OCEAN SCIENCE SOFTWARE & SERVICE SOLUTIONS

rps

MAKING
COMPLEX
EASY

Why we exist
OUR PURPOSE

We create shared value by solving problems that matter to a complex, urbanising and resource-scarce world

Our purpose reflects our commitment to creating shared value for our people, investors and clients. It reinforces our undertaking to challenge industry norms to solve the problems facing our world.
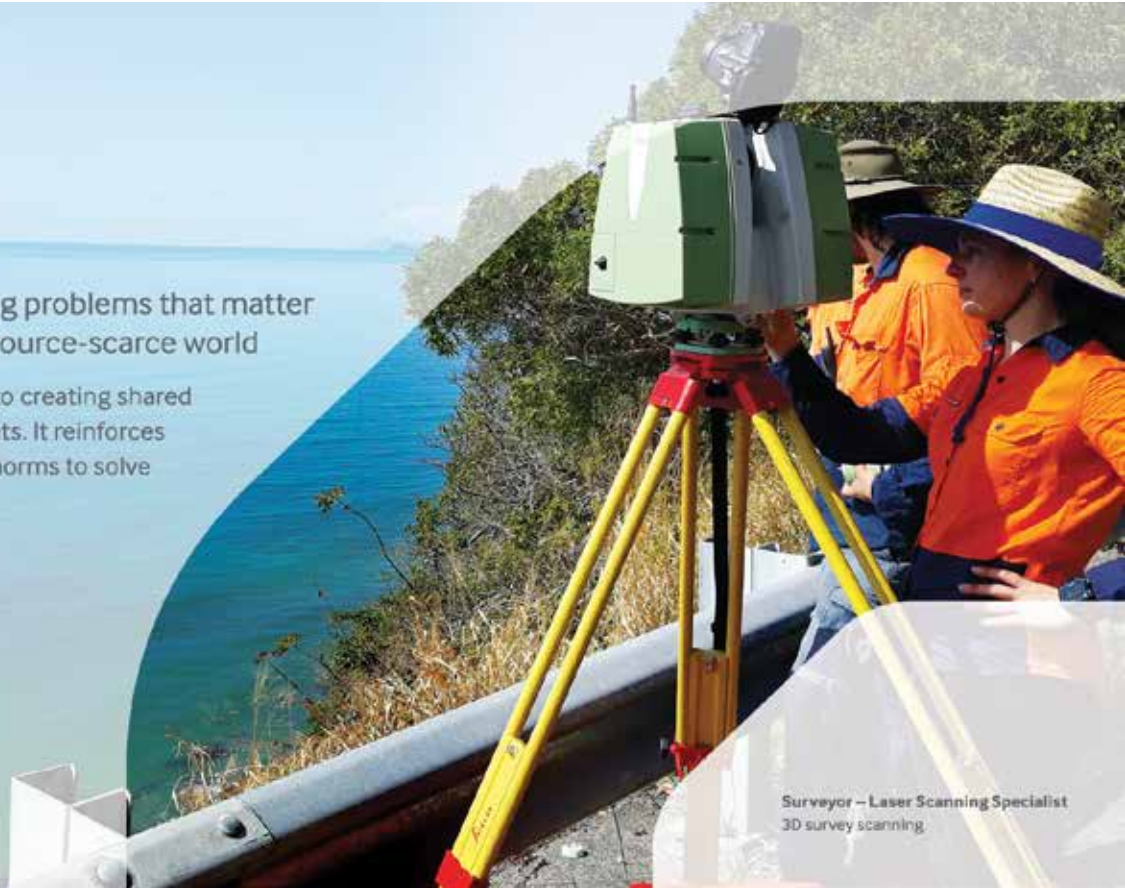
Surveyor – Laser Scanning Specialist
3D survey scanning

What we do
OUR PROMISE

We have deep expertise in things that matter and we are easy to work with. Our clients trust us and we are respected for our creative thinking.

Together we build strong relationships by repeatedly delivering on our promise.

Making complex easy

ROV Operator
Performing an underwater inspection with an ROV (Remotely Operated Vehicle)

How we do it
OUR BEHAVIOURS

Adapting to a complex world
We solve problems that matter

We're naturally inquisitive with a deep desire to find solutions to problems

We embrace new ways of thinking and support each other as we learn

We are leading minds who pursue continuous improvement and innovation

We're mindful of our impact on those who depend on environmental, social and financial stability

Our personality
We are confidently pragmatic

We anticipate client needs, and push the boundaries of enquiry in our response

We utilise our global experience and specialist knowledge to delight our client

We challenge each other to do things better, always delivering on our promise without compromising our integrity

We encourage intelligent risk taking to deliver the best outcome, by being fully informed and using sound judgement

Global thinking, big picture
We make it easy to connect

We are open to the opportunities that a complex world brings. We actively go out of our way to make things easy

We share knowledge and if someone asks for help we do all we can to assist

We recognise the potential in other people's ideas and will work in partnership to make the most of the opportunity

We are always looking to create shared value and to support each other through peaks and troughs

Our attitude. What it's like to work with and for us
We are stronger together

We are respectful of each other, acknowledge diversity and recognise the potential and contribution of everyone

We bring out the best in one another always assuming best intent

We act responsibly for our own wellbeing and safety and that of others

People who learn and grow thrive in our business and share in our success

Winning mindset
ABSOLUTE DELIVERY

We actively support each other to succeed by consistently delivering quality work on time and on budget

We communicate clear expectations of each other to enable high performance

We hold ourselves accountable for always delivering commercially astute outcomes

We find opportunities that deliver high value to our clients, improve performance and deliver profitable outcomes

Connected by
OUR STORY

Our story is the anchor to our brand

- Used with purpose it gives us value, depth and integrity

- It's an asset that must be managed

- It builds an emotional connection and it defines how much value we create

- It's not fake or contrived, it has substance and relevance

One company, many stories

- RPS was founded in 1970 as Rural Planning Services

- We are a leading, global professional services firm of 5,600 people

- We define, design and manage projects that create shared value to a complex, urbanising and resource-scarce world

- We use deep expertise to solve problems that matter and we are easy to work with

This is who we are

Founded in 1970, RPS is a leading global professional services firm of 5,600 people.

Located in 125 countries working across all six continents we define, design and manage projects that create shared value to a complex, urbanising and resource-scarce world.

We work across six sectors: property, energy, transport, water, resources, defence and government services. Our services span twelve clusters: project and programme management; design and development; water services; environment; advisory and management consulting; exploration and development; planning and approvals; heath, safety and risk; oceans and coastal; laboratories; training and communication and creative services.

We stand out for our clients by using deep expertise to solve problems that matter, making them easy to understand and by being easy to work with.

Microbiology
Laboratory Technician
Analysing all samples for fungi

RPS SOFTWARE

MAKING
COMPLEX
EASY

OILMAP
SOFTWARE

OILMAP is an oil spill model system suitable for use in oil spill response and contingency planning. OILMAP provides rapid predictions of the movement of spilled oil. A comprehensive 3D model is included that tracks various hydrocarbon components on the water surface, in the water column, and in the air.

OILMAP Features:

- Includes algorithms for spreading, evaporation, emulsification, entrainment, oil-shoreline, oil-reed bed, and oil-ice interaction.
- Surface and subsurface oil movement can be animated to identify shoreline impacts.
- Outputs graphical and tabular listings of weathering mass balance results, and display of GIS resources impacted by the spill.
- Includes simple graphical procedures for specifying the spill scenario and entering both wind and hydrodynamic data.

Trajectory & Fates

Far-field model for surface and subsurface releases that predicts the 3D trajectory and fate of oil for instantaneous or continuous release spills.
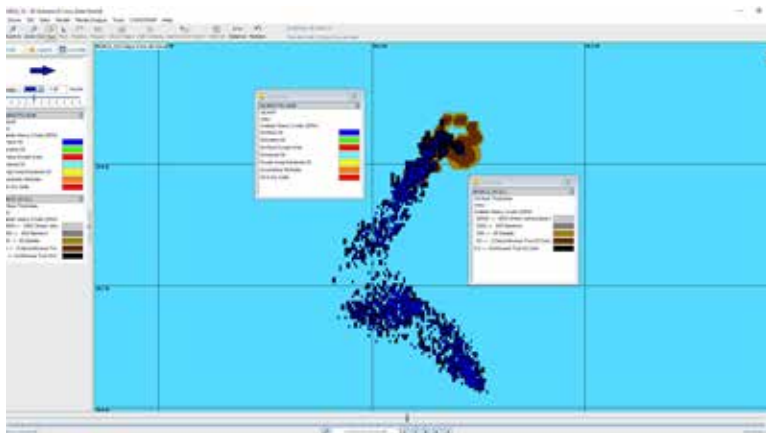
Clients

Below is a list of clients who currently use OILMAP software.

rpsgroup.com
solutions@rpsgroup.com

OILMAPLAND
SOFTWARE

OILMAPLand is a land and surface water spill model system for simulating oil and chemical releases from pipelines, rail corridors, storage facilities, and many other land based locations. OILMAPLand fills the need for a numerical modelling tool that is used to calculate release volumes from pipeline ruptures and for simulating oil and chemical spill transport over land and in surface water networks. OILMAPLand integrates with Esri ArcGIS® Desktop to allow complete integration with other pipeline, facility, or rail data and provides GIS outputs for additional analysis.

Applications of OILMAPLand:

- Simulation of oil and chemical releases that occur on land and migrate to streams and lakes
- Meets federal hazardous pipeline safety regulations: Pipeline Integrity Management Rule (49 CFR 195.452)
- Model generated GIS spill plumes can be overlaid with High Consequence Area (HCA) and other dataAssists in pipeline route and valve placement planning
- Hindcasts/forecasts spills for response actions and training
- Aids oil spill contingency planning
- Supports oil spill response drills and education
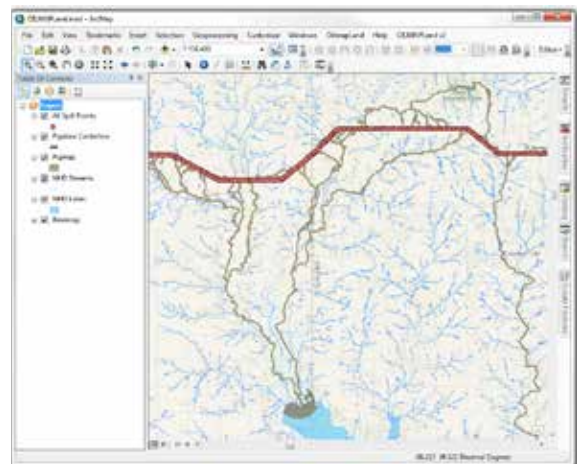
Applications of OILMAPLand:

- Spill Volume Calculation - calculates the potential volume released from a full-bore rupture of the pipeline. The total includes the volume released while pumps are operating and volume available to drain from the pipeline under gravity between closed valves.
- Land Spill Model – Calculates the overland flow of oils and chemicals from point source releases.
- Surface Water Model - determines the path and physical fate of the spilled oil or chemical once it enters the surface water system

rpsgroup.com
solutions@rpsgroup.com

rps
MAKING COMPLEX EASY

OILMAPDEEP
SOFTWARE

OILMAPDeep is a near-field model used to simulate subsurface releases of oil and gas. The model is integrated within OILMAP for seamless simulations of both the near-field and far-field environment. OILMAPDEEP predicts the near-field plume characteristics and oil droplet size distributions for a specified release. A subsurface dispersant treatment module is also included that incorporates the effects of time varying subsurface dispersant treatment.

Applications of OILMAPDeep:

- Well blowout response planning
- Well blowout response decision support
- Spill drill exercises
- Contingency planning studies

OILMAPDeep Model Highlights:

- World-wide capability
- Models deep water plumes
- CDOG or OILMAP plume formulation
- Surface weathering/hydrate formation
- Inherits all of the functionality of OILMAP
- EDS: Environmental Data Server™ integration

Features:

- Includes subsea plume and surface transport for shallow and deep releases
- Implements both the Clarkson CDOG Version 2.02 and RPS simple plume calculations
- Incorporates 2d and 3d hydrodynamic model flow fields
- Output includes plan and section views of plume, in-water, and on-surface model predictions
- Develop blowout relief well drilling contingency planning
- 3d flow fields available for Gulf of Mexico and West Africa drilling/production areas
- Contains RPS ASA's own GIS or can be used in other GIS software such as ArcView®
- Seamless integration of RPS's EDS: Environmental Data Server™ real-time and historical global environmental data from top data providers

OILMAPDeep's Plume Implementation:

- Simplified plume calculation, including hydrate formation
- Comparisons in two Deep Spill workshops showed similar surfacing times and distances to CDOG and Sintef model predictions
- Produces rapid model results
- Direct integration with complex environmental dataintegration

rpsgroup.com
solutions@rpsgroup.com

rps MAKING COMPLEX EASY

OILMAPWEB
SOFTWARE

OILMAPWeb is a web based system for modelling oil releases. It provides rapid predictions of the movement of spilled oil. It includes simple procedures for simulating a spill using wind and hydrodynamic data and specifying spill parameters. OILMAPWeb fills the need for remote modelling of oil spills when a spill occurs. It can be coupled with GIS response resources and a multimedia reference section containing response information to assist in response strategies and planning.

Applications of OILMAPWeb:

- Remote oil spill modelling
- Oil spill Response
- Oil spill response decision support
- Oil spill response training
- Spill drill exercises
- Contingency planning studies
- Management of spill related data
- Management of GIS resources

OILMAPWeb Features:

- Simplified Web version of existing OILMAP desktop version
- GIS data integration and visualization
- Multimedia Data integration
- Storage and visualization of response plans
- Simplified sharing of model results between users through online shared database of scenarios.
- Custom wind and hydrodynamic data integration
- Linking to multimedia reference section through hot-linking from GIS data
- Emergency response resources integration
- Rapid impact identification

rps
MAKING COMPLEX EASY
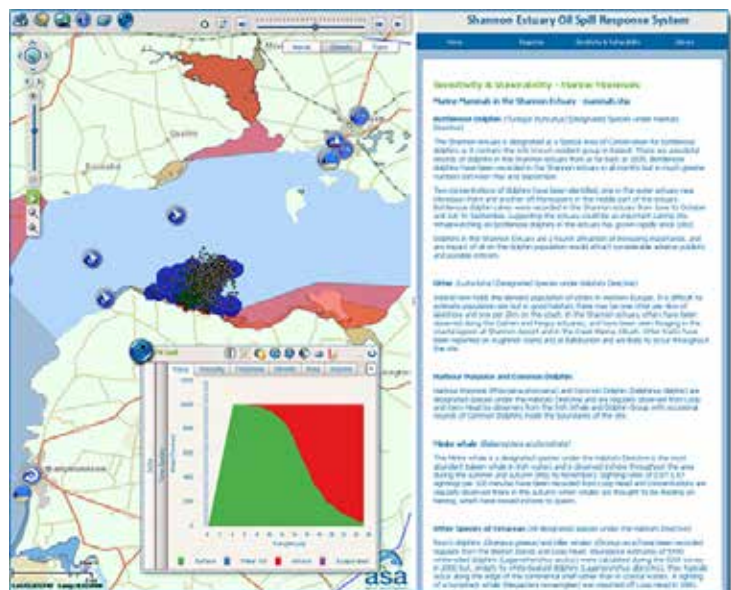
OILMAP FOR AGOL
SOFTWARE

OILMAP for AGOL is the web-based version of OILMAP Desktop fit for the Common Operational Platform. OILMAP for AGOL is a user friendly modelling system suitable for use in marine emergency response, pollution control and contingency planning. It includes simple graphical procedures for entering input data such as wind and currents in the area of interest, and the information about the spill / emergency scenario.

The OILMAP for AGOL version includes access to the following:

- OILMAP's numerical modelling engine (a two-dimensional oil spill model)
- Access to an oil database with hundreds of products each with customized physical and chemical properties and weathering parameters
- Seamless access to the system from anywhere with web connectivity
- Capable of adding additional users as projects grow
- Robust for critical emergency response
- No need for upgrades or patches on local PCs
- High flexibility for data integration and service based connections
- No platform compatibility issues as operating systems change. Compliant with most web browsers (IE, Firefox, Chrome, Safari)
- Use of Met-Ocean data for up to three days into the future and one month historical use (adjusted if needed during incidents)
- Model simulations saved as searchable individual map items within ArcGIS Online or Portal

rpsgroup.com
solutions@rpsgroup.com
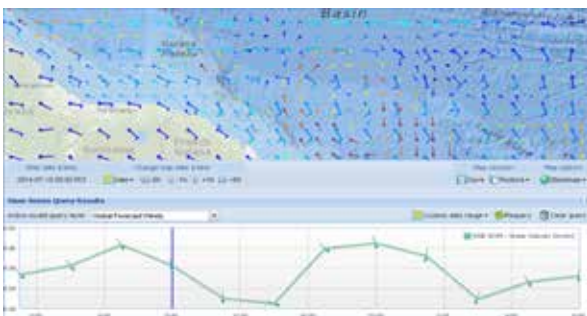
SARMAP
SOFTWARE

SARMAP is a search and rescue model system that provides rapid predictions of the movement of drifting objects and missing persons in marine and aeronautical environments. When objects are missing, whether it is missing vessels, missing persons or containers, a primary concern is where these objects will travel and where is the most probable search area.

SARMAP Features:

- Includes the ability to deploy search & rescue units (SRUs) with search patterns
- Calculates probability of containment (POC), probability of detection (POD), and probability of success (POS) based on the IAMSAR Manual guidelines
- Includes simple graphical procedures for specifying search and rescue incidents and live feed of forecast wind and current data
- Outputs an intuitive graphical overview of the search object trajectory so operators can easily deliver search area information to on scene assists

SARMAP Interface

SARMAP includes a database of drift behavior for a variety of objects based on the latest U.S. Coast Guard data. The database contains 101 water objects and 27 aeronautical objects which can be selected from a list in the search and rescue model form.
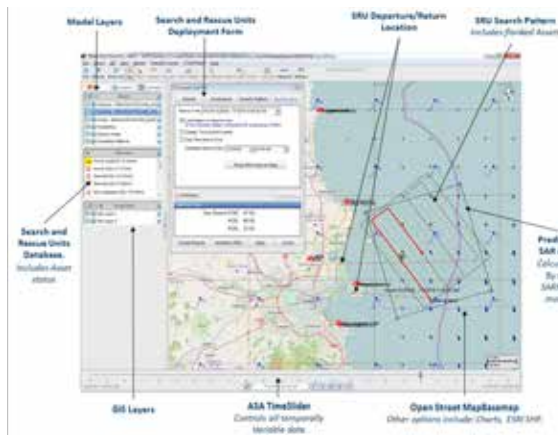
Clients

Below is a list of clients who currently use SARMAP software.

rpsgroup.com
solutions@rpsgroup.com

CHEMMAP
SOFTWARE

CHEMMAP is a chemical discharge modeling and response system that predicts the transport, fate, and biological impacts of a wide variety of chemical substances in the marine environment and atmosphere.
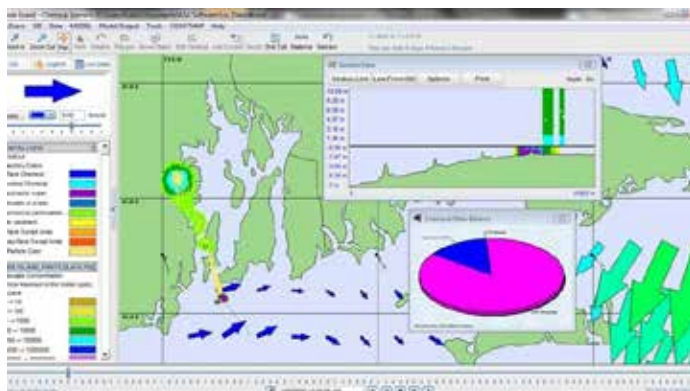
Applications of CHEMMAP:

- Emergency response
- Risk assessment
- Contingency planning- including worst case scenario
- Natural resource damage assessment
- Drills and education
- Cost-benefit analysis

CHEMMAP Highlights:

- Chemical Fates Model
- Atmospheric dispersion Model
- Biological Exposure and Effects Model
- Stochastic Model
- Hazard Quotient Calculations
- Interactive GIS
- Access to real-time met-ocean data via EDS

CHEMMAP Modules:

- Initial plume dynamics
- Slick spreading, transport, and entrainment of floating materials
- Evaporation and volatilization (to atmosphere)
- Transport and dispersion of dissolved and particulate materials in the water column and in the atmosphere
- Dissolution and adsorption to suspended sediments
- Sedimentation and resuspension
- Natural degradation
- Shoreline interaction

rpsgroup.com
solutions@rpsgroup.com

rps MAKING COMPLEX EASY

AIRMAP
SOFTWARE

AIRMAP is an atmospheric dispersion model designed to predict the trajectory and fate of a wide variety of chemical substances and biological agents in the atmosphere.

Applications of AIRMAP:

- Hindcast/forecast of release into atmosphere

- Evaluate human health risk

- Contingency and response planning (e.g. for security related to accidental or intentional releases)

- Evaluation of discharges from fixed or moving point sources

- Drills and education

- Contains RPS' own GIS or can be used in other GIS software such as ArcView®

- Easily interpreted visual display of temporally and spatially varying concentrations, not just contour plots

- 3D Viewer capabilities

- Plot concentration with time for any point in the domain or maximum concentration as a function of time

- MSDS database linked to the physical-chemical database

- Extensive chemical database providing physical chemical data

Highlights:

- Integrated GIS

- Moving or fixed source

- Hazard Quotient and Time Weighted Average (TWA Calculations)

- Environmental, Chemical and MSDS Databases

- Airmap Simulates:

- Moving or stationery sources

- Time-varying source fluxes

- Release over land or water

- Transport and dispersion materials in the atmosphere

- Evaporation and volatilization

- Natural degradation

ENVIRONMENTAL DATA SERVICES (EDS)
SOFTWARE

EDS: Environmental Data Server™ collects a wide variety of oceanographic and meteorological data that is used for marine response and crisis management (oil/chemical spill modeling & response and search & rescue planning) as well as providing superior data sources to environmental modeling applications.

Applications for EDS:

- Provides real-time and historical environmental data management, analysis, visualization and internet-based distribution through Web services.
- Connects NASA, NOAA, NAVY and IOOS regional data to operational users in the U.S. Coast Guard, U.S. Navy, and other users globally.
- Collects scientific data in disparate formats and makes available to operational users via standard web services.

ENVIRONMENTAL DATA SERVER (EDS) SYSTEM OVERVIEW
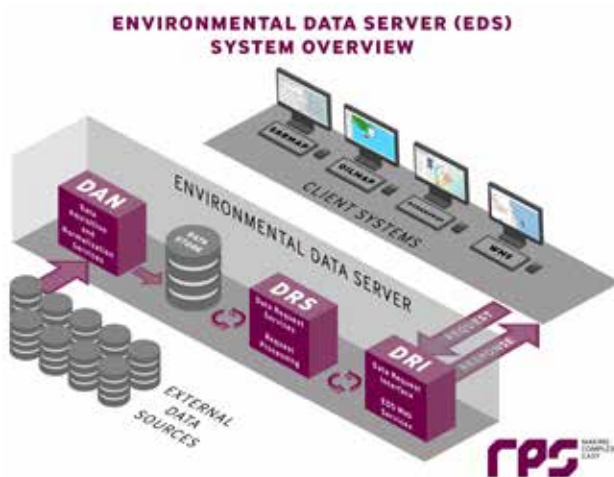
EDS Highlights

- World-wide data coverage
- Seamlessly integrates with user interface
- Built on standard data conventions
- Supports spatial and temporal data subsetting
- Data product aggregation
- Built on standard data conventions
- Utilizes open standards data delivery protocols
- Integrated OGC Web Mapping Service (WMS)
- Service oriented architecture
- Extensible framework
- Automated processing and data QA/QC
- Forecast and hindcast data archive

rpsgroup.com
solutions@rpsgroup.com

rps MAKING COMPLEX EASY

OCEANSMAP
SOFTWARE

OceansMap is a web-based met-ocean data and emergency response simulation system. It consists of a GIS-based graphical user interface, a spatial database and web services from OceansMap Server. The web-interface allows users and groups to manage, visualize and analyze a variety of met-ocean data including operational model and in-situ observation data. It can also be used to set up different oil or chemical spill scenarios, run a trajectory and weathering model and visualize the results of the model. The trajectory models can seamlessly access the latest global and regional wind and current data hosted in OceansMap Server or from RPS's EDS. The system also includes interactive GIS features and tools to manage spill response planning activities and assets.

Applications for OceansMap:

- Fast Contingency planning
- Common Operational Picture
- Online Asset Management
- Online Data Sharing
- Met-Ocean Analysis
- Hindcast/forecast of spill response
- Response Resource Management
- Geomatics Data Management
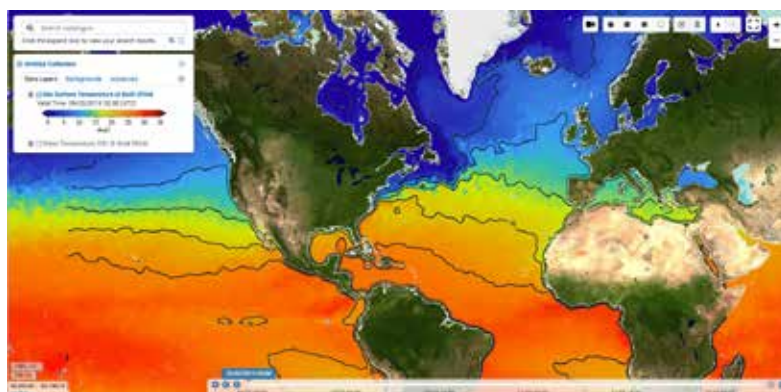
Data Types

- Model Forecasts
- Satellite Data
- Buoys & Observation Statons
- Profiles
- Gliders
- Drifters
- Stream Gauges
- GIS Services
- LIDAR
- Beach Profiles
- Sediment Grab Samples

rpsgroup.com
solutions@rpsgroup.com

rps MAKING COMPLEX EASY

RPS SERVICES

OIL & GAS
SERVICES

RPS develops and uses computer models for solutions related to marine, freshwater, and terrestrial environments. Our specialized expertise yet broad scope of services reflect decades of experience addressing environmental and engineering challenges by simulating physical, chemical, and biological processes. We assess actual events and predict possible alternatives to address water quality, circulation, and pollutant transport questions throughout the world.

RAIL
SERVICES

RPS develops computer models and uses them to evaluate the transport, fate, and biological effects of oil, chemicals, and other toxic substances on land and in marine and freshwater environments. These models are applied to catastrophic spills or long-term discharges and may be used to hindcast or forecast spill scenarios and to provide probability distributions of expected environmental effects.

IMPACT ASSESSMENTS
SERVICES

RPS provides services and tools to address the increasing need for quantitative and objective assessments of ecological impacts resulting from releases of toxic substances. These assessments are typically required for accidental spills, chronic releases, continuing contamination from historical dumping, and for planning and management decision making.

MARITIME SAR
SERVICES

RPS provides world-standard services and solutions for maritime search and rescue (SAR). For accidents at sea and in nearshore coastal waters, RPS provides computer-based modeling services that can be used in combination with aerial and boat surveillance techniques to locate missing vessels, cargo, or persons in the water (PIWs). RPS's computer-based modeling procedures employ information on wind, currents

OCEAN OBSERVING
SERVICES

The ability for decision makers to effectively do their jobs is directly dependant on the ability to integrate and analyze high quality data quickly and easily. RPS's software and systems have been developed to meet the demands of the rapidly growing need for ocean observing and modeling. For this community, RPS has developed applications and software that range from highly specialized and niche to extensible and generic. High quality, internationally regarded models have come to depend on the observing and modeling systems that RPS has developed.

# MARINE SPATIAL PLANNING
SERVICES

RPS provides services and technology solutions that address the need for balancing the various demands on marine areas and resources. This balance is most effectively achieved by Marine Spatial Planning (MSP), a multi-sector (e.g., fisheries, energy, transport) and multi-disciplinary (e.g., engineers, scientists, policy analysts, planners) process of allocation and assessment of anthropogenic ocean uses to achieve and meet ecological, economic, and social objectives. RPS has experience in the marine environment from both ecological and human perspectives while integrating science, technology, and policy to support successful marine spatial plan development.

COASTAL RESILIENCE
SERVICES
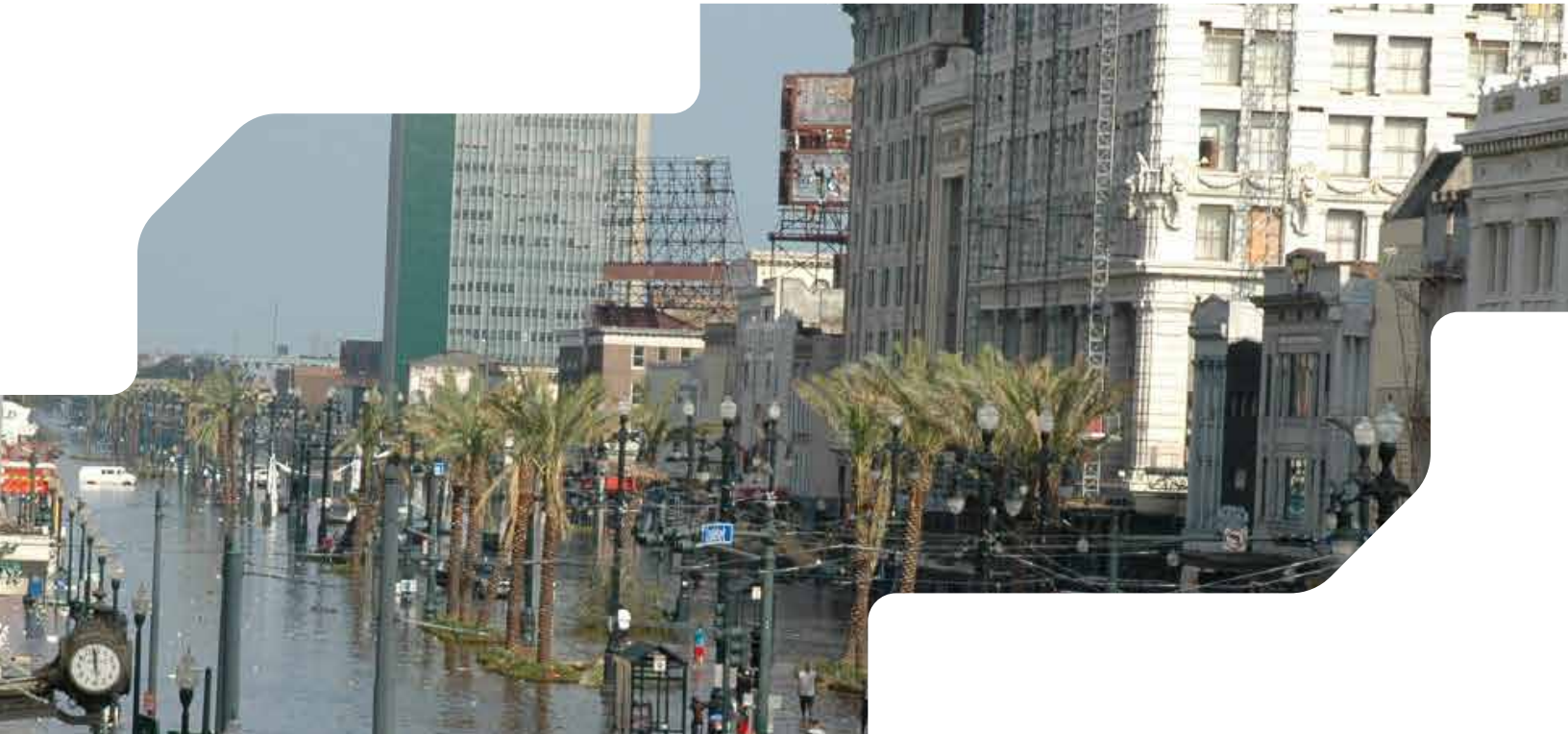
Generating 3-D models of structures and facilities provides a powerful tool for visualizing and communicating coastal hazards impacts because the models provide the viewer with a baseline against which to judge flood depths. These visualizations can be used to help assess the vulnerability of individual structures and to define adaptation actions. They are also critical for clearly communicating the level of risk project stakeholders and the public.

GIS SYSTEMS
SERVICES
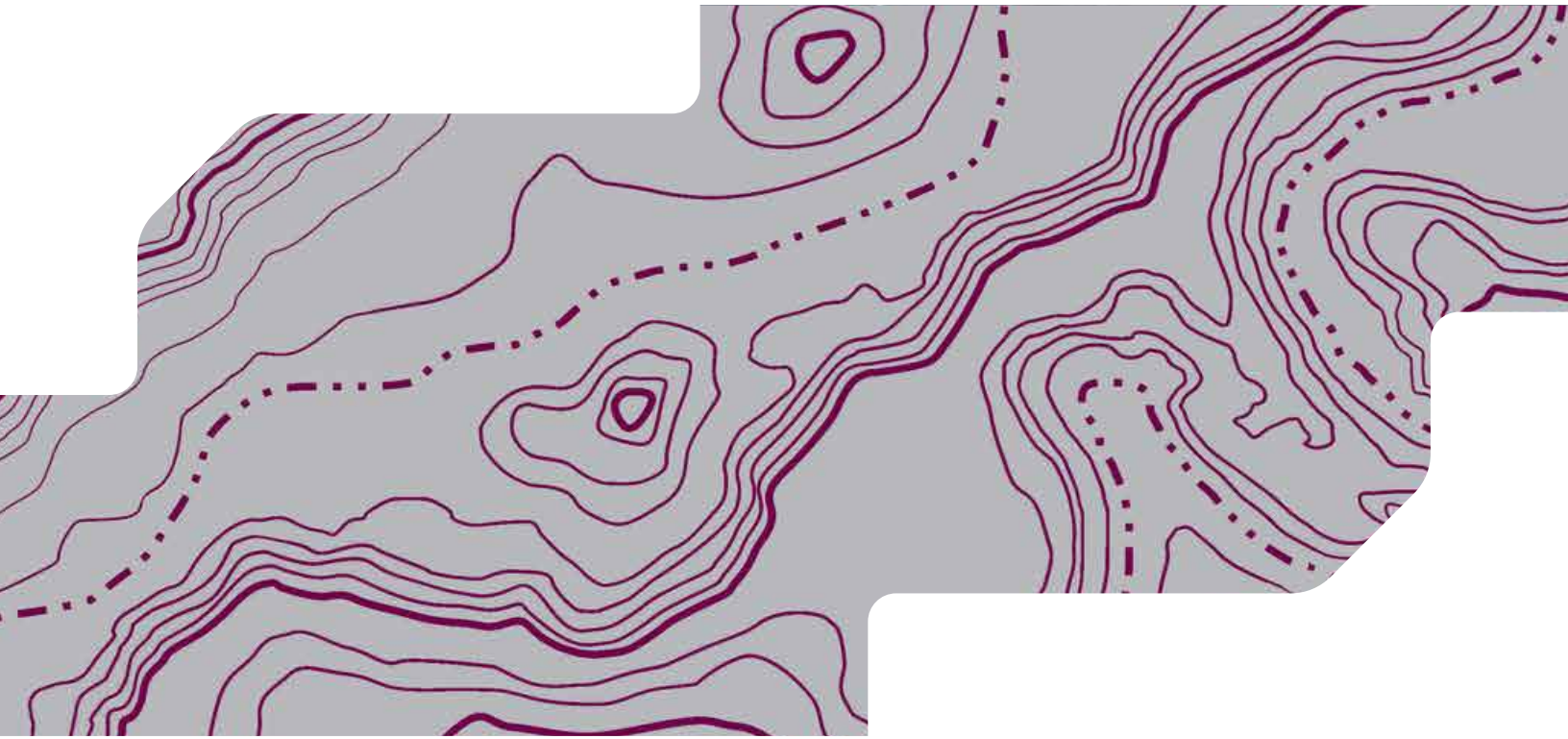
RPS has provided custom GIS-based solutions to federal clients, international governments, and large industrial clients. RPS combines a unique set of skills; highly advanced GIS expertise, innovative computer science expertise, and domain knowledge of the environmental issues and regulations facing energy initiatives through its team of Ph.D. scientists.

MAKING
COMPLEX
EASY