STAR and ModWG Workshop Proposals

Factors Affecting Trends – STAR
Climate Change – ModWG
Conowingo - ModWG

Gary Shenk

Presentation to STAC

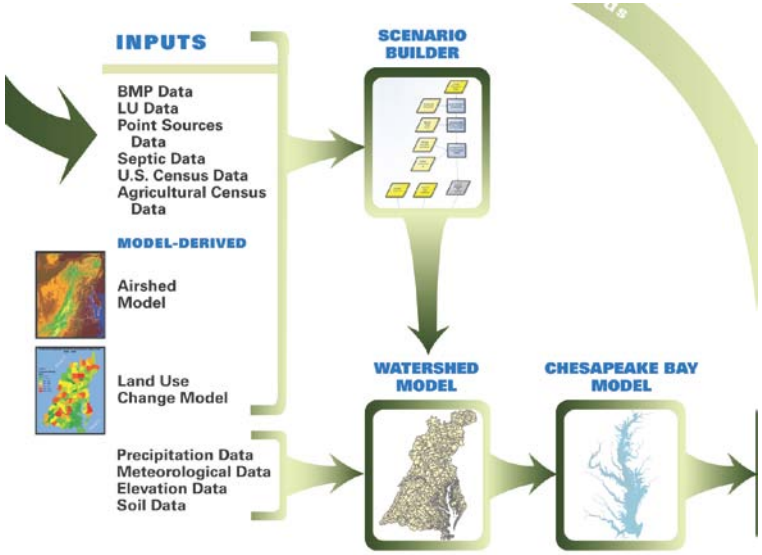
3/12/13

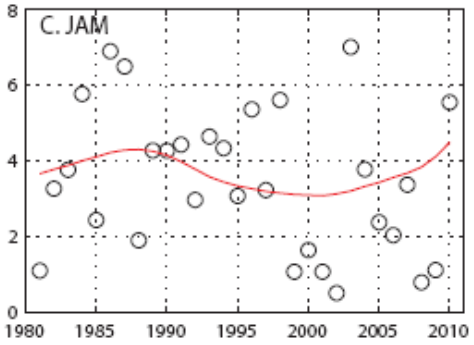
Factors Affecting Trends - Motivation

- CBP has committed to a greater role for monitoring in 2017.
- Joint USGS/CBPO effort in the coming years
  - What are the anthropogenic effects on water quality in the rivers?
  - How are anthropogenic changes in river water quality affecting changes in estuarine water quality and living resources?
- STAC recommendations to ‘integrate modeling and monitoring’

Factors Affecting Trends - Resources

CBP modeling and other data systems –
Tool for estimating changes to the system

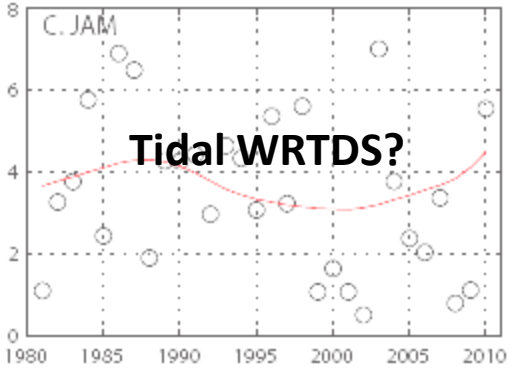


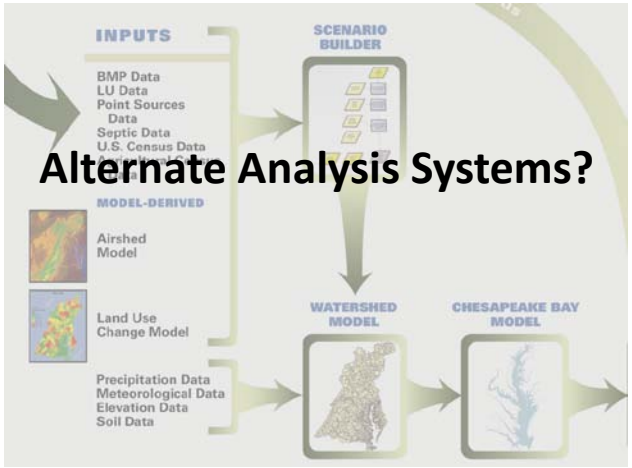


WRTDS – tool for estimating flow-normalized change in load

Sparrow
Tool for estimating the effect of watershed characteristics on downstream measurements

$$\text{Load}_i = \left\{ \sum_{j \in J(i)} \left[\sum_{n=1}^{N} S_{n,j} \beta_n \exp(-\alpha' Z_j) \right] \exp(-\delta T_{i,j}) \right\} \exp(\epsilon_i)$$





Factors Affecting Trends – Science Qs

- What is the state of the art in describing **riverine water quality** change attributable to management actions? How should the output of statistical models be interpreted? What additional analyses would be useful in answering the management questions?
- How can we climate-correct **estuarine** water quality or living resource data in a similar fashion to the riverine analysis?
- How can we **link** the various sources of data on anthropogenic forcing, natural forcing, and estimates of watershed change to riverine and estuarine analyses?
- What additional Chesapeake-wide **data sets** exist or should be created to inform this work?

Factors Affecting Trends - Committee

- STAC Representative: Bob Hirsch (USGS)
- STAC Representative: Gene Yagow (VT)
- Joel Blomquist (USGS)
- Walt Boynton (UMCES)
- Michael Kemp (UMCES)
- Scott Phillips (USGS)
- Gary Shenk (EPA)
- Peter Tango (USGS)
- Don Weller (SERC)

Factors Affecting Trends - Details

- Timing – Flexible
  - Tentatively late fall 2013
- Length – 2 days
- DC / Annapolis area
- $7500