



KubeCon



CloudNativeCon

Europe 2023

TiKV



Gardens and Glaciers



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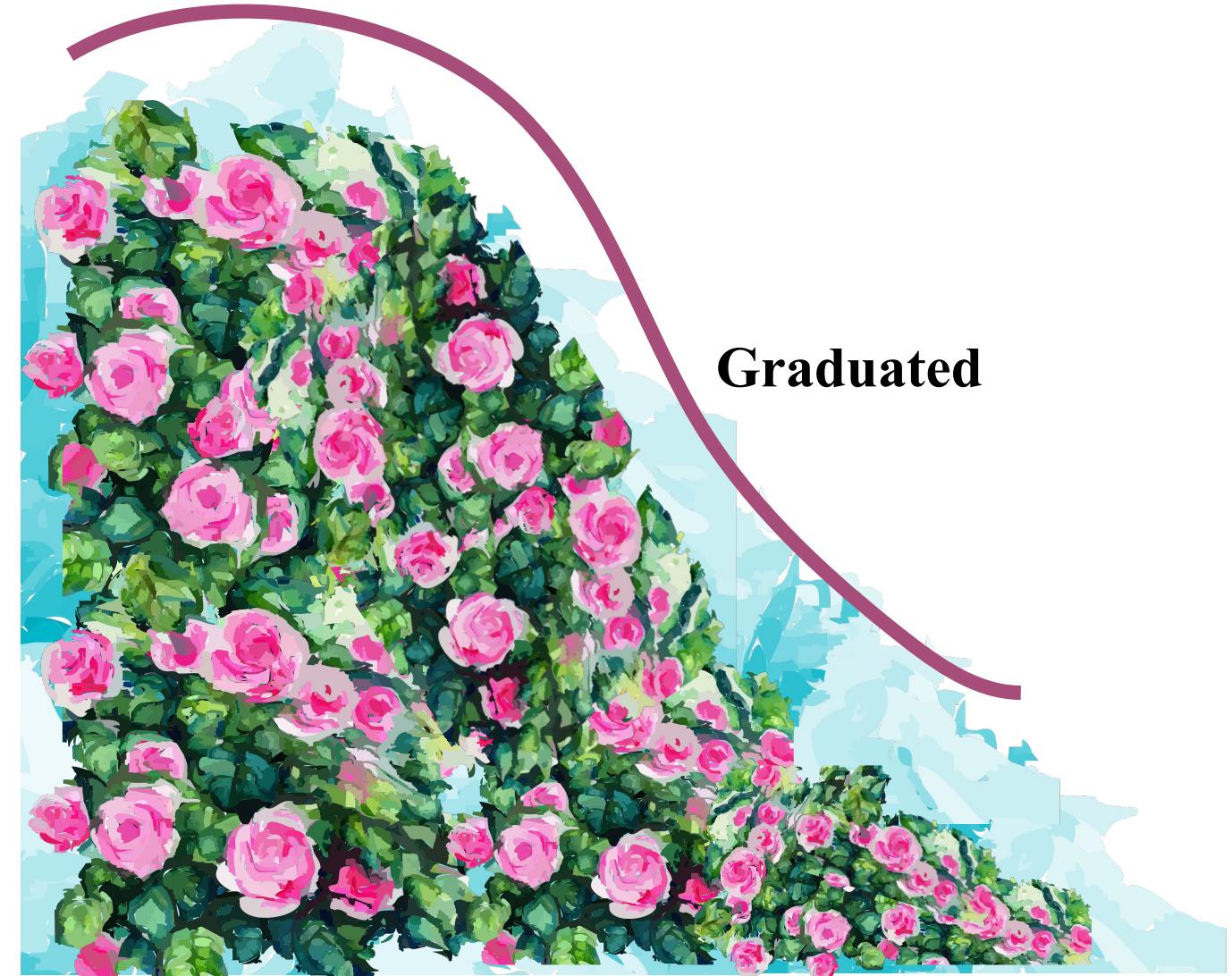
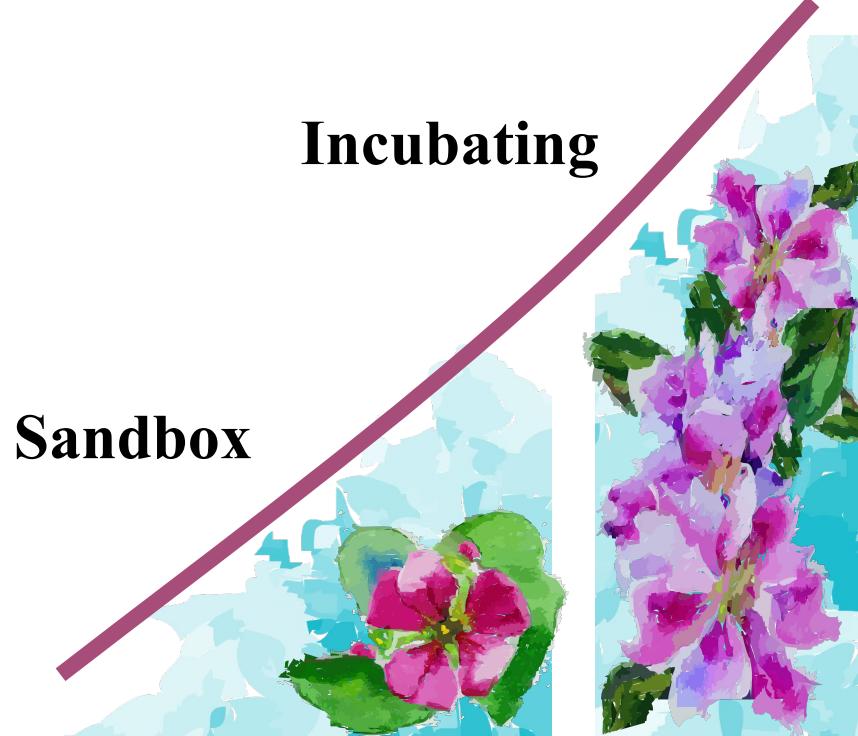
Saving knowledge
through succession

Emily Fox, Security Engineer at Apple,
CNCF TOC Chair



Leave it better than you found it.

Journey of learning to cross the chasm



Glacier

Slowly moving mass or river of ice formed by the **accumulation** and **compaction** of snow on mountains or near the poles



Knowledge Glacier

Accumulation and compaction deep knowledge built over time
that provides foundational understanding as community knowledge
expands



It's all melting.

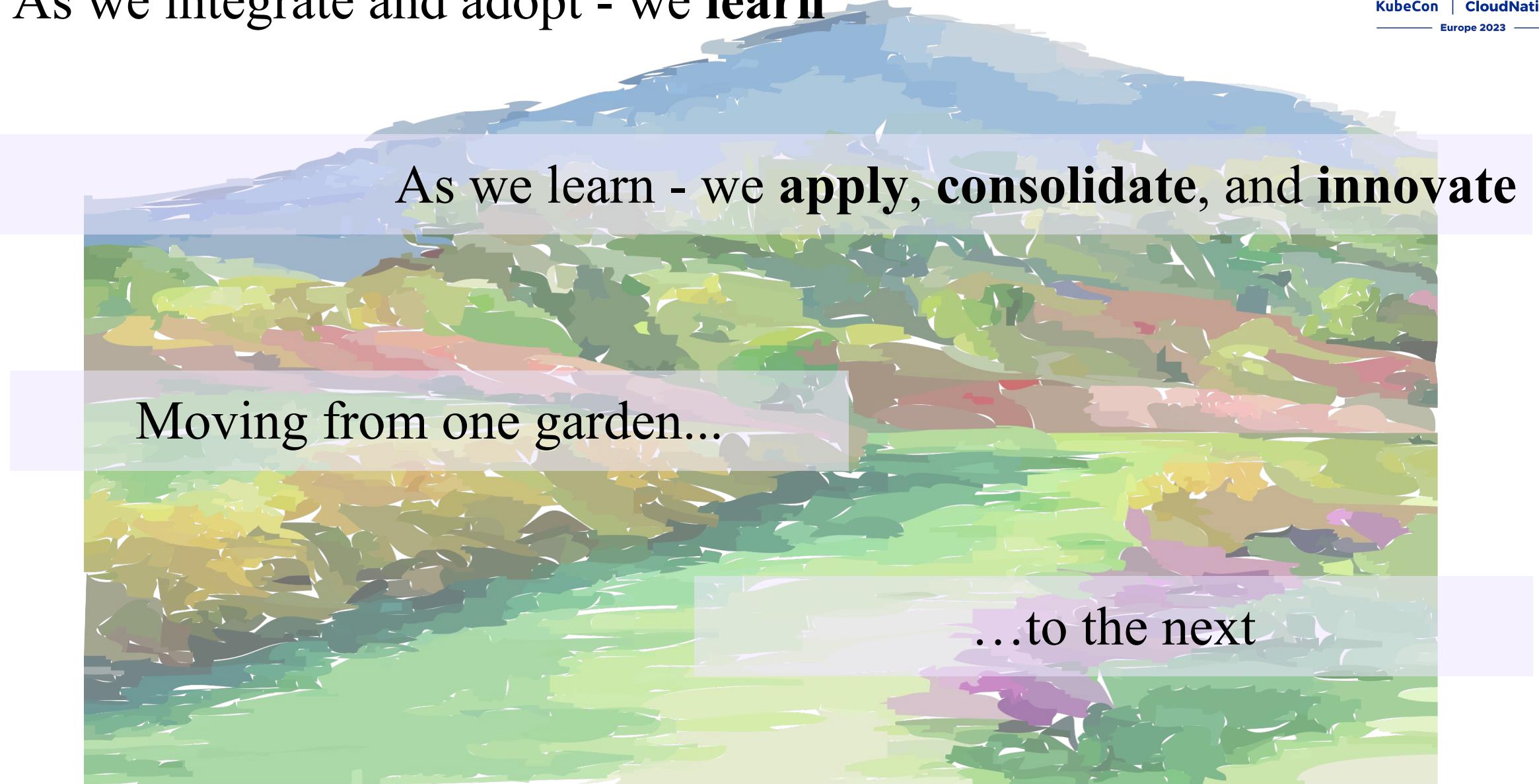
Glacial mass is reducing at an alarming rate, so are the number of individuals willing to take on leadership roles.

Time to onboard, to shadow, to **be prepared** to step up must be planned.

We must be proactive, because **reactive is too late**.



As we integrate and adopt - we learn



As we learn - we apply, consolidate, and innovate

Moving from one garden...

...to the next

The environment is changing and it's evaporating the knowledge we've gained.



We need to **sustain what we've learned** and **transfer** it to others before we move on and **before it's gone**.



8 years of cloud native knowledge compression,

over 50 years of technical innovation

Knowledge continuity is hard
in open source.

Balance **understanding** and
innovation for
commoditization for **adopters**
and **projects**.



Health

Survivability & bus factor

Use cases

Maintainers

Utilization

Releases

Dependencies

Scaling

Contributors

Reliability

Operational models

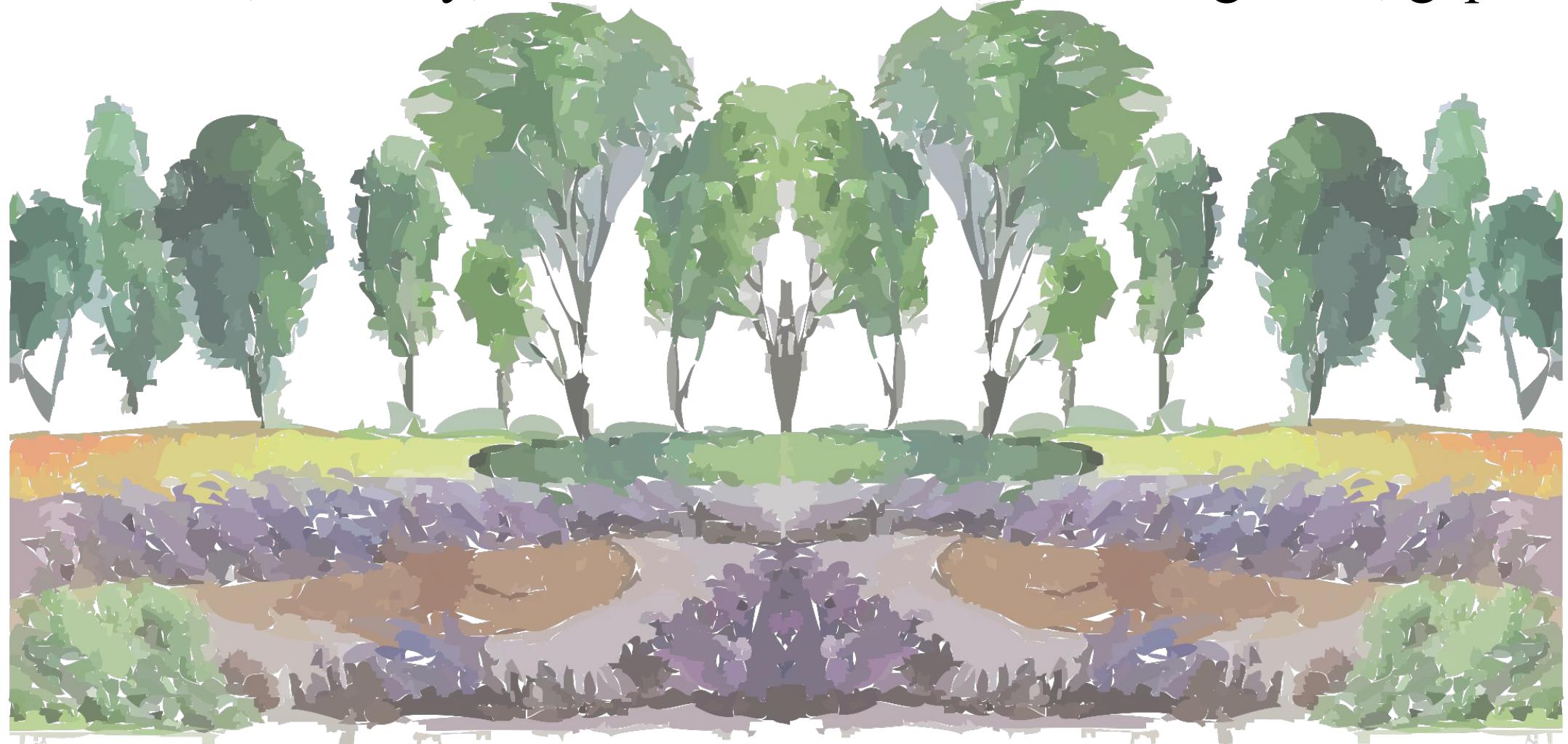
Security posture

Governance

Sub-projects

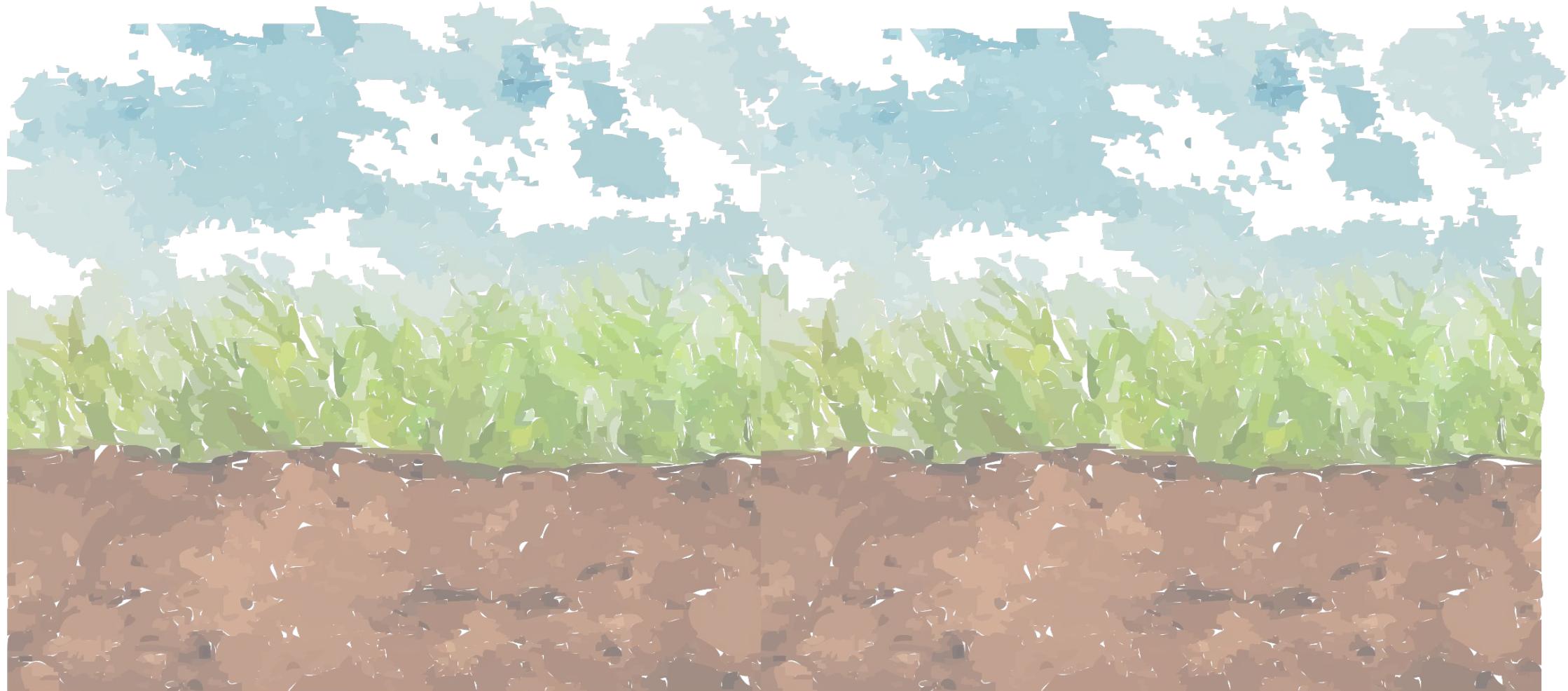
Turnover

New ideas, stability, features ... & strain, knowledge loss, gaps



Guilt

Burnout, wanting change, too much burden... no one to help



Imposter Syndrome

Maintainers know everything! I couldn't possibly come close...



Challenges and tools for onboarding in a new org

- Takes about a year or so
- Relies on existing guides, docs, and material
- Culture, goals, and objectives
- Buddy, shadow, and mentor
- Understanding the big picture



How to onboard in open source

- Handoffs between maintainers
- Bringing others with you
- Enabling and empowering contributors



Success-ive planting

Multiple seasons of blooms are planned, planted, and cared for



Scaling the knowledge glacier



Taking it all in

The landscape is huge, and it's getting bigger

- Look for where information exists
- Repos have some but not all
- Talk with contributors
- Issue and PR discussions
- Notes



These provide how things *should* occur and how they *did* occur.

Finding loose rocks

- Start small, build trust and rapport
- Experience how things occur
- Find gaps, lack of clarity
- Misalignment, confusion



Do you help yourself and move on
-or-

contribute back, set anchor, harvest seed, plant it, continue the climb?

Year round plantings & multiple seasons



- Visual interest - use cases
- Contrast - multiple projects for different needs
- Diversity ↓ - innovation
- Attractants - adopters
- Natural characteristics - secure defaults
- Harmony - thriving communities

Monocultures are more likely to fail



- One plant - one maintainer, one project
- Consumed by factors that target it
- Lack diversity and defense-in-depth

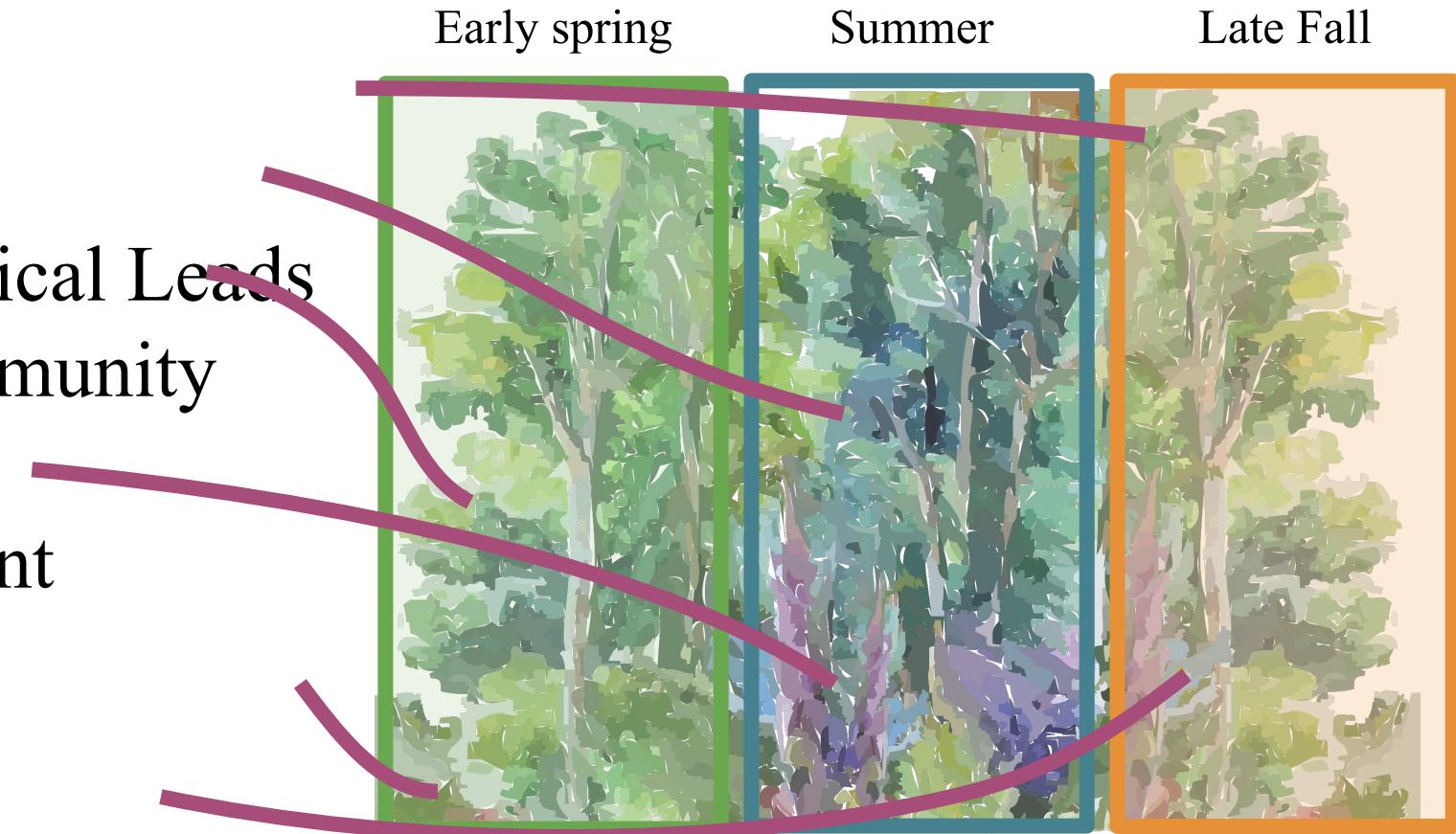
Caring for seeds



- Identify individuals
- Invest in them
- Empower them to be successful
- Give them space to grow

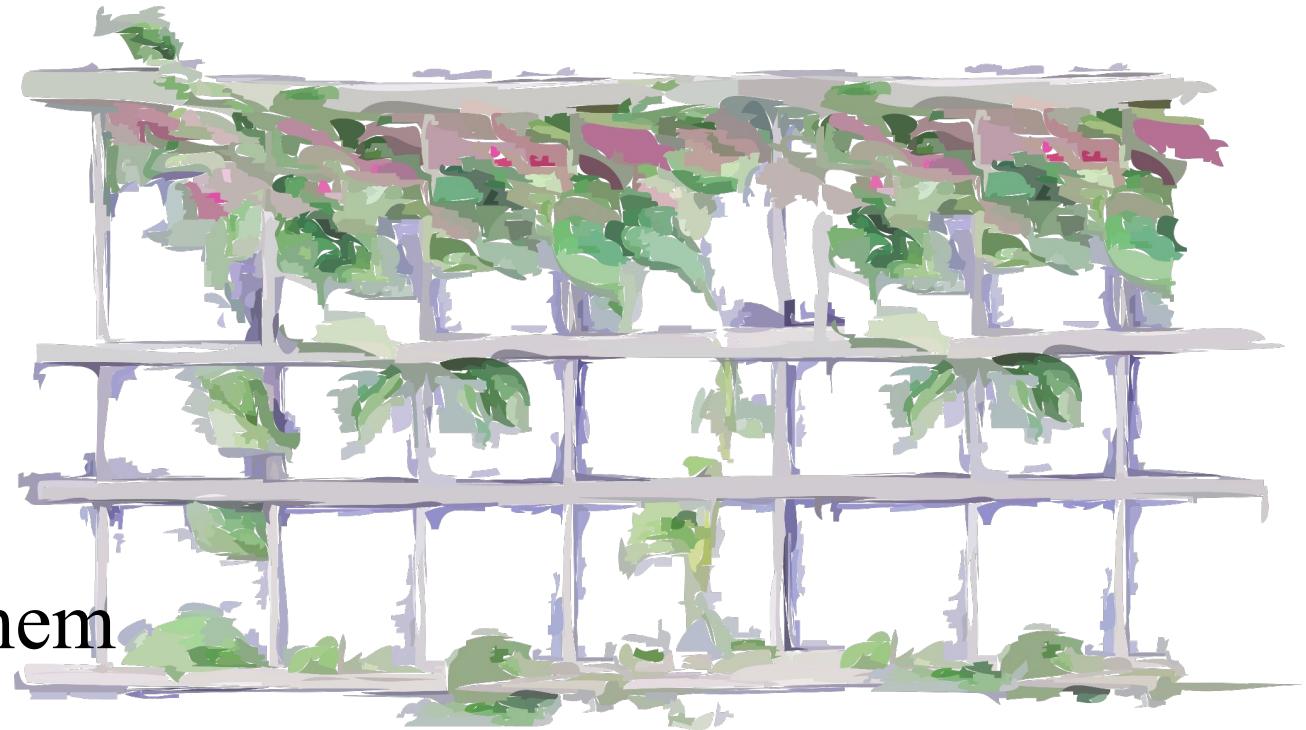
Design in layers

- Canopies - Chairs & Maintainers
- Sub-canopy - Technical Leads
- Shrubs - triage, community management
- Herbaceous - frequent contributors
- Ground cover - new contributors
- Climbers - move between all layers



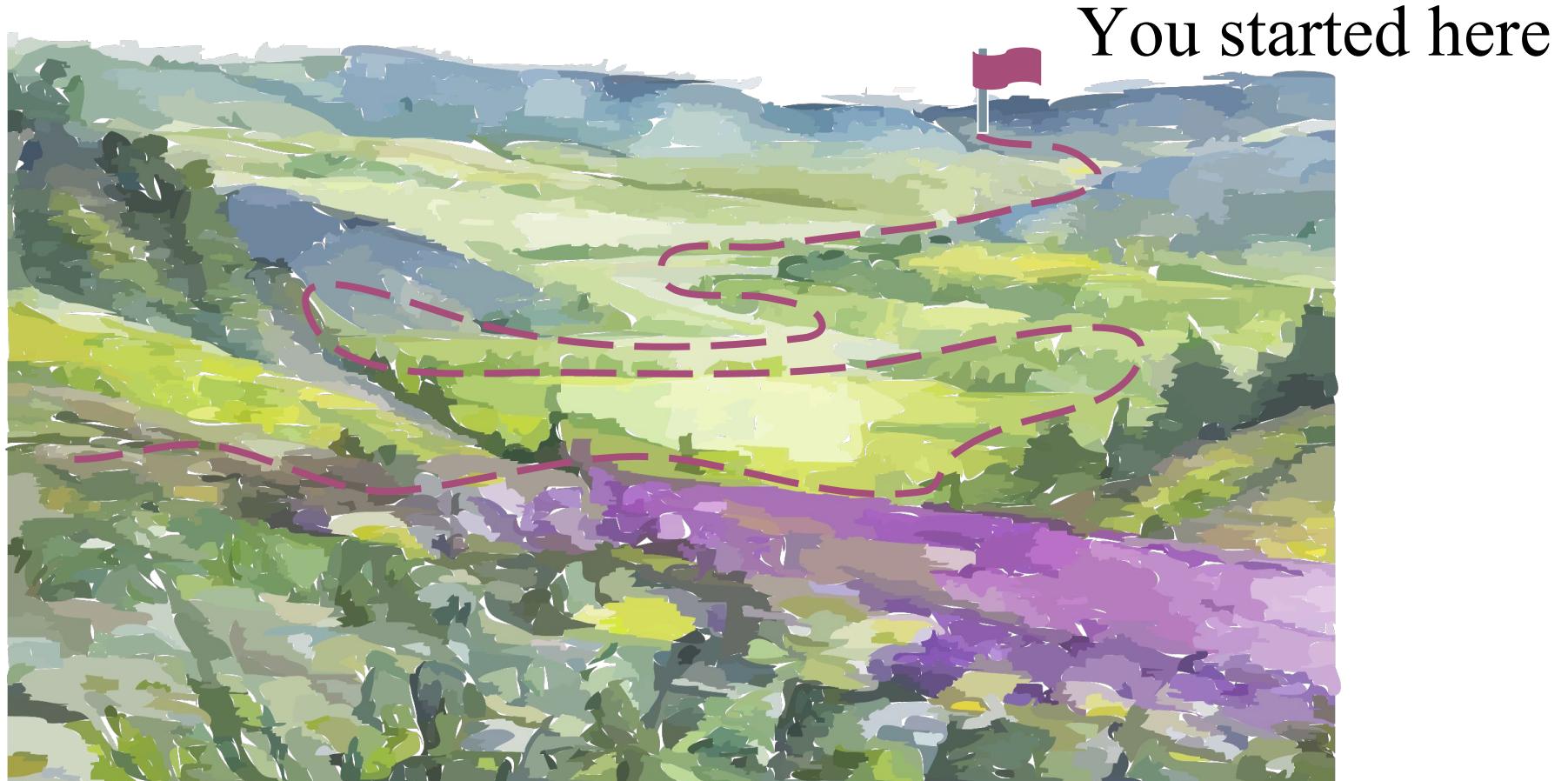
Supporting growth

- Active & interested
- Provide chances to learn
- Invite to discussions
- Mentor & coach
- Let them lead
- Become a resource for them



The journey of scaling the knowledge glacier

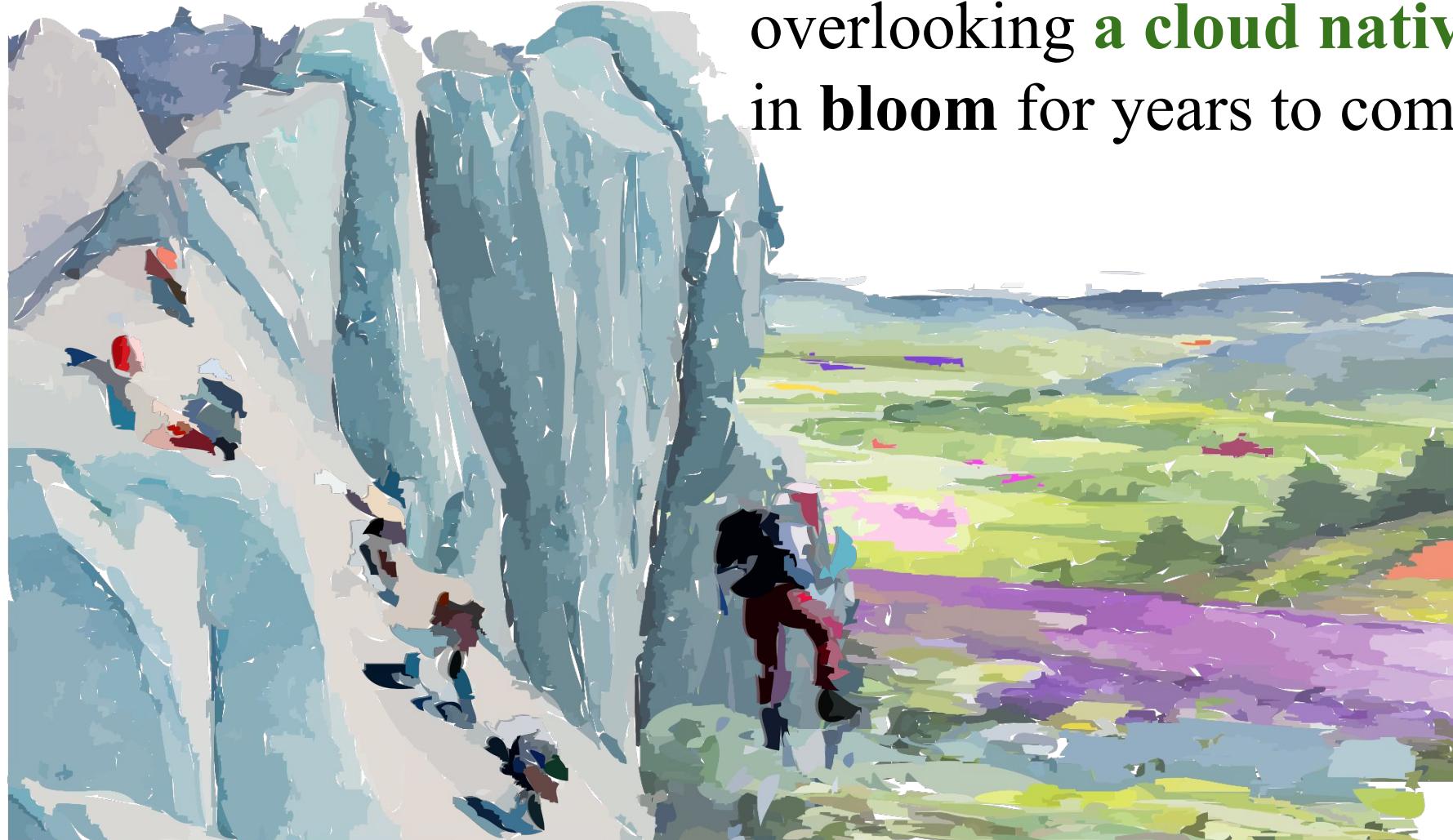
The landscape is thriving, but who did you bring along to share this joy and wonder with?



Looking back at what you've learned and led

At the top of the **knowledge glacier**,

overlooking **a cloud native garden**
in bloom for years to come.



Artwork in these slides

The artwork in these slides shows the power of technology and the impact of it when used for the benefit of all.

Prior to entering the Security field, I worked as a Creative Director for a small entertainment company and worked as a freelance graphic designer.

The graphics in this started from a detailed story line where I described the visual feel I wanted. I then developed AI prompts from those descriptions and leveraged Stable Diffusion to render them as watercolor paintings.

After I had the images, I pulled them into a Vector Graphics tool and reimaged them; abstracting from the watercolor imagery, making modifications to composition and color, and eventually finalizing on a Digital Impressionist style you see here.

These tools are wonderful resources to give us that starting point and to help us actualize an idea. However, it is our community, our relationships, and how we engage with others that enable us to take something rough and develop it into something beautiful.