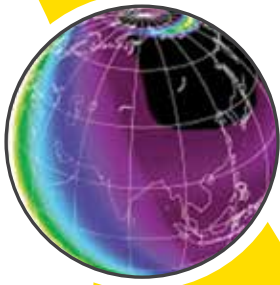




COMPUTATIONAL PHYSICS, INC.



CPI is a professional services company founded in 1984 that performs a broad range of scientific and technical services for federal agencies and other customers in both prime and subcontractor roles. CPI is a small business with many employees holding advanced degrees in the physical sciences, mathematics, or information technology. Our products consist of models, simulations, algorithms, and software tools as well as the information system architectures, designs, and documentation to support those products. CPI's key areas of expertise include:

What We Do

Our clients' needs span every aspect of environmental research and our goal is to provide cutting edge solutions in the field of computational physics that meet or exceed our customer's expectations. These services range from providing state-of-the-art retrieval algorithm development in remote sensing to developing and applying first principles modeling.

Services CPI Provides Include:

- Atmospheric Remote Sensing
- First Principles Physics Modeling
- Scientific Software Development
- Scientific Data Analysis
- Scientific Data Distribution
- IT Support

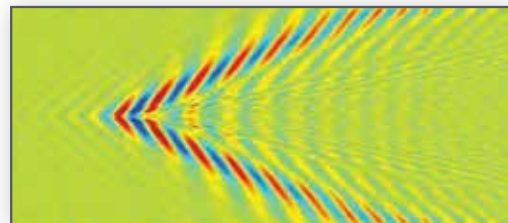
Scientific Expertise

- Remote sensing (EO/IR, microwave, SAR)
- EO/IR observables of atmosphere / clouds / terrain
- Atmospheric radiative transfer
- Atmosphere and ocean modeling
- Scene generation of atmosphere / ocean / terrain / clouds
- Space weather / charged particle transport / auroral physics
- Ionospheric physics / radio wave propagation / GPS modeling
- GPS: precision position, ionospheric effects
- Operational satellite ground data analysis systems

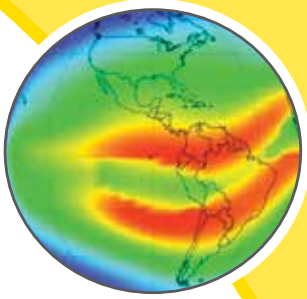
System & Software Engineering Expertise

- Full life-cycle system, software, & algorithm development
- Distributed scientific computing
- Optimistic modeling
- Data management
- Requirements analyses and verification
- Agile software development practices

**Submarine
generated
internal waves
in a thermocline**



Dayside
Ionospheric
Structure
total electron
content from
PIM model.



Primary Employee Sites

- Springfield, VA (Headquarters)
- Boulder, CO
- Naval Research Laboratory (NRL)
Washington, DC
- NASA/GSFC, Greenbelt, MD

Key Customers

- **DoD:** NRL, ONR, USNO, AFRL,
USASMDC, MDA
- **Other Government:**
NASA, NOAA, NSF
- **Large Business:** SAIC
- **Small Business:** ATC,
Riverside Technology inc., NWRA,
Kinetics (kineticsinc.com)
- **FFRDC:** Aerospace Corp.
- **University Affiliations:**
Univ. of Colorado/LASP,
Univ. of Central Florida
- **International:**
European Space Agency,
Jülich (Germany),
Univ. of Calgary (Canada)

Contract Vehicles

GSA Schedule 70 for Information
Technology Professional Services

NOAA Scientific and Technical
Support Services Contract
(Sci-Tech 2)

www.cpi.com/contracts

Primary NAICS Codes:
541511, 541512, 541690,
541712

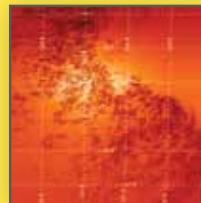
R&D Capabilities

- Real-time modeling
and simulation
- Multi-physics model
development and application
for the Earth sciences
- Algorithm development
for remote sensing
applications
- System and software
engineering
- Ionospheric research
and global ionospheric
specification
- Radio propagation
modeling for operational
applications
- Requirements specification
and management
- Requirements analyses
and verification

Past Performance

- Twenty-eight years of continuous contract support among three divisions of the Naval Research Laboratory.
- Development of industry standard first principles physics and specification models: Atmospheric Ultraviolet Radiance Integrated Code (AURIC), Boltzmann 3 Constituent (B3C) auroral electron transport, and the PRISM family of ionospheric models (PRISM, PIM, IECM).
- Development of gravity wave modeling applications that produced the first detailed mountain wave simulation for the Martian atmosphere and mountain wave forecasts for the NASA ER-2 aircraft missions.
- A long record of peer-reviewed publications which can be found at www.cpi.com/about/publications.html.
- Distributed scientific computing for missile defense physics-based modeling and simulation programs.
- Development of operational algorithms that are used for both NASA and DoD satellite missions such as Defense Meteorological Satellite Program (DMSP) and WindSat.
- Development of a data distribution center (www.cpi.com/datacenter) that utilizes a robust web application framework to support multi-dimensional queries on multi-terabyte data sets.
- Extensive experience in development and implementation of operational satellite ground data analysis systems such as WindSat for NRL and JMAPS for USNO.

Infrared Scene
of Central
North Korea



Altitude and
Primary Land
Cover of
Puget Sound,
Washington

