

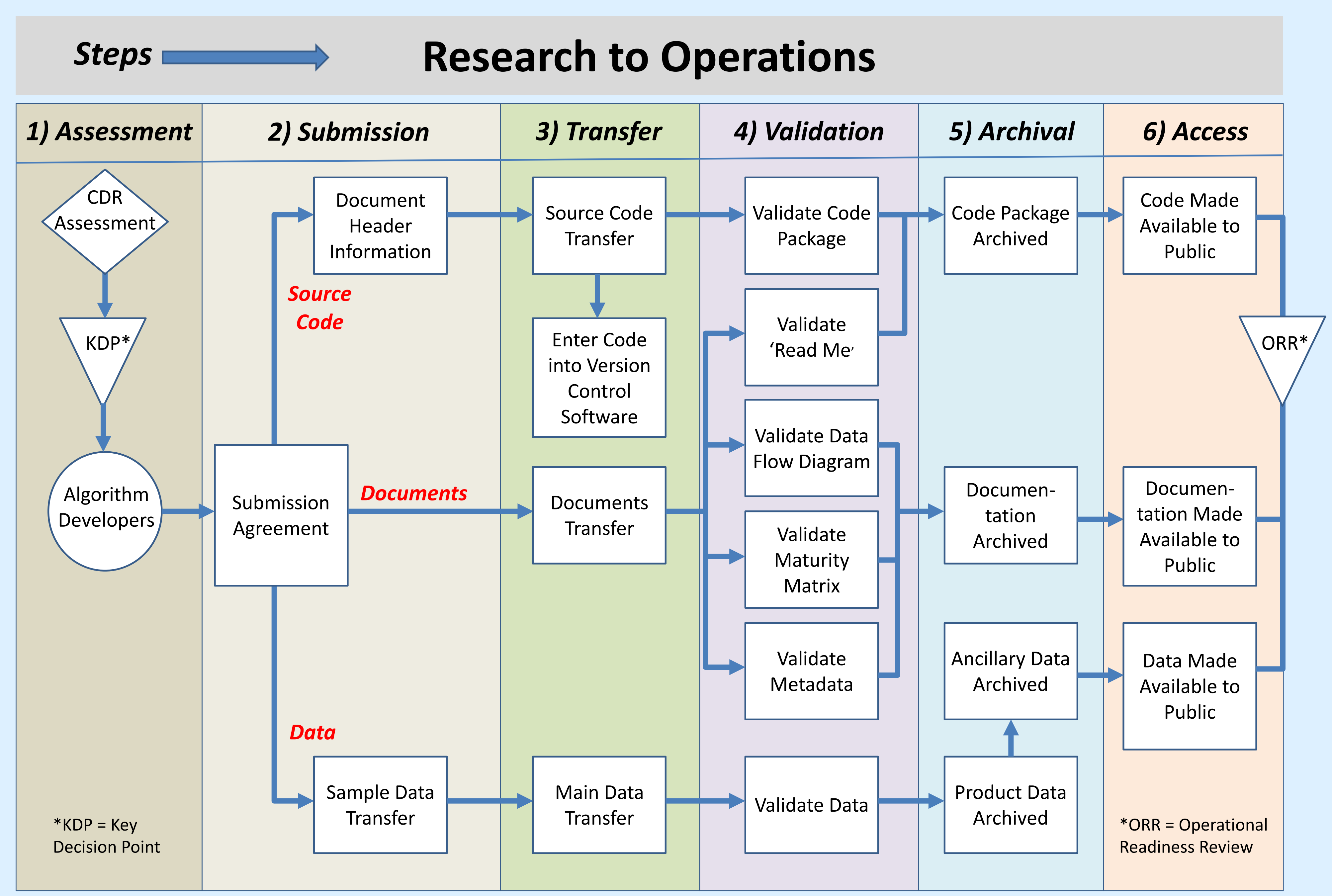
Introducing NOAA's Climate Data Record Best Practices into NCEI's Center for Weather and Climate (CWC) Products

Daniel Wunder, Gary Ellingson, Candace Hutchins, and Brian Newport, Global Science & Technology, Inc. • Jeff Privette, NOAA/NCEI • Terry McPherson, LMI

Introduction

- NOAA's Climate Data Record (CDR) Program was established at the National Centers for Environmental Information (NCEI) (formerly the National Climatic Data Center) in order to develop and implement a robust, sustainable, transparent, and scientifically defensible approach to producing and preserving authoritative climate records from satellite data
- Since its inception in 2009, the CDR Program has transitioned 37 CDRs developed by various research groups to an initial operating state at NCEI
- For transparency and scientific defensibility, the CDR dataset, documentation, and source code are preserved in NCEI's archive and made accessible to the public

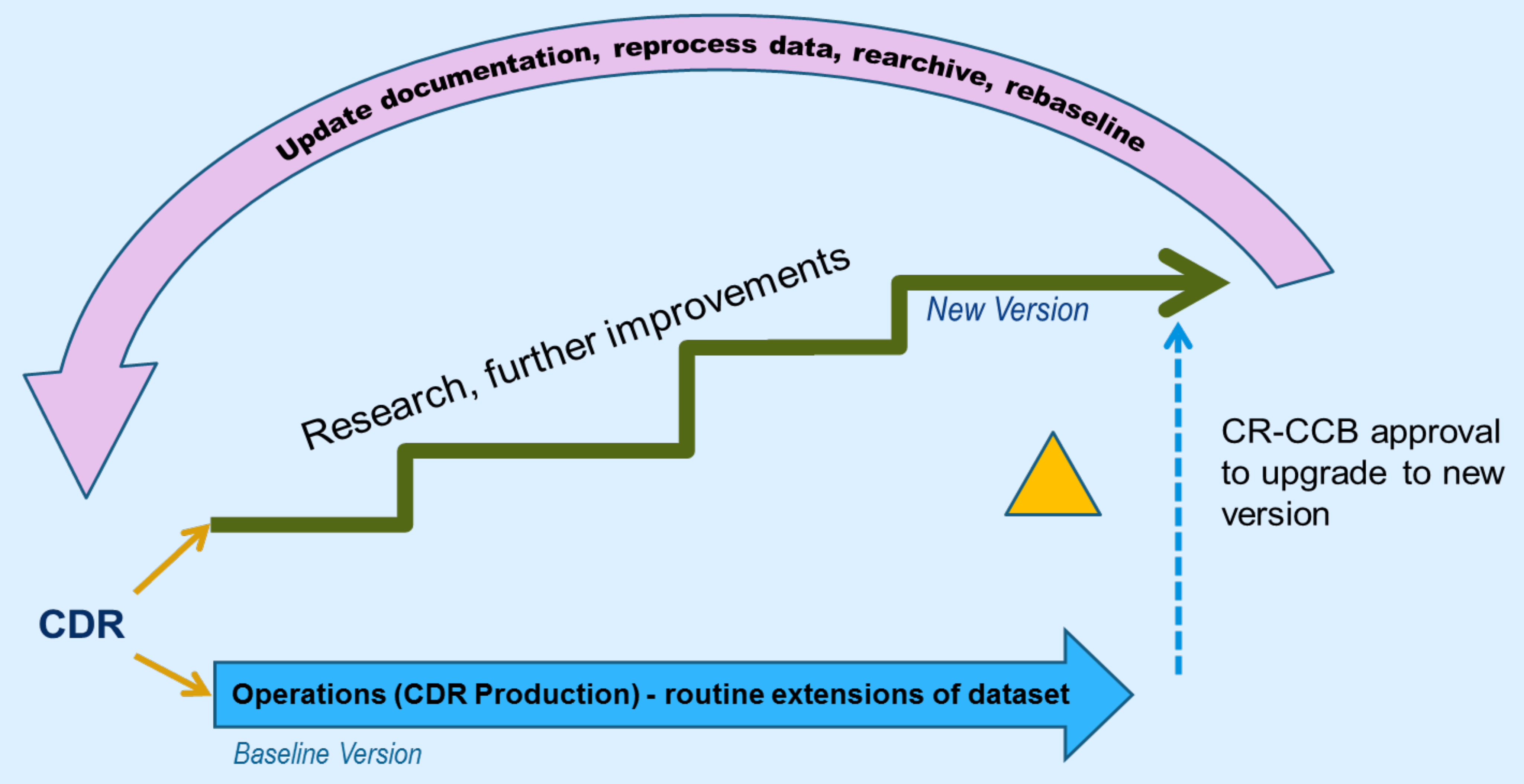
Tailored Process to Baseline an Operational Product



Step 1: Assessment Determine if a candidate research product is sufficiently mature for transition to operations.	Step 3: Transfer Transfer the complete dataset, source code, and documentation materials to NCEI for Validation.	Step 5: Archival Product is put under version control and submitted to NCEI archive. This initiates stewardship for a minimum of 20 yrs.
Step 2: Submission Identify the complete package (code, documents, and data) in a formal Submission Agreement, such that NCEI can plan for archive and access of the materials.	Step 4: Validation Integrated Product Team (IPT) ensures the source code, documentation, and data are consistent with the current coding and metadata standards.	Step 6: Access Conduct an ORR*, then provide a fully transparent and scientifically defensible product to the public. Available at: www.ncdc.noaa.gov/cdr/operationalcdrs.html

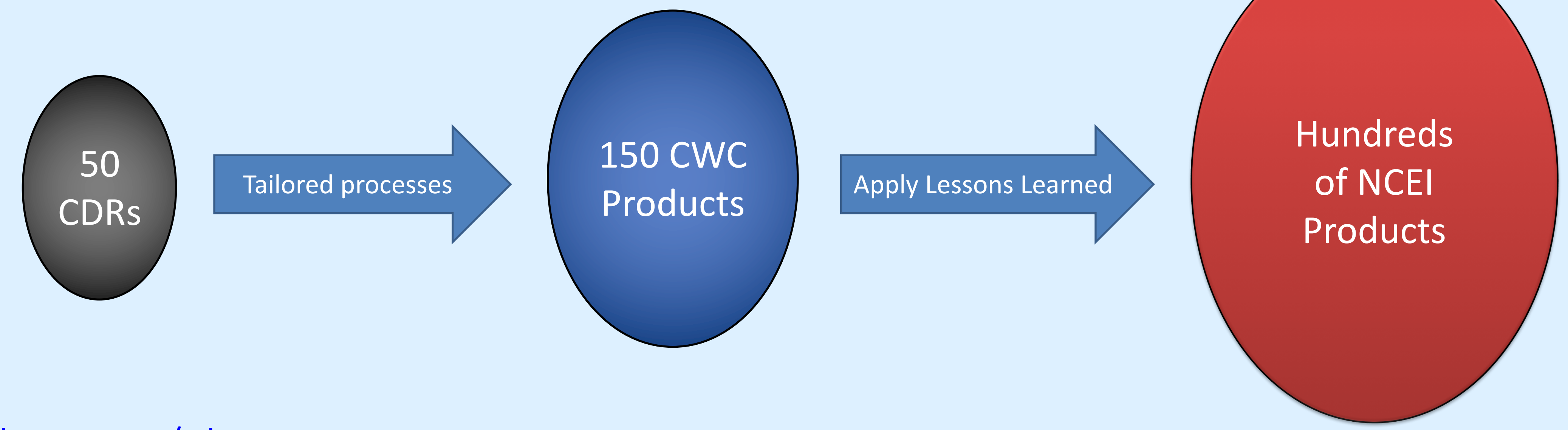
Configuration Control is Necessary for Scientific Integrity

- Routine extensions of the operational product are made while allowing for systematic development and deployment of algorithm improvements
- A change request (CR) is submitted against the baseline version when significant improvements are achieved
- The configuration control board (CCB) approves/disapproves the CR after evaluating the level of improvement vs. cost of implementing and sustaining a new version



Implementing across CWC

- Tailor existing processes as necessary to encompass a much broader suite of products
- Rank products based on user needs, economic impact, and compliance with directives
- Initiate portfolio management across similar products and services
- Maintain the core values of transparency and scientific integrity



Climate Data Record: A time series of measurements of sufficient length, consistency, and continuity to determine climate variability and change (National Research Council, 2004)

CDR Website: <https://www.ncdc.noaa.gov/cdr>

