Science Data Products

- Data assimilation outputs
- Model simulation
- Remote sensing and ground observations
- International cooperation
- Social-economic statistics
- Postprocessing
- Reanalysis datasets
- Field experiment

- Atmosphere
- Aerosol
- Climate
- Carbon reservoir
- Economy
- Ecology
- Frozen soil
- Glacier
- Geographic environment
- Hydrology
- Ice sheet and ice shelf
- Microorganism
- Natural hazard
- Natural Resources
- Ocean
- Proxy and paleoclimate
- Population
- Policy
- River and lake ice
- Sea ice
- Snow
- Transportation
- Vulnerability
- Vegetation
Model Library and Decision Making

Model library
- Cryospheric model
- Ecological model
- Atmospheric model
- Hydrological model
- Social-economic model

Scientific discovery

Information service

CASEarth Poles platform

Database
- New data from CASEarth Poles
- Existing scientific data platforms
- Polar paleoenvironment reconstruction

Standards, metadata, and interoperability
- Observation network
- International data centers
- Outputs from other projects
- Polar expedition data

Method library
- Big data integration and mining
  - Big data mining method
  - Ensemble-based postprocessing
  - Bayesian method
  - Generalized regressions
  - Artificial neural network
  - Big data visualization

Scientific problems and decision-making
- Ecological conservation decision
- Water resources utilization
- Multi-elements comparison and synergy
- The third pole
- Asynchronization

Earth's Cryosphere
- Polar climate change and variability
- Cryosphere service and disaster

Arctic channel
- Arctic channel
- Sea ice forecast

Multi-spherical interactions of polar climate