



Satellite-Derived Weather and Climate Information the Electric Energy Industry

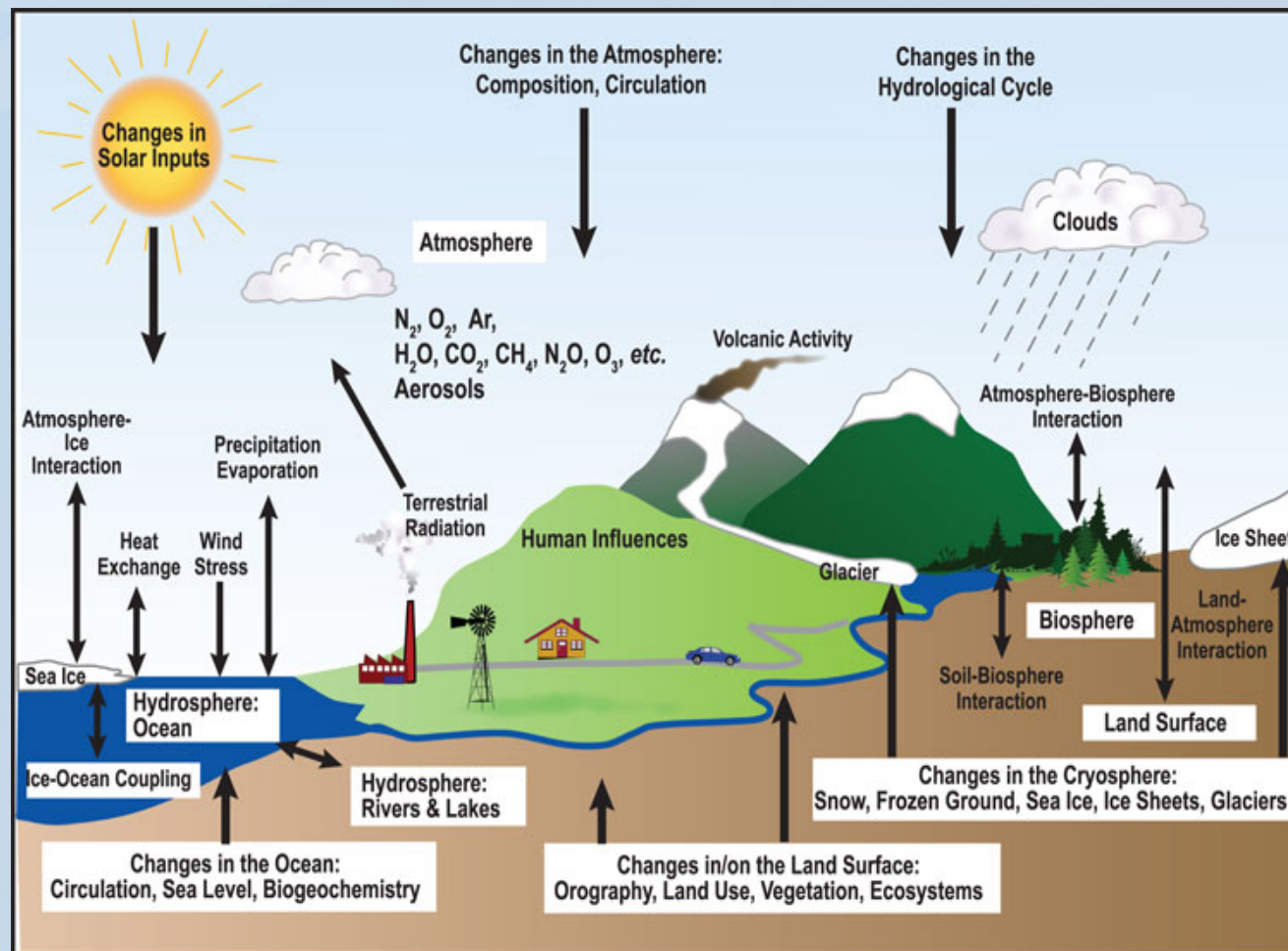
John Bates, NOAA NCDC

NOAA's Satellite Climate Information Provides a Resource to Help Decision Makers Address Questions Involving Climate

Hypothetical questions that require climate data and information:

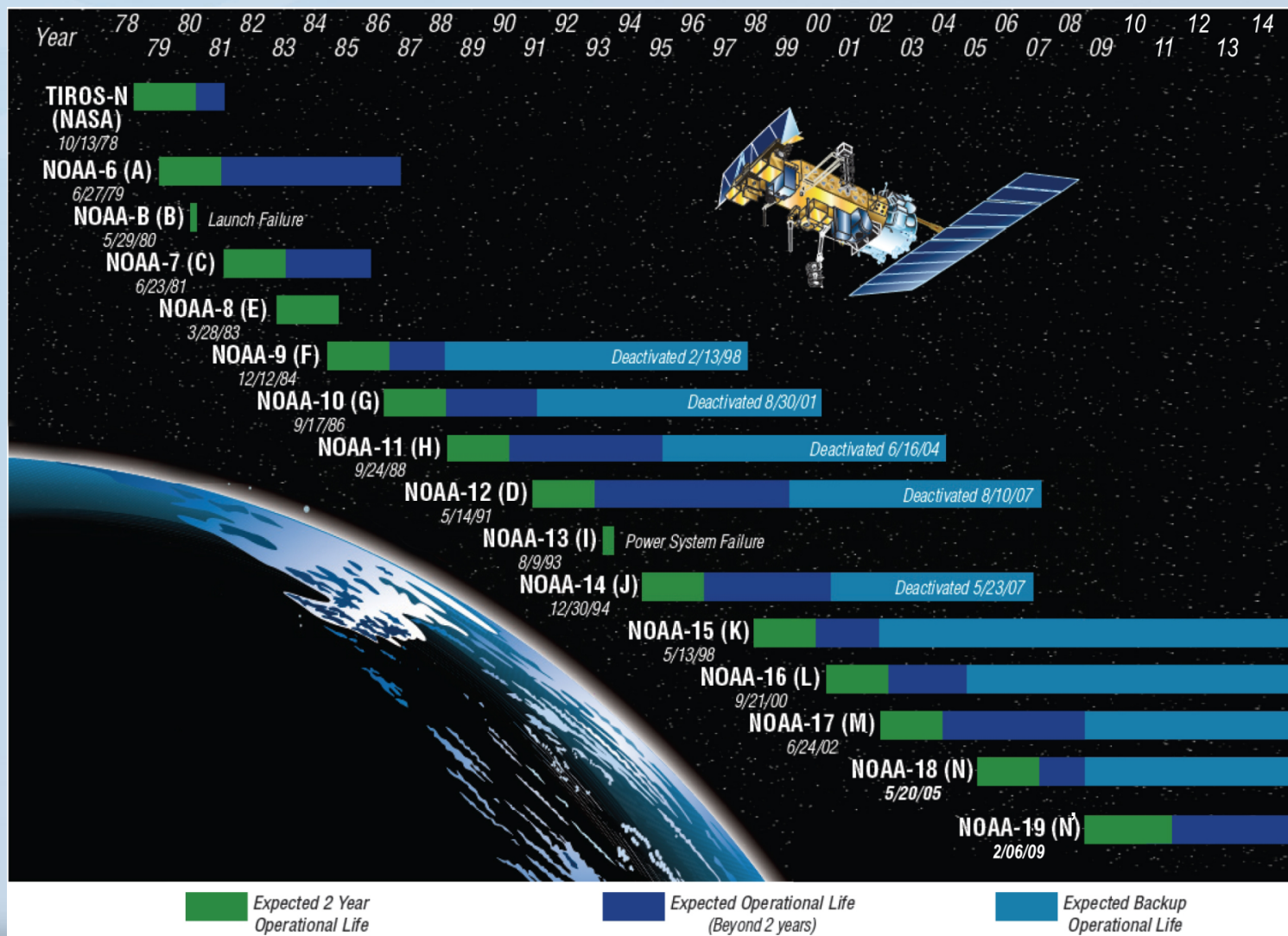
- ▶ **Energy Utilities**
 - Where and how will climate drive the need to invest in new electricity production and infrastructure?
- ▶ **Local Governments and Planners**
 - Are city and county water sources (wells, reservoirs) stable over the next decade due to climate?
- ▶ **International Shipping**
 - Can U.S. companies gain a competitive advantage by investing now in barges for routes through the Northwest Passage?
- ▶ **Agribusiness**
 - How could a company adjust its strategic portfolio of producers, transporters and foreign investment due to climate?

Understanding Earth's Connections Requires a Comprehensive Set of Measurements Across the Globe



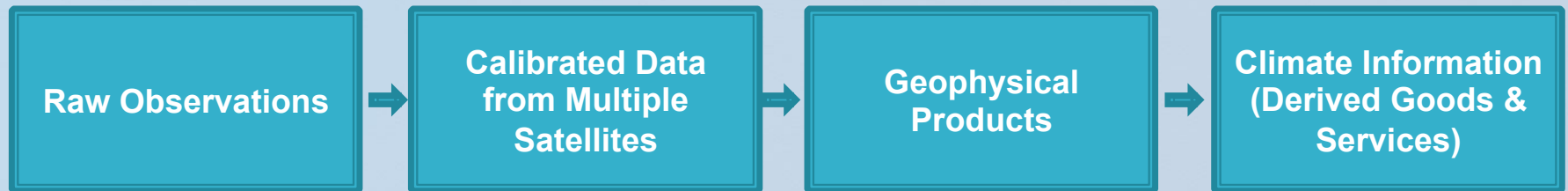
→ Satellite Information Meets the Need

Only NOAA's Satellite Observations Are of Sufficient Length and Coverage to Determine Global Climate Baseline And Anomalies

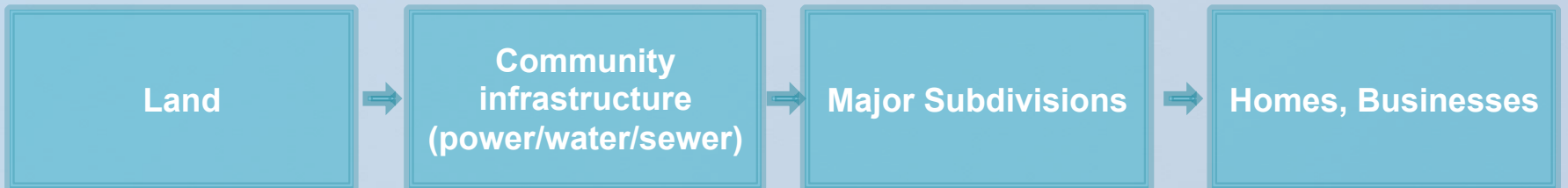


Government Technical Expertise Enables Private Sector to Develop Climate Products and Services

Steps to Delivering Climate Information from Satellite Data



Analogy: Community development



Satellite Climate Information Supporting Investment Decisions in Energy Sector

Collaboration of NOAA, NASA, Academia, Industry and NREL

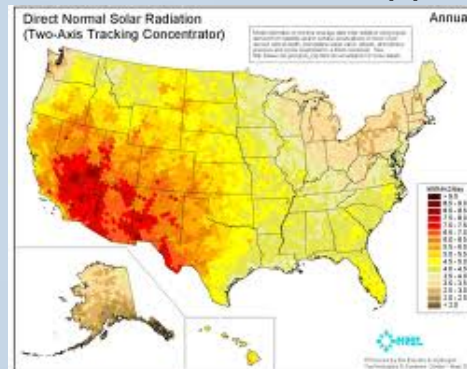
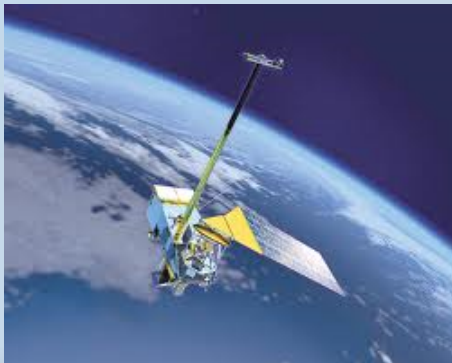


NOAA & NASA
raw satellite data

Merged and corrected
NOAA & NASA
data provide trustworthy
multi-decadal time series

Standards of the
renewable
energy community
applied

Siting information
for major solar
energy farms



Satellite Information Comes of Age

- ▶ Sufficiently long time series 20-30+ years
- ▶ Errors are understood so different satellite time series can be 'seamed' together
- ▶ Many important parameters are best observed by satellite providing excellent geographical coverage

Time to Open Our Minds to Satellite Normals!

Alternative
Normals?

Optimal
Normals?

