

COMPASS Data Products – Detailed List

Table last updated: 2022-01-14

Activity	Project Name	Data Product	Data Source	Ecosystem Domain	Measurement Frequency
1.1	EXCHANGE	Basic water quality (conductivity, pH, ORP, Alkalinity)	Lab	Water	Intermittent
1.1	EXCHANGE	Total suspended solids	Lab	Water	Intermittent
1.1	EXCHANGE	Water isotopes	Lab	Water	Intermittent
1.1	EXCHANGE	Major anions	Lab	Water	Intermittent
1.1	EXCHANGE	Major cations	Lab	Water	Intermittent
1.1	EXCHANGE	Dissolved organic carbon	Lab	Water	Intermittent
1.1	EXCHANGE	Total dissolved nitrogen	Lab	Water	Intermittent
1.1	EXCHANGE	Particulate organic carbon and nitrogen	Lab	Water	Intermittent
1.1	EXCHANGE	Colored dissolved organic matter	Lab	Water	Intermittent
1.1	EXCHANGE	Dissolved lignin phenols	Lab	Water	Intermittent
1.1	EXCHANGE	Dissolved total hydrolyzable amino acids	Lab	Water	Intermittent
1.1	EXCHANGE	Dissolved Fe(II)/Fe(III) speciation	Lab	Water	Intermittent
1.1	EXCHANGE	Dissolved organic matter composition	Lab	Water	Intermittent
1.1	EXCHANGE	Total organic carbon and nitrogen	Lab	Sediment	Intermittent
1.1	EXCHANGE	Lignin phenols	Lab	Sediment	Intermittent
1.1	EXCHANGE	Total hydrolyzable amino acids	Lab	Sediment	Intermittent
1.1	EXCHANGE	Fe(II)/Fe(III) speciation	Lab	Sediment	Intermittent
1.1	EXCHANGE	Metagenomics	Lab	Sediment	Intermittent
1.1	EXCHANGE	Oxygen drawdown rates	Lab	Sediment	Intermittent
1.1	EXCHANGE	Mineralogy	Lab	Sediment	Intermittent
1.1	EXCHANGE	Water Soluble organic matter composition	Lab	Sediment	Intermittent
1.1	EXCHANGE	pH, conductivity	Lab	Soil	Intermittent
1.1	EXCHANGE	Particle size distribution	Lab	Soil	Intermittent
1.1	EXCHANGE	Water retention	Lab	Soil	Intermittent

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Activity	Project Name	Data Product	Data Source	Ecosystem Domain	Measurement Frequency
1.1	EXCHANGE	Bulk density	Lab	Soil	Intermittent
1.1	EXCHANGE	Total carbon and nitrogen	Lab	Soil	Intermittent
1.1	EXCHANGE	Lignin phenols	Lab	Soil	Intermittent
1.1	EXCHANGE	Total hydrolyzable amino acids	Lab	Soil	Intermittent
1.1	EXCHANGE	Fe(II)/Fe(III) speciation	Lab	Soil	Intermittent
1.1	EXCHANGE	Metagenomics	Lab	Soil	Intermittent
1.1	EXCHANGE	Oxygen drawdown rates	Lab	Soil	Intermittent
1.1	EXCHANGE	Mineralogy	Lab	Soil	Intermittent
1.1	EXCHANGE	Water soluble organic matter composition	Lab	Soil	Intermittent
1.2	Synoptic Sites	Groundwater level	Sensor	Water	Continuous
1.2	Synoptic Sites	Groundwater dissolved oxygen concentration	Sensor	Water	Continuous
1.2	Synoptic Sites	Groundwater pH	Sensor	Water	Continuous
1.2	Synoptic Sites	Groundwater salinity	Sensor	Water	Continuous
1.2	Synoptic Sites	Respiration/CO ₂ flux	Sensor	Soil	Continuous
1.2	Synoptic Sites	CH ₄ flux	Sensor	Soil	Intermittent
1.2	Synoptic Sites	Electrical conductivity	Sensor	Soil	Continuous
1.2	Synoptic Sites	Water content	Sensor	Soil	Continuous
1.2	Synoptic Sites	Temperature	Sensor	Soil	Continuous
1.2	Synoptic Sites	Porewater pH	Sensor	Soil	Intermittent
1.2	Synoptic Sites	Porewater dissolved CO ₂ concentrations	Sensor	Soil	Intermittent
1.2	Synoptic Sites	Porewater dissolved CH ₄ concentrations	Sensor	Soil	Intermittent
1.2	Synoptic Sites	Air CO ₂ concentrations	Sensor	Soil	Intermittent
1.2	Synoptic Sites	Air CH ₄ concentrations	Sensor	Soil	Intermittent
1.2	Synoptic Sites	pH	Sensor	Soil	Intermittent
1.2	Synoptic Sites	Total carbon	Sensor	Soil	Intermittent

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Activity	Project Name	Data Product	Data Source	Ecosystem Domain	Measurement Frequency
1.2	Synoptic Sites	Total nitrogen	Sensor	Soil	Intermittent
1.2	Synoptic Sites	Sapflow	Sensor	Plant	Continuous
1.2	Synoptic Sites	Tree species	Sensor	Plant	Intermittent
1.2	Synoptic Sites	Tree DBH	Sensor	Plant	Intermittent
1.2	Synoptic Sites	Tree status	Sensor	Plant	Intermittent
1.2	Synoptic Sites	Litterfall	Sensor	Plant	Intermittent
1.2	Synoptic Sites	Hydraulic traits	Sensor	Plant	Intermittent
1.2	Synoptic Sites	Stem water potential	Sensor	Plant	Intermittent
1.3	Experimental	Respiration rates (CO ₂ , CH ₄ and N ₂ O)	Lab	Soil	Intermittent
1.3	Experimental	Greenhouse gas fluxes (CO ₂ , CH ₄ , and N ₂ O)	Lab	Soil	Intermittent
1.3	Experimental	SOM partitioning among POM, MAOM, DOM pools	Lab	Soil	Intermittent
1.3	Experimental	Redox sensitive species (Ferrous, Sulfide)	Lab	Soil	Intermittent
1.3	Experimental	Functional genes involved in anaerobic respiration pathways	Lab	Soil	Intermittent
1.3	Experimental	metagenomes and metatranscriptomes (deep sequencing)	Lab	Soil	Intermittent
1.3	Experimental	CH ₄ oxidation rate	Lab	Soil	Intermittent
1.3	Experimental	Microbial community analysis	Lab	Soil	Intermittent
1.3	Experimental	Stable isotope labeling	Lab	Soil	Intermittent
1.3	Experimental	Temporal DO measurements	Lab	Soil	Intermittent
1.3	Experimental	Respiration rates (CO ₂ , CH ₄ and N ₂ O)	Lab	Soil	Intermittent
1.3	Experimental	Ultra high resolution DOM composition	Lab	Soil	Intermittent
1.3	Experimental	Cation exchange capacity	Lab	Soil	Intermittent
1.3	Experimental	Percent base saturation	Lab	Soil	Intermittent
1.3	Experimental	Total carbon	Lab	Soil	Intermittent
1.3	Experimental	Total nitrogen	Lab	Soil	Intermittent

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Activity	Project Name	Data Product	Data Source	Ecosystem Domain	Measurement Frequency
1.3	Experimental	Ion concentrations	Lab	Soil	Intermittent
1.3	Experimental	pH	Lab	Soil	Intermittent
2.3	TEMPEST	pH	Sensor	Water	Intermittent
2.3	TEMPEST	Dissolved oxygen	Sensor	Water	Intermittent
2.3	TEMPEST	Electrical conductivity	Sensor	Water	Intermittent
2.3	TEMPEST	Groundwater level	Sensor	Water	Continuous
2.3	TEMPEST	Groundwater dissolved oxygen concentration	Sensor	Water	Continuous
2.3	TEMPEST	Groundwater pH	Sensor	Water	Continuous
2.3	TEMPEST	Groundwater salinity	Sensor	Water	Continuous
2.3	TEMPEST	Groundwater DOC	Sensor	Water	Continuous
2.3	TEMPEST	Turbidity	Lab	Water	Intermittent
2.3	TEMPEST	Dissolved organic carbon	Lab	Water	Intermittent
2.3	TEMPEST	Total dissolved nitrogen	Lab	Water	Intermittent
2.3	TEMPEST	Nutrient speciation and major ions	Lab	Water	Intermittent
2.3	TEMPEST	Colored-dissolved organic matter	Lab	Water	Intermittent
2.3	TEMPEST	Groundwater TDN	Lab	Water	Intermittent
2.3	TEMPEST	Nutrient speciation and major ions	Lab	Water	Intermittent
2.3	TEMPEST	Groundwater organic matter characterization	Lab	Water	Intermittent
2.3	TEMPEST	Groundwater CDOM	Lab	Water	Intermittent
2.3	TEMPEST	Air CO ₂ concentrations	Sensor	Soil	Intermittent
2.3	TEMPEST	Air CH ₄ concentrations	Sensor	Soil	Intermittent
2.3	TEMPEST	Respiration/CO ₂ flux	Sensor	Soil	Continuous
2.3	TEMPEST	CH ₄ flux	Sensor	Soil	Intermittent
2.3	TEMPEST	Electrical conductivity	Sensor	Soil	Continuous
2.3	TEMPEST	Water content	Sensor	Soil	Continuous

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Activity	Project Name	Data Product	Data Source	Ecosystem Domain	Measurement Frequency
2.3	TEMPEST	Temperature	Sensor	Soil	Continuous
2.3	TEMPEST	Porewater pH	Lab	Soil	Intermittent
2.3	TEMPEST	Porewater cation concentrations	Lab	Soil	Intermittent
2.3	TEMPEST	Porewater anion concentrations	Lab	Soil	Intermittent
2.3	TEMPEST	Porewater dissolved CO2 concentrations	Lab	Soil	Intermittent
2.3	TEMPEST	Porewater dissolved CH4 concentrations	Lab	Soil	Intermittent
2.3	TEMPEST	Microbial RNA	Lab	Soil	Intermittent
2.3	TEMPEST	Microbial DNA	Lab	Soil	Intermittent
2.3	TEMPEST	Ion concentrations	Lab	Soil	Intermittent
2.3	TEMPEST	pH	Lab	Soil	Intermittent
2.3	TEMPEST	Lime requirement	Lab	Soil	Intermittent
2.3	TEMPEST	Cation exchange capacity	Lab	Soil	Intermittent
2.3	TEMPEST	Percent base saturation	Lab	Soil	Intermittent
2.3	TEMPEST	Total carbon	Lab	Soil	Intermittent
2.3	TEMPEST	Total nitrogen	Lab	Soil	Intermittent
2.3	TEMPEST	Sapflow	Sensor	Plant	Continuous
2.3	TEMPEST	Specific leaf area	Sensor	Plant	Intermittent
2.3	TEMPEST	Optical leaf area	Sensor	Plant	Intermittent
2.3	TEMPEST	Stem CH4 flux	Sensor	Plant	Intermittent
2.3	TEMPEST	Stem CO2 flux	Sensor	Plant	Intermittent
2.3	TEMPEST	Stem Rn flux	Sensor	Plant	Intermittent
2.3	TEMPEST	Non-structural carbohydrates concentrations	Lab	Plant	Intermittent
2.3	TEMPEST	Tree species	Field	Plant	Intermittent
2.3	TEMPEST	Tree DBH	Field	Plant	Intermittent
2.3	TEMPEST	Tree status	Field	Plant	Intermittent

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2.3	TEMPEST	Litterfall	Field	Plant	Intermittent
2.3	TEMPEST	Foliar gas exchange	Field	Plant	Intermittent
2.3	TEMPEST	Hydraulic traits	Field	Plant	Intermittent
2.3	TEMPEST	Stem water potential	Field	Plant	Intermittent
	ModEx	Field-measured soil respiration from water manipulations	Synthesis	Soil	NA
	ModEx	Functional zonation iRF for Lake Erie and the Chesapeake Bay	Synthesis	Soil	NA
	ModEx	Belowground traits	Synthesis	Soil	NA
	ModEx	Soil cores	Synthesis	Soil	NA
	ModEx	Global ghost forests occurrence	Synthesis	Plant	NA
	ModEx	Aboveground biomass and elevation	Synthesis	Plant	NA
	ModEx	Chamber-based flux data	Synthesis	Plant	NA
	ModEx	Synthesized water chemistry data	Synthesis	Water	NA
	ModEx	Model products, including code and datasets	Modeling	Ecosystem	NA
	ModEx	Input datasets (PFT parameters, reaction rates, decay rates, initial condition, soil characteristics etc.)	Modeling	Ecosystem	NA
	ModEx	Sensitivity analyses	Modeling	Ecosystem	NA
	ModEx	Simulation results (GPP, NPP, LAI, etc. with temporal and spatial results)	Modeling	Ecosystem	NA