**Hotspot Detection and Haze/Aerosol Monitoring**

**Focus Project Collaboration – Breakout Session Summary (1/9/2016)**

**Overall Goal:** provide hotspot and haze/aerosol information derived using GEO and LEO satellites to users in the Asia-Pacific region.

It was agreed that the best approach to achieving the overall goal is to identify some achievable first steps that will:

1. Help improve the independent systems being developed on both the Japanese and Australian sides; and,
2. Facilitate the generation of compelling case studies and examples including existing systems that can be presented to other Asia-Pacific countries and donor bodies (ADB, UNEP, JICA, World Bank, ASEAN Fund, Australian DFAT, APEC) to generate interest and involvement.

**Cooperation Opportunities**

The following activities were suggested in light of the above agreement:

* Establish a dialogue and procedure around the exchange of products (incl. cloud mask algorithms, ) and information for the purpose of system validation. It was suggested that a standardised data format for matching hotspots be established in support. Work together to identify a target area for validation activities – preferably within the coverage of Australian MODIS ground stations. It was suggested that MODIS hotspot products be compared with those from Himawari-8 (Australian team to lead) and CIRC (Japanese team to lead).
* Identify potential user groups/end users and possible contributions to existing frameworks (in particular those related to public health, fire managers, aviation etc.) such as AIRCAP (Australian BOM to lead the follow up), UNEP ABC (JAXA to lead the follow up), and Asia-Pacific Clean Air Partnership.
* Prepare case studies that demonstrate the potential societal benefits of GEO and integrated GEO-LEO products – in coordination with user groups (e.g., fire managers and public health bodies.
* Investigate (together) the integration of local hotspot products into existing smoke transportation models (e.g., from Kyushu University, CSIRO/BOM (Martin Cope’s work)).
* Collaborators will communicate their independent validation of aerosol products and then discuss s common validation protocol (sites, dates, metrics)
* ALOS2/ISS CIRC is available for hotspot measurements, however only ISS CIRC observation opportunities are limited. The Australian team will provide the Japanese team with advanced notice of prescribed burning events (at least 3 days beforehand) so that acquisitions can be coordinated.

**Relevant Existing Programmes and Systems**

* Hotspot detection systems (Australian Sentinel Bush Fire Monitor, CIRC/GCOM-C/Himawari-8 system (expected in December 2016), Indonesian systems).
* AERONET (includes CSIRO AOD data), JAXA Himawari Monitor (aerosol products), SKYNET, WMO GAW (expected to include BOM AOD data).

**Milestones**

* Share status at the 2016 CEOS SIT Technical Workshop side meeting (perhaps as well as 1-2 slides in NMA presentation of the TW itself)/CEOS Plenary (TBC).
* APRSAF 22 (November 2016): initiate the development of a work plan for the overall goal, in consultation with countries and donor bodies.
  + Shizu to ask SW to give a summary presentation
* **Next GEO-LEO workshop 2017 location TBC Aus**
* APRSAF 23 (November 2017): report the case studies and work plan

**Actions Recorded During Breakout Session – 1st September 2016**

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| --- | --- | --- |
| No. | Action | Due date |
| 01 | Shin-ichi Sobue to contact UNEP re: our activities. |  |
| 02 | Medhavy Thankappan and Koji Nakau to compare hotspot results from CIRC and Himawari with the GA Sentinel system. |  |
| 03 | Medhavy/Ian to follow up the sharing of prescribed burn information/schedules (a week in advance is ideal) and investigate whether suggested dates can be passed to fire management authorities.  Koji Nakau to share orbit and image characteristics of CIRC, required fire size for detection for the Australian side to consider negotiation of prescribed burn dates with fire agencies. |  |
| 04 | Ian to notify the Japanese team when BOM sun photometer data is available via WMO Global Atmosphere Watch. |  |
| 05 | Ian to suggest to Martin Cope that he integrate JAXA/Australia local hotspot products and/or locally produced aerosol products from JAXA in CSIRO’s smoke transportation model for validation purposes. Ian to keep the Japanese team informed. |  |
| 06 | Ian to share the names of the Japanese AIRCAP participants. |  |
|  | Ian/Medhavy and Nakau-san and Kikuchi-san to prepare a statement of products of interest for comparison/validation (hotspot, aerosol incl. cloud mask, ), POCs, targets |  |
|  | Nakau-san and Hamamoto-san to contact Indonesian counterparts LAPAN and BMKG to inform them of our activity. |  |