

Decision Support Services, Climate Services

Holly C. Hartmann, University of Arizona



What are decision support services?

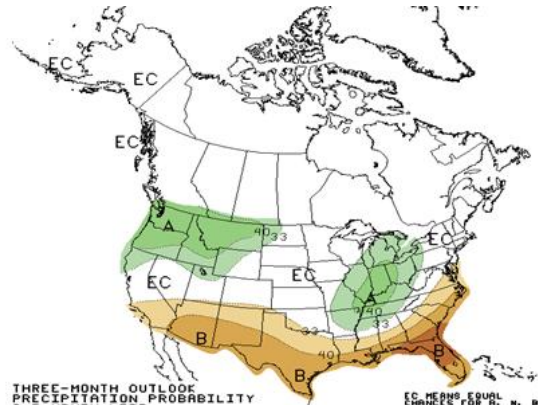
Climate change decision support refers to **organized efforts to produce, disseminate, and facilitate the use of data and information in order to improve the quality and efficacy of climate-related decisions** (NRC 2009, Informing Decisions in a Changing Climate).

Weather Conditions for:

Eugene, Mahlon Sweet Field, OR (KEUG)
Elev: 364 ft; Latitude: 44.13333; Longitude: -123.21444

Current time: Fri, 10 Dec 7:27 am (PST)
Most Recent Observation: Fri, 10 Dec 6:54 am (PST)

Time (PST)	Temp (f)	Dew (f)	Relative Humidity (%)	Wind Direction	Wind Speed (mph)	Visibility (miles)	WX	Clouds	Sea Level Pressure (mb)	Altimeter Setting (inches)	Station Pressure (inches)	Precip 1 hour (inches)
10 Dec 6:54 am	47	44	90	S	15	10.00		SCT028 BKN044 OVC060	1016.9	30.03	29.646	0.06
10 Dec 5:54 am	46	43	89	SSE	7	7.00	RA	FEW027 BKN036 OVC050	1016.4	30.01	29.626	0.08
10 Dec 4:54 am	46	43	89	SSE	8	10.00	-RA	FEW033 BKN040 OVC060	1016.6	30.02	29.636	0.01



Data



Information



Knowledge << Wisdom

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Are forecasts and data DSS?

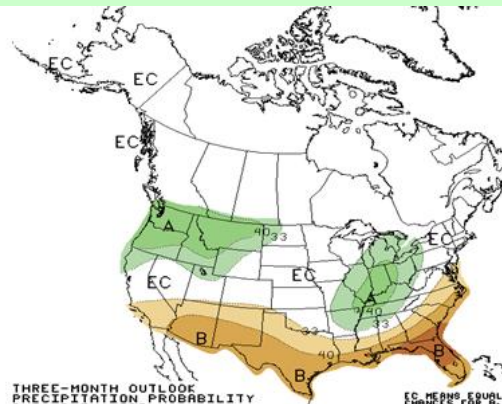
If they are embedded within systems to **disseminate and facilitate their use in order to improve the quality and efficacy of climate-related decisions.**

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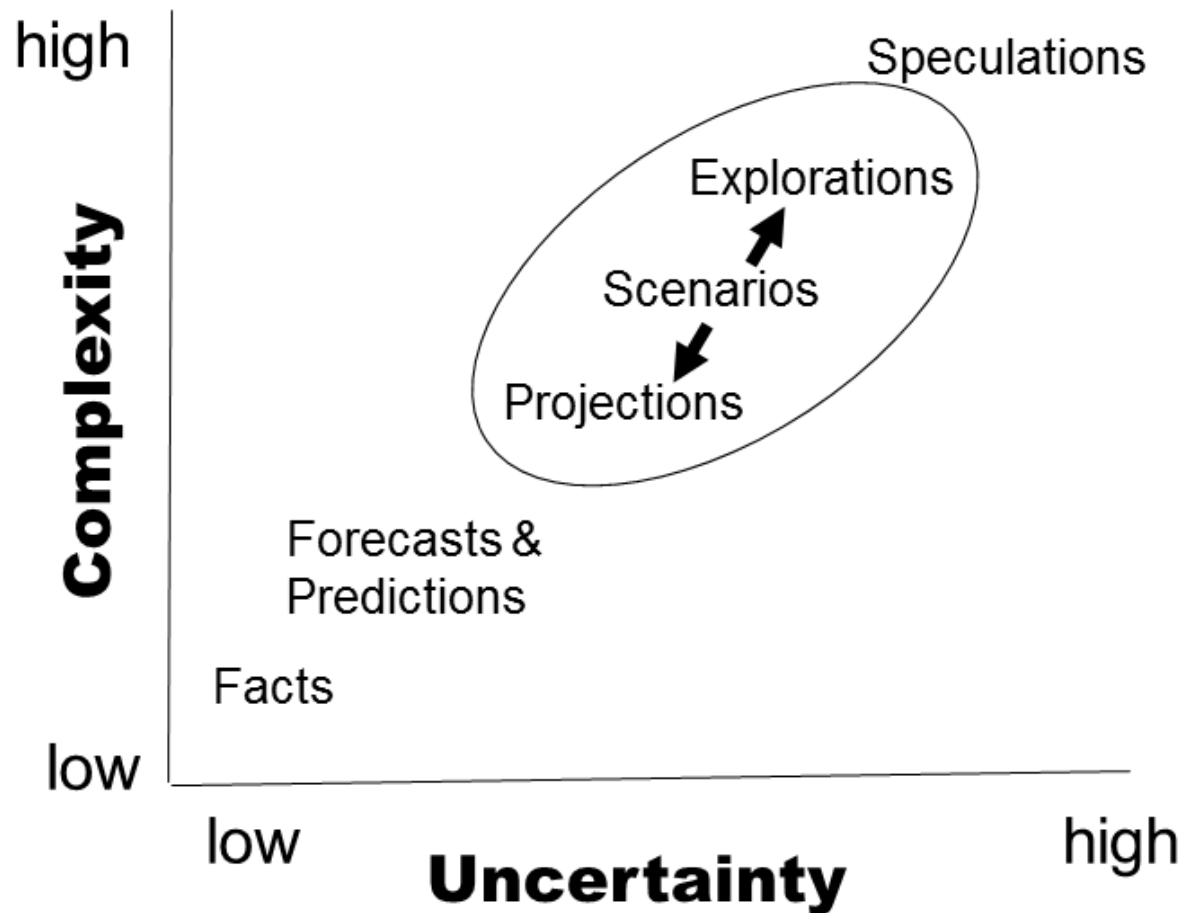
Information

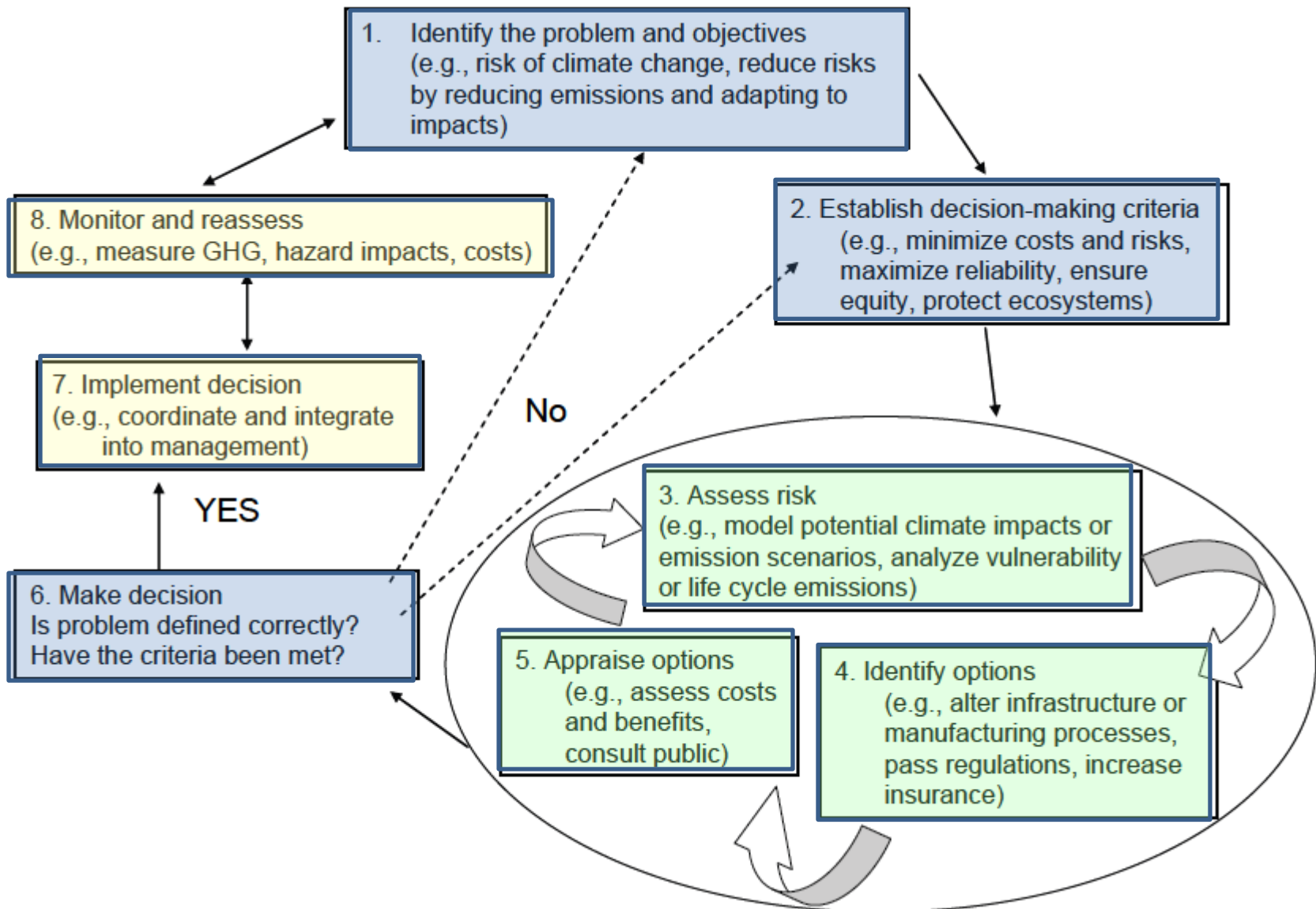


Knowledge << Wisdom

Is DSS different for weather versus climate?

Yes, because **human actions** are forcing changes in underlying non-stationarity, with **large, irreducible uncertainty at multi-decadal time scales**.





What is being done now in DSS? Iterative risk management and adaptive governance approach for climate change at multiple levels of government, public and private sectors in which risks and benefits are identified and assessed, responses implemented, evaluated, and revisited in sustained efforts to develop more effective policies or to respond to emerging problems and opportunities. NRC, 2010.

What should the roles of the public, private, academic sectors be in DSS?

True to their unique missions, but **flexible** to achieve effective climate DSS within a national climate service enterprise.

Public Sector

Mission: public trust, general welfare, economic development, health and safety

Focus: standards/regulations, resource protection and management, research, service, equity

Public processes: transparency, public participation, legal challenges, enforcement

Roles: ensure quality, reliability, usability, accessibility, diversity, equity

Private Sector

Mission/Focus: return on investment, niche/brand, service, spinoff/merge/sell

Public processes: flexible (ramp up/down, focus), tremendous variety, selective transparency

Roles: proprietary information, exclusive contracts, differential contracts, share risk burden

Academic Sector

Mission/Focus: education, research, service, economic development

Public processes: peer review publication, open or proprietary engagement, transparency

Roles: research, development, hub for collaborative projects, develop workforce pathways

Non-Governmental Organizations (NGOs)

Mission/Focus: represent public trust, serve constituents, niche/brand, return on investment

Public processes: flexible (ramp up/down, focus), tremendous variety, selective transparency

Roles: represent, facilitate, resource management, research, development, collaboration hub