visual weather

Display data from any place on Earth in any way you want – in real time.

Schedule automatically executed tasks and support users in performing all daily tasks

Visualization
without limits

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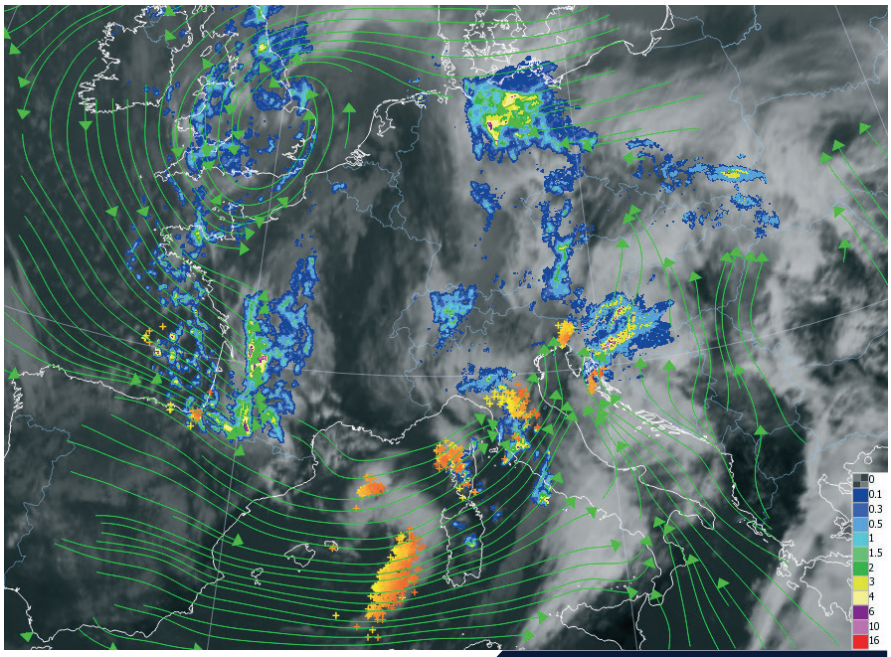
ibl weather software solutions

REAL-TIME VISUALISATION

Visual Weather is a meteorological software for reception, processing and graphical representation of meteorological data, monitoring of incoming messages and values, production of textual (TAFs, public forecasts) and graphical products (SWL, surface analysis, etc.), including tools for managing forecast roles and workflows, automatic generation of image products and other functionalities for fulfilling the tasks of a meteorological service.



Satellite, radar, lightning and streamlines from model

VISUALISATION OF ANY DATA

Visual Weather allows to overlay any of the available data types: topography, station observations (SYNOP, METAR), NWP model data, SIGWX, satellite and radar images, etc.

- ⌘ Wide range of options for customizing the content and the look of each layer;
- ⌘ Unlimited high-quality zooming, panning and area changing;
- ⌘ Multi-wiew function to allow to display the same map in multiple windows for different times, levels or models.

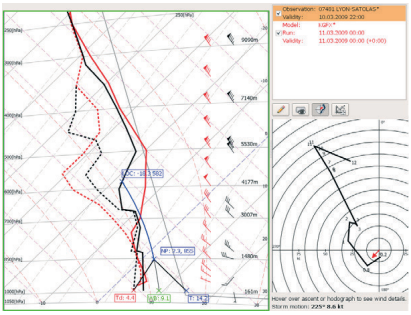
CROSS-SECTIONS AND METEOGRAMS

It is possible to view the NWP model, observation, satellite or radar data as a route-cross-section or a meteogram.

- ⌘ Route or time cross-sections can be quickly displayed by simply clicking the desired route or place on a map;
- ⌘ Users can interactively change the location or route and the time range by using the side window.

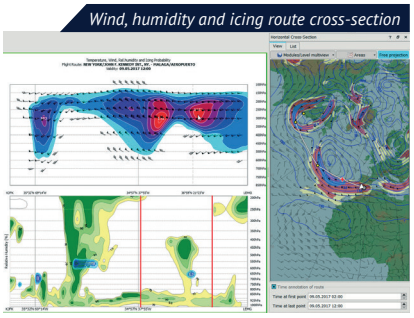
THERMODIAGRAMS

Thermodiagrams can be plotted on the basis of NWP model, TEMP, PILOT or AMDAR as Skew-T, Stuvegram, Tephigram, Aerogram or Hodogram.



Following functionalities are supported:

- ⌘ Roaming profile: display of thermodiagram for any point clicked on the map;
- ⌘ Easy comparison of thermodiagrams from multiple sources;
- ⌘ Interactive construction tools and computation of wind-shear between levels;
- ⌘ Tabular display of temperature, winds stability indexes, wind-shear, etc.

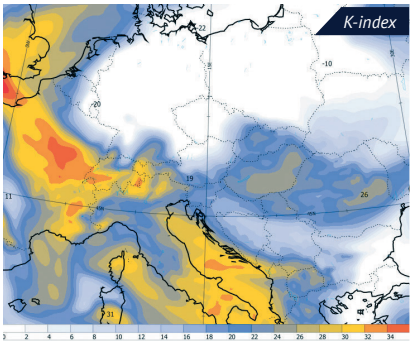


Wind, humidity and icing route cross-section

UNIQUE FEATURES

ADVANCED COMPUTATIONS

Visual Weather features a powerful mathematical subsystem that allows to decode values from received data and define calculations using any of over thousand predefined functions to:



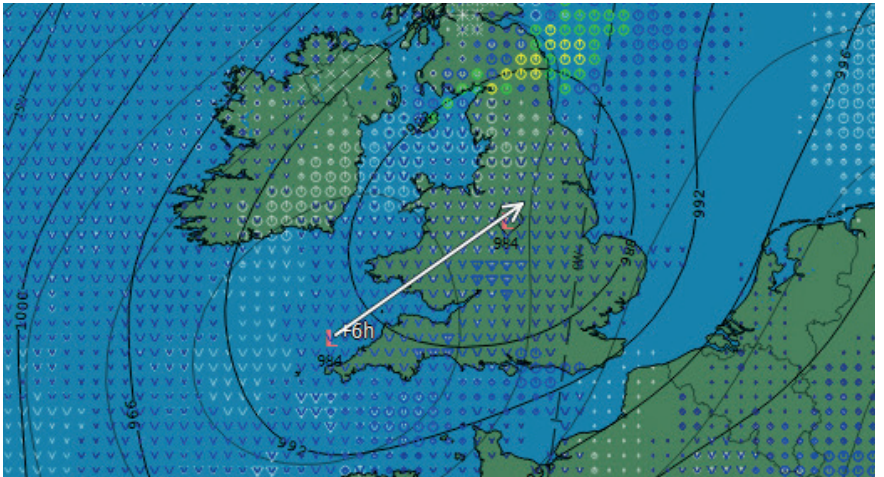
- perform numerical calculations across different NWP model fields: difference of two different models or two forecast times, construction of probabilistic fields (max, min, average) from different models or forecast periods;
- create value-added charts displaying the new computed parameters, thermodynamic indices, vorticity and advection parameters, thickness, wind chill index, etc.

CONSISTENT FIELD MODIFICATION

Visual Weather includes MetMorph* a 4-dimensional NWP modification tool based on distortion of potential vorticity to ensure meteorologically consistency. Experienced forecasters can utilise their expertise by applying various forecast improvements such as:

- Pressure system relocation;
- Using radar data to modify the analysis time in the precipitation model data and advecting the precipitation by the forecast wind;
- Orographic enhancement, editing cloud and wind fields;
- Smoothing and merging of data.

The final product is stored in GRIB format and can be used as a corrected NWP model.



ON SCREEN ANALYSIS (OSA)

On-Screen Analysis* allows to analyse the observed data (METAR, SYNOP, TEMP) creating a regular grid data, with the following features:

- The analysed parameter joins all relevant observations from various report types;
- A NWP model is used for comparison, quality control with observation and completing areas where no observations are present;
- Ability to manually correct or reject observations with immediate update of the analysis;
- Field can be exported into GRIB for later reuse in other products.

* On Screen Analysis and MetMorph contain algorithms which are created by the UK Met Office and fall under the Crown Copyright.

ALERTS & TAF MONITORING

Option to monitor observations, NWP models, lightning detection system, radars for user defined thresholds and areas.

- Alerts are displayed on main display as map points and tables;
- Special TAF Monitoring tool allows to compare TAFs to latest METARs and display notifications about significant differences.

Station	LZTT	Validity	270830	Verified	2008-01-27T08:33:39
METAR	METAR LZTT 270830Z 31021G44KT 260V360 9999 -BLSN BKN050 OVC090 01/M06 Q1011 REBLSN TEMPO 1500 +BLSN				
TAF	LZTT 270630Z 270615 27010KT 3000 -SN BKN025 OVC070 TEMPO 0615 26015G25KT 1200 SN BLSN BKN010 PROB30 TEMPO 0615 0800 SN BKN005 OVC010				
	Element	Observed	Error	Forecast	
	wind_speed	21 kt	-6 kt	10 kt, 15 kt	
	wind_direction	310°	-40°	270°, 260°	
	wind_gust	44 kt	-19 kt	no gust, 25 kt	
	visibility	>10000 m	-7000 m	3000 m, 800 m	

AUTOMATED AND USER-DRIVEN PRODUCTION

AUTOMATED PRODUCTION

Activities that do not require manual intervention can be configured as automatically executed tasks, e.g. generate images from maps and send them to web site, generate tables and store them to a directory, etc.

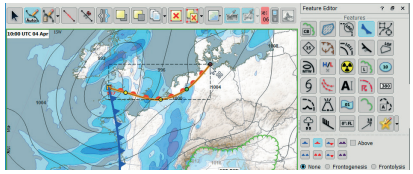
FORECASTING WORKFLOW & PRODUCTION

It is possible to create a list of regular tasks that forecasters working in particular roles have to do daily, e.g. provide briefing, issue TAF, draw the graphical weather product, etc. The task buttons provide direct access to the required action.

WEATHER CHART DRAWING

A special Feature Editor tool is used to edit maps and draw weather features such as fronts, clouds, jet streams, turbulence areas, weather icons, etc.

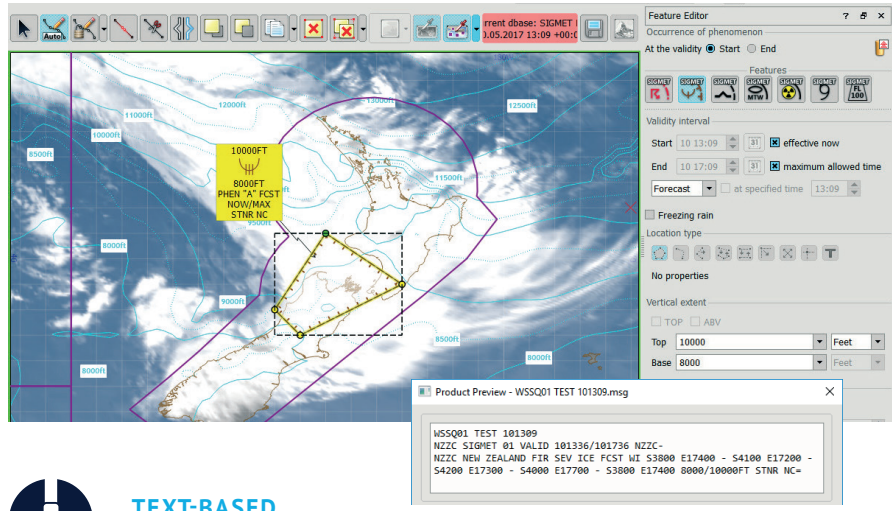
- The drawing is done by simple mouse actions. Any map can be displayed in the background;
- Each feature is geolocated and can be overlaid with other data or exported to XML, BUFR, Shape or Web Feature Service.



GRAPHICAL ISSUING OF SIGMET, AIRMET, SWL OR OTHER PRODUCTS

Various text products, such as SIGMET, AIRMET, SWL, etc. can be created graphically and then automatically converted to text version. This removes the tedious task of manually typing coordinates and also helps to avoid syntax mistakes in the issued messages.

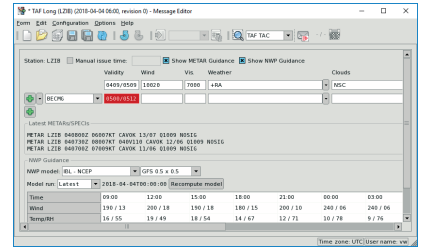
- The drawing is done by simple mouse-clicking or mouse-dragging. Any map can be displayed in the background;
- Each feature is natively geolocated and can be overlaid with other data or exported to XML, BUFR, ESRI Shape files or as Web Feature Service.



TEXT-BASED PRODUCTION

Visual Weather offers semi-automated issuing of text-based products that use content validation, revision management and configurable production pipelines.

- Forms can be automatically populated with data from observations, NWP models or other data sources;
- Forms can be transformed into variety of output formats like HTML, PDF, XML, JSON, WMO/ICAO text messages and transmitted to AFTN, GTS, web pages, FTP, SFTP and to customers by e-mail, fax, SMS or other delivery mechanism.



INTEGRATION AND SCALABILITY

INTEGRATION LEVELS

By reflecting the newest technologies Visual Weather ranks as the world's top meteorological visualization and processing system. It features:

- Data input integration;
- Wide range of outputs: maps, meteograms, tables, combined products;
- Ready for future (updates with new functions and future data formats);
- Web service provider in Service Oriented Architecture (SOA): supports OpenGIS WMS, WCS and WFS standards for exposing weather as charts, coverage grids or discrete points and to integrate data with GIS;
- Extensible through Python API: plugins, bespoke applications;
- Online Weather RIA web applications are built using web services.

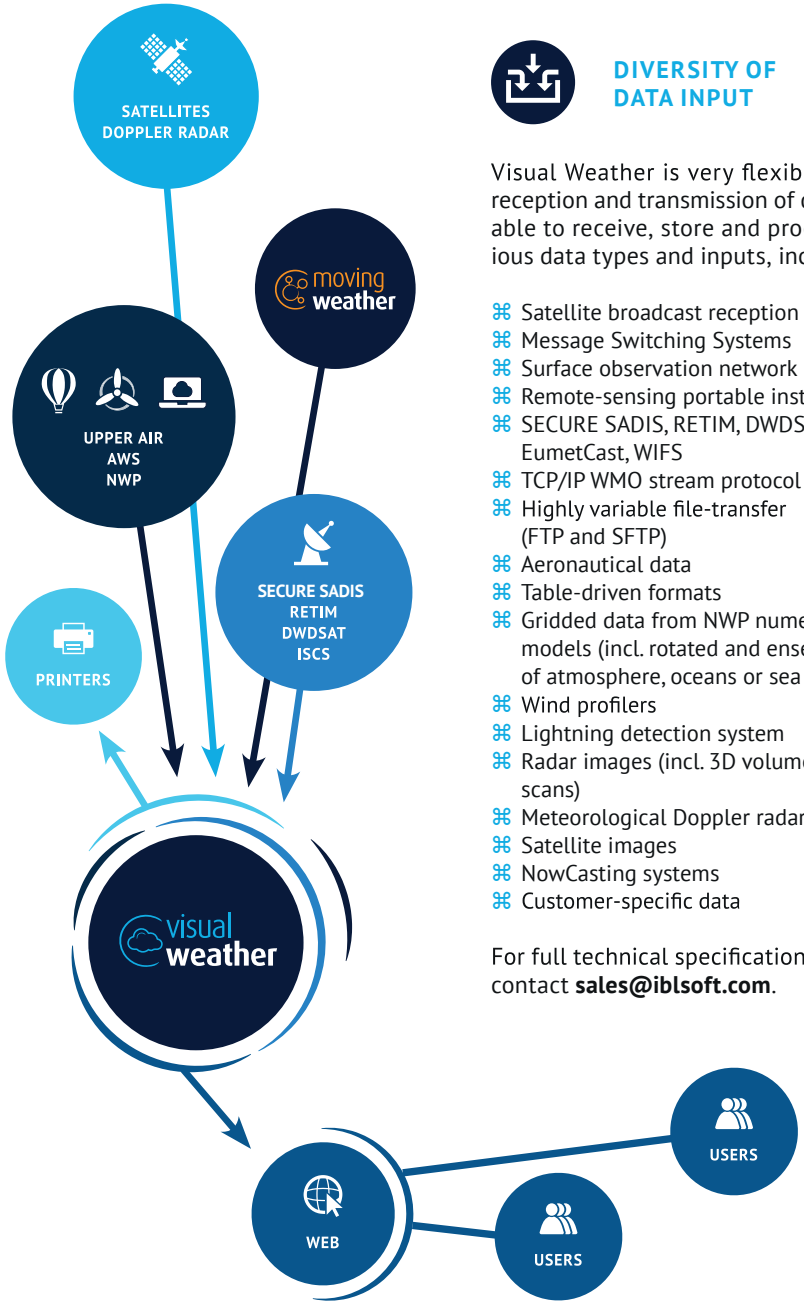
Deployment Scalability

Visual Weather can be deployed in many ways. Common operational schemes are:

- Client/server architecture – server shares its database and presets with individual client desktops or laptops. Servers can be clustered for high availability (HA) or load balancing. User profiles can be accessed from any client;
- Remote desktop protocols – users connecting via Citrix or other RDP stacks;
- Standalone workstation – everything running on one PC or laptop.

System Compatibility

- Runs under Windows 2003, 2008, XP, 7, 8, Vista and all 64-bit Linux (Unix) systems.



DIVERSITY OF DATA INPUT

Visual Weather is very flexible in the reception and transmission of data. It is able to receive, store and process various data types and inputs, including:

- Satellite broadcast reception
- Message Switching Systems
- Surface observation network
- Remote-sensing portable instruments
- SECURE SADIS, RETIM, DWDSAT, ISCS, EumetCast, WIFS
- TCP/IP WMO stream protocol
- Highly variable file-transfer (FTP and SFTP)
- Aeronautical data
- Table-driven formats
- Gridded data from NWP numerical models (incl. rotated and ensembles) of atmosphere, oceans or sea surface
- Wind profilers
- Lightning detection system
- Radar images (incl. 3D volumetric scans)
- Meteorological Doppler radars
- Satellite images
- NowCasting systems
- Customer-specific data

For full technical specifications contact **sales@iblsoft.com**.

ibl weather software solutions

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IBL Software Engineering builds its reputation on 40 years of tradition in the field of meteorological IT development. Dating from its first automated meteorological message switching systems, the branch in Frankfurt, Germany was established in 1988, while the branch in Bratislava, Slovakia opened in 1997. IBL Software Engineering is employing IT specialists working exclusively in the meteorological IT environment with a high level of professional expertise.

IBL Software Engineering is ISO 9001:2015 certified in the scope of development, supplying, installation, and maintenance of software for meteorological information systems. As a representative of the Hydro-Meteorological Equipment Industry, it is recognized by WMO and IBL's ex-perts are participating in the number of WMO Expert Teams. IBL pays close attention to the advancements in BUFR, IWXXM, GRIB3, Amendment 80, etc. and its products fully comply to the following standards:

- WMO Manuals on Codes 306, on Global Telecommunication System 386, on Global Data Processing System 485;
- ICAO Annex 3, up to Amendment 80 and November 2014 ICAO Regional SIGMET Guide;
- Guide SADIS workstation requirements 1.1 April 2021.

PRODUCT PORTFOLIO

If the integration of all meteorological data processing systems is the key factor for the effective operation of your business, then with the IBL product portfolio your integration efforts are minimized, because IBL systems are designed to closely cooperate to provide the desired synergy.

Integrate all data, products and services

aero weather

discover weather

numeric weather

satellite weather

climate weather

online weather

recode weather

open weather

moving weather