *Ground*, *Precipitation*, and *Snow_pit* samples from 106 sites along transects from California into Nevada and Oregon, US collected between 1979 and 1985 (Ingraham and Taylor, 1991).

Project 00181: 116 *River_or_stream*, *Lake*, *Spring*, *Ground*, and *Precipitation* samples at 103 sites from Patagonia, AR and CL collected between 1998 and 2011 (Stern and Blisniuk, 2002).

Project 00182: 97 *River_or_stream*, *Spring*, and *Snow_pit* samples from 97 sites in California, US collected between 2008 through 2009 (Niemi and Lechler, 2012).

Project 00189: 110 *Lake* samples at 41 sites near Kangerlussuaq, GR, collected during summers between 2009 and 2013 (Kopec et al., 2018).

Project 00197: 19 *River_or_stream* samples from 10 sites along the Sava River, SI, HR and RS collected between 2014 and 2015 (Ogrinc et al., 2018).

Project 00205: 283 *River_or_stream* samples from 219 sites in Wyoming and Nebraska, US collected between 2011 and 2016 (Zhu et al., 2018).

2.3.3 Ground waters

Project 00043: 234 *Ground* water samples from 234 sites across Mexico, collected in 2007 (Wassenaar et al., 2009).

Project 00045: 106 *Ground* water samples from 106 sites across western Michigan, US collected between 2008 and 2009 (Bowen et al., 2012).

Project 00063: 677 *Ground* and *Tap* waters from 675 sites across South Africa collected between 2006 and 2010 (West et al., 2014).

Project 00108: 48 *Ground* water samples from 40 sites across the Great Plains states, US collected between 1984 and 1992 (Dutton, 1995).

Project 00110: 28 *Ground* waters from 26 sites near the Nile, EG. Sampling dates not recorded (Sultan et al., 2007).

Project 00154: 238 *Ground* water samples from 2011 sites in Manitoba, CA collected between 1984 and 2014 (Jasechko et al., 2017). These data not available for download from the wiDB, but may be available by contacting the data owner.

Project 00162: 984 *Cave_drip* and *Precipitation* samples from 15 sites near Gunung Mulu National Park, MY collected between 2006 and 2012 (Moerman et al., 2014).

Project 00169: 537 *Cave_drip*, *Soil*, and *Precipitation* samples from 1 site at Yangkao Cave, CN collected between 2011 and 2016 (Chen and Li, 2018).

Project 00186: 511 *Ground*, *Spring*, *Lake*, and *River_or_stream* samples at 474 sites in California, US collected between 1970 and 1995 (Williams and Rodoni, 1997).

Project 00200: 16 *Spring*, *Ground*, and *Lake* samples from 16 sites in the Galapagos Islands, EC, collected in 2007 (Warrier et al., 2012).

Project 00202: 92 *Ground*, *Stem*, and *Precipitation* from a single site in inner Mongolia collected between 2005 and 2006 (Yang et al., 2011).

Project 00208: 358 *Ground* samples from 358 sites near Melbourne, AU collected between 1900 and 1990 (Cartwright et al., 2012).

2.3.4 Tap and Bottled

Project 00046: 1013 *Tap* water samples from 48 sites across the United States and Canada collected between 2005 and 2008 (Kennedy et al., 2011).

Project 00058: 801 *Tap* water samples from 172 sites across the Salt Lake Valley, UT collected between 2013 and 2015 (Jameel et al., 2016).

Project 00065: 750 *Tap*, *River_or_stream*, and *Ground* waters from 11 sites across the Salt Lake Valley collected between 2015 and 2017 (Jameel et al., 2018a).

Project 00077: 513 *Tap* samples from 507 sites across the United States collected between 2002 and 2003 (Bowen et al., 2007).

Project 00104: 780 *Tap* samples from 95 sites across China collected between 2014 and 2015 (Zhao et al., 2017).

Project 00105: 111 *Bottled*, *Tap*, *River_or_stream*, and *Lake* samples collected at 111 sites in western Europe, collected in 2005 (Bowen et al., 2017)

Project 00114: 720 *Tap* samples from 263 sites around San Francisco, CA, US collected between 2013 and 2015 (Tipple et al., 2017).

Project 00146: 91 *Bottled* samples from 74 sites from all around the world collected between 1995 and 2004 (Bowen et al., 2005).

Project 00147: 58 *Tap* samples from 58 sites across Mississippi, US, collected in 2014 (Warner et al., 2018).

Project 00164: 2099 *Tap* samples from 177 sites across China collected between 2014 and 2016 (Wang et al., 2018).

Project 00201: 38 *Tap* and *Spring* samples from 21 sites in Germany collected between 2016 and 2017 (Chen et al., 2017).

2.3.5 Ice and snow

Project 00007: 215 *Ice_core* samples from Camp Century in northwest Greenland, representing 1761 to 1975 (Dansgaard et al., 1969).

Project 00008 : 629 *Ice_core* samples from the Agassiz Ice Cap, Canada, representing 1349 through 1977 (Fisher et al., 1995).

Project 00018: 215 *Ice_core* samples from GRIP/GISP2, Greenland, representing 1772 through 1986 (White et al., 1997).

Project 00026: 1885 *Ice_core* samples from East Rongbuk Glacier, Mt. Everest, China, representing 1843 through 1997 (Shugui et al., 2003).

Project 00047: 252 *Ice_core* samples from Mt. Logan, Yukon Territory, Canada, representing 1736 through 1987 (Moore et al., 2002).

Project 00050: 459 *Ice_core* samples at 2Barrel and 70 *Ice_core* samples at Galen in Greenland, representing 1989 through 2012 (Wong et al., 2013).

Project 00068: 36 *Ice_core* samples from Taylor Dome, Antartica, representing 1902 through 1983 (Steig et al., 2000).

Project 00069: 149 *Ice_core* samples from Gomez Glacier, Antartica, representing 1857 through 2005 (Thomas et al., 2009).

Project 00070: 547 *Ice_core* samples from Dasuopu Glacier, China, representing 1450 through 1996 (Thompson et al., 2000).

Project 00071: 1010 *Ice_core* samples from Quelccaya summit dome, Peru, representing 1000 through 2009 (Thompson et al., 2013).

Project 00072: 2399 *Ice_core* samples from Huascaran, Peru, representing 1893 through 1993 (Thompson et al., 1995).

Project 00083: 464 *Ice_core* samples from the Eclipse ice field, Alaska, US, representing 1895 through 1996 (Yalcin et al., 2007).

Project 00091: 302 *Snow_pit* samples at 20 sites across Greenland, from the Greenland Inland Traverses of 2010 and 2011 (Wong et al., 2015).

2.3.6 Saline waters

Project 00102: 39 saline *Lake*, *Ground*, *Precipitation*, *River_or_stream* and *Snow_pit* samples from 16 sites in the Aral Sea region (KZ, UZ) collected between 2004 and 2006 (Oberhänsli et al., 2009).

Project 00118: 31 saline *Lake* samples from the Great Salt Lake, UT in 2016 (Nielson and Bowen, 2010).

Project 00141: 393 *Ocean* samples at 93 sites in the Baltic Sea collected between 2010 and 2011 (Torniainen et al., 2017).

Project 00148: 23 *Ocean* samples collected at 16 sites near Manus, PG, in 2013 (Conroy et al., 2016).

Project 00149: 564 *Ocean* samples collected at 70 sites near 4 Pacific islands between 2012 and 2016 (Conroy et al., 2017).

Project 00150 191 *Ocean* samples collected at 66 sites from a transect in the western Pacific in 2012 (Conroy et al., 2014).

2.4 Unpublished data

These data were shared as a personal communication by the data owner. Though most data are available through the wiDB, some are embargoed upon the request of the data owner. These may be available from the data owner upon request.

2.4.1 Precipitation

Project 00004: 332 samples at 2 sites in eastern Canada collected between 1997 and 2010 (Grimes, 2013). These data are not not available for download from the wiDB, but may be available upon request from the data contributor.

Project 00038: 141 samples at 1 site in Saskatoon, CA collected between 1990 and 2006 (Wassenaar, 2013).

Project 00042: 1250 samples at 1 site in Calgary, CN collected between 2003 and 2016 (Mayer, 2016).

Project 00054: 272 samples at 2 sites in Salt Lake City, UT, US collected between 2012 and 2019 (Bowen, 2019).

Project 00061: 86 samples at a site near Las Angeles, CA, US collected between 2006 and 2010 (Sessions, 2011).

Project 00078: 5641 *Precipitation*, *Vapor*, *River_or_stream*, *Tap*, and *Ground* water at 206 sites around Utah, US collected between 1988 and 2016 (Ehleringer, 2014).

Project 00087: 94 samples at 50 sites across eastern US, collected during a major storm in 2011 (Bowen, 2011).

Project 00089: 49 samples from West Lafayette, IN, US collected between 2009 and 2010 (Bowen, 2010).

Project 00109: 1373 samples from 8 sites in the Pacific Northwest, US collected between 2007 and 2017 (Csank, 2017). These data are not not available for download from the wiDB, but may be available upon request from the data contributor.

Project 00133: 270 samples from Utquiagvik, AK, US and Chersky, RU collected between 2010 and 2016 (Feng, 2018). These data are not not available for download from the wiDB, but may be available upon request from the data contributor.

Project 00152: 993 samples at 18 sites across western Europe collected between 2014 and 2015 (Nelson, 2018). These data are not not available for download from the wiDB, but may be available upon request from the data contributor.

Project 00196: 652 samples at 2 sites near the Great Lakes, US collected between 2014 and 2018 (Thomas, 2018). These data are not not available for download from the wiDB, but may be available upon request from the data contributor.

2.4.2 Surface waters

Project 00009: 370 *River_or_stream*, *Precipitation*, *Spring*, *Tap*, and *Lake* samples from 270 sites in Central Asia collected between 2003 and 2008 (Hynek, 2013).

Project 00021: 75 *River_or_stream* samples from 40 sites in Utah, Wyoming, and Idaho, US collected between 2013 and 2014 (Jameel, 2013a).

Project 00056: 921 *River_or_stream* samples from 4 sites in Red Butte Creek, UT, US collected between 2012 and 2015 (Tulley-Cordova, 2014).

Project 00064: 484 assorted samples from 435 sites around the Salt Lake Valley, UT collected between 2013 and 2018 as part of the SPATIAL shortcourse (Bowen, 2018a).

Project 00066: 2026 *River_or_stream*, *Ground*, *Precipitation*, and *Spring* samples from 330 sites across the Navajo Nation collected between 2014 and 2017 (Tulley-Cordova, 2018).

Project 00067: 80 *River_or_stream*, *Ocean*, and *Lake* samples from 43 sites around Patagonia, CL and AR, collected in 2013 (Good, 2013).

Project 00079: 296 *River_or_stream* samples from 189 sites in central Indiana, US, collected in 2012 (Bowen, 2012).

Project 00082: 9 *Lake* samples at 9 sites around Wheatfields Lake, Navajo Nation, collected in 2013 (Tulley-Cordova, 2013).

Project 00088: 7 *Ground*, *River_or_stream*, and *Lake* samples from around Utah, US, collected in 2014 (Carricaburu, 2014).

Project 00094: 13 samples from 6 sites across Egypt, collected in 2008 (Cerling, 2017).

Project 00095: 204 *Ground*, *River_or_stream*, and *Precipitation* samples from Red Butte creek, UT collected between 2015 and 2016 (Brooks, 2017b).

Project 00097: 54 *River_or_stream* samples from 9 sites in central Indiana, US collected between 2006 and 2008 (Bowen, 2008).

Project 00116: 96 assorted samples from 66 sites across Iran collected between 2008 and 2010 (Mirzaie, 2018).

Project 00144: 19 *Ground*, *River_or_stream*, and *Lake* samples from across southern Ecuador, collected in 2018 as part of a learning abroad class (Johnson, 2018).

Project 00183: 75 *Tap*, *River_or_stream*, and *Lake* samples collected in 2018 from across the southeastern US (Beasley, 2018).

Project 00184: 107 *Lake*, *River_or_stream*, and *Precipitation* samples at 47 sites in Wyoming, US, collected in 2012 (Fiorella, 2012).

Project 00195: 12 *Lake* and *River_or_stream* samples at 12 sites in the Wind Rivers, WY, US, collected in 2018 (Fiorella, 2018).

Project 00199: 7 *River_or_stream* and *Spring* samples at 7 sites in Hop Valley, Zion National Park, UT, US, collected in 2018 (Stanczyk, 2018).

2.4.3 Tap and Bottled

Project 00003: 9 mostly *Tap* samples from 9 sites in Texas, US collected between 2014 and 2017 (Bowen, 2013).

Project 00028: 33 *Tap* and *Ground* samples at 21 sites across eastern India, collected in 2013 (Jameel, 2013b).

Project 00044: 89 *Tap* and *Bottled* samples at 63 sites in central and southern Mexico collected between 2013 and 2014 (Juarez, 2015).

Project 00059: 560 *Tap* samples from 195 sites in the Salt Lake Valley, UT, US collected between 2013 and 2017 (Bowen, 2017).

Project 00098: 276 *Lake*, *River_or_stream*, *Tap*, and *Ground* waters from 276 sites across the northwestern United States, collected in 2016 (Chesson, 2016).

Project 00131: 24 *Tap*, *River_or_stream*, *Spring* and *Ice_core* samples from 24 sites across Iceland, collected in 2017 (Popp, 2018). These data are not not available for download from the wiDB, but may be available upon request from the data contributor.

Project 00166: 17 *Tap*, *Bottled*, *River_or_stream* samples from 13 sites in western Europe collected in 2018 (Bowen, 2018b).

Project 00198: 158 *Tap* and *Ground* samples from 158 sites across Mexico, collected in 2018 (Ammer, 2018). These data are not not available for download from the wiDB, but may be available upon request from the data contributor.

2.4.4 Ice and snow

Project 00002: 32 *Ice_core* samples near Greenland Ice Sheet summit, representing 1978 through 2009 (Osterberg and Kopec, Nov. 2015). These data are not not available for download from the wiDB, but may be available upon request from the data contributor.

Project 00163: 62 *Snow_pit* samples from the Cottonwood Canyons, Utah, US, collected in 2018 (Putman, 2018).

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