"Resilience is the ability to recover quickly from change or misfortune and can only be achieved when the nature of change is thoroughly understood, anticipated and prepared for."

Cascadia Resilience Center

Fortunato Vega

Our Region is Prone to Risks

Natural Risks	Man-Made Risks
Earthquakes	Water pollution
Tsunamis	Air pollution
Flooding	Biological hazards
Landslides	Radiation contamination
Volcanic eruptions	Habitat destruction

Multiple Cascading Impacts

Earthquake

Landslides, Flooding

Disruption to Infrastructure

What is My Risk Exposure?

How will this impact:
- My business continuity
- My supply chain
- My customers
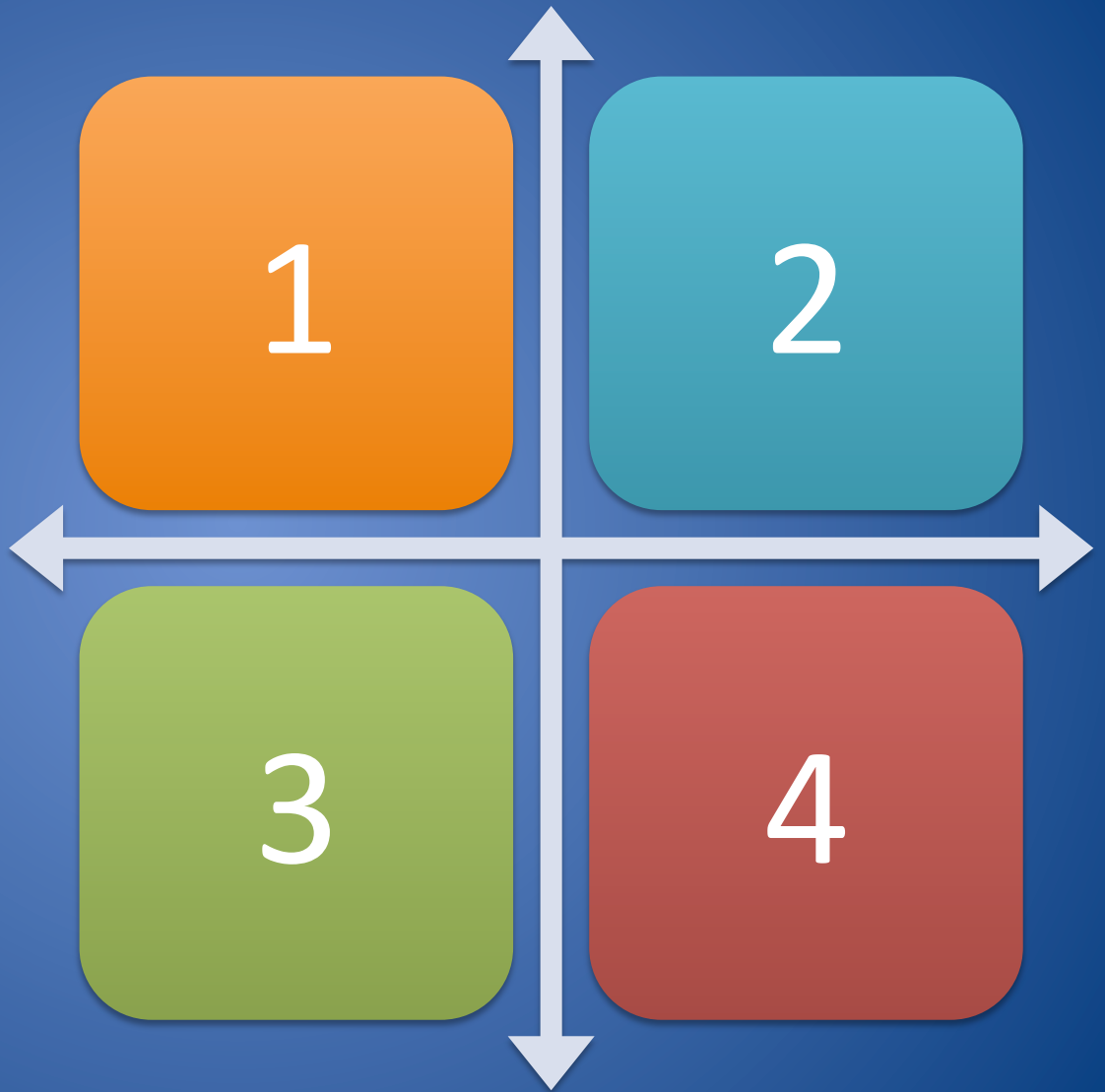- Public infrastructure
- My family

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How do I respond?

How do I recover?

Scientists have plenty of data, but...

1

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Problem #1
We need to visualize the data...

|														
HHAR	21.02	36.2	m			P	2011/11/01 12:36:45.1	-0.7		T		230.0	1.10	mb 5.4	NEIR	CERI	⊘
N23A	21.03	6.8	m			P	2011/11/01 12:36:46.7	0.4		T		260.0	1.20	mb 5.4	NEIR	USTA	⊘
PNTR	21.08	336.9	m			P	2011/11/01 12:36:46.7	-0.1		T		340.0	1.10	mb 5.6	NEIR	REN	⊘
BGU	21.15	351.8	m			P	2011/11/01 12:36:47.5	0.1		T		230.0	1.20	mb 5.4	NEIR	SLC	⊘
TCUT	21.17	355.3	m			P	2011/11/01 12:36:47.7	0.0		T		1100.0	1.20	mb 6.1	NEIR	SLC	⊘
X301	21.20	40.7	m			P	2011/11/01 12:36:47.6	-0.1		T		400.0	1.40	mb 5.6	NEIR	CERI	⊘
WHAR	21.30	40.8	m			P	2011/11/01 12:36:48.7	-0.1		T		710.0	1.40	mb 5.8	NEIR	CERI	⊘
SPUT	21.45	353.2	m			P	2011/11/01 12:36:51.4	0.7		T		400.0	1.30	mb 5.6	NEIR	SLC	⊘
AFDM	21.49	334.1	m			P	2011/11/01 12:36:49.9	-1.1		T		240.0	1.60	mb 5.3	NEIR	MNLO	⊘
PHWY	21.49	7.6	m			P	2011/11/01 12:36:51.2	-0.1		T		560.0	1.80	mb 5.6	NEIR	NEIC	⊘
BMN	21.53	343.0	m			P	2011/11/01 12:36:50.9	-0.6		T		230.0	1.50	mb 5.3	NEIR	SAND	⊘
PAHR	21.55	338.1	m			P	2011/11/01 12:36:50.9	-0.8		T		930.0	1.90	mb 5.8	NEIR	REN	⊘
HWUT	21.66	355.1	m			P	2011/11/01 12:36:52.6	-0.4		T		310.0	1.20	mb 5.6	NEIR	SLC	⊘
RWWY	21.71	3.9	m			P	2011/11/01 12:36:52.9	-0.7		T		650.0	1.80	mb 5.7	NEIR	NEIC	⊘
OGNE	21.77	14.6	m			P	2011/11/01 12:36:54.2	0.2		T		1200.0	1.60	mb 6.1	NEIR	NEIC	⊘
KSU1	21.92	26.9	m			P	2011/11/01 12:36:57.2	1.7		T		220.0	1.20	mb 5.5	NEIR	⊘	⊘
HVU	21.96	352.7	m			P	2011/11/01 12:36:55.3	-0.8		T		260.0	1.30	mb 5.5	NEIR	SLC	⊘
BEKR	22.04	336.5	m			P	2011/11/01 12:36:56.6	-0.4		T		180.0	1.00	mb 5.5	NEIR	REN	⊘
ORV	22.23	334.1	m			P	2011/11/01 12:36:58.4	-0.3		T		210.0	1.20	mb 5.5	NEIR	CDWR	⊘
HOPS	22.45	330.6	m			P	2011/11/01 12:37:00.2	-0.9		T		490.0	1.60	mb 5.7	NEIR	BRK	⊘
MET	22.69	44.4	m			P	2011/11/01 12:37:03.8	0.1		T		1100.0	1.30	mb 6.2	NEIR	CERI	⊘
OXF	22.69	46.3	m			P	2011/11/01 12:37:04.5	0.9		T		440.0	1.20	mb 5.8	NEIR	NEIC	⊘
K22A	22.72	5.0	m			P	2011/11/01 12:37:03.7	-0.5		T		640.0	1.30	mb 6.0	NEIR	USTA	⊘
BRAL	22.72	56.7	m			P	2011/11/01 12:37:05.0	1.0		T		720.0	1.40	mb 6.0	NEIR	NEIC	⊘
BW06	22.73	359.2	m			P	2011/11/01 12:37:02.6	-1.8		T		300.0	1.80	mb 5.5	NEIR	USAF	⊘
PD31	22.73	359.2	m			P	2011/11/01 12:37:04.2	-0.2		T					NEIR	USAF	⊘
KCPM	23.24	330.8	m			P	2011/11/01 12:37:10.0	0.4		T		960.0	1.80	mb 6.0	NEIR	MNLO	⊘

Problem #2:
We need to de-silo the data

Sea level   Earthquake   Weather   Environment
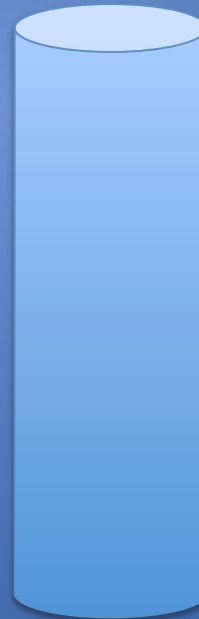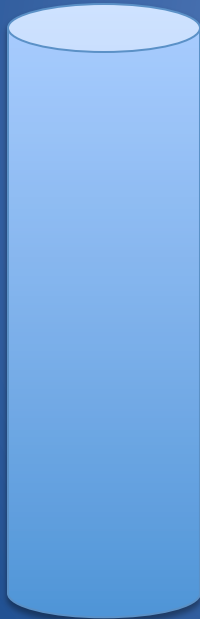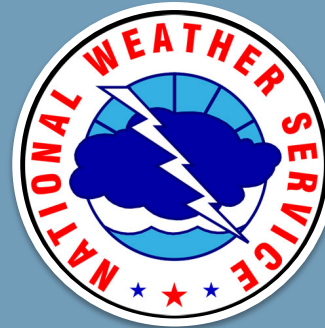
Problem #3:
We need to model the data
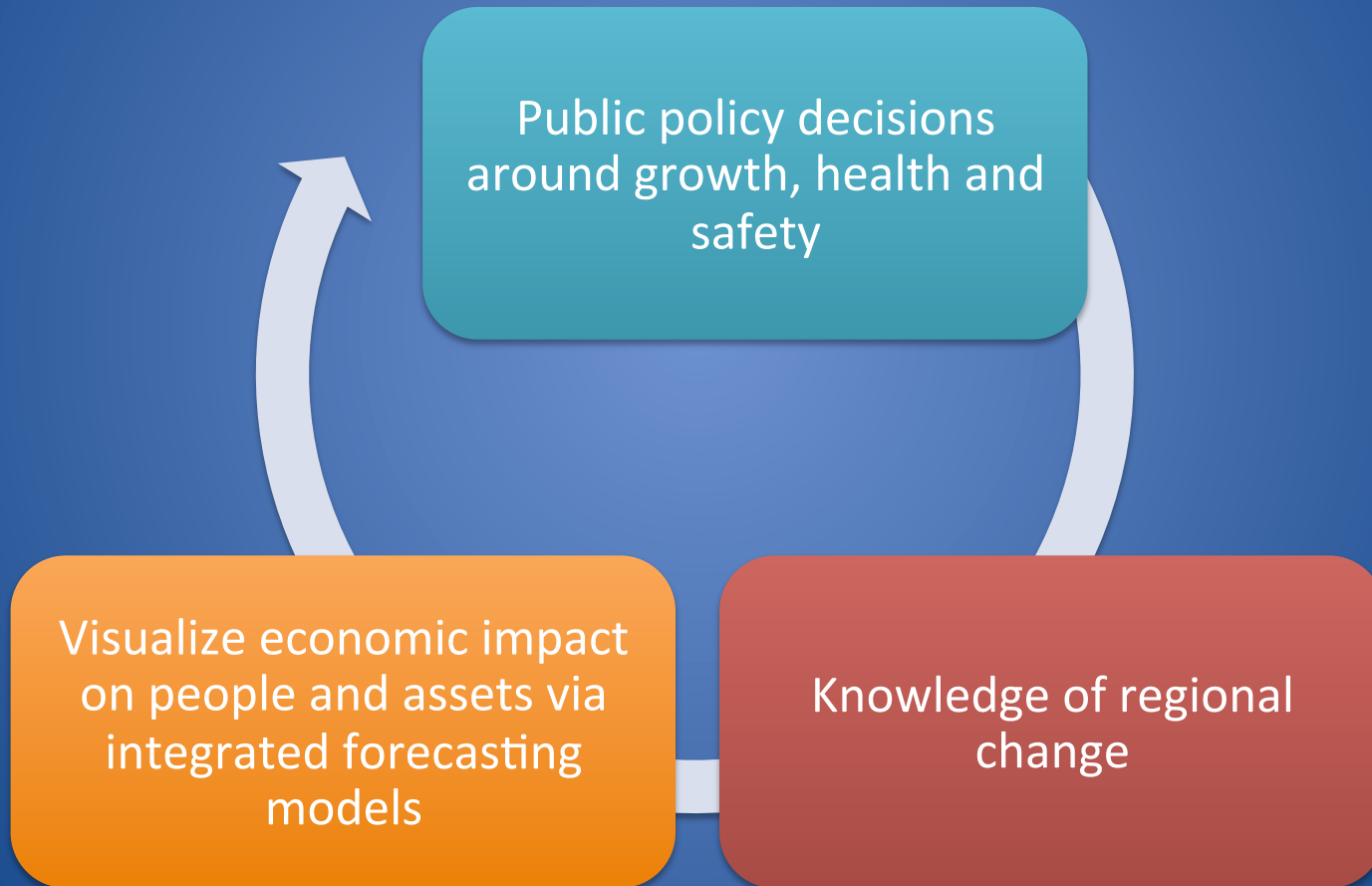
For Example

| Sea Level Rise | Tidal Movement | Weather Patterns | Snowpack |

How it works

License our technology

Joint ventures

Fee-for-service

Grants & donations

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Engaging Stakeholders

Public policy decisions around growth, health and safety

Knowledge of regional change

Visualize economic impact on people and assets via integrated forecasting models

Who We Are

Cascadia Resilience Center

WA State Non-Profit

Consortium of scientists, technologists, visualizers and communicators

Data & Visualization Team

Dr. Bob Bishop
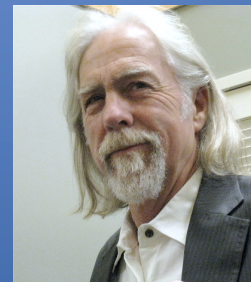Founder, ICES Foundation; former chairman & CEO, Silicon Graphics, Inc.

Phil Rasch
Chief Scientist, Climate Resiliency; PNNL, world climate expert

Alessandro Muti
Ex-Microsoft, predictive analytics and software engineer

Kevin Kelley
Co-Founder, Metanoiaa, visualization communication expert

Civic Engagement Team

Rachel Bagby
Co-Founder, Metanoiaa, civic engagement innovator

Gifford Pinchot III
Co-Founder, BGI, business and sustainability expert
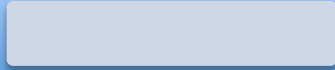
Fortunato Vega
Former Chairman & COO, Outercurve Technologies, strategic funding advisor

Elizabeth Dimarco
Co-Founder, BooksILove, strategic communications advisor

Data & Business Partners

Insurance Companies

State Universities
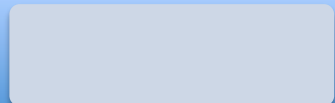
National Laboratories
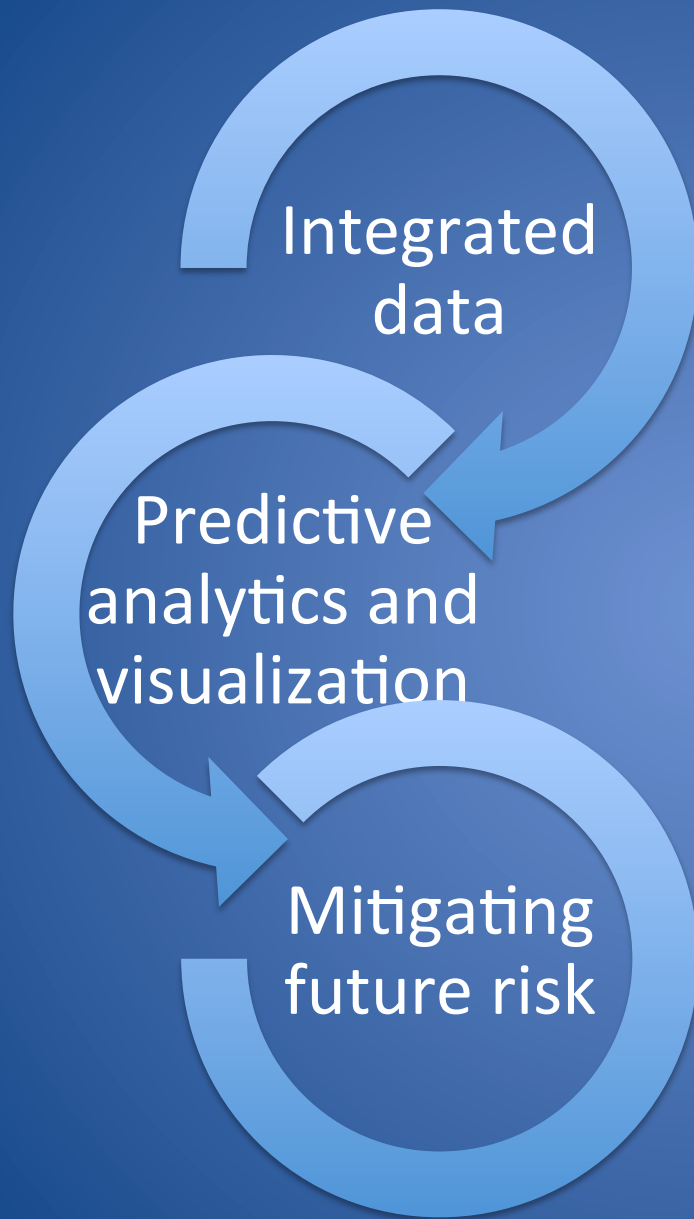
Government Agencies

Technology Companies

Businesses

Concerned Communities

Policy Makers

Integrated data

Predictive analytics and visualization

Mitigating future risk

Cascadia Resilience Center

fortunato911@gmail.com