

# **Introduction to the Economics Primer**

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# Economics Primer

- Funded by NOAA NWS International Activities Office
- Translated into Spanish → → → →
- Future – French?
- Revise based on feedback
  - Economists
  - Practitioners
  - Workshops

<http://www.sip.ucar.edu/primer.jsp>

Manual de economía para los servicios meteorológicos e hidrológicos nacionales

16 de enero de 2008

## Manual de economía para los servicios meteorológicos e hidrológicos nacionales

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16 de enero de 2008

*Nota:* este documento será actualizado, revisado y ampliado cuando se disponga de más información. Si tiene alguna duda, quiere hacer alguna sugerencia o realizar alguna aportación relacionada con el contenido y la información de este documento, envíe los comentarios a Jeff Lazo por correo electrónico a [lazo@ucar.edu](mailto:lazo@ucar.edu) (fax: 303.497.8401) o por correo postal a Jeff Lazo, NCAR, Box 3000, Boulder, CO 80307.

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# Workshops

- Russia – 2007
- Peru – 2008
- Bulgaria – 2008
- China – 2009
- WAS\*IS



# Economics Primer

NMHSs should understand the economic and social problems and priorities of the country

Learn the basics of economics: “language of economists”

Learn how to translate the work of the NMHS into ways to contribute to solving the economic and social problems

## Primer on Economics for National Meteorological and Hydrological Services

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*Note:* This document will be updated, revised, and augmented as new information becomes available. If you have any questions, inputs, or thoughts about how to improve its content and information, please send comments to Jeff Lazo at lazo@ucar.edu (fax 303.497.8401) or mail to Jeff Lazo, NCAR, Box 3000, Boulder, CO 80307.

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# Purpose of the Primer

- Increase understanding of economic methods and their applicability in evaluating both the impacts of NMHS and the associated benefits and costs of those services by members of weather community.
- Serve as a primer on economic theory, methods, and applications
  - Will not make you an economist
  - Does not cover all possible methods, theories or applications
    - not a large amount of information on cost analysis
    - not a large amount of information on industry specific assessment

# Economics Primer

## ■ Outline

- Importance of economic analysis to NMHS
- Steps to conducting an economic analysis
- Methods and analysis options
- Ways to assess distribution of benefits and costs
- Detail on economic analysis process for NMHS
- Case studies

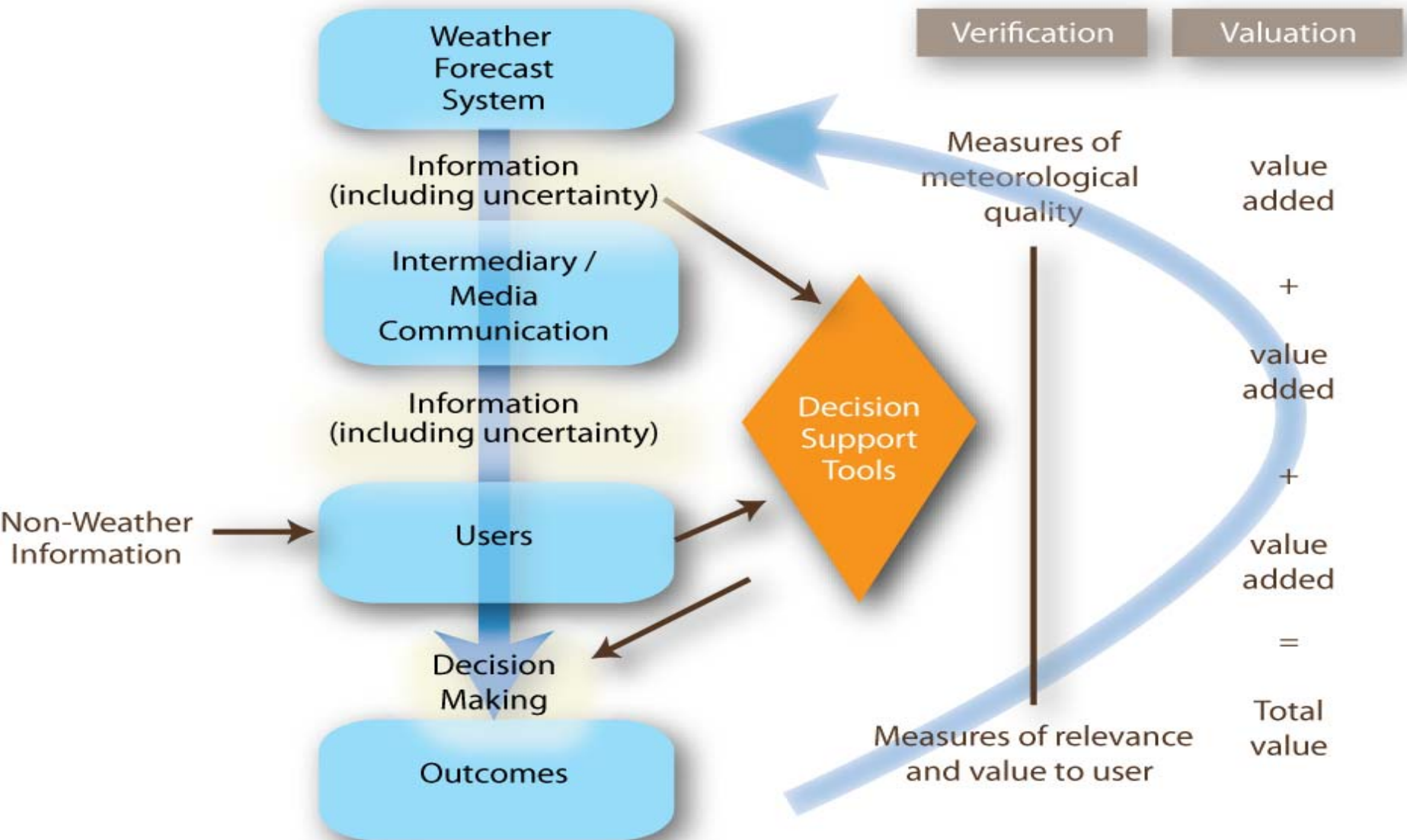
# Basics – what should be valued?

**Forecast**



**Value**

# Basics – what should be valued?

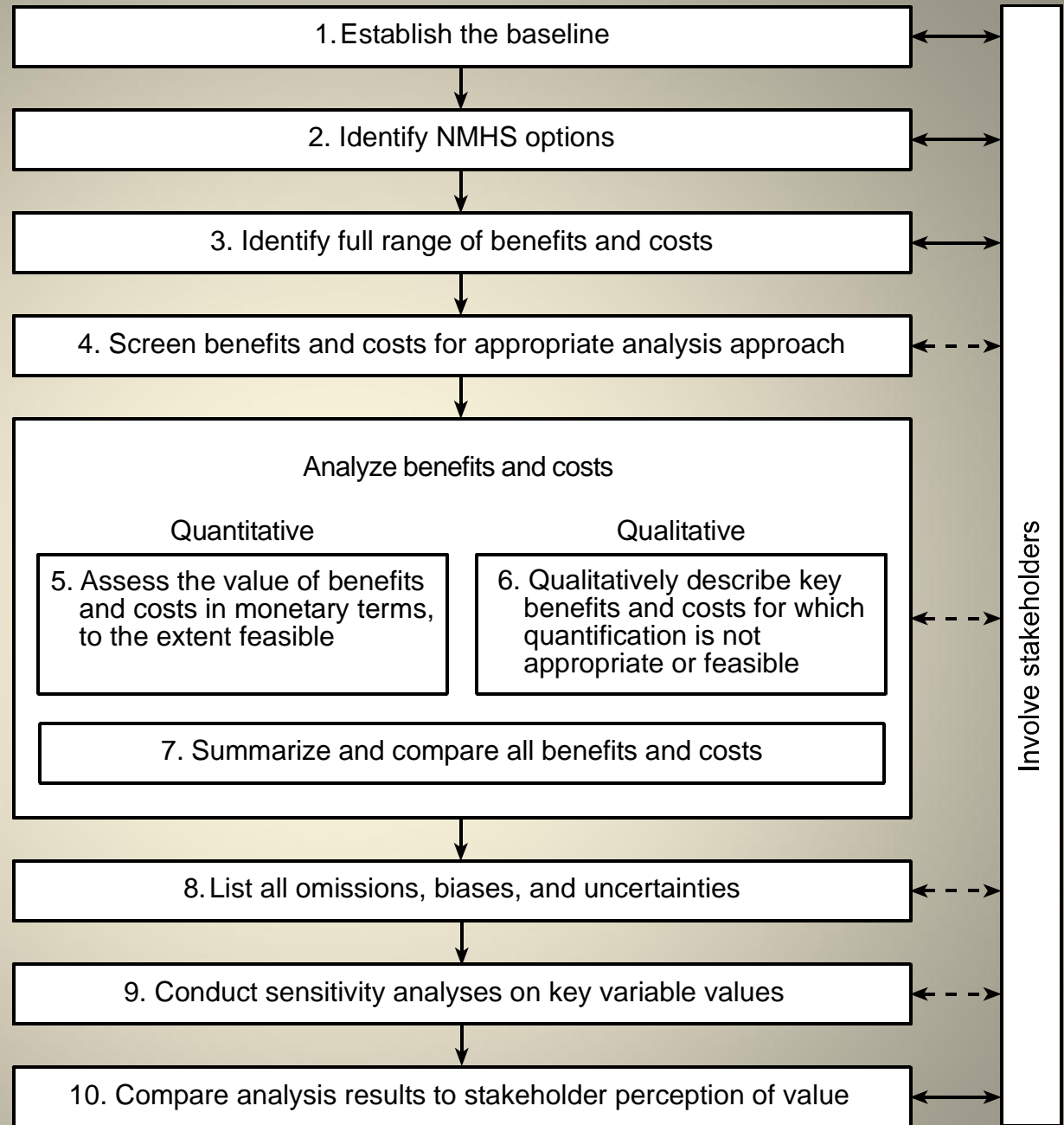




# Economic value of Wx information

- Rigorous economic theory - theory of value
- Economic values not the same as accounting values
- Weather forecasts are public goods
  - Private sector will not provide the societally optimal level of weather forecasts
  - Markets will not provide information about the societal value of weather forecasts

# Steps in Conducting an Economic Analysis



# Topics

1. Discounting
  2. Value of statistical life
  3. Non-market valuation
  4. Benefits transfer
  5. Sensitivity analysis
- For each topic
    - What this means
    - Why it is relevant to NHMS analysis
    - Issues – difficulties, barriers, controversies
    - Examples & explication

# Case studies

- 1. Sensitivity of the U.S. Economy to Weather**
- 2. Economic Value of Temperature Forecasts in Electricity Generation**
- 3. Heat Watch/Warning Systems Save Lives: Estimating Costs and Benefits for Philadelphia 1995–98**
- 4. Economic Value of Current and Improved Weather Forecasts in the U.S. Household Sector**
- 5. Benefit Analysis for NOAA High Performance Computing System for Research**
  - **Summary**
  - **Methods Used**
  - **Resources Used (including \$ cost where available)**
  - **Data Requirements**
  - **Economic Expertise Required**

# Concluding remarks

- **Primer won't make you an economist!**
  - work with an economist
  - just do it
- **Wealth of other social sciences**
  - Risk communication
  - Sociology
  - Geography
  - Psychology
  - Anthropology