# CEDEN
## CALIFORNIA ENVIRONMENTAL DATA EXCHANGE NETWORK
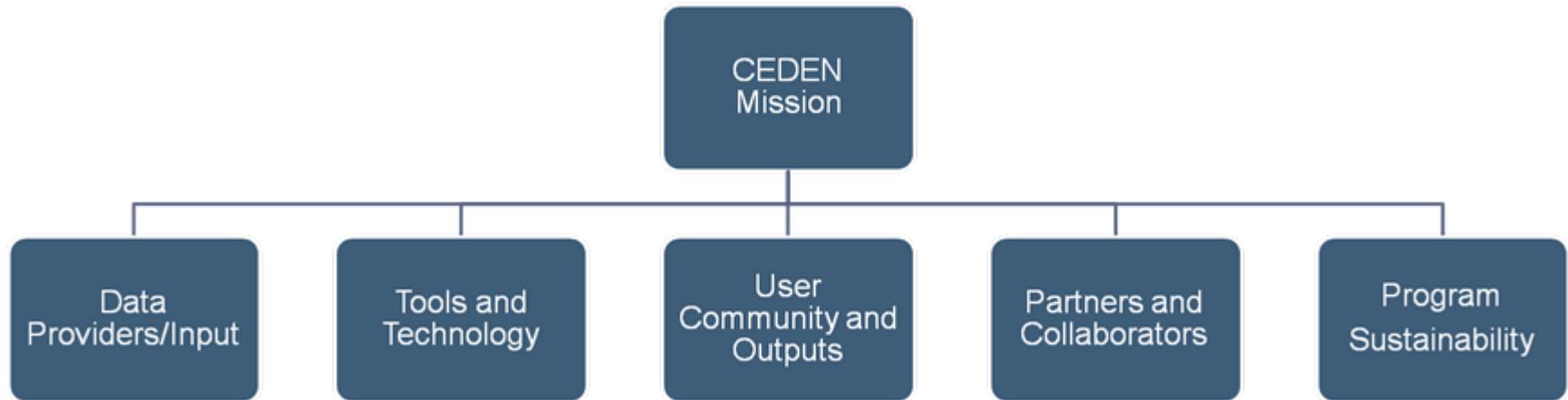
# An update on CEDEN

Presented to the California Water Quality Monitoring Council, June 15, 2011
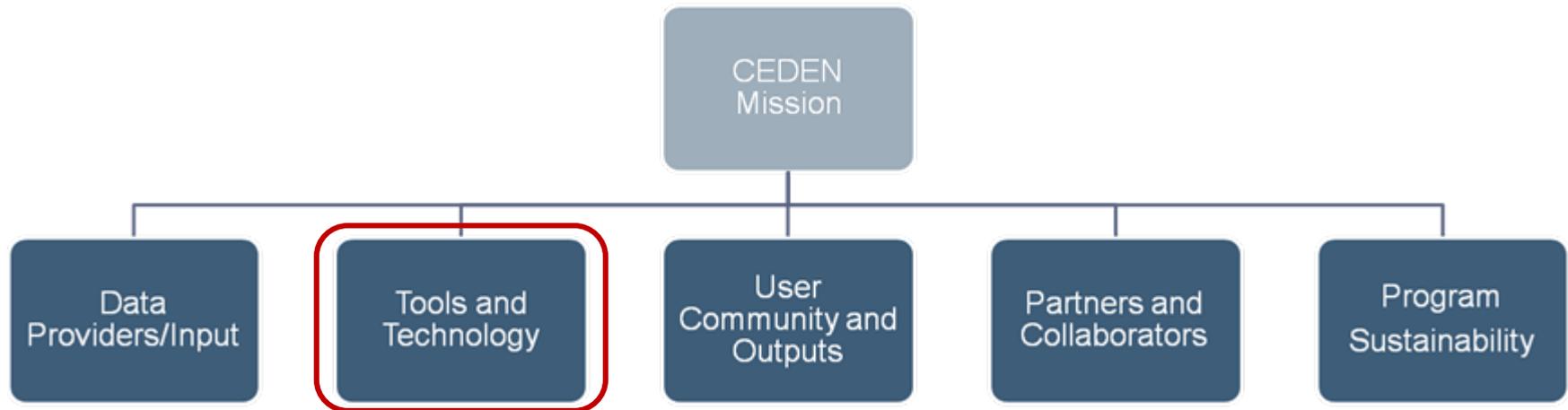
Steve Steinberg, CEDEN Program Manager

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# How I break down CEDEN
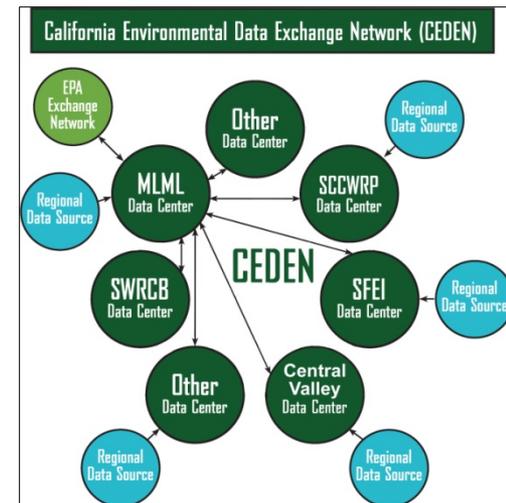


▶ From a management perspective …
    CEDEN has five major components
   ▶ We have not paid equal attention to all of these
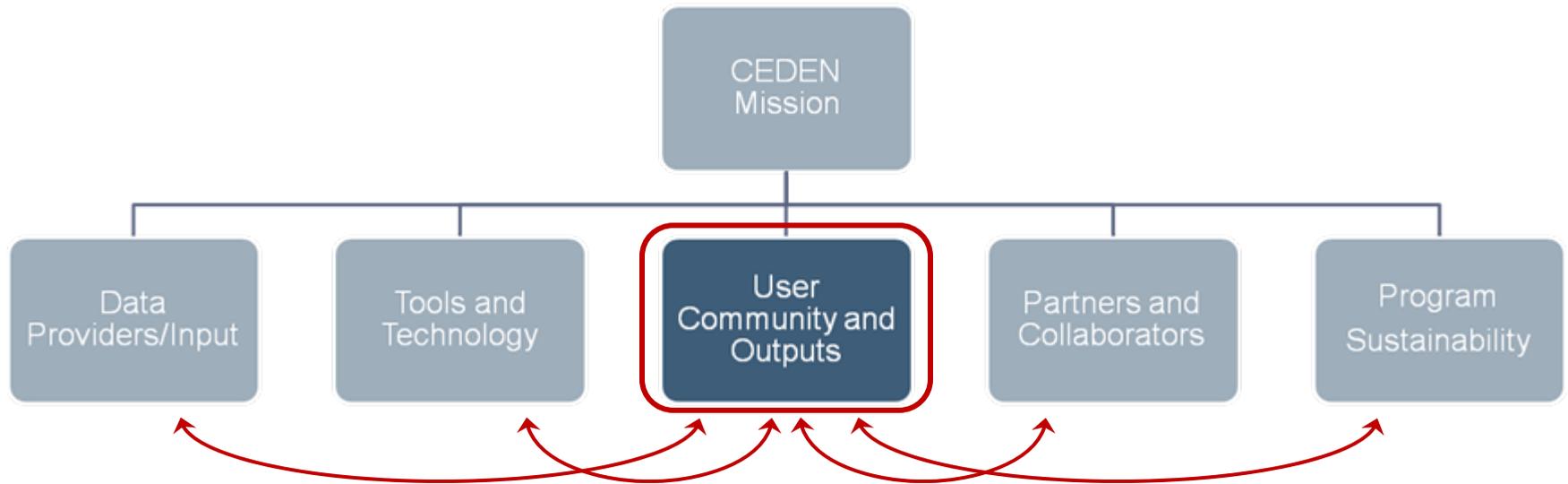
# Where CEDEN has focused



California Environmental Data Exchange Network (CEDEN)

- Thus far CEDEN has focused on developing its' infrastructure
- This is also where I believe we're in the best overall shape

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# Our user community is the **primary** focus
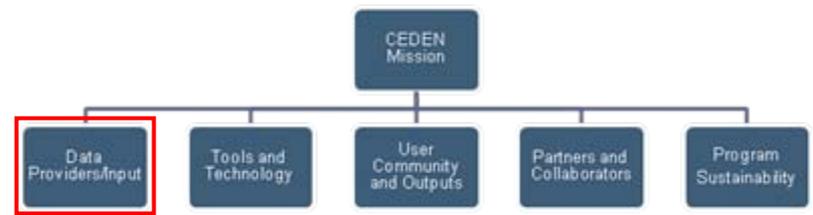


▸ My perspective:

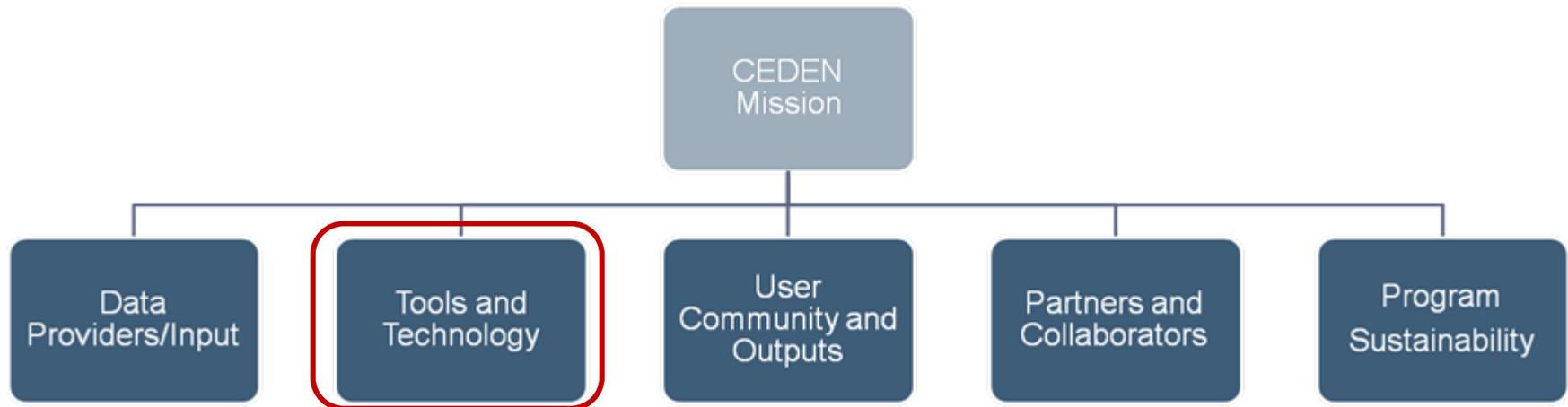*Everything* *we do in CEDEN must be informed by, and serve the needs of, our users.*

# Understand what data are needed



▶ A large amount of the SWAMP data is in the system

▶ A number of additional data sets from other sources are coming online over the next several months

▶ However…

  ▶ CEDEN contains a limited subset of currently available data

  ▶ Lack full range of relevant data types (emerging contaminants, invasives, other biota, beach, intertidal,  photos, etc.)

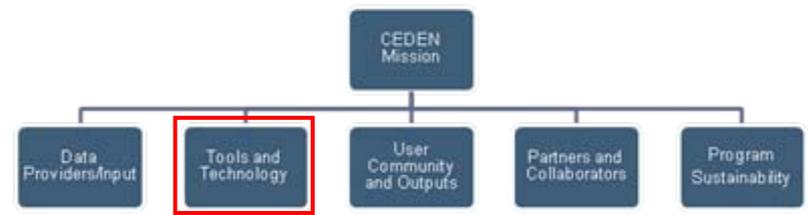# Data Input and
# Data Infrastructure



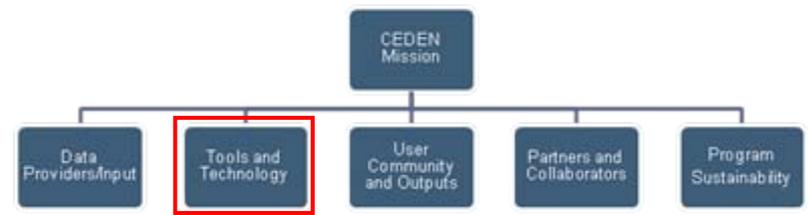***Everything*** *we do in CEDEN must be informed by, and serve the needs of, our users.*

▸ Understanding user needs will provide a clear prioritization of the tools CEDEN develops
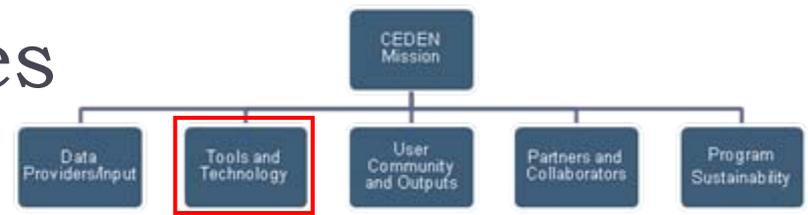
# Assessment of Tools and Technology



- Internally CEDEN has a working system that handles SWAMP and SWAMP comparable data well

- However data has not become available quickly
- CEDEN is missing data structures for other data types (must evolve to handle non-SWAMP data)
- The system presents opportunities for **efficiency**

# Missing Data Structures



- Database does NOT currently contain all data types needed by users
  - The Council Data Management Workgroup will be an important partner in accomplishing this
    - Examples of additional data types:
      - Emerging contaminants
      - New variants of existing categories
      - Other biotic communities (focus has been freshwater)
      - New methods (gear, QA protocols)
      - New categories (marine debris, invasive species, etc.)

# Assessing Opportunities



- ▶ Coordination
  - ▶ Use our time and resources effectively
  - ▶ CEDEN is working to determine the best way to structure its work, decisions and external interactions

- ▶ Automation
  - ▶ Data input tools/checkers
  - ▶ Data management tools
    - ▶ Internal – movement of data into/out of RDC's to CEDEN
    - ▶ External – interaction with other systems (Council Portals, WQX, CIWQS, etc.)
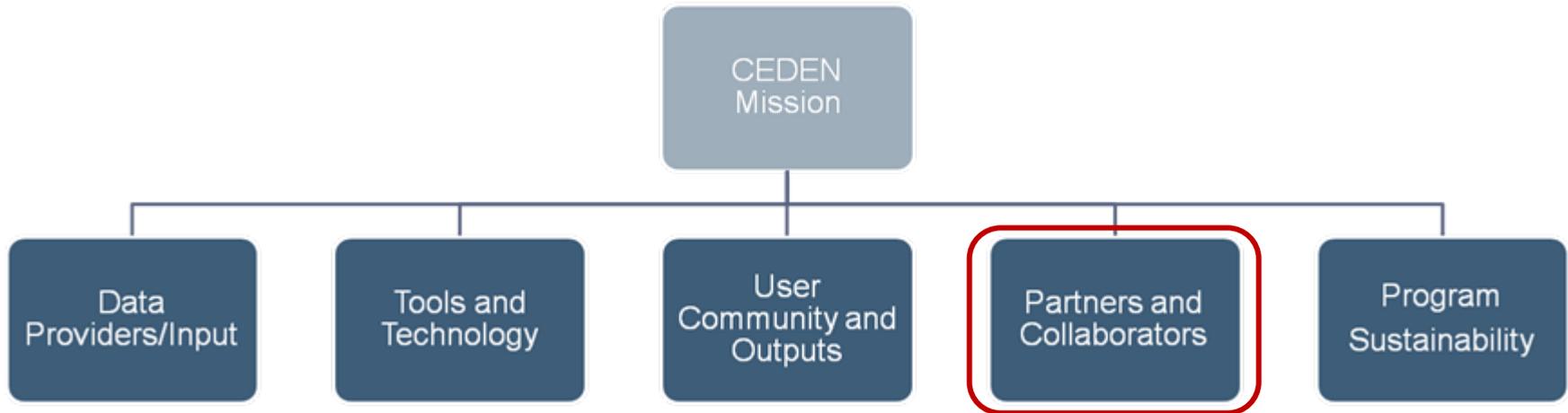  - ▶ Data output and applications

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# User Interactions Assessment



▸ **User needs require clear definition**

   ▸ CEDEN serves SWAMP reasonably well

   ▸ As CEDEN evolves, needs to serve a wider range of clients (public, agencies, scientists and other systems)

   ▸ 'Powered by CEDEN'

▸ **Where CEDEN needs to develop:**

   ▸ QA screening tools

   ▸ Data Interpretation Tools

   ▸ Intuitive Interface design

# Partners and Collaborators



*CEDEN Mission*
- Data Providers/Input
- Tools and Technology
- User Community and Outputs
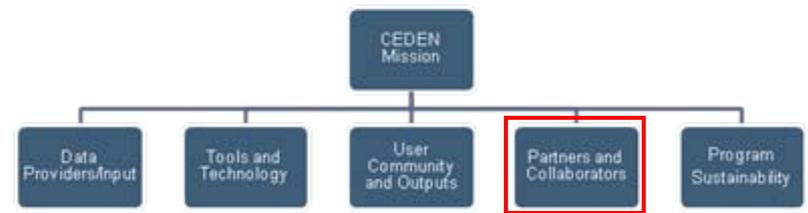- Partners and Collaborators
- Program Sustainability

***Everything** we do in CEDEN must be informed by, and serve the needs of, our users.*

▸ If CEDEN serves our primary users it will simultaneously serve and encourage additional partnerships
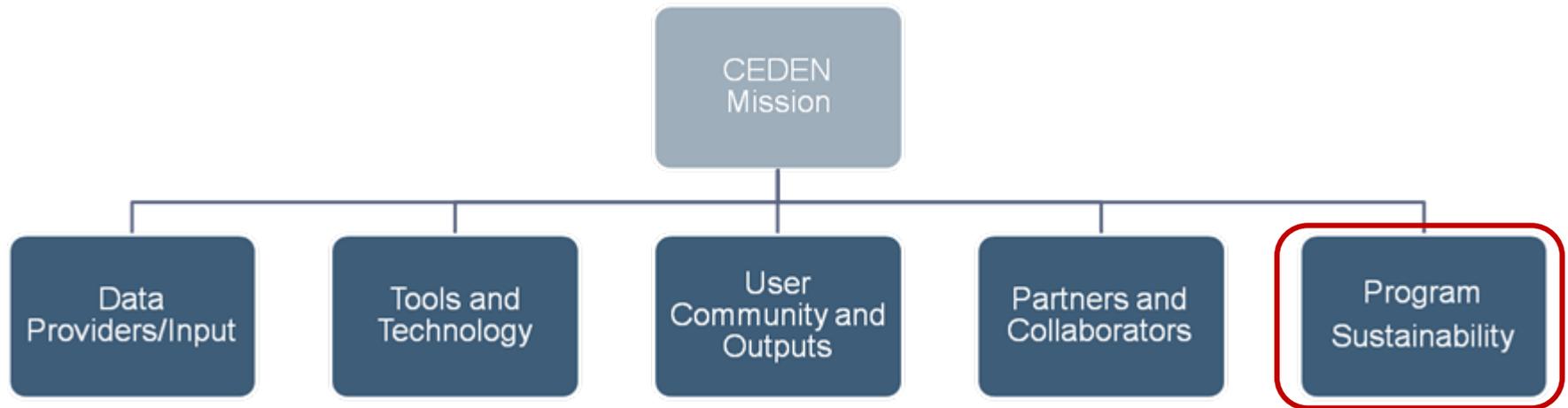
# Assessment of Partnerships



- Other entities have similar missions (data collators)
- We are working to determine who our potential partners and collaborators are
  - Identify and prioritize where CEDEN will collaborate
- Groups we don't collaborate with have potential to become a competitor
  - Seeking same data as CEDEN
  - Desire to be **the** place for data access

- **EPA Exchange Network / WQX**
- **34 North / Bay Delta Live**
- CERES
- **OST Monitoring Enterprise**
- **Marine Monitoring Enterprise**
- SCCOOS, **CeNCOOS**
- DWR Water Data Library
- USGS NWIS
- Others…

# Program Sustainability
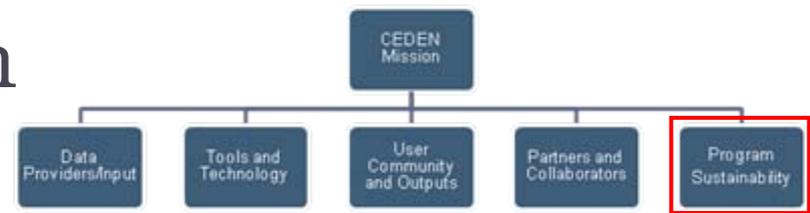


*Everything we do in CEDEN must be informed by, and serve the needs of, our users.*

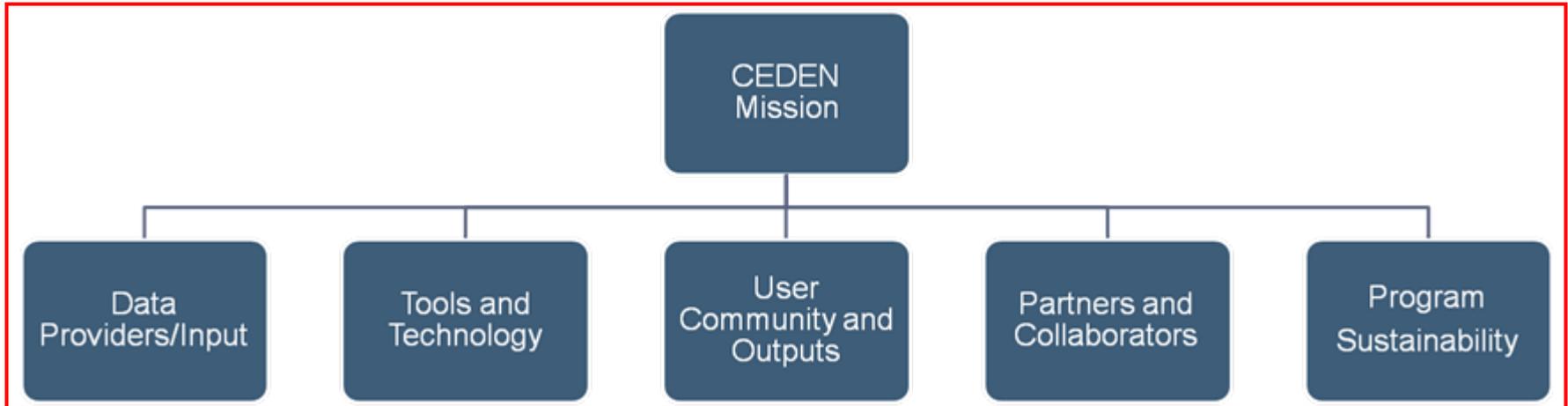▸ CEDEN must be viewed as **essential** to multiple client communities for it to be sustainable

# Assessment of Program Sustainability

▸ We must create a user community around CEDEN

  ▸ Provide **value** to justify CEDEN's continuance

    ▸ Value to data providers

    ▸ Value to collaborators

    ▸ Value to end users of the system and data

  ▸ Leverage resources with others

    ▸ Facilitate and encourage others to build cool tools and visualizations that are "Powered by CEDEN"

      ☐ Council portals are one example of this
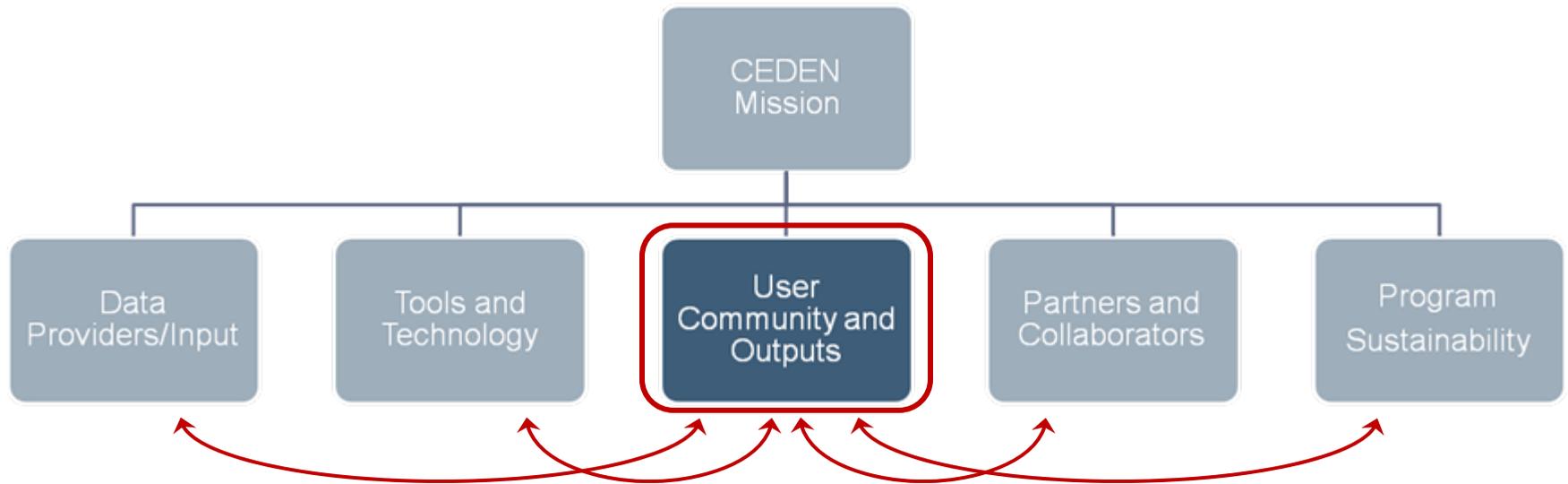
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# What's next for CEDEN?



- ▸ Focus on integrating more data types into CEDEN
- ▸ Continued communications (internal and external)
- ▸ Identify focus/user groups to obtain input on prioritization and β-testing

# Summary



▸ Many things about CEDEN are going well

▸ Success will necessitate addressing **all** components of the system to serve the users

‣ A Vision for CEDEN

CEDEN will be the **preferred** choice for individuals and organizations seeking water quality information for the State of California