

6th Joint Project Team Meeting of Sentinel Asia STEP3 (JPTM2018Awaji)

Awaji YUMEBUTAI, Awaji-island, Hyogo, Japan

1st & 2nd November 2018

Progress report

ADRC as a leading agency for IV & V

Koji Suzuki, ADRC, Kobe

IV. Step-3 Activities, for Covering Entire DRR Cycle

V. Communication, Collaboration & Cooperation

IV. Step-3 Activities, for Covering Entire DRR Cycle

The **Sendai Framework for Disaster Risk Reduction 2015-2030** was adopted in Sendai by global leaders with specific suggestion to use more and more space-based data and GIS for risk identification and for risk mitigation and reduction.

Therefore, Sentinel Asia could consider the commitment of the initiative to the Sendai Framework by enhancing Sentinel Asia capacities for the **risk assessment and establishing disaster prediction/alert systems** for flooding, landslide, wildfire and tsunami and other necessary disasters using satellite images.

Action Items, suggested

- Identify risk elements using Sentinel Asia Data (mapping risk elements)
- Promote disaster monitoring, post disaster monitoring and damage assessment with Sentinel Asia data
- Promote knowledge, experience and practical knowledge development through networks; user, DAN and university network
- **Align with Sendai Framework** to link Sentinel Asia with global forum
- Use Sentinel Asia Working Group activities to develop necessary support for Sentinel Asia activities to **cover entire disaster phase.**

QZSS for Early Warning Message Platform

Sentinel Asia for covering entire DRR Cycle

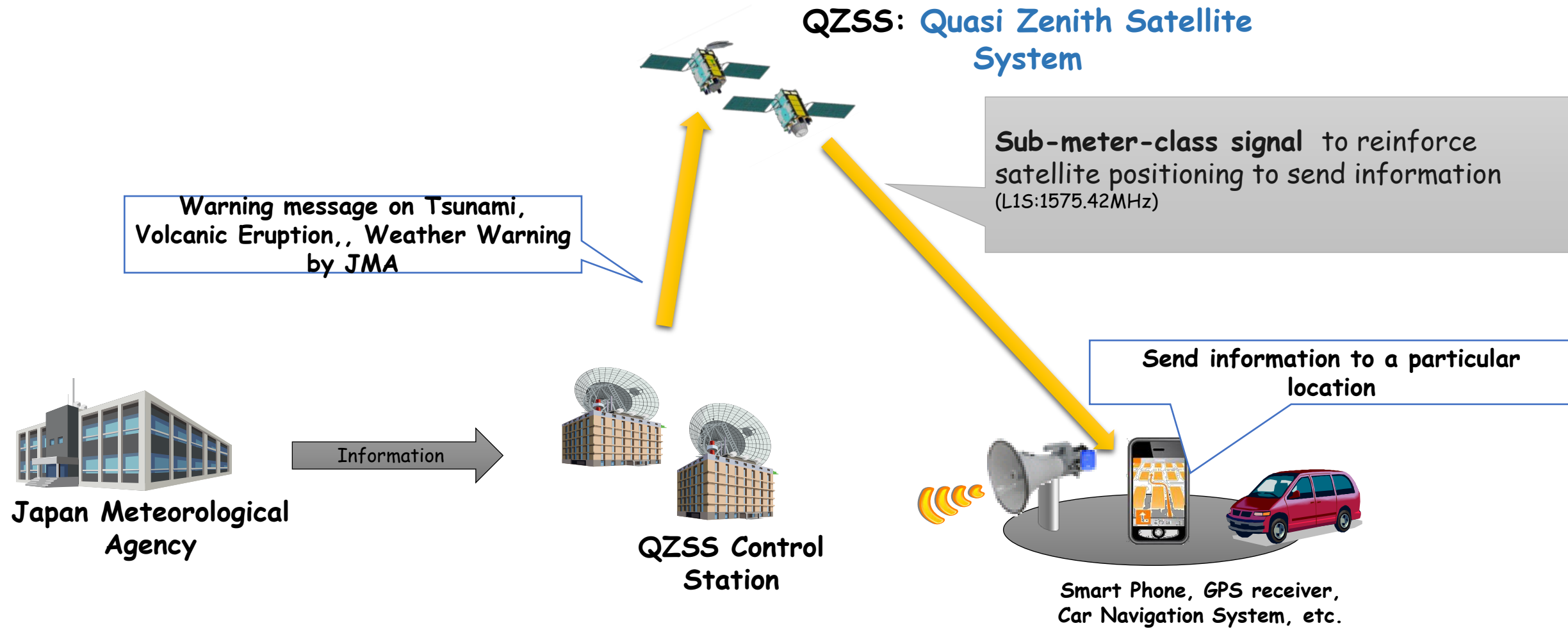
Endorsement of the R&D initiative by Cabinet Office, Gov. of Japan for **early warning and information collection platform with GNSS**

Develop & apply **smart phone relay system** where/when communication service is not available

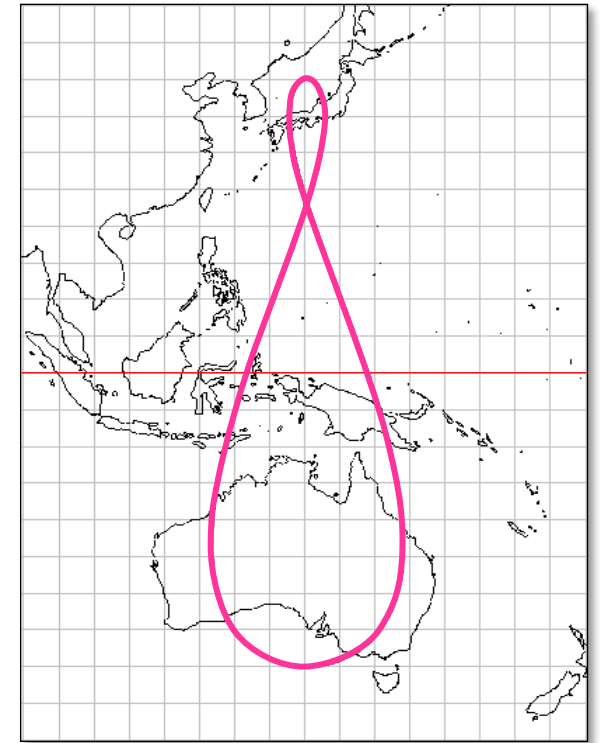
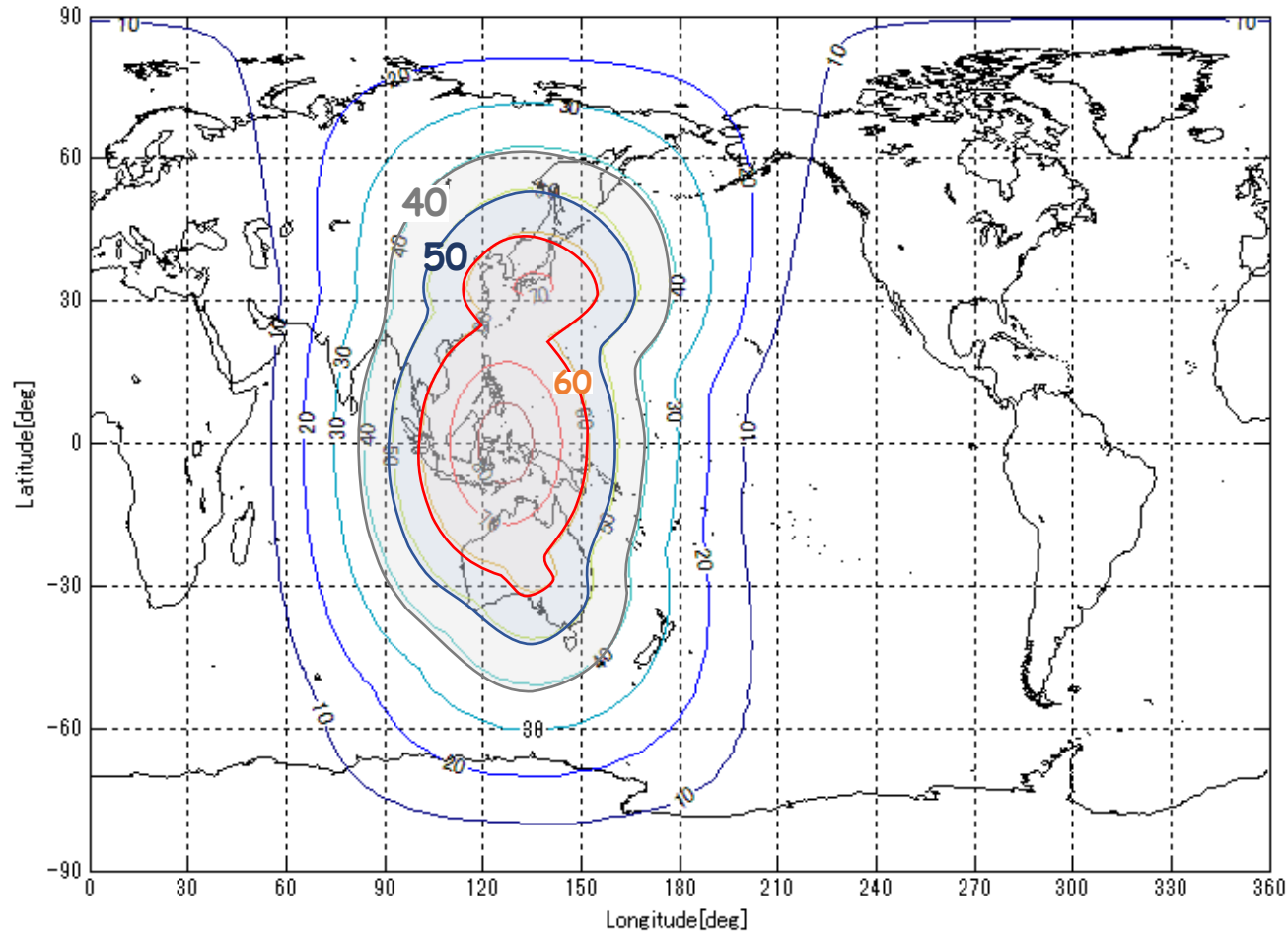
Presentation at **APEC 12th SOM** (Senior Disaster Management Official Forum) in PNG and **ACDR2018**

APEC Ministerial Declaration in PNG ???

Emergency Management Information Service



QZSS signal is available with each elevation angle



QZSS orbit;
one geostationary and
tree figure-eight

APEC 12th SOM (Senior Disaster Management Officials) Forum in PNG



12th Senior Disaster Management Officials Forum

September 25-26 2018



AMCDRR, Ulaanbataar 2018

Align with Sendai Framework

- Presentation on **Good Practice of Sentinel Asia** at Plenary of Asian Ministerial Conference on Disaster Risk Reduction

Asian Ministerial Conference on DRR, Mongolia Plenary Session on S&T



- Align with **Sendai Framework**, continues

Proposal of article on Sentinel Asia in **GAR19, Global Assessment Report 2019**, UNSIDR, waiting for peer review

Proposal for side-event at **Global Platform 2019, Geneva** on science and technology application to DRR, including space based technology with **ADPC, ADRC, UNESCAP** and etc.

GAR19: Your abstract has been accepted

Dear Dr. Suzuki,

I am pleased to inform you that **your abstract 'Facilitation of space-based technology/information/data applied to disaster risk reduction in collaboration with multi-stakeholders' has been selected for GAR19.**

Please develop your full paper by 15 August 2018 and send it back to me with copy to Chiara Menchise, following the attached guidance for authors of contributing papers. Your paper will then be subjected to a formal peer review, and if successfully peer-reviewed be formally annexed to GAR19, to be published in May 2019.

We are looking forward to receiving your paper,

Adam Fysh

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V. Communication, Collaboration & Cooperation

In order to promote balanced activities of Sentinel Asia, alliance and communications among disaster management organizations, Data Provider Nodes and Data Analysis Nodes is essential.

It needs to improve the communication with members in Sentinel Asia through many other means.

Action Items, suggested

- Organize regular meeting where possible **combining various other meeting opportunities**;
- Consider developing **annual reports** of achievements and share through websites and user forums
- **Rotate major activities** among the members; organizing JPTM meetings, organizing Steering Committee meetings, and other similar main functions;
- Develop various success stories and share
- **Promote coordination mechanism** of DANs to improve product generation and sharing
- Publish and circulate bulletin to policy makers and share in the region

What have been done,

- Developing annual reports of achievements
Sentinel Asia, Annual Report 2016
- Rotate major activities among the members
Jointly organized 6th JPTM in Awaji and invited ADRC member countries to 6th JPTM



SENTINEL ASIA ANNUAL REPORT 2016



Secretariat of Sentinel Asia
Japan Aerospace Exploration
Agency

6th Joint Project Team Meeting in Awaji



Collaboration with UNESCAP

Third Ministerial Conference on Space Applications
for Sustainable Development in Asia and the Pacific,
10th October 2017

Asia-Pacific Plan of Action on Space Applications for
Sustainable Development (2018-2030)

IV. Means of implementation as an ongoing collective effort

A. Complementarity and partnerships with global and regional initiatives

31.

Specifically, **Sentinel Asia**, as a regional platform for Asia and the Pacific, has been making contributions to facilitate applications, research, capacity development and networking for promoting space-based technology, data and information towards disaster risk reduction.

What will be coming

✓ Steering Committee 2019, with GISTDA

✓ 7th JPTM, with ADPC

Communication with Donors & Business Communities

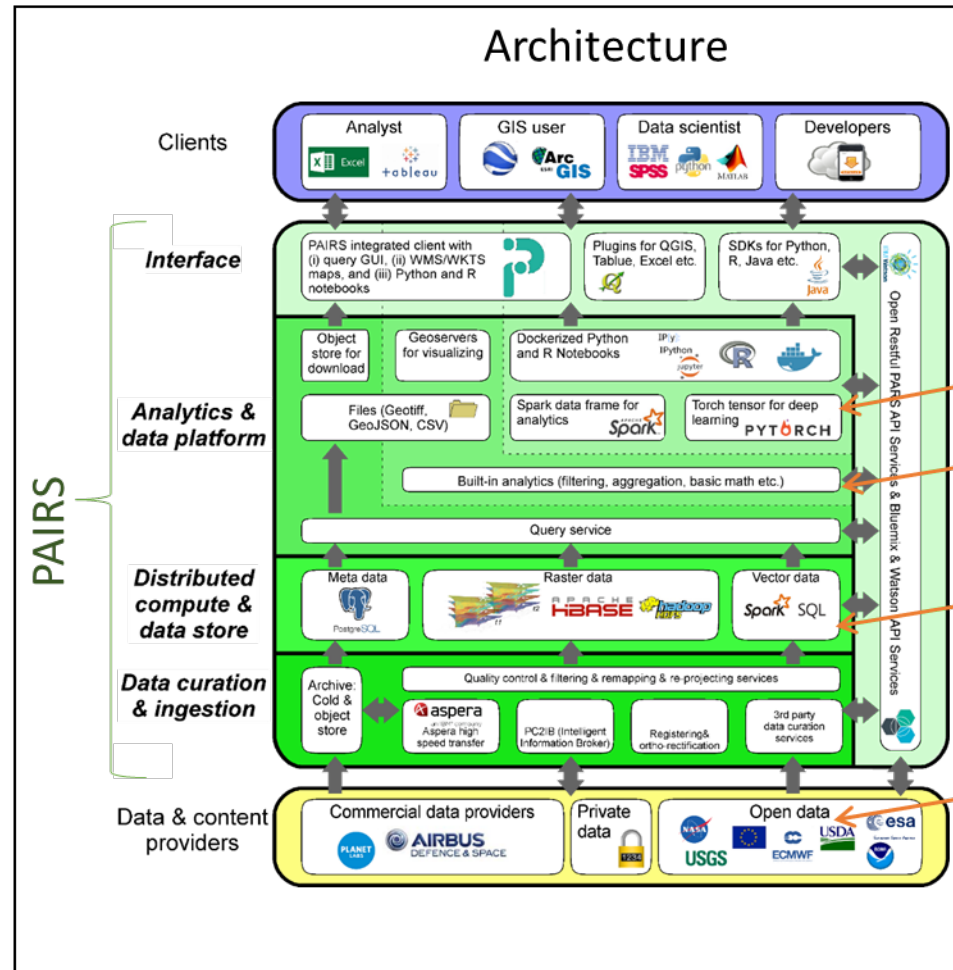
- ✓ **IBM** plans to support Sentinel Asia as **CSR** with **PAIRS**
 - **PAIRS**, remote sensing application with a unique raster data handling and management
 - **IBM Thomas Watson Research Center**, NY, USA
 - **Sentinel Asia Cloud Storage/Analysis System**
 - 2nd Discussion on 12th November at IBM
- ✓ **Lloyd Register Foundation**
 - Meeting with Lloyd Register Foundation Research Institute Director on 27th October
 - ADRC is requested for proposals of project
 - Organizing committee for international conference on risk, **UR2020**, hosted by **Lloyd Register Foundation Institute and National University of Singapore (NUS)**
 - Planning to organize **a session for space-based technology application**

PAIRS

Meeting **the challenges** on remote sensing application with a unique raster data handling and management.



1. uniquely indexes imagery at the **pixel-level** (or Super cell) such that different data sets are to achieve optimal performance for writing, reading and downstream analytics.
2. a **massive amount of curated geospatial (spatio-temporal) data** from a large number of public and private data resources, and also supports user contributed data layers.

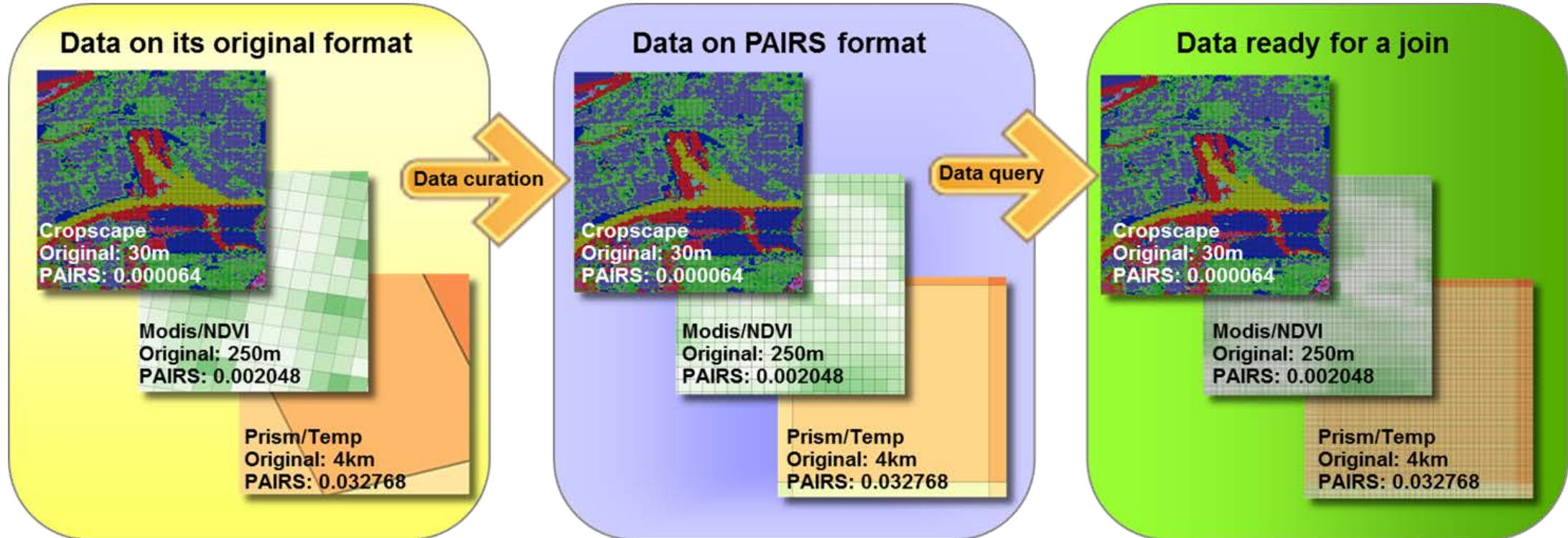


Key innovations

- “in data” computation
- Key-value store overview layer
- Pixel-level indexing
- Spatial-temporal hash
- Super cells
- Discrete resolution levels
- Highly optimized data curation engine
- Intelligent data collection
- Precise registration service

Discovery across different data sets

Pixel level indexing enables "automatic alignment" and complex data query



Promote coordination mechanism,,,,,,,,, needs further discussion

Data policy harmonization

- ✓ Interested in harmonization of the data policy among the data provider agencies for more opportunities for satellite data application for entire disaster management cycle
- ✓ Develop **matrix sheet on data policies of major data providers**

Field data/information archive

- ✓ Need effort to archive the field data/information of past disaster events tagged with ADRC-GLIDE numbers for high quality value added products (VAP) , calibration and validation
- ✓ Develop GLIDE Ver. 2 in collaboration with UN agencies