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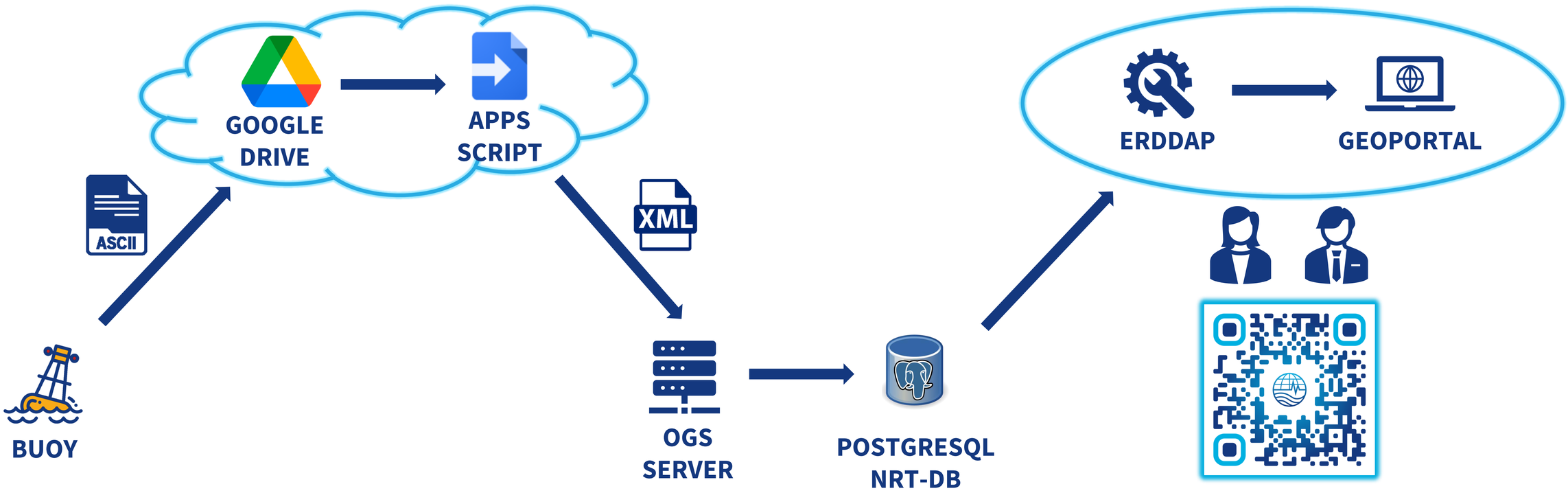
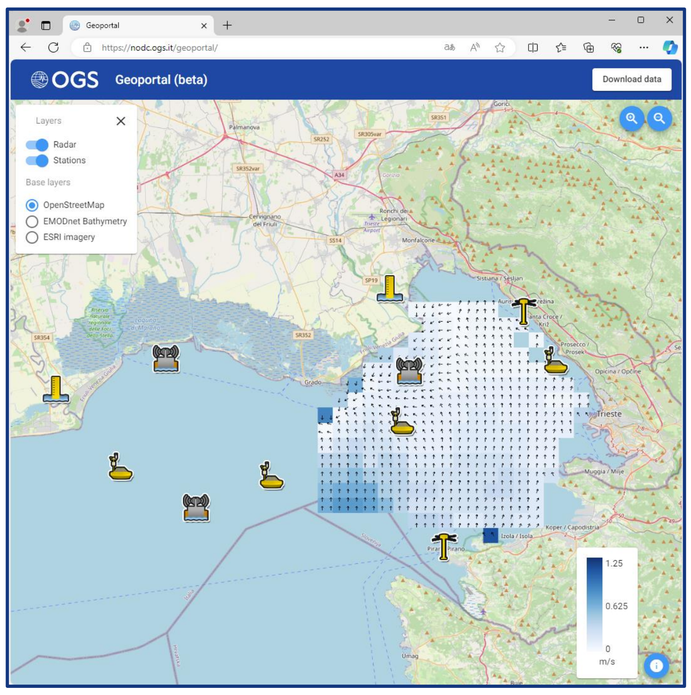
VALIDATED OCEANOGRAPHIC NEAR-REAL-TIME DATA TO SUPPORT CIVIL PROTECTION

A. Cociancich, M. Lipizer, E. Partescano, A. Altenburger, M. Jokic, E. Geletti, M. E. Molina Jack, M. Vinci, A. Giorgetti
OGS – National Institute of Oceanography and Applied Geophysics

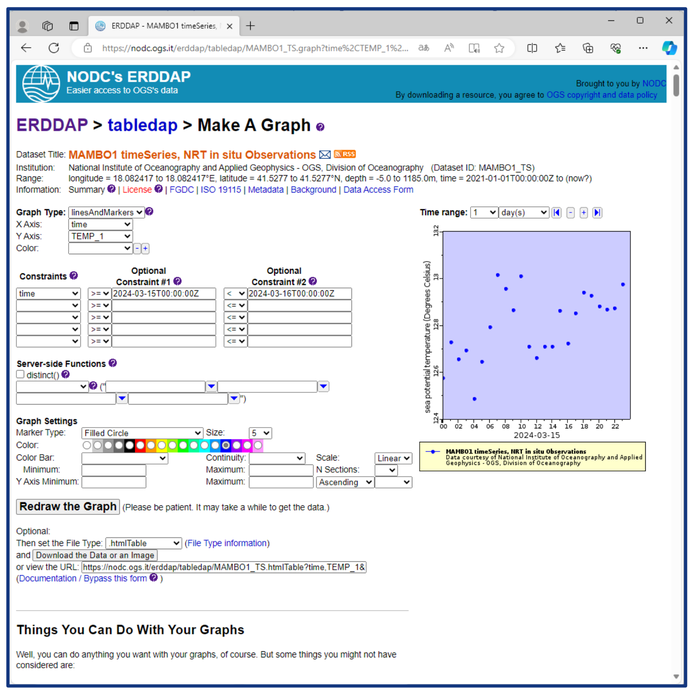
Near-Real-Time (NRT) oceanographic data, crucial for environmental emergencies and civil protection, undergo Quality Control (QC) for societal use. The Italian National Oceanographic Data Center (NODC) has managed NRT data from Adriatic Sea fixed stations for over a decade. These stations, part of the IFON network, result from collaboration with the Regional Civil Protection Service, aiding in the installation of buoys and sensors in northeastern Italy. Additionally, buoys in the north and south Adriatic contribute to international infrastructures like EMSO, ICOS, JERICO, and ITINERIS, enhancing marine environmental monitoring and research.



Efficient risk prevention activities hinge on continuous monitoring, minimal data latency, and rigorous data quality assessment. Data transmission systems often operate in areas with limited telecommunication coverage, using compact data formats like NMEA to mitigate packet loss risks. Yet, interpreting data within these formats poses mapping challenges, particularly during instrument configuration changes, which can introduce inaccuracies into the database.



OGS decided to take advantage of the tools made available by Google Drive and Google App Scripts and developed a cloud-based system to quickly decode the tool's messages in XML format. This allows immediate access to data for staff monitoring and enriches it with metadata for verification and entry into the database.



SQL procedures perform hourly checks on data in the NRT database against predefined thresholds based on area-specific climatological ranges. The resulting data quality evaluations and associated flags are publicly accessible via the ERDDAP service. Regular flag checks provide rapid feedback, facilitating timely interventions and hypothesis formulation to address anomalies. The aim is to streamline data processing, guarantee the timely availability of reliable data for effective risk prevention activities.

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