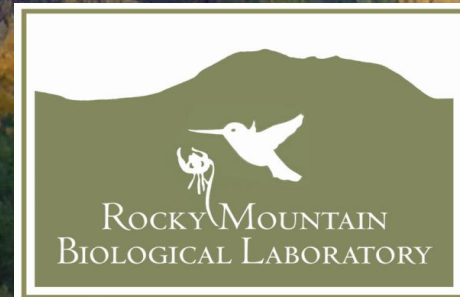
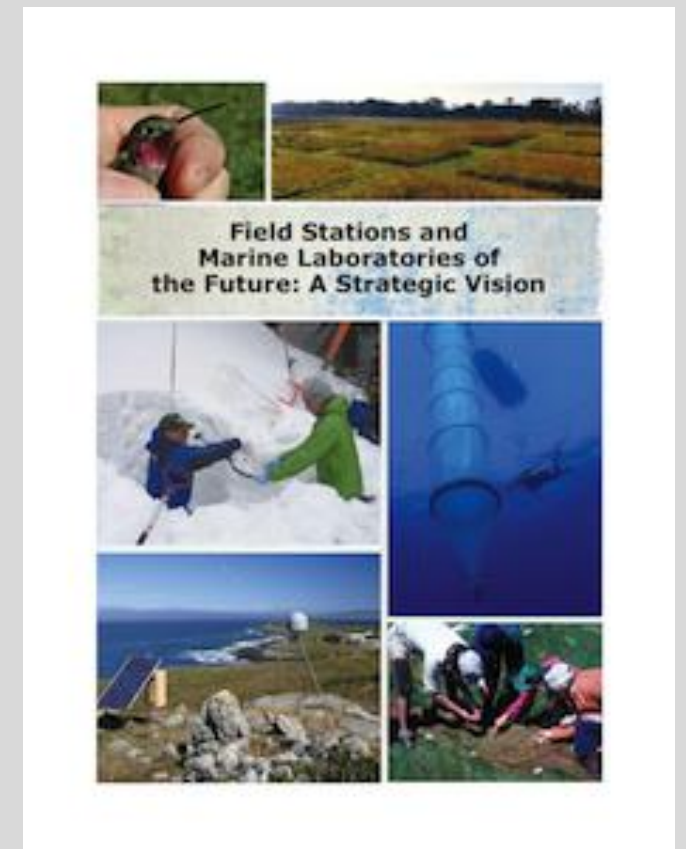
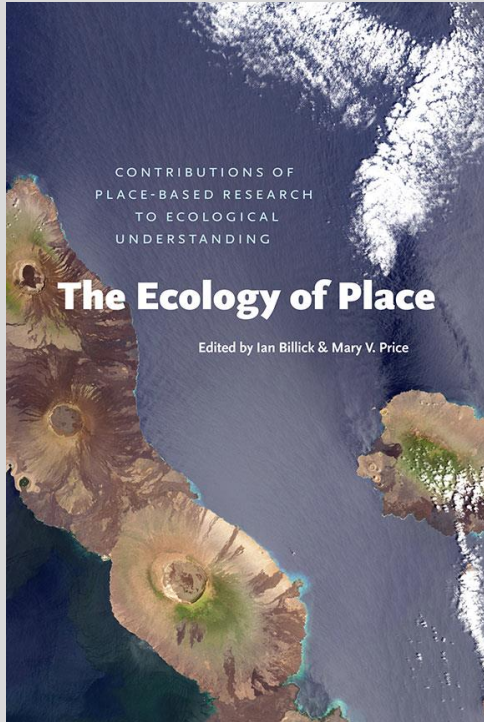


Ecology of Place: Field Stations of the Future

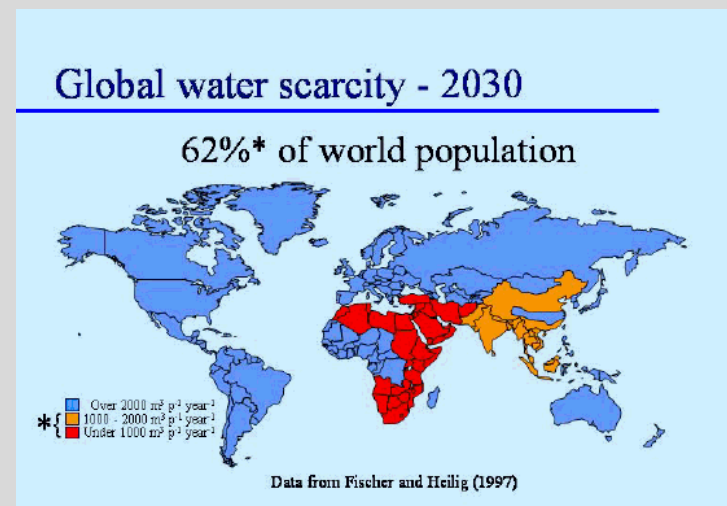
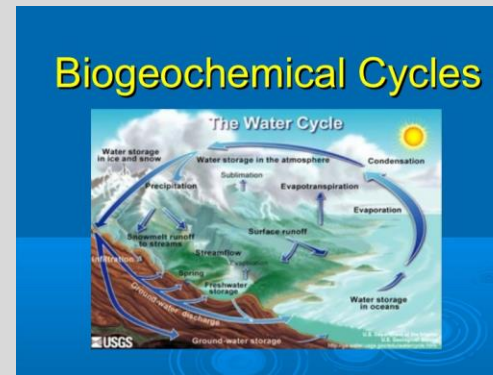


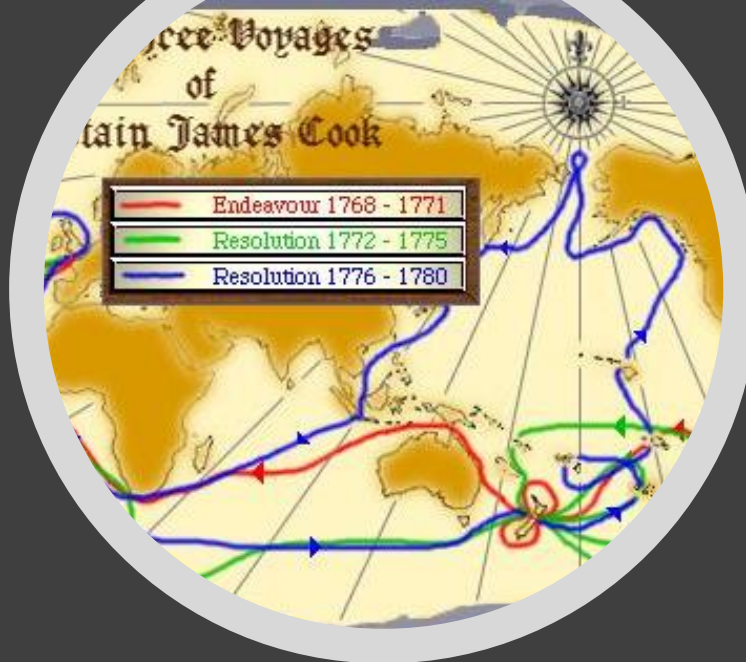
Who am I?



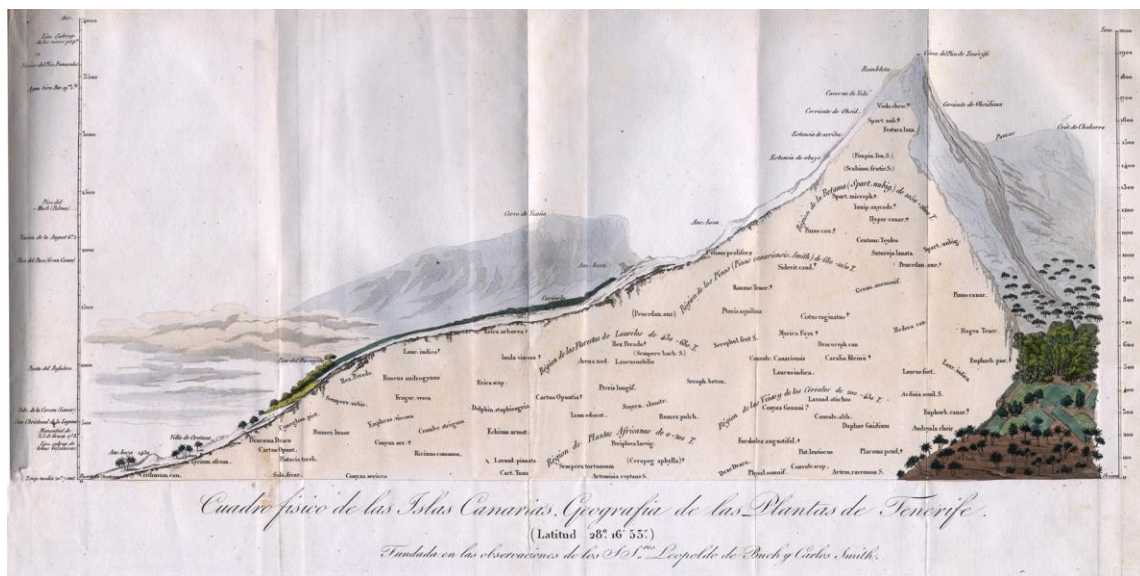
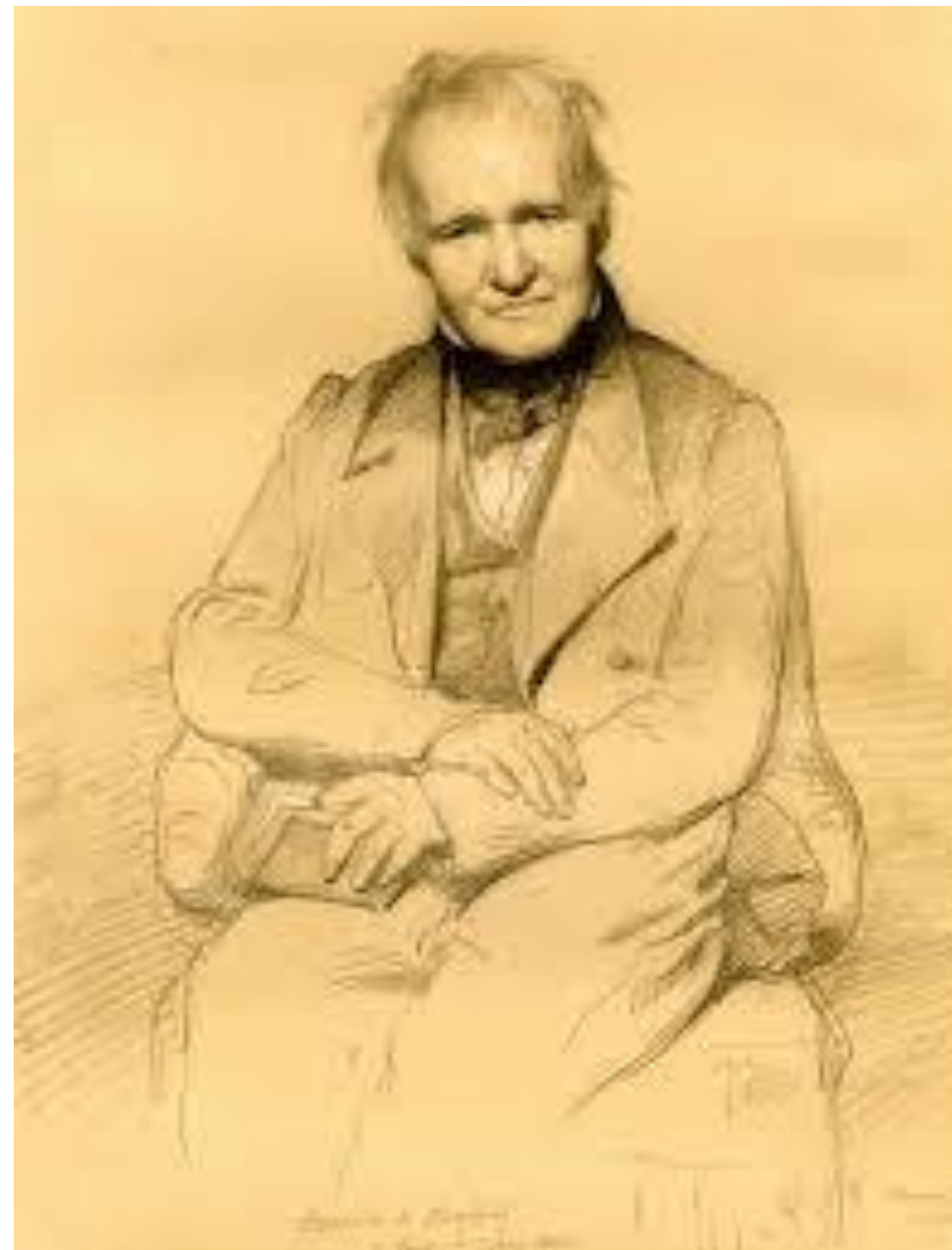
What You Do Really Matters

What Happens in the Field Shouldn't Stay in the Field
Ecosystem Services--\$33 trillion/yr and Quality of Life





What You Do: Exploration and Discovery
(dash of piracy?— William Dampier 1651-1715)



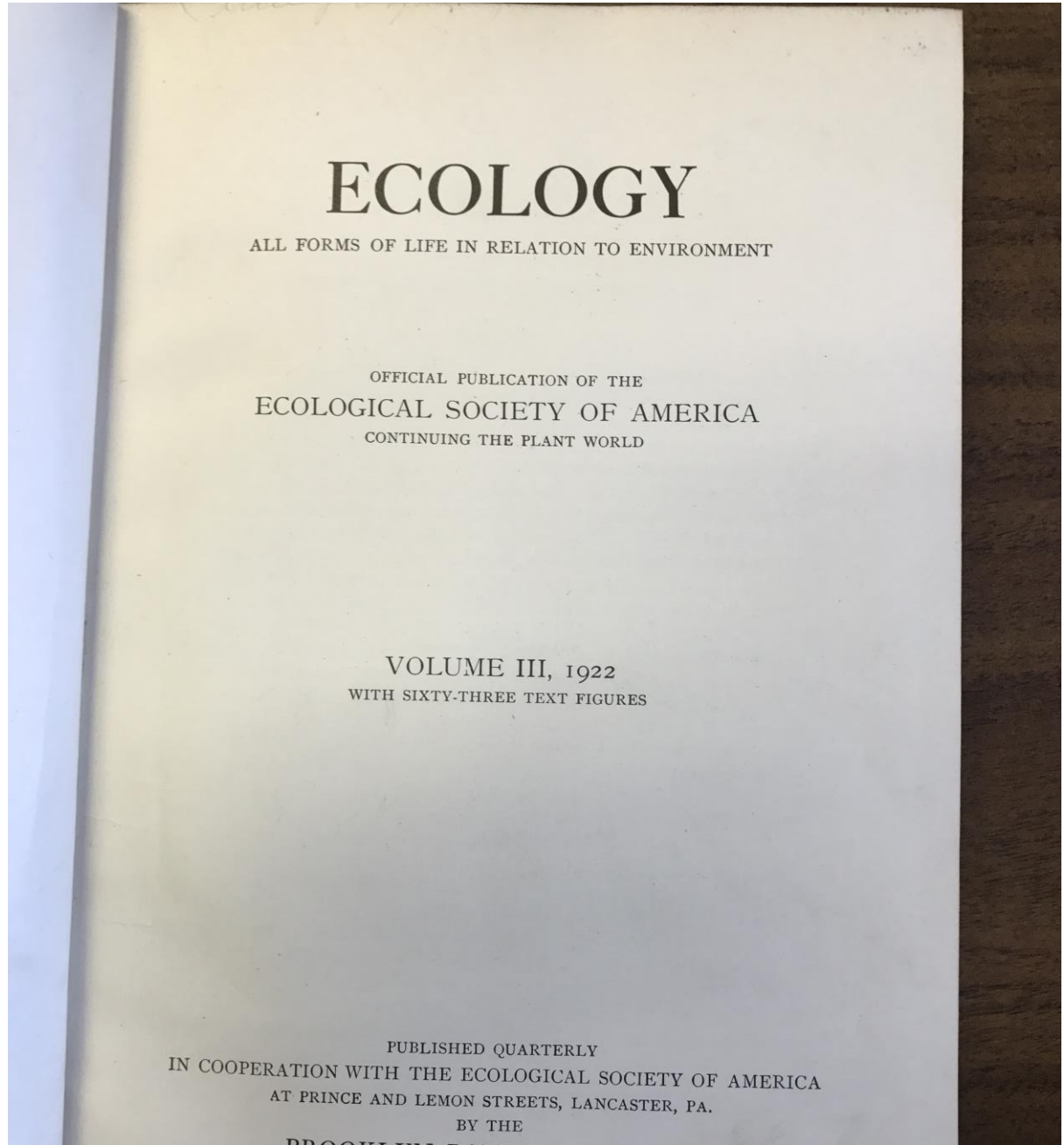
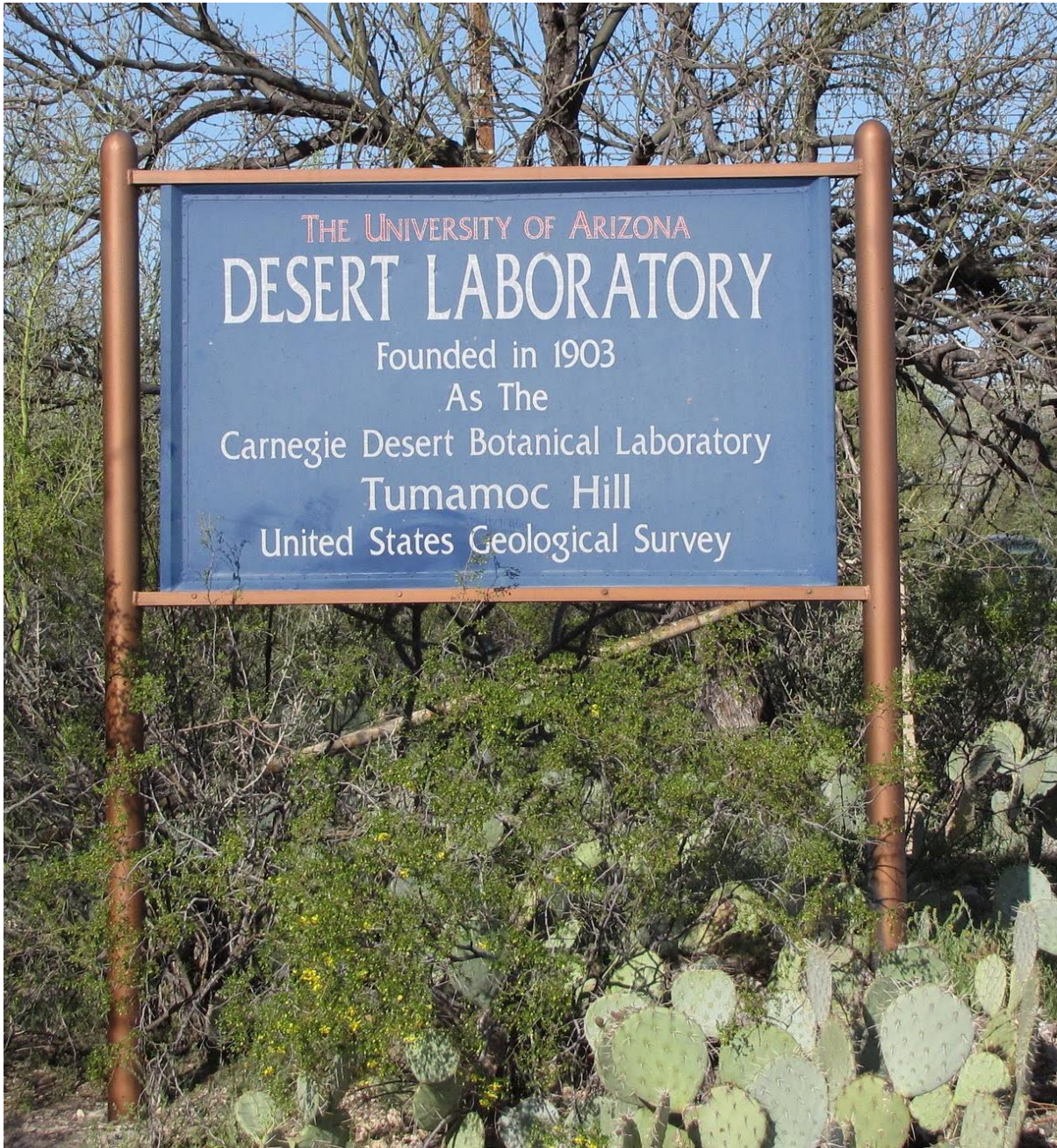


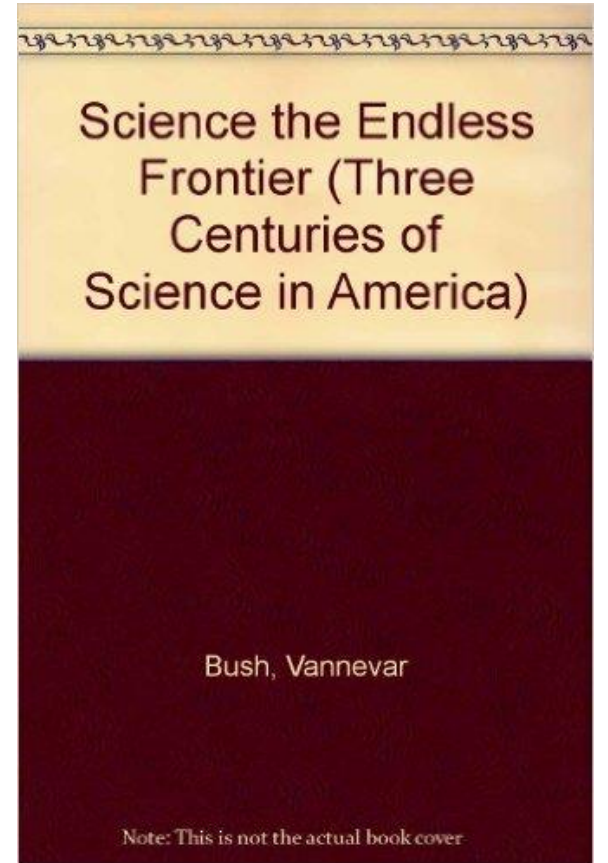
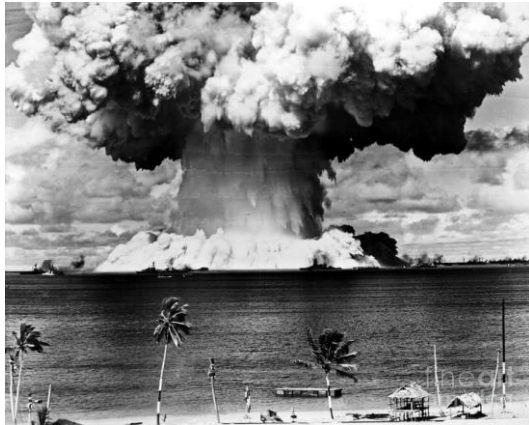
Anton Dohrn 1840-1909



1874: Zoologica Stazione







Emergence of Professional Research Class

Founded 1950



Manhattan Project



**1944 Public Health
Service Act**



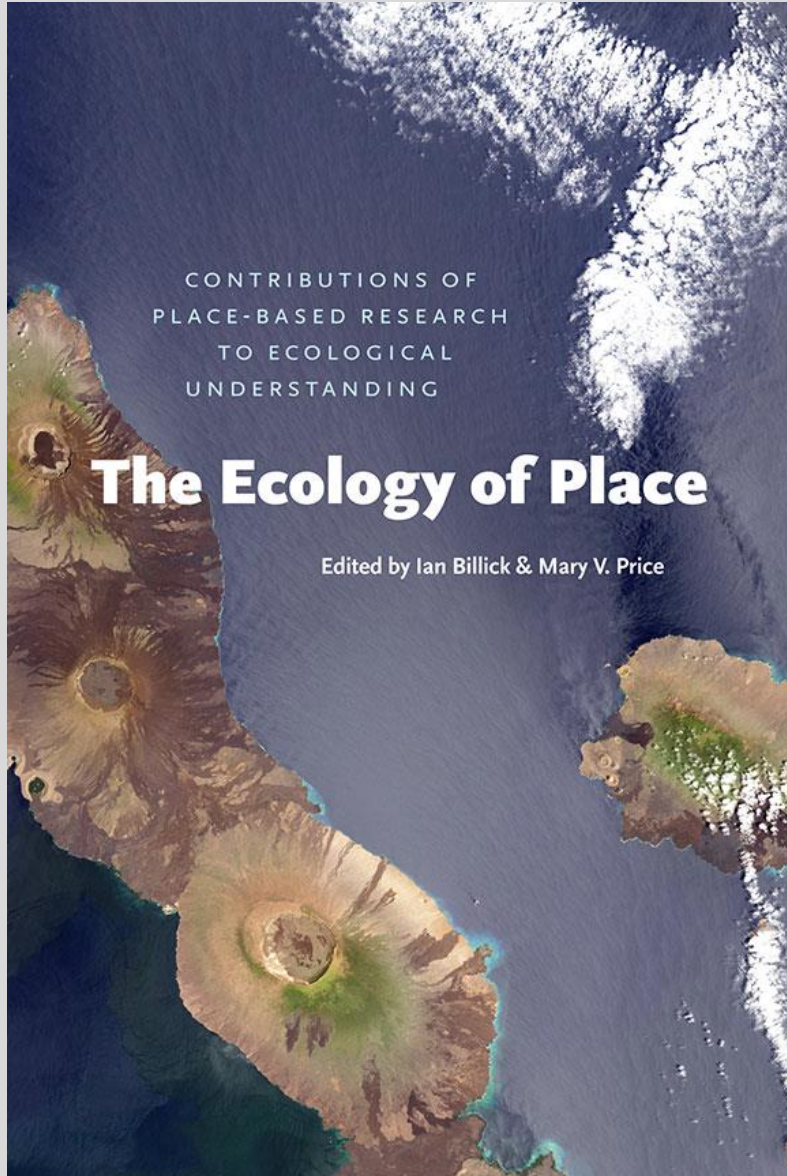
What Do Field Stations Do?

- Access
- Logistical Support
- Community (training, collaboration)





What Do Field Stations Offer: Ecology of Place



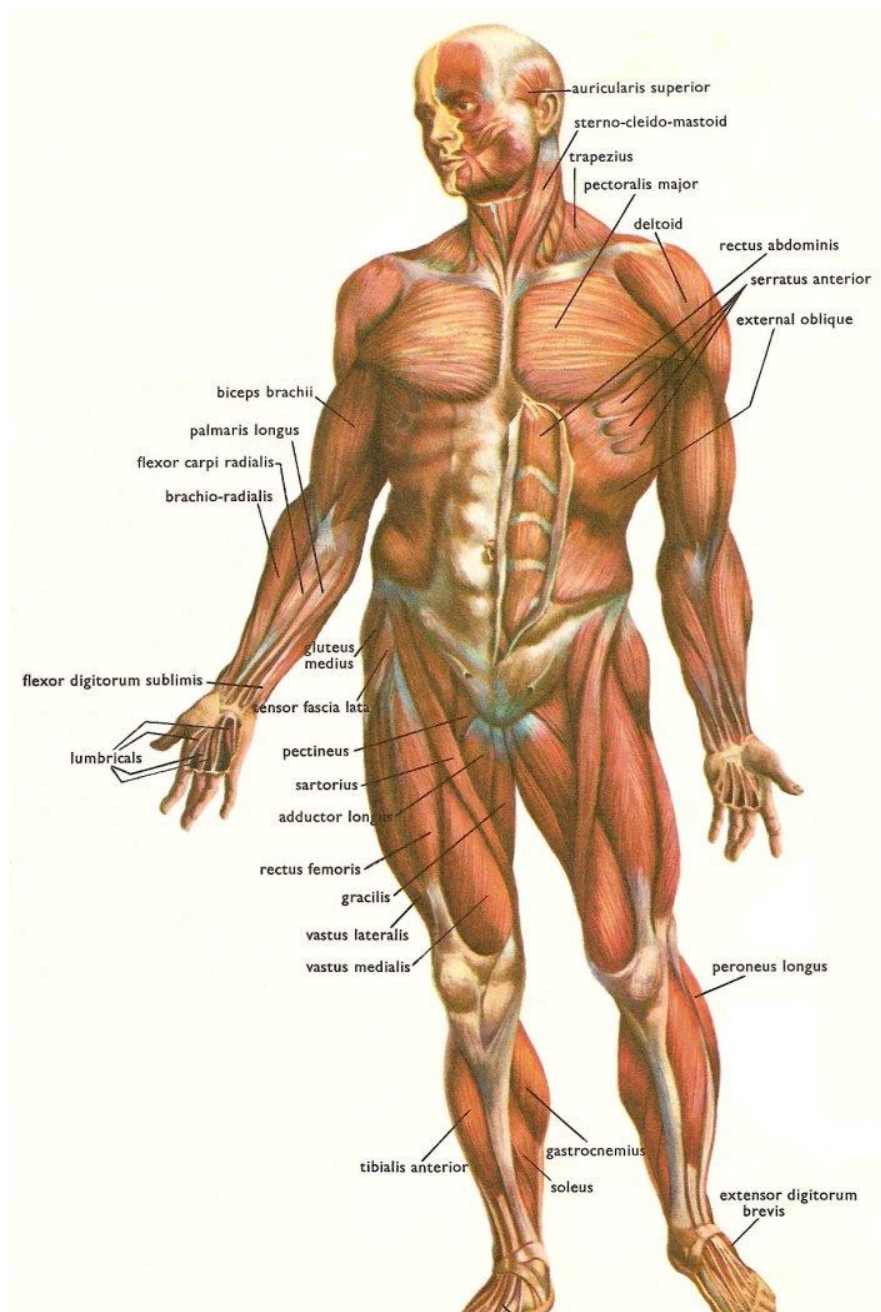


Table 5. Enhancer trap alleles

CGP	GENE	LINE	SITE	CPH	Strain	phenotype	Insert	Met	Stop	12	Insert	Met	Stop	13	Insert	Met	Stop	14
CGP147	hox	CGC0060	19152798 ZL	+	Strain	hox	1	1	12	AB	1	1	12					
CGP190C	hox	CGC00181	7820432 ZL	+	Strain	hox	1	1	12	AB	1	1	12					
CGP198	hox	CGC00117	15311950 ZL	+	Strain	hox	1	1	1									
CGP20403	CGP20403	CGC00122	16758893 ZL				0.5	1	1									
CGP196	hox	CGC00129	10943000-8				1.5	1	13									
CGP411	hox	CGC00130	3715584 ZL				3											
CGP7654	hox	CGC00139	1719441 ZL				3	4	12									
CGP119	hox	CGC00140	1711779 ZL				3	4	12									
CGP421	CGP421	CGC00142	2353888 ZL				3	4	12									
CGP1990	CPX	CGC00143	5339373 ZL				3	4	12									
CGP443	hox	CGC00145	6239433 ZL				3	4	12									
CGP477	CGP477	CGC00146	26646360 ZL				3	4	12									
CGP482	CGP482	CGC00148	4348662 ZL				3	4	12									
CGP18123	CGP18123	CGC00157	17112275 ZL				3	4	12									
CGP415	hox	CGC00164	16187554 ZL				3	4	12									
CGP20480	hox	CGC00170	2622675 ZL				3	4	12									
CGP1864	CGP1864	CGC00171	4074201 ZL				3	4	12									
CGP1314	hox	CGC00176	10223054 ZL				3	4	12									
CGP119	CGP119	CGC00187	15426524 ZL				3	4	12									
CGP1137	hox	CGC00188	6440060 ZL				3	4	12									
CGP1817	hox	CGC00189	8266757 ZL				3	4	12									
CGP1817	hox	CGC00189	8266757 ZL				3	4	12									
CGP4937	CGP4937	CGC00196	2840573 ZL				3	4	12									
CGP1342	hox	CGC00198	7390202 ZL				3	4	12									
CGP1978	CGP1978	CGC00199	6662435 ZL				3	4	12									
CGP417	CGP417	CGC00208	1426783 ZL				3	4	12									
CGP429	CGP429	CGC00211	9445204 ZL				3	4	12									
CGP4478	CGP4478	CGC00212	12512410 ZL				3	4	12									
CGP1628	CGP1628	CGC00213	6856406 ZL				3	4	12									
CGP141	hox	CGC00219	1436299 ZL				3	4	12									
CGP1240	CGP1240	CGC00240	14081648 ZL				3	4	12									
CGP1928	CGP1928	CGC00248	16277919 ZL				3	4	12									
CGP1284	hox	CGC00290	1 ZL				3	4	12									
CGP1817	CGP1817	CGC00298	10448054 ZL				3	4	12									

Modeling Complexity

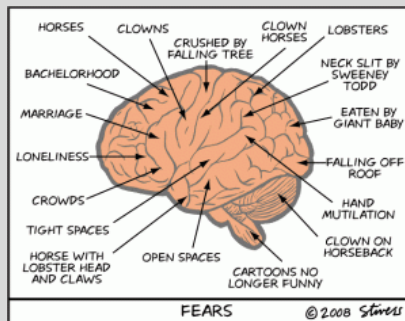
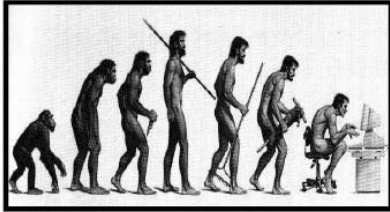


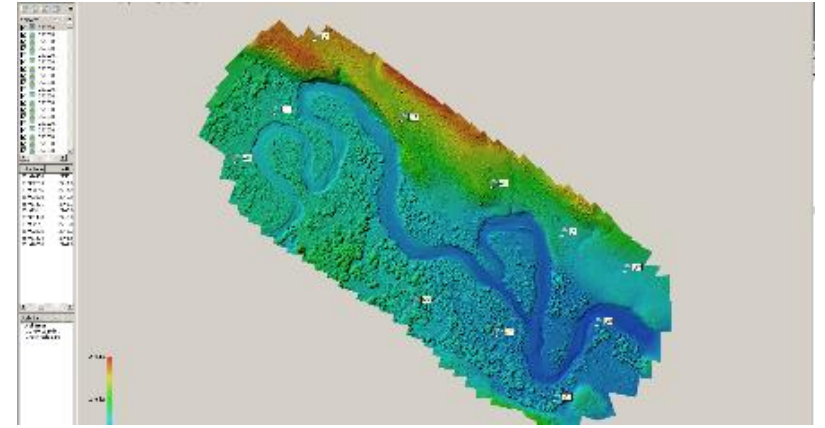
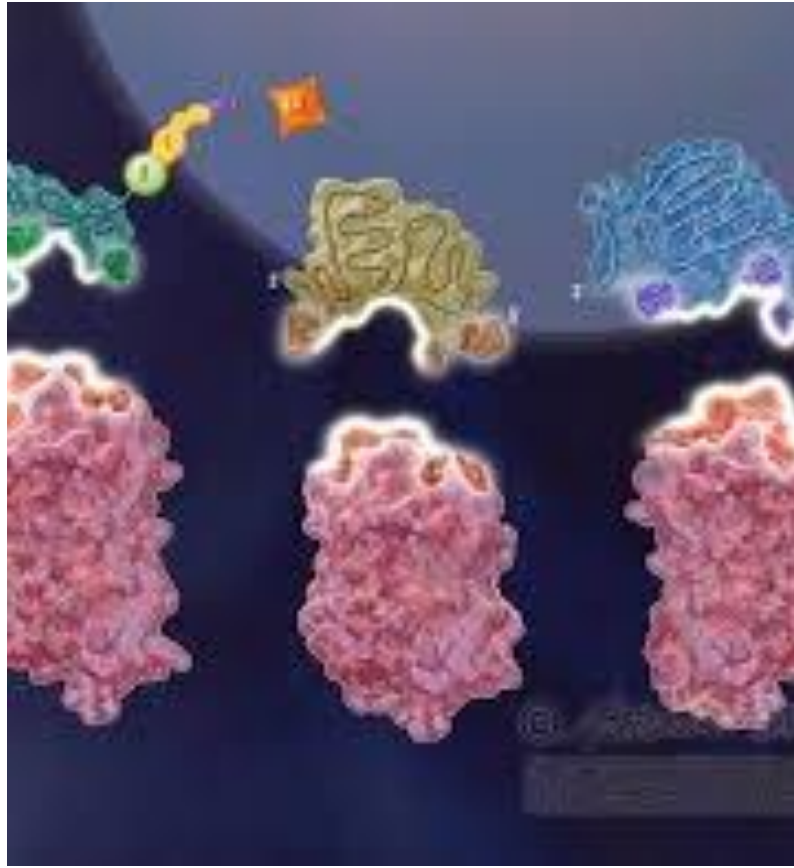
General
Theory

Idiosyncratic
& Complex
System

Data

EVOLUTION





Trend #1 Innovation in Measuring:
Opening Up the World to Observation



Trend #2 Experiments/Studies as Infrastructure:
Expanding Temporal and Spatial Scales

Trend #3 Big Data: Data Integration and Collaboration to Generate Novel Insights



Opportunities for Data Management



Making field biology explicitly spatial—
higher order mapping products



Supporting collaborative workflows



Managing data from perspective of
scientists, not research administration



Dark data

Big Picture Ideas



What Are Unique Research Opportunities Does Toolik Offer?



Is There a Scientific Vision for Toolik Beyond Meeting Needs of Today?



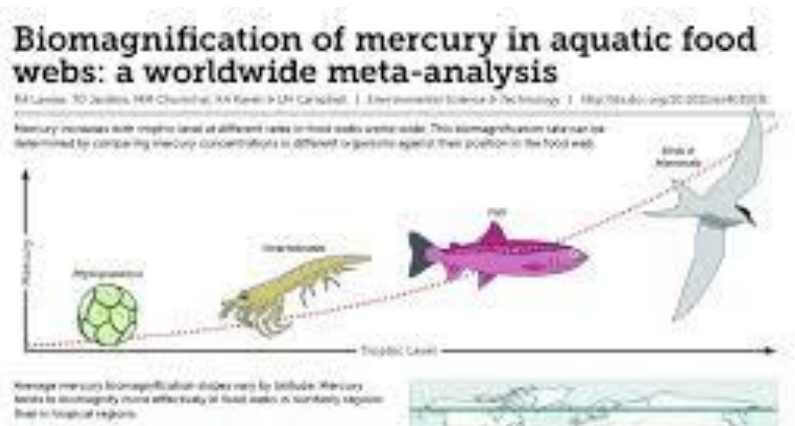
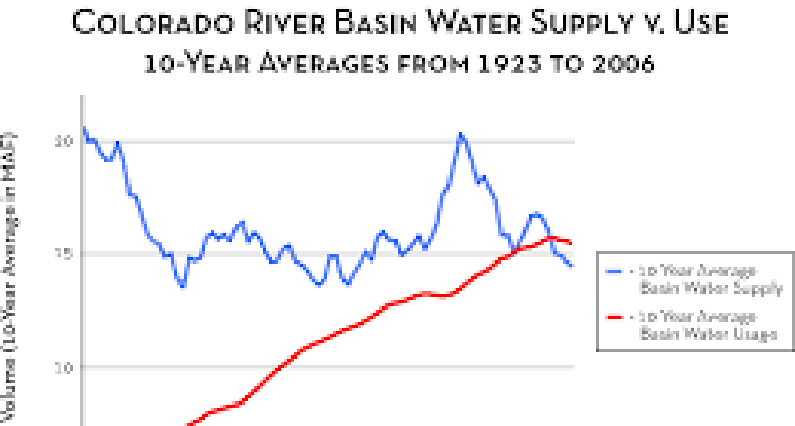
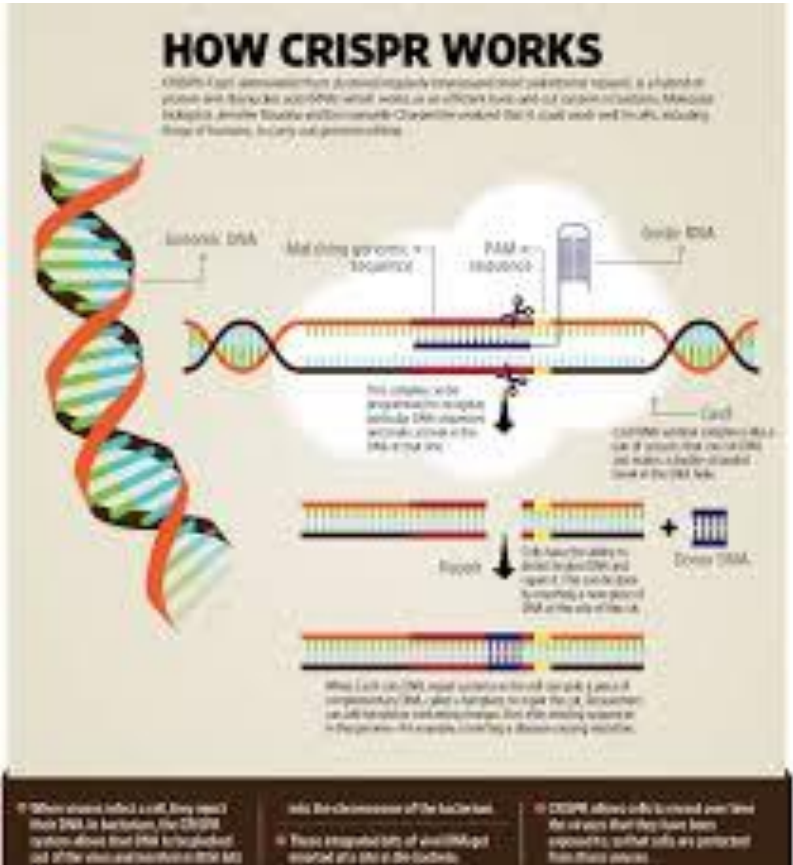
Ask Not What Your Field Station Can Do For You, But What You Can Do For Your Field Station



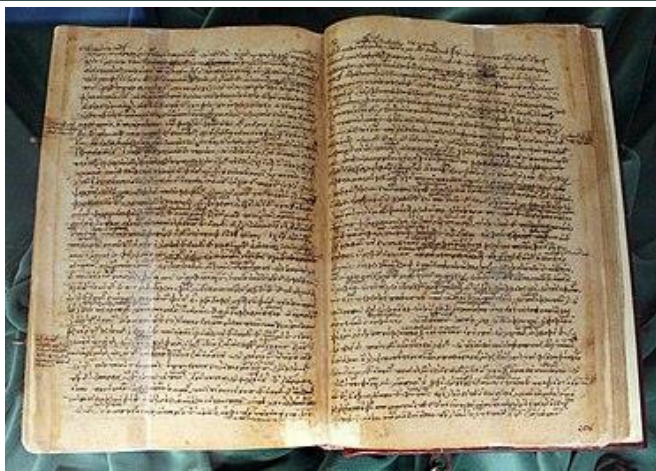
Experiments as Infrastructure

Strategic versus Tactical





The Importance of Field Research Will Only Grow



Aristotle's *Historia Animalium*
12th Century Manuscript

