Submission guide for the GitHub web interface

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Validate candidate models with the notebooks (optional)

The IGRF14eval repository contains simple validation and visualization notebooks that allow teams to compare their candidate models with the previous IGRF and candidate models already submitted by other teams. This way, teams can check the file format of the candidate models and detect possibly unintended features in the candidate models before the submission.

- 1. Go to the IGRF14eval repository on the IAGA-VMOD GitHub organization at https://github.com/IAGA-VMOD/IGRF14eval.
- 2. There are two options for running the validation notebooks—local (a) and remote (b):
 - a. Download the repository and install the required Python packages using the instructions in the **Local development** section of the README. Candidate model files can now be added to /data/coefficients/<model-type> in the downloaded repository, and the notebooks in /notebooks/ can be started on the local machine.
 - b. Click on launch binder to start a remote JupyterLab session of the repository on Binder.



Within JupyterLab (it may take a few minutes to launch), candidate models can be uploaded to /data/coefficients/<model-type> and read into the validation notebooks in /notebooks/. Note that any changes only affect the image of the repository on Binder and will be discarded when the JupyterLab session is closed or terminated.

Fork the IGRF14eval repository

A fork is a new repository in a personal GitHub account that shares code and visibility settings with the original repository. Forking allows to change the repository code, i.e., by uploading the coefficients files, without affecting the original repository.

- 1. Go to the IGRF14eval repository on the IAGA-VMOD GitHub organization at https://github.com/IAGA-VMOD/IGRF14eval and log in to GitHub.
- 2. Create a new fork for the IGRF14eval repository by clicking the black arrow next to **Fork** in the upper right corner and **Create a new fork**.

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3. Ensure that the fork will be created in your personal account. There is no need to change any of the default settings. Click **Create fork**.

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Copy the main Contribute back to	named the same as their upstream repository. You can customize the name to distinguish it) branch only IAGA-VMOD/IGRF14eval by adding your own branch. Learn more.

Create a new branch and upload your files

It is good practice to create new branches for modifications to the repository. Therefore, you should upload your submission files to a new branch instead of changing the main branch.

4. Click on your profile logo in the top right corner and **Your repositories** to open the list of your repositories.



5. Find the forked IRGF14eval among the listed repositories and click to open. It should indicate in the upper left corner that it is a forked repository.

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6. Create a new branch by clicking on **Branch** in the upper left corner of the IGRF14eval repository and then **Create branch** in the upper right corner.

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7. Call the new branch "submission-<your-insitute>," replacing "<your-institute>" with the name of your institute, e.g., "submission-bgs,". Then, click **Create new branch**, which adds the submission branch to the list of branches.

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- 8. Click on the newly created branch in your repository list to open it.
- 9. Use the file tree to go to the "data/coefficients/" directory. There are three folders available: "DGRF", "IGRF" and "SV".

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10. Upload your candidate model files to the appropriate directories. For example, to upload your DGRF candidate model, open the "DGRF" directory and click on **Add file** and **Upload**

files.

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11. (1) Follow the instructions for uploading a file; (2) add a commit message, e.g., "Adding DGRF candidate model."; (3) ensure you commit directly to your submission branch; and (4) click Commit changes.

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12. Repeat step 11 with the other candidate models you want to submit, making sure to use the correct directory for the model files. You can also change existing files by simply re-uploading modified versions of these files with an appropriate commit message, e.g., "Adding DGRF candidate model (version 2)."

Create a pull request

All changes made so far have only affected your personal account. To make your changes visible to everyone, you must merge them into the public IGRF14eval repository by creating a pull request.

13. Return to the IGRF14eval repository at <u>https://github.com/IAGA-VMOD/IGRF14eval</u>. Click **Pull requests** and **New pull request** to create a pull request. Ensure you are in the original

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repository of the IAGA-VMOD GitHub organization, IAGA-VMOD/IGRF14eval.

14. Click compare across forks.

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	Choose different branches or forks above to discuss and review changes. Learn about pull requests		Create pull request
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Compare and review just about anything

15. Select (1) the "IAGA-VMOD/IGRF14eval" as base repository with base "main", then (2) your forked repository "<your-GitHub-name>/IGRF14eval, and (3) your submission branch.

Comparing changes Choose two branches to see what's changed or to start a new pull	ll request. If you need to, you can also co	impare across forks or learn mo	rre about diff comparisons.
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16. At the top, it should say that your submission branch can be merged with the main branch of IAGA-VMOD/IGRF14eval. Ensure you have only added the candidate models while

keeping the rest of the repository unchanged. Click Create pull request.

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17. Add the title and the description. Finally, click **Create pull request** to submit your changes.

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What happens next

After creating the pull request, the IAGA-VMOD chair and co-chair will review the submission to ensure the files are in the correct format and can be loaded into the visualization notebooks (see Sect. 1 on validating your candidate models before submission). Once the review is completed, the pull request is approved, and the candidate models become part of the repository's main branch upon which they are publicly available.