**Roadmap for integrating tools and resources for Biodiversity and Ecosystem services into PRAGMA infrastructure**

Establish a PRAGMA working group to integrate domain scientists and IT resource experts

Define outcomes, deliverables (short, medium, long-term)

User requirements – research resource manager, and other user perspective

Priorities (e.g., species distribution modeling) for resource management, Status, monitoring, metrics

Biological research applications

Define data resources, algorithms, and tools available

Identify existing algorithms, modeling methods

Ecosystem services:

Biodiversity: SDM, Phylogenetics, Biodiverse, Genomics, metagenomics

Data Resources

GBIF, iDigBio,

Geospatial: AIST

Plots sample data (REDD+)

IT resources (e.g., Virtual Network Overlays, Virtual Clusters)

Define requirements

Identify relevant standards, metadata requirements, provenance

Darwin Core, EML, GSC,

Workflow environments?

Identify missing expertise

***Working group contributors***

Yoshio Tenaka

Reed Beaman

Karpjoo Joeng

Motomi Ito

Eun-Shik Kim

Uma Pavalanathan

Beth Plale

Aimee Stewart

Phillip Papadopoulis

Jose Fortes

Chao Chin Lin

Tet Yahara

Kanehiro Kitayama

Cam Webb

Sheila Vegara