The BIGMAP Project – FIA’s Big Data, Mapping & Analytics Platform

On Friday, July 16, Ty Wilson (Research Forester) from the Northern Research Station’s FIA unit, presented FIA’s Big Data Mapping and Analytics Platform (BIGMAP). The BIGMAP project features a cloud-based, interactive mapping system that uses FIA data and auxiliary information to produce raster maps of forest attributes. BIGMAP products were developed using a variety of modeling techniques, including harmonic regression of dense time series Landsat imagery, ecological ordination of tree species, and k-Nearest Neighbors imputation of FIA plots.

Some of the capabilities of the BIGMAP system were presented illustrating its ability to enable geospatial analyses of FIADB data. Ty’s presentation also highlighted BIGMAP’s ability to expand FIA’s user base by removing some of the complexities (e.g., “hmm, FIA is an expansive data set, where do I start!”).

The goal of the BIGMAP project is to produce and share FIA data in a mapped format, allowing users to import them into a GIS application to perform their own analyses. Another goal is to improve the precision of FIA estimates, while maintaining plot confidentiality.
More information about BIGMAP can be accessed through Ty’s StoryMap here: BIGMAP FIA’s cloud-based national scale modeling, mapping, and analysis environment for US forests. BIGMAP (arcgis.com)

Work continues the BIGMAP project, and more data layers and tools will be coming soon. Ty’s presentation will soon be available to everyone through Vimeo and the link to this video will be shared via FIA Resource Center once it becomes available.

**National Conferences, Meetings & Presentations**

**ESRI International User Conference**
FIA (led by the Digital Engagement portfolio Team) participated in the 2021 ESRI International User Conference (UC) (held virtually) with a registered audience of nearly 100K individuals.

Chief Christiansen provided the opening remarks for the plenary highlighting FIA’s role using geospatial data (i.e., remotely sensed imagery and GIS) to provide information on changes to the nation’s forests and grasslands, specifically for use in answering questions related to climate change. The plenary can be viewed at the following link: ESRI 2021 Plenary

The BIGMAP team created a new ArcGIS Hub Site called FIA’s Geospatial Showcase – Monitoring the Pulse of America’s Forest and can be accessed here.

Chris Oswalt (Research Forester) from the Southern Research Station’s FIA unit, presented Authoritative Forest Inventory Data Products for the Contiguous United States. The link to this video will be shared once it becomes available.

Chuck Werstak (Social Science Information Specialist from the Rocky Mountain Research Station’s FIA unit, presented Developing Workflows for Large-Scale Cloud Analytics of Forest Inventory Data. The link to this video will be shared once it becomes available.

**2021 FIA National Users Group Meeting**
The 2021 National Users Group Meeting was held virtually on June 21st-June 24th. This year’s theme was FIA Program Priorities, Partnerships & Accomplishments.

All sessions were recorded and available at following links:

- **Session 1** – [FIA Program Priorities, Partnerships and Accomplishments](#)
- **Session 2** – [Updates on FIA Program Components](#)
- **Session 3** – [Status of Initiatives Using FIA Data](#)
- **Session 4** – [Status of Initiatives Using FIA Data Part 2](#)
- **Session 5** – [Forest Carbon Estimation](#)
- **Session 6** – [Flash Sessions](#)
- **Session 7** – [Emerging Priorities and FIA’s Program Contributions](#)
- **Session 8** – [Synthesis and Recommendations](#)
For those interested in a detailed agenda of the sessions, it can be accessed at FIA Resource Center following this link: 2021 FIA Users Group Meeting Agenda

FIA National Operations Team Overview

The National Operations (NatOps) Team assists FIA in performing its national duties, and ensuring collaboration, by tying together the four regional FIA units. The NatOps team manages national projects, the national budget on IT and Non-IT equipment, national quality standards, national consistency, and national change management.

The NatOps team is also part of the Band Structure as two members of the team (Program Manager and National QA Coordinator) are members of the Band Leader Group. These two NatOps staff are permanent members of the Band Leader Group ensuring continuity as the Band Leader positions rotate (see Band Leader Group section for more information).

Dissimilar from the four regional FIA units (SRS, NRS, RMRS, PNWRS), each with a Program Manager reporting to a research Station Director, the FIA NatOps Program works across all units of FIA to support FIA leadership and scientists. The NatOps team evaluates, designs, and develops ways to incorporate new technologies, products, and systems to solve problems and deliver solutions. The NatOps team is essential in ensuring consistency and collaboration across all units to assist in rolling out a successful national program.

The team is small (see organization chart below) but will soon have the two more positions filled, project manager and supervisor. These positions will assist with change management projects and initiatives that require project management such as the new national volume equations.

Change Management & National Issues

Current national issues that require attention to resolve are moving through the program’s new change management process. There have been many questions concerning the new process, so a Standard Operating Procedure document was created. The document is now in it’s final form and can be accessed through the FIA Resource Center here. Summer Dunn will be presenting the new change management process to each of the bands. However, if you are unable to attend the band meeting, a video of the presentation can be accessed at the FIA Resource Center under the Change Management tab on the Bands and National Consistency channel.
Additionally, a complete list of national issues as well as supporting documentation can be accessed through the FIA Resource Center under the Bands and National Consistency Channel.

For further information or questions concerning change management or the FIA Resource Center, contact Summer Dunn.

**FIA’s Band Leader Group**

As presented in last month’s newsletter, the objective of the FIA Band System is to develop a nationally consistent, efficient, and complete FIA program. The Bands work together to administer a Change Management process (see section above), which is a systematic approach to dealing with all proposed additions, deletions, or modifications to any component of the National FIA Program.

A key component of the band structure is the necessity for cross-band collaboration to ensure information sharing. “Band Liaisons” perform this role but “Band Leaders” perform this role as well. Each Band has a corresponding Band Leader, but the position rotates every two years. Some of the responsibilities of the Band Leaders include:

- Advocate, implement, and maintain a national operations environment grounded in solving regional issues with national solutions
- Ensure effective communication and representation of subject areas and regional needs, within and between bands
- Adhere to the principles of individual band charters and specific areas of expertise
- Support the change proposal process by adhering to the change management documentation and standard operating procedures (SOP)
- Act as a liaison to the PMs by representing their respective band as advocates for the band in discussions with PMs on band-work issues
- Provide FIA program leadership by coordinating with band members and PMs to set priorities, assign and manage task team work to fulfill the national FIA mission
- Provide support for Portfolio work as they move into production, and provide guidance when band priorities differ from Portfolio directions
- Complete and report out on After Action Reviews on all large change proposals, or when members trigger the process
- Identify and track goal metrics and key performance indicators

All four Band Leaders, the Band Coordinator and sponsoring National Operations Program Manager, comprise the “Band Leader Group.” The Band Leader Group Vision Statement is: *To support strategic Program guidance by transforming the guidance into an operational plan that is executed by bands, band members and team members across all FIA units. This team serves as the primary staff at the operational level of leadership for the Forest Inventory and Analysis (FIA) program by representing all FIA regions and all FIA staff sections referred to as Bands.*

The goals of the Band Leader Group are to:
Provide leadership, guidance, prioritization (or recommendations of prioritization) and encourage accountability and transparency at all levels of the program regarding:

- Implementing FIA’s vision of a nationally consistent Inventory and Monitoring Program that is grounded in both the Farm Bill and Strategic Plan.
- Supporting the development, implementation, and use of national systems, processes, and procedures while sunsetting regional systems.
- Supporting the National consistency teams.
- Facilitating effective communication within band, between bands, and with the FIA Program Managers (PMs).
- Reducing functional silos that impede National FIA operations and R&D.

More information on the Band Leader Group, specifically the charter, can be accessed at the FIA Resource Center.

**Links and Updates to Portfolios, Social Media Posts, Treesearch & FYI**

To keep a consistent location where portfolios can be accessed as well as the latest FIA related social media activity, portfolio links and links to social media are included in the newsletter. Additionally, all FIA-related publications can be located at the link below using a tool that searches R&D’s *Treesearch* database. Follow the links below for the latest information on portfolios and social media activity. And a reminder, any social media post related to FIA, please ensure to use the following handle: #USDA_FIA

Carbon: [https://usfs.box.com/s/g5awv86ym9c1lf1ijipx049xk4ou4ejo](https://usfs.box.com/s/g5awv86ym9c1lf1ijipx049xk4ou4ejo)

Biomass: [https://usfs.box.com/s/jhet52fknd2adzd7xvg2hxsjarxxxxuw](https://usfs.box.com/s/jhet52fknd2adzd7xvg2hxsjarxxxxuw)

Digital Engagement: [https://usfs.box.com/s/7n54qiqpbn5fqimfuuuqyyysvcx1n86z](https://usfs.box.com/s/7n54qiqpbn5fqimfuuuqyyysvcx1n86z)

Land Use/Land Cover: [https://usfs.box.com/s/avnvvryr0b7j4jkph7qbtpxxbt5vppipqy](https://usfs.box.com/s/avnvvryr0b7j4jkph7qbtpxxbt5vppipqy)

National Landowner Survey: [https://usfs.box.com/s/qlblr2ocia7x9ny35mmwdkeq0blk37v6](https://usfs.box.com/s/qlblr2ocia7x9ny35mmwdkeq0blk37v6)

Small Area Estimation: [https://usfs.box.com/s/6oz691r8h7eeiavgjiwx1p0dsbkms2dh](https://usfs.box.com/s/6oz691r8h7eeiavgjiwx1p0dsbkms2dh)

Timber Products Output: [https://usfs.box.com/s/gqf2127er38d7djrsypqwqfwf6khabyps](https://usfs.box.com/s/gqf2127er38d7djrsypqwqfwf6khabyps)

Urban FIA: [https://usfs.box.com/s/7iobmd7vbkel0frp3ukjui75rvg97mu](https://usfs.box.com/s/7iobmd7vbkel0frp3ukjui75rvg97mu)

FIA in Social Media: [https://twitter.com/search?q=USDA_FIA&src=typd](https://twitter.com/search?q=USDA_FIA&src=typd)
FIA Publications in Treesearch:
The tool to search FIA-specific publications within Treesearch can be accessed at the following link:

https://www.nrs.fs.fed.us/internal/treesearch/

To search FIA-specific publications using this tool:
1) Click on drop-down and choose “All Forest Inventory & Analysis Units”
2) Choose date range
3) Click Submit

For more information on the Community Engagement Newsletter, please contact:

Summer Dunn
Community Engagement Portfolio Lead
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FYI

From Issue # 317 of the "Enterprise GIS Newsletter" – July 29, 2021

Esri International User Conference Proceedings and Forest Service Conference Activities
If you missed last week’s plenary or had technical difficulties you can still access the materials that was presented on the on the Esri conference platform or Esri Events YouTube Channel. The conference content will continue to be available on the Esri conference platform until August 2nd when it will be made public. An official proceedings link will be available October 13th and we will post them on the Forest Service Esri Conference SharePoint Site where you can find out more about the Forest Service’s presentations, mag gallery entries, and more!

Conference Awards

- Esri Community MVP Award 3rd Place—Joshua Bixby, Geospatial Systems Engineer, US Department of Agriculture (USDA) Forest Service
- Map Book Selection:
  - Forests To Faucets 2.0 Authors: Rebecca Lilja, Erika Mack, Cass Klee, and Michelle Hawks
  - USFS—Chugach National Forest Lakes and Rivers Authors: Nick Klein-Baer, Kim Homan, and Nathan Pugh
  - Mapping Trees Outside Forests in the Central United States Author: Todd Kellerman
  - United States Forest Service Subsection Ecological Units Authors: Claire Simpson, Larry Laing, Robert (Andy) Colter, and Greg Nowacki
  - Utah Shared Stewardship Priority Areas Author: Michelle Baragona

For technical assistance, contact Lisa McBride, lisa.mcbride@usda.gov.