

COMPARISON OF GVI TO TRADITIONAL FORECASTING

Attribute [See below for elaboration.]	GVI	conventional approach
1 Core activity is computer based.	Yes	Sometimes
2 Scope is comprehensive.	Yes	Sometimes
3 Pursuit of theory and practical applications are balanced.	Yes	No
4 Focus is on change, not on static comparisons.	Yes	Sometimes
5 Factor categories and couplings are experimental, not preconceived.	Yes	No
6 Multiple approaches to societal and environmental forces are synthesized.	Yes	No
7 Model tested with historical and empirical data.	Yes	Sometimes
8 Expertise of Resource Team a balanced representation of above areas.	Yes	No

Attributes of GVI Program

1. Core activity is computer based.

Possible outputs are numerical...

...magnitudes

...probabilities

...probability densities

...estimates of accuracy, reliability, effective time-horizons.

Possible outputs are time-specific to precision (day-, month-, year-, decade-, etc. -time scales) appropriate for context.

Computational programs → reproducibility of forecasting techniques.

Core modality; other modes (non-time specific, causal modeling, qualitative, etc.) are subordinate.

2. Scope is comprehensive.

Central premise: referent areas and couplings must encompass sufficiently broad societal-environmental domain comprising...

...economic

...political-cooperative-conflictual

...other societal

...atmospheric-oceanic

...landforms dynamical

...microorganisms dynamical
...other environmental phenomena.
Scope limited by experience, not by definition. (Models not "about" some pre-defined thing.)

3. Pursuit of theory and practical applications are balanced.

Coequal emphasis; theory and pragmatic applications support each other.
Pragmatic--policy problem studies → better computational dynamic models.
Global computational dynamic theory development → better pragmatic--policy problem applications.

4. Focus is on change, not on static comparisons.

Dynamics vs. comparative statics.
Dynamics study vs. causation study (Newton--"how..." vs. Aristotle--"why...").
Effective forecasting depends on dynamics study...
...which may precede causation study.
Agenda include estimating forecast limits due to incomplete information, non-linearity (chaos, etc.).

5. Factor categories and couplings are experimental, not preconceived.

A priori standard categories (major vs. minor factors, cooperative vs. conflictual, political vs. economic, physical vs. social, etc.) may be altered or combined, based on evidence.
Major (vs. "negligible") couplings to be selected based on evidence of what strongly connects to what.
Couplings may cross nominal domains.

6. Multiple approaches to societal and environmental forces are synthesized.

Linkage vs. identity of forces; nominally distinct forces may be...
...coupled explicitly, or
...in reality the same, viewed from different frameworks (Galileo--motion on Earth + Kepler--motion in the Heavens; cf. "social" vs. "physical" forces / factors).
Status not predefined; base pragmatically on dynamic modeling explorations.
Participant interactions are crucial; encourage competition-synthesis broadly across dynamic concepts, methods. [See Fragments table.]

7. Model tested with historical and empirical data.

Goal is *all* items, paragraph 2 above.
Reproducibility.
Adhere to extent possible.
Locate, access existing data archives
Develop new data; use existing experienced data development persons, groups.

8. Expertise of Resource Team comprises a balanced representation of above areas.

Substantive areas (paragraph 2 above).
Above couplings, dynamics, and use of evidence issues. [[link-here](#)]