NEO Related Activity in Indonesia - Assessment on Present & Future Projection

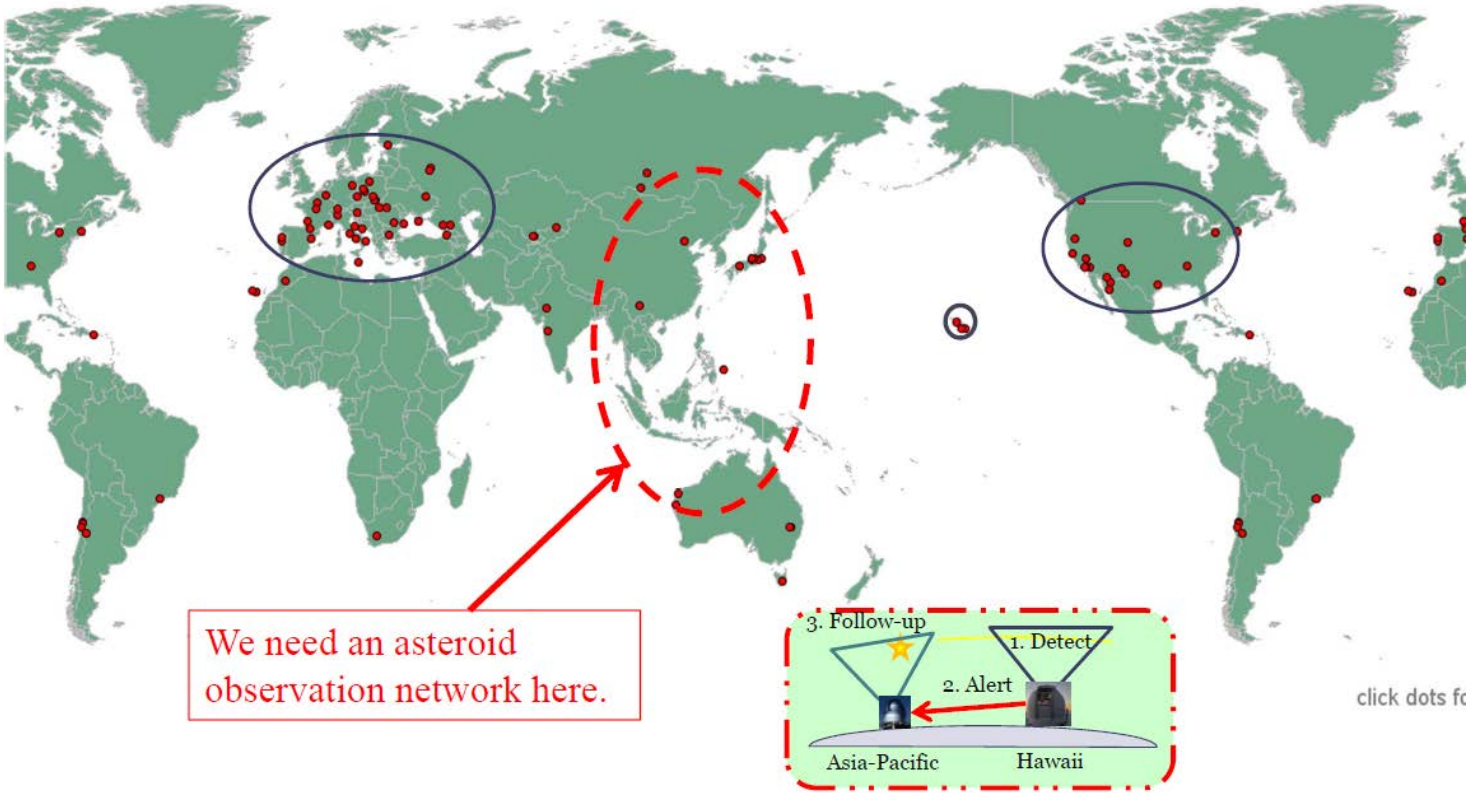
Mumpuni, Emanuel Sungging - LAPAN

Basis

1. National Act No. 21, 2013 : National responsibility for risks from space, natural and artificial threat.
2. International Response to the NEO Impact Threat (A/AC.105/C.1/L.329).
3. International Asteroid Warning Network (IAWN).
4. Asia-Pacific Asteroid Observation Network.
5. Need more observers from equators in Asia Pacific.

Astronomical Observatory Map

http://robslink.com/SAS/democd32/observatories.htm



Challenges

Challenge 1

Capable Observatory (2016 - 2019)

Solution: New Observatory in Indonesia.

Challenge 2

Capable Instrumentation (2017-2019)

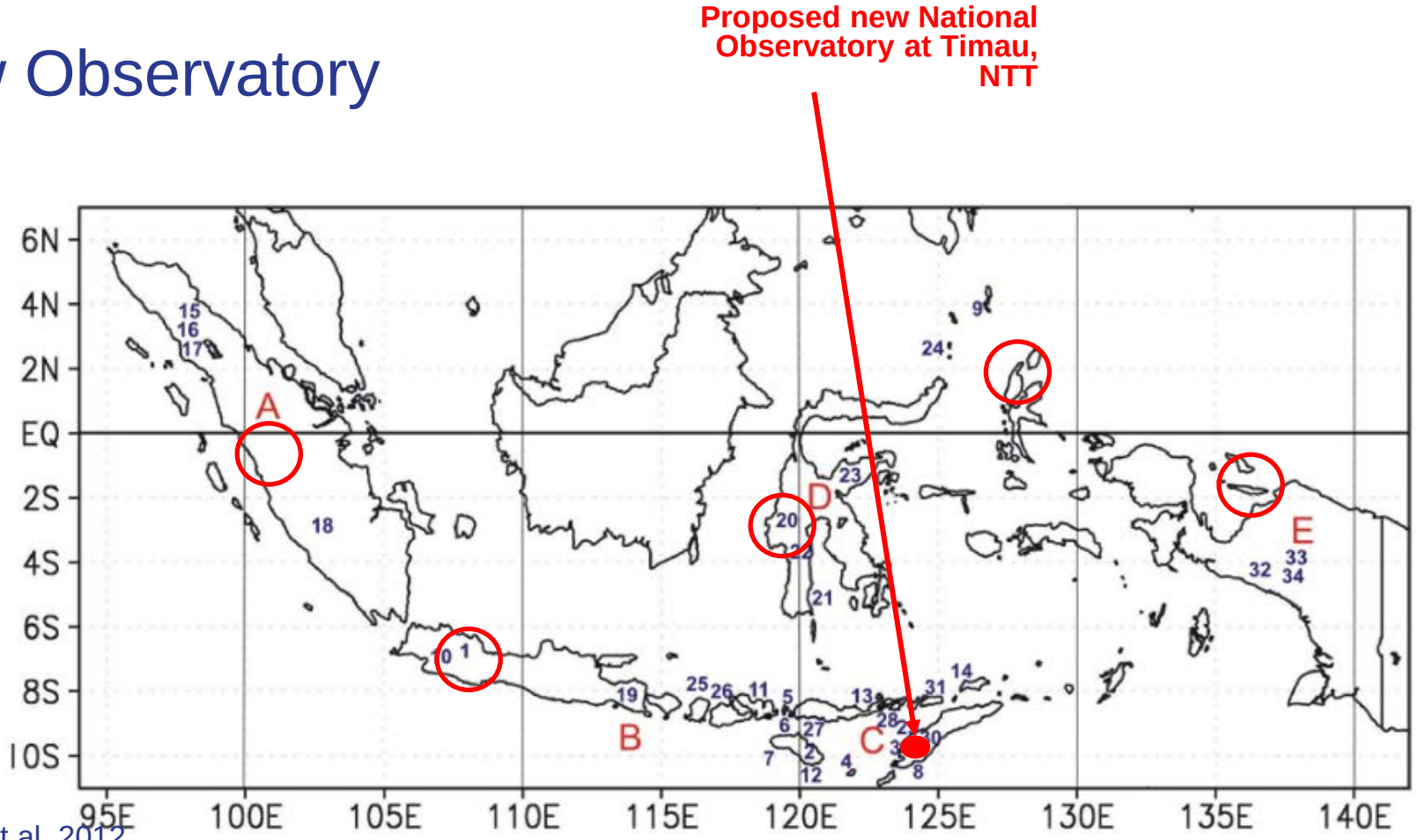
Solution: Developing capable instrument suitable for NEO?

Challenge 3

Contribution? (2018 - beyond)

- Self Evaluation.
- Contribution.
- Capacity building.

New Observatory



Hidayat et al. 2012

New Instruments

1. Two 50cm f/3.8 & f/8 for follow up survey & analysis.
2. Orbit analysis.
3. Setting new location with sufficient night condition (less light pollution).
4. Will operation ~ 2018.

Minor Planet Center (MPC): IAWN Needs List

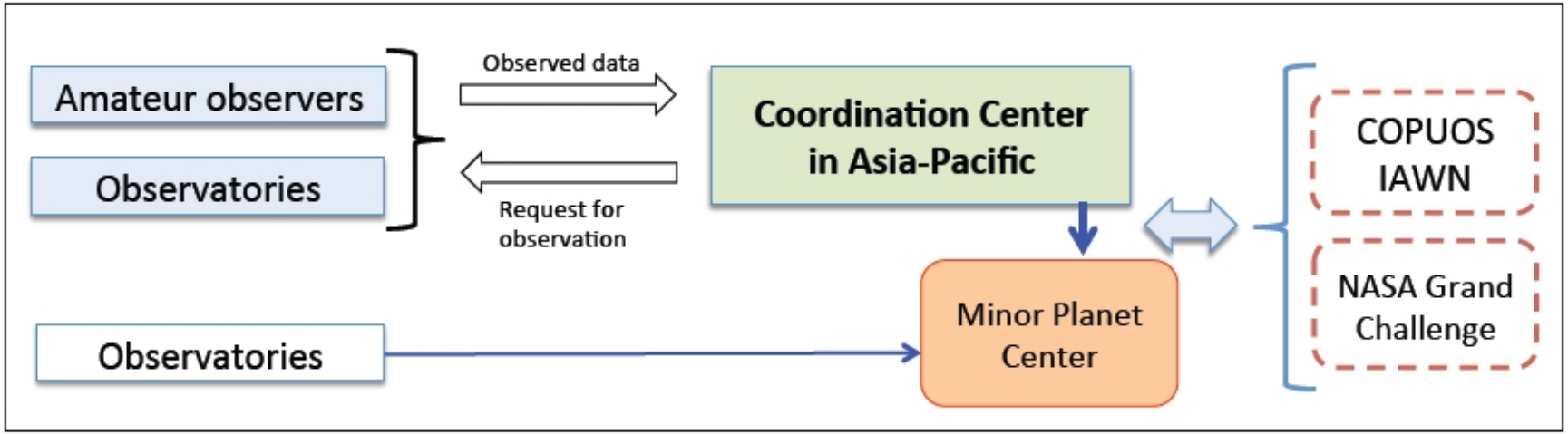
- International rapid all-sky search capacity, aimed at discovering small, imminent impactors is greatly needed
- This requires the entire observable sky covered every few days to ~20 mag (visible)
- A well positioned *space-based infrared survey* would discover objects much faster than the current rate, and discover objects that have unfavorable geometry w.r.t. Earth
- Dedicated groundbased telescopes capable of surveying (and for astrometric and physical observations follow-up) to ~24 mag (visible)
- Survey cooperation and collaboration
- International communication and public relations with respect to potential impacts and their consequences

Red: **doable** , Blue: **still difficult, need further assistant.**

Role Model - Asia-Pacific Asteroid Observation Network

- Japan proposed to set up Asteroid Observation Network in Asia-Pacific region.

Proposal:



This is not only for the observation data but also to spread correct knowledge of spaceguard.

Countries /Regions	Organizations
China	- Yunnan Observatories - Purple Mountain Observatory
Indonesia	- Bandung Institute of Technology - National Institute of Aeronautics and Space (LAPAN)
Japan	- Japan Spaceguard Association (JSGA) - National Astronomical Observatory of Japan (NAOJ) - Japan Aerospace Exploration Agency (JAXA) - Misato Observatory - National Museum of Nature and Science
Korea	- Korea Astronomy and Space Science Institute (KASI)
Macao	- Macau University of Science and Technology (MUST) - National Central University (NCU)
Malaysia	- National Space Agency of Malaysia (ANGKASA)
Mongolia	- Mongolian Academy of Science - ISON-Khureltogoot Observatory
Taiwan	- National Central University
Thailand	- National Astronomical Research Institute of Thailand (NARIT) - Learning center for Earth Science and Astronomy (LESA) - Chulalongkorn University
Uzbekistan	- Ulugh Beg Astronomical Institute (UBAI)

Self Assessment

1. Need to check the results if we want to contribute?
2. Readiness in 2018?
3. Building the network – SEA – Asia Pacific – Global?

Public Outreach

Thank You